FUSRAP
Maywood Superfund Site



Groundwater Remedial Investigation Report

Volume 6
Appendices E through I

Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:

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Prepared for:

US Army Corps
of Engineers®

Contract No. DACW41-99-D-9001

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APPENDIX E
BOREHOLE GEOPHYSICAL REPORT

May 24, 2000

Mr. Michael Kulbersh
STONE & WEBSTER ENGINEERING CORP.
245 Summer Street
Boston, MA 02210

Subject: Borehole Geophysics Logging Report
Maywood Chemical Superfund Site
Maywood, New Jersey

Dear Mr. Kulbersh:

Geophysical Applications performed borehole geophysical logging at five wells at the above-noted site, to help Stone & Webster characterize bedrock fractures encountered by those borings. Logging was attempted at a sixth borehole, but that boring was obstructed by a piece of rock dislodged from the borehole wall.

The logging suite included conventional measurements (caliper, fluid temperature, and fluid resistivity), and televiewer imaging (with both optical and acoustic televiewer probes) at all accessible boreholes. Heat-pulse flowmeter was performed at three boreholes, and video logging was conducted at the remaining wells.

METHODS OF INVESTIGATION

Survey Control

All borehole logs were referenced to depths below the top of steel casing (except for the MISS-1B video log, referenced to ground surface). The geophysical logging winches contain optical depth encoders that maintain depth measurements accurate within approximately ± 0.2 feet throughout each borehole.

Borehole Geophysical Logging

A Mount Sopris model MGX-5A digital logging winch was used with Mount Sopris heat-pulse flowmeter and caliper probes to obtain conventional geophysical log data. The caliper probe included a fluid resistivity/fluid temperature subassembly at the probe's bottom. Caliper and fluid temperature/fluid resistivity data were recorded at 0.1-foot depth increments, as determined by the logging winch's digital depth encoder. The fluid logs were recorded using a relatively slow speed of 3 feet per minute, to allow the thermistor to measure subtle temperature variations. Caliper logs were recorded at higher logging speeds (typically 8 to 10 feet per minute).

Acoustic televiewer (ATV) data were recorded using Geophysical Applications' Advanced Logic Technologies (ALT) model FAC40 acoustic televiewer probe, with the Mount Sopris logging winch. This televiewer can adapt to a wide range of borehole diameters (up to 16-inch diameter), and is not hindered by suspended sediments in the water column. ATV data were

recorded at 0.01-foot intervals throughout each borehole, at speeds of approximately 3 feet per minute.

The FAC40 contains a high-frequency sonic transducer, aimed upwards at a rotating mirror. This mirror is tilted approximately 45 degrees from the probe's vertical axis, to direct the sonic pulses at the borehole wall. The transducer divides each sweep around a borehole's circumference into 144 arc segments, and records two-way sonic travel time and reflected signal amplitude for each segment. The FAC40 chooses the largest-amplitude reflected signal within the measurement time window as representing the borehole wall.

Optical televiewer logging was performed using an ALT model OBI40 optical televiewer probe provided by the manufacturer. This device contains a video camera aimed downwards at a conical mirror. The mirror provides a continuous 360-degree view around the borehole. OBI data were recorded on a laptop computer at 0.005-foot depth increments. Each image of the borehole wall was divided into 360 one-degree segments, with red-green-blue (RGB) color values stored for each segment.

Flowmeter data were recorded at specific depth ranges in wells MISS-4B,-5B, and -7B, above and below possible bedrock fractures indicated by the caliper and fluid temperature/resistivity logs. The flowmeter probe was not operated in the remaining wells, where Stone & Webster judged that sediment was falling from the borehole walls and collecting at the bottom of those wells. These sediments, and semi-rigid plastic centralizing disks mounted on the flowmeter probe, increased the risk of trapping that probe in wells MISS-1B, -2B, and -3B.

Flow data were recorded in ambient conditions on the downward run, to measure natural ground-water flow between fracture zones encountered by each boring. Flowmeter data were subsequently repeated under low-flow (less than 1.0 gallons per minute, or gpm) pumping conditions, to help determine which fracture zones were providing significant recharge into the wells.

All geophysical logs were recorded on a laptop computer's hard drive, and transferred to floppy diskette or Zip disks as a backup precaution.

Post-survey plot scales were adjusted to display as much detail as possible. All conventional logs from the same borehole were merged onto one log plot, to aid data correlation. Acoustic and optical televiewer logs are presented on a separate page, for clarity. All geophysical log data are presented in this report using ALT's WellCad software package, with a special image-processing module for the optical and acoustic televiewer data.

Conventional video imaging was performed at wells MISS-1B, -2B, and 3B, where flowmeter logging was not performed. The objective of this video imaging was to help confirm whether soft sediments were indeed accumulating in those boreholes, as indicated by discrepancies between current borehole depths and geologic drill logs.

Video images were recorded with a Laval model Cam-Pak 200 color video camera and a Sony 8mm videocassette recorder. The Laval instrument includes an optical depth encoder that indicates camera depth in feet and inches on the video image. All video logs were subsequently transferred to VHS-format videotape for submission to Stone & Webster.

Equipment Decontamination Procedures

Decontamination procedures consisted of an Alconox scrub, and tap water rinses of logging cables and probes between logging runs.

SURVEY LIMITATIONS

Measured log depths are estimated to be accurate within ± 0.2 feet, allowing for some cable stretch and minor slippage of the winches' depth-measurement wheels.

The caliper-probe's arms can measure borehole diameters up to approximately 13 or 14 inches. Caliper logs can detect fractures that cross a borehole at moderate angles, typically less than approximately 70 degrees. Near-vertical fractures may not be detected by caliper logs.

The heat-pulse flowmeter is designed for relatively low flow-rate environments, typically less than 1.0 gpm. Higher flow rates may produce erroneous flow-rate data values.

Water-bearing fracture zones were inferred by correlating numerous geophysical logs. These interpretations are a subjective judgment based upon available data.

RESULTS

Logging data and generalized descriptions of log interpretations are described below. All geophysical logs described in this report are presented in Appendix A. Copies of each video log were submitted to Stone & Webster's Boston and Maywood offices on VHS-format videotape.

Summary fracture-orientation interpretations are provided in Appendix B, for the five borings logged with the optical (OBI) and acoustic (ATV) probes. These summaries are screen prints of Excel spreadsheets, presenting bitmap summaries of measured fracture depths ("depth" column), down-dip azimuths ("azimuth" column), and dip angles ("tilt" column) measured with the WellCad software. The remaining two columns in each printout were not used during this project.

Caliper logs are presented in the left-hand column on each conventional-log plot. Inflections to the right indicate borehole enlargements, for example where the drill bit passed through a fracture zone.

Fluid temperature and fluid resistivity logs are presented in the middle panel of each log plot. Localized inflections or changes in slope of either fluid log typically represent water entering or exiting the borehole. Many of the measured fluid resistivity data values were unusually low, possibly due to roadway de-icing salts from the nearby state highway.

Heat-pulse flowmeter data are presented on the caliper panel (ambient measurements) and on the fluid temperature/resistivity panel (flow measurements while pumping). Shaded boxes to the left of centerline on either panel represent downwards water flow, with the box length indicating the flow magnitude in gpm. Shaded boxes to the right of a panel's centerline represent upwards water flow. Note that only non-zero flow measurements can be portrayed. Flowmeter test depths were selected using field plots of the caliper, fluid temperature, and fluid resistivity logs.

Optical (OBI) and acoustic televiewer (ATV) logs were evaluated using WellCad's image-processing module, to measure fracture dip angles and down-dip azimuths. All inferred down-dip azimuths are referenced to magnetic north. Measured fracture orientations are indicated by

tadpole plots, where the filled circles indicate dip angles (plotted on a graph that ranges between 0 and 90 degrees left to right). Each tadpole tail points in the measured downdip azimuth (i.e., perpendicular to the fracture strike direction), assuming that north is straight up on the printed page.

Note that many fractures were discerned on both optical and acoustic televiewer data, but some features were observed on only one of those logs. Fracture orientations were first measured using the acoustic televiewer data. Fractures (or other planar features) indicated only by the optical (OBI) data were subsequently added to the ATV interpretations. These combined interpretations are summarized by the tadpole plots and rose diagrams, to indicate the predominant downdip azimuth(s). The rose diagrams are also presented with magnetic north straight up on the printed page.

The image (televiewer) logs include three colored panels, in addition to the rose and tadpole plots. The column labeled "OBI" presents the optical televiewer data. The "time" column presents acoustic televiewer travel-time data, and the "amp" column presents acoustic televiewer reflection-amplitude variations. Travel-time anomalies generally represent open fractures, and amplitude variations are more likely to depict both open and subtle features. Note that these three columns are oriented with respect to magnetic north, with letters and vertical lines denoting the north (N), east (E), and west (W) positions. Each of these three columns can be envisioned as a cylindrical projection, sliced along the north side, and flattened for presentation on a printed page.

OBI data recorded at this site shows good resolution of some features, but a lack of realistic color. Water pumped during flowmeter testing was typically muddy or steely-grey in color. This murky water probably prevented the OBI probe from recording high-quality color images at this site.

Following are descriptions of specific log interpretations at each well. All depth ranges described below, and shown on the logs in Appendix A, are referenced (in units of feet) to the top of outer steel casing.

MISS-1B

Geophysical logging was attempted at this borehole, but the logging probes could not advance past approximately 25 feet deep. A video log was obtained at this well, indicating an angular piece of rock obstructing the boring just below the casing bottom. This rock may have been dislodged during recent pump-removal or sampling activities.

If Stone & Webster anticipates conducting additional test drilling at this site, this borehole may be easily reamed and subsequently logged.

MISS-2B

A distinct caliper enlargement indicates a fracture near 31 feet. A corresponding inflection in the fluid temperature curve (blue line) indicates that water near this fracture is warmer than fluids at shallower depths, i.e. within the casing. This indicates that water is entering the well near 31 feet deep.

Corresponding features on the OBI and ATV time plots indicate that this fracture is nearly horizontal. The wavy appearance of OBI and ATV data less than approximately 33 feet deep

indicate interference between the overlying steel casing and the logging probes' three-component magnetometers.

The rose diagram indicates that most measured fracture orientations dip down towards the northwest at this borehole. The tadpole plot shows mostly fractures with low dip angles (less than 35 degrees from horizontal) at depths less than 38 feet. Most deeper fractures exhibit steeper dip angles, up to 75 degrees from horizontal.

The dark blue bands on the ATV amplitude plot (e.g. near 41, 44, and 46.5 feet) indicate fractures that appear open. Open fractures cause very low-amplitude reflected sonic signals, indicated by the dark blue color.

Note that the logging probes could not be advance further than approximately 54 feet below top of casing. Geologic drill logs prepared by Bechtel (and provided for Geophysical Applications' use by Stone & Webster) indicate total borehole depth of 58.5 feet. The bottom four feet of this borehole may therefore have been backfilled by sediments falling from the borehole walls. This interpretation is supported by the video log, where the camera's lighthead disappeared into soft sediments at the bottom of the borehole.

MISS-3B

The fluid resistivity and fluid temperature plots change slope approximately 18.5 feet deep, indicating water entering the well below that depth. The geologic drill log implies that steel casing ends near 19 or 20 feet, therefore water flow occurs close to the casing bottom. The video camera was engulfed in murky beginning approximately 20 feet deep.

The caliper log is highly irregular at depths less than 21 feet, possibly indicating corrosion or other materials coating the casing's inner surface. The lack of caliper enlargements below 21.5 feet indicates relatively smooth rock surfaces within the borehole.

Another distinct change in fluid temperature and fluid resistivity slope indicates water flow near 24 feet deep.

Usable image logs were obtained only below 24.5 feet deep at this borehole. Shallower portions of the OBI and ATV images appeared distorted by the nearby steel casing.

Measured fracture-dip angles were generally less than 20 degrees at depths less than 31 feet. Most steeper-dipping fractures (up to 70 degrees from horizontal) were present at greater depths.

The ATV amplitude plot indicates particularly open fractures near 24.5 feet (possibly correlating with a small caliper inflection), 27.5 feet, and possibly 31 feet deep.

Measured fracture down-dip azimuths showed unusual variability at this borehole. In general, the predominant down-dip azimuths appear to be towards the east and west.

Although Bechtel's geologic drill log indicates a total borehole depth of 50 feet for MISS3B, the borehole logging probes could not be advanced past 39 feet below top of casing. Up to approximately 11 feet of this borehole may therefore have been backfilled by sediments (or rock fragments) falling from the borehole walls. The video camera's lighthead did not disappear into soft sediments at the hole bottom, implying a hard bottom (either a rock blocking the borehole, or a shallower ending depth than indicated on the geologic drill log).

MISS-4B

Distinct changes in fluid temperature and fluid resistivity slope near 19 feet deep indicate warm, low-resistivity water below that depth. Additional water-bearing fractures are indicated by a second slope-change in the same logs near 20 to 21 feet deep. Subtle variations in the same logs indicate water-bearing fractures near 28 or 29 feet, 35 to 36 feet, and 43 feet deep.

Ambient heat-pulse flowmeter data indicate little water flow near the 40- and 46-foot measurement depths. Downwards water flow at the 25- and 32-foot depths indicate that water may enter the well near 20 feet deep, flow downwards, and exit the well near 35 feet.

Pumping flowmeter data show that most water entering the well (while pumping) occurred between the 40-foot (zero flow) and 32-foot depths. Small flow-rate increases between the 32- and 25-foot, and 25- and 19.5-foot, measurements indicates additional water entering the well between those depth ranges. The decrease in upwards water flow near the casing bottom (17 feet) implies that some water has exited the well between the 19.5- and 17-foot measurements.

Usable image logs were recorded below approximately 22 feet deep at this borehole. Most fractures detected in this borehole exhibit dip angles less than 40 degrees. Particularly open fractures are indicated by the ATV data near 24.5, 27.5, and 34.7 feet deep.

Measured down-dip azimuths are biased towards due north on this well's rose diagram by the numerous fractures that exhibit zero-degree dip angles (WellCad assumes a zero-degree, or due north, downdip azimuth for horizontal features). The next most-common down-dip azimuths are towards the northwest, northeast, and southeast.

The geologic drill log for MISS-4B indicates a total borehole depth of 47 feet, in good agreement with the geophysical log observations.

MISS-5B

A distinct temperature inflection indicates warm water in the well below the casing bottom. Low-resistivity water below 32 feet deep indicates water flow at that depth.

Ambient heat-pulse flowmeter values were near zero throughout this well. Limited, upwards water flow was measured near 30 feet deep, possibly indicating water entering the well below this depth (probably near 32 feet) and exiting shortly above the 30-foot measurement (possibly near 25 to 29 feet deep).

Pumping flowmeter data indicate water entering the well below 40 feet deep (probably nearthe 44-foot temperature inflection), and flowing upwards. An increase in water flow between the 34 and 30-foot measurements indicates additional water entering the well near 32 feet deep. The largest increase in upwards water flow occurred between the 30- and 22-foot measurements, indicating that most water entered the well within that depth range.

Most fractures observed on the image logs exhibited low-angle dip angles (less than 30 degrees). The ATV log indicated open fractures near 31.5 feet, 44.5 feet, and possibly near 29 to 30 feet, 50 feet, and 53 feet deep. The predominant down-dip azimuth measured at this borehole was towards the west.

MISS-7B

Water flow is indicated near 20.5 feet deep (slightly below the casing bottom at 19 feet) by distinct changes in fluid resistivity and fluid temperature data. Smaller inflections indicate additional water flow near 30 feet, 40 feet, and possibly 33.5 feet deep.

Ambient flowmeter data indicate upwards flow at the 37.5-foot depth, indicating water is entering the well slightly deeper (possibly near the 38-foot caliper enlargement, or the fluid-log slope changes near 40 feet deep). Upwards water flow was not detected less than 24 feet deep, indicating that the flowing water probably exits the borehole near the 20.5- to 22-foot fluid temperature and fluid resistivity inflections.

The image logs indicated numerous open fractures at this borehole, including near 23.5 feet, 25.5 to 26.5, 28, 29.5, 31 to 32.3, 36.5, 38.7, 39.9, 41, 42.8, 43.8, 46.1, and 47.3 feet. Most measured dip angles were less than 40 degrees. Down-dip azimuths are oriented primarily towards the northwest, and secondarily towards the southeast.

* * * * *

We appreciate this opportunity to provide geophysical services, and we welcome questions concerning this report. Please call the undersigned at 508/543-1388 if we may provide additional information that would benefit Stone & Webster's project.

Sincerely,

GEOPHYSICAL APPLICATIONS, INC.

Mark E. Blackey
Principal and Geophysicist

100355 - 100355.rpt

cc: D. Samela - Stone & Webster @ Maywood, NJ

Borehole Geophysics Logging Report
Maywood Chemical Superfund Site
Maywood, New Jersey

Prepared for
Stone & Webster Engineering Corp.
May 2000

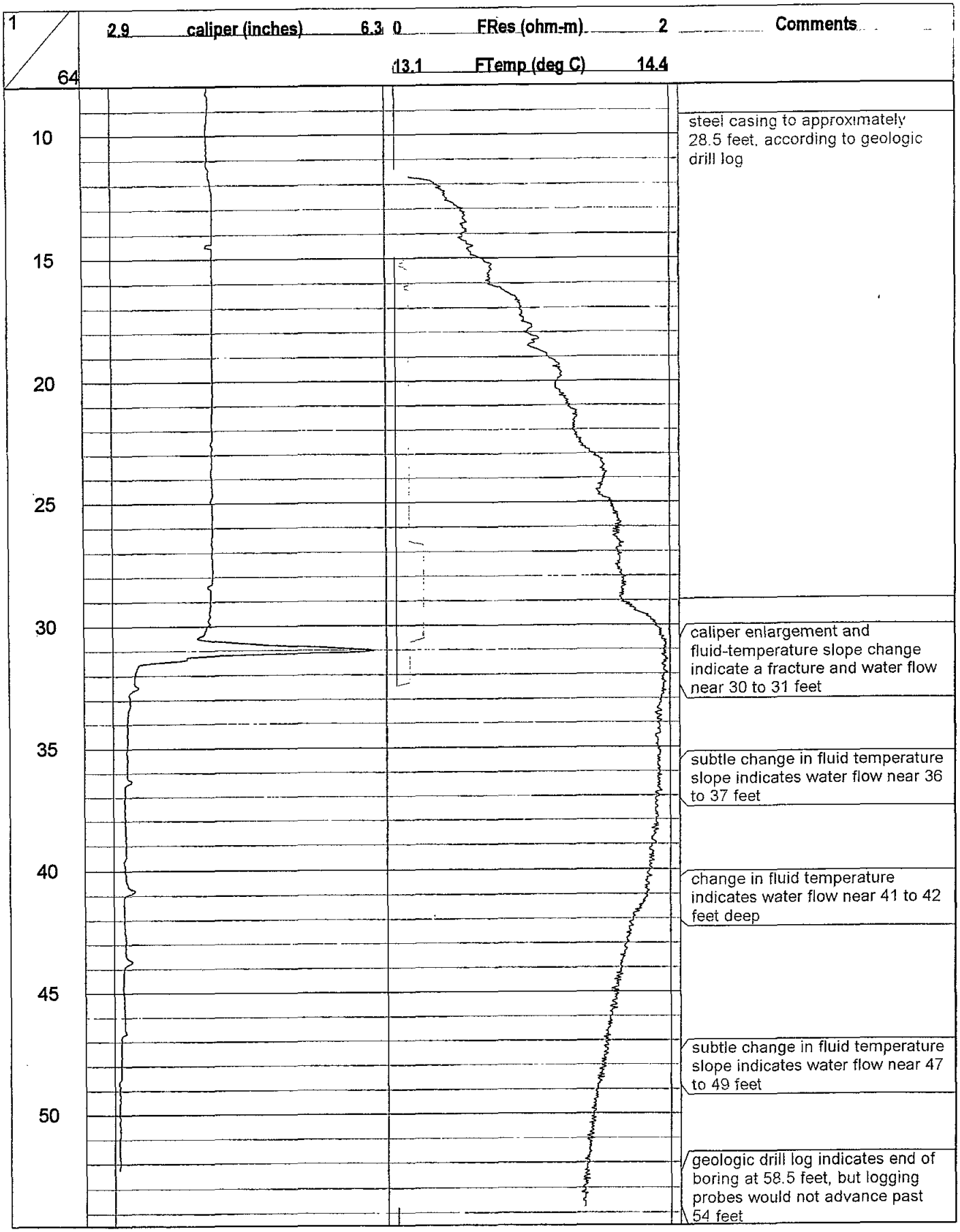
Appendix A

Borehole Geophysical Logs

Appendix B

Fracture Orientations Measured from Optical and Acoustic Televiewer Logs

Project - Well: S&W/Maywood, NJ - MISS-2B conventional logs



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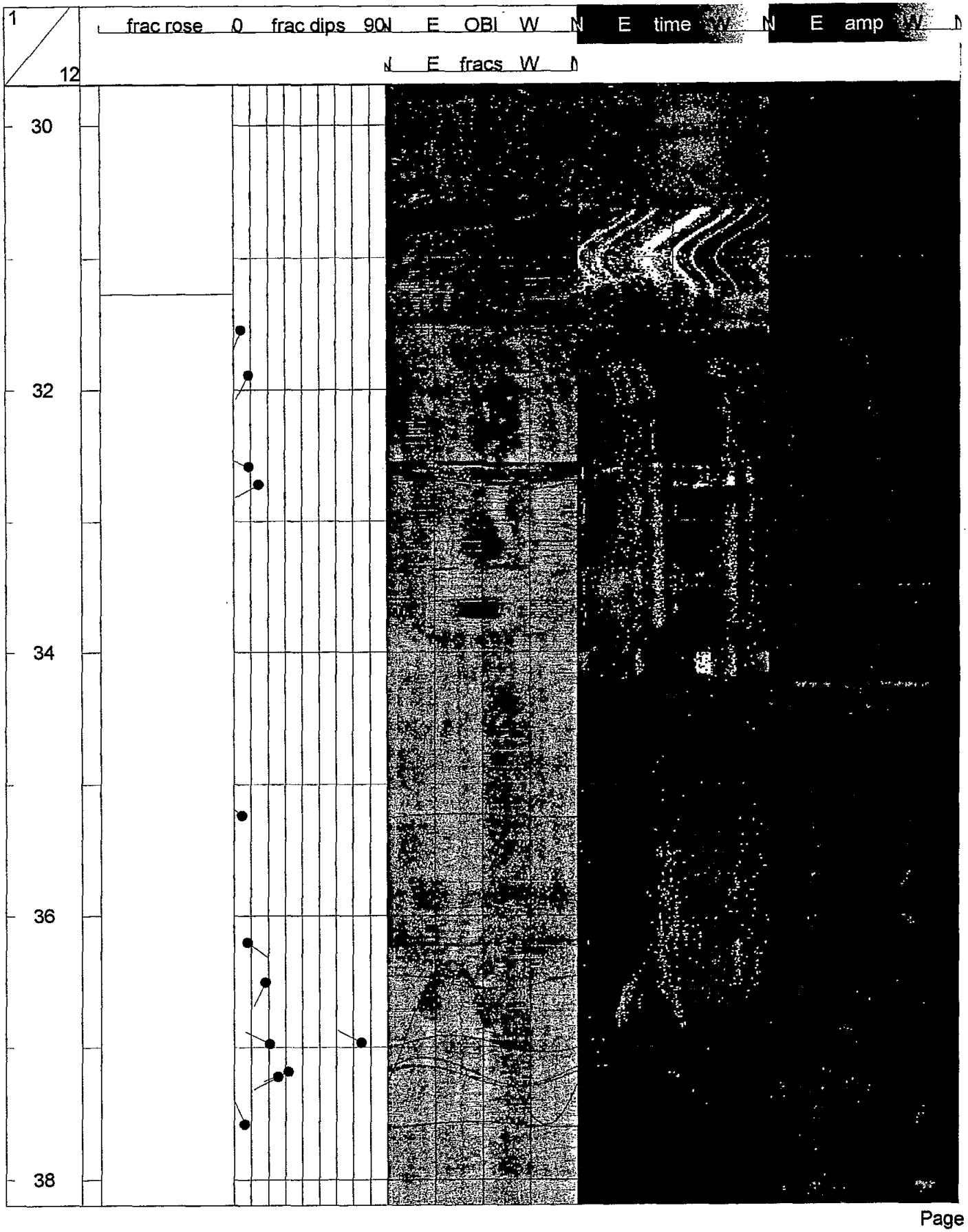

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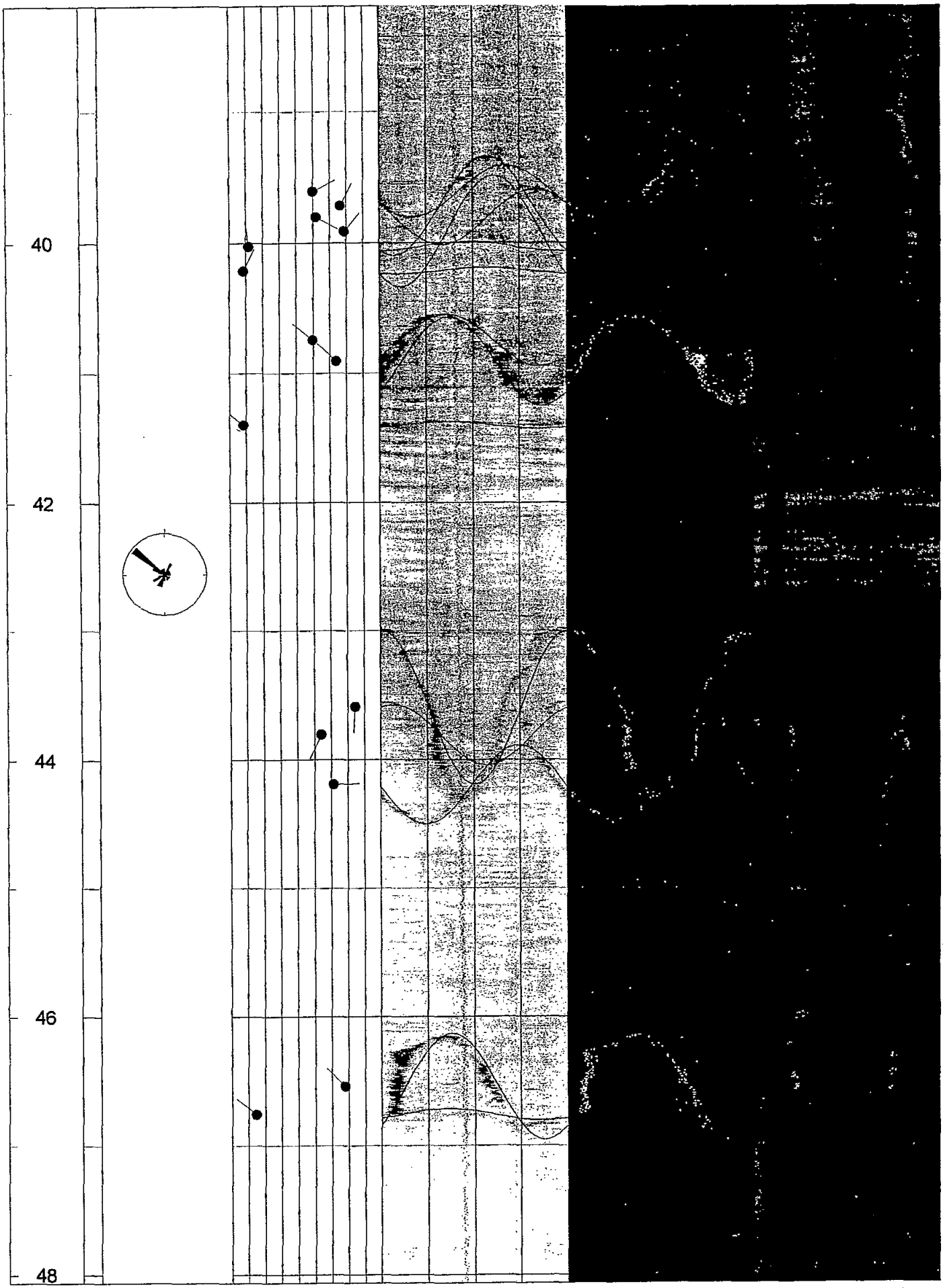

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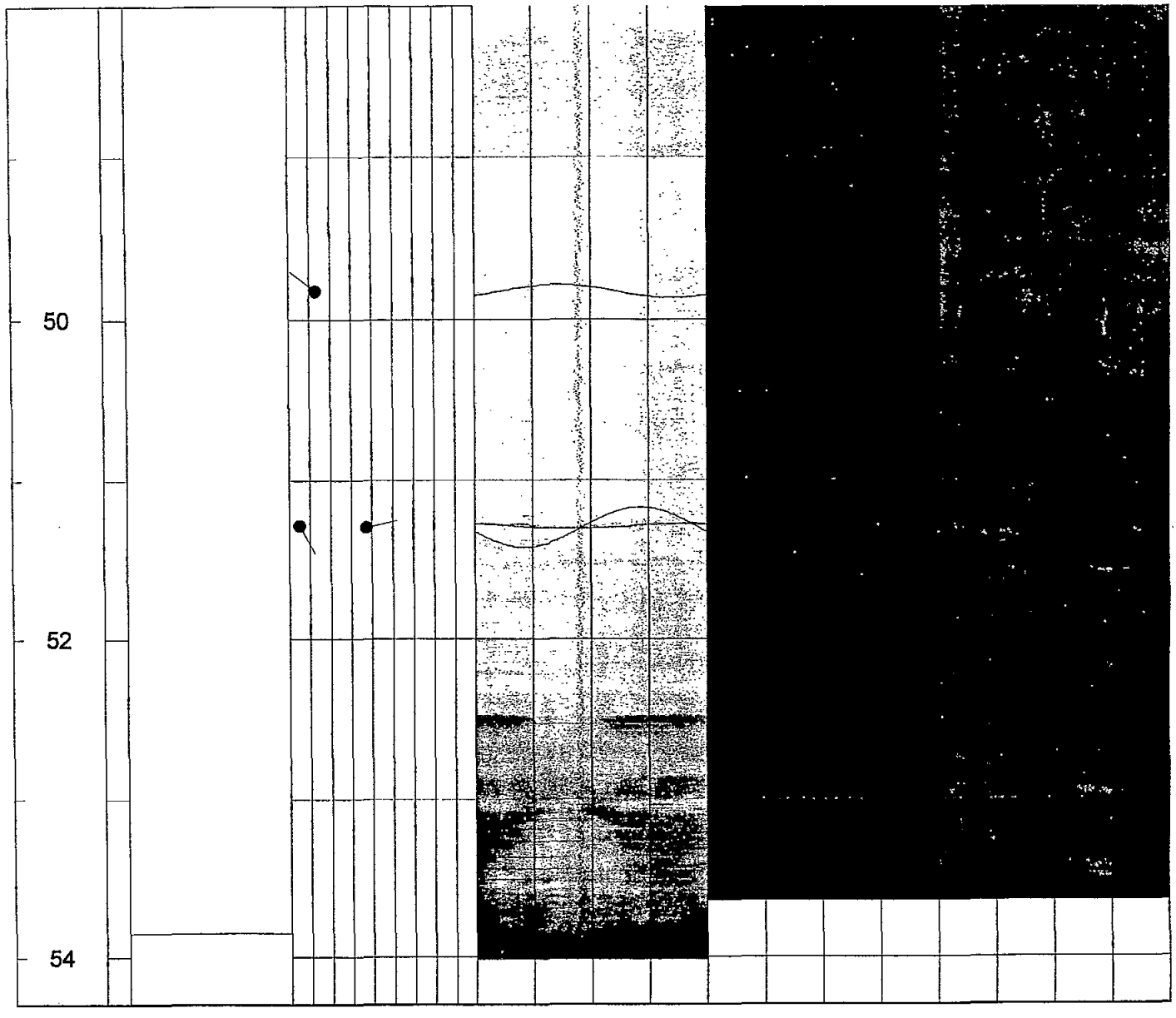
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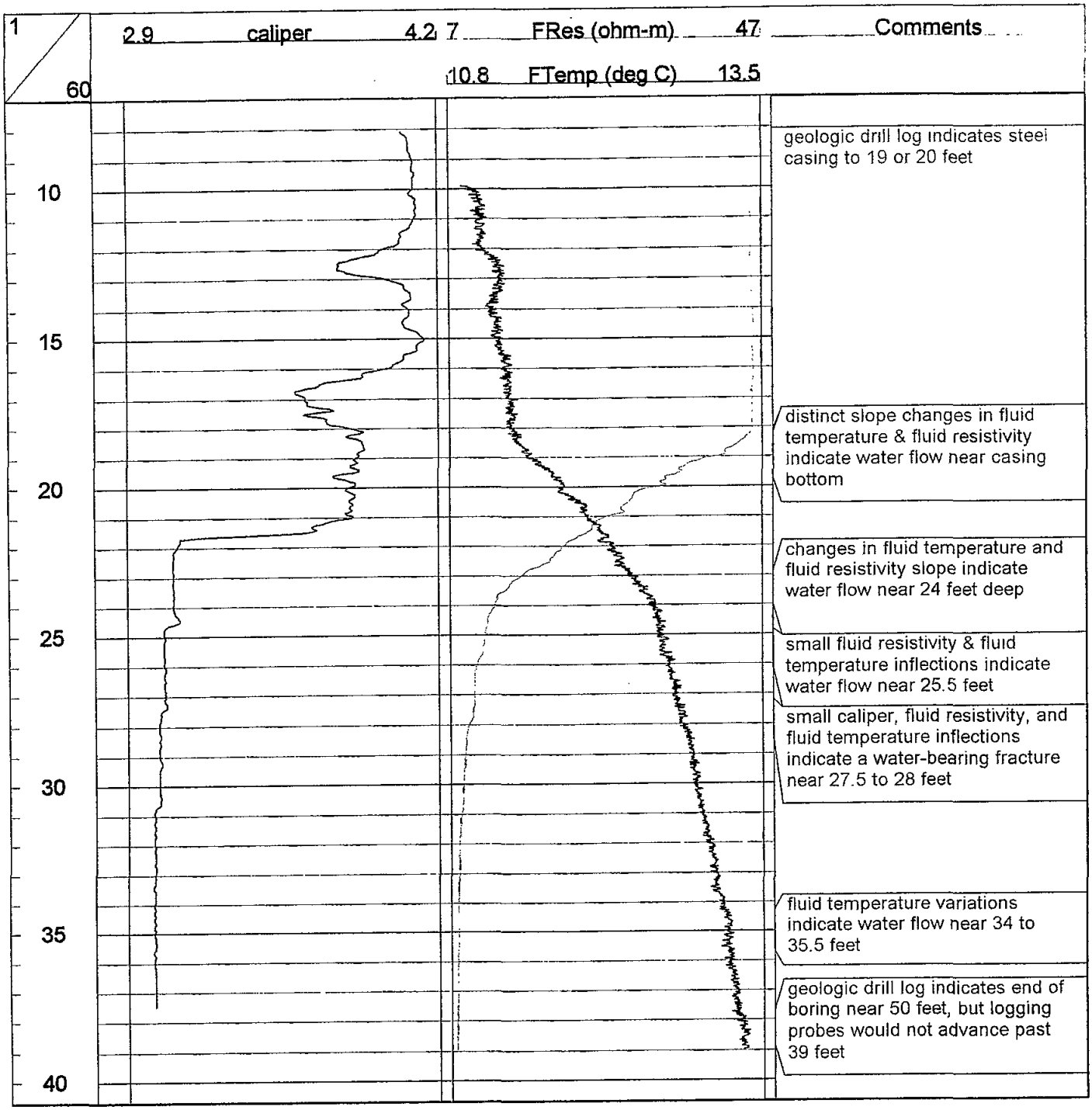

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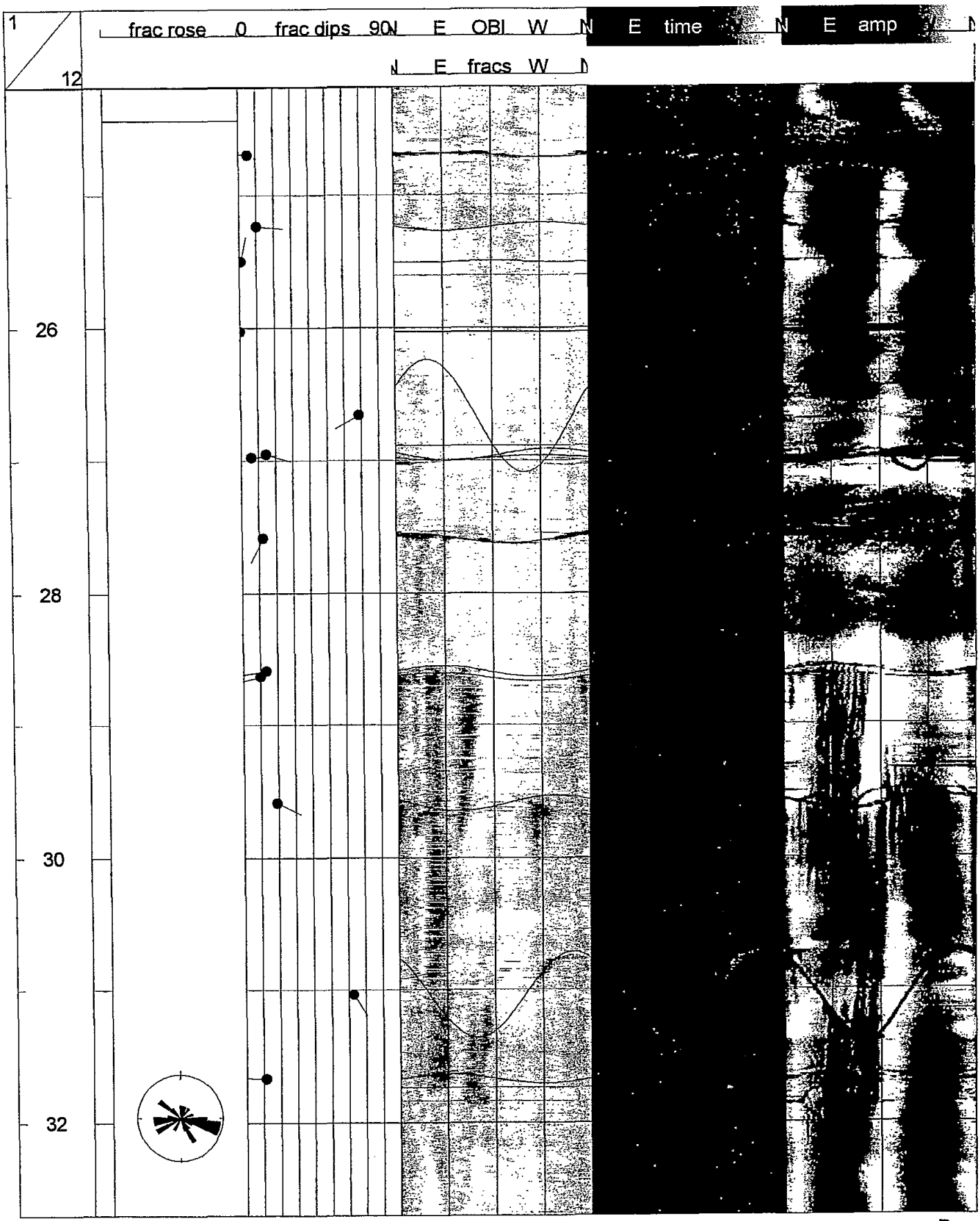

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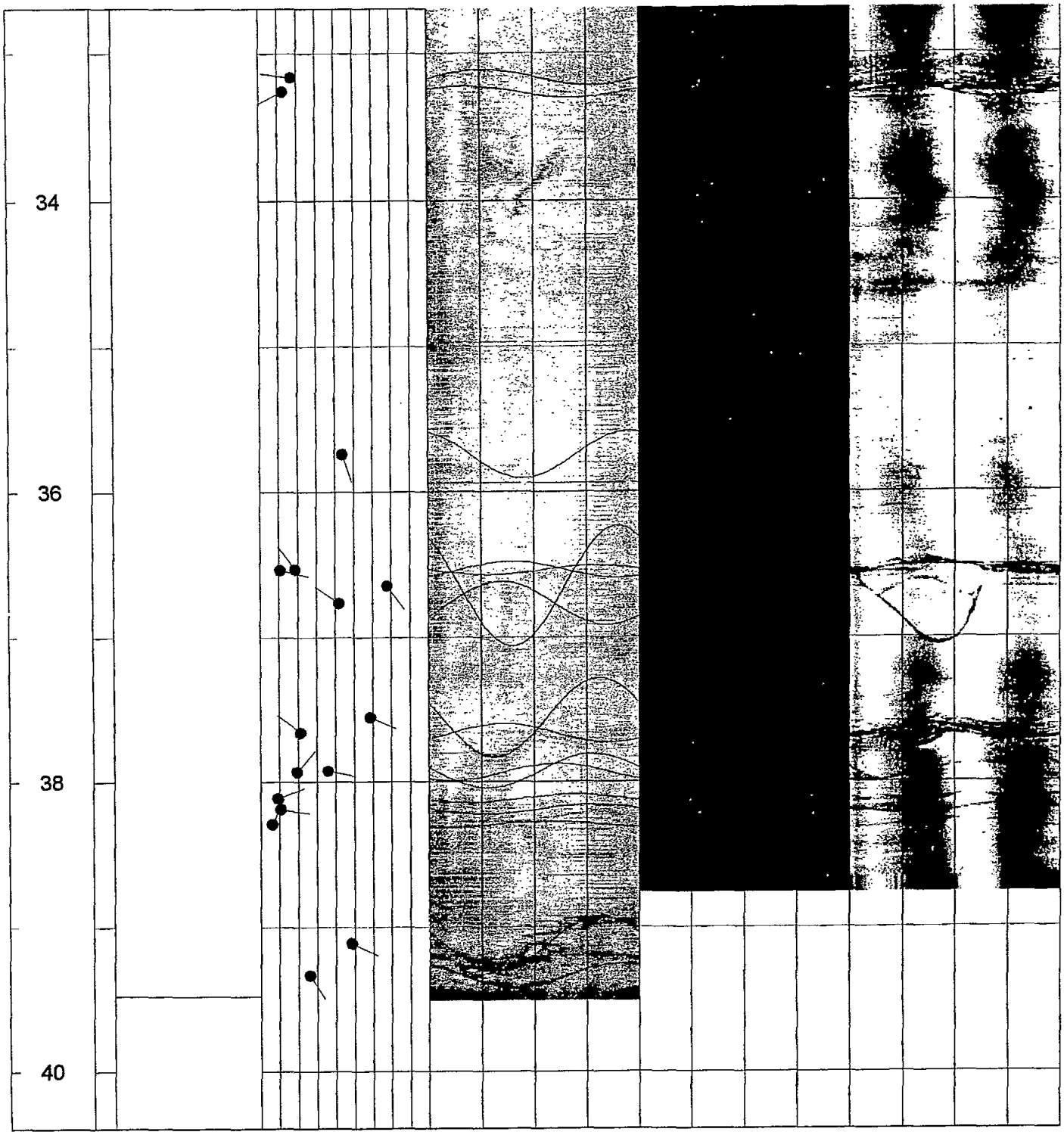
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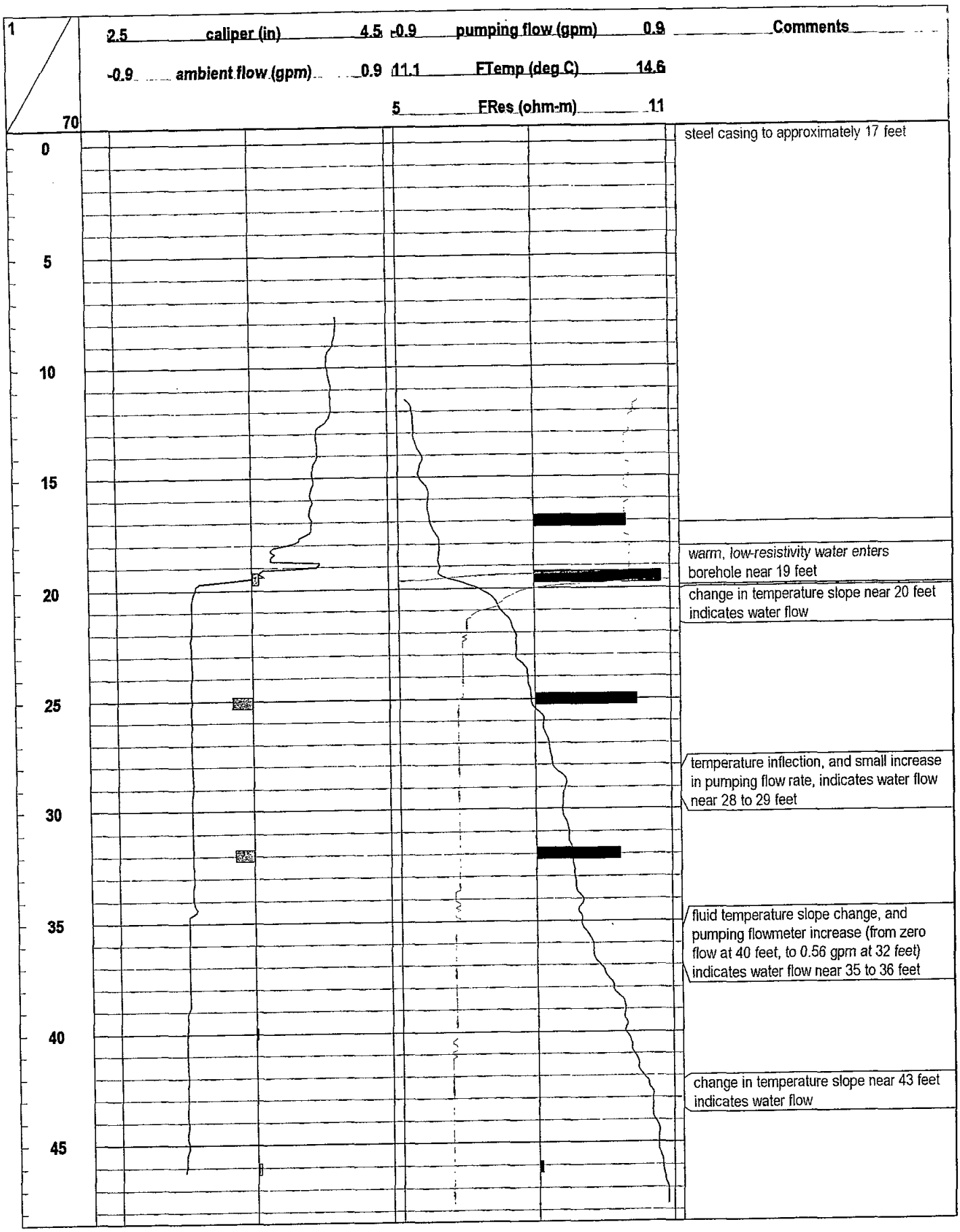

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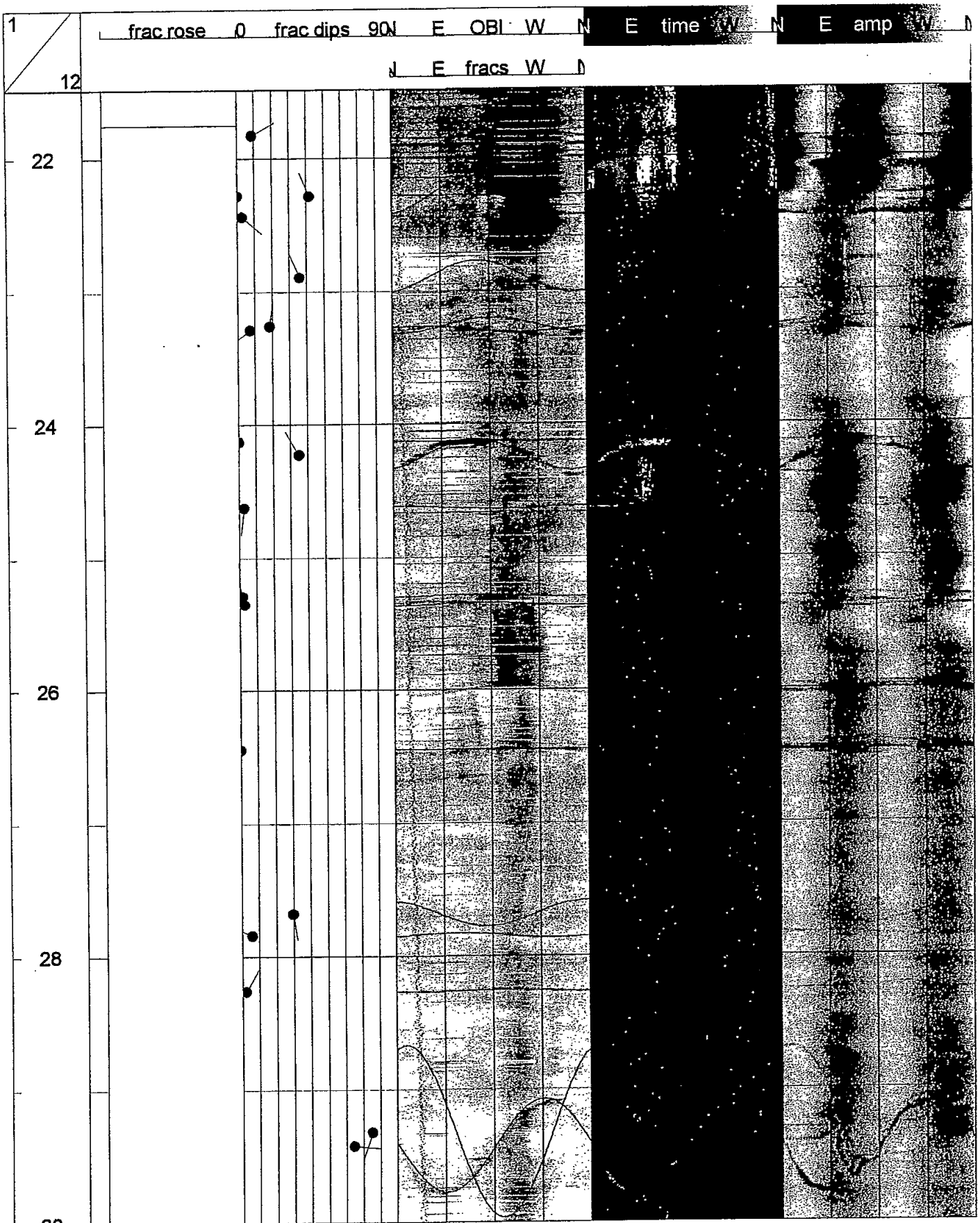

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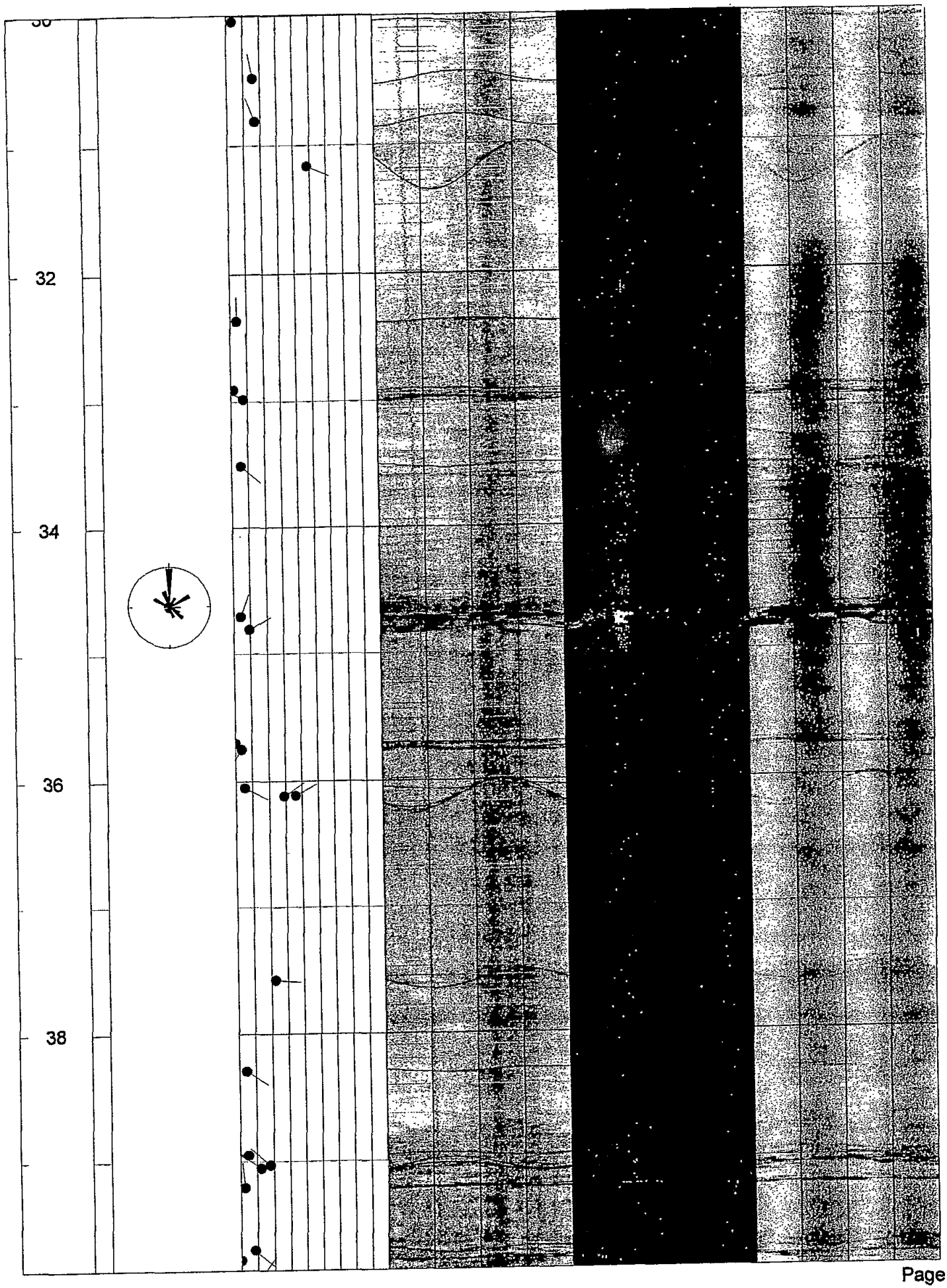

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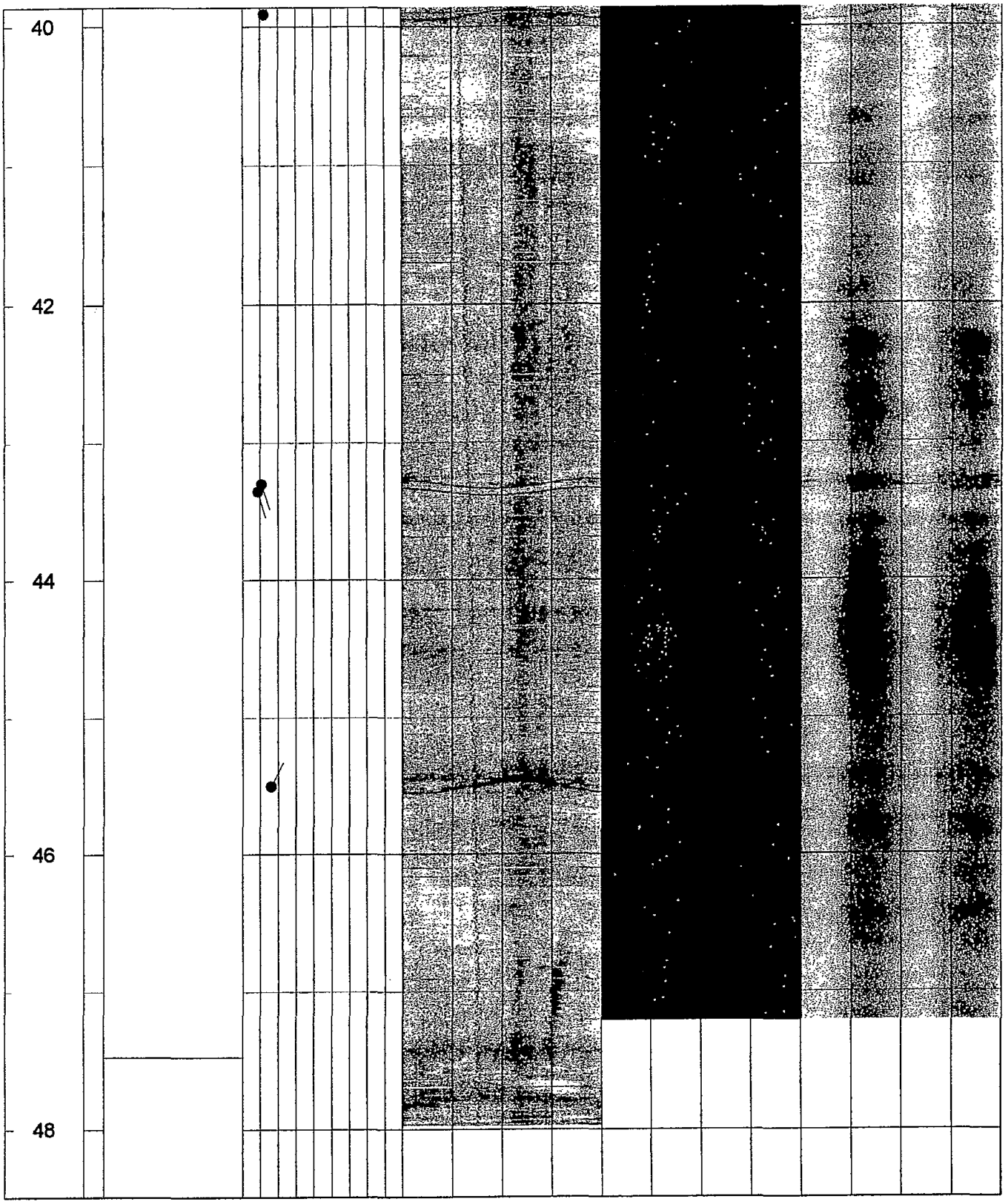

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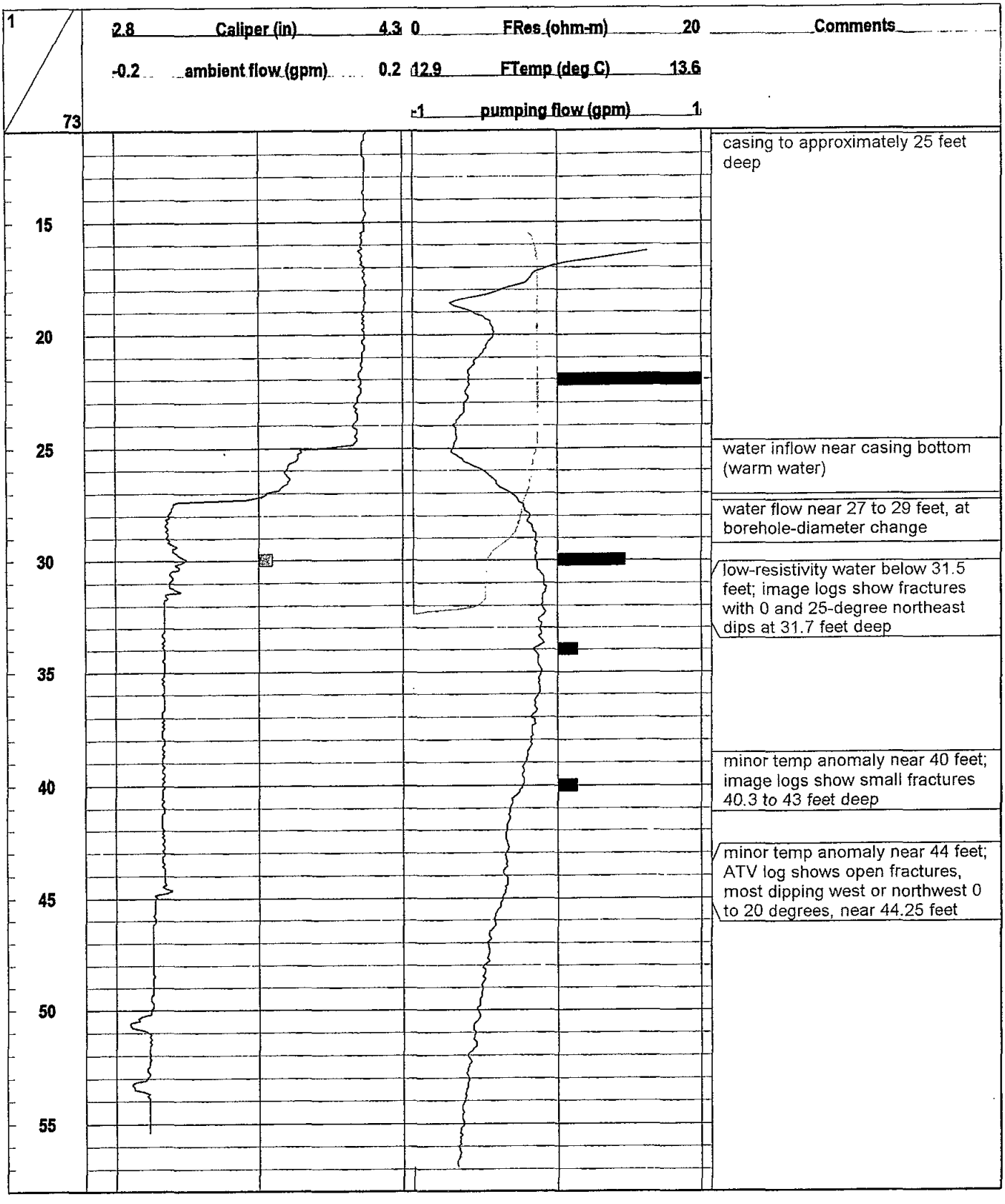

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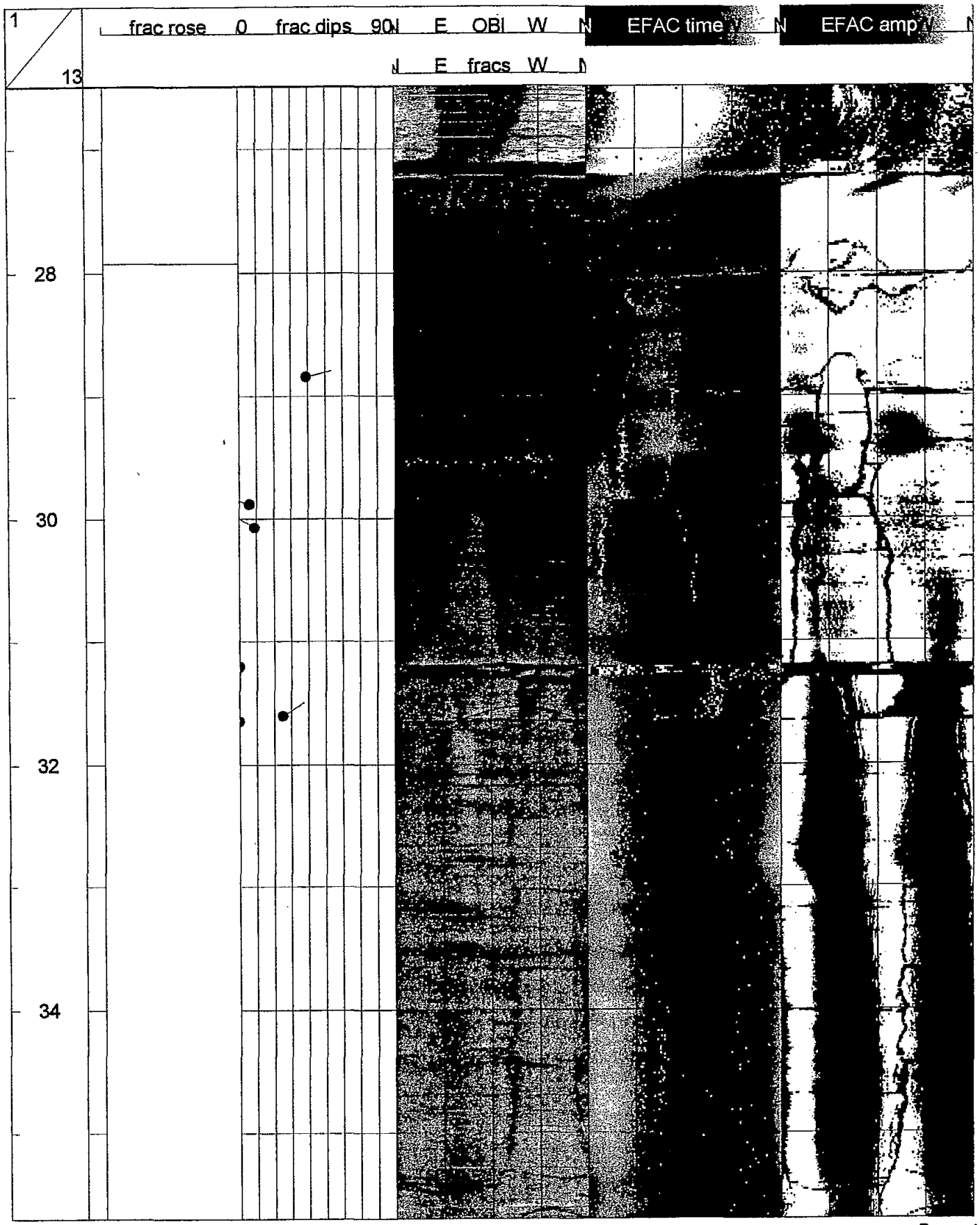

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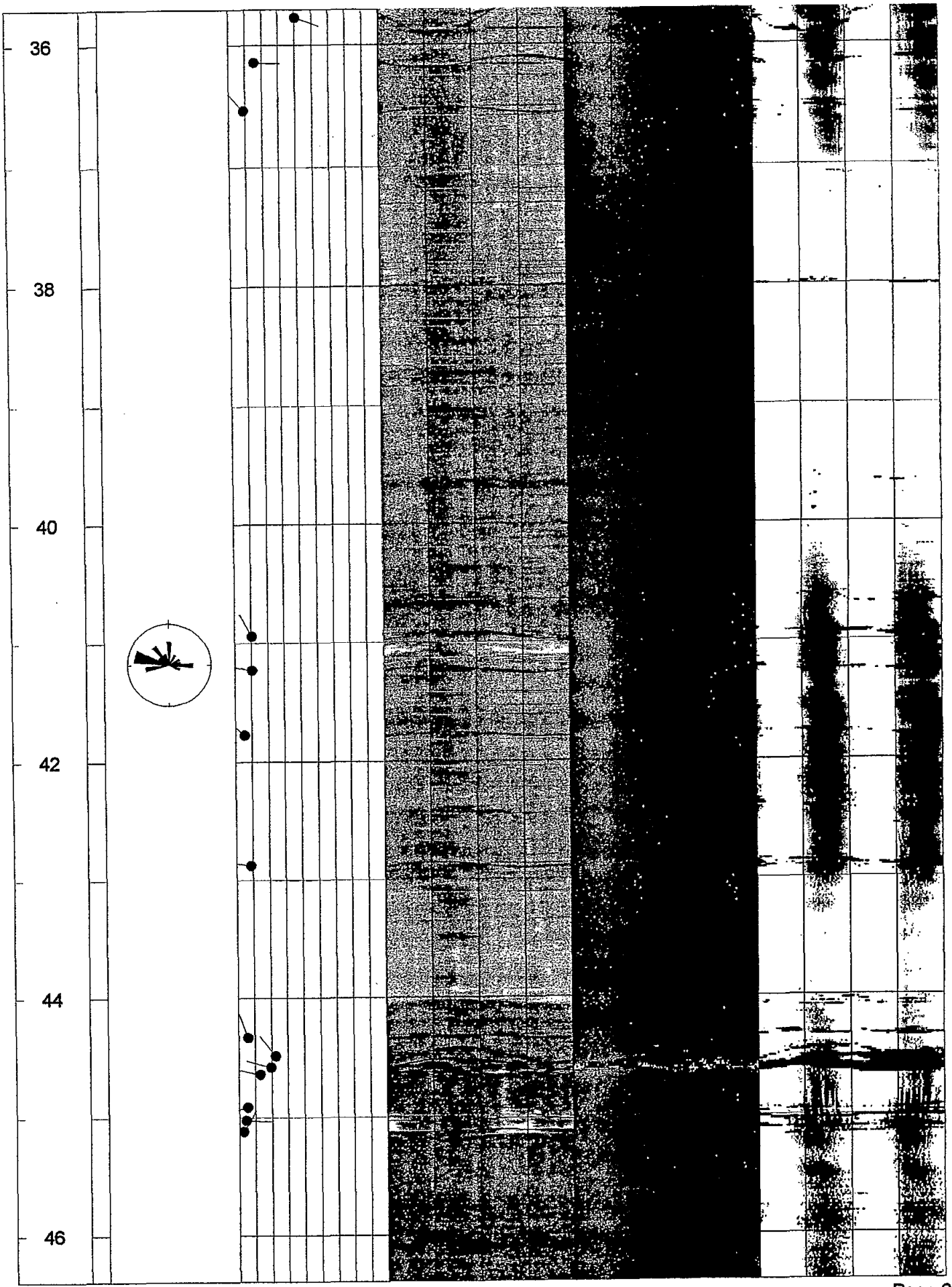

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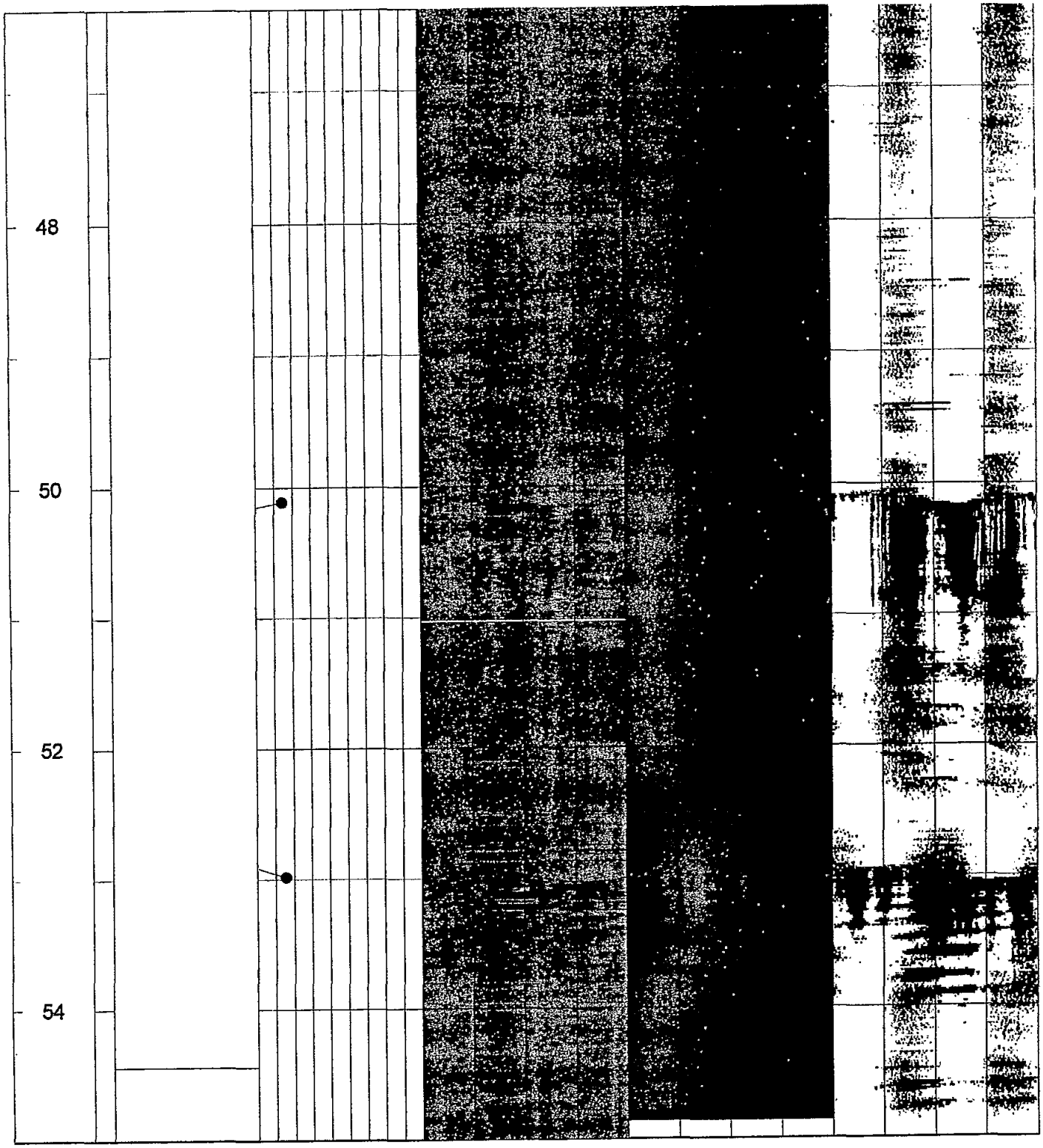
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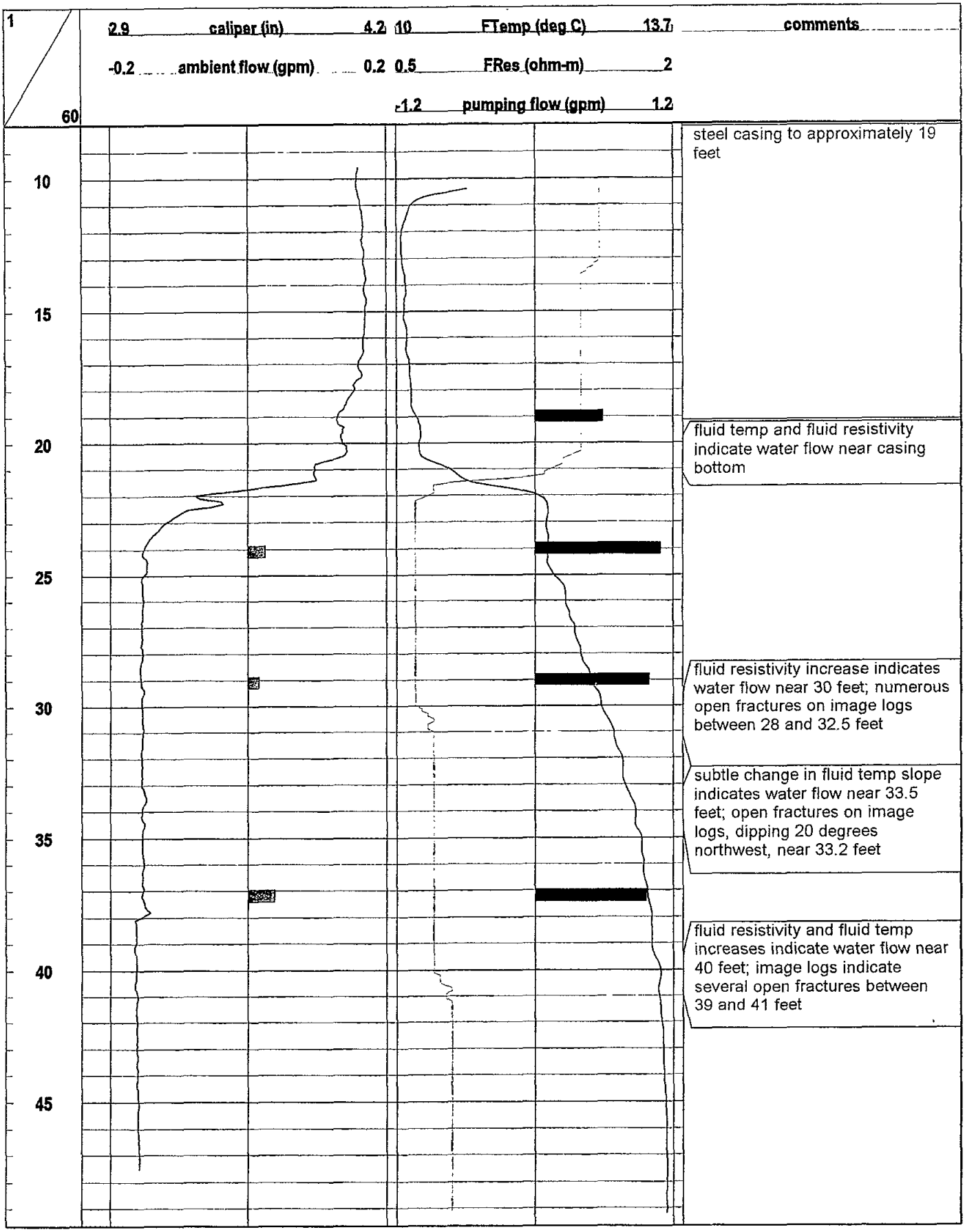

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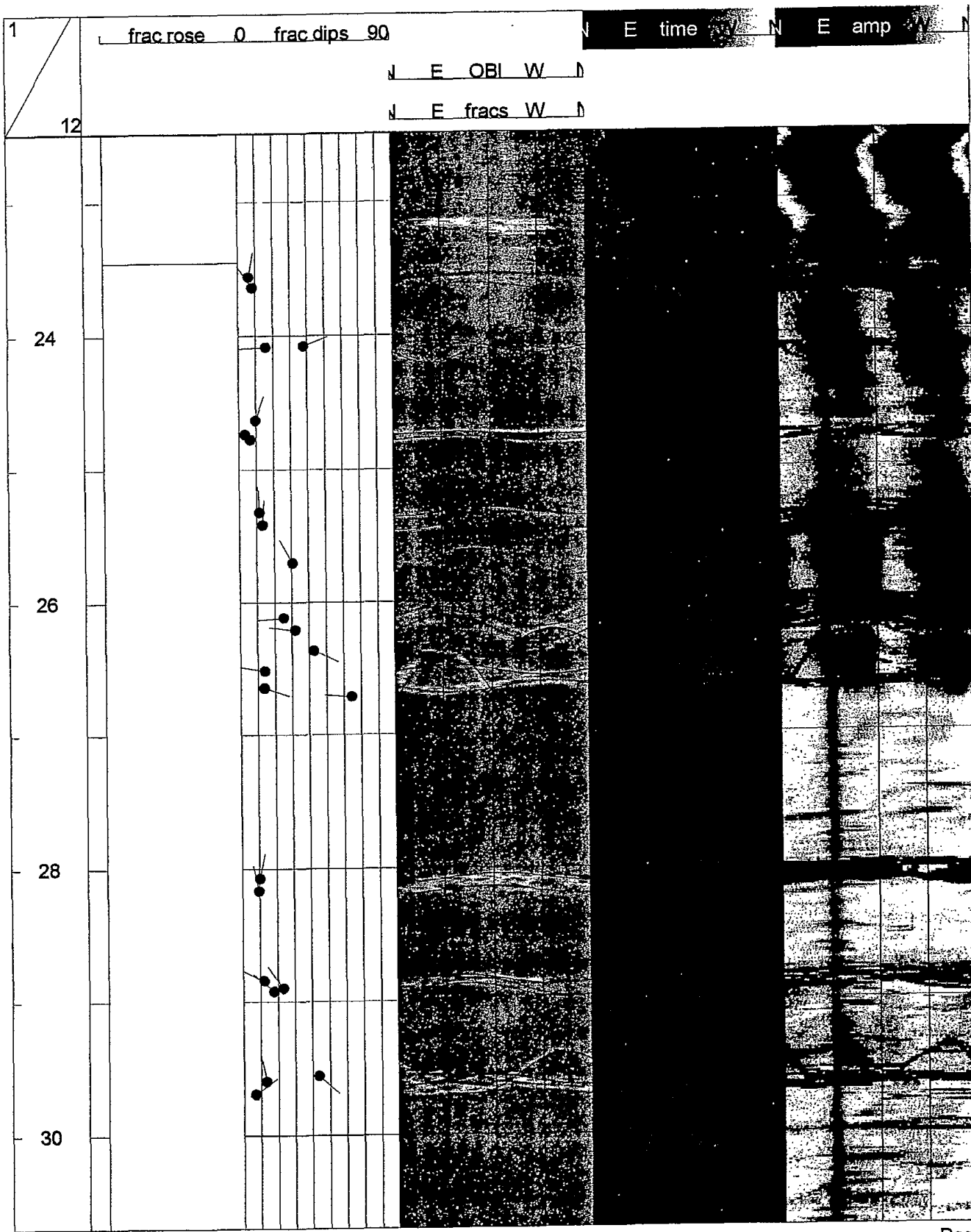

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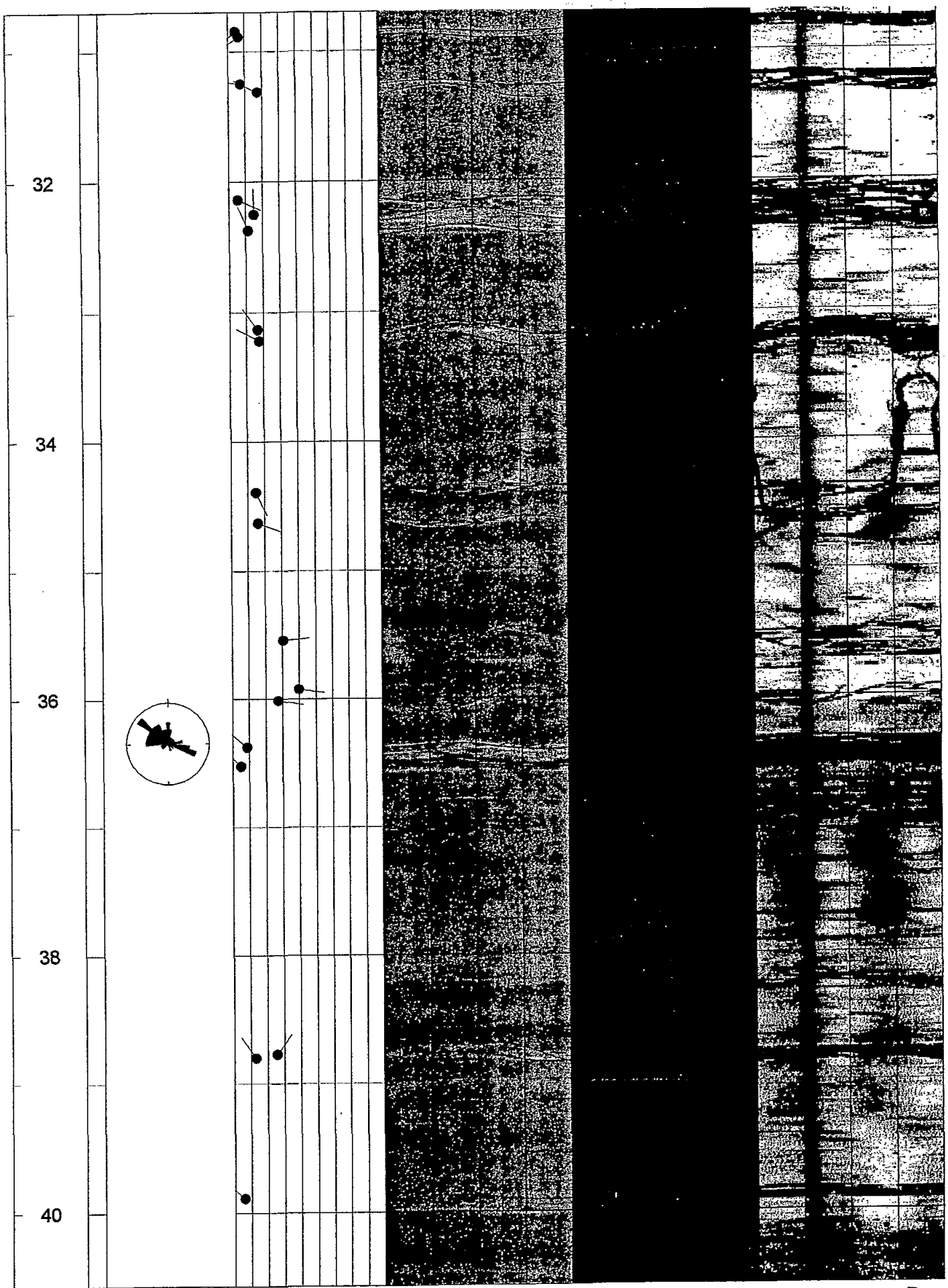

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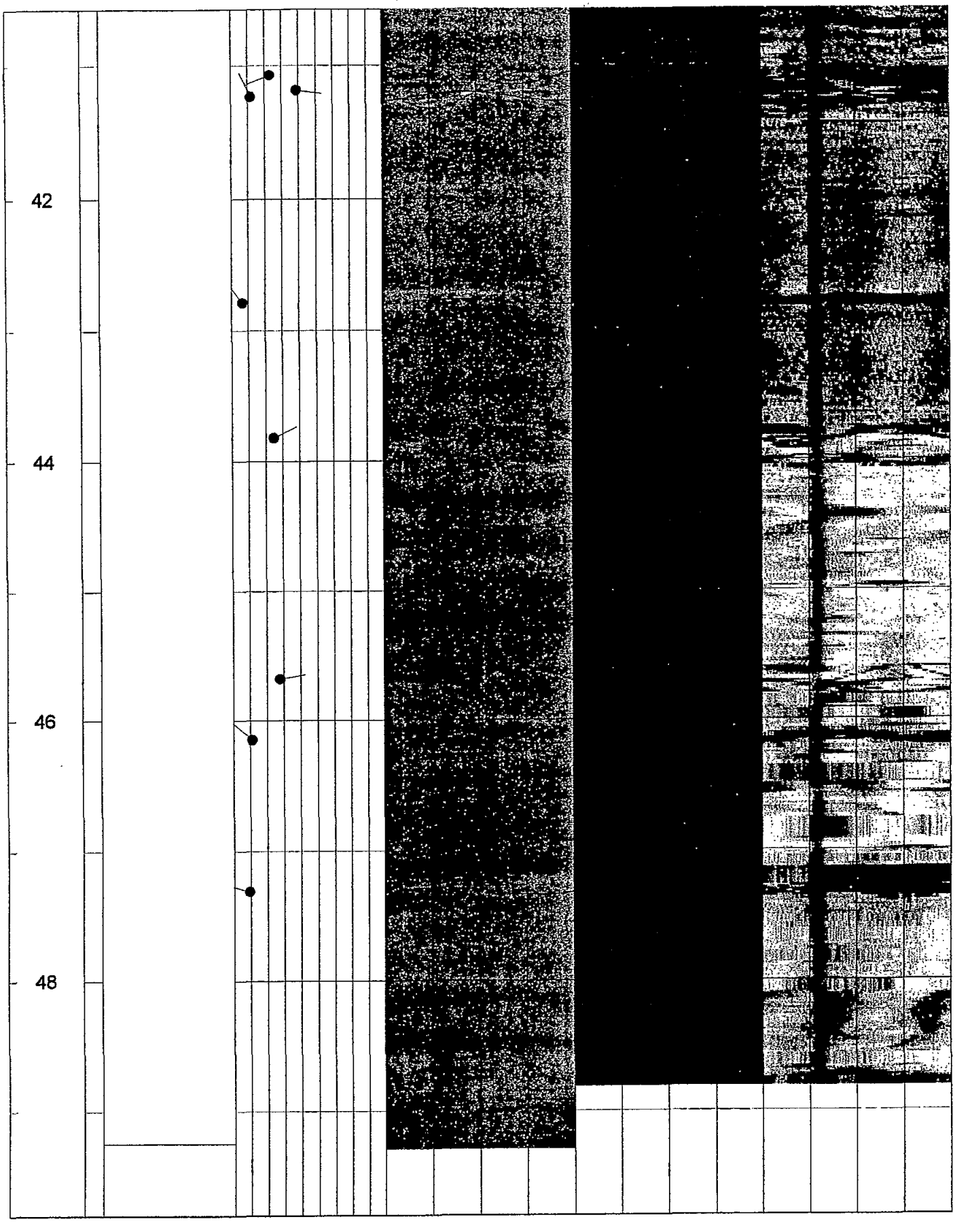
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File View Row Tools Window Help

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31.9	206.7	8.9	100	n/a
32.6	292.2	9.0	100	n/a
32.7	241.6	14.5	100	n/a
35.2	308.3	4.8	100	n/a
36.2	126.4	7.8	100	n/a
36.5	205.0	18.4	100	n/a
37.0	299.3	75.1	100	n/a
37.0	297.7	20.8	100	n/a
37.2	249.8	32.1	100	n/a
37.2	243.6	25.9	100	n/a
37.6	336.8	6.4	100	n/a
39.6	62.6	50.2	100	n/a
39.7	26.9	66.6	100	n/a
39.8	119.7	52.1	100	n/a
39.9	40.4	68.9	100	n/a
40.0	350.8	12.0	100	n/a
40.2	27.6	8.4	100	n/a
40.7	309.5	50.0	100	n/a
40.9	313.6	64.1	100	n/a
41.4	310.4	8.6	100	n/a
43.6	182.5	74.6	100	n/a
43.8	205.0	54.4	100	n/a
44.2	87.2	61.6	100	n/a

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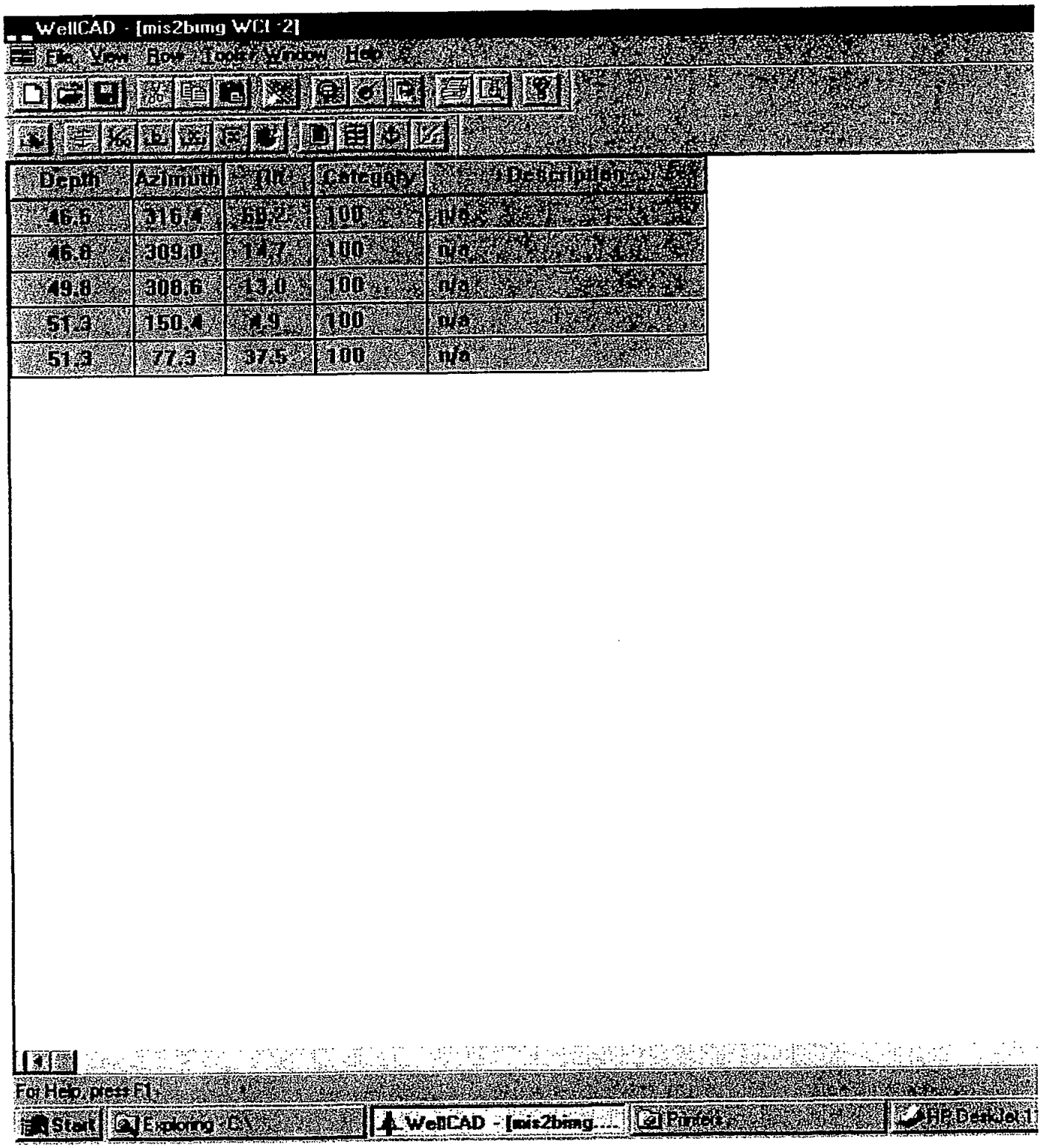
MW-33-20
p 2 of 2



Depth	Azimuth	Tilt	Category	Description
46.6	316.4	58.2	100	n/a
46.8	309.0	14.7	100	n/a
49.8	308.6	13.0	100	n/a
51.3	150.4	4.9	100	n/a
51.3	77.3	37.5	100	n/a

MISS-3B
p1 of 2

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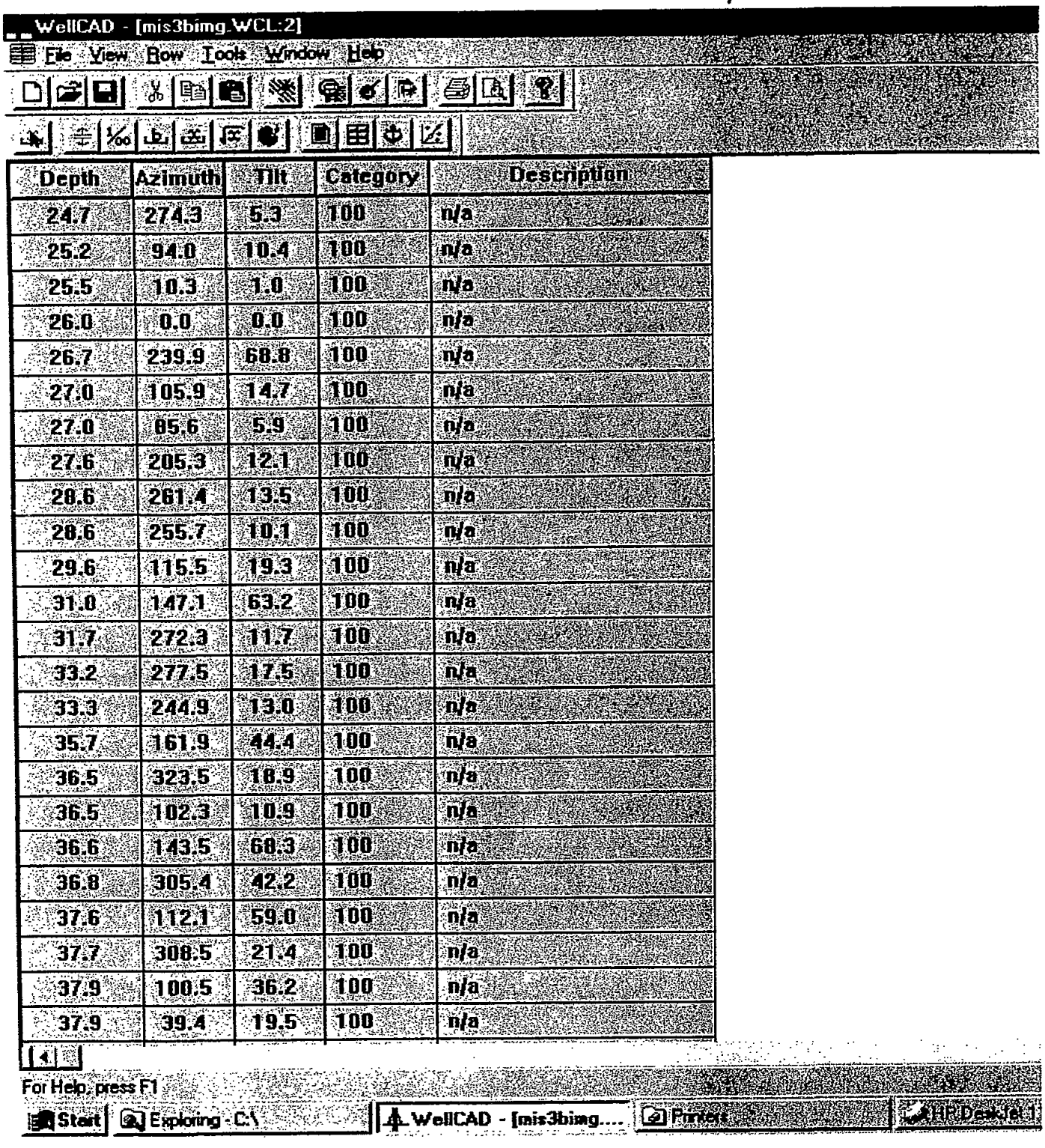

Depth	Azimuth	Tilt	Category	Description
24.7	274.3	5.3	100	n/a
25.2	94.0	10.4	100	n/a
25.5	10.3	1.0	100	n/a
26.0	0.0	0.0	100	n/a
26.7	239.9	68.8	100	n/a
27.0	105.9	14.7	100	n/a
27.0	85.6	5.9	100	n/a
27.6	205.3	12.1	100	n/a
28.6	261.4	13.5	100	n/a
28.6	255.7	10.1	100	n/a
29.6	115.5	19.3	100	n/a
31.0	147.1	63.2	100	n/a
31.7	272.3	11.7	100	n/a
33.2	277.5	17.5	100	n/a
33.3	244.9	13.0	100	n/a
35.7	161.9	44.4	100	n/a
36.5	323.5	18.9	100	n/a
36.5	102.3	10.9	100	n/a
36.6	143.5	68.3	100	n/a
36.8	305.4	42.2	100	n/a
37.6	112.1	59.0	100	n/a
37.7	308.5	21.4	100	n/a
37.9	100.5	36.2	100	n/a
37.9	39.4	19.5	100	n/a

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WellCAD [mis3bimg WCL:2]

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Depth	Azimuth	Tilt	Category	Description
38.1	68.3	9.5	100	n/a
38.2	97.3	10.0	100	n/a
38.3	23.9	6.2	100	n/a
39.1	113.7	48.8	100	n/a
39.3	148.0	26.4	100	n/a

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WILSS-4B
p 1 of 2

WellCAD - [mis4bim1.WCL:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
21.8	59.3	8.7	100	n/a
22.3	0.0	0.0	100	n/a
22.3	337.8	41.8	100	n/a
22.4	130.8	2.9	100	n/a
22.9	337.9	36.1	100	n/a
23.3	6.3	18.7	100	n/a
23.3	234.6	7.3	100	n/a
24.1	0.0	0.0	100	n/a
24.2	330.9	35.0	100	n/a
24.6	186.4	3.1	100	n/a
25.3	322.4	2.1	100	n/a
25.4	345.5	3.1	100	n/a
26.4	0.0	0.0	100	n/a
27.7	170.8	29.7	100	n/a
27.8	294.7	6.1	100	n/a
28.3	29.5	2.4	100	n/a
29.3	198.7	75.6	100	n/a
29.4	93.7	64.8	100	n/a
30.0	241.6	3.6	100	n/a
30.5	350.2	16.0	100	n/a
30.8	339.6	16.8	100	n/a
31.2	111.8	48.6	100	n/a
32.4	0.1	4.0	100	n/a
32.9	295.6	1.6	100	n/a

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MIS5-415
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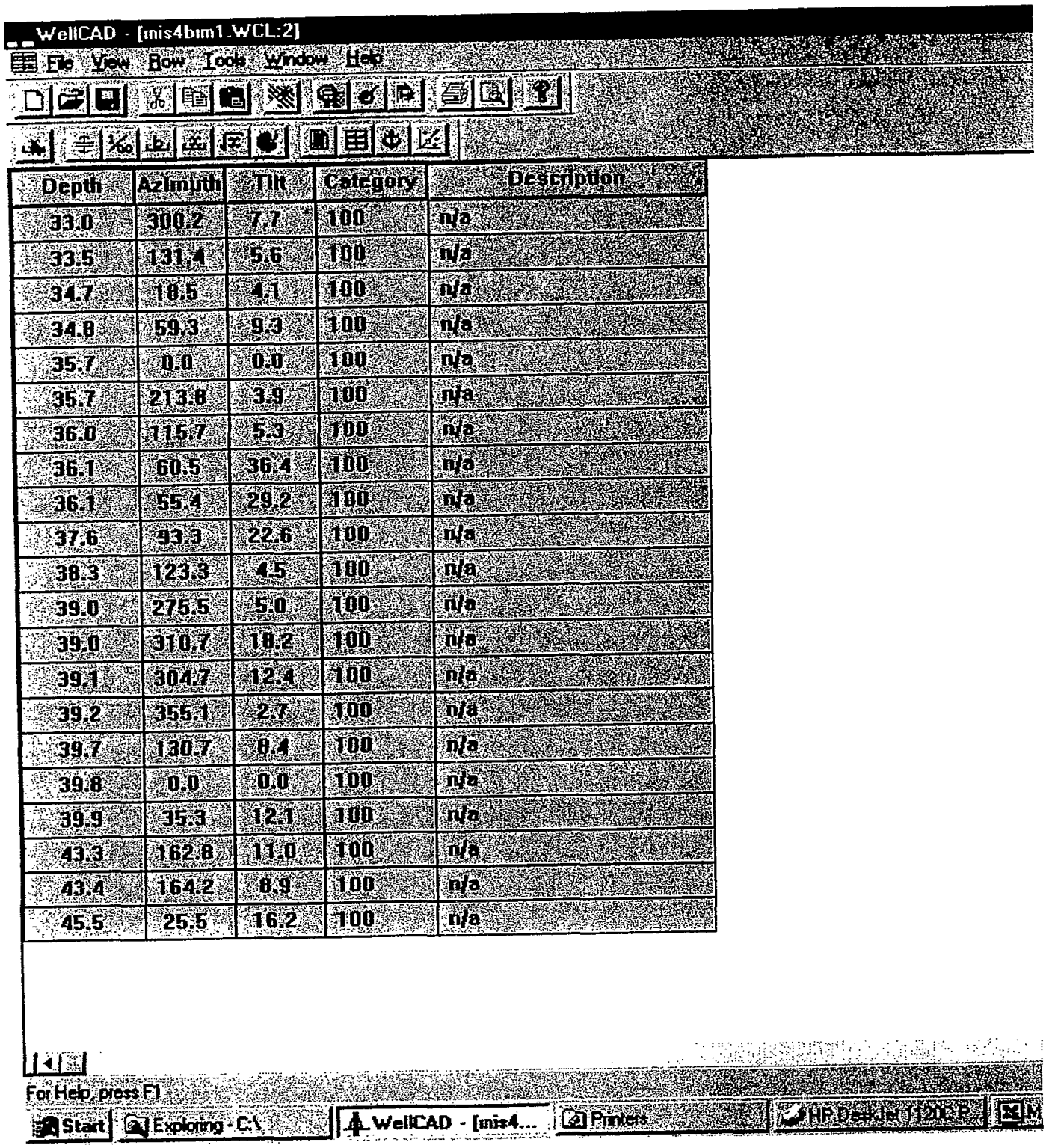

Depth	Azimuth	Tilt	Category	Description
33.0	300.2	7.7	100	n/a
33.5	131.4	5.6	100	n/a
34.7	18.5	4.1	100	n/a
34.8	59.3	9.3	100	n/a
35.7	0.0	0.0	100	n/a
35.7	213.8	3.9	100	n/a
36.0	115.7	5.3	100	n/a
36.1	60.5	36.4	100	n/a
36.1	55.4	29.2	100	n/a
37.6	93.3	22.6	100	n/a
38.3	123.3	4.5	100	n/a
39.0	275.5	5.0	100	n/a
39.0	310.7	18.2	100	n/a
39.1	304.7	12.4	100	n/a
39.2	355.1	2.7	100	n/a
39.7	130.7	8.4	100	n/a
39.8	0.0	0.0	100	n/a
39.9	35.3	12.1	100	n/a
43.3	162.8	11.0	100	n/a
43.4	164.2	8.9	100	n/a
45.5	25.5	16.2	100	n/a

MISS-5D

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File View Bow Tools Window Help

Depth	Azimuth	Tilt	Category	Description
28.8	75.6	39.2	100	n/a
29.9	288.7	5.9	100	n/a
30.1	302.7	9.0	100	n/a
31.2	0.0	0.0	100	n/a
31.6	55.5	25.2	100	n/a
31.6	0.0	0.0	100	n/a
35.8	108.8	40.4	100	n/a
36.1	90.0	16.1	100	n/a
36.5	317.0	9.0	100	n/a
40.9	331.2	11.0	100	n/a
41.2	283.0	10.7	100	n/a
41.8	313.6	5.9	100	n/a
42.9	281.6	9.0	100	n/a
44.3	340.3	6.0	100	n/a
44.5	321.9	22.8	100	n/a
44.6	285.2	19.9	100	n/a
44.6	281.0	13.4	100	n/a
44.9	257.4	5.7	100	n/a
45.0	90.5	4.6	100	n/a
45.1	31.1	3.1	100	n/a
50.1	258.9	14.7	100	n/a
53.0	288.2	16.0	100	n/a

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MIss-7B
p 1 of 3

WellCAD - [mis7bim2.WCL:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
23.6	9.6	6.3	100	n/a
23.6	325.9	8.4	100	n/a
24.1	68.5	38.3	100	n/a
24.1	268.3	15.9	100	n/a
24.6	18.3	9.6	100	n/a
24.7	289.3	3.7	100	n/a
24.8	291.6	6.5	100	n/a
25.3	357.0	11.5	100	n/a
25.4	2.8	13.4	100	n/a
25.7	330.5	31.1	100	n/a
26.1	266.4	25.7	100	n/a
26.2	276.3	32.3	100	n/a
26.4	114.4	43.2	100	n/a
26.5	280.8	14.0	100	n/a
26.6	106.7	13.9	100	n/a
26.7	274.7	64.8	100	n/a
28.1	10.7	10.2	100	n/a
28.2	348.4	9.8	100	n/a
28.8	295.6	12.2	100	n/a
28.9	325.7	23.3	100	n/a
28.9	311.9	17.8	100	n/a
29.6	131.0	43.9	100	n/a
29.6	348.7	13.3	100	n/a
29.7	52.8	6.8	100	n/a

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File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
30.8	231.2	4.4	100	n/a
30.9	235.5	6.4	100	n/a
31.3	278.3	7.3	100	n/a
31.3	296.6	17.6	100	n/a
32.1	112.2	5.6	100	n/a
32.3	359.4	15.1	100	n/a
32.4	337.6	11.5	100	n/a
33.1	323.6	17.0	100	n/a
33.2	298.2	17.8	100	n/a
34.4	155.7	14.9	100	n/a
34.6	109.5	16.2	100	n/a
35.5	84.7	30.8	100	n/a
35.9	96.6	40.0	100	n/a
36.0	98.3	27.6	100	n/a
36.4	310.9	8.7	100	n/a
36.5	314.1	5.1	100	n/a
38.8	34.3	26.0	100	n/a
38.8	324.6	13.1	100	n/a
39.9	310.3	6.2	100	n/a
41.1	249.0	23.4	100	n/a
41.2	95.8	39.1	100	n/a
41.2	336.2	11.8	100	n/a
42.8	322.5	6.8	100	n/a
43.8	64.7	24.8	100	n/a

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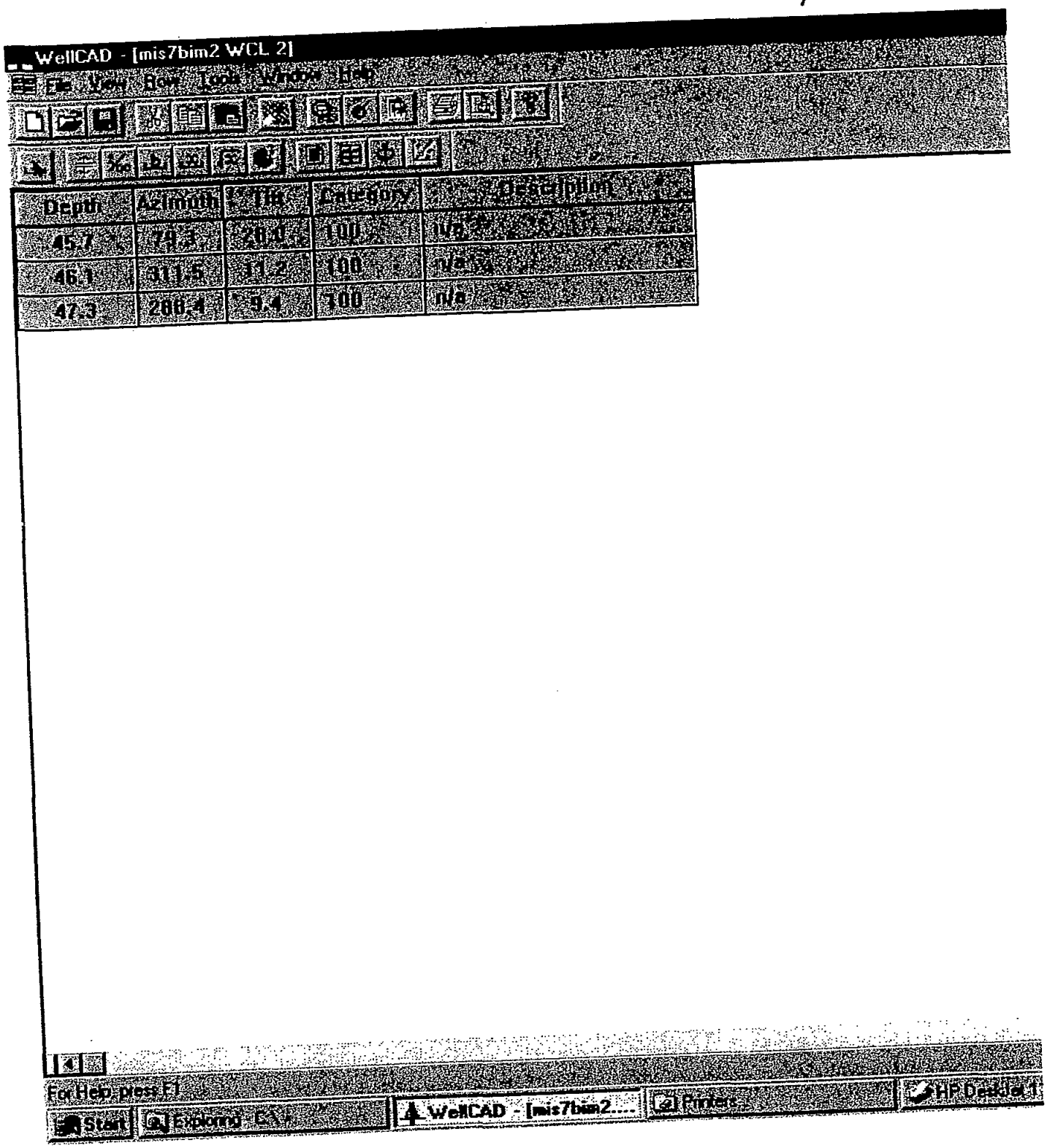
WellCAD - [mis7bim2 WCL 2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
45.7	79.3	28.0	100	n/a
46.1	311.5	11.2	100	n/a
47.3	288.4	9.4	100	n/a

For Help, press F1



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GEOPHYSICAL
APPLICATIONS
INCORPORATED

September 28, 2001

Mr. Michael Kulbersh
STONE & WEBSTER ENGINEERING CORP.
100 Technology Center Drive
Stoughton, MA 02072

Subject: Draft Borehole Geophysics Logging Report
Maywood Chemical Superfund Site
Maywood, New Jersey

Dear Mr. Kulbersh:

Geophysical Applications performed borehole geophysical logging at 21 wells at the above-noted site, to help Stone & Webster characterize bedrock fractures encountered by those borings.

The logging suite included conventional measurements (caliper, fluid temperature, and fluid resistivity), acoustic televiewer, and heat-pulse flowmeter logging at all boreholes.. SPR (single-point resistance), SP (spontaneous potential), and natural gamma logs were recorded in most boreholes. Optical televiewer imaging was also performed at most boreholes, except where Stone & Webster had already obtained rock core. Conventional video logging was performed at only one well.

METHODS OF INVESTIGATION

Survey Control

All borehole logs were referenced to depths below ground surface. The geophysical logging winches contain optical depth encoders that maintain depth measurements accurate within approximately ± 0.2 feet throughout each borehole.

Borehole Geophysical Logging

A Mount Sopris model MGX-5A digital logging winch was used with Mount Sopris heat-pulse flowmeter, polygamma, and caliper probes to obtain conventional geophysical log data. The caliper probe included a fluid resistivity/fluid temperature subassembly at the probe's bottom. Caliper, fluid temperature/fluid resistivity, and SP/SPR/gamma data were recorded at 0.1-foot depth increments, as determined by the logging winch's digital depth encoder. The fluid logs were recorded using a relatively slow speed of 3 feet per minute, to allow the thermistor to measure subtle temperature variations. The remaining conventional logs were recorded at higher logging speeds (typically 6 to 10 feet per minute).

Acoustic televiewer (ATV) data were recorded using Geophysical Applications' Advanced Logic Technologies (ALT) model FAC40 acoustic televiewer probe, with the Mount Sopris logging winch. This televiewer can adapt to a wide range of borehole diameters (up to 16-inch diameter), and is not hindered by suspended sediments in the water column. ATV data were

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recorded at 0.01-foot intervals throughout each borehole, at speeds of approximately 2.5 feet per minute.

The FAC40 contains a high-frequency sonic transducer, aimed upwards at a rotating mirror. This mirror is tilted approximately 45 degrees from the probe's vertical axis, to direct the sonic pulses at the borehole wall. The transducer divides each sweep around a borehole's circumference into 144 arc segments, and records two-way sonic travel time and reflected signal amplitude for each segment. The FAC40 chooses the largest-amplitude reflected signal within the measurement time window as representing the borehole wall.

Optical televiewer logging was performed using an ALT model OBI40 optical televiewer probe. This device contains a video camera aimed downwards at a conical mirror. The mirror provides a continuous 360-degree view around the borehole. OBI data were recorded on a laptop computer at 0.007-foot depth increments. Each image of the borehole wall was divided into 360 one-degree segments, with red-green-blue (RGB) color values stored for each segment and each depth increment.

Flowmeter data were recorded at specific depths in each well, above and below possible bedrock fractures indicated by field plots of the caliper and fluid temperature/resistivity logs.

Flow data were recorded in ambient conditions on the downward run, to detect groundwater flow between fracture zones with differing hydraulic head encountered by each boring. Flowmeter data were subsequently repeated under low-flow (less than 1.0 gallons per minute, or gpm) pumping conditions, to help determine which fracture zones were providing significant recharge into the wells.

All geophysical logs were recorded on a laptop computer's hard drive, and transferred to floppy diskette, Zip disks, or CD-ROM as a backup precaution.

Post-survey plot scales were adjusted to display as much detail as possible. All conventional logs from the same borehole were merged onto one log plot, to aid data correlation. Acoustic and optical televiewer logs are presented on a separate page, for clarity. All geophysical log data are presented in this report using ALT's WellCad software package, with a special image-processing module for the optical and acoustic televiewer data.

Conventional video imaging was performed only at well MW-19DD. The purpose of this task was to compare the conventional-video image with an optical televiewer log, and determine which provided more useful data.

Video images were recorded with a Laval model Cam-Pak 200 color video camera and a Sony 8mm videocassette recorder. The Laval instrument includes an optical depth encoder that indicates camera depth in feet and inches on the video image. The video log was subsequently transferred to VHS-format videotape for submission to Stone & Webster.

Equipment Decontamination Procedures

Decontamination procedures consisted of an Alconox scrub, and tap water rinses of logging cables and probes between logging runs.

SURVEY LIMITATIONS

Measured log depths are estimated to be accurate within ± 0.2 feet, allowing for some cable stretch and minor slippage of the winches' depth-measurement wheels.

The caliper-probe's arms can measure borehole diameters up to approximately 13 or 14 inches. Caliper logs can detect fractures that cross a borehole at moderate angles, typically less than approximately 70 degrees. Caliper logs may not detect near-vertical fractures.

The heat-pulse flowmeter is designed for relatively low flow-rate environments, typically less than 1.0 gpm. Higher flow rates may produce erroneous flow-rate data values.

Hydraulically-active fracture zones were inferred by correlating numerous geophysical logs. These interpretations are a subjective judgment based upon available data.

RESULTS

All geophysical logs described in this report are presented in Appendix A. A copy of the video log was submitted separately to Stone & Webster's Boston office on VHS-format videotape.

Summary fracture-orientation interpretations are provided in Appendix B, based on the optical (OBI) and acoustic (ATV) data. These summaries are screen prints of Excel spreadsheets, presenting bitmap summaries of measured fracture depths ("depth" column), down-dip azimuths ("azimuth" column), and dip angles ("tilt" column) measured with the WellCad software. The "category" column indicates whether the observed feature was judged to be open (category 105), or less-open (category 100). The remaining column on each spreadsheet was not used during this project.

Strat logs (SP, SPR, and natural gamma), and sometimes fluid conductivity (FCond), are presented in the two left-hand columns in each conventional log plot. FCond data are not presented for logs where the measured fluid resistivity (FRes) values were negative or close to zero (probably due to the borehole fluids being very conductive, and outside the probe manufacturer's calibration range

Caliper logs are presented in the middle of each conventional-log plot. Inflections to the right indicate borehole enlargements, for example where the drill bit passed through a fracture zone.

Fluid temperature (FTemp) and fluid resistivity (FRes) logs are presented towards the right-hand side of each log plot. Localized inflections or changes in slope of either fluid log typically represent water entering or exiting the borehole. Some of the measured fluid resistivity data values were unusually low, possibly due to roadway de-icing salts from nearby roadways.

Heat-pulse flowmeter data are presented on the caliper panel (ambient measurements) and on the fluid temperature/resistivity panel (flow measurements while pumping). Shaded boxes to the left of centerline on either panel represent downwards water flow, with the box length indicating the flow magnitude in gpm. Shaded boxes to the right of a panel's centerline represent upwards water flow. Flow measurements that were less than 0.02 gpm (nearly zero flow) are represented by filled circles. Flowmeter test depths were selected using field plots of the caliper, fluid temperature, and fluid resistivity logs.

Optical (OBI) and acoustic televiewer (ATV) logs were evaluated using WellCad's image-processing module, to measure fracture dip angles and down-dip azimuths. All inferred down-dip azimuths are referenced to magnetic north. Tadpole plots indicate measured fracture orientations, where the

filled circles indicate dip angles (plotted on a graph that ranges between 0 and 90 degrees left to right). Each tadpole tail points in the measured down-dip azimuth (i.e., perpendicular to the fracture strike direction), assuming that north is straight up on the printed page.

Red tadpoles and sine curves represent fractures judged to be "open", because they were evident on both the ATV travel time and ATV amplitude plots. Black tadpoles and sine curves represent features judged to be "less-open", because they were primarily visible only on the ATV amplitude plots. A stereoplot indicates the poles to the inferred fracture planes. Each stereoplot is an equal-angle, southern hemisphere projection of both the open and less-open features. Some stereoplots show distinct clusters of open and/or less-open features, indicating numerous fractures with similar orientations. Each stereoplot is presented with magnetic north straight up on the printed page.

Note that many fractures were discerned on both optical and acoustic televiewer data, but some features were observed on only one of those logs. Fracture orientations were first measured using the acoustic televiewer data. Fractures (or other planar features) indicated only by the optical (OBI) data were subsequently added to the ATV interpretations. These combined interpretations are summarized by the tadpole plots and rose diagrams, to indicate the predominant down-dip azimuth(s). The rose diagrams are also presented with magnetic north straight up on the printed page.

The image (televiewer) logs include three colored panels, in addition to the rose and tadpole plots. The column labeled "OBI40" presents the optical televiewer data. The "ATV time" column presents acoustic televiewer travel-time data, and the "ATV amp" column presents acoustic televiewer reflection-amplitude variations. Travel-time anomalies generally represent open fractures, and amplitude variations are more likely to depict both open and more-subtle features. Note that these three columns are oriented with respect to magnetic north, with letters and vertical lines denoting the north (N), east (E), and west (W) positions. Each of these three columns can be envisioned as a cylindrical projection, sliced along the north side, and flattened for presentation on a printed page.

OBI data recorded at this site shows good resolution of some features, but a lack of realistic color. Water pumped during flowmeter testing was typically muddy or steely-grey in color. This murky water probably prevented the OBI probe from recording high-quality color images at this site.

Log interpretations at each well are provided in the comments column on each conventional-log plot. All depth ranges described below, and shown on the logs in Appendix A and spreadsheets in Appendix B, are referenced (in units of feet) to the ground surface adjacent to each well (note that many of these logged wells were flush-mount road boxes, without a stickup).

Selected observations based on the recorded geophysical logs are listed below for each well (most interpretations are shown on the conventional log plot).

MW-01D

Both open and less-open fracture rose plots indicate that most observed features dip down towards the northwest. The cluster near the stereoplot's center indicates that these fractures have relatively low dip angles.

MW-02D

The largest observed water inflow was near the casing bottom, possibly at a gap immediately below the steel casing (see the prominent horizontal bands on the ATV and OBI logs near 21.7 feet deep).

Most open fractures dip down towards the west and northwest.

MW-03D

A gap where two casing segments are joined is indicated near 21.6 feet deep (see enlargement on the caliper log, and the dark band representing exposed pipe threads on the ATV log).

Most open fractures dip down towards the northwest or west-northwest.

MW-04D

Most open fractures dip down towards the east-southeast to south-southeast. Less-open fractures dip mostly towards the west-southwest. An especially distinct steep-dipping fracture is visible on the ATV log near 34 feet deep (dipping approximately 70 degrees from horizontal, down towards the southeast).

MW-05D

Most observed inflow while pumping was near the casing bottom, possibly at a gap immediately below the steel casing near 33.5 feet.

Less-open and Open fractures primarily dip down towards the northwest.

MW-06D

A prominent enlargement immediately below the casing bottom is evident on the caliper and ATV logs. Some exposed pipe threads are shown on the ATV log near 21.2 feet deep.

Less-open fractures dip mostly towards the west-northwest. Only two open fractures were observed at this borehole, dipping due north and due south.

MW-07D

Significant inflow while pumping was observed near the casing bottom (ATV and OBI logs show a gap immediately below the steel casing). This gap may have produced the second-largest inflow observed at this borehole.

Open fractures dip primarily towards the west, and less-open features dip towards the northwest, at this borehole.

MW-08D

A wide section of pipe thread is exposed at the casing joint near 21.8 feet (see caliper and ATV logs). Most inflow observed while pumping this borehole apparently was produced through this loose joint.

Open fractures dip down towards the north-northeast, and also towards the northwest.

MW-09D

Caliper and ATV logs show a gap below the steel casing, but only minor inflow might through this gap was indicated by the pumping flowmeter tests.

Open and less-open fractures both dip primarily towards the west.

MW-10D

The ATV log shows a distinct gap at the casing bottom, but only minor inflow occurred at this depth.

Most less-open fractures dip towards the west-northwest to northwest. Open fractures dip towards the northwest and east-northeast.

MW-12D

Very high natural gamma counts represent radionuclide materials in soil, up to 4 or 5 feet deep.

A possible casing leak near 26.5 feet deep is indicated by FTemp and FRes anomalies, and by a decrease in upward water flow.

Open fractures dip mostly towards the north-northwest and north-northeast.

Diagonal lines on the ATV amplitude plot below 43 feet deep probably represent drilling tool marks (if they were fracture or bedding planes, they would resemble sine curves instead of diagonal lines).

MW-13D

Most inflow occurs shortly below the casing bottom, probably through open fractures or coarse-grained rock shown on the ATV log plot.

No preferred fracture-dip direction is evident at this borehole.

MW-14D

High gamma counts indicate radionuclide materials in overburden, up to 5 or 6 feet deep.

Most inflow occurred slightly below the casing bottom, probably through open fractures shown on the ATV log.

Open fractures in this borehole dip down primarily towards the north.

MW-15D

Most pumping inflow occurred near 42 or 43 feet deep (possibly through an open fracture shown on the ATV log).

Open fractures dip predominantly towards the west.

MW-16D

High gamma counts indicate radionuclide materials in soils, between 4 and 6.5 feet deep.

Two casing-joint gaps with exposed pipe threads are evident on the ATV log near 22 and 43 feet deep. The 43-foot deep gap appears to allow water to flow into this borehole.

Most inflow occurred immediately below the casing bottom, at a large gap shown on the caliper and ATV logs.

Open fractures dip down towards the north and northwest.

MW-17D

Open fractures dip towards the northwest, west, and north-northwest at this borehole.

Note the pebbly appearance of strata near 30 to 32 feet deep on the ATV log.

MW-18D

Ambient water flow was upwards and out the top of this borehole during the ambient flowmeter tests.

Note the exposed pipe threads at a casing joint near 22 feet deep, as shown on the OBI log segment provided separately for this borehole. The unoriented OBI log (ignore compass orientations for televiewer logs within the steel casing) actually shows the diagonal lines that represent individual threads.

Less-open fractures dip mostly towards the northwest. There is no predominant dip direction for open fractures at this borehole.

MW-19D

Most inflow occurred between 30 feet deep and the casing bottom, through a combination of a gap at the casing bottom and numerous fractures.

Open and less-open fractures both dip towards the northwest at this borehole.

MW-19DD

Most inflow appears to occur at a gap immediately below the casing bottom, near 52 feet deep.

Open fractures dip primarily towards the southeast at this borehole. Less-open fractures do not have a single predominant dip direction.

MW-20D

FRes and FTemp inflections near 12.5 to 17 feet deep suggest possible casing leaks.

Note the distinct, steep-dipping open fractures near 36 and 44 feet deep, visible on both the OBI and ATV logs.

Most open fractures dip towards the southeast at this borehole.

MW-21D

Pebbly and coarse-grained materials are visible on the ATV and OBI logs (note especially the OBI log near 87.5 feet deep).

The lower portion of an especially steep-dipping fracture is shown on the OBI and ATV logs near 91 feet deep.

Open and less-open fractures both dip mostly towards the west-northwest and west at this borehole.

* * * * *

We appreciate this opportunity to provide geophysical services, and we welcome questions concerning this report. Please call the undersigned at 508/543-1388 if we may provide additional information that would benefit Stone & Webster's project.

Sincerely,

GEOPHYSICAL APPLICATIONS, INC.

M. Blackey

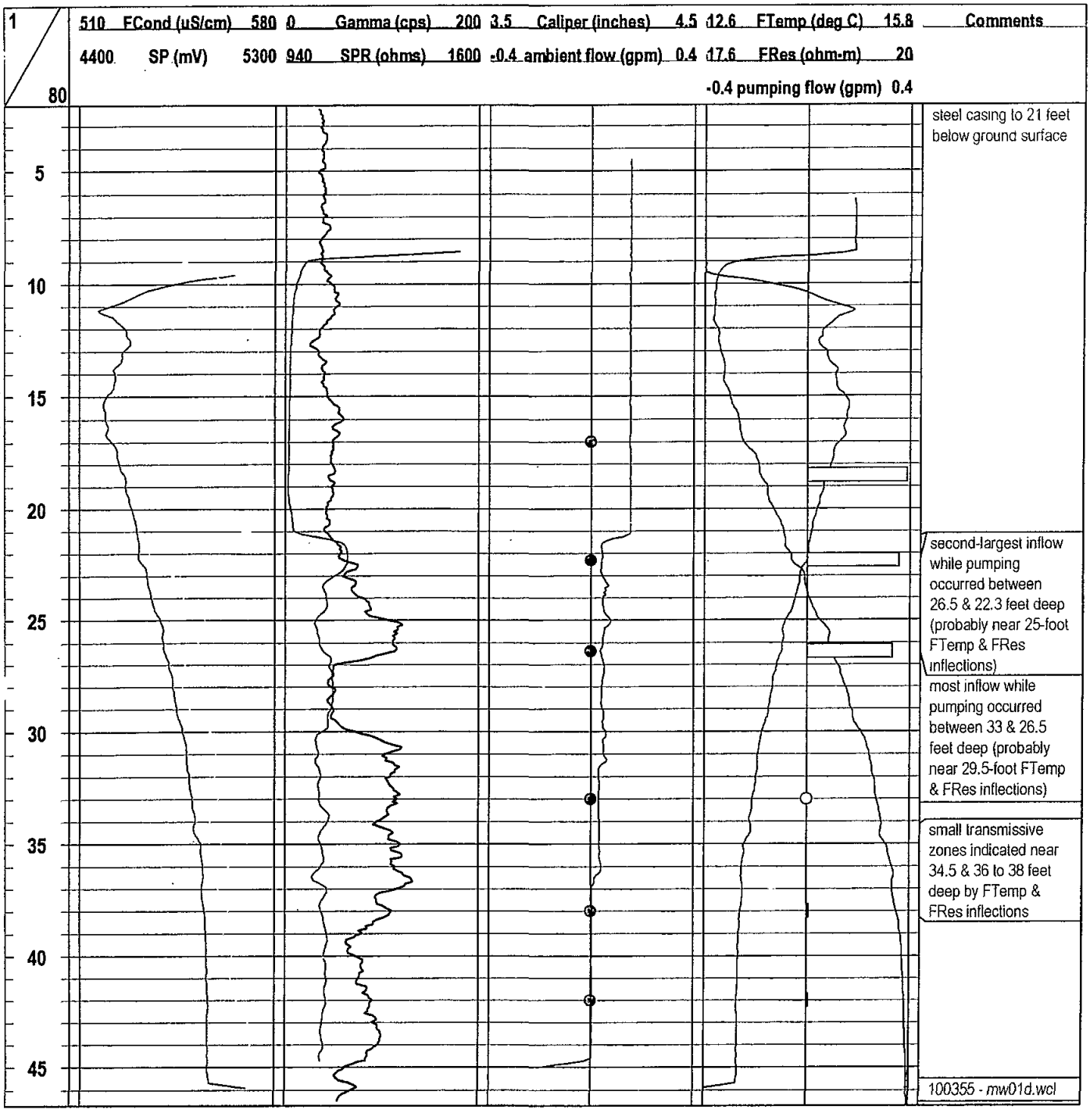
Mark E. Blackey
Principal and Geophysicist

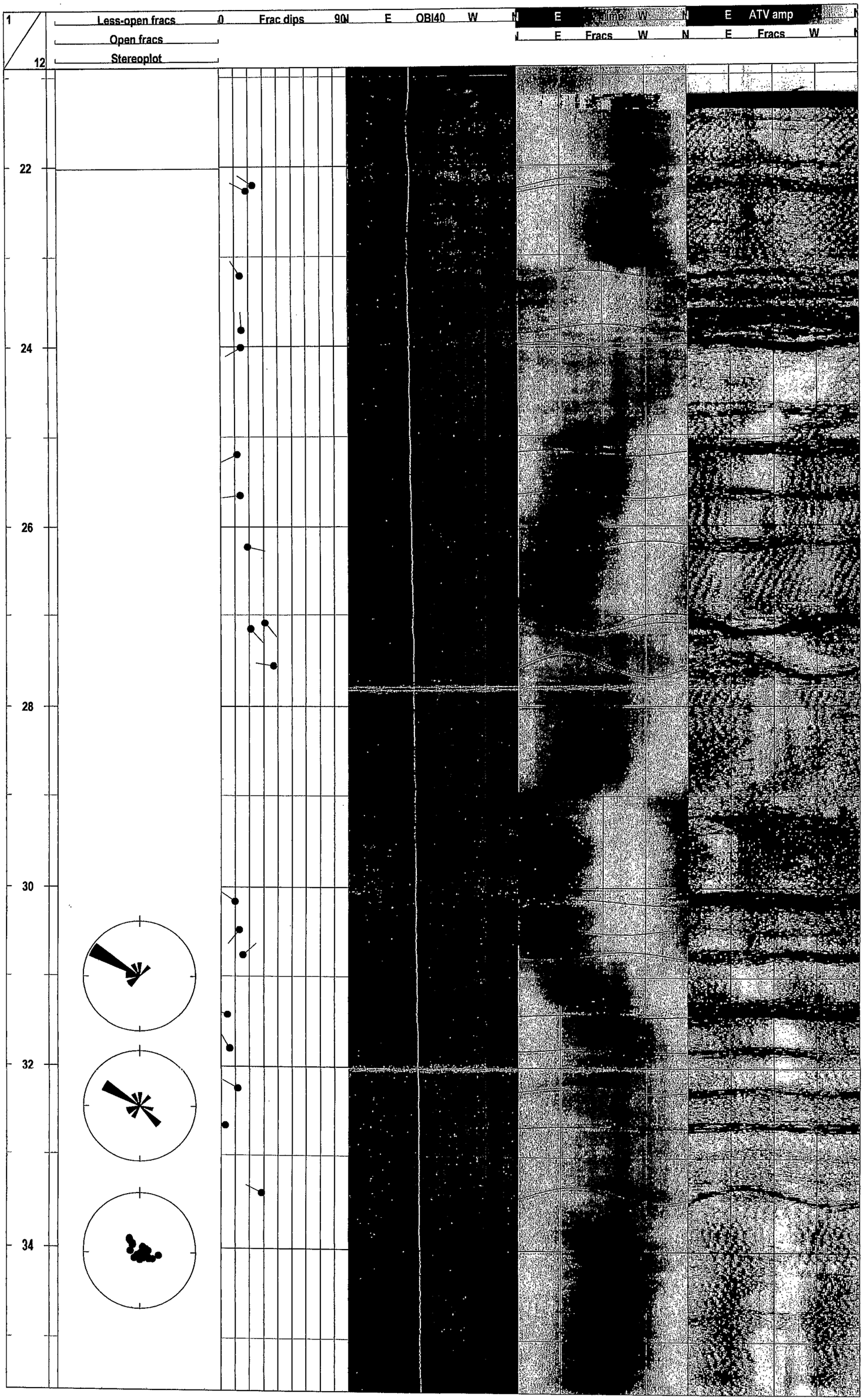
100355 - 100355b.rpt

Appendix A

Borehole Geophysical Logs

Project - Well: Stone & Webster/Maywood, NJ - MW-01D conventional logs

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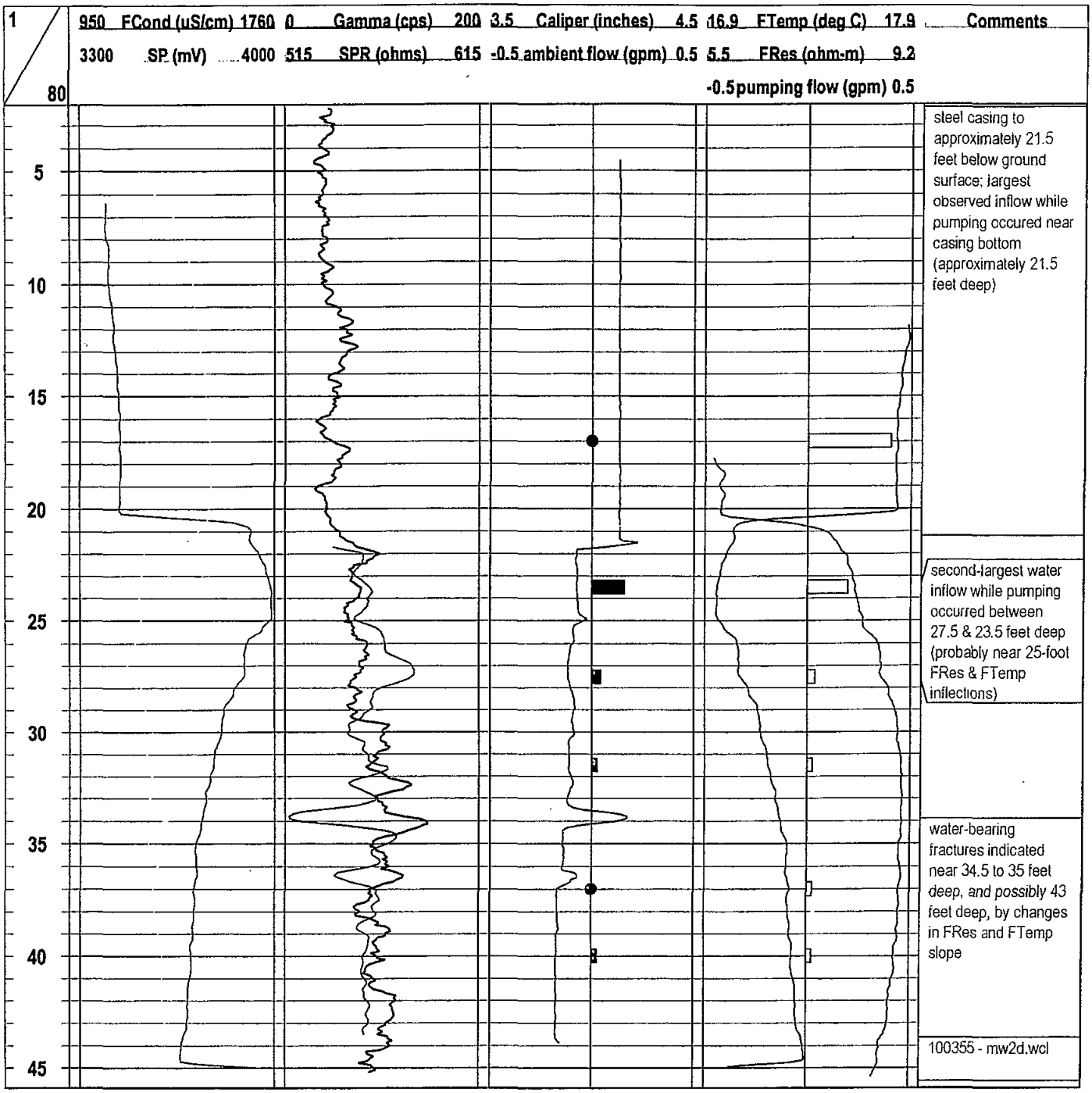
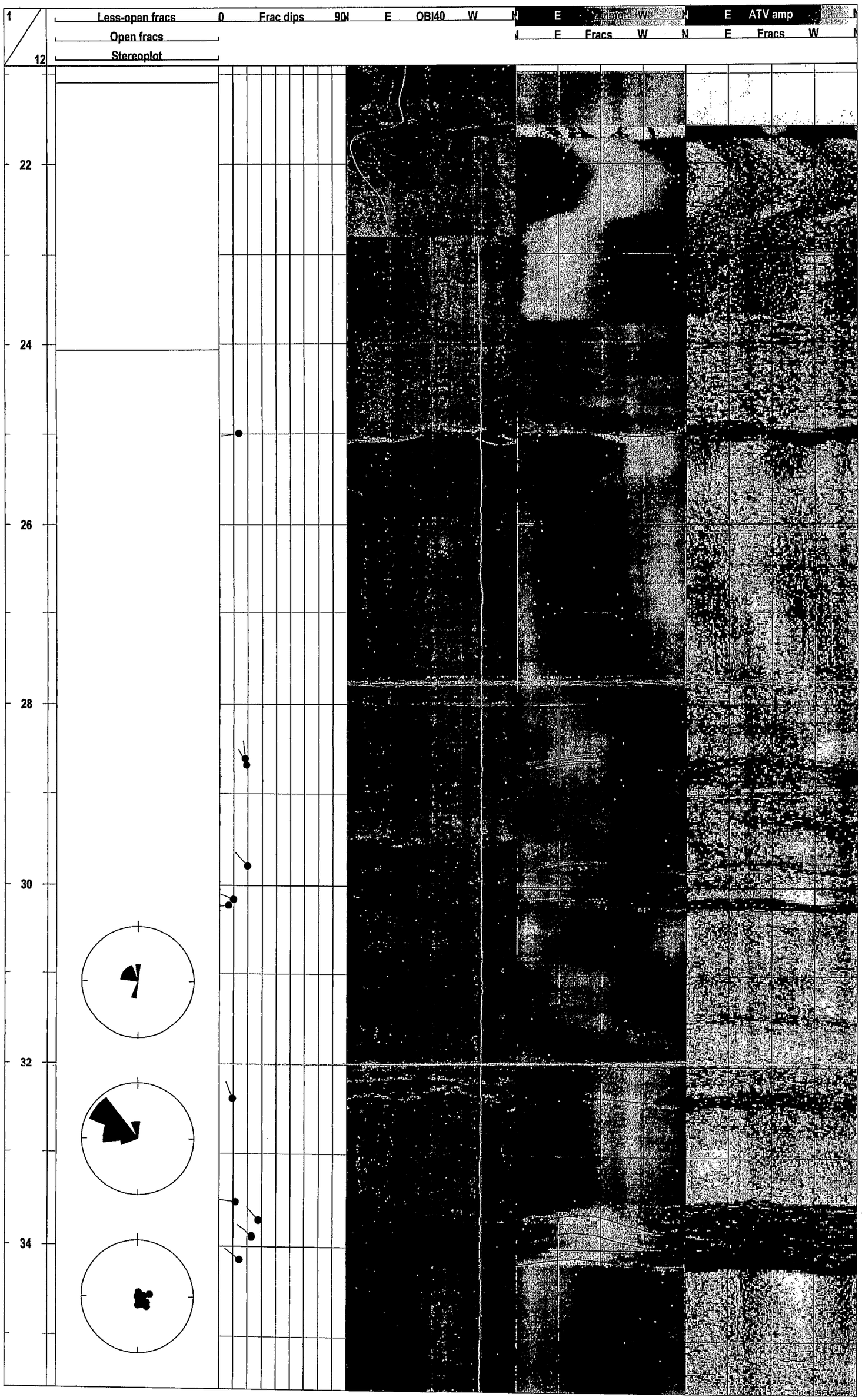
Project - Well: Stone & Webster/Maywood, NJ - MW-2D conventional logs

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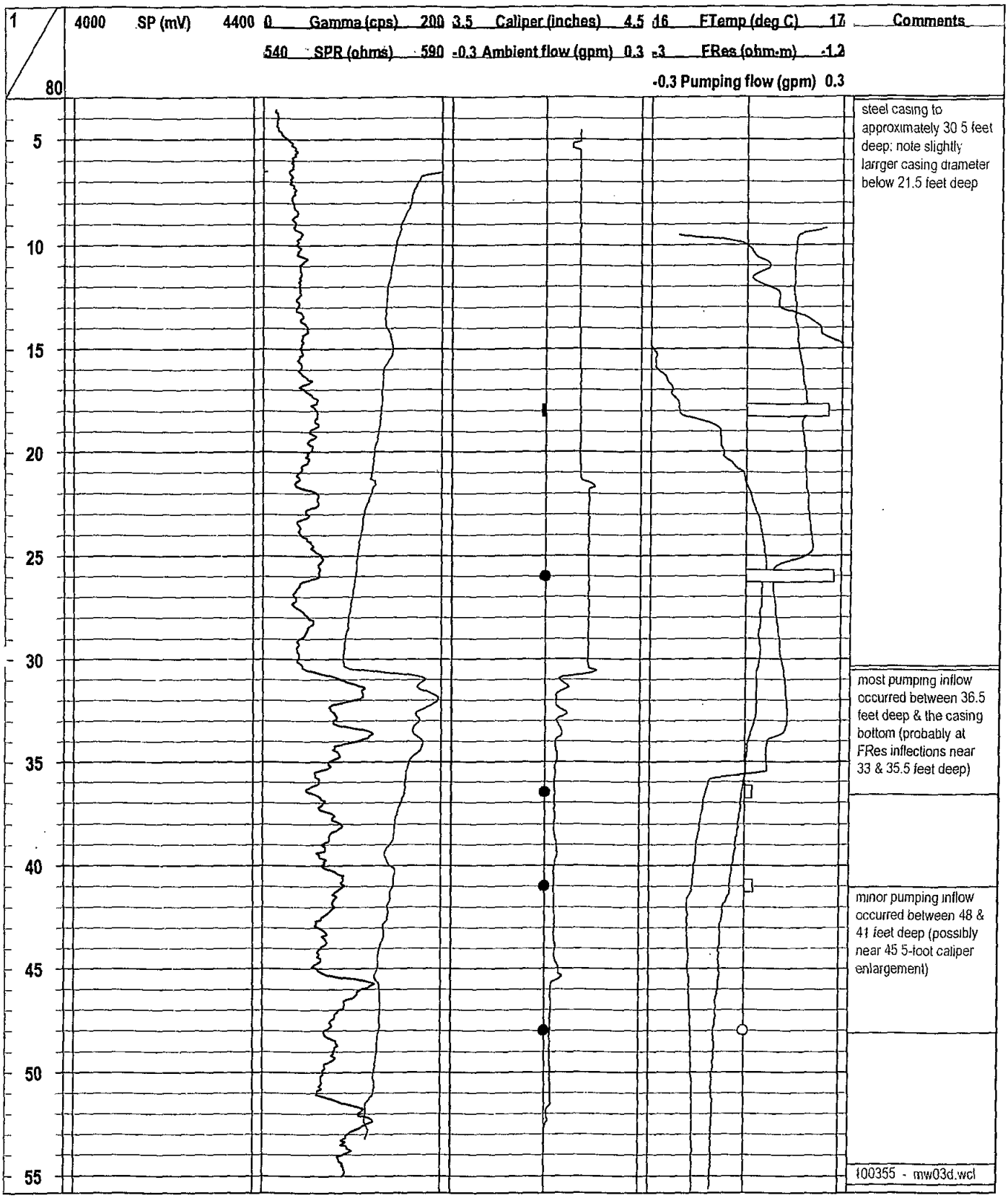
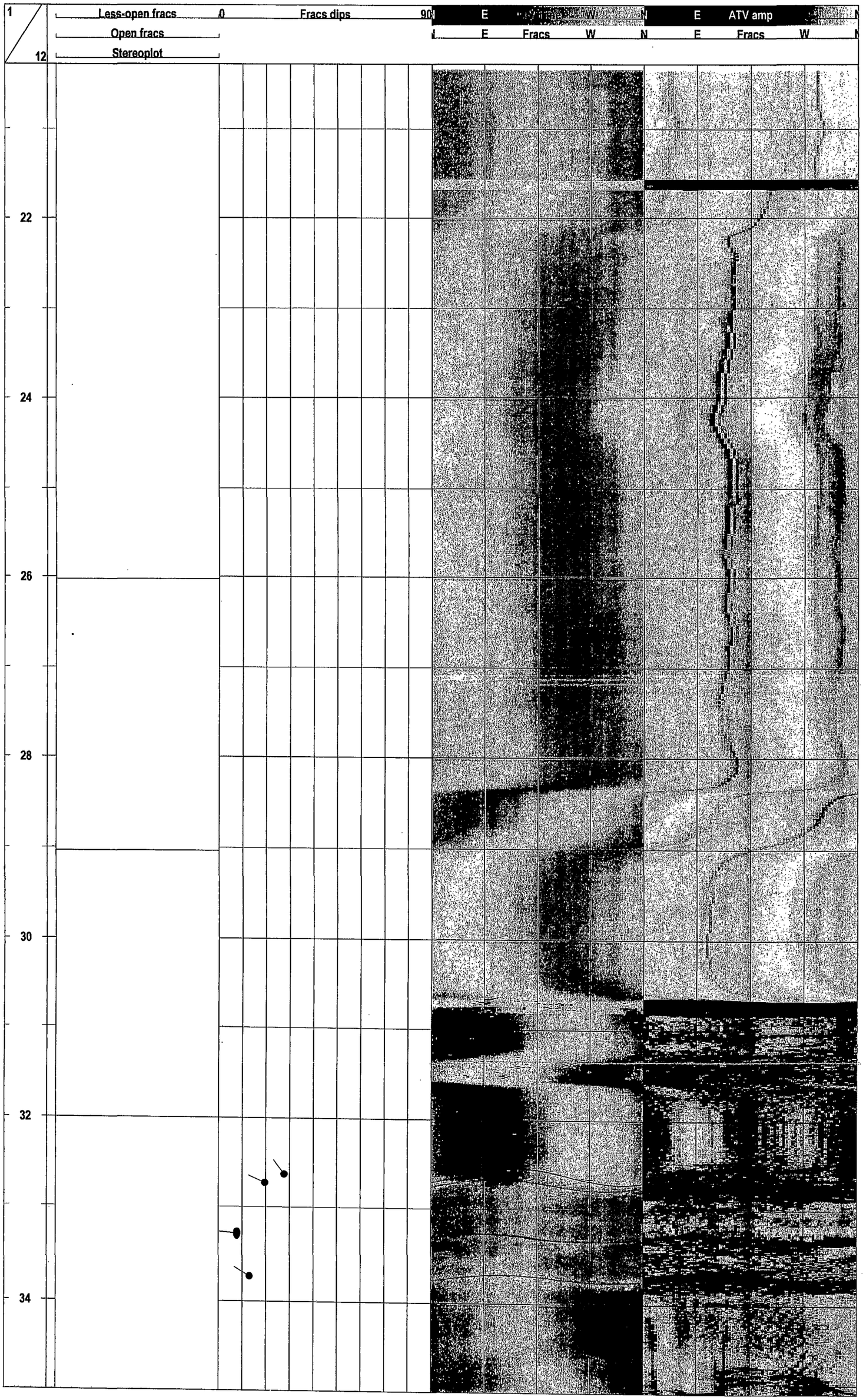
Project - Well: Stone & Webster/Maywood, NJ - MW-03D conventional logs

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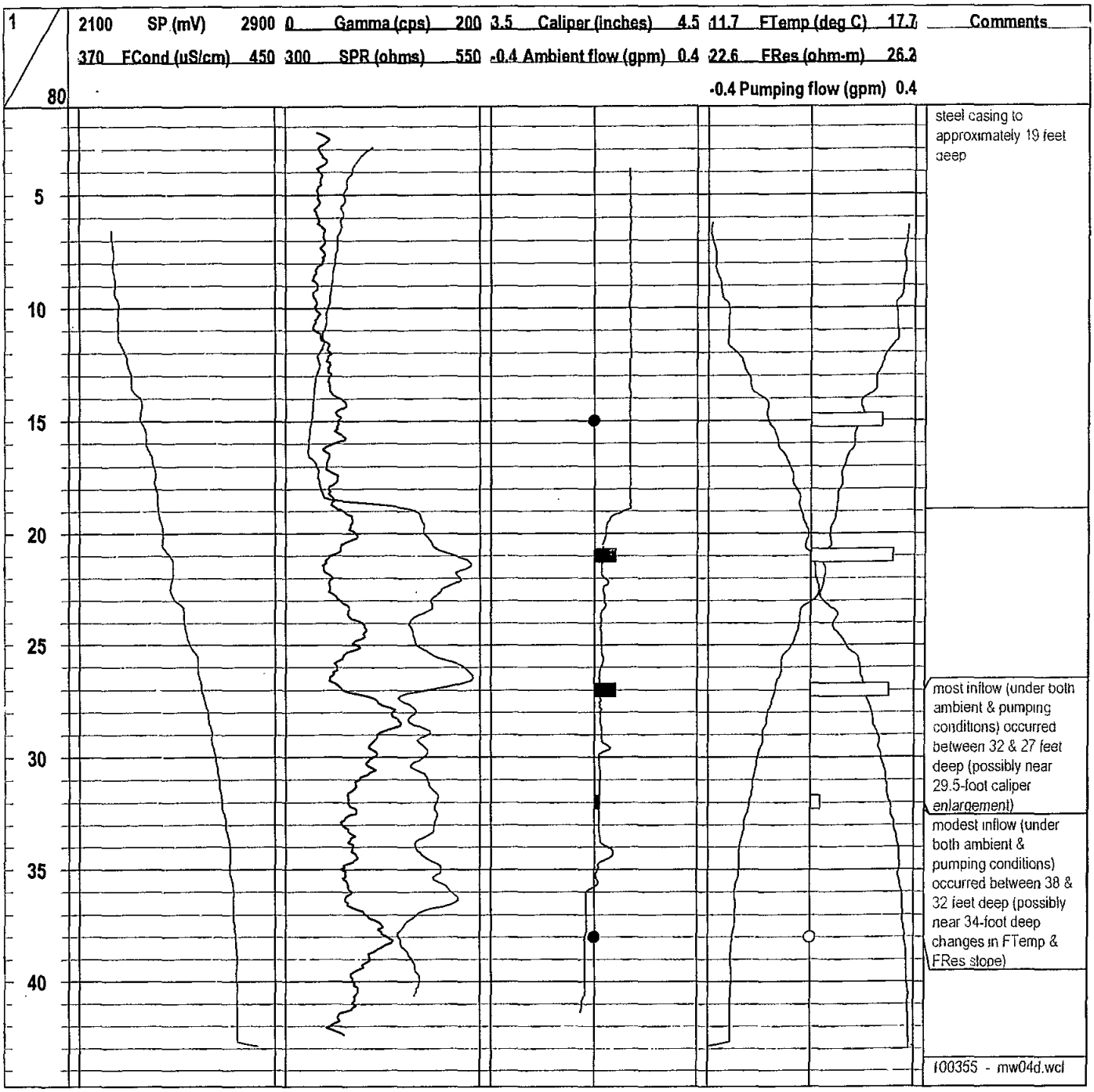
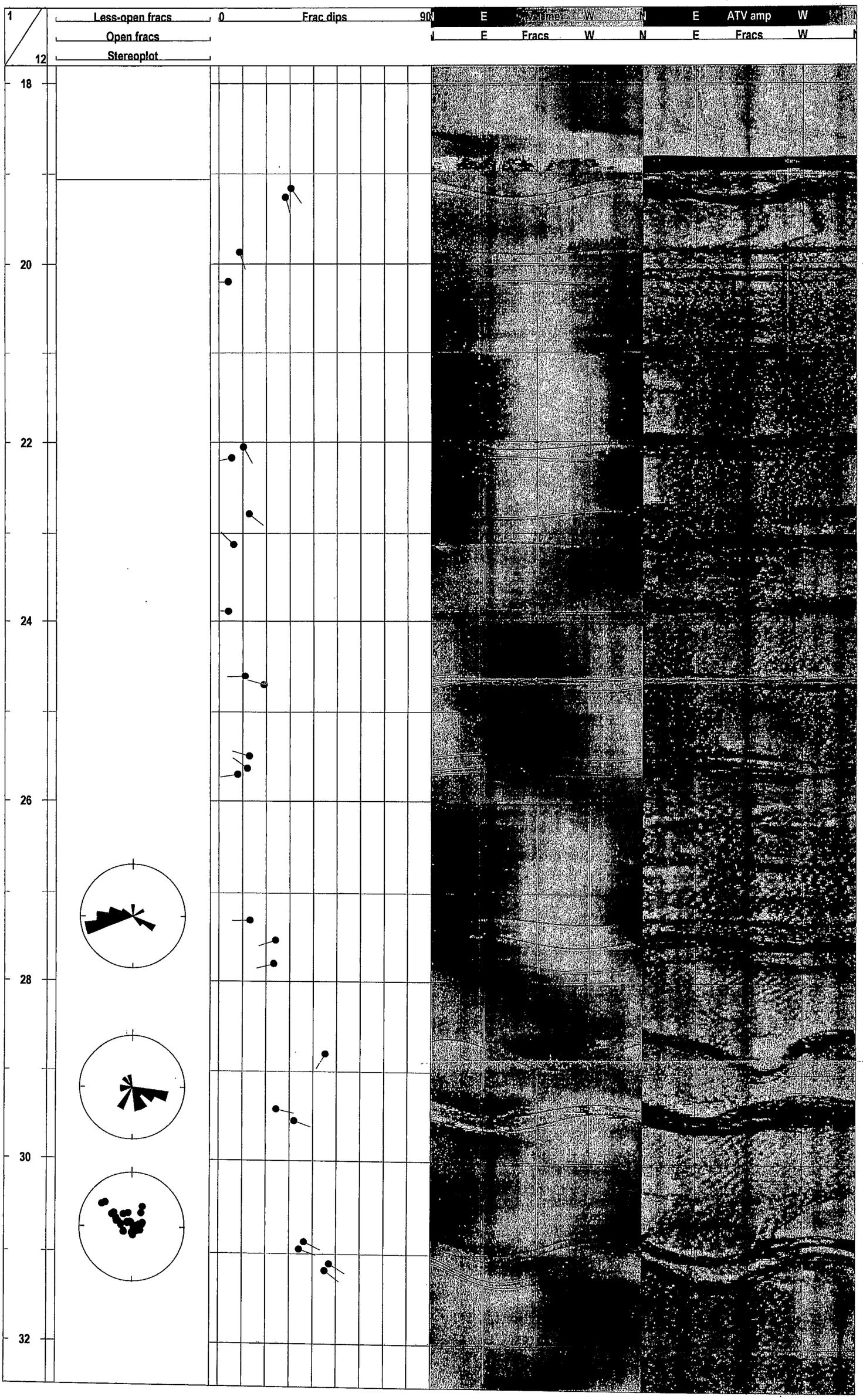
Project - Well: Stone & Webster/Maywood, NJ - MW-04D conventional logs

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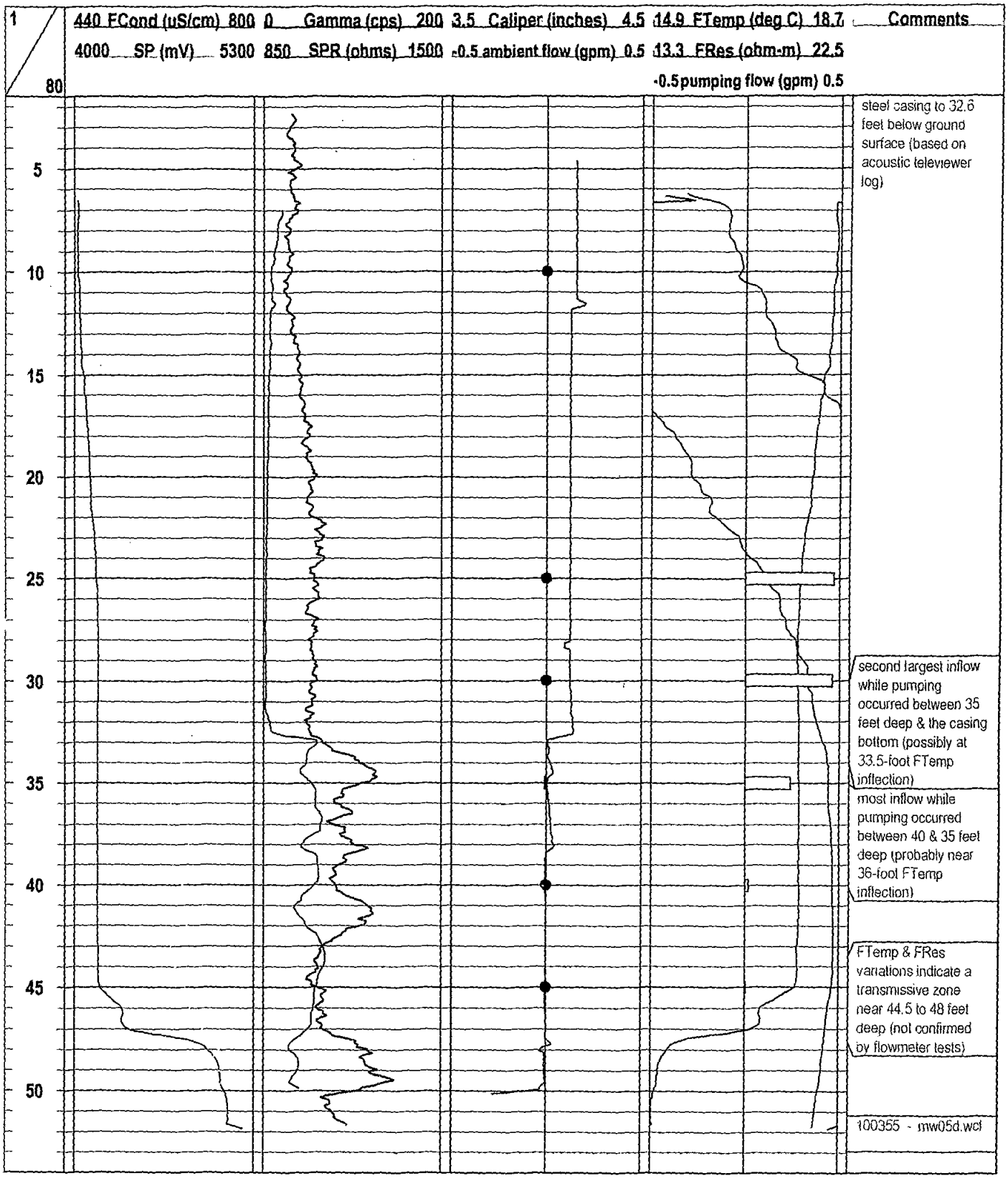
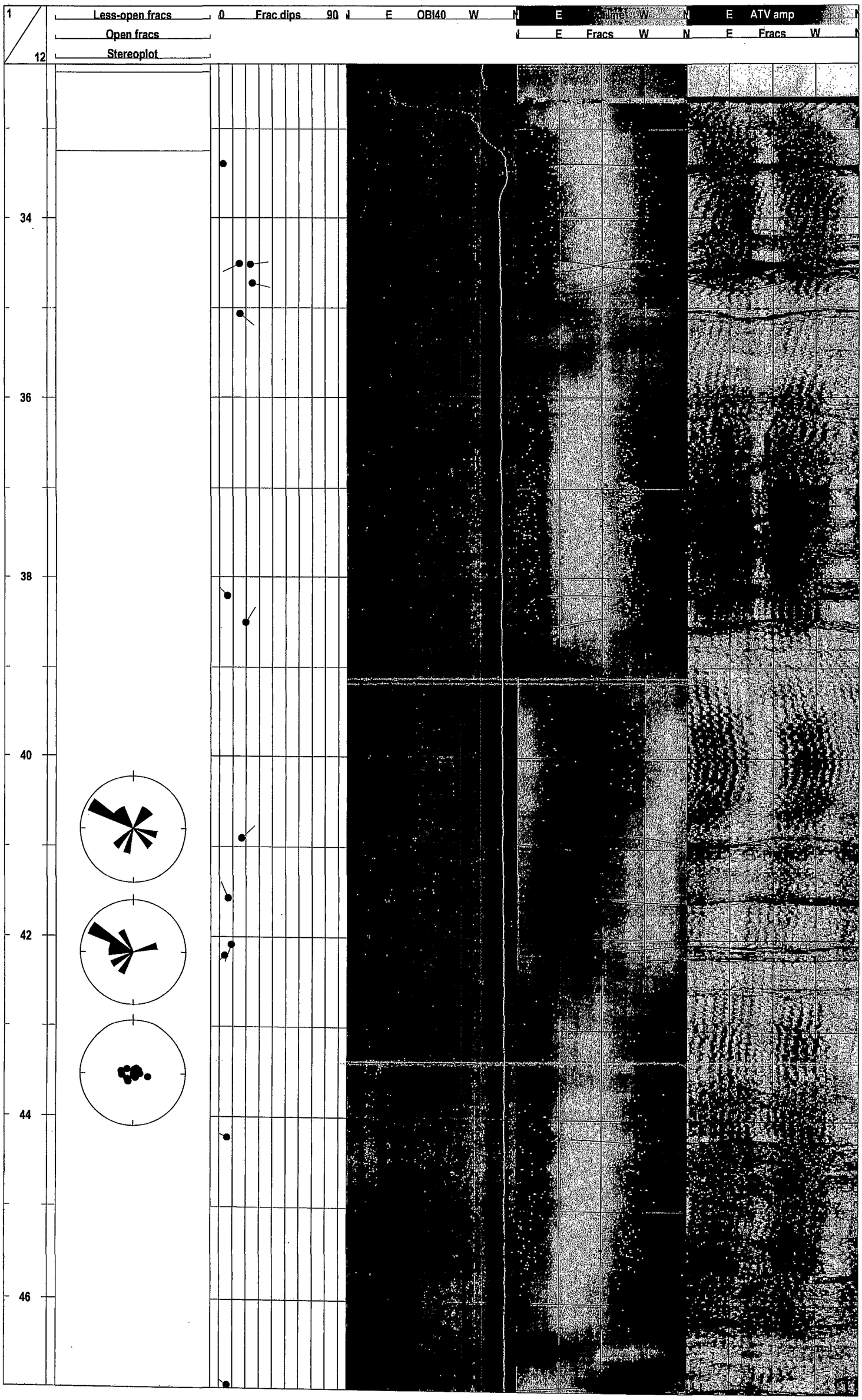
Project - Well: Stone & Webster/Maywood, NJ - MW-05D conventional logs

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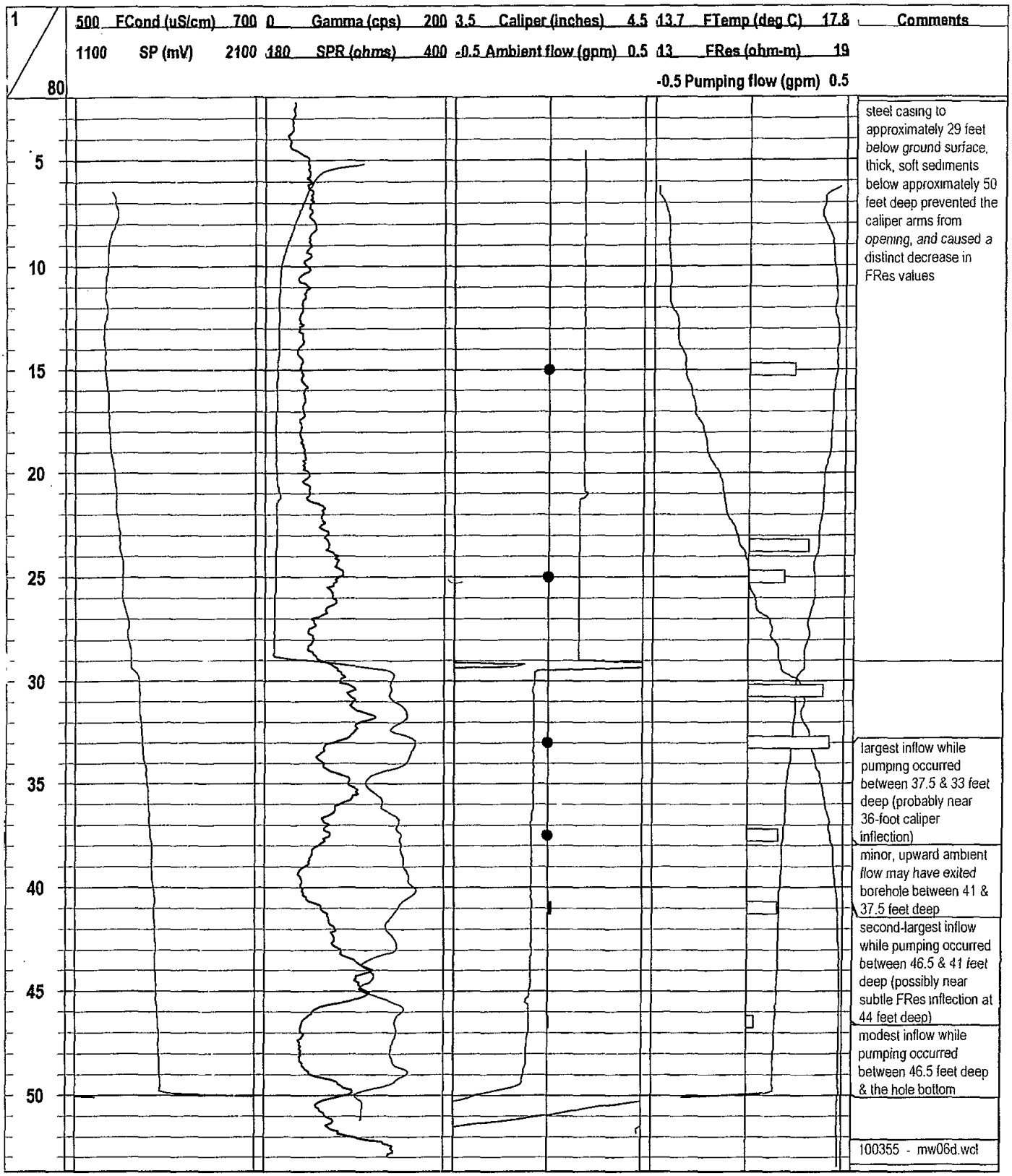

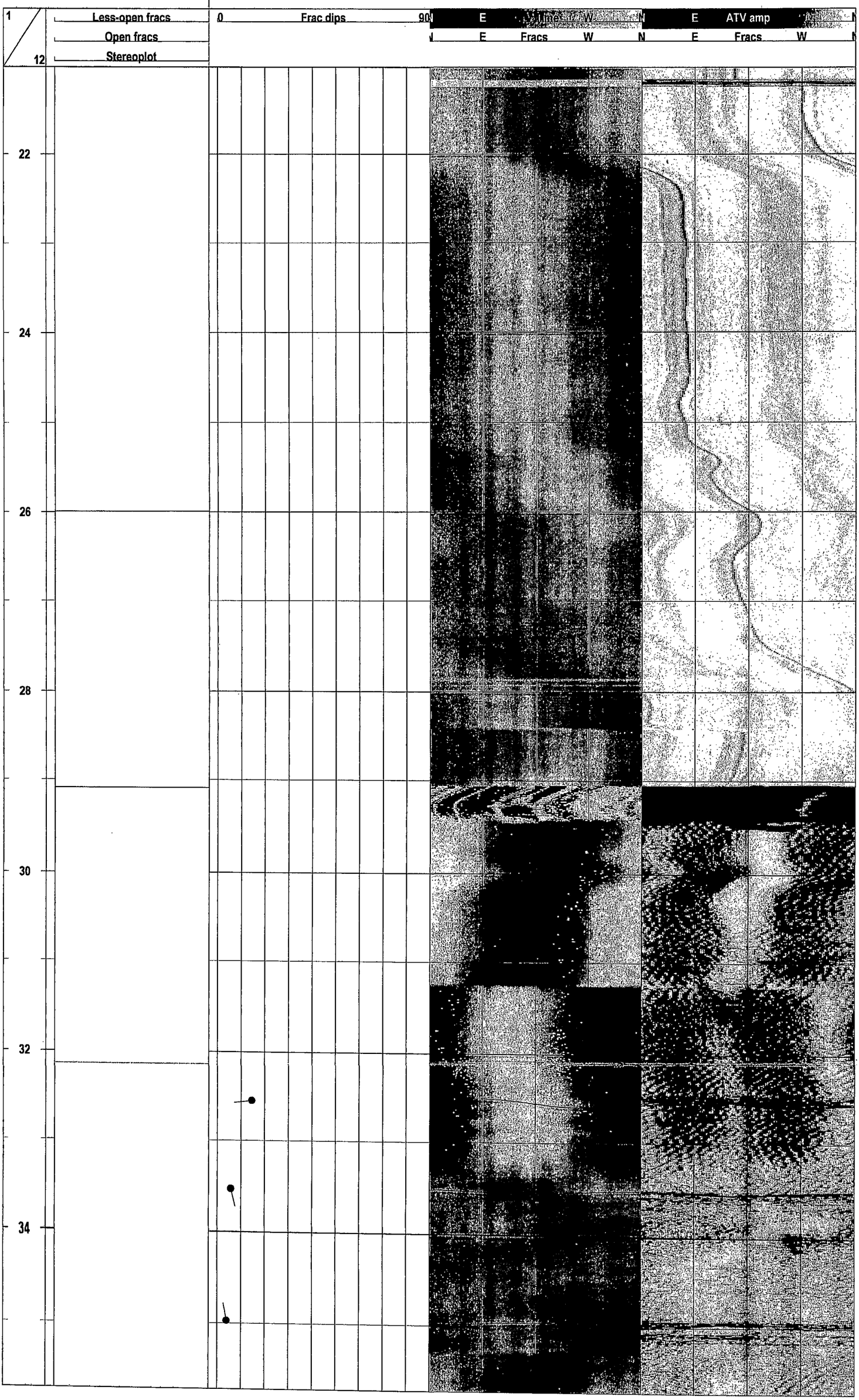
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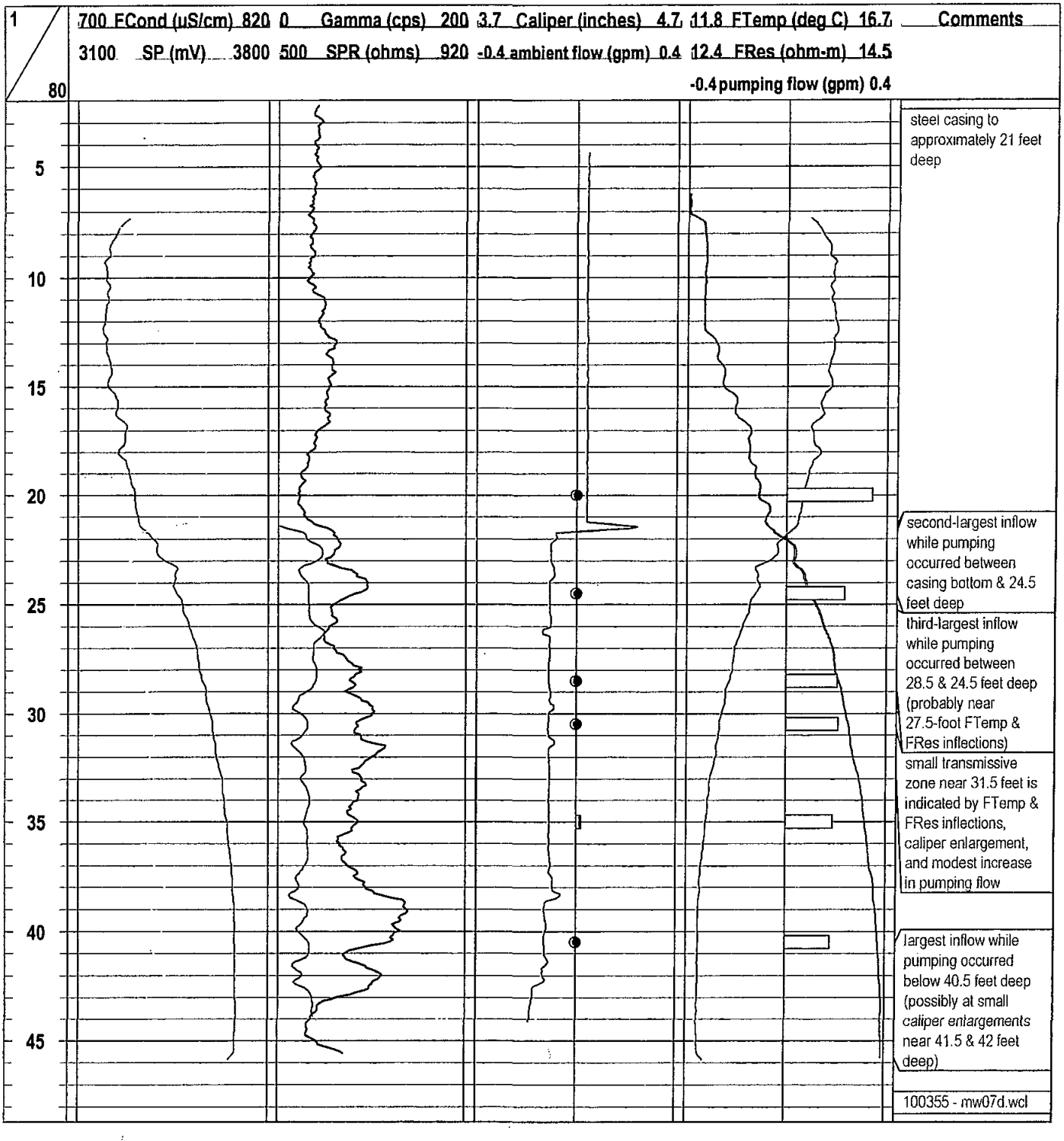

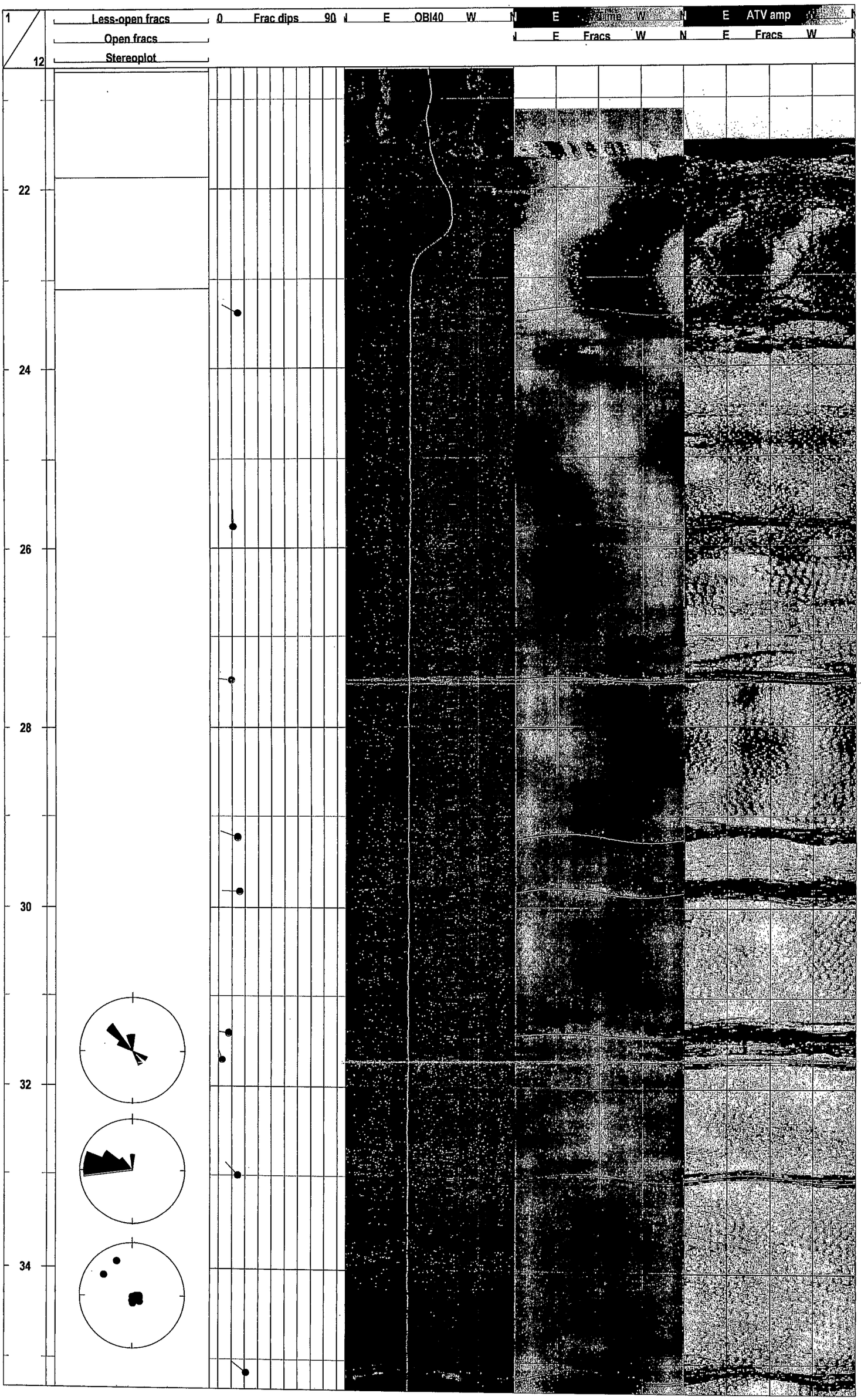
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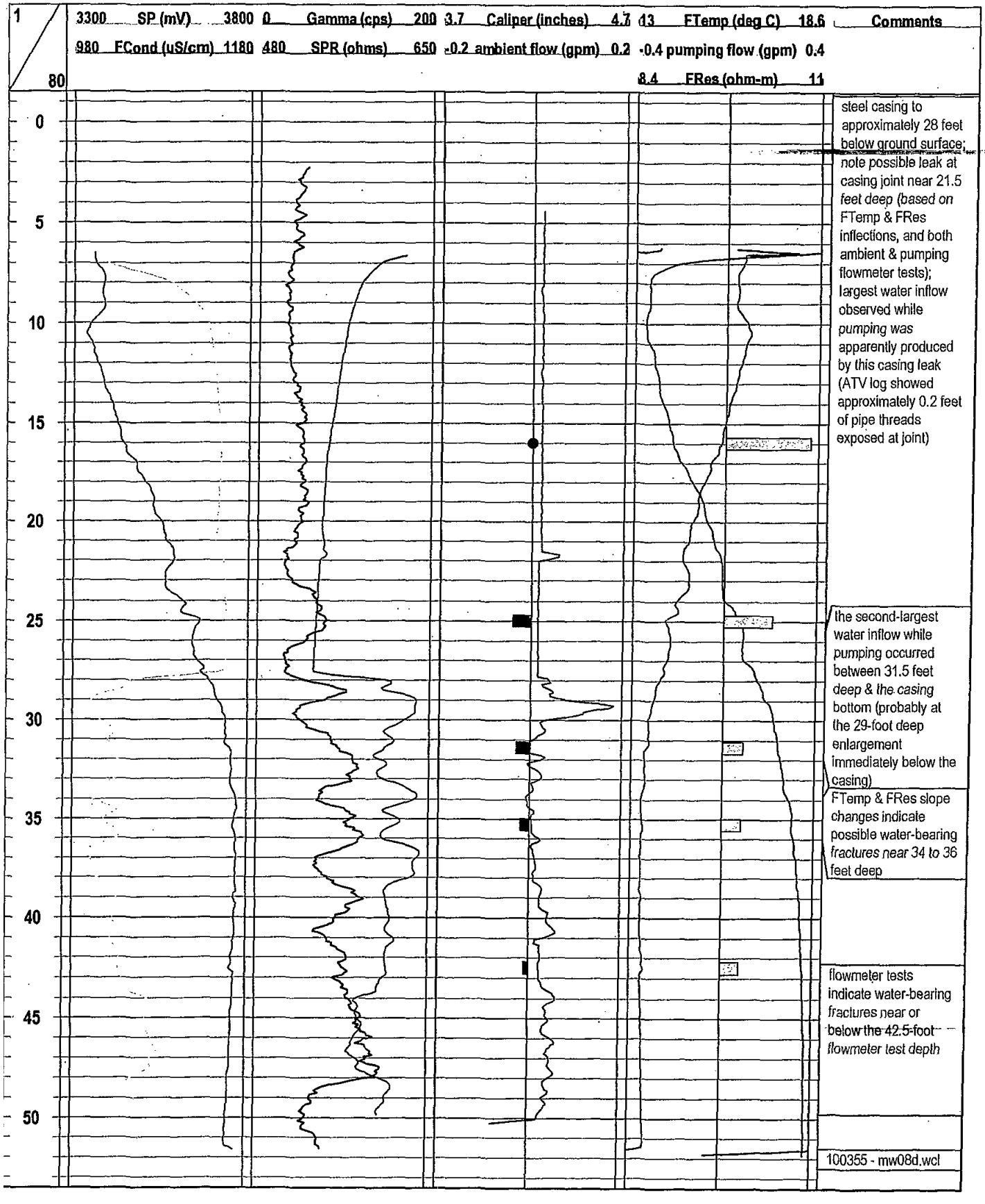

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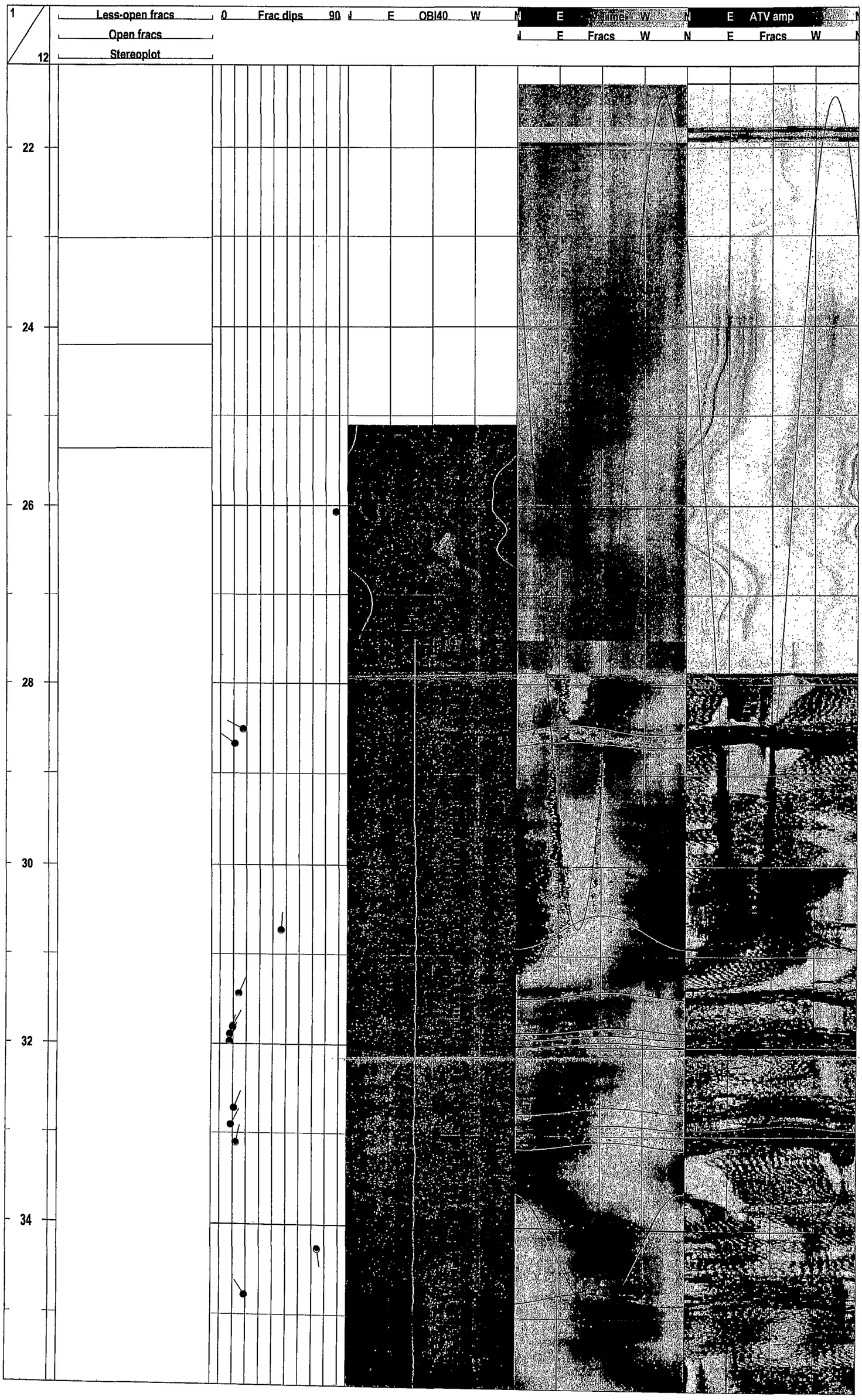

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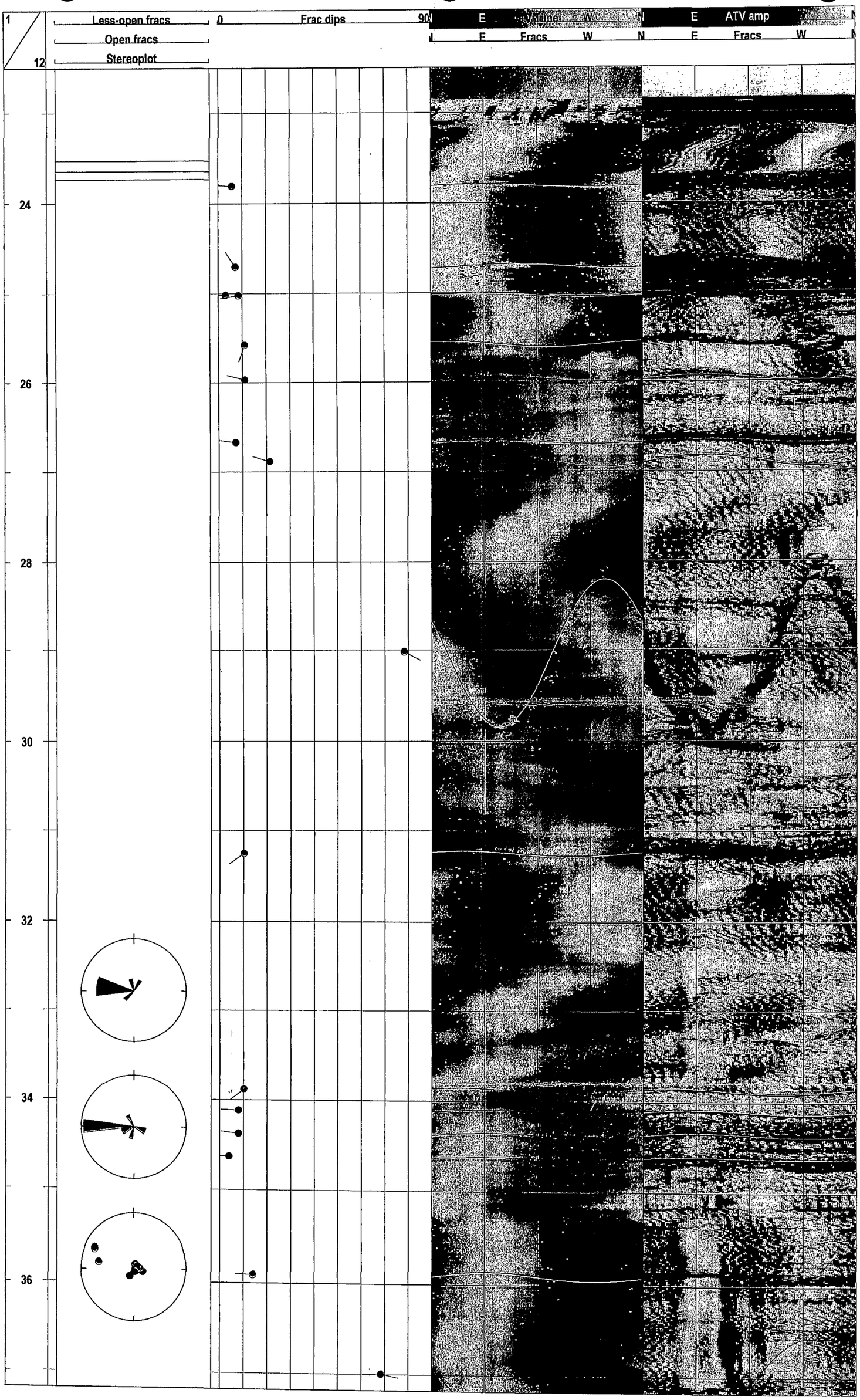

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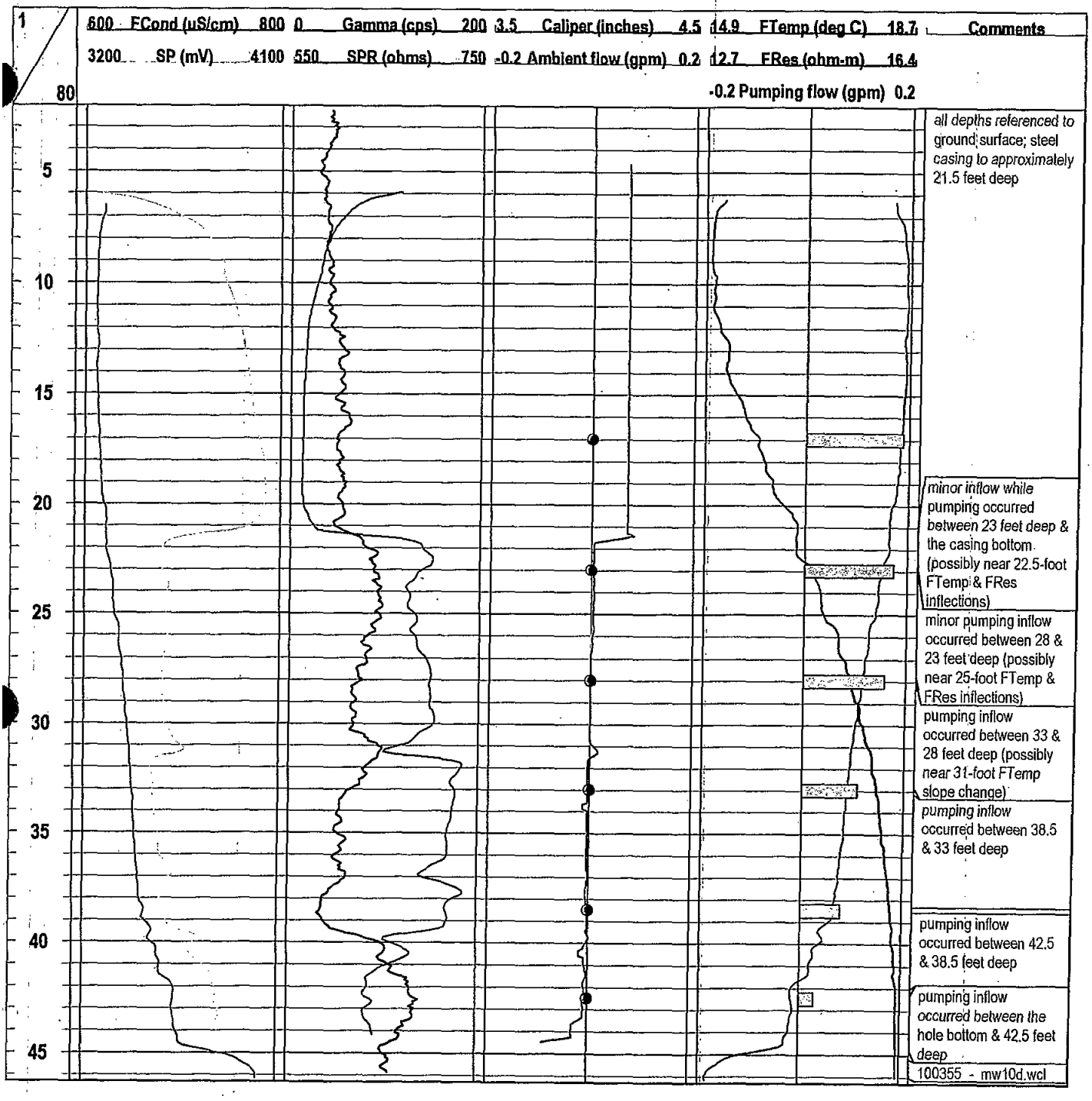

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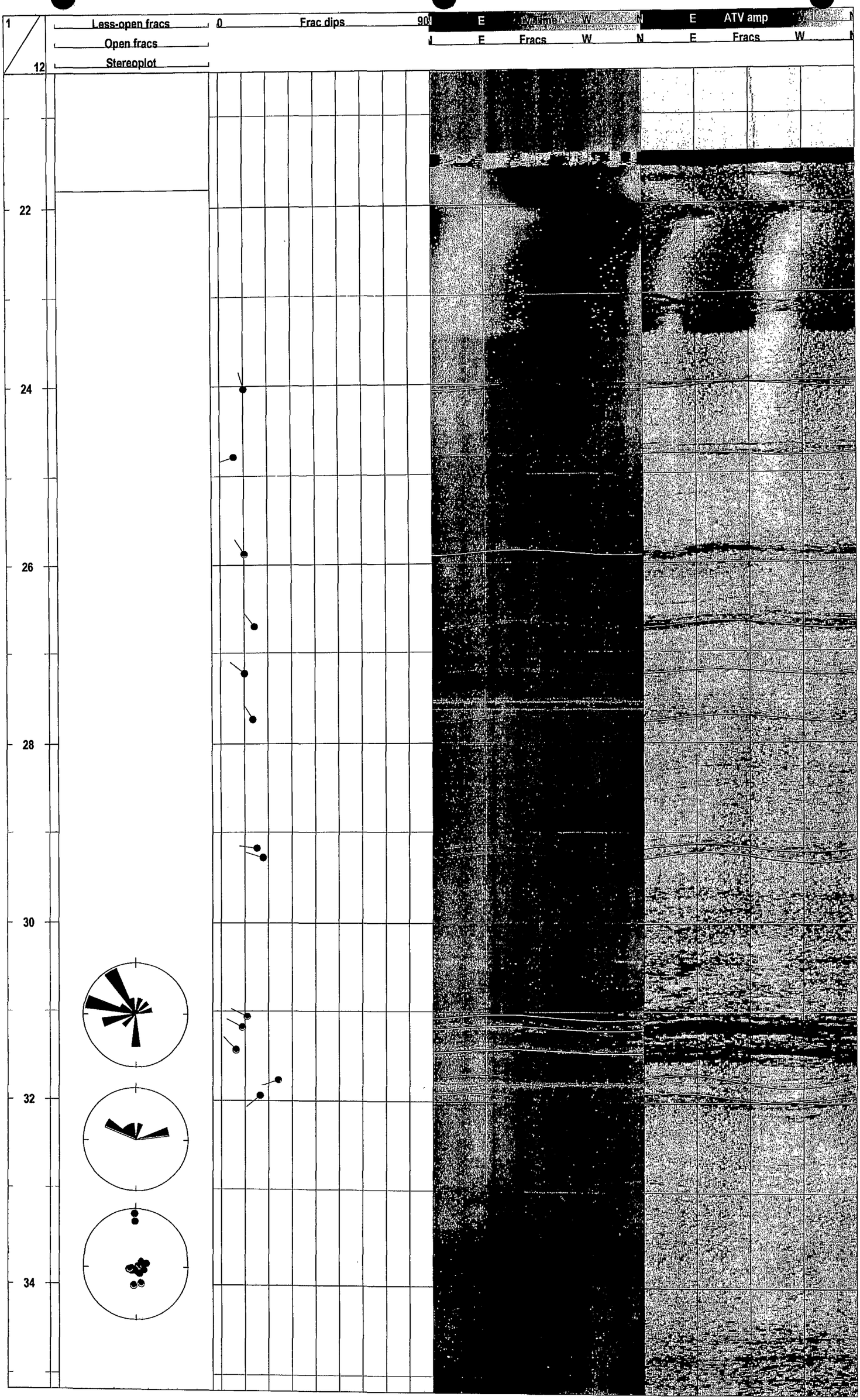

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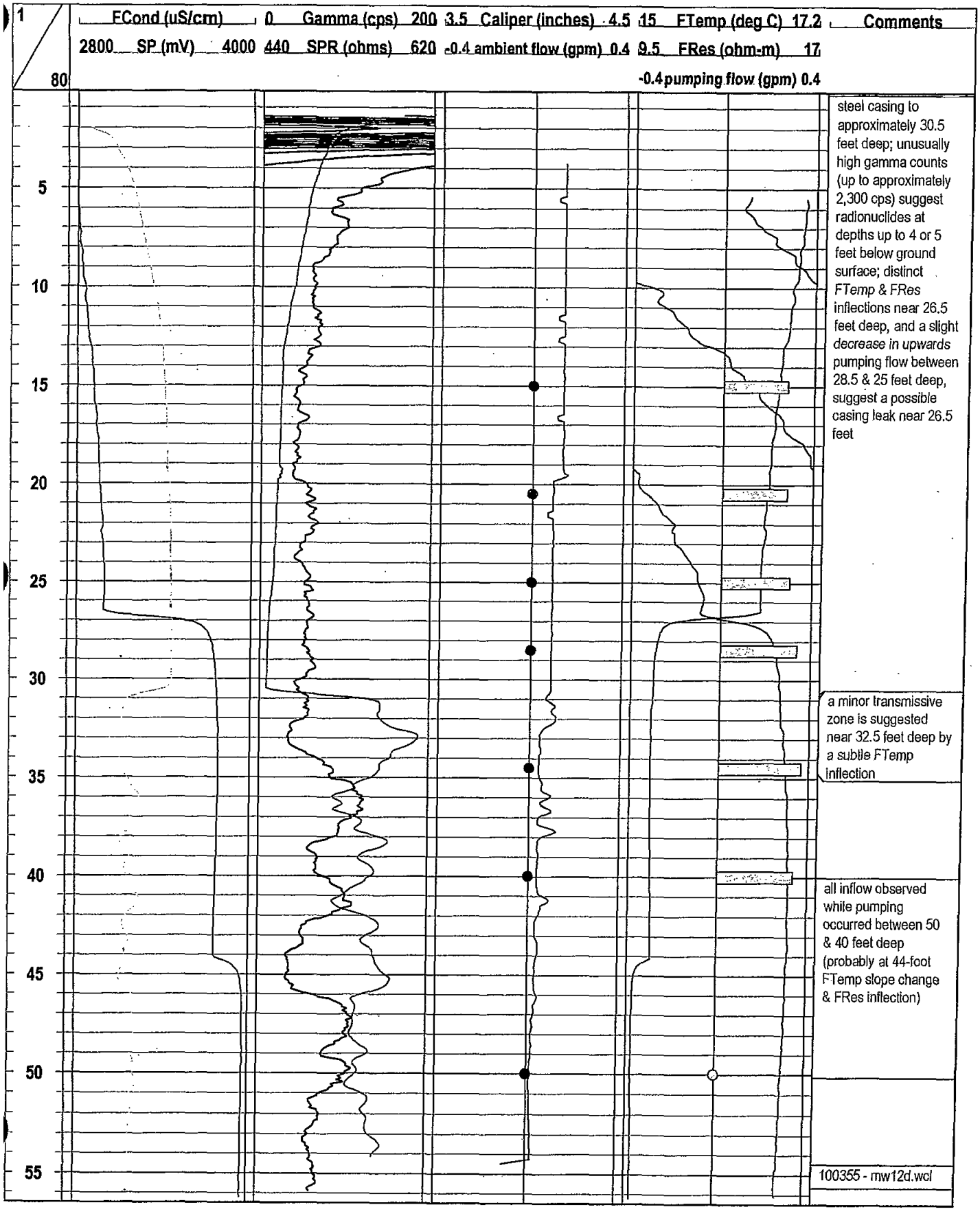

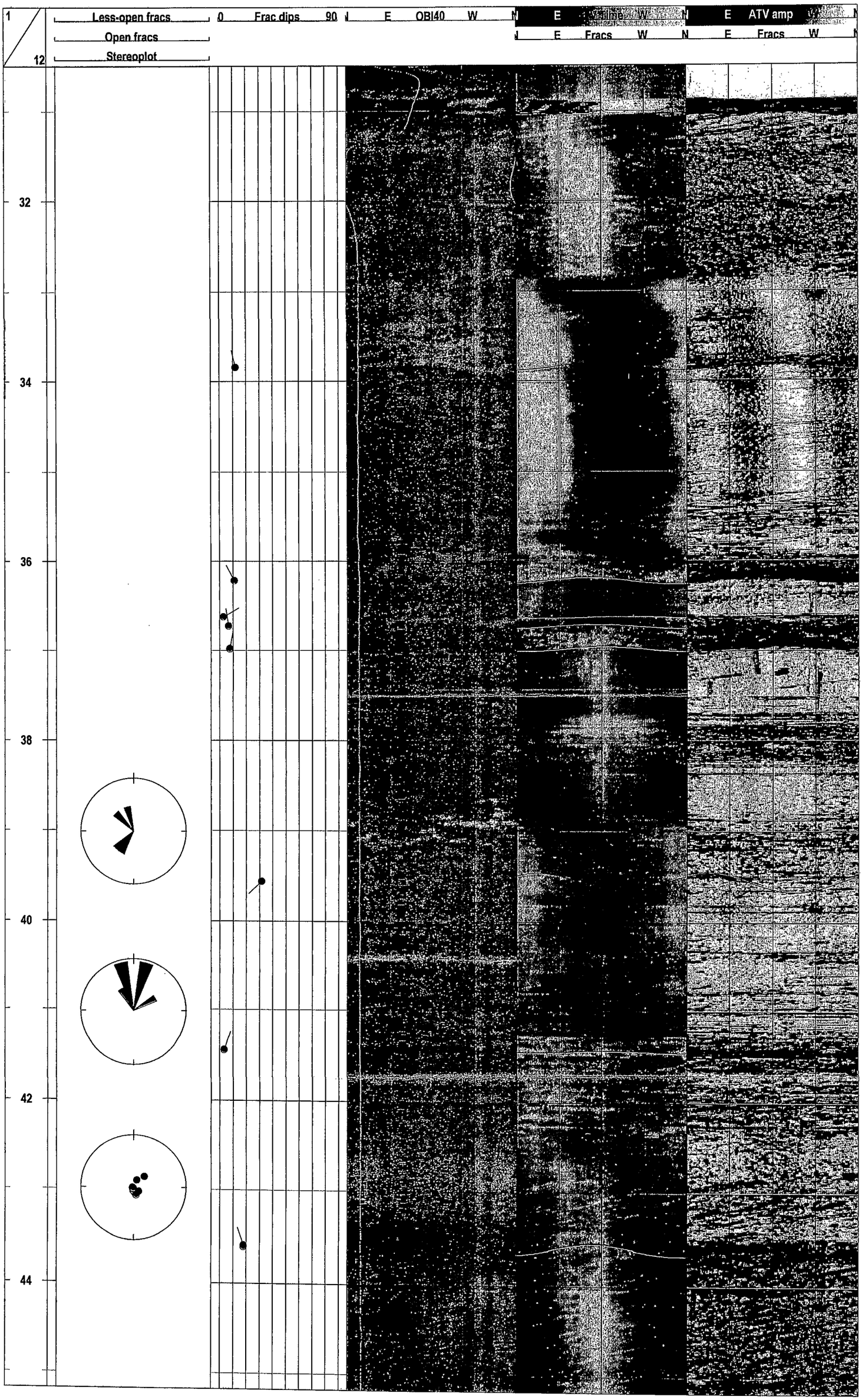
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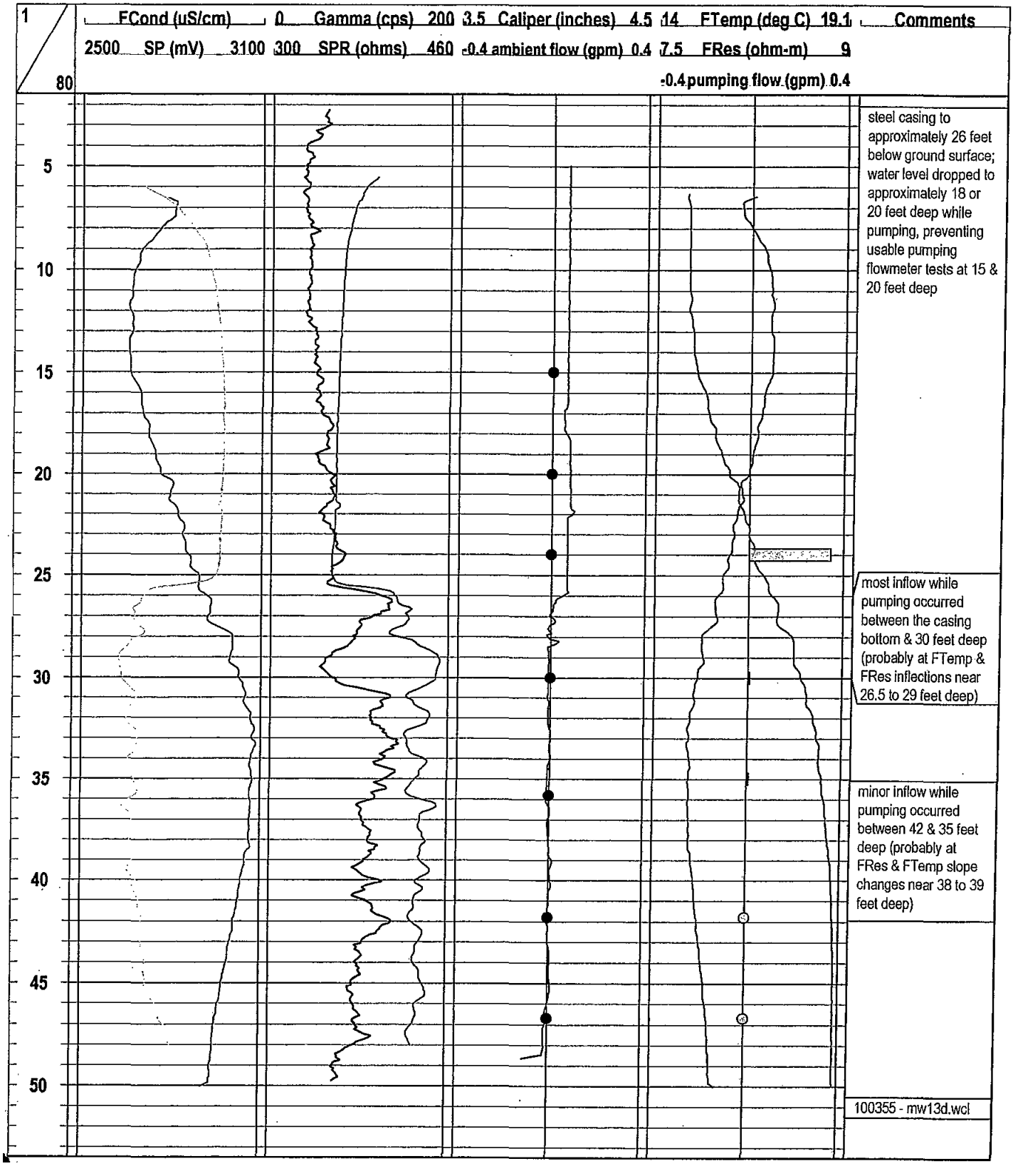

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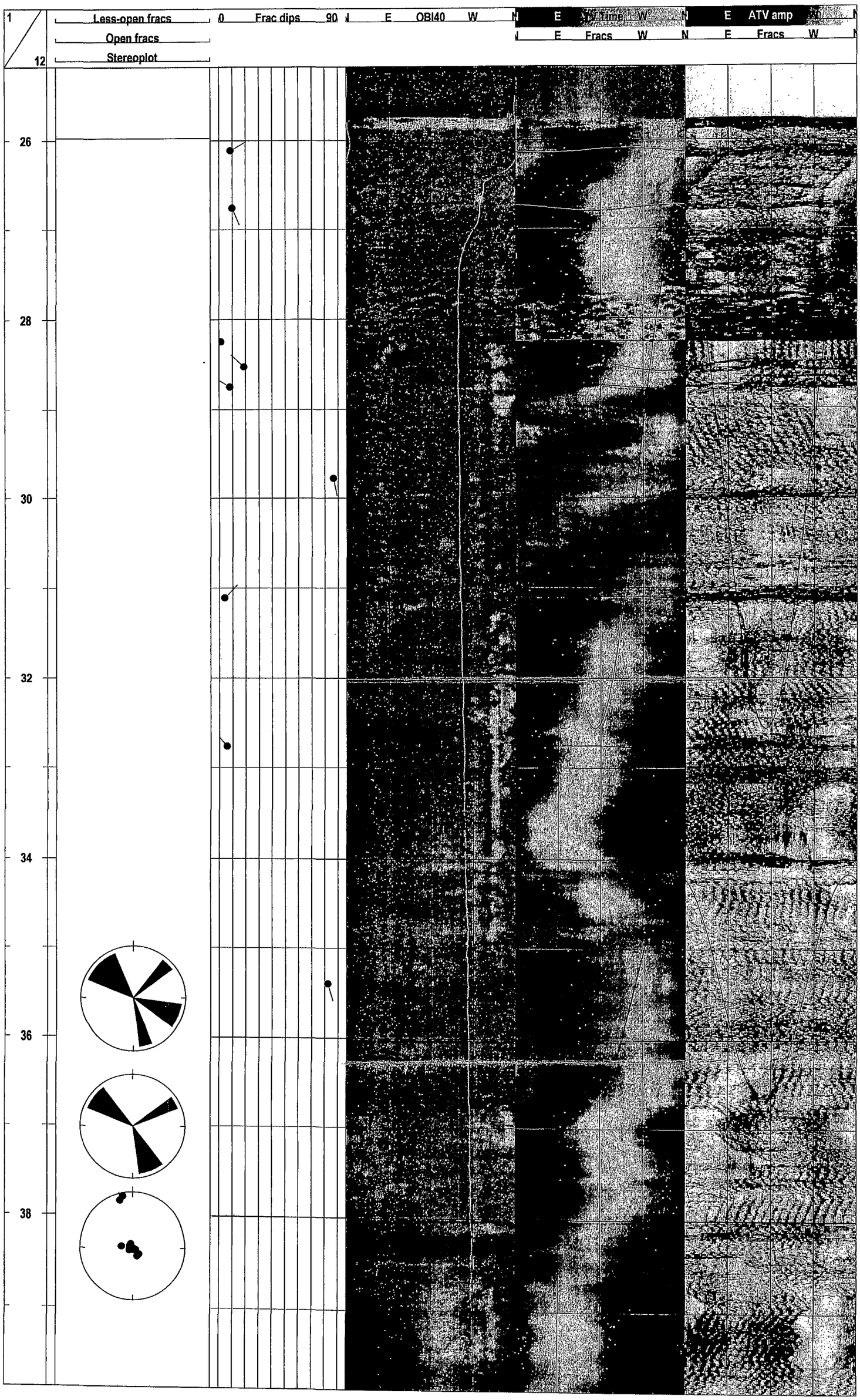

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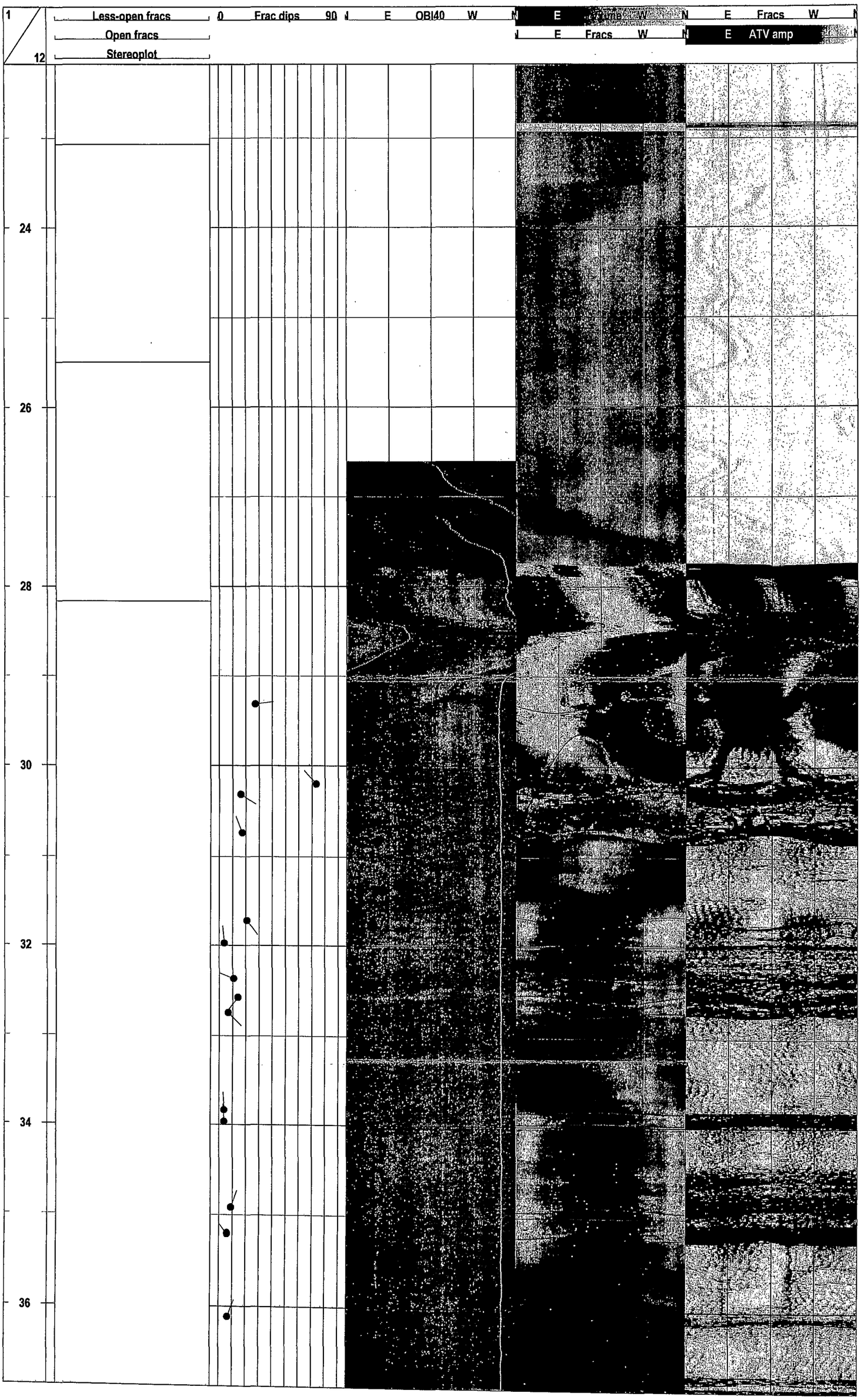

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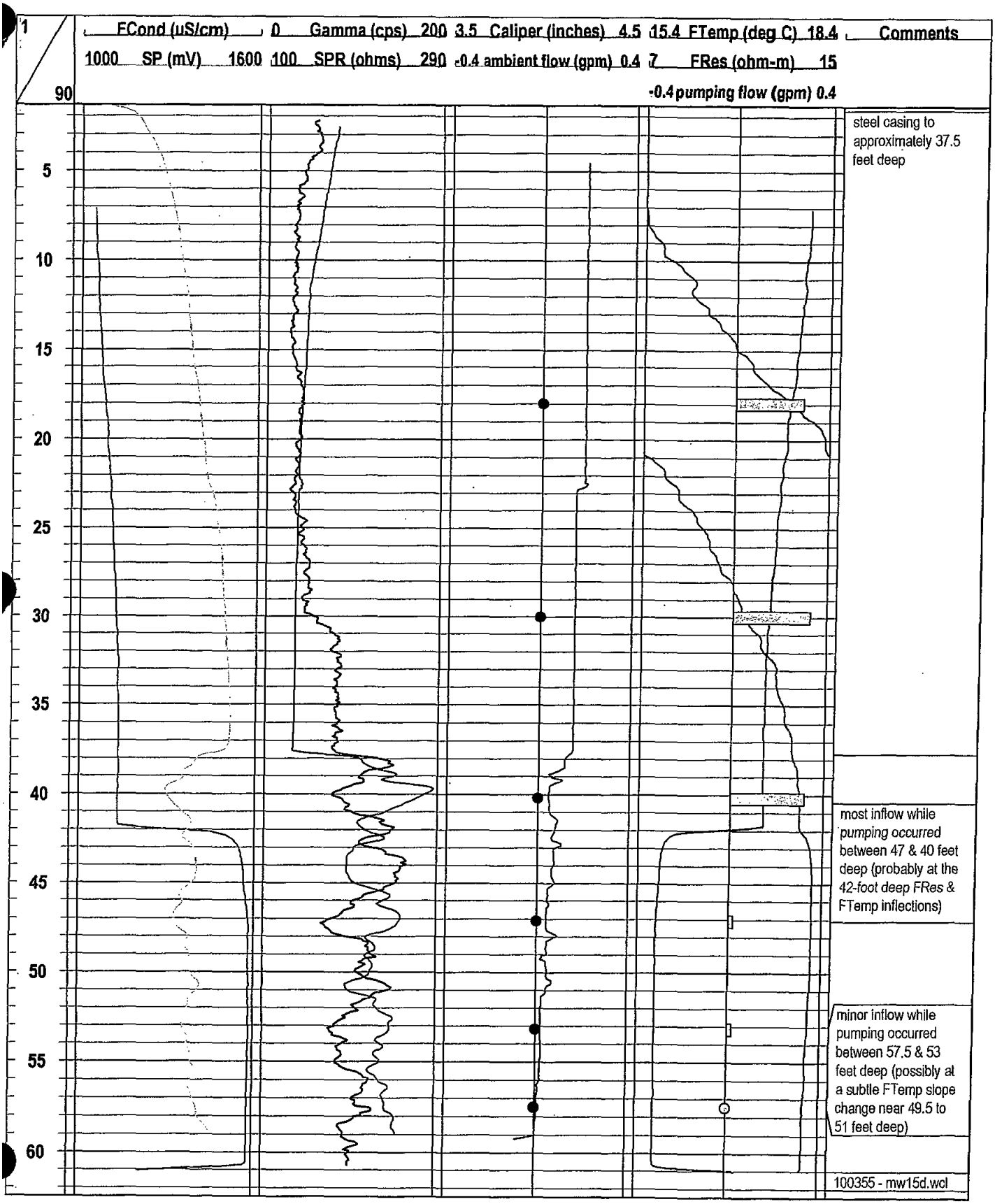

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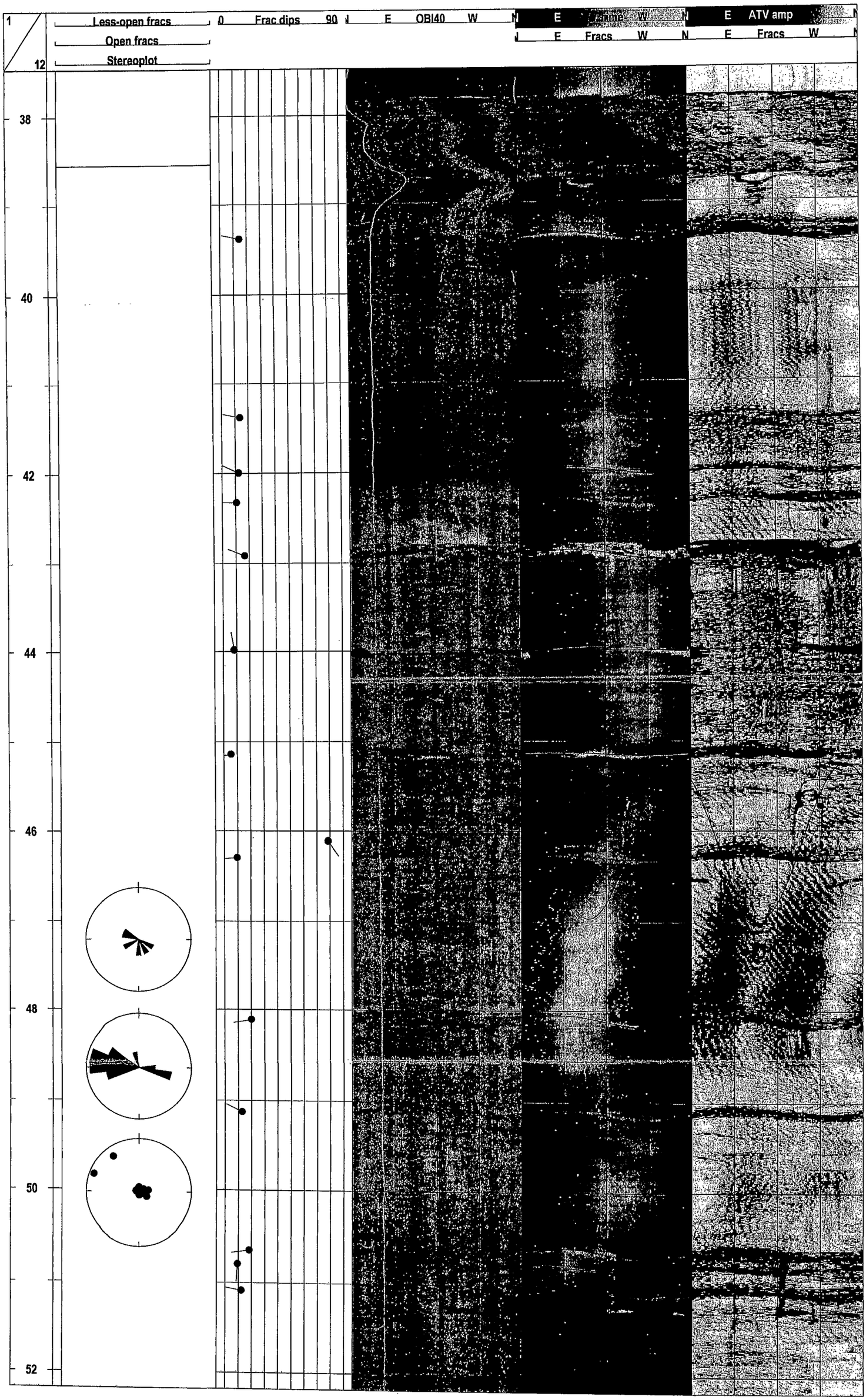

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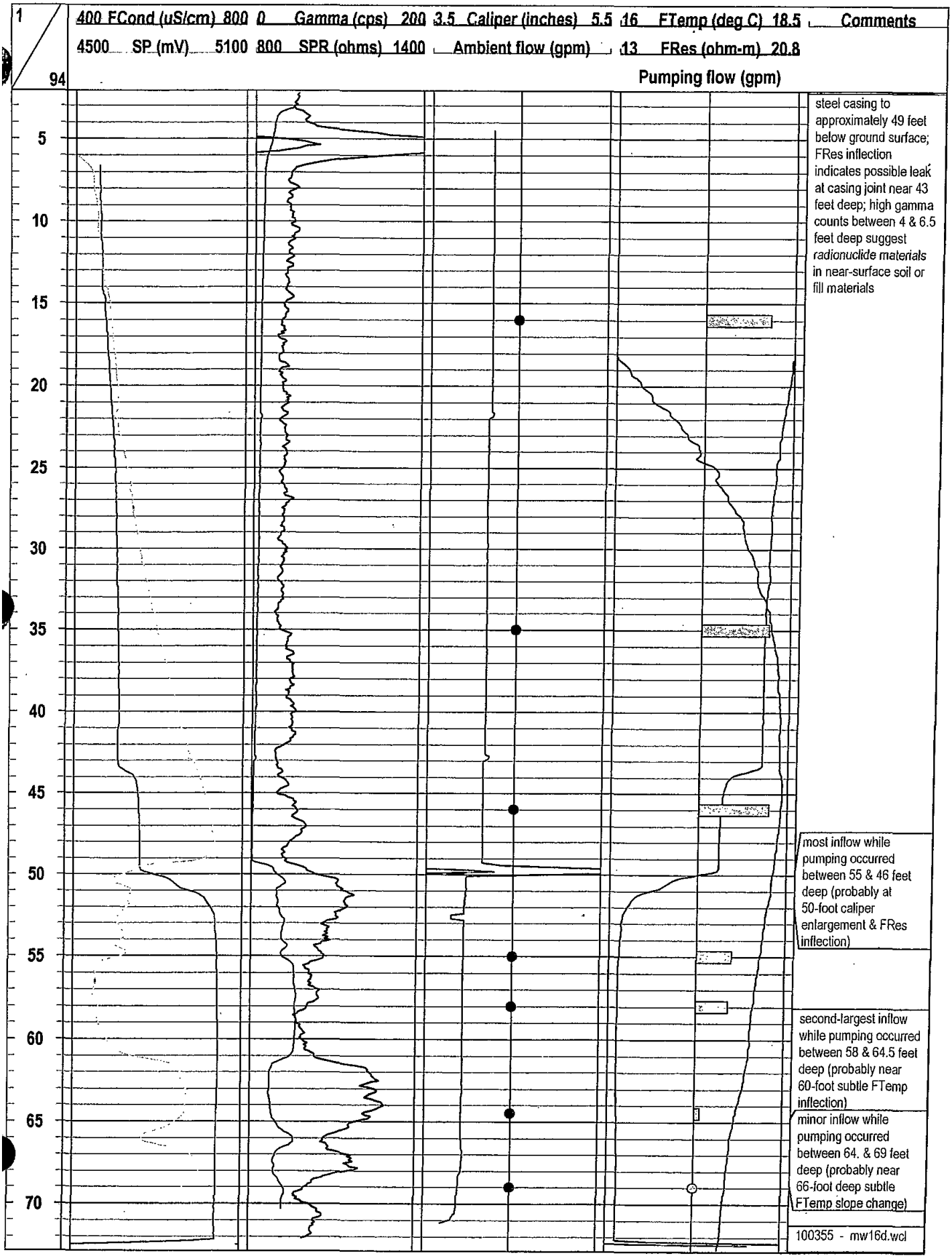

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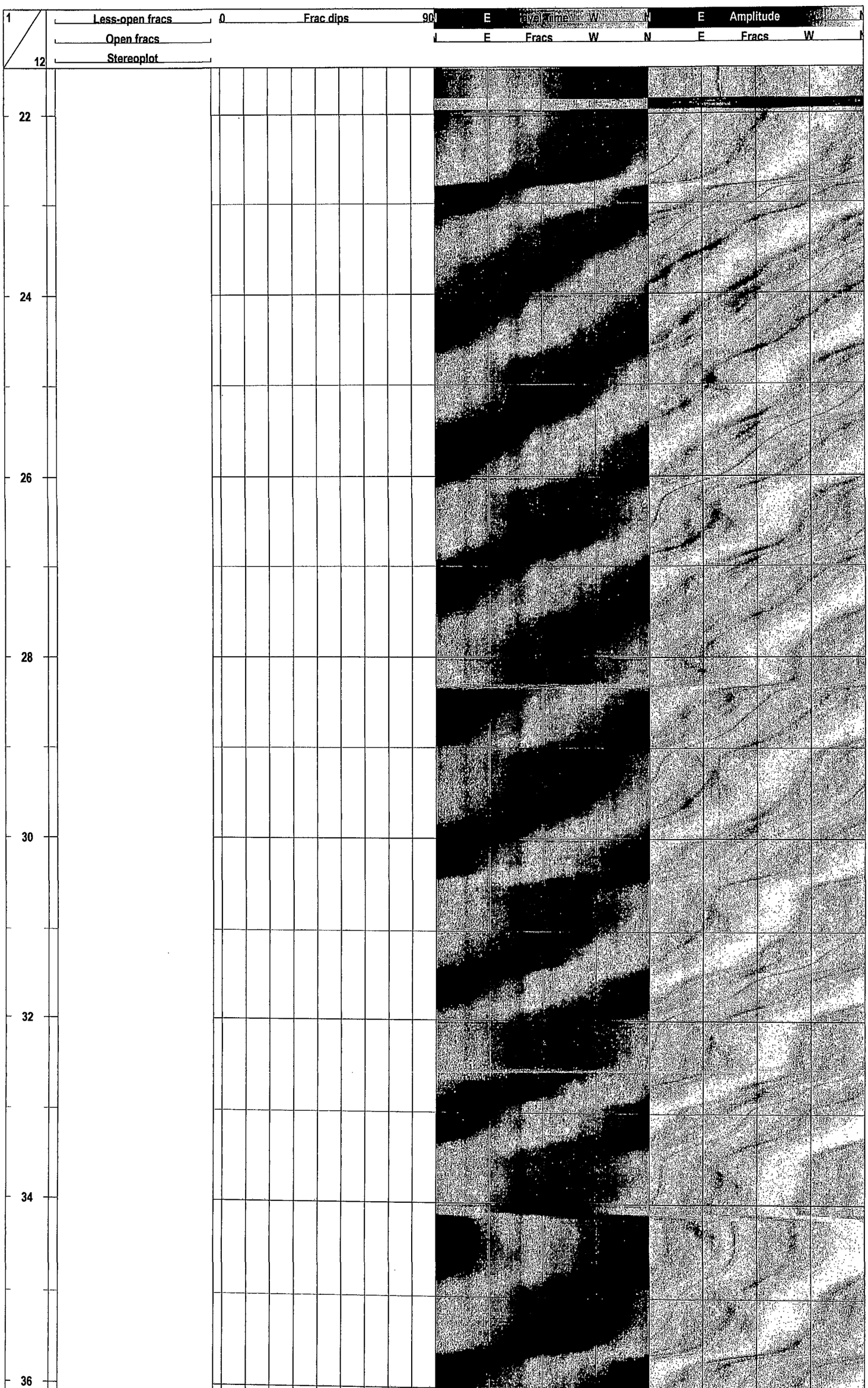

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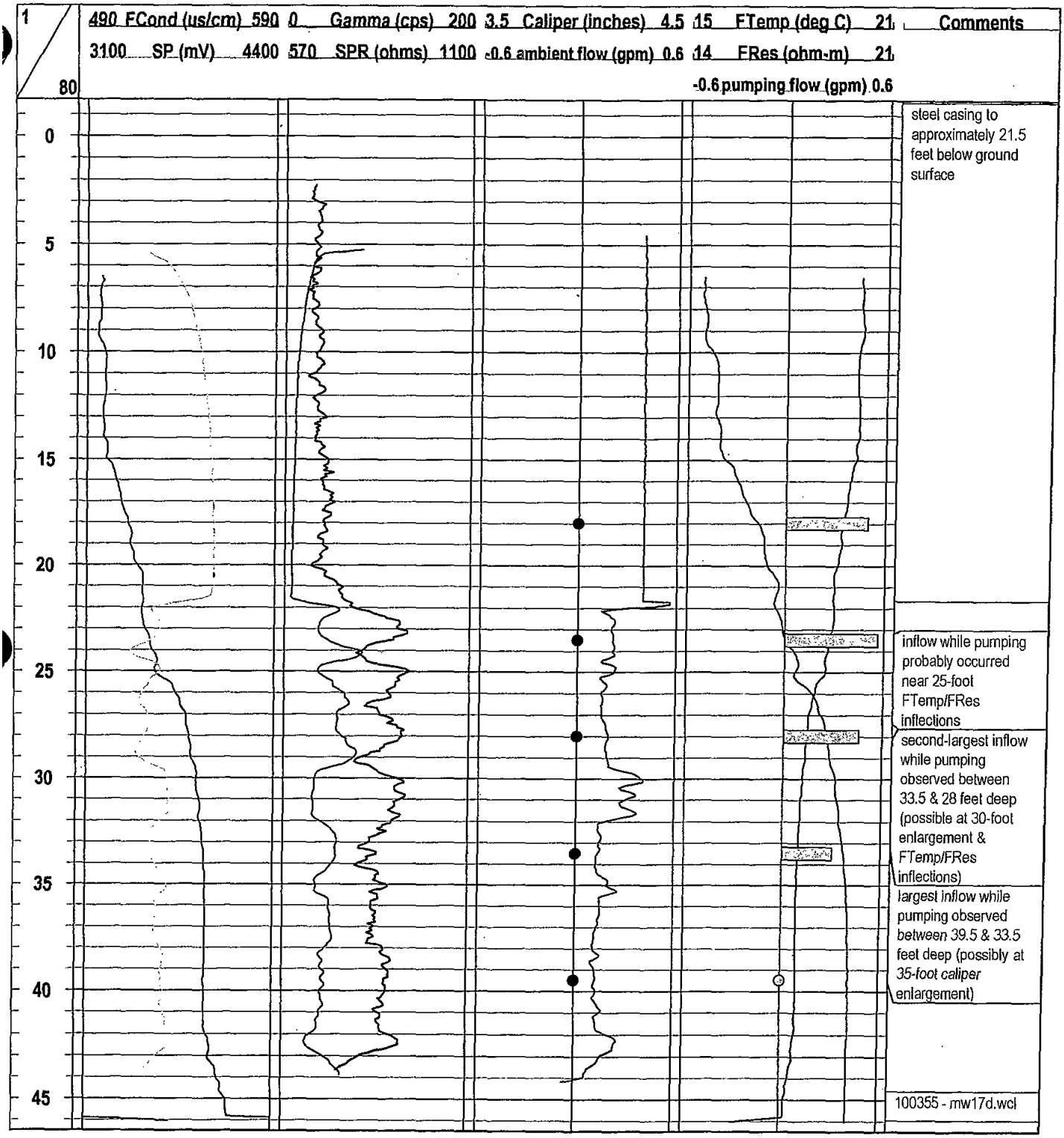

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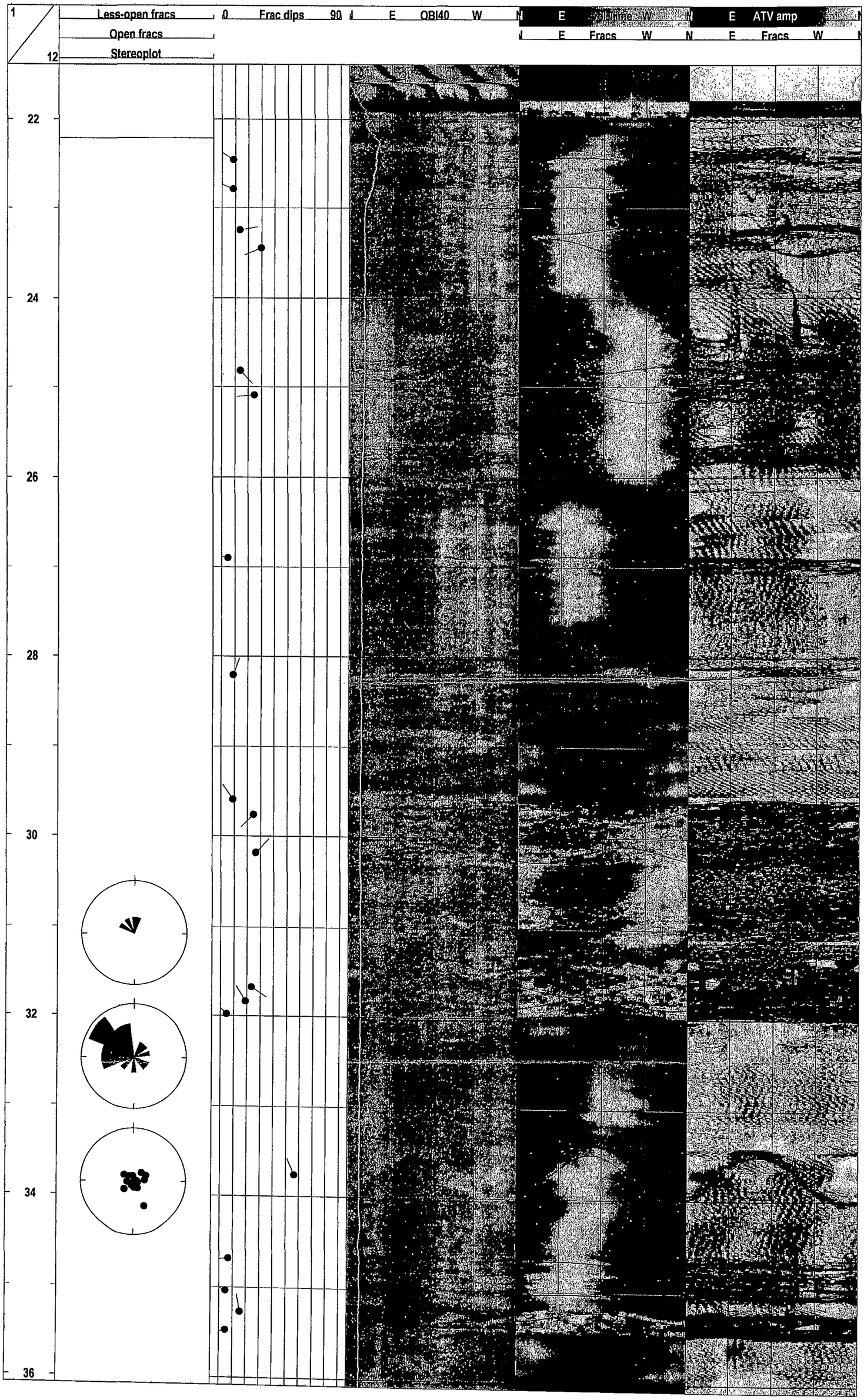

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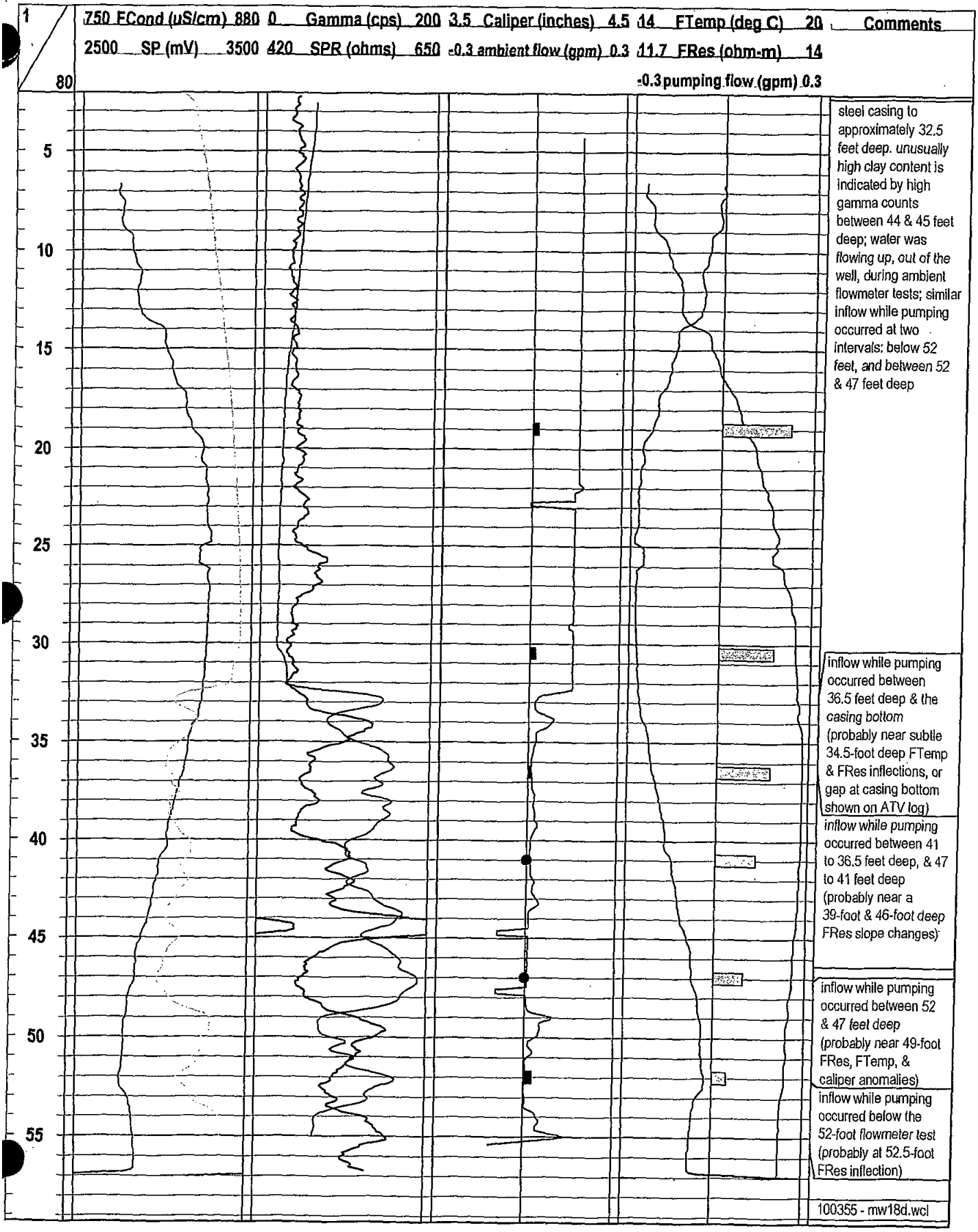
Project - Well: Stone & Webster/Maywood, NJ - MW-18D conventional logs



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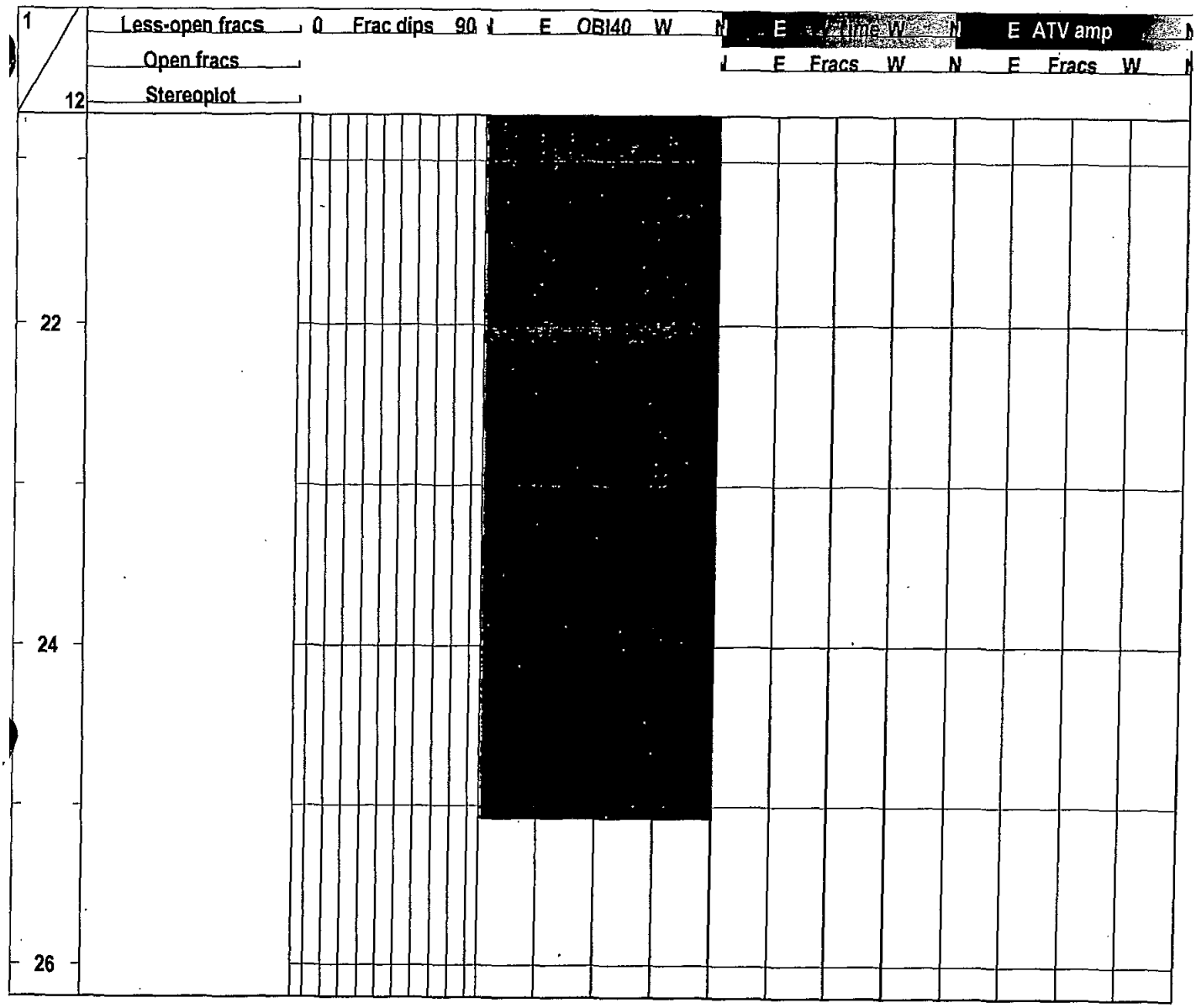

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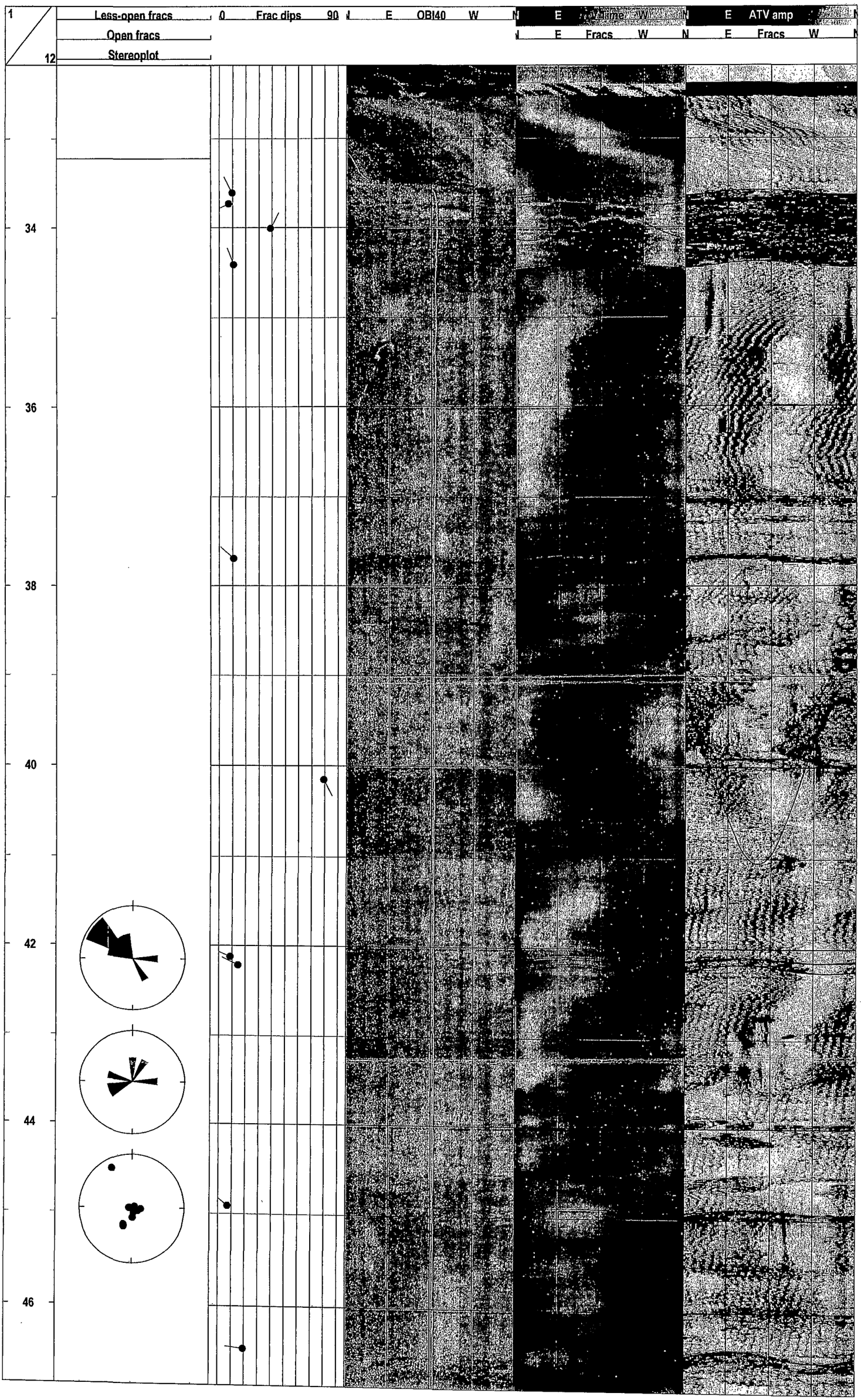

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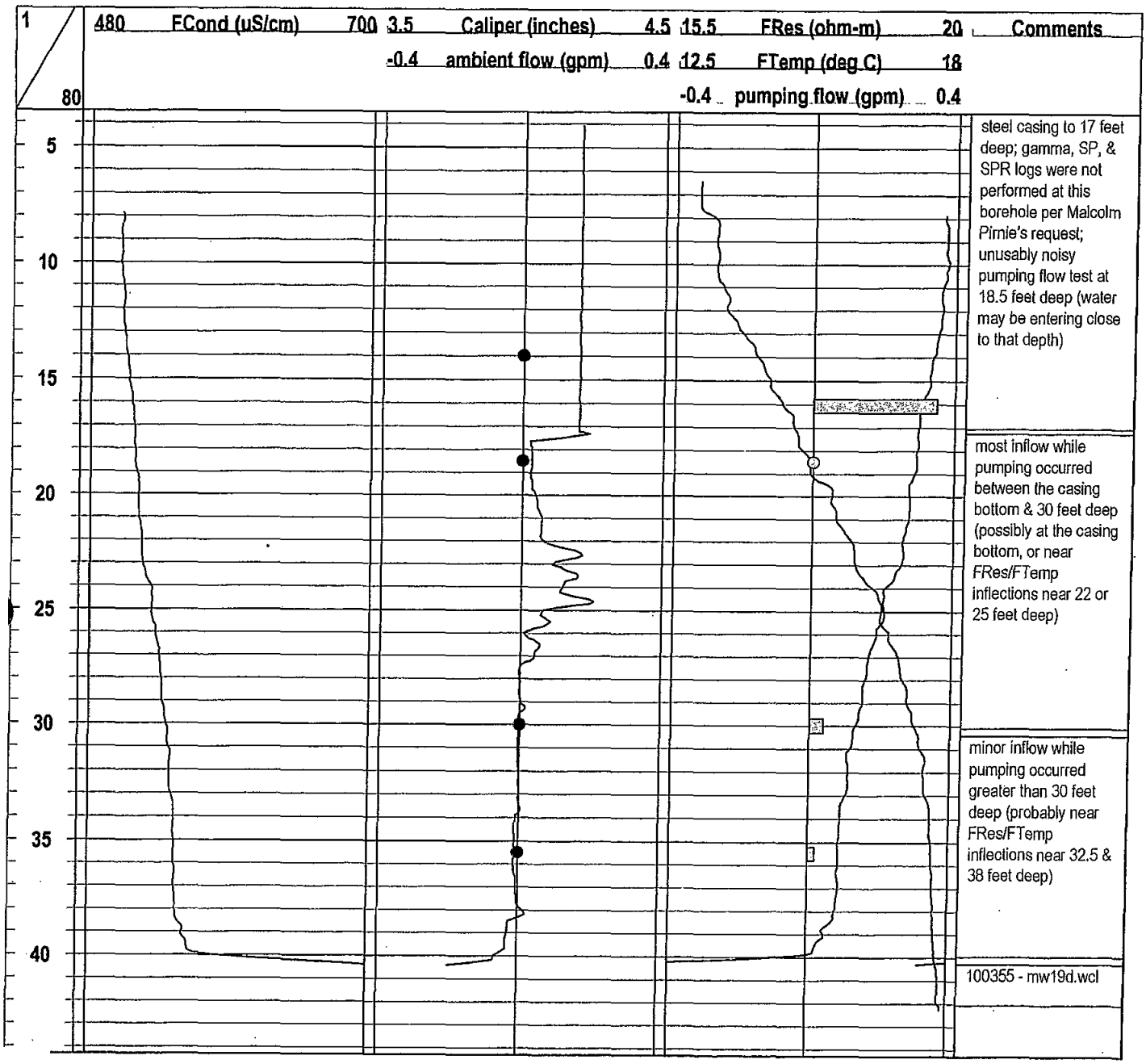

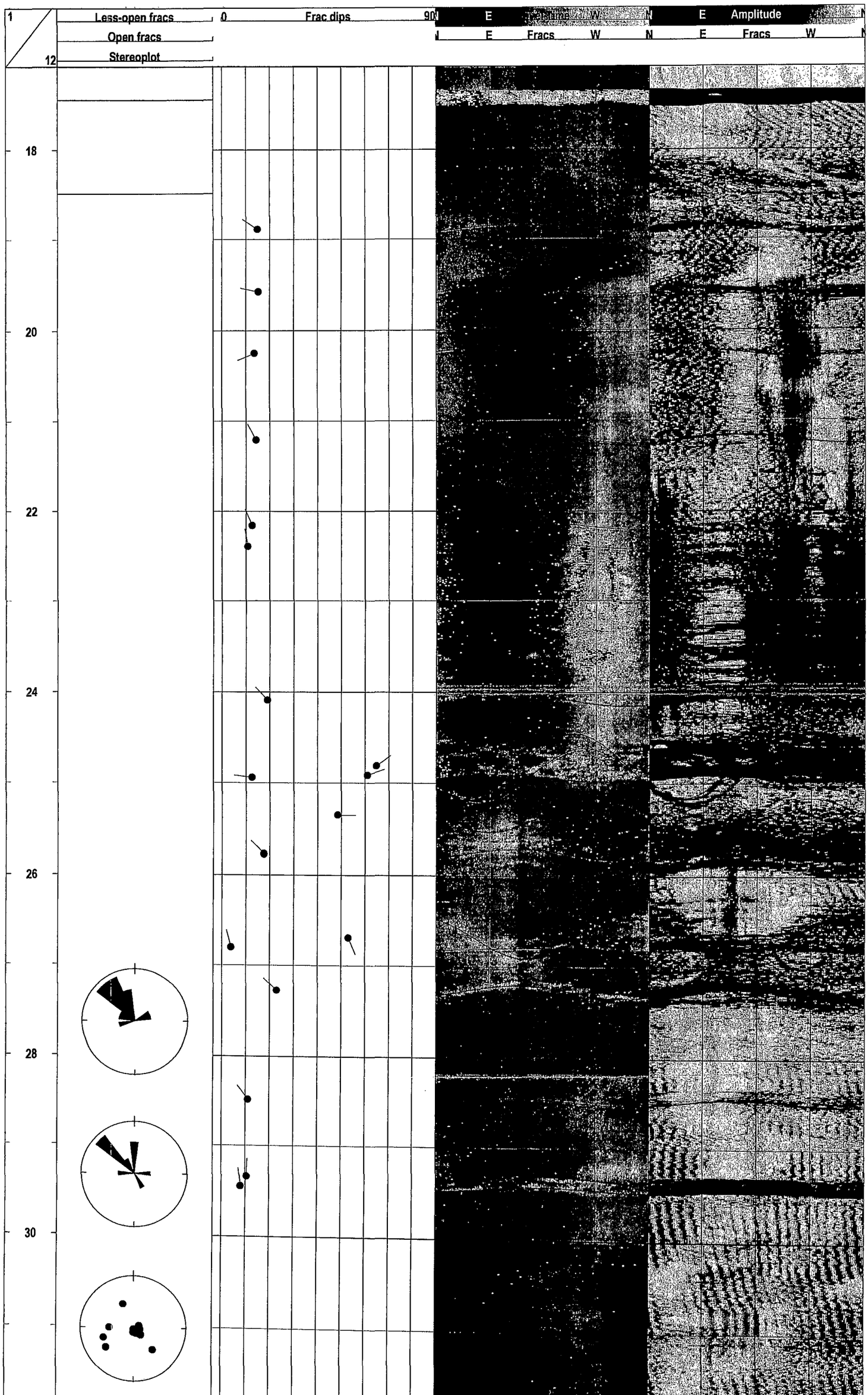
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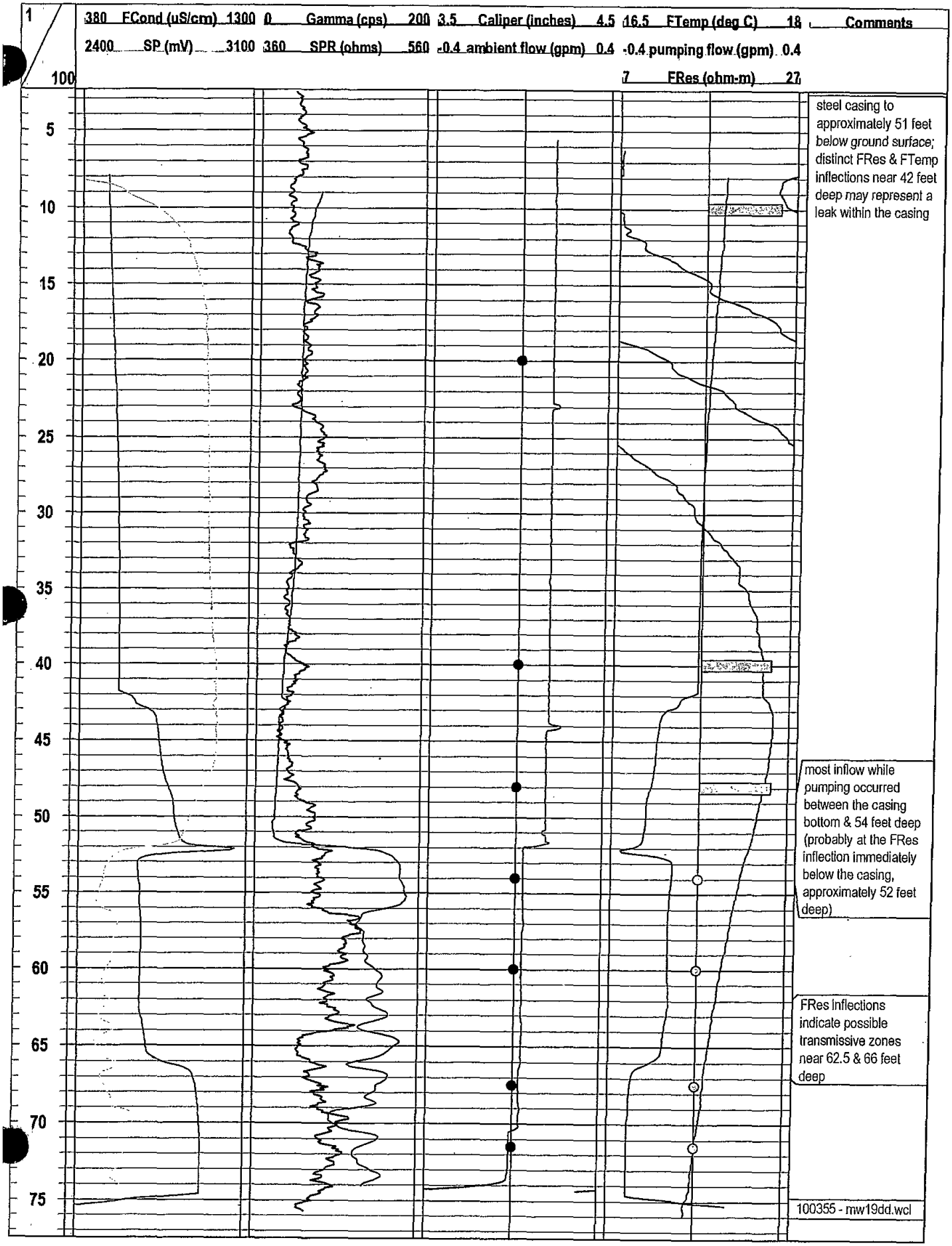
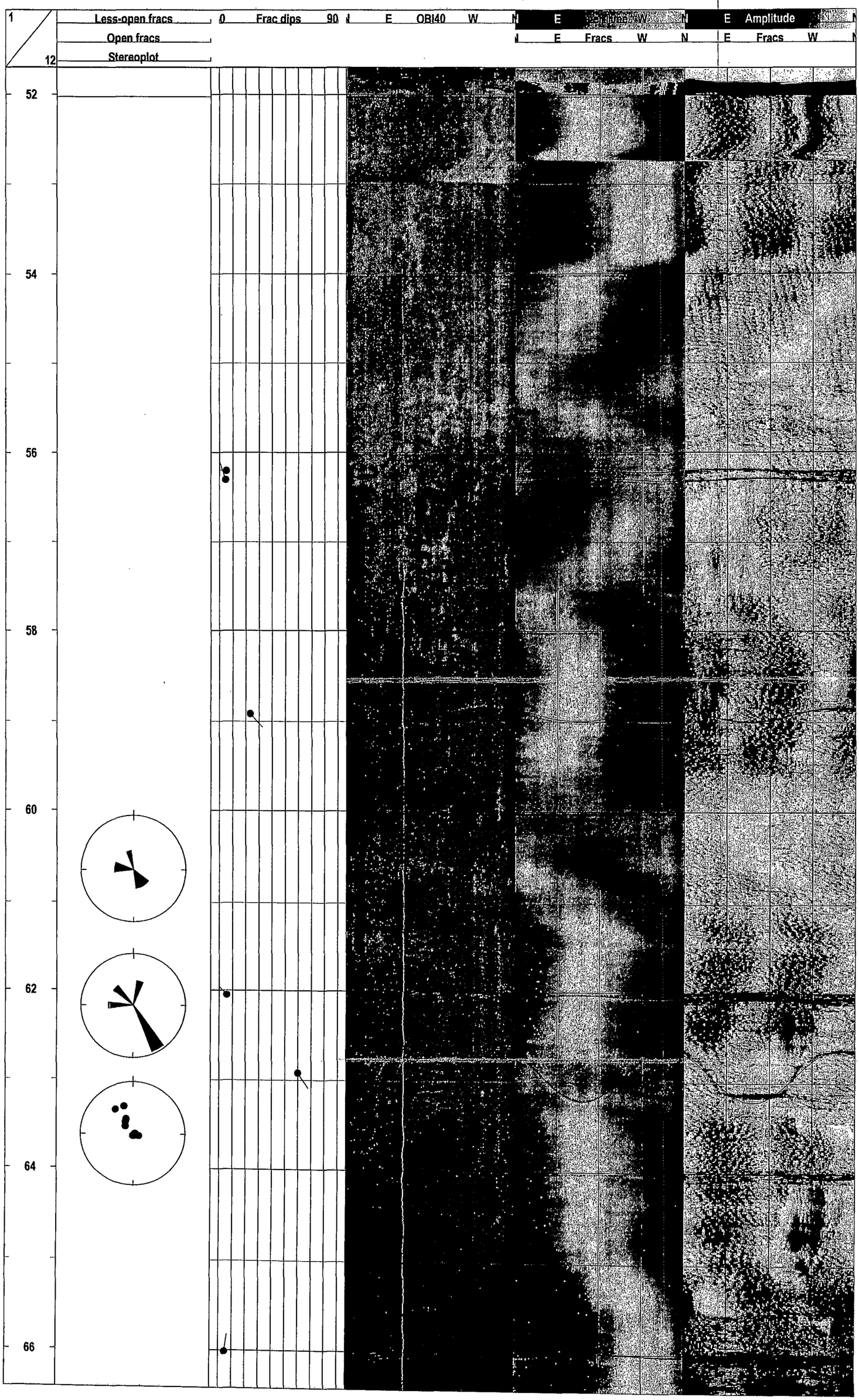
Project - Well: Stone & Webster/Maywood, NJ - MW-19DD conventional logs



Project - Well: Stone & Webster/Maywood, NJ - MW-19DD image logs



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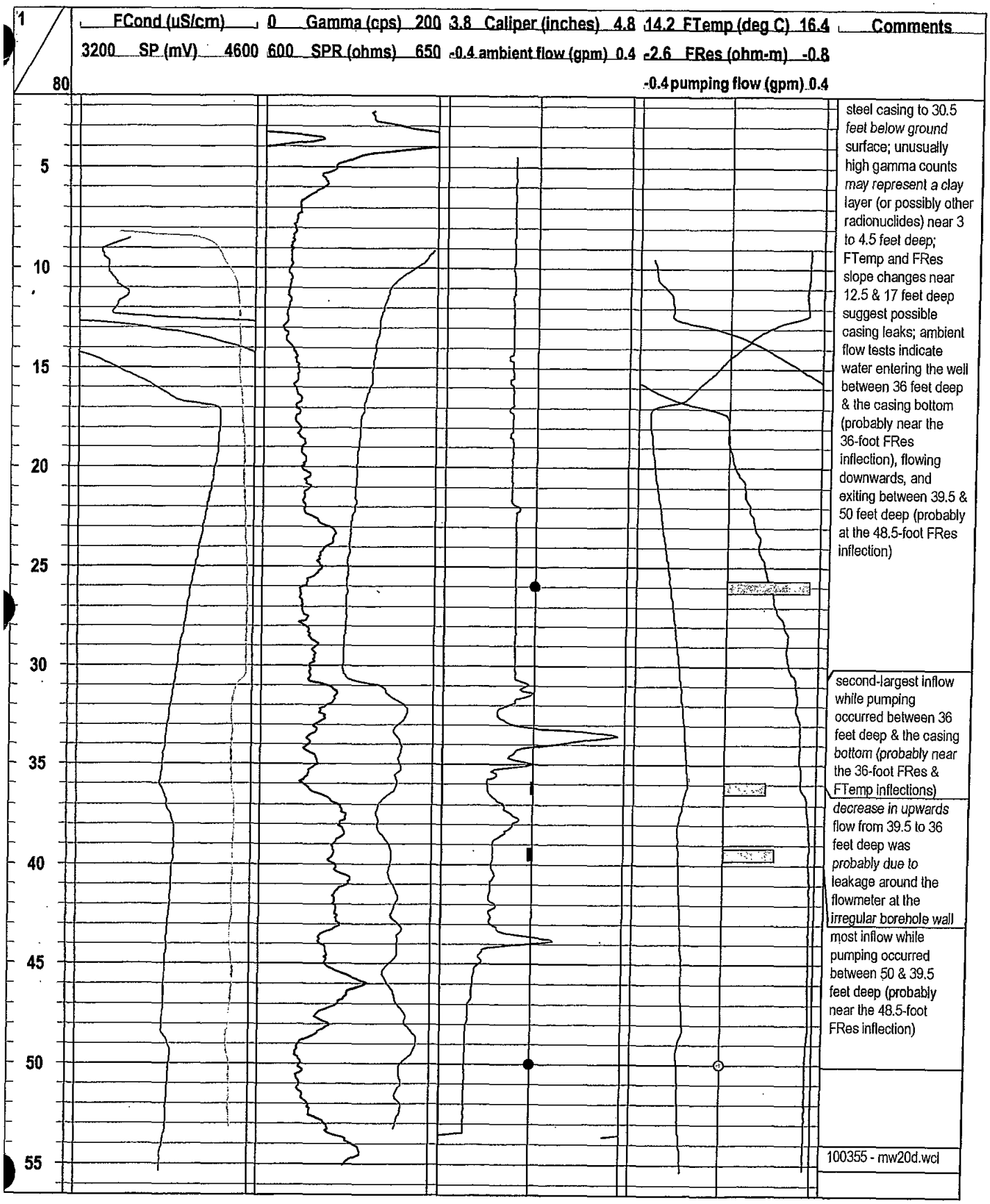
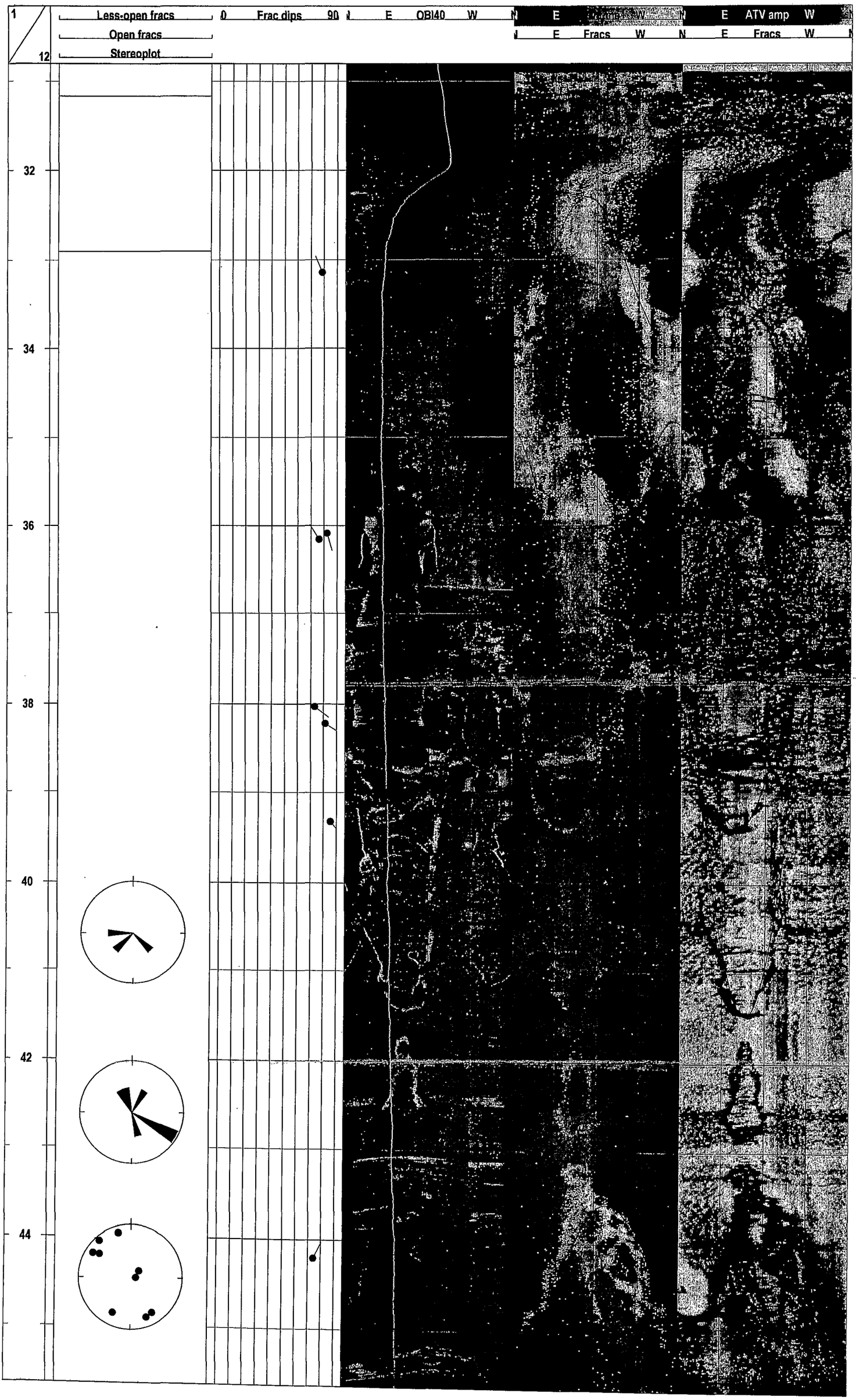
Project - Well: Stone & Webster/Maywood, NJ - MW-20D conventional logs

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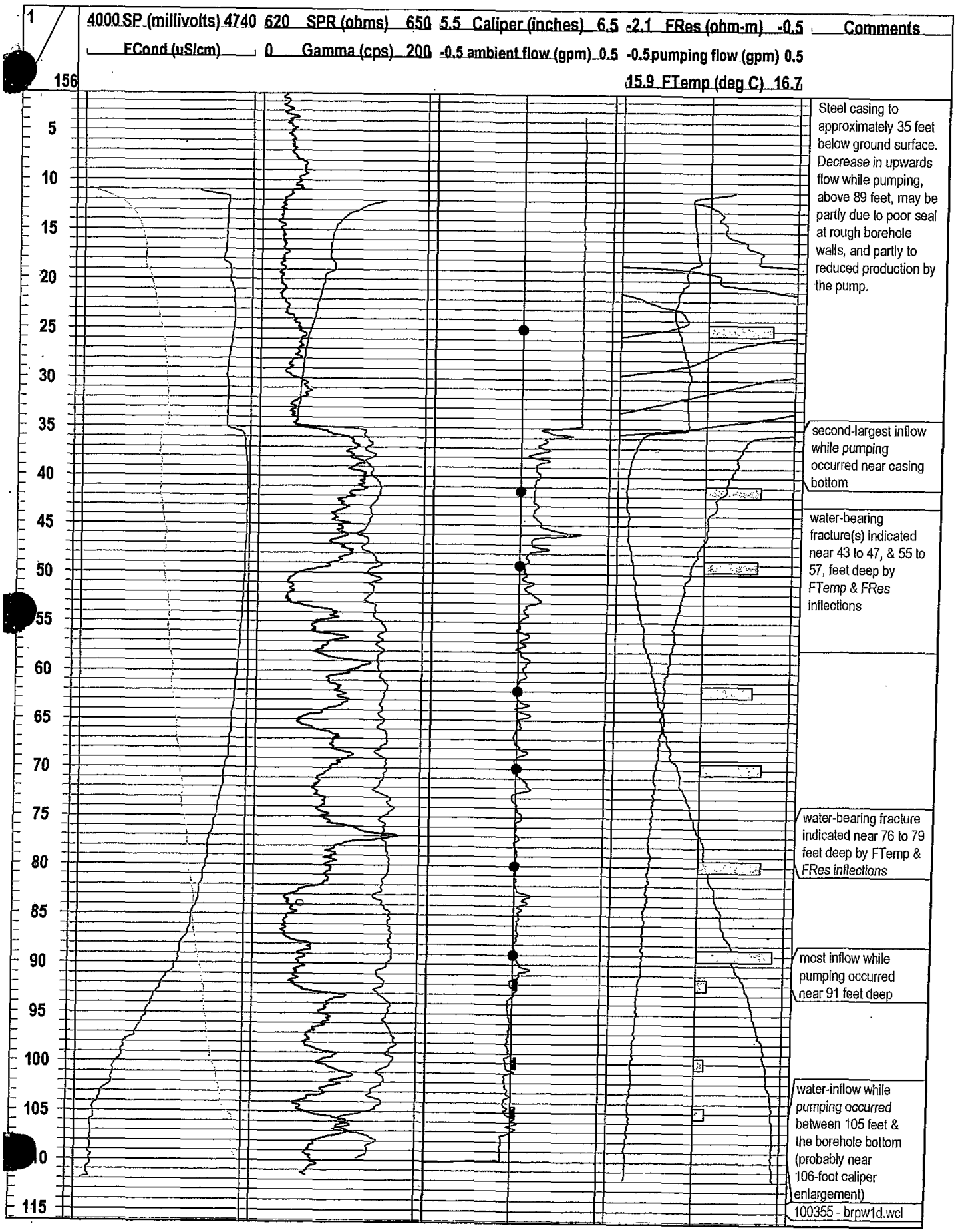
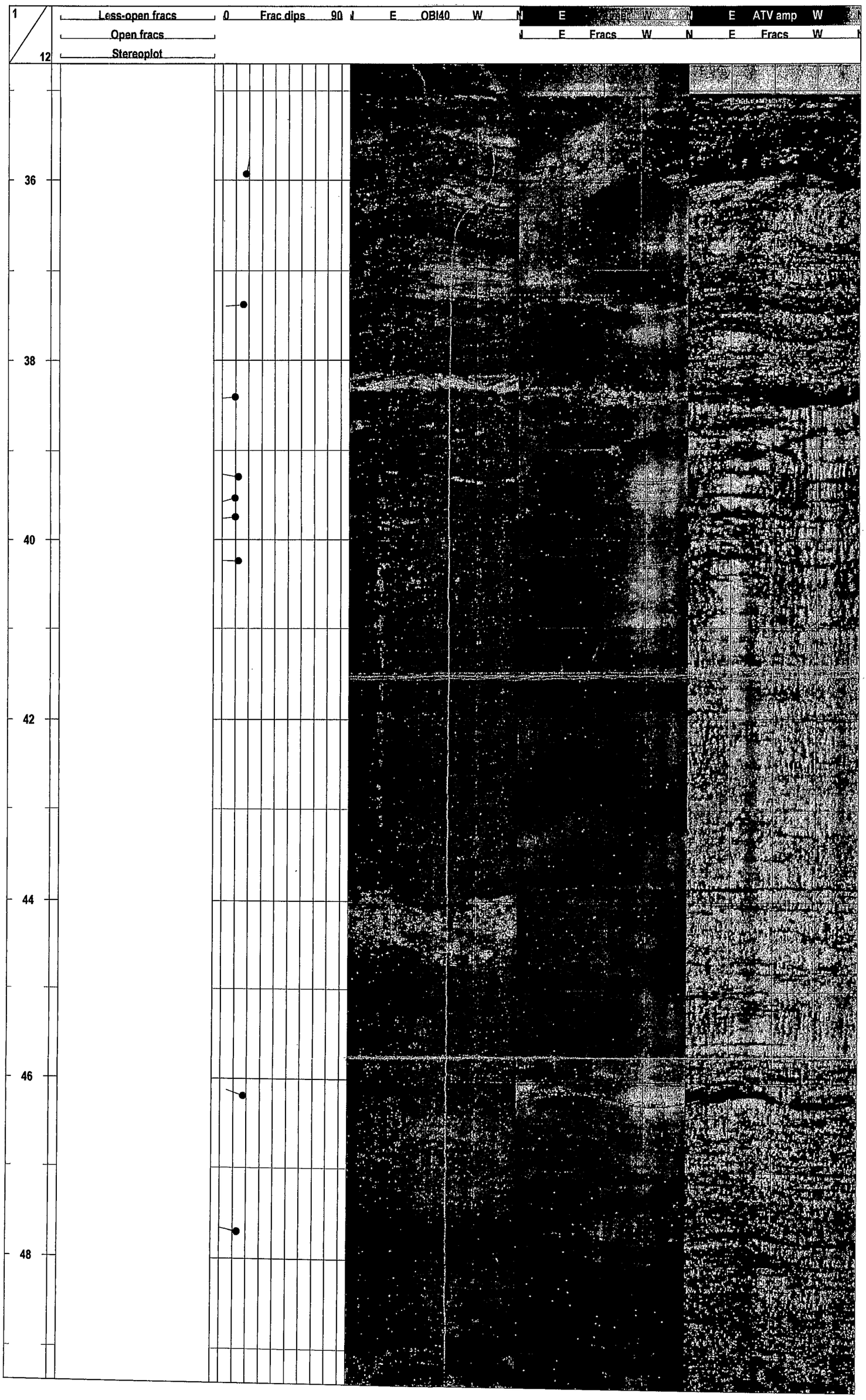
Project - Well: Stone & Webster/Maywood, NJ - BRPW-1D conventional logs



Project - Well: Stone & Webster/Maywood, NJ - BRPW-1D image logs



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Appendix B

Fracture Orientations Measured from Optical and Acoustic Televiewer Logs

MW-01D

WellCAD - [mw01di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
22.2	304.6	23.2	100	n/a
22.3	298.7	18.5	100	n/a
23.2	328.0	14.2	105	n/a
23.8	355.4	15.3	105	n/a
24.0	240.7	14.8	100	n/a
25.2	245.9	11.9	105	n/a
25.6	263.5	14.0	100	n/a
26.2	102.6	19.1	105	n/a
27.1	139.2	31.2	105	n/a
27.2	137.6	21.3	105	n/a
27.5	279.1	37.4	100	n/a
30.2	304.6	10.2	105	n/a
30.5	218.5	13.2	100	n/a
30.8	46.7	15.7	100	n/a
31.4	292.8	4.9	105	n/a
31.8	327.4	6.4	100	n/a
32.2	300.0	11.9	100	n/a
32.7	297.4	3.1	105	n/a
33.4	297.4	28.6	100	n/a
36.3	257.0	17.7	105	n/a
36.7	212.6	13.2	105	n/a
36.8	45.7	8.0	105	n/a
44.6	356.7	3.1	100	n/a

MW-02D

WellCAD - [mw02di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
25.0	262.8	13.7	105	n/a
28.6	353.6	18.3	100	n/a
28.7	332.9	19.2	100	n/a
29.8	318.1	20.0	100	n/a
30.2	292.4	10.1	100	n/a
30.2	266.1	6.5	105	n/a
32.4	338.2	9.5	105	n/a
33.5	277.6	11.9	105	n/a
33.7	318.4	27.9	105	n/a
33.9	305.1	23.4	105	n/a
34.1	308.5	14.6	105	n/a
36.4	293.5	6.5	105	n/a
36.6	0.0	0.0	105	n/a
36.7	310.4	3.3	105	n/a
37.9	259.7	24.8	105	n/a
38.8	300.0	9.2	105	n/a
38.9	281.1	10.6	105	n/a
43.8	296.1	6.5	100	n/a
44.0	195.7	9.2	100	n/a

MW-03D

WellCAD - [mw03di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
32.6	323.8	27.9	105	n/a
32.7	294.3	19.7	105	n/a
33.3	272.9	8.0	105	n/a
33.7	301.9	13.2	105	n/a
35.1	310.1	13.1	100	n/a
37.7	303.7	19.7	100	n/a
37.8	340.4	24.1	100	n/a
38.4	140.9	34.0	100	n/a
39.5	216.9	26.2	100	n/a
42.1	266.0	19.2	100	n/a
45.4	328.7	8.5	105	n/a
45.5	291.3	13.6	105	n/a
47.2	284.9	13.1	100	n/a
51.6	282.1	6.9	105	n/a
51.9	351.7	3.0	100	n/a
52.5	301.6	11.5	105	n/a

MW-04D

WellCAD - [mw04di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
19.2	144.0	30.6	105	n/a
19.3	163.2	28.2	105	n/a
19.9	162.4	8.8	105	n/a
20.2	269.2	4.1	100	n/a
22.1	150.3	10.3	105	n/a
22.2	258.5	5.4	100	n/a
22.8	128.3	12.9	100	n/a
23.1	314.6	6.3	105	n/a
23.9	271.8	4.1	100	n/a
24.6	268.2	11.1	100	n/a
24.7	287.0	19.1	100	n/a
25.5	286.8	13.0	100	n/a
25.6	305.4	12.2	100	n/a
25.7	261.9	8.1	100	n/a
27.3	269.2	13.3	105	n/a
27.5	252.5	24.2	105	n/a
27.8	255.1	23.4	100	n/a
28.8	209.7	45.2	105	n/a
29.4	102.3	24.5	105	n/a
29.5	109.6	32.2	105	n/a
30.9	115.5	36.5	105	n/a
30.9	108.5	34.4	105	n/a
31.1	120.0	47.2	100	n/a
31.2	126.3	45.2	100	n/a
32.5	258.1	16.3	100	n/a
34.3	126.3	70.0	105	n/a
34.4	131.0	68.0	105	n/a
35.6	348.0	14.1	105	n/a
37.1	64.7	20.1	100	n/a
37.7	357.4	11.1	100	n/a
38.7	217.0	32.8	105	n/a

MW-05D

WellCAD - [mw5di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
33.4	304.6	3.2	105	n/a
34.5	244.8	15.2	105	n/a
34.5	81.6	23.5	105	n/a
34.7	103.7	25.3	100	n/a
35.1	129.1	15.8	100	n/a
38.2	318.3	6.3	100	n/a
38.5	31.9	20.1	100	n/a
40.9	46.8	17.1	100	n/a
41.6	336.9	6.7	100	n/a
42.1	199.9	9.2	100	n/a
42.2	228.9	4.1	100	n/a
44.2	296.4	6.3	100	n/a
46.9	304.6	6.3	100	n/a
47.1	284.0	32.9	105	n/a
47.8	215.9	14.1	105	n/a
47.9	328.3	11.6	105	n/a
49.4	294.1	3.2	105	n/a
49.7	274.6	15.7	105	n/a

MW-06D

WellCAD - [mw06di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
32.6	263.2	14.7	100	n/a
33.5	166.7	5.9	100	n/a
35.0	350.6	4.1	100	n/a
36.4	181.0	23.1	105	n/a
41.8	283.1	27.1	100	n/a
43.5	1.6	2.3	105	n/a
44.9	288.5	7.3	100	n/a
45.1	283.8	11.4	100	n/a
48.7	209.7	9.2	100	n/a

MW-07D

WellCAD - [mw07di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
23.4	298.2	15.2	105	n/a
25.8	358.1	11.4	100	n/a
27.5	277.2	10.1	105	n/a
29.2	288.3	14.5	105	n/a
29.8	272.6	16.0	105	n/a
31.4	278.5	7.9	105	n/a
31.7	340.4	3.1	100	n/a
33.0	317.0	14.8	100	n/a
35.1	308.2	21.2	100	n/a
37.7	354.5	17.4	105	n/a
38.5	267.1	10.3	105	n/a
39.6	155.8	71.5	100	n/a
40.0	312.4	7.1	105	n/a
40.1	126.2	67.3	100	n/a
41.5	293.3	10.3	105	n/a
41.8	296.1	15.2	100	n/a
42.4	290.9	16.8	105	n/a

MW-08D

WellCAD - [mw08di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
26.1	131.0	87.8	105	n/a
28.5	298.0	17.5	105	n/a
28.7	305.6	11.2	105	n/a
30.7	3.3	46.3	105	n/a
31.5	22.9	14.6	105	n/a
31.8	27.8	10.1	105	n/a
31.9	17.7	7.9	105	n/a
32.0	22.4	7.7	105	n/a
32.7	21.0	11.4	105	n/a
32.9	27.4	8.9	100	n/a
33.1	12.4	12.7	105	n/a
34.3	172.5	74.5	105	n/a
34.8	327.4	19.0	105	n/a
36.1	318.3	6.0	105	n/a
37.5	13.4	3.0	100	n/a
44.1	298.7	7.7	105	n/a
44.2	315.0	4.7	105	n/a
45.3	309.1	18.6	105	n/a
47.6	240.9	2.6	105	n/a
49.0	193.2	3.7	100	n/a
49.6	135.8	71.9	105	n/a

MW-09D

WellCAD - [mw09di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
23.8	275.0	5.8	105	n/a
24.7	326.9	7.4	105	n/a
25.0	272.9	3.2	105	n/a
25.0	261.9	8.5	105	n/a
25.6	198.8	11.1	105	n/a
26.0	284.9	11.1	100	n/a
26.7	278.6	7.2	100	n/a
26.9	287.0	21.5	100	n/a
29.0	115.3	78.5	105	n/a
31.3	234.8	10.3	105	n/a
33.9	232.2	10.3	100	n/a
34.1	271.8	8.1	100	n/a
34.4	276.5	8.1	100	n/a
34.6	272.9	4.1	100	n/a
35.9	272.9	14.1	105	n/a
37.0	100.8	68.5	105	n/a
38.3	275.5	8.5	105	n/a
40.4	346.4	7.3	100	n/a
41.8	27.1	17.9	100	n/a

MW-10D

WellCAD - [mw10di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
24.0	344.3	10.3	100	n/a
24.8	252.9	6.0	100	n/a
25.9	327.7	10.3	105	n/a
26.7	323.3	14.5	100	n/a
27.2	306.3	10.3	100	n/a
27.7	329.9	13.7	100	n/a
29.2	278.6	15.4	100	n/a
29.3	285.9	17.9	100	n/a
31.1	296.9	11.1	105	n/a
31.2	299.0	8.9	105	n/a
31.4	315.7	6.3	105	n/a
31.8	250.4	24.2	100	n/a
31.9	231.1	16.7	100	n/a
35.4	71.5	9.8	100	n/a
36.6	48.0	11.9	100	n/a
37.1	71.5	15.8	105	n/a
38.9	178.4	84.6	100	n/a
39.8	7.6	38.9	105	n/a
40.2	178.6	74.7	100	n/a
41.2	21.4	8.1	100	n/a
41.7	68.9	14.1	105	n/a
41.7	289.5	19.0	100	n/a
43.5	341.7	36.1	105	n/a
45.0	327.9	16.9	100	n/a

MW-12D

WellCAD - [mw12di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
33.8	348.0	12.3	100	n/a
36.2	333.8	11.4	105	n/a
36.6	59.4	3.1	105	n/a
36.7	350.9	7.1	105	n/a
37.0	10.3	7.9	105	n/a
39.6	226.4	31.9	100	n/a
41.4	20.6	3.6	105	n/a
43.6	341.0	18.0	105	n/a
47.9	207.6	16.4	100	n/a
48.2	309.5	14.8	100	n/a

MW-13D

WellCAD - [mw13di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
26.1	58.8	8.9	105	n/a
26.8	156.6	10.3	105	n/a
28.2	298.9	1.8	105	n/a
28.5	313.0	19.1	100	n/a
28.8	302.2	8.5	100	n/a
29.8	168.3	86.6	100	n/a
31.1	42.8	4.5	100	n/a
32.8	320.0	6.1	105	n/a
35.4	163.6	82.4	105	n/a
40.2	100.2	24.2	100	n/a
44.2	125.8	8.2	100	n/a
47.6	329.1	20.7	100	n/a

MW-14D

WellCAD - [mw14di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
29.3	82.4	27.6	105	n/a
30.2	320.1	73.4	105	n/a
30.3	122.7	16.5	105	n/a
30.7	340.1	17.3	105	n/a
31.7	143.3	21.2	100	n/a
32.0	354.7	4.0	105	n/a
32.4	292.0	11.0	105	n/a
32.6	217.9	14.3	105	n/a
32.8	134.6	7.1	105	n/a
33.8	357.1	4.0	105	n/a
34.0	357.1	4.0	105	n/a
34.9	18.3	9.3	105	n/a
35.2	314.8	6.2	105	n/a
36.1	19.4	7.1	100	n/a
37.0	271.6	0.9	105	n/a
37.4	356.0	1.8	105	n/a
37.6	357.1	3.6	105	n/a
38.1	331.4	3.6	105	n/a
38.4	351.0	10.9	105	n/a
38.4	9.8	18.9	100	n/a
40.6	148.6	16.0	100	n/a
43.9	132.9	11.8	100	n/a
44.0	190.0	18.0	100	n/a
46.6	173.0	24.3	100	n/a
50.4	136.3	43.8	100	n/a
51.2	271.6	6.2	100	n/a

MW-15D

WellCAD - [mw15di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
39.4	283.0	14.8	105	n/a
41.4	281.8	13.9	100	n/a
42.0	293.2	12.7	100	n/a
42.3	271.6	11.0	105	n/a
42.9	291.0	16.8	105	n/a
44.0	349.7	8.4	105	n/a
45.1	259.6	5.8	105	n/a
46.1	143.5	78.7	100	n/a
46.3	265.9	10.1	105	n/a
48.1	260.7	20.4	105	n/a
49.1	297.2	13.1	105	n/a
50.6	262.8	18.5	105	n/a
50.8	183.7	9.7	100	n/a
51.1	280.7	12.3	105	n/a
53.7	302.8	20.4	105	n/a
53.8	240.2	11.0	100	n/a
54.9	111.2	85.1	105	n/a
56.6	114.7	7.1	100	n/a
60.3	99.3	3.1	105	n/a
60.5	86.1	5.3	105	n/a

MW-16D

WellCAD - [mw16di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
50.2	235.8	36.0	100	n/a
50.9	6.2	17.6	105	n/a
51.1	355.9	9.9	105	n/a
51.4	0.0	0.0	105	n/a
51.9	297.4	8.2	105	n/a
54.2	356.0	14.0	100	n/a
54.9	313.9	14.3	105	n/a
57.8	269.1	10.4	100	n/a
61.4	318.4	8.6	105	n/a
62.1	325.3	7.3	100	n/a
62.5	15.0	12.5	100	n/a
63.2	355.9	3.2	105	n/a
63.4	330.8	8.8	105	n/a
65.0	330.0	9.9	105	n/a
66.7	306.2	7.3	100	n/a
67.2	354.0	4.6	100	n/a
67.4	335.9	17.7	105	n/a

MW-17D

WellCAD - [mw17di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
22.5	304.1	8.7	105	n/a
22.8	293.2	8.7	105	n/a
23.2	79.5	13.7	105	n/a
23.4	247.8	30.0	105	n/a
24.8	137.3	14.2	105	n/a
25.1	266.2	25.0	105	n/a
26.9	285.8	4.8	105	n/a
28.2	19.4	9.1	100	n/a
29.6	326.3	9.1	100	n/a
29.8	225.0	25.0	105	n/a
30.2	45.6	26.8	105	n/a
31.7	123.3	23.5	105	n/a
31.8	329.2	19.0	105	n/a
32.0	314.4	4.8	105	n/a
33.8	336.6	56.7	105	n/a
34.7	266.9	7.0	105	n/a
35.0	296.1	4.8	105	n/a
35.3	350.3	15.8	105	n/a
35.5	259.6	4.8	105	n/a
39.5	174.6	10.8	105	n/a
40.1	315.5	9.1	105	n/a
40.4	288.1	10.8	105	n/a
41.0	23.6	11.5	105	n/a
41.4	352.0	7.0	105	n/a
42.1	311.8	11.2	105	n/a
42.3	5.1	3.9	100	n/a
42.7	301.1	9.5	100	n/a

MW-18D

WellCAD - [mw18di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
33.6	333.8	10.0	100	n/a
33.7	247.5	7.3	105	n/a
34.0	27.9	39.0	105	n/a
34.4	339.5	11.1	100	n/a
37.7	313.2	11.1	100	n/a
40.2	152.6	79.4	100	n/a
42.1	293.2	8.9	100	n/a
42.2	297.2	14.9	100	n/a
44.9	309.2	7.3	100	n/a
46.5	278.4	19.5	100	n/a
48.9	289.1	7.8	105	n/a
49.1	84.8	5.6	105	n/a
50.6	90.1	6.2	100	n/a
54.2	354.9	21.0	105	n/a

MW-19D

WellCAD - [mw19di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
18.9	303.8	14.9	100	n/a
19.6	281.5	15.4	100	n/a
20.3	248.7	13.8	100	n/a
21.2	332.0	14.4	100	n/a
22.2	337.1	12.8	100	n/a
22.4	350.2	10.9	100	n/a
24.1	318.6	19.1	105	n/a
24.8	53.4	64.9	100	n/a
24.9	70.7	61.3	100	n/a
24.9	277.3	12.8	105	n/a
25.4	90.1	48.5	105	n/a
25.8	314.8	17.7	105	n/a
26.7	156.5	53.2	105	n/a
26.8	345.1	3.9	100	n/a
27.3	314.2	22.9	105	n/a
28.5	323.8	11.2	100	n/a
29.3	2.5	10.7	105	n/a
29.5	353.6	8.1	105	n/a
33.8	315.0	16.9	100	n/a
38.4	329.3	11.8	105	n/a
38.8	312.9	21.8	100	n/a
38.9	318.2	57.8	100	n/a

MW-19DD

WellCAD - [mw19ddi:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
56.2	276.7	5.6	100	n/a
56.3	340.6	5.0	100	n/a
58.9	137.3	23.6	100	n/a
62.1	318.4	6.1	105	n/a
62.9	145.1	59.9	105	n/a
66.0	8.0	5.0	105	n/a
67.8	162.3	58.8	100	n/a
69.1	156.0	35.7	100	n/a
69.8	148.9	30.7	105	n/a
70.4	271.6	3.9	105	n/a
72.6	291.0	14.7	100	n/a

MW-20D

WellCAD - [mw20di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
33.1	337.6	78.6	105	n/a
36.1	163.9	82.3	105	n/a
36.2	328.0	76.4	105	n/a
38.0	126.7	73.4	105	n/a
38.2	122.7	81.7	105	n/a
39.3	138.9	85.5	100	n/a
44.2	26.2	74.5	105	n/a
46.9	231.1	24.0	100	n/a
51.6	268.7	11.5	100	n/a

BRPW-1D

WellCAD - [brpw1di:2]

File View Row Tools Window Help

Depth	Azimuth	Tilt	Category	Description
35.9	10.3	18.0	105	n/a
37.4	265.9	16.0	105	n/a
38.4	265.9	10.0	105	n/a
39.3	279.0	12.5	100	n/a
39.5	254.5	10.0	100	n/a
39.7	264.7	10.3	100	n/a
40.2	272.7	12.5	100	n/a
46.2	290.4	17.7	105	n/a
47.7	283.0	13.5	105	n/a
53.6	356.8	9.2	100	n/a
54.4	273.9	9.2	100	n/a
57.5	38.8	25.9	100	n/a
57.9	285.1	42.7	100	n/a
59.0	337.1	17.7	100	n/a
68.4	275.7	16.7	100	n/a
75.5	280.1	14.2	100	n/a
77.5	265.9	9.6	100	n/a
88.7	285.4	85.6	105	n/a
90.1	265.9	9.6	100	n/a
92.8	174.1	9.1	100	n/a
99.1	308.7	15.6	100	n/a
99.3	328.1	16.3	100	n/a
101.0	305.2	11.8	100	n/a
103.3	317.0	17.6	100	n/a
104.6	285.4	13.7	100	n/a
105.7	292.9	21.7	105	n/a
106.3	288.1	16.7	100	n/a
107.2	340.6	22.0	105	n/a

APPENDIX F
SLUG TEST, RAW DATA, AND DATA PLOTS

Slug test

Test Information: **MW-2S-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B ln[H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAMF 97

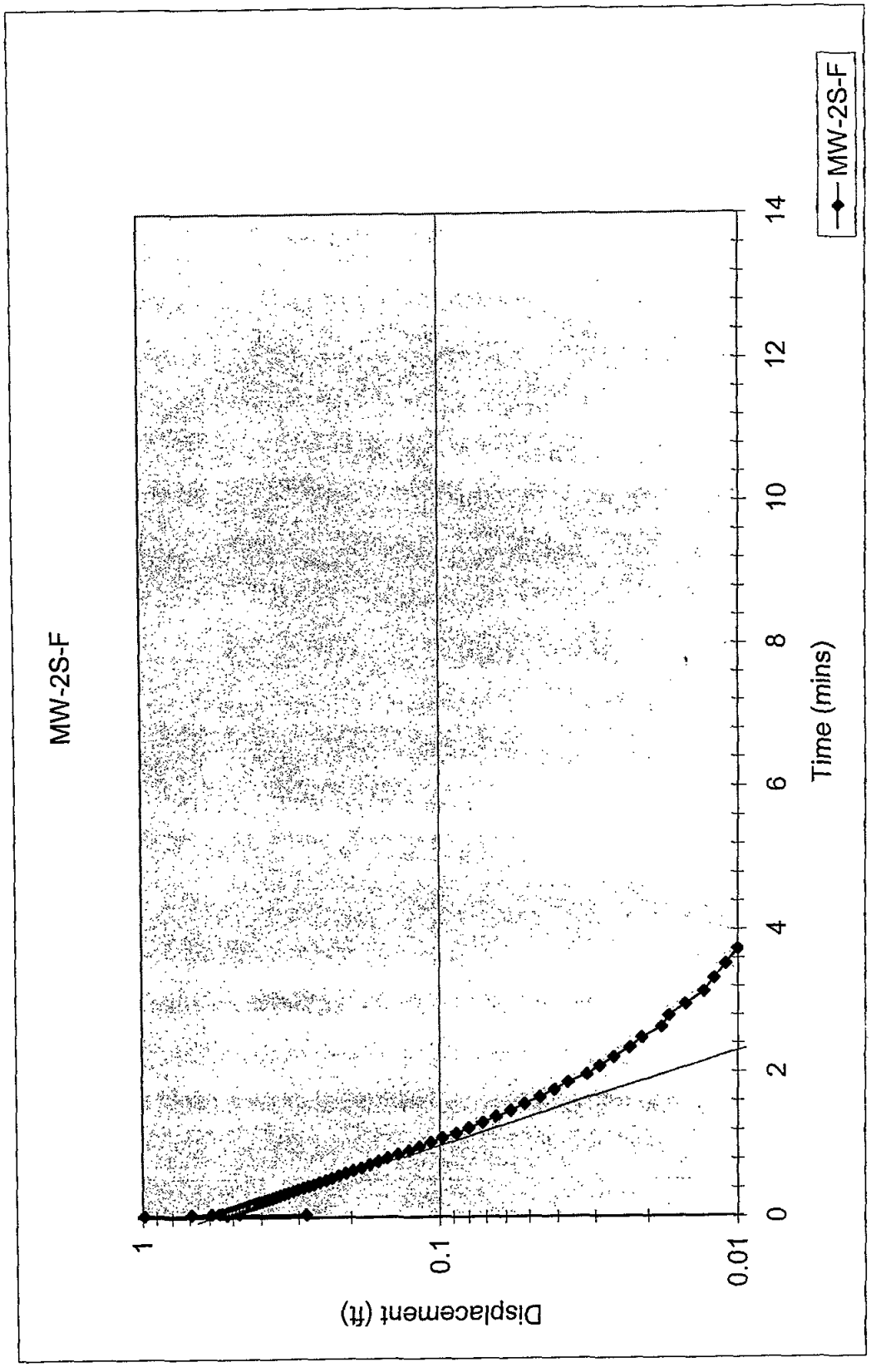
Channel number [2]
Measurement type: Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refere 0 Meters H2O
Referenced on: test start
Pressure head at r 2.088 Meters H2O

Depth to water table (ft)	4.74
Total well depth (ft.)	13
Top of screen (ft.)	5
Bottom of screen (ft.)	13

	ET (min)	Feet H2O
02/28/2001 9:11	0	0
02/28/2001 9:11	0.0048	0.007
02/28/2001 9:11	0.0098	1.211
02/28/2001 9:11	0.015	1.397
02/28/2001 9:11	0.0198	1.114
02/28/2001 9:11	0.025	1.028
02/28/2001 9:11	0.03	1.092
02/28/2001 9:11	0.035	0.99
02/28/2001 9:11	0.0398	0.524
02/28/2001 9:11	0.045	0.283
02/28/2001 9:11	0.05	0.69
02/28/2001 9:11	0.0548	0.591
02/28/2001 9:11	0.06	0.476
02/28/2001 9:11	0.0648	0.555
02/28/2001 9:11	0.07	0.543
02/28/2001 9:11	0.075	0.513
02/28/2001 9:11	0.0798	0.524
02/28/2001 9:11	0.0848	0.518
02/28/2001 9:11	0.09	0.507
02/28/2001 9:11	0.095	0.507
02/28/2001 9:11	0.1	0.501
02/28/2001 9:11	0.1057	0.495
02/28/2001 9:11	0.1118	0.491
02/28/2001 9:11	0.1185	0.485
02/28/2001 9:11	0.1255	0.479
02/28/2001 9:11	0.1327	0.474
02/28/2001 9:11	0.1405	0.467
02/28/2001 9:11	0.1488	0.46
02/28/2001 9:11	0.1578	0.454
02/28/2001 9:11	0.167	0.447
02/28/2001 9:12	0.1768	0.44
02/28/2001 9:12	0.1875	0.432
02/28/2001 9:12	0.1985	0.423

rc =	0.083333333		radius of the well
rw =	0.25		radius of the borehole
Le =	8		screen length
Lw =	8.26		
H =	8.26		
y0 =	0.6		static water level
t =	2.4		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	1.705977		
		A =	
		B =	
Le/rw =	32	C =	2
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.652585491		
K (ft/min) =	1.96E-03	K (ft/sec) =	3.27E-05
K (feet/hour) =	1.18E-01		
K (cm/sec) =	9.98E-04		

02/28/2001 9:12	0.21	0.415
02/28/2001 9:12	0.2225	0.406
02/28/2001 9:12	0.2358	0.397
02/28/2001 9:12	0.2498	0.387
02/28/2001 9:12	0.2647	0.377
02/28/2001 9:12	0.2803	0.367
02/28/2001 9:12	0.297	0.356
02/28/2001 9:12	0.3145	0.346
02/28/2001 9:12	0.3333	0.334
02/28/2001 9:12	0.3532	0.324
02/28/2001 9:12	0.374	0.312
02/28/2001 9:12	0.3963	0.301
02/28/2001 9:12	0.4198	0.289
02/28/2001 9:12	0.4445	0.278
02/28/2001 9:12	0.4695	0.267
02/28/2001 9:12	0.4963	0.255
02/28/2001 9:12	0.5247	0.243
02/28/2001 9:12	0.5547	0.232
02/28/2001 9:12	0.5862	0.22
02/28/2001 9:12	0.6213	0.208
02/28/2001 9:12	0.6578	0.196
02/28/2001 9:12	0.6963	0.184
02/28/2001 9:12	0.738	0.172
02/28/2001 9:12	0.7813	0.161
02/28/2001 9:12	0.8278	0.15
02/28/2001 9:12	0.8762	0.138
02/28/2001 9:12	0.9278	0.127
02/28/2001 9:12	0.9828	0.117
02/28/2001 9:12	1.0412	0.107
02/28/2001 9:12	1.103	0.098
02/28/2001 9:12	1.1678	0.088
02/28/2001 9:13	1.238	0.08
02/28/2001 9:13	1.3113	0.072
02/28/2001 9:13	1.3895	0.065
02/28/2001 9:13	1.4728	0.058
02/28/2001 9:13	1.5613	0.052
02/28/2001 9:13	1.6547	0.046
02/28/2001 9:13	1.753	0.041
02/28/2001 9:13	1.858	0.037
02/28/2001 9:13	1.9678	0.032
02/28/2001 9:13	2.0845	0.029
02/28/2001 9:14	2.2097	0.026
02/28/2001 9:14	2.3412	0.023
02/28/2001 9:14	2.4812	0.021
02/28/2001 9:14	2.6297	0.018
02/28/2001 9:14	2.7863	0.017
02/28/2001 9:14	2.953	0.015
02/28/2001 9:14	3.1297	0.013
02/28/2001 9:15	3.3162	0.012
02/28/2001 9:15	3.5145	0.011
02/28/2001 9:15	3.7245	0.01
02/28/2001 9:15	3.9463	0.009
02/28/2001 9:16	4.1812	0.009
02/28/2001 9:16	4.4295	0.008
02/28/2001 9:16	4.6928	0.007
02/28/2001 9:16	4.9728	0.006
02/28/2001 9:17	5.2697	0.006
02/28/2001 9:17	5.583	0.005
02/28/2001 9:17	5.9145	0.005
02/28/2001 9:18	6.2663	0.004
02/28/2001 9:18	6.6395	0.004
02/28/2001 9:18	7.0345	0.004
02/28/2001 9:19	7.453	0.003
02/28/2001 9:19	7.8962	0.001


MW-2S-F
Displacement (ft)
1
0.1
0.01
0
2
4
6
8
10
12
14
Time (mins)
MW-2S-F

Slug test

Test Information: **MW-2S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(y0/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B ln[H-Lw]/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAMPLE 93

Channel number [2]

Measurement type:	Pressure		
Channel name:	OnBoard Pressure		
Sensor Range:	30 PSI.		
Density:		1.000 g/cm3	
Latitude:	45 degrees		
Elevation:	0.000 meters (0.000 feet)		
Mode:	Surface		
User-defined referenc	0	Meters H2O	
Referenced on:	test start		
Pressure head at refer	2.093	Meters H2O	

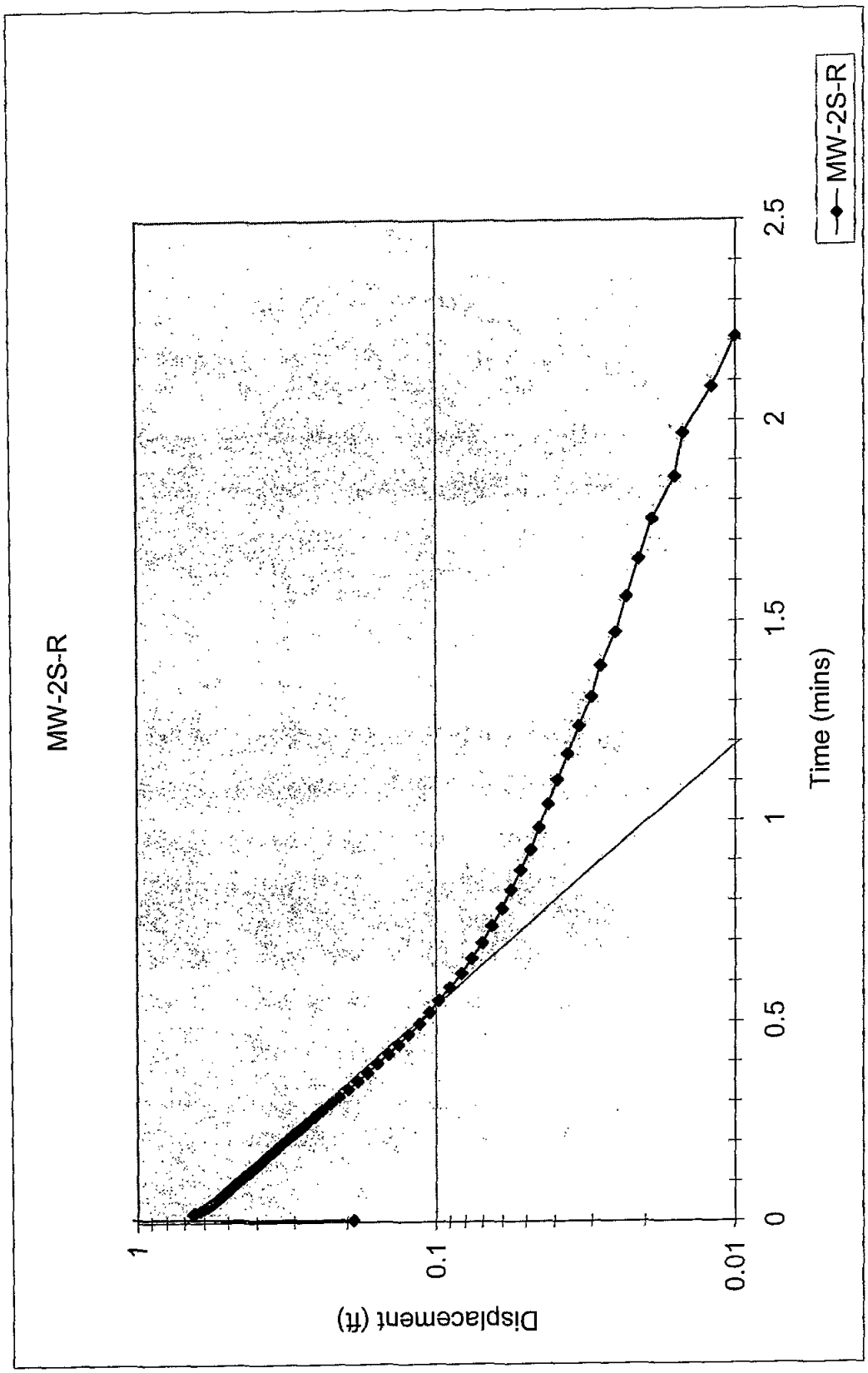
Depth to water table (ft)	4.74
Total well depth (ft.)	13
Top of screen (ft.)	5
Bottom of screen (ft.)	13

Note: Rising head test in a well with a partly saturated screen

	ET (min)	Feet H2O	transposed Ft.
02/28/2001 9:20	0	0	0
02/28/2001 9:20	0.0048	-0.19	0.19
02/28/2001 9:20	0.0098	-3.402	3.402
02/28/2001 9:20	0.015	0.415	-0.415
02/28/2001 9:20	0.0198	-0.653	0.653
02/28/2001 9:20	0.025	-0.648	0.648
02/28/2001 9:20	0.03	-0.618	0.618
02/28/2001 9:20	0.035	-0.601	0.601
02/28/2001 9:20	0.0398	-0.586	0.586
02/28/2001 9:20	0.045	-0.573	0.573
02/28/2001 9:20	0.05	-0.561	0.561
02/28/2001 9:20	0.0548	-0.549	0.549
02/28/2001 9:20	0.06	-0.539	0.539
02/28/2001 9:20	0.0648	-0.529	0.529
02/28/2001 9:20	0.07	-0.519	0.519
02/28/2001 9:20	0.075	-0.51	0.51
02/28/2001 9:20	0.0798	-0.5	0.5
02/28/2001 9:20	0.0848	-0.491	0.491
02/28/2001 9:20	0.09	-0.483	0.483
02/28/2001 9:20	0.095	-0.475	0.475
02/28/2001 9:20	0.1	-0.466	0.466
02/28/2001 9:20	0.1057	-0.457	0.457
02/28/2001 9:20	0.1118	-0.447	0.447
02/28/2001 9:20	0.1185	-0.437	0.437
02/28/2001 9:20	0.1255	-0.426	0.426
02/28/2001 9:20	0.1327	-0.416	0.416
02/28/2001 9:20	0.1405	-0.404	0.404
02/28/2001 9:20	0.1488	-0.392	0.392
02/28/2001 9:20	0.1578	-0.38	0.38
02/28/2001 9:20	0.167	-0.368	0.368
02/28/2001 9:20	0.1768	-0.355	0.355
02/28/2001 9:20	0.1875	-0.342	0.342
02/28/2001 9:20	0.1985	-0.329	0.329
02/28/2001 9:20	0.21	-0.315	0.315
02/28/2001 9:20	0.2225	-0.301	0.301
02/28/2001 9:20	0.2358	-0.286	0.286
02/28/2001 9:20	0.2498	-0.272	0.272

rc =	0.083		radius of the well
rw =	0.25		radius of the borehole
Le =	8		screen length
Lw =	8.26		
H =	4.5		
y0 =	0.7		static water level
t =	1.2		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	3.540413		
		A =	
		B =	
Le/rw =	32	C =	2
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.652585491		
K (ft/min) =	4.04E-03	K (ft/sec) =	6.7392E-05
K (feet/hour) =	2.43E-01		
K (cm/sec) =	2.05E-03		

02/28/2001 9:20	0.2647	-0.257	0.257
02/28/2001 9:21	0.2803	-0.242	0.242
02/28/2001 9:21	0.297	-0.227	0.227
02/28/2001 9:21	0.3145	-0.213	0.213
02/28/2001 9:21	0.3333	-0.198	0.198
02/28/2001 9:21	0.3532	-0.184	0.184
02/28/2001 9:21	0.374	-0.17	0.17
02/28/2001 9:21	0.3963	-0.158	0.158
02/28/2001 9:21	0.4198	-0.145	0.145
02/28/2001 9:21	0.4445	-0.134	0.134
02/28/2001 9:21	0.4695	-0.124	0.124
02/28/2001 9:21	0.4963	-0.114	0.114
02/28/2001 9:21	0.5247	-0.105	0.105
02/28/2001 9:21	0.5547	-0.098	0.098
02/28/2001 9:21	0.5862	-0.09	0.09
02/28/2001 9:21	0.6213	-0.082	0.082
02/28/2001 9:21	0.6578	-0.076	0.076
02/28/2001 9:21	0.6963	-0.07	0.07
02/28/2001 9:21	0.738	-0.065	0.065
02/28/2001 9:21	0.7813	-0.06	0.06
02/28/2001 9:21	0.8278	-0.056	0.056
02/28/2001 9:21	0.8762	-0.052	0.052
02/28/2001 9:21	0.9278	-0.048	0.048
02/28/2001 9:21	0.9828	-0.045	0.045
02/28/2001 9:21	1.0412	-0.042	0.042
02/28/2001 9:21	1.103	-0.039	0.039
02/28/2001 9:21	1.1678	-0.036	0.036
02/28/2001 9:21	1.238	-0.033	0.033
02/28/2001 9:22	1.3113	-0.03	0.03
02/28/2001 9:22	1.3895	-0.028	0.028
02/28/2001 9:22	1.4728	-0.025	0.025
02/28/2001 9:22	1.5613	-0.023	0.023
02/28/2001 9:22	1.6547	-0.021	0.021
02/28/2001 9:22	1.753	-0.019	0.019
02/28/2001 9:22	1.858	-0.016	0.016
02/28/2001 9:22	1.9678	-0.015	0.015
02/28/2001 9:22	2.0845	-0.012	0.012
02/28/2001 9:22	2.2097	-0.01	0.01
02/28/2001 9:23	2.3412	-0.009	0.009
02/28/2001 9:23	2.4812	-0.006	0.006
02/28/2001 9:23	2.6297	-0.005	0.005
02/28/2001 9:23	2.7863	-0.004	0.004
02/28/2001 9:23	2.953	-0.002	0.002
02/28/2001 9:23	3.1297	-0.001	0.001
02/28/2001 9:24	3.3162	0.001	-0.001
02/28/2001 9:24	3.5145	0.003	-0.003
02/28/2001 9:24	3.7245	0.004	-0.004
02/28/2001 9:24	3.9463	0.006	-0.006
02/28/2001 9:24	4.1812	0.007	-0.007
02/28/2001 9:25	4.4295	0.008	-0.008
02/28/2001 9:25	4.6928	0.01	-0.01
02/28/2001 9:25	4.9728	0.01	-0.01
02/28/2001 9:25	5.2697	0.011	-0.011
02/28/2001 9:26	5.583	0.011	-0.011
02/28/2001 9:26	5.9145	0.012	-0.012
02/28/2001 9:26	6.2663	0.012	-0.012


MW-2S-R
Displacement (ft)
1
0.1
0.01
0
0.5
1
1.5
2
2.5
Time (mins)
MW-2S-R

Slug test

Test Information: **MW-3S-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(y0/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+Bln[H-Lw)/rw]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 101

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 3.096 Meters H2O

Depth to water table (ft)	5.82
Total well depth (ft.)	17.05
Top of screen (ft.)	7
Bottom of screen (ft.)	17

	ET (min)	Feet H2O
03/16/2001 9:20	0	0
03/16/2001 9:20	0.0048	0.002
03/16/2001 9:20	0.0098	0.009
03/16/2001 9:20	0.015	0.89
03/16/2001 9:20	0.0198	1.006
03/16/2001 9:20	0.025	1.084
03/16/2001 9:20	0.03	0.86
03/16/2001 9:20	0.035	1.029
03/16/2001 9:20	0.0398	1.021
03/16/2001 9:20	0.045	0.857
03/16/2001 9:20	0.05	1.161
03/16/2001 9:20	0.0548	0.925
03/16/2001 9:20	0.06	1.058
03/16/2001 9:20	0.0648	0.407
03/16/2001 9:20	0.07	0.329
03/16/2001 9:20	0.075	-0.104
03/16/2001 9:20	0.0798	0.91
03/16/2001 9:20	0.0848	0.788
03/16/2001 9:20	0.09	0.506
03/16/2001 9:20	0.095	0.569
03/16/2001 9:20	0.1	0.62
03/16/2001 9:20	0.1057	0.555
03/16/2001 9:20	0.1118	0.599
03/16/2001 9:20	0.1185	0.564
03/16/2001 9:20	0.1255	0.559
03/16/2001 9:20	0.1327	0.551
03/16/2001 9:20	0.1405	0.54
03/16/2001 9:20	0.1488	0.533
03/16/2001 9:21	0.1578	0.523
03/16/2001 9:21	0.167	0.512
03/16/2001 9:21	0.1768	0.502
03/16/2001 9:21	0.1875	0.492
03/16/2001 9:21	0.1985	0.481
03/16/2001 9:21	0.21	0.464
03/16/2001 9:21	0.2225	0.452

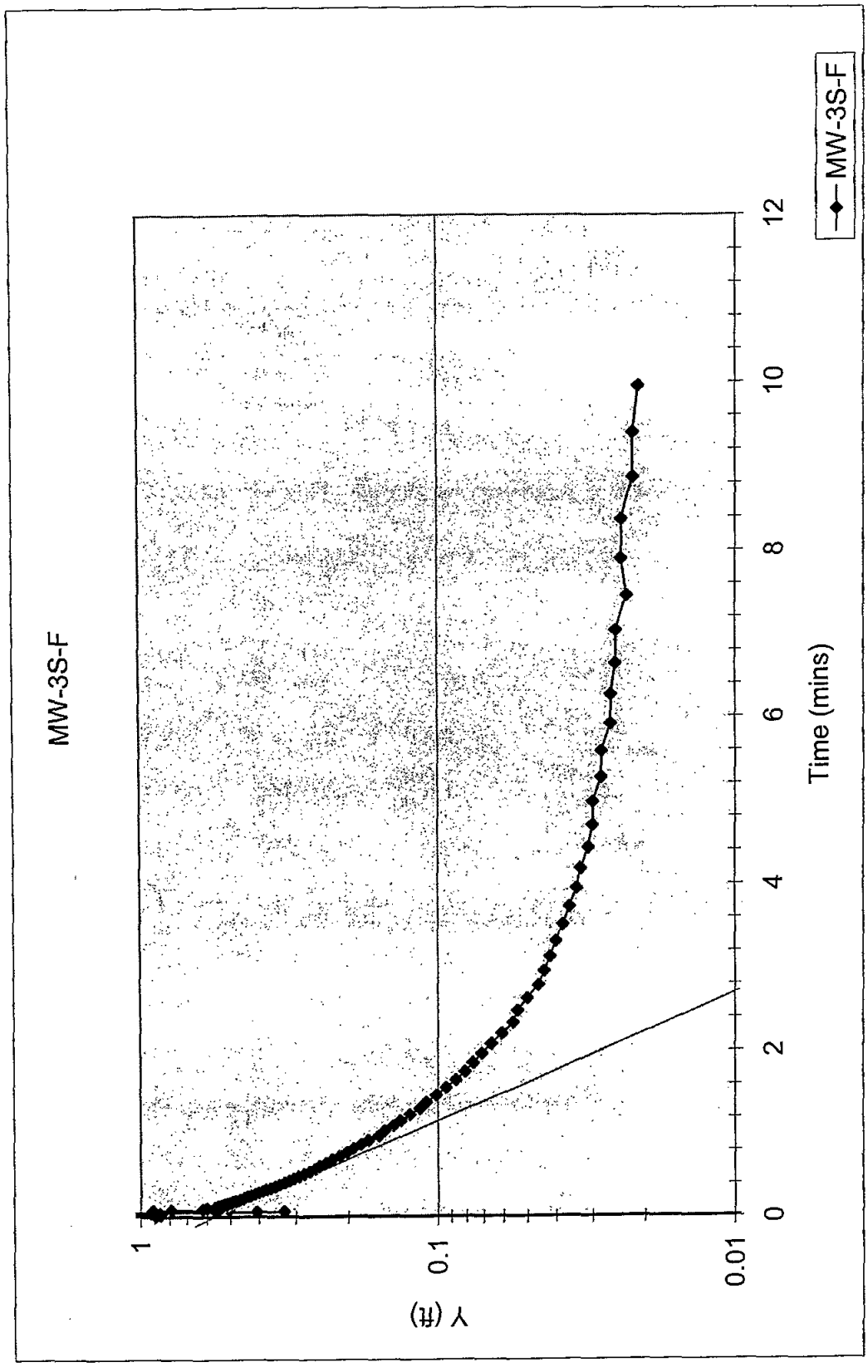
rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	11.18		
H =	11.18		
y0 =	0.6		static water level
t =	2.4		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	1.705977		
		A =	
		B =	
Le/rw =	40	C =	2.5

ln(Rw/rw) = #DIV/0!

ln(Rw/rw) = 2.84138

K (ft/min) = 1.68E-03 K (ft/sec) = 2.81E-05
K (feet/hou 1.01E-01
K (cm/sec) 8.55E-04

03/16/2001 9:21	0.2358	0.448
03/16/2001 9:21	0.2498	0.437
03/16/2001 9:21	0.2647	0.425
03/16/2001 9:21	0.2803	0.413
03/16/2001 9:21	0.297	0.402
03/16/2001 9:21	0.3145	0.389
03/16/2001 9:21	0.3333	0.378
03/16/2001 9:21	0.3532	0.365
03/16/2001 9:21	0.374	0.353
03/16/2001 9:21	0.3963	0.341
03/16/2001 9:21	0.4198	0.328
03/16/2001 9:21	0.4445	0.316
03/16/2001 9:21	0.4695	0.305
03/16/2001 9:21	0.4963	0.293
03/16/2001 9:21	0.5247	0.281
03/16/2001 9:21	0.5547	0.269
03/16/2001 9:21	0.5862	0.258
03/16/2001 9:21	0.6213	0.249
03/16/2001 9:21	0.6578	0.237
03/16/2001 9:21	0.6963	0.226
03/16/2001 9:21	0.738	0.213
03/16/2001 9:21	0.7813	0.202
03/16/2001 9:21	0.8278	0.192
03/16/2001 9:21	0.8762	0.181
03/16/2001 9:21	0.9278	0.171
03/16/2001 9:21	0.9828	0.158
03/16/2001 9:21	1.0412	0.151
03/16/2001 9:21	1.103	0.141
03/16/2001 9:22	1.1678	0.133
03/16/2001 9:22	1.238	0.124
03/16/2001 9:22	1.3113	0.115
03/16/2001 9:22	1.3895	0.109
03/16/2001 9:22	1.4728	0.101
03/16/2001 9:22	1.5613	0.094
03/16/2001 9:22	1.6547	0.087
03/16/2001 9:22	1.753	0.081
03/16/2001 9:22	1.858	0.076
03/16/2001 9:22	1.9678	0.071
03/16/2001 9:22	2.0845	0.066
03/16/2001 9:23	2.2097	0.061
03/16/2001 9:23	2.3412	0.056
03/16/2001 9:23	2.4812	0.054
03/16/2001 9:23	2.6297	0.05
03/16/2001 9:23	2.7863	0.046
03/16/2001 9:23	2.953	0.044
03/16/2001 9:23	3.1297	0.042
03/16/2001 9:24	3.3162	0.04
03/16/2001 9:24	3.5145	0.038
03/16/2001 9:24	3.7245	0.036
03/16/2001 9:24	3.9463	0.034
03/16/2001 9:25	4.1812	0.033
03/16/2001 9:25	4.4295	0.031
03/16/2001 9:25	4.6928	0.03
03/16/2001 9:25	4.9728	0.03
03/16/2001 9:26	5.2697	0.028
03/16/2001 9:26	5.583	0.028
03/16/2001 9:26	5.9145	0.026
03/16/2001 9:27	6.2663	0.026
03/16/2001 9:27	6.6395	0.025
03/16/2001 9:27	7.0345	0.025
03/16/2001 9:28	7.453	0.023
03/16/2001 9:28	7.8962	0.024
03/16/2001 9:29	8.3663	0.024
03/16/2001 9:29	8.8645	0.022
03/16/2001 9:30	9.3913	0.022
03/16/2001 9:30	9.9497	0.021


MW-3S-F
Y (ft)
1
0.1
0.01
0
2
4
6
8
10
12
Time (mins)
MW-3S-F

Slug test

Test Information: **MW-3S-Rising Head Test**

Hydraulic Condutivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1/1)/((ln(Lw/rw)) + (A+B*ln[H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1/1)/(ln(Lw/rw) + C/(Le/rw))]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 103

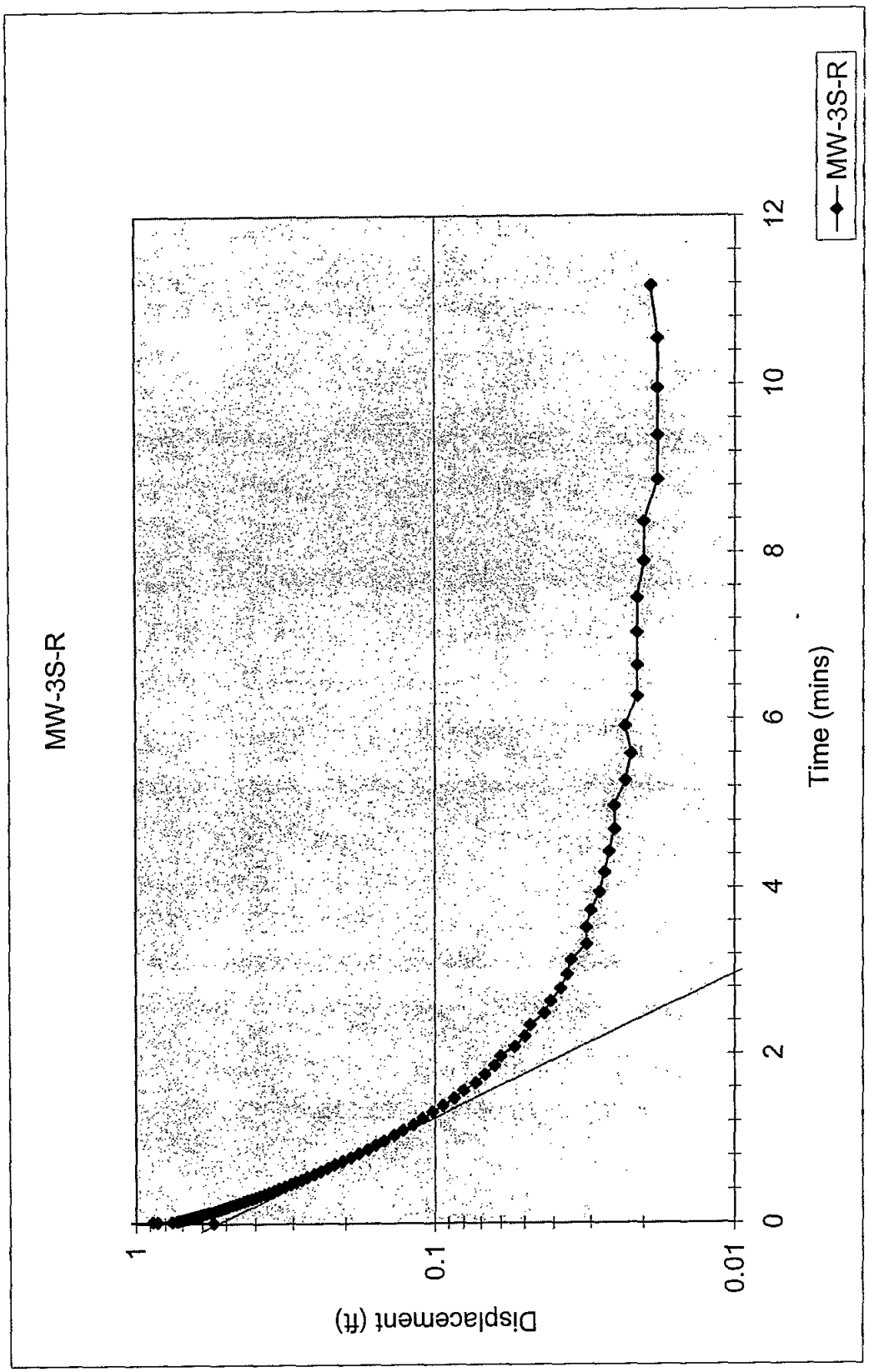
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 3.115 Meters H2O

Depth to water table (ft)	5.82
Total well depth (ft.)	17.05
Top of screen (ft.)	7
Bottom of screen (ft.)	17

	ET (min)	Feet H2O	Transposed Feet H2O
03/16/2001 9:32	0	0	0
03/16/2001 9:32	0.0048	0.006	-0.006
03/16/2001 9:32	0.0098	-0.552	0.552
03/16/2001 9:32	0.015	-1.114	1.114
03/16/2001 9:32	0.0198	-0.848	0.848
03/16/2001 9:32	0.025	-0.879	0.879
03/16/2001 9:32	0.03	-0.757	0.757
03/16/2001 9:32	0.035	-0.73	0.73
03/16/2001 9:32	0.0398	-0.723	0.723
03/16/2001 9:32	0.045	-0.71	0.71
03/16/2001 9:32	0.05	-0.699	0.699
03/16/2001 9:32	0.0548	-0.689	0.689
03/16/2001 9:32	0.06	-0.678	0.678
03/16/2001 9:32	0.0648	-0.67	0.67
03/16/2001 9:32	0.07	-0.661	0.661
03/16/2001 9:32	0.075	-0.653	0.653
03/16/2001 9:32	0.0798	-0.645	0.645
03/16/2001 9:32	0.0848	-0.638	0.638
03/16/2001 9:32	0.09	-0.629	0.629
03/16/2001 9:32	0.095	-0.621	0.621
03/16/2001 9:32	0.1	-0.615	0.615
03/16/2001 9:32	0.1057	-0.606	0.606
03/16/2001 9:32	0.1118	-0.598	0.598
03/16/2001 9:32	0.1185	-0.589	0.589
03/16/2001 9:32	0.1255	-0.58	0.58
03/16/2001 9:32	0.1327	-0.571	0.571
03/16/2001 9:32	0.1405	-0.561	0.561
03/16/2001 9:32	0.1488	-0.551	0.551
03/16/2001 9:32	0.1578	-0.541	0.541
03/16/2001 9:32	0.167	-0.531	0.531
03/16/2001 9:32	0.1768	-0.521	0.521
03/16/2001 9:32	0.1875	-0.51	0.51
03/16/2001 9:32	0.1985	-0.499	0.499
03/16/2001 9:32	0.21	-0.488	0.488
03/16/2001 9:32	0.2225	-0.476	0.476

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	11.18		
H =	11.18		
y0 =	0.6		static water level
t =	3		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	1.364782		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#DIV/0!		
ln(Rw/rw) =	2.84138		
K (ft/min) =	1.35E-03	K (ft/sec) =	2.24E-05
K (feet/hou	8.08E-02		
K (cm/sec)	6.84E-04		

03/16/2001 9:32	0.2358	-0.463	0.463
03/16/2001 9:32	0.2498	-0.451	0.451
03/16/2001 9:32	0.2647	-0.438	0.438
03/16/2001 9:32	0.2803	-0.426	0.426
03/16/2001 9:32	0.297	-0.412	0.412
03/16/2001 9:33	0.3145	-0.399	0.399
03/16/2001 9:33	0.3333	-0.386	0.386
03/16/2001 9:33	0.3532	-0.373	0.373
03/16/2001 9:33	0.374	-0.36	0.36
03/16/2001 9:33	0.3963	-0.346	0.346
03/16/2001 9:33	0.4198	-0.334	0.334
03/16/2001 9:33	0.4445	-0.319	0.319
03/16/2001 9:33	0.4695	-0.305	0.305
03/16/2001 9:33	0.4963	-0.293	0.293
03/16/2001 9:33	0.5247	-0.28	0.28
03/16/2001 9:33	0.5547	-0.269	0.269
03/16/2001 9:33	0.5862	-0.254	0.254
03/16/2001 9:33	0.6213	-0.242	0.242
03/16/2001 9:33	0.6578	-0.229	0.229
03/16/2001 9:33	0.6963	-0.217	0.217
03/16/2001 9:33	0.738	-0.205	0.205
03/16/2001 9:33	0.7813	-0.192	0.192
03/16/2001 9:33	0.8278	-0.18	0.18
03/16/2001 9:33	0.8762	-0.168	0.168
03/16/2001 9:33	0.9278	-0.158	0.158
03/16/2001 9:33	0.9828	-0.148	0.148
03/16/2001 9:33	1.0412	-0.137	0.137
03/16/2001 9:33	1.103	-0.128	0.128
03/16/2001 9:33	1.1678	-0.118	0.118
03/16/2001 9:33	1.238	-0.11	0.11
03/16/2001 9:34	1.3113	-0.102	0.102
03/16/2001 9:34	1.3895	-0.094	0.094
03/16/2001 9:34	1.4728	-0.086	0.086
03/16/2001 9:34	1.5613	-0.08	0.08
03/16/2001 9:34	1.6547	-0.073	0.073
03/16/2001 9:34	1.753	-0.068	0.068
03/16/2001 9:34	1.858	-0.063	0.063
03/16/2001 9:34	1.9678	-0.06	0.06
03/16/2001 9:34	2.0845	-0.054	0.054
03/16/2001 9:34	2.2097	-0.05	0.05
03/16/2001 9:35	2.3412	-0.048	0.048
03/16/2001 9:35	2.4812	-0.043	0.043
03/16/2001 9:35	2.6297	-0.041	0.041
03/16/2001 9:35	2.7863	-0.038	0.038
03/16/2001 9:35	2.953	-0.036	0.036
03/16/2001 9:35	3.1297	-0.035	0.035
03/16/2001 9:36	3.3162	-0.031	0.031
03/16/2001 9:36	3.5145	-0.031	0.031
03/16/2001 9:36	3.7245	-0.03	0.03
03/16/2001 9:36	3.9463	-0.028	0.028
03/16/2001 9:36	4.1812	-0.027	0.027
03/16/2001 9:37	4.4295	-0.026	0.026
03/16/2001 9:37	4.6928	-0.025	0.025
03/16/2001 9:37	4.9728	-0.025	0.025
03/16/2001 9:37	5.2697	-0.023	0.023
03/16/2001 9:38	5.583	-0.022	0.022
03/16/2001 9:38	5.9145	-0.023	0.023
03/16/2001 9:38	6.2663	-0.021	0.021
03/16/2001 9:39	6.6395	-0.021	0.021
03/16/2001 9:39	7.0345	-0.021	0.021
03/16/2001 9:40	7.453	-0.021	0.021
03/16/2001 9:40	7.8962	-0.02	0.02
03/16/2001 9:41	8.3663	-0.02	0.02
03/16/2001 9:41	8.8645	-0.018	0.018
03/16/2001 9:42	9.3913	-0.018	0.018
03/16/2001 9:42	9.9497	-0.018	0.018
03/16/2001 9:43	10.5413	-0.018	0.018
03/16/2001 9:43	11.168	-0.019	0.019


MW-3S-R
Displacement (ft)
1
0.1
0.01
0
2
4
6
8
10
12
Time (mins)
MW-3S-R

Slug test

Test Information: **MW-4S-A-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1/1)/(ln(Lw/rw)) + (A+Bln[H-Lw)/rw)/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1/1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 102

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 1.188 Meters H2O

Depth to water table (ft)	3.93
Total well depth (ft.)	9
Top of screen (ft.)	5
Bottom of screen (ft.)	9

	ET (min)	Feet H2O
02/28/2001 13:32	0	0
02/28/2001 13:32	0.0048	0.001
02/28/2001 13:32	0.0098	0.634
02/28/2001 13:32	0.015	-0.352
02/28/2001 13:32	0.0198	0.339
02/28/2001 13:32	0.025	0.276
02/28/2001 13:32	0.03	0.194
02/28/2001 13:32	0.035	0.203
02/28/2001 13:32	0.0398	0.238
02/28/2001 13:32	0.045	0.235
02/28/2001 13:32	0.05	0.24
02/28/2001 13:32	0.0548	0.235
02/28/2001 13:32	0.06	0.236
02/28/2001 13:32	0.0648	0.235
02/28/2001 13:32	0.07	0.236
02/28/2001 13:32	0.075	0.235
02/28/2001 13:32	0.0798	0.235
02/28/2001 13:32	0.0848	0.234
02/28/2001 13:32	0.09	0.233
02/28/2001 13:32	0.095	0.233
02/28/2001 13:32	0.1	0.232
02/28/2001 13:32	0.1057	0.231
02/28/2001 13:32	0.1118	0.23
02/28/2001 13:32	0.1185	0.229
02/28/2001 13:32	0.1255	0.228
02/28/2001 13:32	0.1327	0.227
02/28/2001 13:32	0.1405	0.226
02/28/2001 13:32	0.1488	0.224
02/28/2001 13:32	0.1578	0.223
02/28/2001 13:32	0.167	0.223
02/28/2001 13:32	0.1768	0.221
02/28/2001 13:33	0.1875	0.219
02/28/2001 13:33	0.1985	0.218
02/28/2001 13:33	0.21	0.217
02/28/2001 13:33	0.2225	0.216

rc =	0.083	radius of the well
rw =	0.25	radius of the borehole
Le =	4	screen length
Lw =	5.07	
H =	5.07	
y0 =	0.15	static water level
t =	11.6	time (mins)
yt =	0.01	water level at 't'
(1/t)*ln(y0/yt) =	0.233453	

A =
B =
C = 1.5

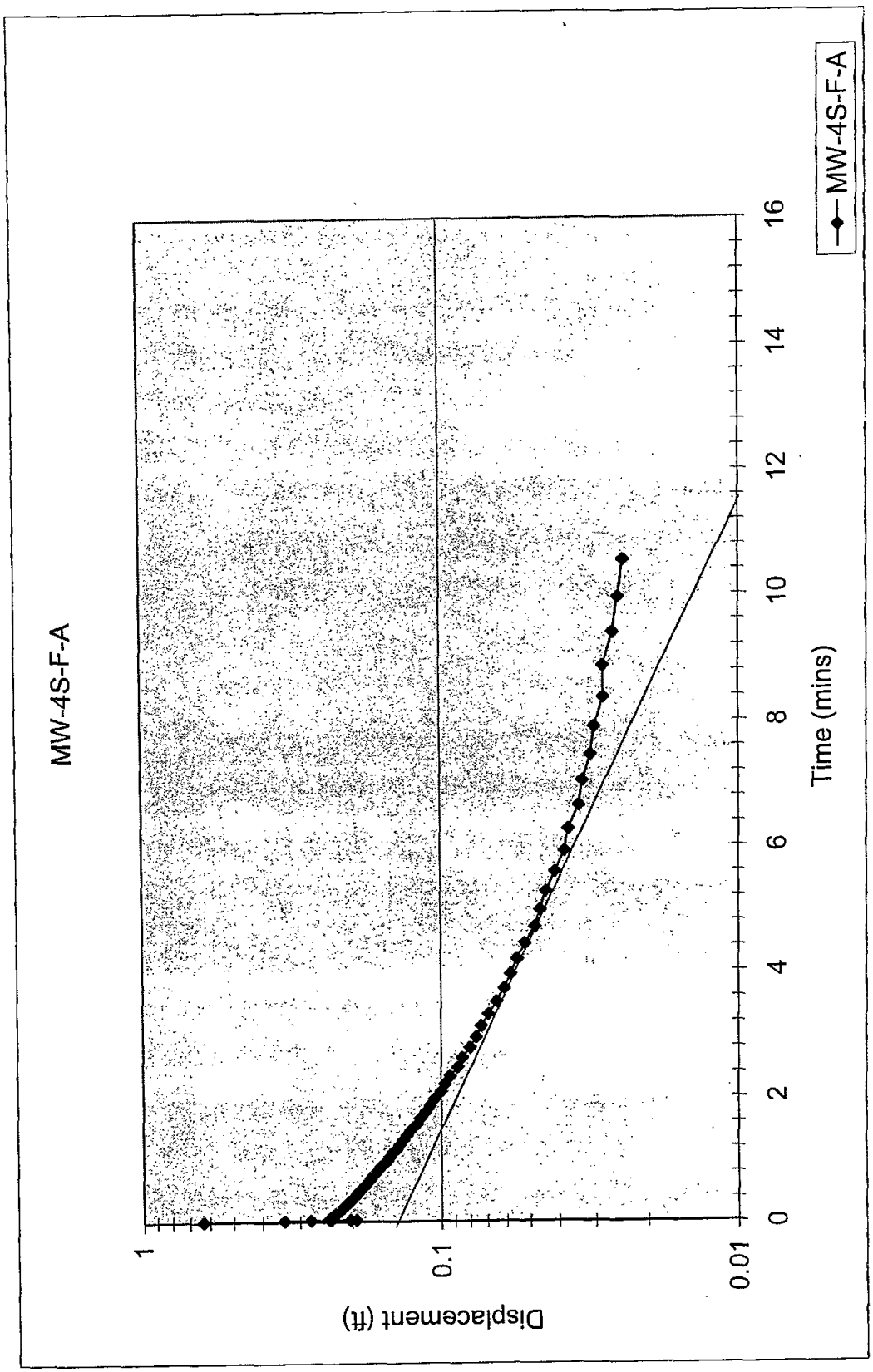
Le/rw = 16

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.177497

K (ft/min) = 4.38E-04 K (ft/sec) = 7.30E-06
K (feet/hou 2.63E-02
K (cm/sec) 2.22E-04

02/28/2001 13:33	0.2358	0.214
02/28/2001 13:33	0.2498	0.213
02/28/2001 13:33	0.2647	0.211
02/28/2001 13:33	0.2803	0.209
02/28/2001 13:33	0.297	0.207
02/28/2001 13:33	0.3145	0.205
02/28/2001 13:33	0.3333	0.204
02/28/2001 13:33	0.3532	0.201
02/28/2001 13:33	0.374	0.199
02/28/2001 13:33	0.3963	0.197
02/28/2001 13:33	0.4198	0.195
02/28/2001 13:33	0.4445	0.192
02/28/2001 13:33	0.4695	0.191
02/28/2001 13:33	0.4963	0.188
02/28/2001 13:33	0.5247	0.186
02/28/2001 13:33	0.5547	0.183
02/28/2001 13:33	0.5862	0.18
02/28/2001 13:33	0.6213	0.178
02/28/2001 13:33	0.6578	0.175
02/28/2001 13:33	0.6963	0.173
02/28/2001 13:33	0.738	0.17
02/28/2001 13:33	0.7813	0.166
02/28/2001 13:33	0.8278	0.163
02/28/2001 13:33	0.8762	0.16
02/28/2001 13:33	0.9278	0.156
02/28/2001 13:33	0.9828	0.152
02/28/2001 13:33	1.0412	0.149
02/28/2001 13:33	1.103	0.146
02/28/2001 13:33	1.1678	0.141
02/28/2001 13:34	1.238	0.138
02/28/2001 13:34	1.3113	0.134
02/28/2001 13:34	1.3895	0.13
02/28/2001 13:34	1.4728	0.126
02/28/2001 13:34	1.5613	0.121
02/28/2001 13:34	1.6547	0.118
02/28/2001 13:34	1.753	0.113
02/28/2001 13:34	1.858	0.109
02/28/2001 13:34	1.9678	0.105
02/28/2001 13:34	2.0845	0.1
02/28/2001 13:35	2.2097	0.097
02/28/2001 13:35	2.3412	0.093
02/28/2001 13:35	2.4812	0.088
02/28/2001 13:35	2.6297	0.085
02/28/2001 13:35	2.7863	0.08
02/28/2001 13:35	2.953	0.076
02/28/2001 13:35	3.1297	0.073
02/28/2001 13:36	3.3162	0.069
02/28/2001 13:36	3.5145	0.065
02/28/2001 13:36	3.7245	0.061
02/28/2001 13:36	3.9463	0.058
02/28/2001 13:36	4.1812	0.055
02/28/2001 13:37	4.4295	0.052
02/28/2001 13:37	4.6928	0.048
02/28/2001 13:37	4.9728	0.046
02/28/2001 13:38	5.2697	0.044
02/28/2001 13:38	5.583	0.041
02/28/2001 13:38	5.9145	0.038
02/28/2001 13:39	6.2663	0.037
02/28/2001 13:39	6.6395	0.034
02/28/2001 13:39	7.0345	0.033
02/28/2001 13:40	7.453	0.031
02/28/2001 13:40	7.8962	0.03
02/28/2001 13:41	8.3663	0.028
02/28/2001 13:41	8.8645	0.028
02/28/2001 13:42	9.3913	0.026
02/28/2001 13:42	9.9497	0.025
02/28/2001 13:43	10.5413	0.024


MW-4S-F-A
Displacement (ft)
1
0.1
0.01
0
2
4
6
8
10
12
14
16
Time (mins)
MW-4S-F-A

Slug test

Test Information: **MW-4S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+Bln[H-Lw)/(rw)]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 105

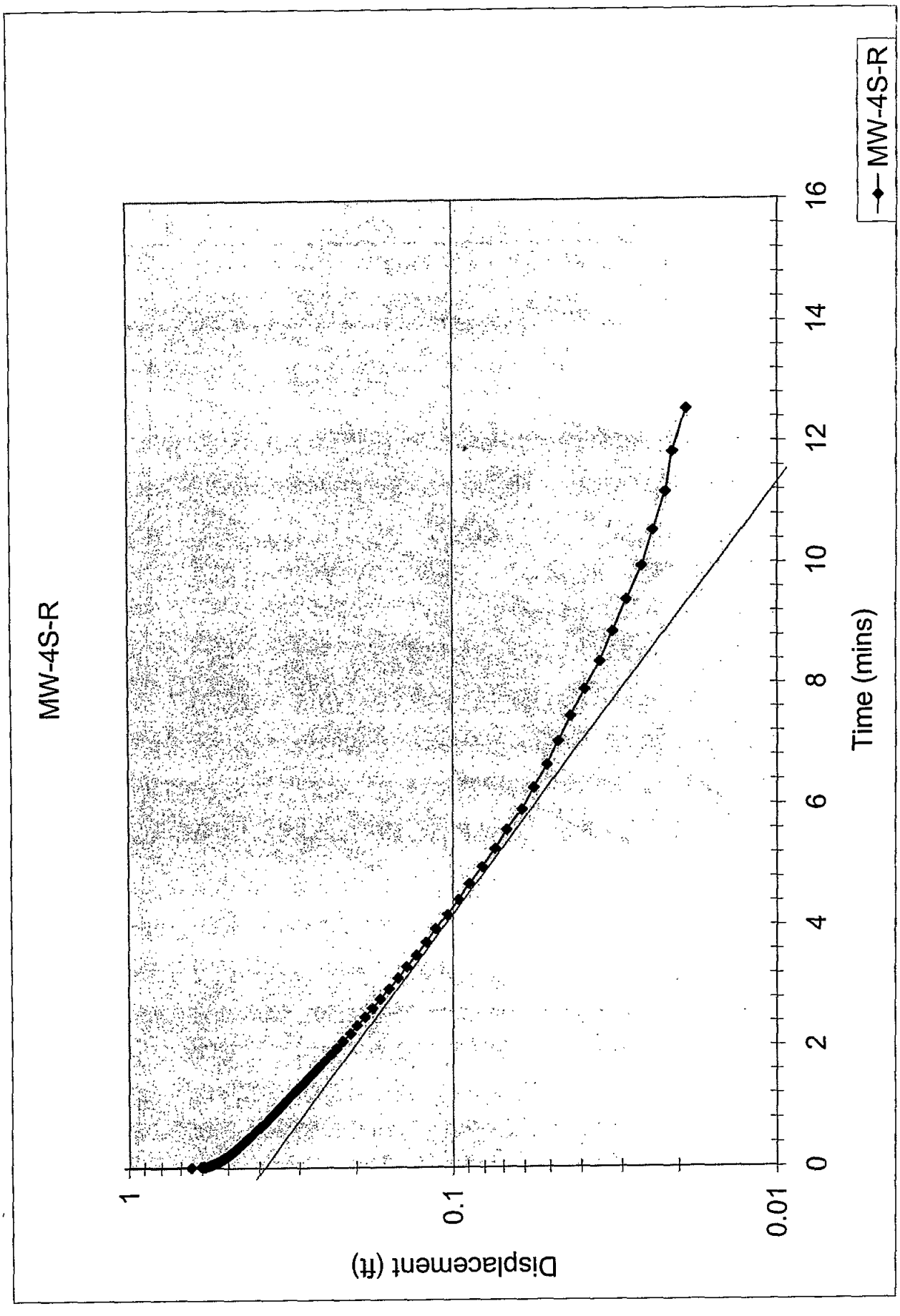
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 1.218 Meters H2O

Depth to water table (ft)	3.93
Total well depth (ft.)	9
Top of screen (ft.)	5
Bottom of screen (ft.)	9

	ET (min)	Feet H2O	Transposed Ft.
02/28/2001 12:51	0	0	0
02/28/2001 12:51	0.0048	-1.924	1.924
02/28/2001 12:51	0.0098	-0.648	0.648
02/28/2001 12:51	0.015	-0.594	0.594
02/28/2001 12:51	0.0198	-0.587	0.587
02/28/2001 12:51	0.025	-0.604	0.604
02/28/2001 12:51	0.03	-0.594	0.594
02/28/2001 12:51	0.035	-0.577	0.577
02/28/2001 12:51	0.0398	-0.574	0.574
02/28/2001 12:51	0.045	-0.569	0.569
02/28/2001 12:51	0.05	-0.565	0.565
02/28/2001 12:51	0.0548	-0.562	0.562
02/28/2001 12:51	0.06	-0.558	0.558
02/28/2001 12:51	0.0648	-0.555	0.555
02/28/2001 12:51	0.07	-0.552	0.552
02/28/2001 12:51	0.075	-0.549	0.549
02/28/2001 12:51	0.0798	-0.547	0.547
02/28/2001 12:51	0.0848	-0.544	0.544
02/28/2001 12:51	0.09	-0.541	0.541
02/28/2001 12:51	0.095	-0.539	0.539
02/28/2001 12:51	0.1	-0.536	0.536
02/28/2001 12:51	0.1057	-0.534	0.534
02/28/2001 12:51	0.1118	-0.531	0.531
02/28/2001 12:51	0.1185	-0.529	0.529
02/28/2001 12:51	0.1255	-0.526	0.526
02/28/2001 12:51	0.1327	-0.524	0.524
02/28/2001 12:51	0.1405	-0.521	0.521
02/28/2001 12:51	0.1488	-0.518	0.518
02/28/2001 12:51	0.1578	-0.514	0.514
02/28/2001 12:51	0.167	-0.512	0.512
02/28/2001 12:51	0.1768	-0.509	0.509
02/28/2001 12:51	0.1875	-0.505	0.505
02/28/2001 12:51	0.1985	-0.502	0.502
02/28/2001 12:51	0.21	-0.499	0.499
02/28/2001 12:51	0.2225	-0.495	0.495
02/28/2001 12:51	0.2358	-0.491	0.491
02/28/2001 12:52	0.2498	-0.487	0.487

rc =	0.083		radius of the well
rw =	0.25		radius of the borehole
Le =	4		screen length
Lw =	5.07		
H =	5.07		
y0 =	0.4		static water level
t =	11.5		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	0.320772		
		A =	
		B =	
Le/rw =	16	C =	1.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.177497		
K (ft/min) =	6.01E-04	K (ft/sec) =	1.00E-05
K (feet/hour) =	3.61E-02		
K (cm/sec) =	3.06E-04		

02/28/2001 12:52	0.2647	-0.483	0.483
02/28/2001 12:52	0.2803	-0.479	0.479
02/28/2001 12:52	0.297	-0.475	0.475
02/28/2001 12:52	0.3145	-0.471	0.471
02/28/2001 12:52	0.3333	-0.466	0.466
02/28/2001 12:52	0.3532	-0.462	0.462
02/28/2001 12:52	0.374	-0.457	0.457
02/28/2001 12:52	0.3963	-0.452	0.452
02/28/2001 12:52	0.4198	-0.447	0.447
02/28/2001 12:52	0.4445	-0.442	0.442
02/28/2001 12:52	0.4695	-0.436	0.436
02/28/2001 12:52	0.4963	-0.431	0.431
02/28/2001 12:52	0.5247	-0.425	0.425
02/28/2001 12:52	0.5547	-0.419	0.419
02/28/2001 12:52	0.5862	-0.413	0.413
02/28/2001 12:52	0.6213	-0.407	0.407
02/28/2001 12:52	0.6578	-0.4	0.4
02/28/2001 12:52	0.6963	-0.393	0.393
02/28/2001 12:52	0.738	-0.385	0.385
02/28/2001 12:52	0.7813	-0.378	0.378
02/28/2001 12:52	0.8278	-0.371	0.371
02/28/2001 12:52	0.8762	-0.363	0.363
02/28/2001 12:52	0.9278	-0.355	0.355
02/28/2001 12:52	0.9828	-0.346	0.346
02/28/2001 12:52	1.0412	-0.338	0.338
02/28/2001 12:52	1.103	-0.329	0.329
02/28/2001 12:52	1.1678	-0.32	0.32
02/28/2001 12:52	1.238	-0.311	0.311
02/28/2001 12:53	1.3113	-0.301	0.301
02/28/2001 12:53	1.3895	-0.291	0.291
02/28/2001 12:53	1.4728	-0.282	0.282
02/28/2001 12:53	1.5613	-0.271	0.271
02/28/2001 12:53	1.6547	-0.261	0.261
02/28/2001 12:53	1.753	-0.251	0.251
02/28/2001 12:53	1.858	-0.24	0.24
02/28/2001 12:53	1.9678	-0.23	0.23
02/28/2001 12:53	2.0845	-0.22	0.22
02/28/2001 12:53	2.2097	-0.208	0.208
02/28/2001 12:54	2.3412	-0.199	0.199
02/28/2001 12:54	2.4812	-0.188	0.188
02/28/2001 12:54	2.6297	-0.178	0.178
02/28/2001 12:54	2.7863	-0.168	0.168
02/28/2001 12:54	2.953	-0.158	0.158
02/28/2001 12:54	3.1297	-0.148	0.148
02/28/2001 12:55	3.3162	-0.139	0.139
02/28/2001 12:55	3.5145	-0.13	0.13
02/28/2001 12:55	3.7245	-0.121	0.121
02/28/2001 12:55	3.9463	-0.113	0.113
02/28/2001 12:55	4.1812	-0.104	0.104
02/28/2001 12:56	4.4295	-0.096	0.096
02/28/2001 12:56	4.6928	-0.089	0.089
02/28/2001 12:56	4.9728	-0.081	0.081
02/28/2001 12:57	5.2697	-0.074	0.074
02/28/2001 12:57	5.583	-0.068	0.068
02/28/2001 12:57	5.9145	-0.061	0.061
02/28/2001 12:58	6.2663	-0.056	0.056
02/28/2001 12:58	6.6395	-0.051	0.051
02/28/2001 12:58	7.0345	-0.047	0.047
02/28/2001 12:59	7.453	-0.043	0.043
02/28/2001 12:59	7.8962	-0.039	0.039
02/28/2001 13:00	8.3663	-0.035	0.035
02/28/2001 13:00	8.8645	-0.032	0.032
02/28/2001 13:01	9.3913	-0.029	0.029
02/28/2001 13:01	9.9497	-0.026	0.026
02/28/2001 13:02	10.5413	-0.024	0.024
02/28/2001 13:02	11.168	-0.022	0.022
02/28/2001 13:03	11.8312	-0.021	0.021
02/28/2001 13:04	12.5347	-0.019	0.019


MW-4S-R
Displacement (ft)
1
0.1
0.01
0
2
4
6
8
10
12
14
16
Time (mins)
MW-4S-R

Slug test

Test Information: **MW-5S-Rising Head Test**

Hydraulic Conductivity (K) = $r_c^2 \ln(Re/rw)/2Le * (1/t) * \ln(y_0/y_t)$

$\ln(Rw/rw) = [(1.1)/(\ln(Lw/rw))] + (A+B/\ln[H-Lw)/rw])(Le/rw))^{-1}$ (partially penetrating wells)

$\ln(Re/rw) = [(1.1)/\ln(Lw/rw) + C/(Le/rw)]^{-1}$

where A, B, and C are dimensionless numbers

TOTAL DATA SA: 119

Channel number [2]
Measurement typ: *Pressure*
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: *0.000 meters* (0.000 feet)
Mode: Surface
User-defined refe: 0 Meters H2O
Referenced on: test start
Pressure head at: 2.862 Meters H2O

Note:

Depths (Feet) Screen Top	Screen Base	Sump Base	Watertabl	Diameter(Feet) Well	Boring	Measured Water loss cft	gallons
5	15	21	9	0.16	0.5	36.76471	275

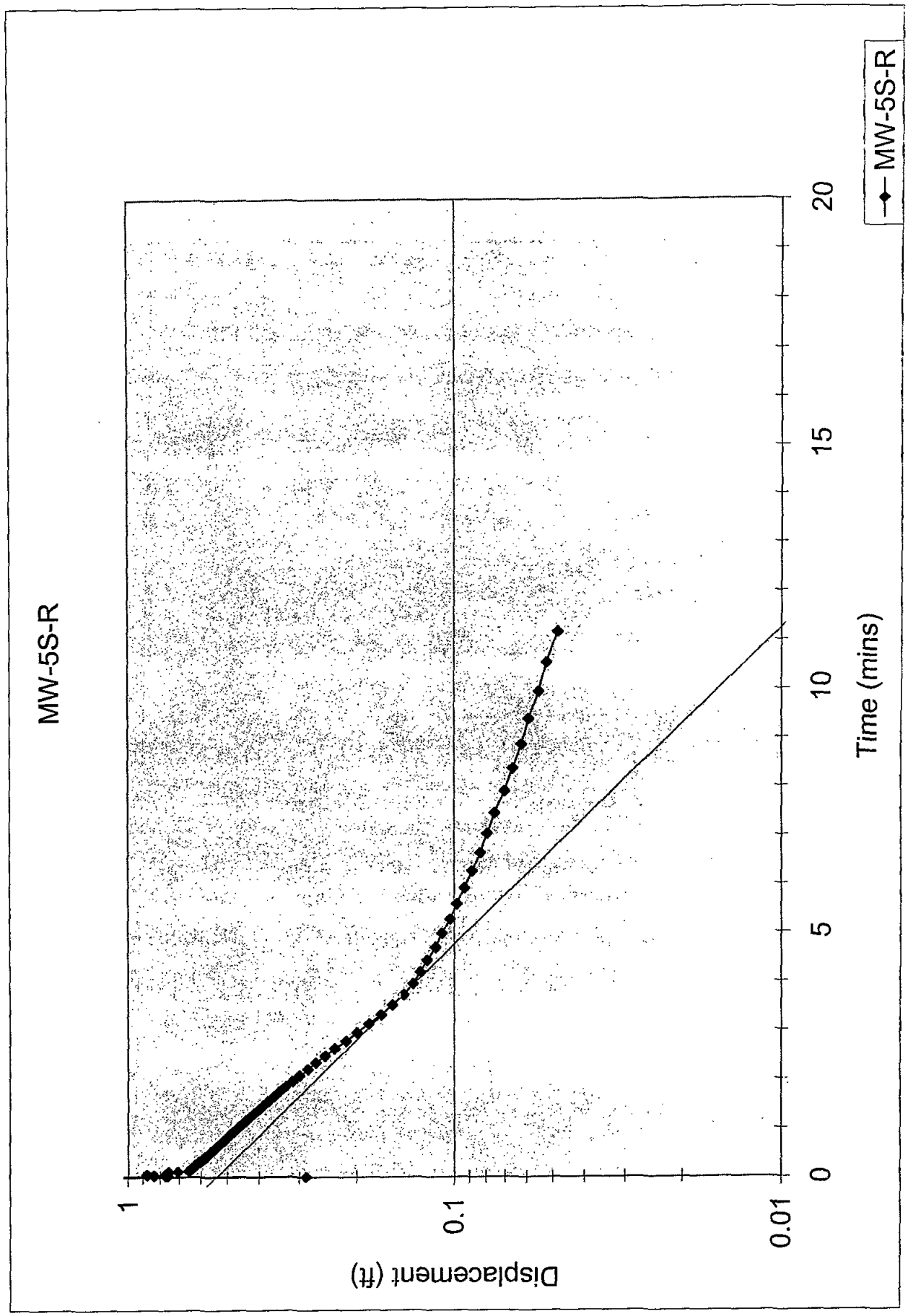
Volume in 2inch well (cft) Screen	Sump	Volume in 6-inch boring (cft) Screen	Sump
0.064894	0.129789	0.58875	1.1775

Depth to water table (ft)	9.15
Total well depth (ft.)	21
Top of screen (ft.)	5
Bottom of screen (ft.)	15

rc =	0.083333	radius of the well	
rw =	0.25	radius of the borehole	
Le =	10	screen length	
Lw =	5.85		
H =	5.85		
y0 =	0.6	static water level	
t =	11.5	time (mins)	
yt =	0.01	water level at 't'	
(1/t)*ln(y0/yt) =	0.35603		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.430705		
K (ft/min) =	3.00E-04	K (ft/sec) =	5.01E-06
K (feet/hour) =	1.80E-02		
K (cm/sec) =	1.53E-04		

	ET (min)	Feet H2O	Transposed Ft.
02/28/2001 11:46	0	0	0
02/28/2001 11:46	0.0048	-0.286	0.286
02/28/2001 11:46	0.0098	-5.781	5.781
02/28/2001 11:46	0.015	-5.09	5.09
02/28/2001 11:46	0.0198	-2.598	2.598
02/28/2001 11:47	0.025	-0.834	0.834
02/28/2001 11:47	0.03	-0.758	0.758
02/28/2001 11:47	0.035	-0.771	0.771
02/28/2001 11:47	0.0398	-0.838	0.838
02/28/2001 11:47	0.045	-0.872	0.872
02/28/2001 11:47	0.05	-0.878	0.878
02/28/2001 11:47	0.0548	-0.774	0.774
02/28/2001 11:47	0.06	-0.772	0.772
02/28/2001 11:47	0.0648	-0.77	0.77
02/28/2001 11:47	0.07	-0.768	0.768
02/28/2001 11:47	0.075	-0.766	0.766
02/28/2001 11:47	0.0798	-0.764	0.764
02/28/2001 11:47	0.0848	-0.762	0.762
02/28/2001 11:47	0.09	-0.761	0.761
02/28/2001 11:47	0.095	-0.76	0.76
02/28/2001 11:47	0.1	-0.759	0.759
02/28/2001 11:47	0.1057	-0.757	0.757
02/28/2001 11:47	0.1118	-0.755	0.755
02/28/2001 11:47	0.1185	-0.708	0.708
02/28/2001 11:47	0.1255	-0.653	0.653
02/28/2001 11:47	0.1327	-0.655	0.655
02/28/2001 11:47	0.1405	-0.651	0.651
02/28/2001 11:47	0.1488	-0.649	0.649
02/28/2001 11:47	0.1578	-0.646	0.646
02/28/2001 11:47	0.167	-0.644	0.644
02/28/2001 11:47	0.1768	-0.641	0.641
02/28/2001 11:47	0.1875	-0.639	0.639
02/28/2001 11:47	0.1985	-0.636	0.636
02/28/2001 11:47	0.21	-0.632	0.632
02/28/2001 11:47	0.2225	-0.629	0.629
02/28/2001 11:47	0.2358	-0.626	0.626
02/28/2001 11:47	0.2498	-0.625	0.625
02/28/2001 11:47	0.2647	-0.62	0.62
02/28/2001 11:47	0.2803	-0.615	0.615
02/28/2001 11:47	0.297	-0.611	0.611
02/28/2001 11:47	0.3145	-0.607	0.607
02/28/2001 11:47	0.3333	-0.601	0.601
02/28/2001 11:47	0.3532	-0.596	0.596
02/28/2001 11:47	0.374	-0.591	0.591
02/28/2001 11:47	0.3963	-0.586	0.586
02/28/2001 11:47	0.4198	-0.581	0.581
02/28/2001 11:47	0.4445	-0.575	0.575
02/28/2001 11:47	0.4695	-0.57	0.57
02/28/2001 11:47	0.4963	-0.564	0.564
02/28/2001 11:47	0.5247	-0.558	0.558
02/28/2001 11:47	0.5547	-0.551	0.551
02/28/2001 11:47	0.5862	-0.544	0.544

02/28/2001 11:47	0.6213	-0.538	0.538
02/28/2001 11:47	0.6578	-0.53	0.53
02/28/2001 11:47	0.6963	-0.523	0.523
02/28/2001 11:47	0.738	-0.514	0.514
02/28/2001 11:47	0.7813	-0.506	0.506
02/28/2001 11:47	0.8278	-0.497	0.497
02/28/2001 11:47	0.8762	-0.489	0.489
02/28/2001 11:47	0.9278	-0.478	0.478
02/28/2001 11:47	0.9828	-0.469	0.469
02/28/2001 11:48	1.0412	-0.459	0.459
02/28/2001 11:48	1.103	-0.448	0.448
02/28/2001 11:48	1.1678	-0.437	0.437
02/28/2001 11:48	1.238	-0.426	0.426
02/28/2001 11:48	1.3113	-0.414	0.414
02/28/2001 11:48	1.3895	-0.401	0.401
02/28/2001 11:48	1.4728	-0.388	0.388
02/28/2001 11:48	1.5613	-0.374	0.374
02/28/2001 11:48	1.6547	-0.359	0.359
02/28/2001 11:48	1.753	-0.345	0.345
02/28/2001 11:48	1.858	-0.33	0.33
02/28/2001 11:48	1.9678	-0.314	0.314
02/28/2001 11:49	2.0845	-0.299	0.299
02/28/2001 11:49	2.2097	-0.282	0.282
02/28/2001 11:49	2.3412	-0.266	0.266
02/28/2001 11:49	2.4812	-0.249	0.249
02/28/2001 11:49	2.6297	-0.233	0.233
02/28/2001 11:49	2.7863	-0.215	0.215
02/28/2001 11:49	2.953	-0.199	0.199
02/28/2001 11:50	3.1297	-0.183	0.183
02/28/2001 11:50	3.3162	-0.168	0.168
02/28/2001 11:50	3.5145	-0.155	0.155
02/28/2001 11:50	3.7245	-0.143	0.143
02/28/2001 11:50	3.9463	-0.134	0.134
02/28/2001 11:51	4.1812	-0.127	0.127
02/28/2001 11:51	4.4295	-0.121	0.121
02/28/2001 11:51	4.6928	-0.114	0.114
02/28/2001 11:51	4.9728	-0.109	0.109
02/28/2001 11:52	5.2697	-0.103	0.103
02/28/2001 11:52	5.583	-0.098	0.098
02/28/2001 11:52	5.9145	-0.093	0.093
02/28/2001 11:53	6.2663	-0.088	0.088
02/28/2001 11:53	6.6395	-0.083	0.083
02/28/2001 11:54	7.0345	-0.079	0.079
02/28/2001 11:54	7.453	-0.075	0.075
02/28/2001 11:54	7.8962	-0.07	0.07
02/28/2001 11:55	8.3663	-0.066	0.066
02/28/2001 11:55	8.8645	-0.062	0.062
02/28/2001 11:56	9.3913	-0.059	0.059
02/28/2001 11:56	9.9497	-0.055	0.055
02/28/2001 11:57	10.5413	-0.052	0.052
02/28/2001 11:58	11.168	-0.048	0.048


MW-5S-R
Displacement (ft)
1
0.1
0.01
0
5
10
15
20
Time (mins)
MW-5S-R

Slug test

Test Information: **MW-6S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B ln[(H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 98

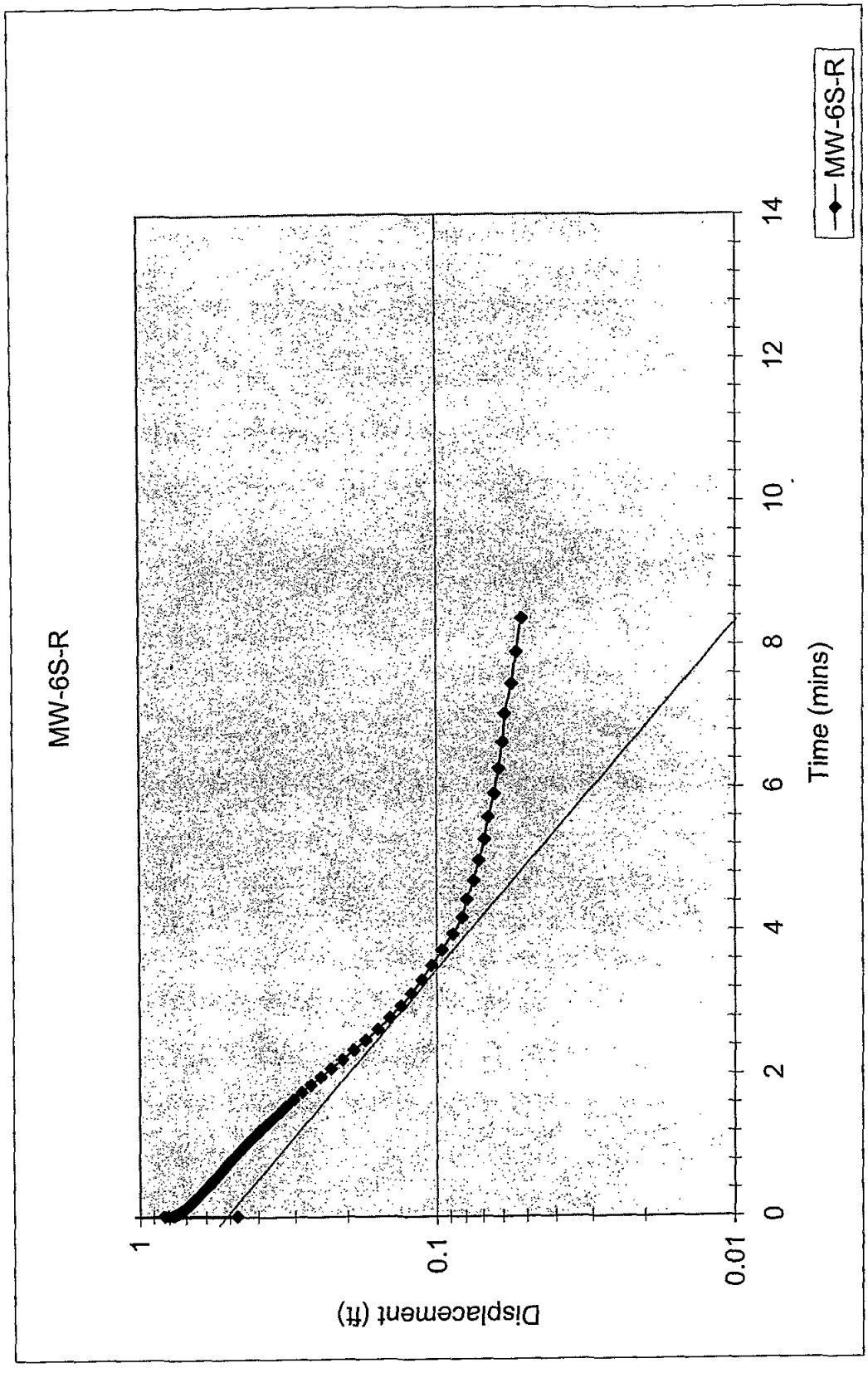
Channel number [2]
Measurement typ Pressure
Channel name: *OnBoard Pressure*
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.61 Meters H2O

Depth to water table (ft)	5.38
Total well depth (ft.)	15
Top of screen (ft.)	5
Bottom of screen (ft.)	15

	ET (min)	Feet H2O	transposed Ft.
02/28/2001 10:11	0	0	0
02/28/2001 10:11	0.0048	-1.078	1.078
02/28/2001 10:11	0.0098	-2.161	2.161
02/28/2001 10:11	0.015	-0.472	0.472
02/28/2001 10:11	0.0198	-0.828	0.828
02/28/2001 10:11	0.025	-0.801	0.801
02/28/2001 10:11	0.03	-0.775	0.775
02/28/2001 10:11	0.035	-0.769	0.769
02/28/2001 10:11	0.0398	-0.763	0.763
02/28/2001 10:11	0.045	-0.76	0.76
02/28/2001 10:11	0.05	-0.753	0.753
02/28/2001 10:11	0.0548	-0.751	0.751
02/28/2001 10:11	0.06	-0.748	0.748
02/28/2001 10:11	0.0648	-0.74	0.74
02/28/2001 10:11	0.07	-0.737	0.737
02/28/2001 10:11	0.075	-0.734	0.734
02/28/2001 10:11	0.0798	-0.731	0.731
02/28/2001 10:11	0.0848	-0.728	0.728
02/28/2001 10:11	0.09	-0.725	0.725
02/28/2001 10:11	0.095	-0.722	0.722
02/28/2001 10:11	0.1	-0.719	0.719
02/28/2001 10:11	0.1057	-0.716	0.716
02/28/2001 10:11	0.1118	-0.713	0.713
02/28/2001 10:11	0.1185	-0.709	0.709
02/28/2001 10:11	0.1255	-0.706	0.706
02/28/2001 10:11	0.1327	-0.702	0.702
02/28/2001 10:11	0.1405	-0.699	0.699
02/28/2001 10:11	0.1488	-0.695	0.695
02/28/2001 10:11	0.1578	-0.691	0.691
02/28/2001 10:11	0.167	-0.687	0.687
02/28/2001 10:11	0.1768	-0.683	0.683
02/28/2001 10:11	0.1875	-0.679	0.679
02/28/2001 10:11	0.1985	-0.674	0.674

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	9.62		
H =	9.62		
y0 =	0.5		static water level
t =	8.4		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	0.465717		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.748322		
K (ft/min) =	4.44E-04	K (ft/sec) =	7.41E-06
K (feet/hour) =	2.67E-02		
K (cm/sec) =	2.26E-04		

02/28/2001 10:11	0.21	-0.67	0.67
02/28/2001 10:11	0.2225	-0.665	0.665
02/28/2001 10:11	0.2358	-0.66	0.66
02/28/2001 10:11	0.2498	-0.655	0.655
02/28/2001 10:11	0.2647	-0.65	0.65
02/28/2001 10:11	0.2803	-0.645	0.645
02/28/2001 10:11	0.297	-0.639	0.639
02/28/2001 10:11	0.3145	-0.633	0.633
02/28/2001 10:11	0.3333	-0.626	0.626
02/28/2001 10:11	0.3532	-0.62	0.62
02/28/2001 10:11	0.374	-0.614	0.614
02/28/2001 10:11	0.3963	-0.607	0.607
02/28/2001 10:11	0.4198	-0.599	0.599
02/28/2001 10:11	0.4445	-0.591	0.591
02/28/2001 10:11	0.4695	-0.583	0.583
02/28/2001 10:11	0.4963	-0.577	0.577
02/28/2001 10:11	0.5247	-0.568	0.568
02/28/2001 10:11	0.5547	-0.56	0.56
02/28/2001 10:11	0.5862	-0.551	0.551
02/28/2001 10:11	0.6213	-0.542	0.542
02/28/2001 10:11	0.6578	-0.532	0.532
02/28/2001 10:11	0.6963	-0.522	0.522
02/28/2001 10:11	0.738	-0.512	0.512
02/28/2001 10:11	0.7813	-0.501	0.501
02/28/2001 10:11	0.8278	-0.489	0.489
02/28/2001 10:12	0.8762	-0.477	0.477
02/28/2001 10:12	0.9278	-0.464	0.464
02/28/2001 10:12	0.9828	-0.452	0.452
02/28/2001 10:12	1.0412	-0.438	0.438
02/28/2001 10:12	1.103	-0.423	0.423
02/28/2001 10:12	1.1678	-0.407	0.407
02/28/2001 10:12	1.238	-0.392	0.392
02/28/2001 10:12	1.3113	-0.375	0.375
02/28/2001 10:12	1.3895	-0.358	0.358
02/28/2001 10:12	1.4728	-0.34	0.34
02/28/2001 10:12	1.5613	-0.322	0.322
02/28/2001 10:12	1.6547	-0.303	0.303
02/28/2001 10:12	1.753	-0.284	0.284
02/28/2001 10:13	1.858	-0.265	0.265
02/28/2001 10:13	1.9678	-0.246	0.246
02/28/2001 10:13	2.0845	-0.227	0.227
02/28/2001 10:13	2.2097	-0.208	0.208
02/28/2001 10:13	2.3412	-0.19	0.19
02/28/2001 10:13	2.4812	-0.174	0.174
02/28/2001 10:13	2.6297	-0.158	0.158
02/28/2001 10:13	2.7863	-0.144	0.144
02/28/2001 10:14	2.953	-0.132	0.132
02/28/2001 10:14	3.1297	-0.122	0.122
02/28/2001 10:14	3.3162	-0.112	0.112
02/28/2001 10:14	3.5145	-0.104	0.104
02/28/2001 10:14	3.7245	-0.096	0.096
02/28/2001 10:15	3.9463	-0.088	0.088
02/28/2001 10:15	4.1812	-0.082	0.082
02/28/2001 10:15	4.4295	-0.079	0.079
02/28/2001 10:15	4.6928	-0.075	0.075
02/28/2001 10:16	4.9728	-0.072	0.072
02/28/2001 10:16	5.2697	-0.069	0.069
02/28/2001 10:16	5.583	-0.067	0.067
02/28/2001 10:17	5.9145	-0.064	0.064
02/28/2001 10:17	6.2663	-0.062	0.062
02/28/2001 10:17	6.6395	-0.06	0.06
02/28/2001 10:18	7.0345	-0.059	0.059
02/28/2001 10:18	7.453	-0.056	0.056
02/28/2001 10:19	7.8962	-0.054	0.054
02/28/2001 10:19	8.3663	-0.052	0.052


MW-6S-R
Displacement (ft)
1
0.1
0.01
0
2
4
6
8
10
12
14
Time (mins)
MW-6S-R

Slug test

Test Information: **MW-7S-A-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B ln[H-Lw)/rw]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 85

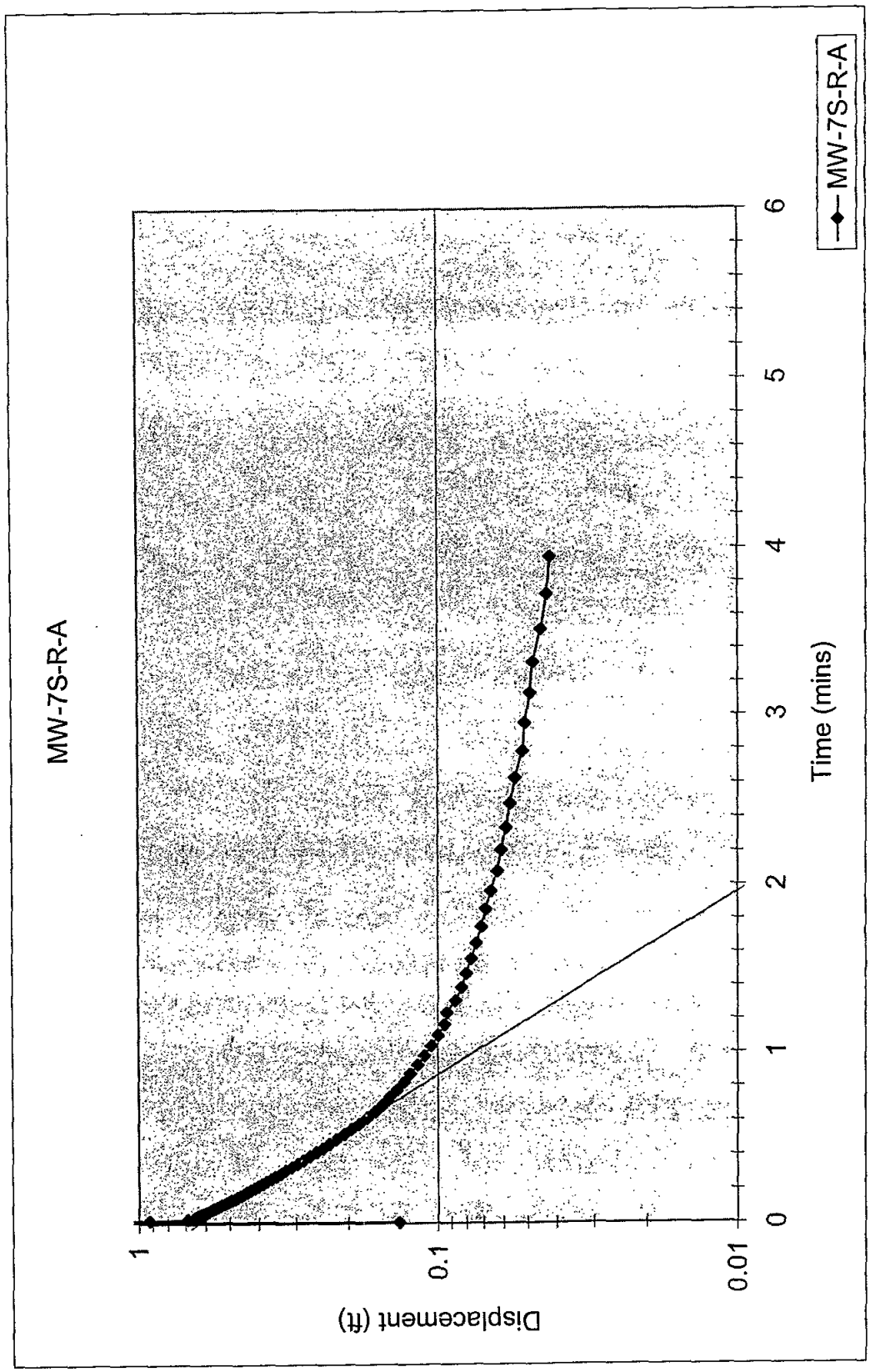
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 1.939 Meters H2O

Depth to water table (ft)	7.79
Total well depth (ft.)	15.1
Top of screen (ft.)	5
Bottom of screen (ft.)	15

	ET (min)	Feet H2O	Transposed Feet H2O
02/28/2001 14:31	0	0	0
02/28/2001 14:31	0.0048	-0.135	0.135
02/28/2001 14:31	0.0098	-2.243	2.243
02/28/2001 14:31	0.015	-1.707	1.707
02/28/2001 14:31	0.0198	-0.921	0.921
02/28/2001 14:31	0.025	-0.687	0.687
02/28/2001 14:31	0.03	-0.659	0.659
02/28/2001 14:31	0.035	-0.655	0.655
02/28/2001 14:31	0.0398	-0.649	0.649
02/28/2001 14:31	0.045	-0.639	0.639
02/28/2001 14:31	0.05	-0.631	0.631
02/28/2001 14:31	0.0548	-0.622	0.622
02/28/2001 14:31	0.06	-0.612	0.612
02/28/2001 14:31	0.0648	-0.603	0.603
02/28/2001 14:31	0.07	-0.594	0.594
02/28/2001 14:31	0.075	-0.586	0.586
02/28/2001 14:31	0.0798	-0.578	0.578
02/28/2001 14:31	0.0848	-0.57	0.57
02/28/2001 14:31	0.09	-0.563	0.563
02/28/2001 14:31	0.095	-0.555	0.555
02/28/2001 14:31	0.1	-0.548	0.548
02/28/2001 14:31	0.1057	-0.539	0.539
02/28/2001 14:31	0.1118	-0.531	0.531
02/28/2001 14:31	0.1185	-0.521	0.521
02/28/2001 14:31	0.1255	-0.512	0.512
02/28/2001 14:31	0.1327	-0.502	0.502
02/28/2001 14:31	0.1405	-0.493	0.493
02/28/2001 14:31	0.1488	-0.481	0.481
02/28/2001 14:31	0.1578	-0.471	0.471
02/28/2001 14:31	0.167	-0.46	0.46
02/28/2001 14:31	0.1768	-0.449	0.449
02/28/2001 14:31	0.1875	-0.438	0.438
02/28/2001 14:31	0.1985	-0.426	0.426
02/28/2001 14:31	0.21	-0.413	0.413
02/28/2001 14:31	0.2225	-0.401	0.401

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	7.21		
H =	7.21		
y0 =	0.6		static water level
t =	2		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	2.047172		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.566016		
K (ft/min) =	1.82E-03	K (ft/sec) =	3.04E-05
K (feet/hou	1.09E-01		
K (cm/sec)	9.27E-04		

02/28/2001 14:31	0.2358	-0.389	0.389
02/28/2001 14:31	0.2498	-0.376	0.376
02/28/2001 14:31	0.2647	-0.362	0.362
02/28/2001 14:31	0.2803	-0.35	0.35
02/28/2001 14:31	0.297	-0.336	0.336
02/28/2001 14:31	0.3145	-0.325	0.325
02/28/2001 14:31	0.3333	-0.31	0.31
02/28/2001 14:31	0.3532	-0.296	0.296
02/28/2001 14:31	0.374	-0.283	0.283
02/28/2001 14:31	0.3963	-0.269	0.269
02/28/2001 14:31	0.4198	-0.256	0.256
02/28/2001 14:31	0.4445	-0.243	0.243
02/28/2001 14:31	0.4695	-0.231	0.231
02/28/2001 14:31	0.4963	-0.219	0.219
02/28/2001 14:31	0.5247	-0.206	0.206
02/28/2001 14:31	0.5547	-0.195	0.195
02/28/2001 14:31	0.5862	-0.184	0.184
02/28/2001 14:31	0.6213	-0.173	0.173
02/28/2001 14:31	0.6578	-0.162	0.162
02/28/2001 14:31	0.6963	-0.153	0.153
02/28/2001 14:31	0.738	-0.145	0.145
02/28/2001 14:31	0.7813	-0.137	0.137
02/28/2001 14:31	0.8278	-0.13	0.13
02/28/2001 14:31	0.8762	-0.124	0.124
02/28/2001 14:31	0.9278	-0.117	0.117
02/28/2001 14:32	0.9828	-0.111	0.111
02/28/2001 14:32	1.0412	-0.105	0.105
02/28/2001 14:32	1.103	-0.1	0.1
02/28/2001 14:32	1.1678	-0.095	0.095
02/28/2001 14:32	1.238	-0.093	0.093
02/28/2001 14:32	1.3113	-0.087	0.087
02/28/2001 14:32	1.3895	-0.083	0.083
02/28/2001 14:32	1.4728	-0.08	0.08
02/28/2001 14:32	1.5613	-0.077	0.077
02/28/2001 14:32	1.6547	-0.074	0.074
02/28/2001 14:32	1.753	-0.071	0.071
02/28/2001 14:32	1.858	-0.069	0.069
02/28/2001 14:32	1.9678	-0.066	0.066
02/28/2001 14:33	2.0845	-0.063	0.063
02/28/2001 14:33	2.2097	-0.061	0.061
02/28/2001 14:33	2.3412	-0.059	0.059
02/28/2001 14:33	2.4812	-0.057	0.057
02/28/2001 14:33	2.6297	-0.055	0.055
02/28/2001 14:33	2.7863	-0.052	0.052
02/28/2001 14:33	2.953	-0.051	0.051
02/28/2001 14:34	3.1297	-0.049	0.049
02/28/2001 14:34	3.3162	-0.048	0.048
02/28/2001 14:34	3.5145	-0.045	0.045
02/28/2001 14:34	3.7245	-0.043	0.043
02/28/2001 14:34	3.9463	-0.042	0.042
02/27/2001 10:52	4.1812	0.139	-0.139
02/27/2001 10:53	4.4297	0.126	-0.126
02/27/2001 10:53	4.6928	0.114	-0.114
02/27/2001 10:53	4.9728	0.1	-0.1
02/27/2001 10:53	5.2697	0.09	-0.09
02/27/2001 10:54	5.583	0.08	-0.08
02/27/2001 10:54	5.9145	0.07	-0.07
02/27/2001 10:54	6.2663	0.06	-0.06
02/27/2001 10:55	6.6395	0.052	-0.052
02/27/2001 10:55	7.0345	0.044	-0.044
02/27/2001 10:56	7.453	0.038	-0.038
02/27/2001 10:56	7.8963	0.03	-0.03
02/27/2001 10:56	8.3663	0.024	-0.024
02/27/2001 10:57	8.8645	0.021	-0.021
02/27/2001 10:57	9.3913	0.017	-0.017
02/27/2001 10:58	9.9497	0.013	-0.013
02/27/2001 10:59	10.5413	0.011	-0.011
02/27/2001 10:59	11.168	0.009	-0.009


MW-7S-R-A
Displacement (ft)
1
0.1
0.01
0
1
2
3
4
5
6
Time (mins)
MW-7S-R-A

Slug test

Test Information: **MW-8S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(y0/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw))] + (A+B ln[(H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw)] + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 99

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.417 Meters H2O

Depth to water table (ft)	3.52
Total well depth (ft.)	14
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O	Feet H2O
03/02/2001 9:19	0	0	0
03/02/2001 9:19	0.0048	-0.028	0.028
03/02/2001 9:19	0.0098	-1.564	1.564
03/02/2001 9:19	0.015	-0.831	0.831
03/02/2001 9:19	0.0198	-0.818	0.818
03/02/2001 9:19	0.025	-0.773	0.773
03/02/2001 9:19	0.03	-0.755	0.755
03/02/2001 9:19	0.035	-0.741	0.741
03/02/2001 9:19	0.0398	-0.734	0.734
03/02/2001 9:19	0.045	-0.727	0.727
03/02/2001 9:19	0.05	-0.718	0.718
03/02/2001 9:19	0.0548	-0.708	0.708
03/02/2001 9:19	0.06	-0.7	0.7
03/02/2001 9:19	0.0648	-0.681	0.681
03/02/2001 9:19	0.07	-0.675	0.675
03/02/2001 9:19	0.075	-0.668	0.668
03/02/2001 9:19	0.0798	-0.661	0.661
03/02/2001 9:19	0.0848	-0.656	0.656
03/02/2001 9:19	0.09	-0.65	0.65
03/02/2001 9:19	0.095	-0.644	0.644
03/02/2001 9:19	0.1	-0.637	0.637
03/02/2001 9:19	0.1057	-0.632	0.632
03/02/2001 9:19	0.1118	-0.624	0.624
03/02/2001 9:19	0.1185	-0.617	0.617
03/02/2001 9:19	0.1255	-0.609	0.609
03/02/2001 9:19	0.1327	-0.601	0.601
03/02/2001 9:20	0.1405	-0.592	0.592
03/02/2001 9:20	0.1488	-0.583	0.583
03/02/2001 9:20	0.1578	-0.574	0.574
03/02/2001 9:20	0.167	-0.565	0.565
03/02/2001 9:20	0.1768	-0.556	0.556
03/02/2001 9:20	0.1875	-0.546	0.546
03/02/2001 9:20	0.1985	-0.536	0.536

rc =	0.083333	radius of the well
rw =	0.25	radius of the borehole
Le =	10	screen length
Lw =	8.9	
H =	8.9	
y0 =	0.8	static water level
t =	2.8	time (mins)
yt =	0.01	water level at 't'
(1/t)*ln(y0/yt) =	1.56501	

A =
B =
C = 2.5

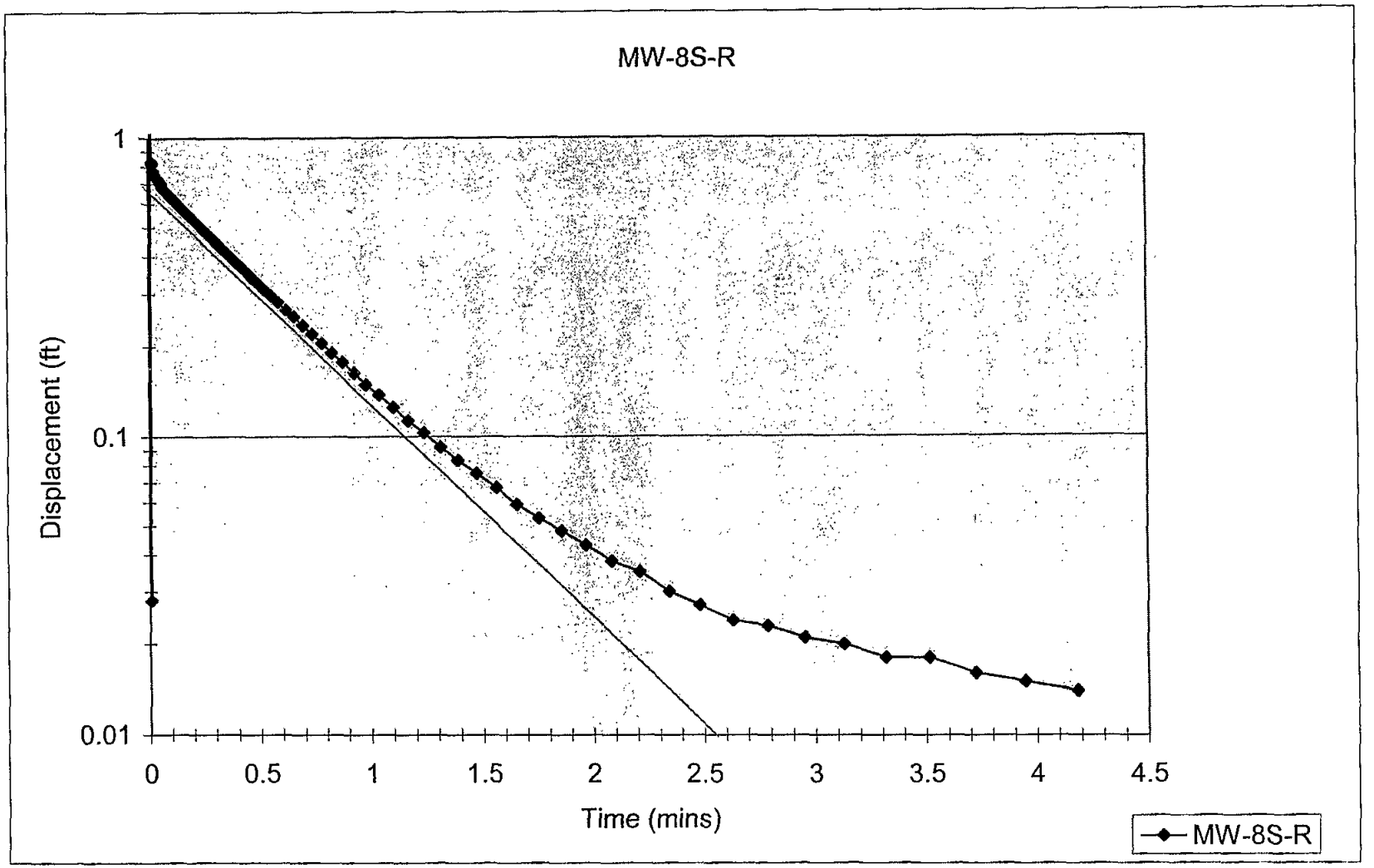
Le/rw = 40

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.699631

K (ft/min) = 1.47E-03 K (ft/sec) = 2.44E-05
K (feet/hou 8.80E-02
K (cm/sec) 7.45E-04

03/02/2001 9:20	0.21	-0.525	0.525
03/02/2001 9:20	0.2225	-0.514	0.514
03/02/2001 9:20	0.2358	-0.503	0.503
03/02/2001 9:20	0.2498	-0.491	0.491
03/02/2001 9:20	0.2647	-0.479	0.479
03/02/2001 9:20	0.2803	-0.466	0.466
03/02/2001 9:20	0.297	-0.454	0.454
03/02/2001 9:20	0.3145	-0.44	0.44
03/02/2001 9:20	0.3333	-0.427	0.427
03/02/2001 9:20	0.3532	-0.414	0.414
03/02/2001 9:20	0.374	-0.399	0.399
03/02/2001 9:20	0.3963	-0.384	0.384
03/02/2001 9:20	0.4198	-0.369	0.369
03/02/2001 9:20	0.4445	-0.354	0.354
03/02/2001 9:20	0.4695	-0.34	0.34
03/02/2001 9:20	0.4963	-0.325	0.325
03/02/2001 9:20	0.5247	-0.31	0.31
03/02/2001 9:20	0.5547	-0.296	0.296
03/02/2001 9:20	0.5862	-0.281	0.281
03/02/2001 9:20	0.6213	-0.265	0.265
03/02/2001 9:20	0.6578	-0.251	0.251
03/02/2001 9:20	0.6963	-0.235	0.235
03/02/2001 9:20	0.738	-0.22	0.22
03/02/2001 9:20	0.7813	-0.205	0.205
03/02/2001 9:20	0.8278	-0.19	0.19
03/02/2001 9:20	0.8762	-0.177	0.177
03/02/2001 9:20	0.9278	-0.163	0.163
03/02/2001 9:20	0.9828	-0.149	0.149
03/02/2001 9:20	1.0412	-0.138	0.138
03/02/2001 9:20	1.103	-0.125	0.125
03/02/2001 9:21	1.1678	-0.113	0.113
03/02/2001 9:21	1.238	-0.103	0.103
03/02/2001 9:21	1.3113	-0.092	0.092
03/02/2001 9:21	1.3895	-0.083	0.083
03/02/2001 9:21	1.4728	-0.075	0.075
03/02/2001 9:21	1.5613	-0.067	0.067
03/02/2001 9:21	1.6547	-0.059	0.059
03/02/2001 9:21	1.753	-0.053	0.053
03/02/2001 9:21	1.858	-0.048	0.048
03/02/2001 9:21	1.9678	-0.043	0.043
03/02/2001 9:21	2.0845	-0.038	0.038
03/02/2001 9:22	2.2097	-0.035	0.035
03/02/2001 9:22	2.3412	-0.03	0.03
03/02/2001 9:22	2.4812	-0.027	0.027
03/02/2001 9:22	2.6297	-0.024	0.024
03/02/2001 9:22	2.7863	-0.023	0.023
03/02/2001 9:22	2.953	-0.021	0.021
03/02/2001 9:22	3.1297	-0.02	0.02
03/02/2001 9:23	3.3162	-0.018	0.018
03/02/2001 9:23	3.5145	-0.018	0.018
03/02/2001 9:23	3.7245	-0.016	0.016
03/02/2001 9:23	3.9463	-0.015	0.015
03/02/2001 9:24	4.1812	-0.014	0.014
03/02/2001 9:24	4.4295	-0.013	0.013
03/02/2001 9:24	4.6928	-0.013	0.013
03/02/2001 9:24	4.9728	-0.012	0.012
03/02/2001 9:25	5.2697	-0.011	-0.011
03/02/2001 9:25	5.583	-0.01	0.01
03/02/2001 9:25	5.9145	-0.01	0.01
03/02/2001 9:26	6.2663	-0.01	0.01
03/02/2001 9:26	6.6395	-0.01	0.01
03/02/2001 9:26	7.0345	-0.01	0.01
03/02/2001 9:27	7.453	-0.011	0.011
03/02/2001 9:27	7.8962	-0.01	0.01
03/02/2001 9:28	8.3663	-0.011	0.011
03/02/2001 9:28	8.8645	-0.01	0.01


MW-8S-R
Displacement (ft)
1
0.1
0.01
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
Time (mins)
MW-8S-R

Slug test

Test Information: **MW-10S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t) ln(y0/yt)

ln(Rw/rw) = [(1/1)/(ln(Lw/rw)) + (A+B ln[H-Lw)/rw]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1/1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 102

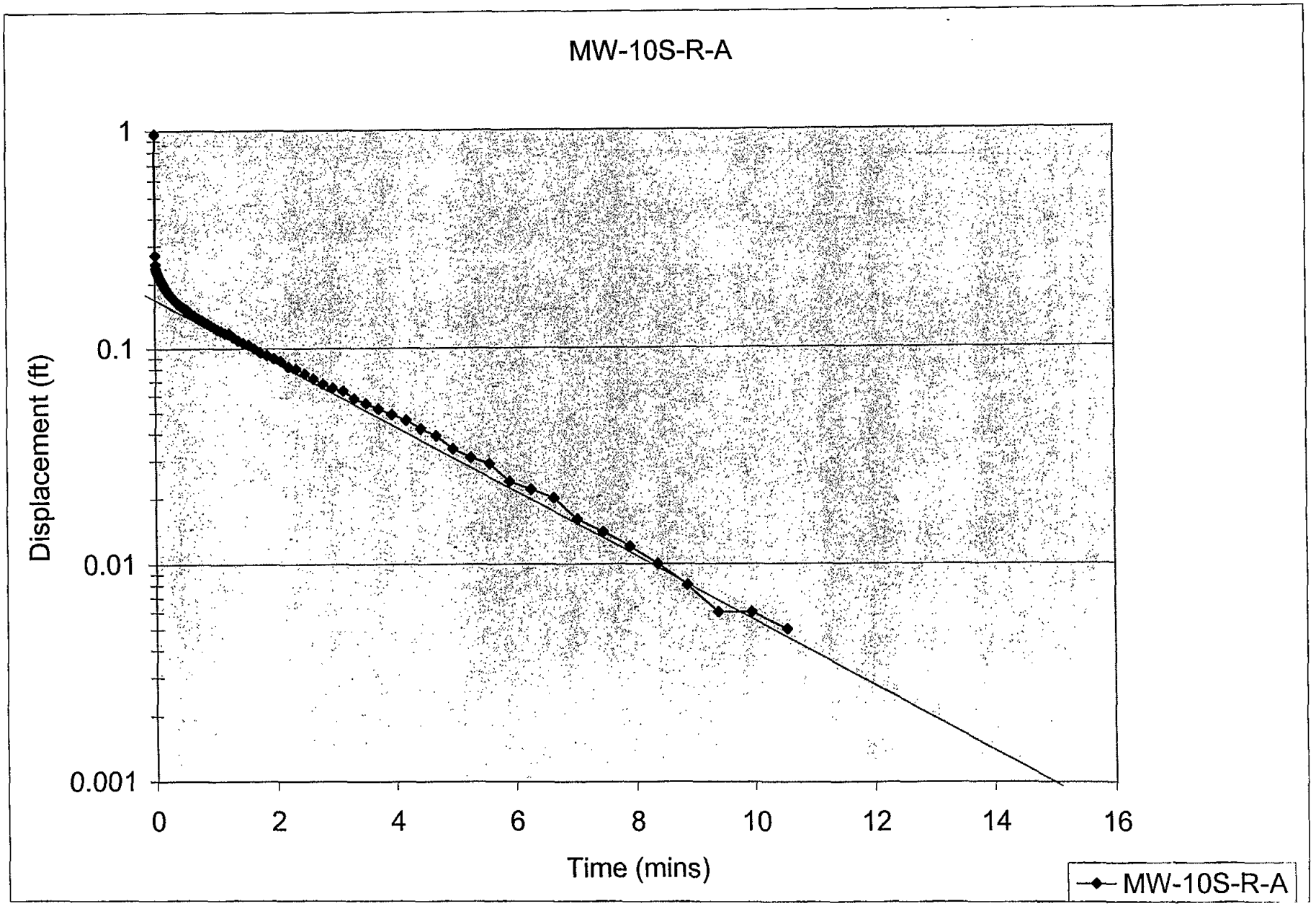
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 1.03 Meters H2O

Depth to water table (ft)	5.98
Total well depth (ft.)	10.8
Top of screen (ft.)	5
Bottom of screen (ft.)	10.8

	ET (min)	Feet H2O	Transposed Feet H2O
03/01/2001 13:55	0	0	0
03/01/2001 13:55	0.0048	-0.967	0.967
03/01/2001 13:55	0.0098	-0.272	0.272
03/01/2001 13:55	0.015	-0.247	0.247
03/01/2001 13:55	0.0198	-0.237	0.237
03/01/2001 13:55	0.025	-0.234	0.234
03/01/2001 13:55	0.03	-0.231	0.231
03/01/2001 13:55	0.035	-0.229	0.229
03/01/2001 13:55	0.0398	-0.227	0.227
03/01/2001 13:55	0.045	-0.225	0.225
03/01/2001 13:55	0.05	-0.224	0.224
03/01/2001 13:55	0.0548	-0.222	0.222
03/01/2001 13:55	0.06	-0.22	0.22
03/01/2001 13:55	0.0648	-0.219	0.219
03/01/2001 13:55	0.07	-0.217	0.217
03/01/2001 13:55	0.075	-0.215	0.215
03/01/2001 13:55	0.0798	-0.214	0.214
03/01/2001 13:55	0.0848	-0.212	0.212
03/01/2001 13:55	0.09	-0.211	0.211
03/01/2001 13:55	0.095	-0.21	0.21
03/01/2001 13:55	0.1	-0.208	0.208
03/01/2001 13:55	0.1057	-0.207	0.207
03/01/2001 13:55	0.1118	-0.205	0.205
03/01/2001 13:55	0.1185	-0.204	0.204
03/01/2001 13:55	0.1255	-0.202	0.202
03/01/2001 13:55	0.1327	-0.2	0.2
03/01/2001 13:55	0.1405	-0.199	0.199
03/01/2001 13:55	0.1488	-0.197	0.197
03/01/2001 13:55	0.1578	-0.194	0.194
03/01/2001 13:55	0.167	-0.192	0.192
03/01/2001 13:55	0.1768	-0.19	0.19
03/01/2001 13:55	0.1875	-0.19	0.19
03/01/2001 13:55	0.1985	-0.187	0.187
03/01/2001 13:55	0.21	-0.185	0.185
03/01/2001 13:55	0.2225	-0.183	0.183

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	5.8		screen length
Lw =	4.82		
H =	4.82		
y0 =	0.2		static water level
t =	15		time (mins)
yt =	0.001		water level at 't'
(1/t)*ln(y0/yt) =		0.3532212	
			A =
			B =
Le/rw =	23.2		C = 1.4
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.314368		
K (ft/min) =	4.89E-04	K (ft/sec) =	8.16E-06
K (feet/hour) =	2.94E-02		
K (cm/sec) =	2.49E-04		

03/01/2001 13:55	0.2358	-0.181	0.181
03/01/2001 13:55	0.2498	-0.178	0.178
03/01/2001 13:55	0.2647	-0.177	0.177
03/01/2001 13:55	0.2803	-0.175	0.175
03/01/2001 13:55	0.297	-0.172	0.172
03/01/2001 13:55	0.3145	-0.17	0.17
03/01/2001 13:55	0.3333	-0.168	0.168
03/01/2001 13:55	0.3532	-0.166	0.166
03/01/2001 13:55	0.374	-0.164	0.164
03/01/2001 13:55	0.3963	-0.162	0.162
03/01/2001 13:55	0.4198	-0.16	0.16
03/01/2001 13:55	0.4445	-0.158	0.158
03/01/2001 13:55	0.4695	-0.156	0.156
03/01/2001 13:55	0.4963	-0.154	0.154
03/01/2001 13:55	0.5247	-0.153	0.153
03/01/2001 13:55	0.5547	-0.15	0.15
03/01/2001 13:55	0.5862	-0.148	0.148
03/01/2001 13:56	0.6213	-0.145	0.145
03/01/2001 13:56	0.6578	-0.143	0.143
03/01/2001 13:56	0.6963	-0.14	0.14
03/01/2001 13:56	0.738	-0.138	0.138
03/01/2001 13:56	0.7813	-0.136	0.136
03/01/2001 13:56	0.8278	-0.133	0.133
03/01/2001 13:56	0.8762	-0.131	0.131
03/01/2001 13:56	0.9278	-0.128	0.128
03/01/2001 13:56	0.9828	-0.126	0.126
03/01/2001 13:56	1.0412	-0.123	0.123
03/01/2001 13:56	1.103	-0.121	0.121
03/01/2001 13:56	1.1678	-0.118	0.118
03/01/2001 13:56	1.238	-0.118	0.118
03/01/2001 13:56	1.3113	-0.113	0.113
03/01/2001 13:56	1.3895	-0.109	0.109
03/01/2001 13:56	1.4728	-0.106	0.106
03/01/2001 13:56	1.5613	-0.104	0.104
03/01/2001 13:57	1.6547	-0.1	0.1
03/01/2001 13:57	1.753	-0.096	0.096
03/01/2001 13:57	1.858	-0.093	0.093
03/01/2001 13:57	1.9678	-0.09	0.09
03/01/2001 13:57	2.0845	-0.087	0.087
03/01/2001 13:57	2.2097	-0.082	0.082
03/01/2001 13:57	2.3412	-0.08	0.08
03/01/2001 13:57	2.4812	-0.076	0.076
03/01/2001 13:58	2.6297	-0.072	0.072
03/01/2001 13:58	2.7863	-0.068	0.068
03/01/2001 13:58	2.953	-0.065	0.065
03/01/2001 13:58	3.1297	-0.063	0.063
03/01/2001 13:58	3.3162	-0.058	0.058
03/01/2001 13:58	3.5145	-0.055	0.055
03/01/2001 13:59	3.7245	-0.052	0.052
03/01/2001 13:59	3.9463	-0.049	0.049
03/01/2001 13:59	4.1812	-0.046	0.046
03/01/2001 13:59	4.4295	-0.042	0.042
03/01/2001 14:00	4.6928	-0.039	0.039
03/01/2001 14:00	4.9728	-0.034	0.034
03/01/2001 14:00	5.2697	-0.031	0.031
03/01/2001 14:00	5.583	-0.029	0.029
03/01/2001 14:01	5.9145	-0.024	0.024
03/01/2001 14:01	6.2663	-0.022	0.022
03/01/2001 14:02	6.6395	-0.02	0.02
03/01/2001 14:02	7.0345	-0.016	0.016
03/01/2001 14:02	7.453	-0.014	0.014
03/01/2001 14:03	7.8962	-0.012	0.012
03/01/2001 14:03	8.3663	-0.01	0.01
03/01/2001 14:04	8.8645	-0.008	0.008
03/01/2001 14:04	9.3913	-0.006	0.006
03/01/2001 14:05	9.9497	-0.006	0.006
03/01/2001 14:05	10.5413	-0.005	0.005


MW-10S-R-A
Displacement (ft)
1
0.1
0.01
0.001
0
2
4
6
8
10
12
14
16
Time (mins)
MW-10S-R-A

Slug test

Test Information: **MW-11S-Falling Head Test**

Hydraulic Condutivity (K) = rc^2 ln (Re/rw)2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B/n[H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAMPL 103

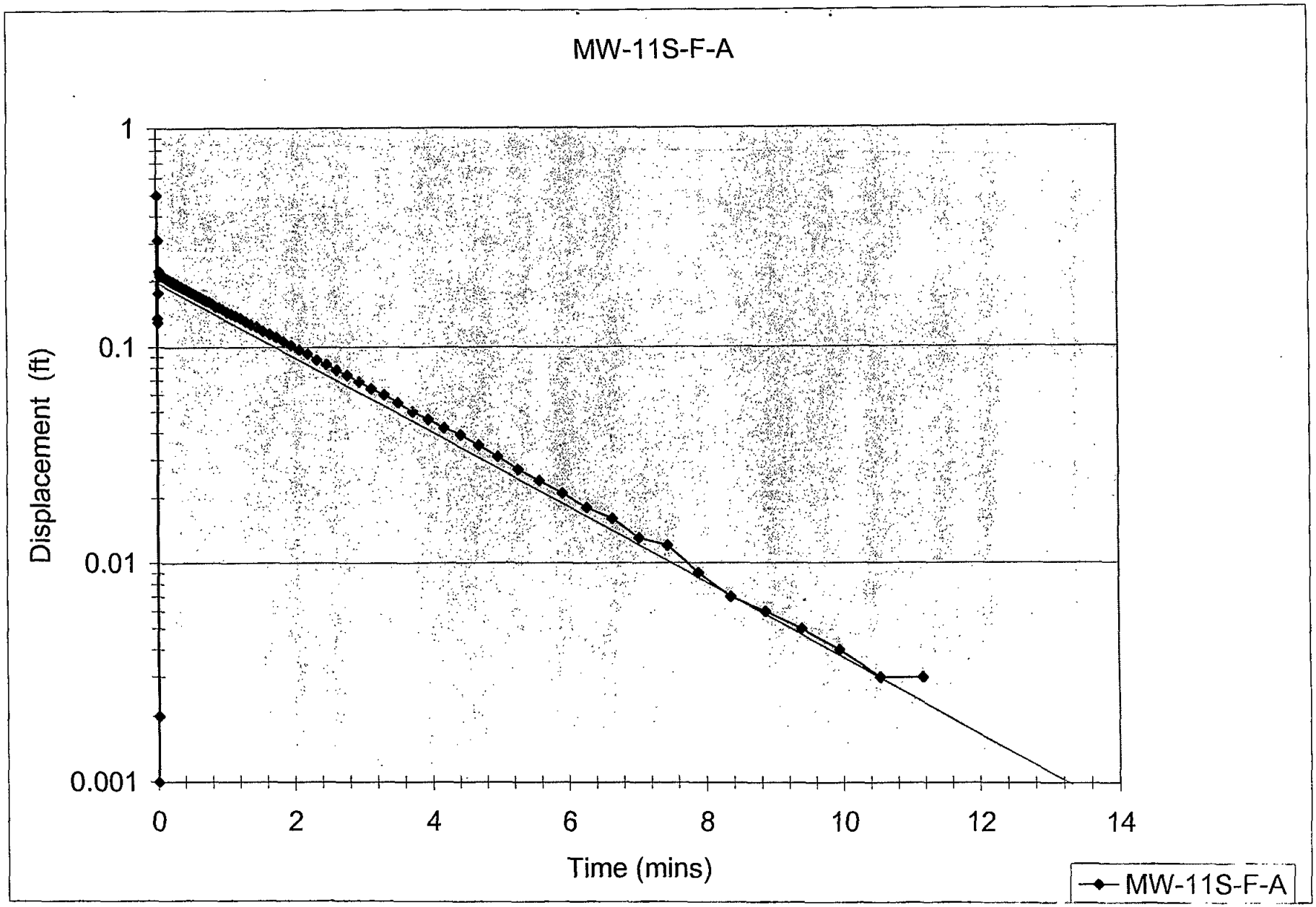
Channel number [2]
Measurement type: Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined referen 0 Meters H2O
Referenced on: test start
Pressure head at ref 2.034 Meters H2O

Depth to water table (ft)	1.31
Total well depth (ft.)	8.5
Top of screen (ft.)	3.5
Bottom of screen (ft.)	8.5

	ET (min)	Feet H2O
02/27/2001 10:48	0	0
02/27/2001 10:48	0.0048	0.001
02/27/2001 10:48	0.0098	0.002
02/27/2001 10:48	0.015	0.499
02/27/2001 10:48	0.0198	0.136
02/27/2001 10:48	0.025	0.13
02/27/2001 10:48	0.03	0.311
02/27/2001 10:48	0.035	0.177
02/27/2001 10:48	0.0398	0.224
02/27/2001 10:48	0.045	0.224
02/27/2001 10:48	0.05	0.217
02/27/2001 10:48	0.0548	0.211
02/27/2001 10:48	0.06	0.214
02/27/2001 10:48	0.0648	0.215
02/27/2001 10:48	0.07	0.213
02/27/2001 10:48	0.075	0.215
02/27/2001 10:48	0.0798	0.212
02/27/2001 10:48	0.0848	0.213
02/27/2001 10:48	0.09	0.212
02/27/2001 10:48	0.095	0.212
02/27/2001 10:48	0.1	0.211
02/27/2001 10:48	0.1057	0.211
02/27/2001 10:48	0.1118	0.211
02/27/2001 10:48	0.1185	0.21
02/27/2001 10:48	0.1255	0.209
02/27/2001 10:48	0.1327	0.209
02/27/2001 10:48	0.1405	0.208
02/27/2001 10:48	0.1488	0.207
02/27/2001 10:48	0.1578	0.206
02/27/2001 10:48	0.167	0.205
02/27/2001 10:48	0.1768	0.204
02/27/2001 10:48	0.1875	0.203
02/27/2001 10:48	0.1985	0.202
02/27/2001 10:48	0.21	0.201
02/27/2001 10:48	0.2225	0.2

rc =	0.0833333		radius of the well
rw =	0.25		radius of the borehole
Le =	5		screen length
Lw =	7.19		
H =	5		
y0 =	0.2		static water level
t =	13.2		time (mins)
yt =	0.001		water level at 't'
(1/t)*ln(y0/yt) =	0.401388		
		A =	
		B =	
Le/rw =	20	C =	1.8
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.3953253		
K (ft/min) =	6.68E-04	K (ft/sec) =	1.11E-05
K (feet/hour) =	4.01E-02		
K (cm/sec) =	3.39E-04		

02/27/2001 10:48	0.2358	0.199
02/27/2001 10:48	0.2498	0.199
02/27/2001 10:48	0.2647	0.197
02/27/2001 10:48	0.2803	0.196
02/27/2001 10:48	0.297	0.194
02/27/2001 10:48	0.3145	0.194
02/27/2001 10:48	0.3333	0.192
02/27/2001 10:48	0.3532	0.19
02/27/2001 10:48	0.374	0.189
02/27/2001 10:49	0.3963	0.187
02/27/2001 10:49	0.4198	0.185
02/27/2001 10:49	0.4445	0.184
02/27/2001 10:49	0.4695	0.182
02/27/2001 10:49	0.4963	0.18
02/27/2001 10:49	0.5247	0.178
02/27/2001 10:49	0.5547	0.176
02/27/2001 10:49	0.5862	0.173
02/27/2001 10:49	0.6213	0.171
02/27/2001 10:49	0.6578	0.169
02/27/2001 10:49	0.6963	0.166
02/27/2001 10:49	0.738	0.163
02/27/2001 10:49	0.7813	0.161
02/27/2001 10:49	0.8278	0.158
02/27/2001 10:49	0.8762	0.153
02/27/2001 10:49	0.9278	0.152
02/27/2001 10:49	0.9828	0.149
02/27/2001 10:49	1.0412	0.145
02/27/2001 10:49	1.103	0.142
02/27/2001 10:49	1.1678	0.139
02/27/2001 10:49	1.238	0.136
02/27/2001 10:49	1.3113	0.131
02/27/2001 10:49	1.3895	0.127
02/27/2001 10:50	1.4728	0.124
02/27/2001 10:50	1.5613	0.119
02/27/2001 10:50	1.6547	0.115
02/27/2001 10:50	1.753	0.111
02/27/2001 10:50	1.858	0.106
02/27/2001 10:50	1.9678	0.102
02/27/2001 10:50	2.0845	0.097
02/27/2001 10:50	2.2097	0.093
02/27/2001 10:50	2.3412	0.087
02/27/2001 10:51	2.4812	0.083
02/27/2001 10:51	2.6297	0.078
02/27/2001 10:51	2.7863	0.074
02/27/2001 10:51	2.953	0.069
02/27/2001 10:51	3.1297	0.064
02/27/2001 10:51	3.3162	0.06
02/27/2001 10:52	3.5145	0.055
02/27/2001 10:52	3.7245	0.05
02/27/2001 10:52	3.9463	0.046
02/27/2001 10:52	4.1812	0.042
02/27/2001 10:53	4.4295	0.039
02/27/2001 10:53	4.6928	0.035
02/27/2001 10:53	4.9728	0.031
02/27/2001 10:53	5.2697	0.027
02/27/2001 10:54	5.583	0.024
02/27/2001 10:54	5.9145	0.021
02/27/2001 10:54	6.2663	0.018
02/27/2001 10:55	6.6395	0.016
02/27/2001 10:55	7.0345	0.013
02/27/2001 10:56	7.453	0.012
02/27/2001 10:56	7.8962	0.009
02/27/2001 10:56	8.3663	0.007
02/27/2001 10:57	8.8645	0.006
02/27/2001 10:57	9.3913	0.005
02/27/2001 10:58	9.9497	0.004
02/27/2001 10:59	10.5413	0.003
02/27/2001 10:59	11.168	0.003


MW-11S-F-A
Displacement (ft)
1
0.1
0.01
0.001
0
2
4
6
8
10
12
14
Time (mins)
MW-11S-F-A

Slug test

Test Information: **MW-12S-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)^2Le * (1/t) ln(y0/yt)

ln(Rw/rw) = ((1.1)/(ln(Lw/rw)) + (A+B ln[H-Lw/rw])/(Le/rw))^-1 (partially penetrating wells)

ln(Rw/rw) = ((1.1)/(ln(Lw/rw)) + C/(Le/rw))^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 161

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0.39 Meters H2O
Referenced on: test start
Pressure head at 3.731 Meters H2O

Depth to water table (ft)	3.94
Total well depth (ft.)	19.5
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O
02/27/2001 9:18	0	0.39
02/27/2001 9:18	0.0048	0.391
02/27/2001 9:18	0.0098	0.393
02/27/2001 9:18	0.015	0.958
02/27/2001 9:18	0.0198	0.735
02/27/2001 9:18	0.025	0.35
02/27/2001 9:18	0.03	0.451
02/27/2001 9:18	0.035	0.674
02/27/2001 9:18	0.0398	0.654
02/27/2001 9:18	0.045	0.526
02/27/2001 9:18	0.05	0.52
02/27/2001 9:18	0.0548	0.597
02/27/2001 9:18	0.06	0.601
02/27/2001 9:18	0.0648	0.556
02/27/2001 9:18	0.07	0.548
02/27/2001 9:18	0.075	0.575
02/27/2001 9:18	0.0798	0.574
02/27/2001 9:18	0.0848	0.556
02/27/2001 9:18	0.09	0.555
02/27/2001 9:18	0.095	0.562
02/27/2001 9:18	0.1	0.559
02/27/2001 9:18	0.1057	0.551
02/27/2001 9:18	0.1118	0.553
02/27/2001 9:18	0.1185	0.551
02/27/2001 9:18	0.1255	0.548
02/27/2001 9:18	0.1327	0.546
02/27/2001 9:18	0.1405	0.544
02/27/2001 9:18	0.1488	0.543
02/27/2001 9:18	0.1576	0.541
02/27/2001 9:18	0.167	0.537
02/27/2001 9:18	0.1768	0.533
02/27/2001 9:18	0.1875	0.533
02/27/2001 9:18	0.1985	0.524
02/27/2001 9:18	0.21	0.525
02/27/2001 9:18	0.2225	0.521
02/27/2001 9:18	0.2358	0.517
02/27/2001 9:18	0.2498	0.514
02/27/2001 9:18	0.2647	0.51
02/27/2001 9:18	0.2803	0.506
02/27/2001 9:18	0.297	0.503
02/27/2001 9:18	0.3145	0.499
02/27/2001 9:18	0.3333	0.494
02/27/2001 9:18	0.3532	0.49
02/27/2001 9:18	0.374	0.486
02/27/2001 9:18	0.3963	0.482
02/27/2001 9:18	0.4198	0.479
02/27/2001 9:18	0.4445	0.474
02/27/2001 9:18	0.4695	0.47
02/27/2001 9:18	0.4963	0.465
02/27/2001 9:18	0.5247	0.461
02/27/2001 9:18	0.5547	0.457
02/27/2001 9:18	0.5862	0.452
02/27/2001 9:18	0.6213	0.449
02/27/2001 9:19	0.6578	0.447
02/27/2001 9:19	0.6963	0.44
02/27/2001 9:19	0.738	0.437
02/27/2001 9:19	0.7813	0.433
02/27/2001 9:19	0.8278	0.428
02/27/2001 9:19	0.8762	0.425
02/27/2001 9:19	0.9278	0.421
02/27/2001 9:19	0.9778	0.418
02/27/2001 9:19	1.0278	0.415
02/27/2001 9:19	1.078	0.413
02/27/2001 9:19	1.128	0.41
02/27/2001 9:19	1.178	0.408
02/27/2001 9:19	1.228	0.407

rc =	0.083333	radius of the well
rw =	0.25	radius of the borehole
Le =	10	screen length
Lw =	10.06	
H =	10.06	
y0 =	0.6	static water level
t =	2.6	time (mins)
yt =	0.1	water level at 't'
(1/t)*ln(y0/yt) =	0.689138	
		A =
		B =
Le/rw =	40	C = 2.5
ln(Rw/rw) =	#DIV/0!	
ln(Rw/rw) =	2.776153	
K (ft/min) =	6.64E-04	K (ft/sec) = 1.11E-05
K (feet/hour) =	3.99E-02	
K (cm/sec) =	3.37E-04	

02/27/2001 9:19	1.278	0.406
02/27/2001 9:19	1.328	0.404
02/27/2001 9:19	1.378	0.402
02/27/2001 9:19	1.428	0.402
02/27/2001 9:19	1.478	0.4
02/27/2001 9:19	1.528	0.4
02/27/2001 9:19	1.578	0.399
02/27/2001 9:19	1.628	0.398
02/27/2001 9:20	1.678	0.397
02/27/2001 9:20	1.728	0.397
02/27/2001 9:20	1.778	0.397
02/27/2001 9:20	1.828	0.396
02/27/2001 9:20	1.878	0.396
02/27/2001 9:20	1.928	0.395
02/27/2001 9:20	1.978	0.395
02/27/2001 9:20	2.028	0.392
02/27/2001 9:20	2.078	0.394
02/27/2001 9:20	2.128	0.394
02/27/2001 9:20	2.178	0.394
02/27/2001 9:20	2.228	0.394
02/27/2001 9:20	2.278	0.393
02/27/2001 9:20	2.328	0.393
02/27/2001 9:20	2.378	0.393
02/27/2001 9:20	2.428	0.392
02/27/2001 9:20	2.478	0.392
02/27/2001 9:20	2.528	0.393
02/27/2001 9:20	2.578	0.392
02/27/2001 9:20	2.628	0.391
02/27/2001 9:21	2.678	0.392
02/27/2001 9:21	2.728	0.392
02/27/2001 9:21	2.778	0.392
02/27/2001 9:21	2.828	0.392
02/27/2001 9:21	2.878	0.392
02/27/2001 9:21	2.928	0.392
02/27/2001 9:21	2.978	0.392
02/27/2001 9:21	3.028	0.391
02/27/2001 9:21	3.078	0.392
02/27/2001 9:21	3.128	0.392
02/27/2001 9:21	3.178	0.392
02/27/2001 9:21	3.228	0.391
02/27/2001 9:21	3.278	0.391
02/27/2001 9:21	3.328	0.392
02/27/2001 9:21	3.378	0.391
02/27/2001 9:21	3.428	0.391
02/27/2001 9:21	3.478	0.391
02/27/2001 9:21	3.528	0.391
02/27/2001 9:21	3.578	0.391
02/27/2001 9:21	3.628	0.391
02/27/2001 9:22	3.678	0.391
02/27/2001 9:22	3.728	0.391
02/27/2001 9:22	3.778	0.391
02/27/2001 9:22	3.828	0.391
02/27/2001 9:22	3.878	0.391
02/27/2001 9:22	3.928	0.391
02/27/2001 9:22	3.978	0.391
02/27/2001 9:22	4.028	0.391
02/27/2001 9:22	4.078	0.391
02/27/2001 9:22	4.128	0.391
02/27/2001 9:22	4.178	0.391
02/27/2001 9:22	4.228	0.391
02/27/2001 9:22	4.278	0.391
02/27/2001 9:22	4.328	0.391
02/27/2001 9:22	4.378	0.391
02/27/2001 9:22	4.428	0.39
02/27/2001 9:22	4.478	0.391
02/27/2001 9:22	4.528	0.391
02/27/2001 9:22	4.578	0.391
02/27/2001 9:22	4.628	0.391
02/27/2001 9:23	4.678	0.391
02/27/2001 9:23	4.728	0.391
02/27/2001 9:23	4.778	0.391
02/27/2001 9:23	4.828	0.391
02/27/2001 9:23	4.878	0.391
02/27/2001 9:23	4.928	0.391
02/27/2001 9:23	4.978	0.391
02/27/2001 9:23	5.028	0.392
02/27/2001 9:23	5.078	0.392
02/27/2001 9:23	5.128	0.391
02/27/2001 9:23	5.178	0.392
02/27/2001 9:23	5.228	0.392
02/27/2001 9:23	5.278	0.392
02/27/2001 9:23	5.328	0.391
02/27/2001 9:23	5.378	0.391
02/27/2001 9:23	5.428	0.392
02/27/2001 9:23	5.478	0.391
02/27/2001 9:23	5.528	0.392
02/27/2001 9:23	5.578	0.391
02/27/2001 9:23	5.628	0.392
02/27/2001 9:24	5.678	0.392
02/27/2001 9:24	5.728	0.391
02/27/2001 9:24	5.778	0.391
02/27/2001 9:24	5.828	0.391
02/27/2001 9:24	5.878	0.391
02/27/2001 9:24	5.928	0.392
02/27/2001 9:24	5.978	0.384

Slug test

Test Information: **MW-12S-A-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(y0/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw))] + (A+B/ln[H-Lw)/rw])/(Le/rw)]^1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 161

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Feet H2O
Referenced on: test start
Pressure head at 12.242 Feet H2O

Depth to water table (ft)	3.94
Total well depth (ft.)	19.5
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O
02/27/2001 9:18	0	0
02/27/2001 9:18	0.0048	0.004
02/27/2001 9:18	0.0098	0.01
02/27/2001 9:18	0.015	1.862
02/27/2001 9:18	0.0198	1.132
02/27/2001 9:18	0.025	-0.133
02/27/2001 9:18	0.03	0.198
02/27/2001 9:18	0.035	0.933
02/27/2001 9:18	0.0398	0.866
02/27/2001 9:18	0.045	0.444
02/27/2001 9:18	0.05	0.426
02/27/2001 9:18	0.055	0.68
02/27/2001 9:18	0.06	0.693
02/27/2001 9:18	0.0648	0.546
02/27/2001 9:18	0.07	0.517
02/27/2001 9:18	0.075	0.606
02/27/2001 9:18	0.0798	0.604
02/27/2001 9:18	0.085	0.546
02/27/2001 9:18	0.09	0.539
02/27/2001 9:18	0.095	0.562
02/27/2001 9:18	0.1	0.554
02/27/2001 9:18	0.1058	0.529
02/27/2001 9:18	0.1118	0.535
02/27/2001 9:18	0.1185	0.527
02/27/2001 9:18	0.1255	0.519
02/27/2001 9:18	0.1327	0.512
02/27/2001 9:18	0.1405	0.504
02/27/2001 9:18	0.1488	0.5
02/27/2001 9:18	0.1578	0.494
02/27/2001 9:18	0.167	0.481
02/27/2001 9:18	0.177	0.469
02/27/2001 9:18	0.1875	0.467
02/27/2001 9:18	0.1985	0.438

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	10.06		
H =	10.06		
y0 =	0.8		static water level
t =	1.96		time (mins)
yt =	0.001		water level at 't'
(1/t)*ln(y0/yt) =	3.410516		
		A =	
		B =	
Le/rw =	40	C =	2.5

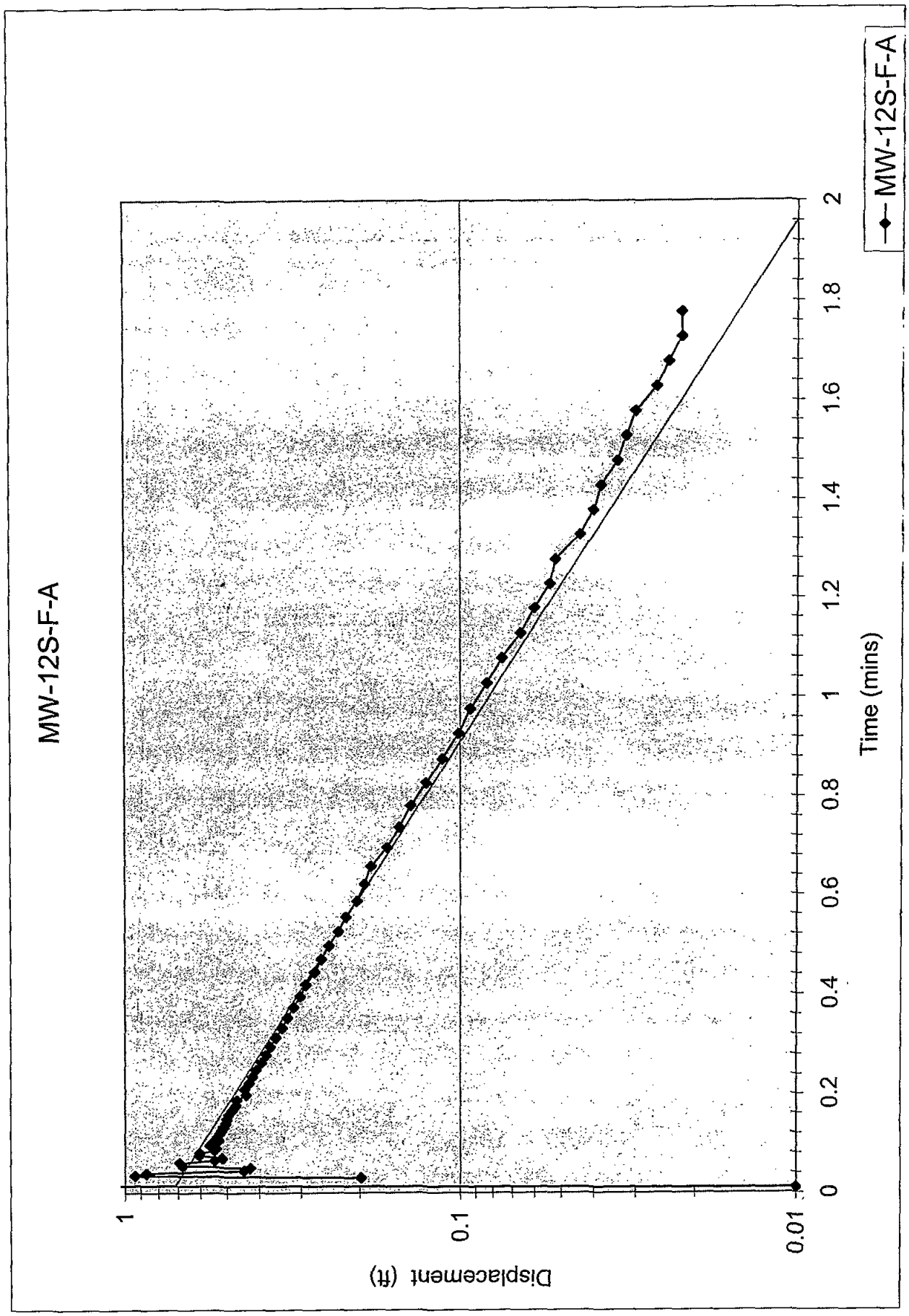
ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.776153

K (ft/min) = 3.29E-03 K (ft/sec) = 5.48E-05
K (feet/hou 1.97E-01
K (cm/sec) 1.67E-03

02/27/2001 9:18	0.21	0.442
02/27/2001 9:18	0.2225	0.428
02/27/2001 9:18	0.2358	0.418
02/27/2001 9:18	0.2498	0.407
02/27/2001 9:18	0.2647	0.393
02/27/2001 9:18	0.2803	0.381
02/27/2001 9:18	0.297	0.37
02/27/2001 9:18	0.3145	0.356
02/27/2001 9:18	0.3333	0.342
02/27/2001 9:18	0.3532	0.329
02/27/2001 9:18	0.374	0.315
02/27/2001 9:18	0.3963	0.302
02/27/2001 9:18	0.4198	0.29
02/27/2001 9:18	0.4445	0.273
02/27/2001 9:18	0.4695	0.261
02/27/2001 9:18	0.4963	0.247
02/27/2001 9:18	0.5247	0.232
02/27/2001 9:18	0.5547	0.22
02/27/2001 9:18	0.5862	0.204
02/27/2001 9:18	0.6213	0.193
02/27/2001 9:19	0.658	0.185
02/27/2001 9:19	0.6963	0.165
02/27/2001 9:19	0.738	0.152
02/27/2001 9:19	0.7813	0.14
02/27/2001 9:19	0.8278	0.126
02/27/2001 9:19	0.8762	0.113
02/27/2001 9:19	0.9278	0.101
02/27/2001 9:19	0.9778	0.093
02/27/2001 9:19	1.0278	0.083
02/27/2001 9:19	1.078	0.075
02/27/2001 9:19	1.128	0.066
02/27/2001 9:19	1.178	0.06
02/27/2001 9:19	1.228	0.054
02/27/2001 9:19	1.278	0.052
02/27/2001 9:19	1.328	0.044
02/27/2001 9:19	1.378	0.04
02/27/2001 9:19	1.428	0.038
02/27/2001 9:19	1.478	0.034
02/27/2001 9:19	1.528	0.032
02/27/2001 9:19	1.578	0.03
02/27/2001 9:19	1.628	0.026
02/27/2001 9:20	1.678	0.024
02/27/2001 9:20	1.728	0.022
02/27/2001 9:20	1.778	0.022
02/27/2001 9:20	1.828	0.02
02/27/2001 9:20	1.878	0.018
02/27/2001 9:20	1.928	0.016
02/27/2001 9:20	1.978	0.016
02/27/2001 9:20	2.028	0.007
02/27/2001 9:20	2.078	0.014
02/27/2001 9:20	2.128	0.014
02/27/2001 9:20	2.178	0.012
02/27/2001 9:20	2.228	0.012
02/27/2001 9:20	2.278	0.009
02/27/2001 9:20	2.328	0.009
02/27/2001 9:20	2.378	0.009
02/27/2001 9:20	2.428	0.007
02/27/2001 9:20	2.478	0.007
02/27/2001 9:20	2.528	0.009
02/27/2001 9:20	2.578	0.008
02/27/2001 9:20	2.628	0.004
02/27/2001 9:21	2.678	0.006
02/27/2001 9:21	2.728	0.008
02/27/2001 9:21	2.778	0.008
02/27/2001 9:21	2.828	0.008
02/27/2001 9:21	2.878	0.008
02/27/2001 9:21	2.928	0.006

02/27/2001 9:21	2.978	0.006
02/27/2001 9:21	3.028	0.004
02/27/2001 9:21	3.078	0.006
02/27/2001 9:21	3.128	0.006
02/27/2001 9:21	3.178	0.006
02/27/2001 9:21	3.228	0.004
02/27/2001 9:21	3.278	0.004
02/27/2001 9:21	3.328	0.006
02/27/2001 9:21	3.378	0.004
02/27/2001 9:21	3.428	0.004
02/27/2001 9:21	3.478	0.004
02/27/2001 9:21	3.528	0.004
02/27/2001 9:21	3.578	0.004
02/27/2001 9:21	3.628	0.004
02/27/2001 9:22	3.678	0.004
02/27/2001 9:22	3.728	0.004
02/27/2001 9:22	3.778	0.004
02/27/2001 9:22	3.828	0.004
02/27/2001 9:22	3.878	0.004
02/27/2001 9:22	3.928	0.004
02/27/2001 9:22	3.978	0.004
02/27/2001 9:22	4.028	0.004
02/27/2001 9:22	4.078	0.002
02/27/2001 9:22	4.128	0.004
02/27/2001 9:22	4.178	0.004
02/27/2001 9:22	4.228	0.004
02/27/2001 9:22	4.278	0.004
02/27/2001 9:22	4.328	0.004
02/27/2001 9:22	4.378	0.004
02/27/2001 9:22	4.428	-0.002
02/27/2001 9:22	4.478	0.004
02/27/2001 9:22	4.528	0.004
02/27/2001 9:22	4.578	0.004
02/27/2001 9:22	4.628	0.004
02/27/2001 9:23	4.678	0.004
02/27/2001 9:23	4.728	0.002
02/27/2001 9:23	4.778	0.002
02/27/2001 9:23	4.828	0.003
02/27/2001 9:23	4.878	0.003
02/27/2001 9:23	4.928	0.003
02/27/2001 9:23	4.978	0.003
02/27/2001 9:23	5.028	0.005
02/27/2001 9:23	5.078	0.005
02/27/2001 9:23	5.128	0.003
02/27/2001 9:23	5.178	0.005
02/27/2001 9:23	5.228	0.005
02/27/2001 9:23	5.278	0.005
02/27/2001 9:23	5.328	0.003
02/27/2001 9:23	5.378	0.003
02/27/2001 9:23	5.428	0.005
02/27/2001 9:23	5.478	0.003
02/27/2001 9:23	5.528	0.005
02/27/2001 9:23	5.578	0.003
02/27/2001 9:23	5.628	0.005
02/27/2001 9:24	5.678	0.005
02/27/2001 9:24	5.728	0.003
02/27/2001 9:24	5.778	0.003
02/27/2001 9:24	5.828	0.003
02/27/2001 9:24	5.878	0.003
02/27/2001 9:24	5.928	0.005
02/27/2001 9:24	5.978	-0.02


MW-12S-F-A
Displacement (ft)
1
0.1
0.01
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Time (mins)
MW-12S-F-A

Slug test

Test Information: **MW-13S-Rising Head Test**

Hydraulic Conductivity (K) = $rc^2 \ln(Re/rw)/2Le * (1/t)*\ln(y0/yt)$

$\ln(Rw/rw) = [(1.1)/(\ln(Lw/rw)) + (A+B\ln[H-Lw)/rw])/(Le/rw)]^{-1}$ (partially penetrating wells)

$\ln(Re/rw) = [(1.1)/(\ln(Lw/rw)+C/(Le/rw)]^{-1}$

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 176

Channel number [2]
Measurement ty Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Feet H2O
Referenced on: test start
Pressure head at 12.242 Feet H2O

Depth to water table (ft) 4.7
Total well depth (ft.)
Top of screen (ft.) 4
Bottom of screen (ft.) 11

	ET (min)	Chan[1] Feet H2O	transposed feet H2O
05/12/2001	0	0	
05/12/2001	0.011	3.018	
05/12/2001	0.022	0.934	
05/12/2001	0.033	0.812	
05/12/2001	0.044	0.784	
05/12/2001	0.055	0.766	
05/12/2001	0.066	0.748	
05/12/2001	0.077	0.737	
05/12/2001	0.088	0.731	
05/12/2001	0.099	0.72	
05/12/2001	0.11	0.713	
05/12/2001	0.121	0.704	
05/12/2001	0.132	0.695	
05/12/2001	0.143	0.687	
05/12/2001	0.154	0.68	
05/12/2001	0.165	0.671	
05/12/2001	0.176	0.662	
05/12/2001	0.187	0.656	
05/12/2001	0.198	0.649	
05/12/2001	0.209	0.64	
05/12/2001	0.22	0.631	
05/12/2001	0.231	0.627	
05/12/2001	0.2427	0.62	
05/12/2001	0.2552	0.614	
05/12/2001	0.2683	0.609	
05/12/2001	0.2823	0.603	
05/12/2001	0.2972	0.596	
05/12/2001	0.3128	0.587	
05/12/2001	0.3295	0.583	
05/12/2001	0.3472	0.576	
05/12/2001	0.3658	0.57	
05/12/2001	0.3857	0.563	
05/12/2001	0.4067	0.556	
05/12/2001	0.4288	0.548	
05/12/2001	0.4523	0.541	
05/12/2001	0.4772	0.532	

rc =	0.083	radius of the well
rw =	0.166	radius of the borehole
Le =	6	screen length
Lw =	6	
H =	6	
y0 =	0.77	static water level
t =	15	time (mins)
yt =	0.01	water level at 't'
(1/t)*ln(y0/yt) =	0.289587	

A =
B =
C = 2.5

Le/rw = 36.14458

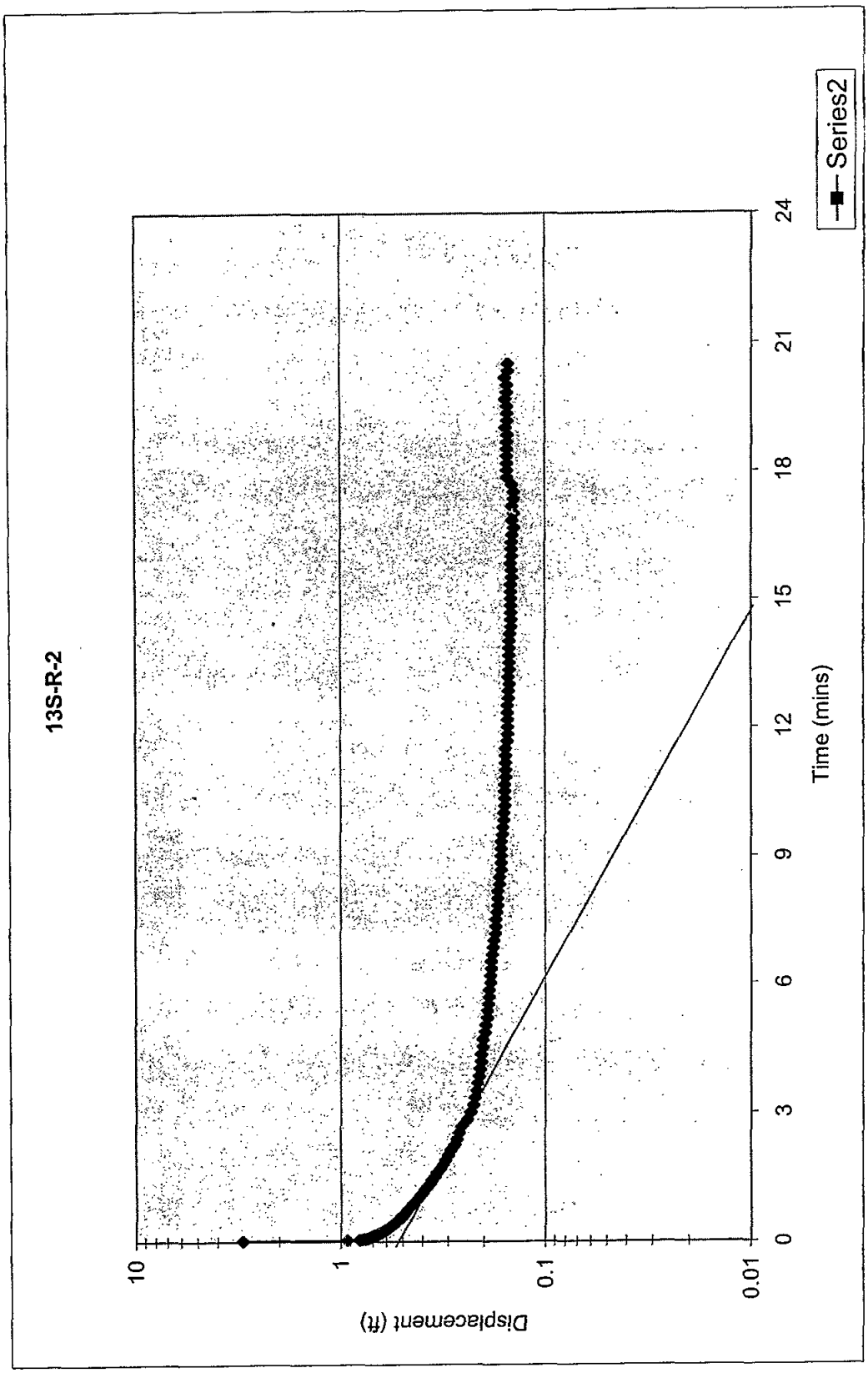
ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.661099

K (ft/min) = 4.42E-04 K (ft/sec) = 7.37E-06
K (feet/hou 2.65E-02
K (cm/sec) 2.25E-04

05/12/2001	0.5035	0.53
05/12/2001	0.5315	0.525
05/12/2001	0.5612	0.508
05/12/2001	0.5925	0.501
05/12/2001	0.6257	0.495
05/12/2001	0.6608	0.49
05/12/2001	0.6982	0.481
05/12/2001	0.7377	0.475
05/12/2001	0.7795	0.466
05/12/2001	0.8238	0.457
05/12/2001	0.8708	0.448
05/12/2001	0.9207	0.437
05/12/2001	0.9733	0.426
05/12/2001	1.0292	0.417
05/12/2001	1.0883	0.408
05/12/2001	1.151	0.397
05/12/2001	1.2173	0.389
05/12/2001	1.2877	0.378
05/12/2001	1.3622	0.366
05/12/2001	1.4412	0.358
05/12/2001	1.5248	0.347
05/12/2001	1.6133	0.338
05/12/2001	1.7072	0.325
05/12/2001	1.8065	0.316
05/12/2001	1.9118	0.307
05/12/2001	2.0233	0.298
05/12/2001	2.1415	0.289
05/12/2001	2.2667	0.276
05/12/2001	2.3992	0.269
05/12/2001	2.5397	0.263
05/12/2001	2.6885	0.256
05/12/2001	2.846	0.241
05/12/2001	3.0127	0.232
05/12/2001	3.1793	0.225
05/12/2001	3.346	0.221
05/12/2001	3.5127	0.216
05/12/2001	3.6793	0.214
05/12/2001	3.846	0.21
05/12/2001	4.0127	0.208
05/12/2001	4.1793	0.205
05/12/2001	4.346	0.205
05/12/2001	4.5127	0.201
05/12/2001	4.6793	0.201
05/12/2001	4.846	0.196
05/12/2001	5.0127	0.196
05/12/2001	5.1793	0.192
05/12/2001	5.346	0.192
05/12/2001	5.5127	0.19
05/12/2001	5.6793	0.188
05/12/2001	5.846	0.188
05/12/2001	6.0127	0.185
05/12/2001	6.1793	0.185
05/12/2001	6.346	0.183
05/12/2001	6.5127	0.183
05/12/2001	6.6793	0.181
05/12/2001	6.846	0.179
05/12/2001	7.0127	0.177
05/12/2001	7.1793	0.174
05/12/2001	7.346	0.174
05/12/2001	7.5127	0.174
05/12/2001	7.6793	0.172
05/12/2001	7.846	0.17
05/12/2001	8.0127	0.17
05/12/2001	8.1793	0.17
05/12/2001	8.346	0.166
05/12/2001	8.5127	0.166
05/12/2001	8.6793	0.163
05/12/2001	8.846	0.163
05/12/2001	9.0127	0.163

05/12/2001	9.1793	0.163
05/12/2001	9.346	0.163
05/12/2001	9.5127	0.161
05/12/2001	9.6793	0.161
05/12/2001	9.846	0.159
05/12/2001	10.0127	0.159
05/12/2001	10.1793	0.157
05/12/2001	10.346	0.157
05/12/2001	10.5127	0.157
05/12/2001	10.6793	0.157
05/12/2001	10.846	0.155
05/12/2001	11.0127	0.155
05/12/2001	11.1793	0.155
05/12/2001	11.346	0.155
05/12/2001	11.5127	0.155
05/12/2001	11.6793	0.152
05/12/2001	11.846	0.152
05/12/2001	12.0127	0.152
05/12/2001	12.1793	0.152
05/12/2001	12.346	0.152
05/12/2001	12.5127	0.152
05/12/2001	12.6793	0.15
05/12/2001	12.846	0.15
05/12/2001	13.0127	0.148
05/12/2001	13.1793	0.15
05/12/2001	13.346	0.148
05/12/2001	13.5127	0.148
05/12/2001	13.6793	0.148
05/12/2001	13.846	0.148
05/12/2001	14.0127	0.148
05/12/2001	14.1793	0.148
05/12/2001	14.346	0.146
05/12/2001	14.5127	0.146
05/12/2001	14.6793	0.146
05/12/2001	14.846	0.146
05/12/2001	15.0127	0.146
05/12/2001	15.1793	0.146
05/12/2001	15.346	0.146
05/12/2001	15.5127	0.144
05/12/2001	15.6793	0.144
05/12/2001	15.846	0.146
05/12/2001	16.0127	0.144
05/12/2001	16.1793	0.144
05/12/2001	16.346	0.144
05/12/2001	16.5127	0.144
05/12/2001	16.6793	0.141
05/12/2001	16.846	0.144
05/12/2001	17.0127	0.141
05/12/2001	17.1793	0.144
05/12/2001	17.346	0.141
05/12/2001	17.5127	0.141
05/12/2001	17.6793	0.144
05/12/2001	17.846	0.152
05/12/2001	18.0127	0.152
05/12/2001	18.1793	0.152
05/12/2001	18.346	0.152
05/12/2001	18.5127	0.152
05/12/2001	18.6793	0.152
05/12/2001	18.846	0.152
05/12/2001	19.0127	0.155
05/12/2001	19.1793	0.152
05/12/2001	19.346	0.152
05/12/2001	19.5127	0.152
05/12/2001	19.6793	0.155
05/12/2001	19.846	0.152
05/12/2001	20.0127	0.152
05/12/2001	20.1793	0.155
05/12/2001	20.346	0.15
05/12/2001	20.5127	0.15


13S-R-2
Displacement (ft)
10
1
0.1
0.01
0
3
6
9
12
15
18
21
24
Time (mins)
Series2

Slug test

Test Information: **MW-14S-Falling Head Test**

Hydraulic Conductivity (K) = $rc^2 \ln(Re/rw)/2Le * (1/t) * \ln(y0/yt)$

$\ln(Rw/rw) = [(1.1)/(\ln(Lw/rw)) + (A+B\ln[H-Lw)/rw])/(Le/rw)]^{-1}$ (partially penetrating wells)

$\ln(Re/rw) = [(1.1)/(\ln(Lw/rw) + C/(Le/rw)]^{-1}$

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 90

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.729 Meters H2O

Depth to water table (ft)	3.98
Total well depth (ft.)	21
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O
02/28/2001 8:14	0	0
02/28/2001 8:14	0.005	0.001
02/28/2001 8:14	0.01	0.006
02/28/2001 8:14	0.015	0.345
02/28/2001 8:14	0.02	1.285
02/28/2001 8:14	0.025	1.135
02/28/2001 8:14	0.03	0.862
02/28/2001 8:14	0.035	0.714
02/28/2001 8:14	0.04	0.583
02/28/2001 8:14	0.045	0.237
02/28/2001 8:14	0.05	0.238
02/28/2001 8:14	0.055	0.542
02/28/2001 8:14	0.06	0.44
02/28/2001 8:14	0.065	0.31
02/28/2001 8:14	0.07	0.313
02/28/2001 8:14	0.075	0.39
02/28/2001 8:14	0.08	0.412
02/28/2001 8:14	0.0848	0.388
02/28/2001 8:14	0.09	0.366
02/28/2001 8:14	0.095	0.364
02/28/2001 8:14	0.1	0.365
02/28/2001 8:14	0.1058	0.357
02/28/2001 8:14	0.112	0.35
02/28/2001 8:14	0.1185	0.344
02/28/2001 8:14	0.1255	0.338
02/28/2001 8:14	0.1328	0.331
02/28/2001 8:14	0.1407	0.323
02/28/2001 8:14	0.149	0.317
02/28/2001 8:14	0.1578	0.309
02/28/2001 8:14	0.167	0.303

rc =	0.083333	radius of the well
rw =	0.25	radius of the borehole
Le =	10	screen length
Lw =	10.02	
H =	1.092	
y0 =	0.3	static water level
t =	5.2	time (mins)
yt =	0.0001	water level at 't'
(1/t)*ln(y0/yt) =	1.539686	

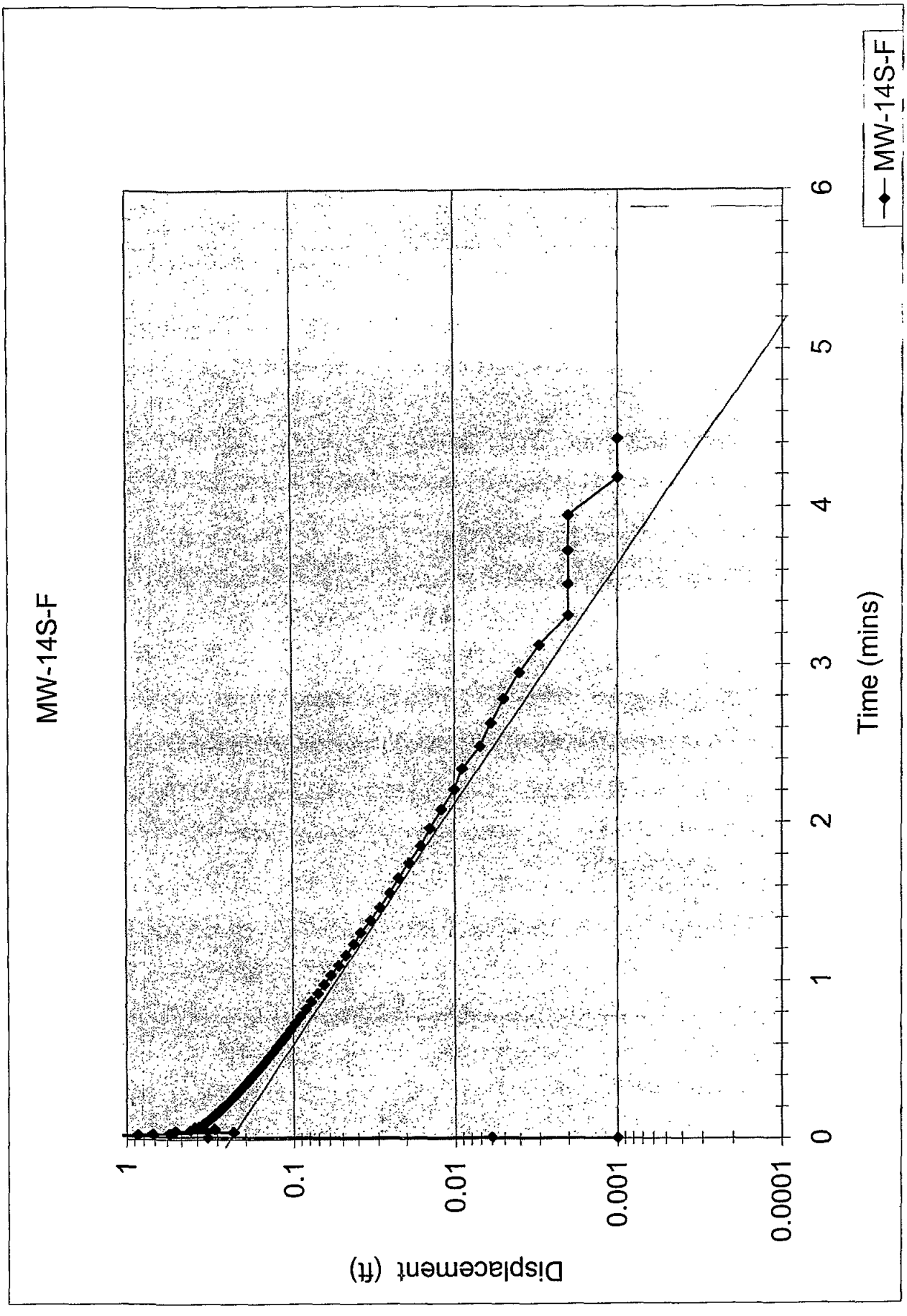
A =
B =
Le/rw = 40 C = 2

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.873298

K (ft/min) = 1.54E-03 K (ft/sec) = 2.56E-05
K (feet/hou 9.22E-02
K (cm/sec) 7.80E-04

02/28/2001 8:14	0.177	0.294
02/28/2001 8:14	0.1875	0.287
02/28/2001 8:14	0.1985	0.28
02/28/2001 8:14	0.2102	0.272
02/28/2001 8:14	0.2227	0.263
02/28/2001 8:14	0.2358	0.256
02/28/2001 8:14	0.2498	0.248
02/28/2001 8:14	0.2647	0.24
02/28/2001 8:14	0.2803	0.231
02/28/2001 8:14	0.297	0.224
02/28/2001 8:14	0.3147	0.215
02/28/2001 8:15	0.3333	0.207
02/28/2001 8:15	0.3532	0.199
02/28/2001 8:15	0.3742	0.19
02/28/2001 8:15	0.3963	0.182
02/28/2001 8:15	0.4198	0.174
02/28/2001 8:15	0.4447	0.165
02/28/2001 8:15	0.4697	0.157
02/28/2001 8:15	0.4963	0.149
02/28/2001 8:15	0.5247	0.142
02/28/2001 8:15	0.5547	0.134
02/28/2001 8:15	0.5863	0.127
02/28/2001 8:15	0.6213	0.119
02/28/2001 8:15	0.6578	0.111
02/28/2001 8:15	0.6963	0.104
02/28/2001 8:15	0.738	0.097
02/28/2001 8:15	0.7813	0.09
02/28/2001 8:15	0.828	0.083
02/28/2001 8:15	0.8763	0.077
02/28/2001 8:15	0.928	0.07
02/28/2001 8:15	0.983	0.064
02/28/2001 8:15	1.0413	0.058
02/28/2001 8:15	1.103	0.052
02/28/2001 8:15	1.168	0.047
02/28/2001 8:15	1.238	0.042
02/28/2001 8:15	1.3113	0.038
02/28/2001 8:16	1.3897	0.033
02/28/2001 8:16	1.473	0.029
02/28/2001 8:16	1.5613	0.025
02/28/2001 8:16	1.6547	0.022
02/28/2001 8:16	1.753	0.019
02/28/2001 8:16	1.858	0.016
02/28/2001 8:16	1.968	0.014
02/28/2001 8:16	2.0847	0.012
02/28/2001 8:16	2.2097	0.01
02/28/2001 8:17	2.3412	0.009
02/28/2001 8:17	2.4813	0.007
02/28/2001 8:17	2.6297	0.006
02/28/2001 8:17	2.7863	0.005
02/28/2001 8:17	2.953	0.004
02/28/2001 8:17	3.1297	0.003
02/28/2001 8:17	3.3163	0.002
02/28/2001 8:18	3.5147	0.002
02/28/2001 8:18	3.7247	0.002
02/28/2001 8:18	3.9463	0.002
02/28/2001 8:18	4.1813	0.001
02/28/2001 8:19	4.4295	0.001
02/28/2001 8:19	4.693	0
02/28/2001 8:19	4.973	0
02/28/2001 8:19	5.2697	0


MW-14S-F
Displacement (ft)
1
0.1
0.01
0.001
0.0001
0
1
2
3
4
5
6
Time (mins)
MW-14S-F

Slug test

Test Information: **MW-14S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B ln[H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 82

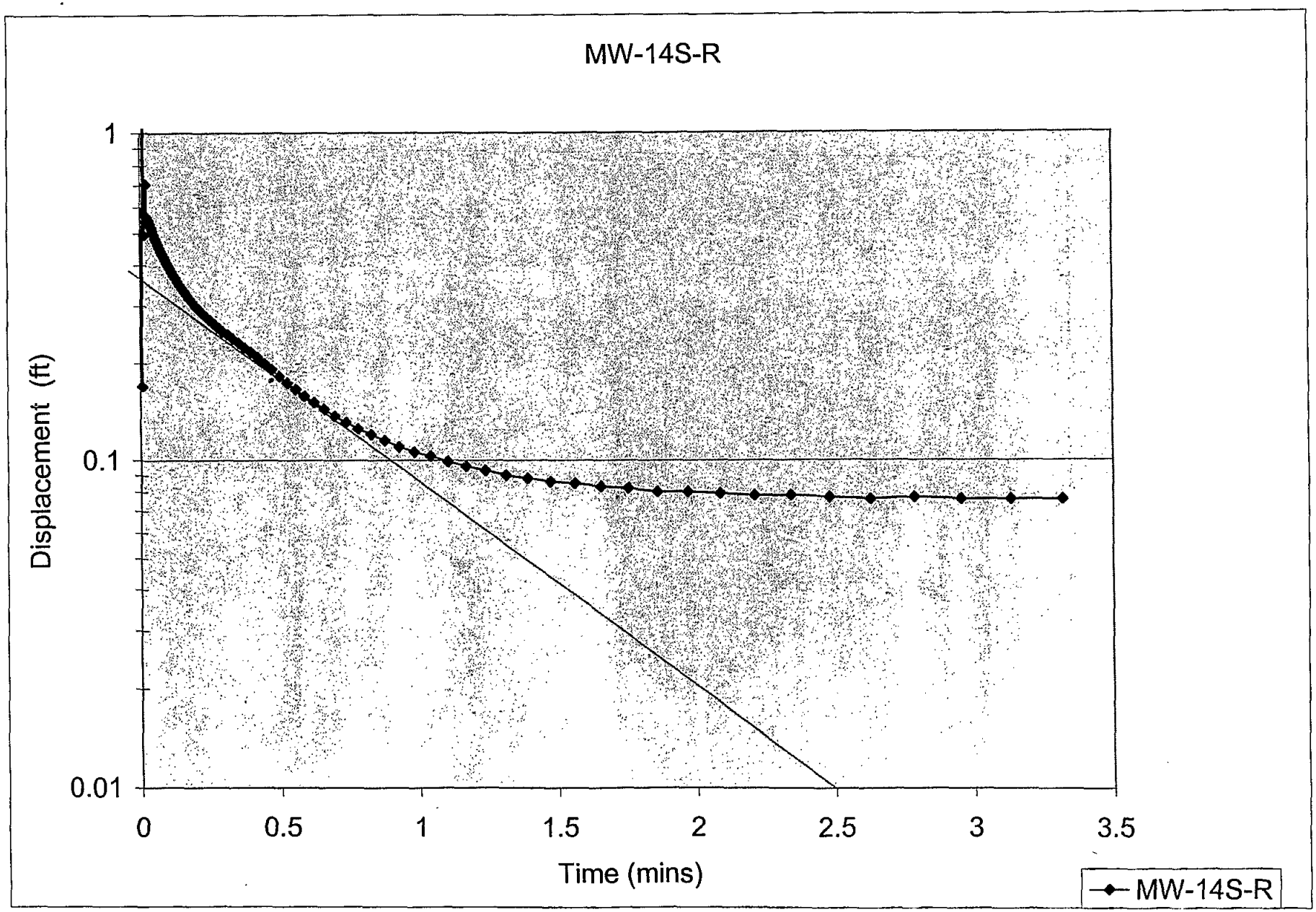
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.732 Meters H2O

Depth to water table (ft)	3.98
Total well depth (ft.)	21
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O	Transposed Ft.
02/28/2001 8:20	0	0	0
02/28/2001 8:20	0.005	-0.17	0.17
02/28/2001 8:20	0.01	-2.105	2.105
02/28/2001 8:20	0.015	-0.494	0.494
02/28/2001 8:20	0.02	-0.706	0.706
02/28/2001 8:20	0.025	-0.56	0.56
02/28/2001 8:20	0.03	-0.547	0.547
02/28/2001 8:20	0.035	-0.535	0.535
02/28/2001 8:20	0.04	-0.52	0.52
02/28/2001 8:20	0.045	-0.507	0.507
02/28/2001 8:20	0.05	-0.495	0.495
02/28/2001 8:20	0.055	-0.483	0.483
02/28/2001 8:20	0.06	-0.472	0.472
02/28/2001 8:20	0.065	-0.461	0.461
02/28/2001 8:20	0.07	-0.451	0.451
02/28/2001 8:20	0.075	-0.441	0.441
02/28/2001 8:20	0.08	-0.432	0.432
02/28/2001 8:20	0.0848	-0.424	0.424
02/28/2001 8:20	0.09	-0.415	0.415
02/28/2001 8:20	0.095	-0.407	0.407
02/28/2001 8:20	0.1	-0.399	0.399
02/28/2001 8:20	0.1058	-0.391	0.391
02/28/2001 8:21	0.112	-0.382	0.382
02/28/2001 8:21	0.1185	-0.373	0.373
02/28/2001 8:21	0.1255	-0.365	0.365
02/28/2001 8:21	0.1328	-0.356	0.356
02/28/2001 8:21	0.1407	-0.347	0.347

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	10.2		
H =	10.2		
y0 =	0.4		static water level
t =	2.5		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	1.475552		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.784729		
K (ft/min) =	1.43E-03	K (ft/sec) =	2.38E-05
K (feet/hou	8.56E-02		
K (cm/sec)	7.25E-04		

02/28/2001 8:21	0.149	-0.339	0.339
02/28/2001 8:21	0.1578	-0.331	0.331
02/28/2001 8:21	0.167	-0.323	0.323
02/28/2001 8:21	0.177	-0.315	0.315
02/28/2001 8:21	0.1875	-0.308	0.308
02/28/2001 8:21	0.1985	-0.3	0.3
02/28/2001 8:21	0.2102	-0.293	0.293
02/28/2001 8:21	0.2227	-0.285	0.285
02/28/2001 8:21	0.2358	-0.278	0.278
02/28/2001 8:21	0.2498	-0.271	0.271
02/28/2001 8:21	0.2647	-0.264	0.264
02/28/2001 8:21	0.2803	-0.257	0.257
02/28/2001 8:21	0.297	-0.25	0.25
02/28/2001 8:21	0.3147	-0.244	0.244
02/28/2001 8:21	0.3333	-0.237	0.237
02/28/2001 8:21	0.3532	-0.231	0.231
02/28/2001 8:21	0.3742	-0.223	0.223
02/28/2001 8:21	0.3963	-0.216	0.216
02/28/2001 8:21	0.4198	-0.208	0.208
02/28/2001 8:21	0.4447	-0.199	0.199
02/28/2001 8:21	0.4697	-0.191	0.191
02/28/2001 8:21	0.4963	-0.182	0.182
02/28/2001 8:21	0.5247	-0.174	0.174
02/28/2001 8:21	0.5547	-0.166	0.166
02/28/2001 8:21	0.5863	-0.158	0.158
02/28/2001 8:21	0.6213	-0.151	0.151
02/28/2001 8:21	0.6578	-0.144	0.144
02/28/2001 8:21	0.6963	-0.137	0.137
02/28/2001 8:21	0.738	-0.131	0.131
02/28/2001 8:21	0.7813	-0.125	0.125
02/28/2001 8:21	0.828	-0.12	0.12
02/28/2001 8:21	0.8763	-0.115	0.115
02/28/2001 8:21	0.928	-0.11	0.11
02/28/2001 8:21	0.983	-0.106	0.106
02/28/2001 8:21	1.0413	-0.103	0.103
02/28/2001 8:21	1.103	-0.099	0.099
02/28/2001 8:22	1.168	-0.096	0.096
02/28/2001 8:22	1.238	-0.093	0.093
02/28/2001 8:22	1.3113	-0.09	0.09
02/28/2001 8:22	1.3897	-0.088	0.088
02/28/2001 8:22	1.473	-0.086	0.086
02/28/2001 8:22	1.5613	-0.085	0.085
02/28/2001 8:22	1.6547	-0.083	0.083
02/28/2001 8:22	1.753	-0.082	0.082
02/28/2001 8:22	1.858	-0.08	0.08
02/28/2001 8:22	1.968	-0.08	0.08
02/28/2001 8:22	2.0847	-0.079	0.079
02/28/2001 8:23	2.2097	-0.078	0.078
02/28/2001 8:23	2.3412	-0.078	0.078
02/28/2001 8:23	2.4813	-0.077	0.077
02/28/2001 8:23	2.6297	-0.076	0.076
02/28/2001 8:23	2.7863	-0.077	0.077
02/28/2001 8:23	2.953	-0.076	0.076
02/28/2001 8:24	3.1297	-0.076	0.076
02/28/2001 8:24	3.3163	-0.076	0.076


MW-14S-R
Displacement (ft)
1
0.1
0.01
0
0.5
1
1.5
2
2.5
3
3.5
Time (mins)
MW-14S-R

Slug test

Test Information: **MW-15S-Falling Head Test**

Hydraulic Condutivity (K) = rc^2 ln (Re/rw)/2Le * (1/t) ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B ln[H-Lw)/rw)/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 82

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 5.026 Meters H2O

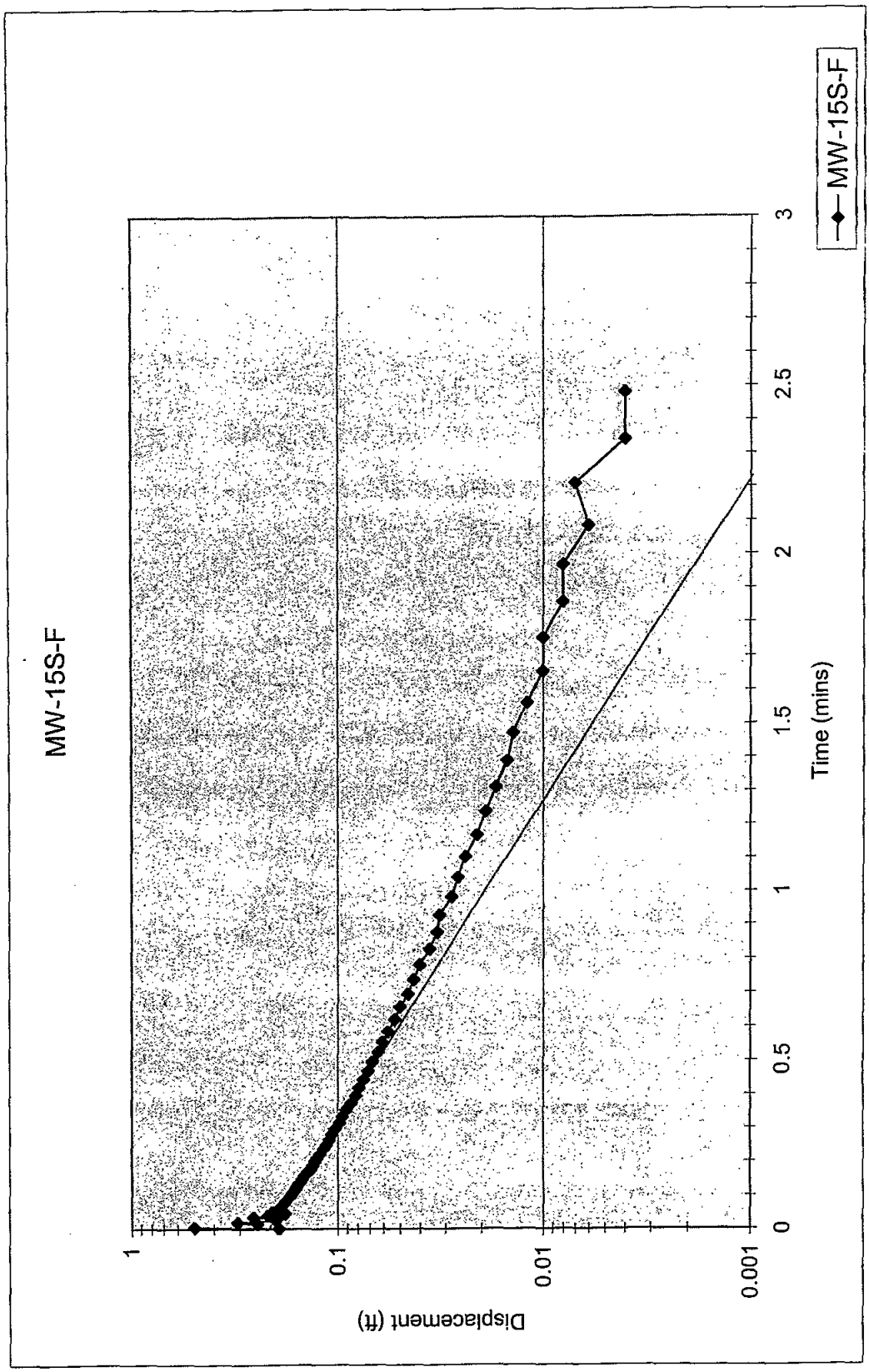
Depth to water table (ft)	1.67
Total well depth (ft.)	24
Top of screen (ft.)	4
Bottom of screen (ft.)	14

Note: Data cannot be analyzed (please refer to plot)

	ET (min)	Ft. H20	Baseline adjusted Ft. H
08/11/1999 20:08	0	0	0.194
08/11/1999 20:08	0.0048	0.304	0.498
08/11/1999 20:08	0.0098	-0.257	-0.063
08/11/1999 20:08	0.015	0.052	0.246
08/11/1999 20:08	0.0198	0.113	0.307
08/11/1999 20:08	0.025	0.007	0.201
08/11/1999 20:08	0.03	0.004	0.198
08/11/1999 20:08	0.035	0.063	0.257
08/11/1999 20:08	0.0398	0.025	0.219
08/11/1999 20:08	0.045	-0.013	0.181
08/11/1999 20:08	0.05	0.014	0.208
08/11/1999 20:08	0.0548	-0.003	0.191
08/11/1999 20:08	0.06	-0.001	0.193
08/11/1999 20:08	0.0648	-0.005	0.189
08/11/1999 20:08	0.07	-0.008	0.186
08/11/1999 20:08	0.075	-0.012	0.182
08/11/1999 20:08	0.0798	-0.014	0.18
08/11/1999 20:08	0.0848	-0.016	0.178
08/11/1999 20:08	0.09	-0.019	0.175
08/11/1999 20:08	0.095	-0.022	0.172
08/11/1999 20:08	0.1	-0.024	0.17
08/11/1999 20:08	0.1057	-0.027	0.167
08/11/1999 20:08	0.1118	-0.03	0.164
08/11/1999 20:08	0.1185	-0.033	0.161
08/11/1999 20:08	0.1255	-0.035	0.159
08/11/1999 20:08	0.1327	-0.038	0.156
08/11/1999 20:08	0.1405	-0.042	0.152
08/11/1999 20:08	0.1488	-0.045	0.149
08/11/1999 20:08	0.1578	-0.048	0.146
08/11/1999 20:08	0.167	-0.053	0.141

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	12.33		
H =	12.33		
y0 =	0.2		static water level
t =	2.2		time (mins)
yt =	0.001		water level at 't'
(1/t)*ln(y0/yt) =	2.408326		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.901308		
K (ft/min) =	2.43E-03	K (ft/sec) =	4.04E-05
K (feet/hour) =	1.46E-01		
K (cm/sec) =	1.23E-03		

08/11/1999 20:08	0.1768	-0.058	0.136
08/11/1999 20:08	0.1875	-0.062	0.132
08/11/1999 20:08	0.1985	-0.065	0.129
08/11/1999 20:08	0.21	-0.068	0.126
08/11/1999 20:08	0.2225	-0.072	0.122
08/11/1999 20:08	0.2358	-0.076	0.118
08/11/1999 20:08	0.2498	-0.08	0.114
08/11/1999 20:08	0.2647	-0.084	0.11
08/11/1999 20:08	0.2803	-0.087	0.107
08/11/1999 20:08	0.297	-0.091	0.103
08/11/1999 20:08	0.3145	-0.096	0.098
08/11/1999 20:08	0.3333	-0.099	0.095
08/11/1999 20:08	0.3532	-0.103	0.091
08/11/1999 20:08	0.374	-0.108	0.086
08/11/1999 20:08	0.3963	-0.112	0.082
08/11/1999 20:08	0.4198	-0.115	0.079
08/11/1999 20:08	0.4445	-0.119	0.075
08/11/1999 20:08	0.4695	-0.123	0.071
08/11/1999 20:08	0.4963	-0.126	0.068
08/11/1999 20:08	0.5247	-0.13	0.064
08/11/1999 20:08	0.5547	-0.133	0.061
08/11/1999 20:08	0.5862	-0.137	0.057
08/11/1999 20:09	0.6213	-0.141	0.053
08/11/1999 20:09	0.6578	-0.144	0.05
08/11/1999 20:09	0.6963	-0.148	0.046
08/11/1999 20:09	0.738	-0.151	0.043
08/11/1999 20:09	0.7813	-0.154	0.04
08/11/1999 20:09	0.8278	-0.158	0.036
08/11/1999 20:09	0.8762	-0.161	0.033
08/11/1999 20:09	0.9278	-0.162	0.032
08/11/1999 20:09	0.9828	-0.166	0.028
08/11/1999 20:09	1.0412	-0.168	0.026
08/11/1999 20:09	1.103	-0.17	0.024
08/11/1999 20:09	1.1678	-0.173	0.021
08/11/1999 20:09	1.238	-0.175	0.019
08/11/1999 20:09	1.3113	-0.177	0.017
08/11/1999 20:09	1.3895	-0.179	0.015
08/11/1999 20:09	1.4728	-0.18	0.014
08/11/1999 20:09	1.5613	-0.182	0.012
08/11/1999 20:10	1.6547	-0.184	0.01
08/11/1999 20:10	1.753	-0.184	0.01
08/11/1999 20:10	1.858	-0.186	0.008
08/11/1999 20:10	1.9678	-0.186	0.008
08/11/1999 20:10	2.0845	-0.188	0.006
08/11/1999 20:10	2.2097	-0.187	0.007
08/11/1999 20:10	2.3412	-0.19	0.004
08/11/1999 20:10	2.4812	-0.19	0.004
08/11/1999 20:11	2.6297	-0.194	0
08/11/1999 20:11	2.7863	-0.191	0.003
08/11/1999 20:11	2.953	-0.193	0.001
08/11/1999 20:11	3.1297	-0.193	0.001
08/11/1999 20:11	3.3162	-0.194	0


MW-15S-F
Displacement (ft)
1
0.1
0.01
0.001
0
0.5
1
1.5
2
2.5
3
Time (mins)
MW-15S-F

Slug test

Test Information: **MW-15S-A-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t) ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B|n[H-Lw)/rw)/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw)+ C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 89

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 4.754 Meters H2O

Depth to water table (ft)	1.67
Total well depth (ft.)	24
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O
08/11/1999 20:26	0	0
08/11/1999 20:26	0.0048	0.003
08/11/1999 20:26	0.0098	0.352
08/11/1999 20:26	0.015	0.644
08/11/1999 20:26	0.0198	0.15
08/11/1999 20:26	0.025	0.035
08/11/1999 20:26	0.03	0.291
08/11/1999 20:26	0.035	0.217
08/11/1999 20:26	0.0398	0.182
08/11/1999 20:26	0.045	0.198
08/11/1999 20:26	0.05	0.187
08/11/1999 20:26	0.0548	0.19
08/11/1999 20:26	0.06	0.186
08/11/1999 20:26	0.0648	0.181
08/11/1999 20:26	0.07	0.178
08/11/1999 20:26	0.075	0.176
08/11/1999 20:26	0.0798	0.172
08/11/1999 20:26	0.0848	0.169
08/11/1999 20:26	0.09	0.166
08/11/1999 20:26	0.095	0.163
08/11/1999 20:26	0.1	0.16
08/11/1999 20:26	0.1057	0.157
08/11/1999 20:26	0.1118	0.154
08/11/1999 20:26	0.1185	0.15
08/11/1999 20:26	0.1255	0.148
08/11/1999 20:26	0.1327	0.144
08/11/1999 20:26	0.1405	0.141
08/11/1999 20:26	0.1488	0.137

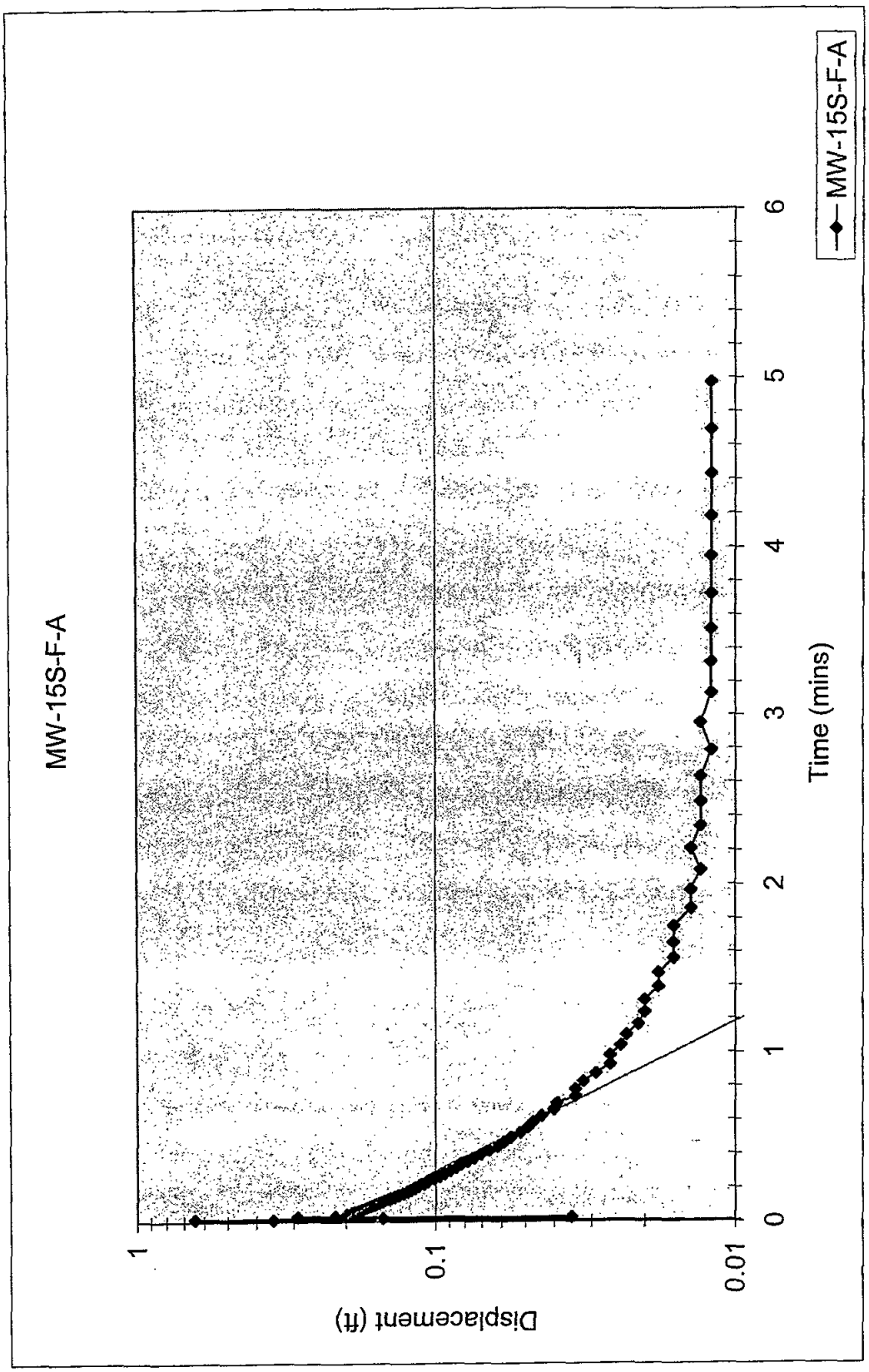
rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	12.33		
H =	12.33		
y0 =	0.3		static water level
t =	1.2		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	2.834331		
		A =	
		B =	
Le/rw =	40	C =	2.5

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.901308

K (ft/min) = 2.86E-03 K (ft/sec) = 4.76E-05
K (feet/hou 1.71E-01
K (cm/sec) 1.45E-03

08/11/1999 20:26	0.1578	0.133
08/11/1999 20:26	0.167	0.128
08/11/1999 20:26	0.1768	0.124
08/11/1999 20:26	0.1875	0.121
08/11/1999 20:26	0.1985	0.117
08/11/1999 20:26	0.21	0.114
08/11/1999 20:26	0.2225	0.109
08/11/1999 20:26	0.2358	0.106
08/11/1999 20:26	0.2498	0.101
08/11/1999 20:26	0.2647	0.097
08/11/1999 20:26	0.2803	0.093
08/11/1999 20:26	0.297	0.089
08/11/1999 20:26	0.3145	0.085
08/11/1999 20:26	0.3333	0.082
08/11/1999 20:26	0.3532	0.078
08/11/1999 20:26	0.374	0.074
08/11/1999 20:26	0.3963	0.07
08/11/1999 20:26	0.4198	0.066
08/11/1999 20:26	0.4445	0.062
08/11/1999 20:26	0.4695	0.059
08/11/1999 20:26	0.4963	0.056
08/11/1999 20:26	0.5247	0.052
08/11/1999 20:26	0.5547	0.049
08/11/1999 20:26	0.5862	0.047
08/11/1999 20:26	0.6213	0.044
08/11/1999 20:26	0.6578	0.04
08/11/1999 20:26	0.6963	0.039
08/11/1999 20:26	0.738	0.034
08/11/1999 20:26	0.7813	0.034
08/11/1999 20:26	0.8278	0.032
08/11/1999 20:26	0.8762	0.029
08/11/1999 20:27	0.9278	0.026
08/11/1999 20:27	0.9828	0.026
08/11/1999 20:27	1.0412	0.024
08/11/1999 20:27	1.103	0.023
08/11/1999 20:27	1.1678	0.021
08/11/1999 20:27	1.238	0.02
08/11/1999 20:27	1.3113	0.02
08/11/1999 20:27	1.3895	0.018
08/11/1999 20:27	1.4728	0.018
08/11/1999 20:27	1.5613	0.016
08/11/1999 20:27	1.6547	0.016
08/11/1999 20:27	1.753	0.016
08/11/1999 20:27	1.858	0.014
08/11/1999 20:28	1.9678	0.014
08/11/1999 20:28	2.0845	0.013
08/11/1999 20:28	2.2097	0.014
08/11/1999 20:28	2.3412	0.013
08/11/1999 20:28	2.4812	0.013
08/11/1999 20:28	2.6297	0.013
08/11/1999 20:28	2.7863	0.012
08/11/1999 20:29	2.953	0.013
08/11/1999 20:29	3.1297	0.012
08/11/1999 20:29	3.3162	0.012
08/11/1999 20:29	3.5145	0.012
08/11/1999 20:29	3.7245	0.012
08/11/1999 20:30	3.9463	0.012
08/11/1999 20:30	4.1812	0.012
08/11/1999 20:30	4.4295	0.012
08/11/1999 20:30	4.6928	0.012
08/11/1999 20:31	4.9728	0.012


MW-15S-F-A
Displacement (ft)
1
0.1
0.01
0
1
2
3
4
5
6
Time (mins)
MW-15S-F-A

Slug test

Test Information: **MW-15S-A-Rising Head Test**

Hydraulic Conductivity (K) = $rc^2 \ln(Re/rw)/2Le * (1/t)*\ln(y0/yt)$

$\ln(Rw/rw) = ((1.1)/(\ln(Lw/rw)) + (A+B\ln[H-Lw)/rw])/(Le/rw)]^{-1}$ (partially penetrating wells)

$\ln(Re/rw) = [(1.1)/(\ln(Lw/rw) + C/(Le/rw)]^{-1}$

where A, B and C are dimensionless numbers

TOTAL DATA SAI 97

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 4.768 Meters H2O

Depth to water table (ft)	1.67
Total well depth (ft.)	24
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O	Ft. Tranposed H2O
08/11/1999 20:31	0	0	0
08/11/1999 20:31	0.0048	-0.004	0.004
08/11/1999 20:31	0.0098	-0.637	0.637
08/11/1999 20:31	0.015	-0.167	0.167
08/11/1999 20:31	0.0198	-0.246	0.246
08/11/1999 20:31	0.025	-0.202	0.202
08/11/1999 20:31	0.03	-0.209	0.209
08/11/1999 20:31	0.035	-0.199	0.199
08/11/1999 20:31	0.0398	-0.196	0.196
08/11/1999 20:31	0.045	-0.192	0.192
08/11/1999 20:31	0.05	-0.189	0.189
08/11/1999 20:32	0.0548	-0.185	0.185
08/11/1999 20:32	0.06	-0.182	0.182
08/11/1999 20:32	0.0648	-0.178	0.178
08/11/1999 20:32	0.07	-0.175	0.175
08/11/1999 20:32	0.075	-0.173	0.173
08/11/1999 20:32	0.0798	-0.17	0.17
08/11/1999 20:32	0.0848	-0.168	0.168
08/11/1999 20:32	0.09	-0.165	0.165
08/11/1999 20:32	0.095	-0.163	0.163
08/11/1999 20:32	0.1	-0.161	0.161
08/11/1999 20:32	0.1057	-0.158	0.158
08/11/1999 20:32	0.1118	-0.156	0.156
08/11/1999 20:32	0.1185	-0.153	0.153
08/11/1999 20:32	0.1255	-0.15	0.15
08/11/1999 20:32	0.1327	-0.148	0.148
08/11/1999 20:32	0.1405	-0.144	0.144
08/11/1999 20:32	0.1488	-0.142	0.142
08/11/1999 20:32	0.1578	-0.139	0.139
08/11/1999 20:32	0.167	-0.138	0.138
08/11/1999 20:32	0.1768	-0.134	0.134
08/11/1999 20:32	0.1875	-0.132	0.132
08/11/1999 20:32	0.1985	-0.129	0.129

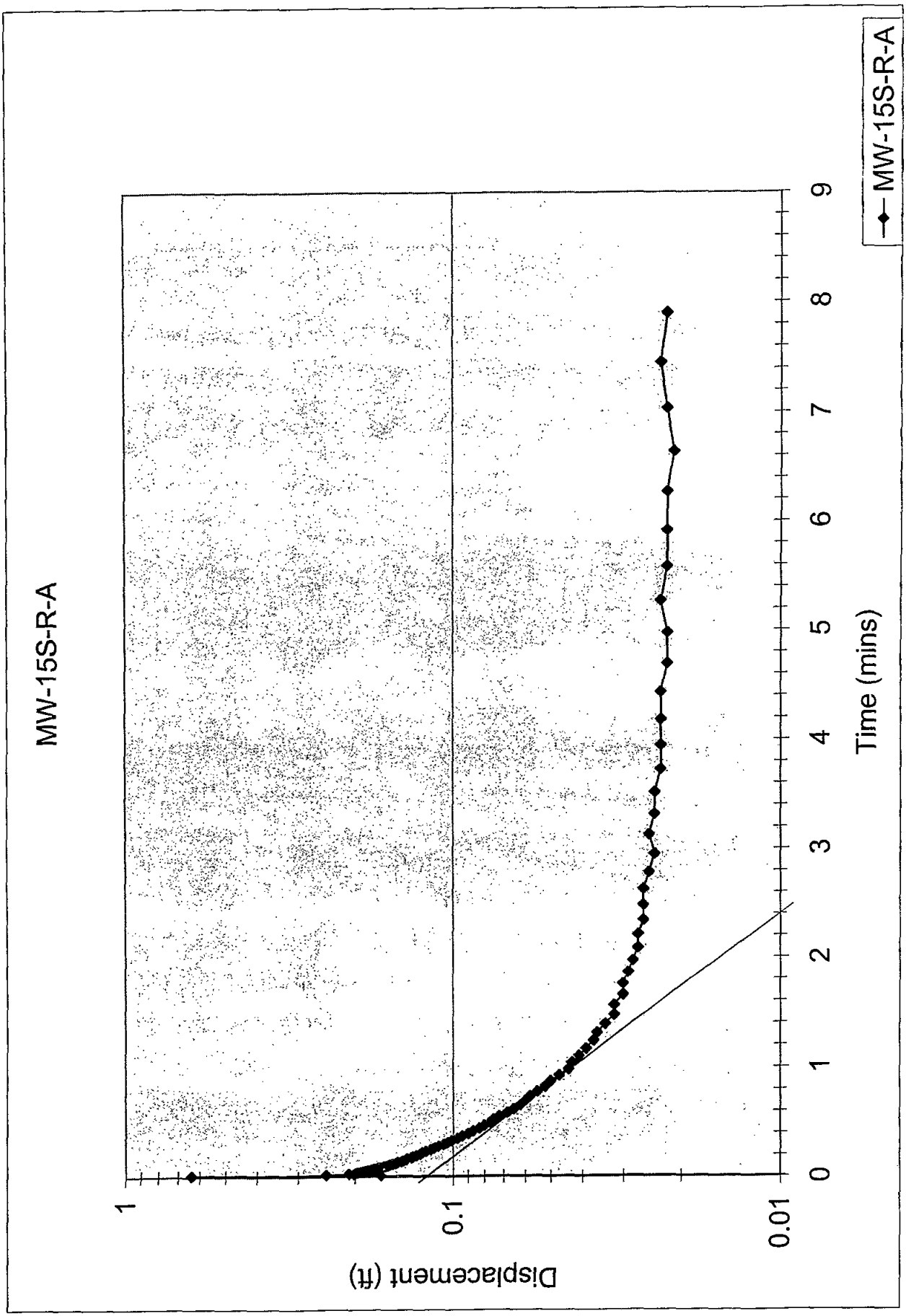
rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	12.33		
H =	12.33		
y0 =	0.12		static water level
t =	2.7		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	0.920336		
		A =	
		B =	
Le/rw =	40	C =	2.5

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.901308

K (ft/min) = 9.27E-04 K (ft/sec) = 1.55E-05
K (feet/hou 5.56E-02
K (cm/sec) 4.71E-04

08/11/1999 20:32	0.21	-0.126	0.126
08/11/1999 20:32	0.2225	-0.124	0.124
08/11/1999 20:32	0.2358	-0.121	0.121
08/11/1999 20:32	0.2498	-0.117	0.117
08/11/1999 20:32	0.2647	-0.114	0.114
08/11/1999 20:32	0.2803	-0.111	0.111
08/11/1999 20:32	0.297	-0.107	0.107
08/11/1999 20:32	0.3145	-0.104	0.104
08/11/1999 20:32	0.3333	-0.101	0.101
08/11/1999 20:32	0.3532	-0.097	0.097
08/11/1999 20:32	0.374	-0.094	0.094
08/11/1999 20:32	0.3963	-0.09	0.09
08/11/1999 20:32	0.4198	-0.087	0.087
08/11/1999 20:32	0.4445	-0.083	0.083
08/11/1999 20:32	0.4695	-0.08	0.08
08/11/1999 20:32	0.4963	-0.077	0.077
08/11/1999 20:32	0.5247	-0.075	0.075
08/11/1999 20:32	0.5547	-0.072	0.072
08/11/1999 20:32	0.5862	-0.068	0.068
08/11/1999 20:32	0.6213	-0.065	0.065
08/11/1999 20:32	0.6578	-0.062	0.062
08/11/1999 20:32	0.6963	-0.06	0.06
08/11/1999 20:32	0.738	-0.058	0.058
08/11/1999 20:32	0.7813	-0.055	0.055
08/11/1999 20:32	0.8278	-0.052	0.052
08/11/1999 20:32	0.8762	-0.05	0.05
08/11/1999 20:32	0.9278	-0.047	0.047
08/11/1999 20:32	0.9828	-0.044	0.044
08/11/1999 20:32	1.0412	-0.043	0.043
08/11/1999 20:33	1.103	-0.041	0.041
08/11/1999 20:33	1.1678	-0.039	0.039
08/11/1999 20:33	1.238	-0.037	0.037
08/11/1999 20:33	1.3113	-0.036	0.036
08/11/1999 20:33	1.3895	-0.034	0.034
08/11/1999 20:33	1.4728	-0.032	0.032
08/11/1999 20:33	1.5613	-0.032	0.032
08/11/1999 20:33	1.6547	-0.03	0.03
08/11/1999 20:33	1.753	-0.03	0.03
08/11/1999 20:33	1.858	-0.029	0.029
08/11/1999 20:33	1.9678	-0.028	0.028
08/11/1999 20:34	2.0845	-0.027	0.027
08/11/1999 20:34	2.2097	-0.027	0.027
08/11/1999 20:34	2.3412	-0.026	0.026
08/11/1999 20:34	2.4812	-0.026	0.026
08/11/1999 20:34	2.6297	-0.026	0.026
08/11/1999 20:34	2.7863	-0.025	0.025
08/11/1999 20:34	2.953	-0.024	0.024
08/11/1999 20:35	3.1297	-0.025	0.025
08/11/1999 20:35	3.3162	-0.024	0.024
08/11/1999 20:35	3.5145	-0.024	0.024
08/11/1999 20:35	3.7245	-0.023	0.023
08/11/1999 20:35	3.9463	-0.023	0.023
08/11/1999 20:36	4.1812	-0.023	0.023
08/11/1999 20:36	4.4295	-0.023	0.023
08/11/1999 20:36	4.6928	-0.022	0.022
08/11/1999 20:36	4.9728	-0.022	0.022
08/11/1999 20:37	5.2697	-0.023	0.023
08/11/1999 20:37	5.583	-0.022	0.022
08/11/1999 20:37	5.9145	-0.022	0.022
08/11/1999 20:38	6.2663	-0.022	0.022
08/11/1999 20:38	6.6395	-0.021	0.021
08/11/1999 20:38	7.0345	-0.022	0.022
08/11/1999 20:39	7.453	-0.023	0.023
08/11/1999 20:39	7.8962	-0.022	0.022


MW-15S-R-A
Displacement (ft)
1
0.1
0.01
0
1
2
3
4
5
6
7
8
9
Time (mins)
MW-15S-R-A

Slug test

Test Information: **MW-16S-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln(Re/rw)/2Le * (1/t)*ln(y0/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw))] + (A+B ln[H-Lw/rw])/(Le/rw)]^C (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw)] + C/(Le/rw)]^C

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 85

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.828 Meters H2O

Depth to water table (ft)	3.52
Total well depth (ft.)	14
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O
03/01/2001 11:31	0	0
03/01/2001 11:31	0.0048	0.003
03/01/2001 11:31	0.0098	0.041
03/01/2001 11:31	0.015	1.344
03/01/2001 11:31	0.0198	1.38
03/01/2001 11:31	0.025	0.183
03/01/2001 11:31	0.03	0.102
03/01/2001 11:31	0.035	0.194
03/01/2001 11:31	0.0398	0.27
03/01/2001 11:31	0.045	0.279
03/01/2001 11:31	0.05	0.256
03/01/2001 11:31	0.0548	0.232
03/01/2001 11:31	0.06	0.214
03/01/2001 11:31	0.0648	0.202
03/01/2001 11:31	0.07	0.192
03/01/2001 11:31	0.075	0.182
03/01/2001 11:31	0.0798	0.172
03/01/2001 11:31	0.0848	0.164
03/01/2001 11:31	0.09	0.155
03/01/2001 11:31	0.095	0.148
03/01/2001 11:31	0.1	0.14
03/01/2001 11:31	0.1057	0.133
03/01/2001 11:31	0.1118	0.125
03/01/2001 11:31	0.1185	0.118
03/01/2001 11:31	0.1255	0.111
03/01/2001 11:31	0.1327	0.104
03/01/2001 11:31	0.1405	0.099

rc =	0.083333	radius of the well
rw =	0.25	radius of the borehole
Le =	10	screen length
Lw =	10.48	
H =	10.48	
y0 =	0.15	static water level
t =	1.2	time (mins)
yt =	0.001	water level at 't'
(1/t)*ln(y0/yt) =	4.175529	

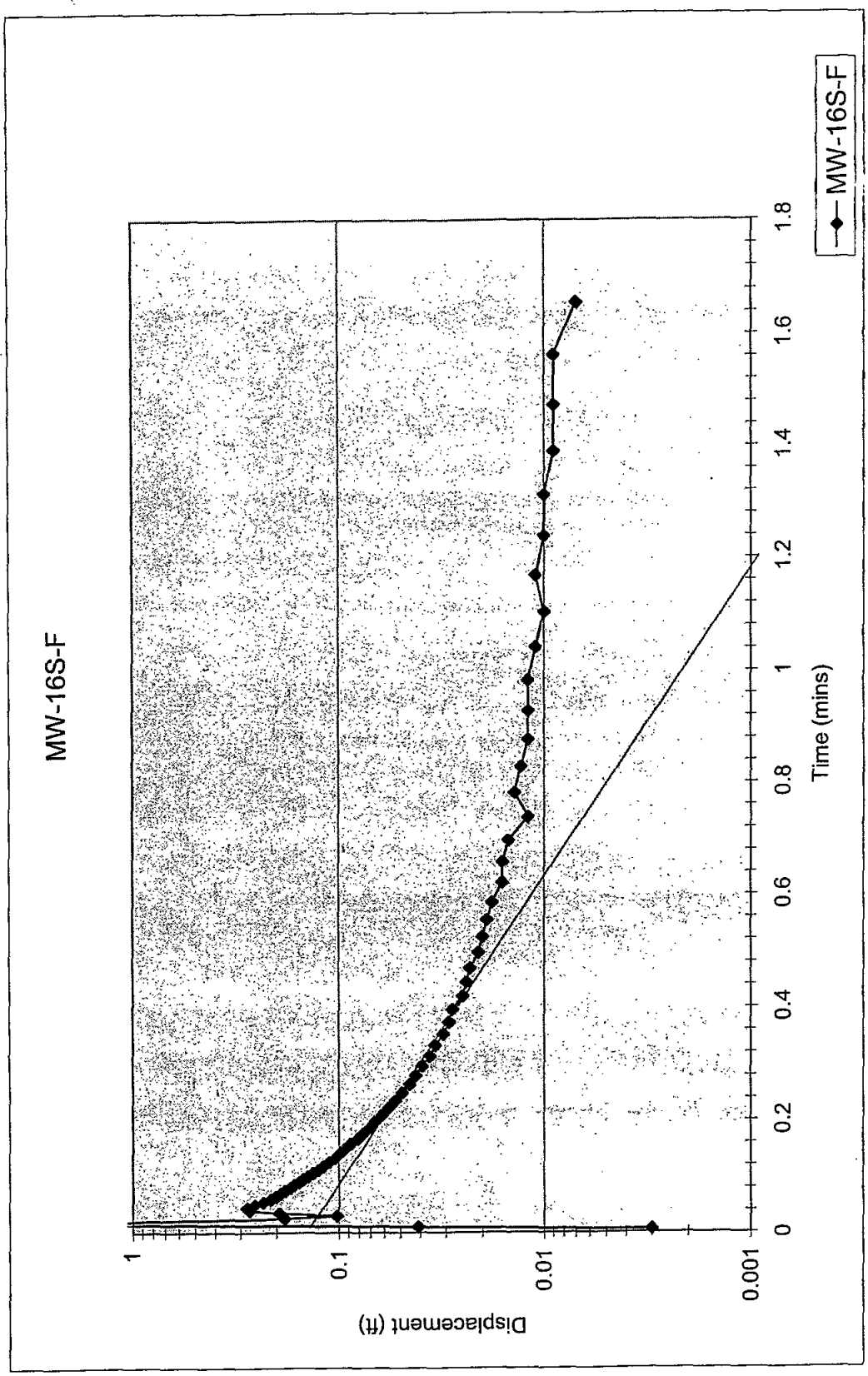
A =
B =
Le/rw = 40 C = 2.5

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.801503

K (ft/min) = 4.06E-03 K (ft/sec) = 6.77E-05
K (feet/hou 2.44E-01
K (cm/sec) 2.06E-03

03/01/2001 11:31	0.1488	0.094
03/01/2001 11:31	0.1578	0.088
03/01/2001 11:31	0.167	0.081
03/01/2001 11:31	0.1768	0.076
03/01/2001 11:31	0.1875	0.07
03/01/2001 11:31	0.1985	0.066
03/01/2001 11:31	0.21	0.061
03/01/2001 11:31	0.2225	0.057
03/01/2001 11:31	0.2358	0.053
03/01/2001 11:31	0.2498	0.049
03/01/2001 11:31	0.2647	0.045
03/01/2001 11:31	0.2803	0.042
03/01/2001 11:31	0.297	0.039
03/01/2001 11:31	0.3145	0.036
03/01/2001 11:31	0.3333	0.034
03/01/2001 11:31	0.3532	0.031
03/01/2001 11:31	0.374	0.029
03/01/2001 11:31	0.3963	0.028
03/01/2001 11:31	0.4198	0.025
03/01/2001 11:31	0.4445	0.024
03/01/2001 11:31	0.4695	0.023
03/01/2001 11:31	0.4963	0.021
03/01/2001 11:31	0.5247	0.02
03/01/2001 11:31	0.5547	0.019
03/01/2001 11:31	0.5862	0.018
03/01/2001 11:31	0.6213	0.016
03/01/2001 11:31	0.6578	0.016
03/01/2001 11:31	0.6963	0.015
03/01/2001 11:31	0.738	0.012
03/01/2001 11:31	0.7813	0.014
03/01/2001 11:31	0.8278	0.013
03/01/2001 11:32	0.8762	0.012
03/01/2001 11:32	0.9278	0.012
03/01/2001 11:32	0.9828	0.012
03/01/2001 11:32	1.0412	0.011
03/01/2001 11:32	1.103	0.01
03/01/2001 11:32	1.1678	0.011
03/01/2001 11:32	1.238	0.01
03/01/2001 11:32	1.3113	0.01
03/01/2001 11:32	1.3895	0.009
03/01/2001 11:32	1.4728	0.009
03/01/2001 11:32	1.5613	0.009
03/01/2001 11:32	1.6547	0.007
03/01/2001 11:32	1.753	0.008
03/01/2001 11:33	1.858	0.008
03/01/2001 11:33	1.9678	0.008
03/01/2001 11:33	2.0845	0.008
03/01/2001 11:33	2.2097	0.007
03/01/2001 11:33	2.3412	0.005
03/01/2001 11:33	2.4812	0.003
03/01/2001 11:33	2.6297	0.002
03/01/2001 11:33	2.7863	0.002
03/01/2001 11:34	2.953	0.002
03/01/2001 11:34	3.1297	0.002
03/01/2001 11:34	3.3162	0.002
03/01/2001 11:34	3.5145	0.002
03/01/2001 11:34	3.7245	0.001
03/01/2001 11:35	3.9463	0.001


MW-16S-F
Displacement (ft)
1
0.1
0.01
0.001
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
Time (mins)
MW-16S-F

Slug test

Test Information: **MW-16S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B[n[H-Lw]/rw]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 79

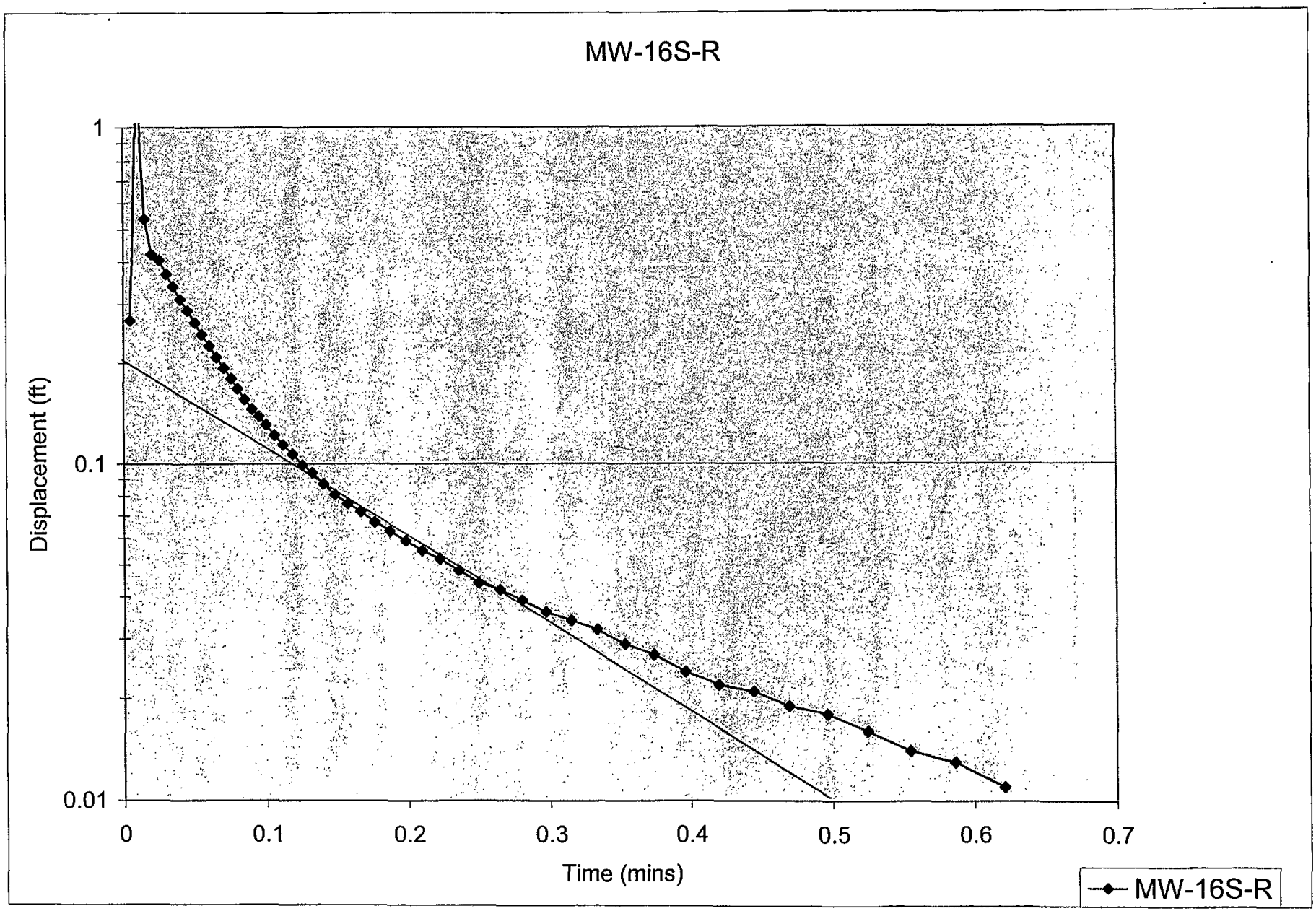
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.819 Meters H2O

Depth to water table (ft)	3.52
Total well depth (ft.)	14
Top of screen (ft.)	4
Bottom of screen (ft.)	14

	ET (min)	Feet H2O	Transposed Feet H2O
03/01/2001 11:36	0	0	0
03/01/2001 11:36	0.0048	-0.268	0.268
03/01/2001 11:36	0.0098	-1.422	1.422
03/01/2001 11:36	0.015	-0.537	0.537
03/01/2001 11:36	0.0198	-0.422	0.422
03/01/2001 11:36	0.025	-0.406	0.406
03/01/2001 11:36	0.03	-0.369	0.369
03/01/2001 11:36	0.035	-0.339	0.339
03/01/2001 11:36	0.0398	-0.31	0.31
03/01/2001 11:36	0.045	-0.287	0.287
03/01/2001 11:36	0.05	-0.264	0.264
03/01/2001 11:36	0.0548	-0.243	0.243
03/01/2001 11:36	0.06	-0.225	0.225
03/01/2001 11:36	0.0648	-0.208	0.208
03/01/2001 11:36	0.07	-0.193	0.193
03/01/2001 11:36	0.075	-0.18	0.18
03/01/2001 11:36	0.0798	-0.168	0.168
03/01/2001 11:36	0.0848	-0.156	0.156
03/01/2001 11:36	0.09	-0.146	0.146
03/01/2001 11:36	0.095	-0.139	0.139
03/01/2001 11:36	0.1	-0.131	0.131
03/01/2001 11:36	0.1057	-0.122	0.122
03/01/2001 11:36	0.1118	-0.114	0.114
03/01/2001 11:36	0.1185	-0.107	0.107
03/01/2001 11:36	0.1255	-0.099	0.099
03/01/2001 11:36	0.1327	-0.094	0.094
03/01/2001 11:36	0.1405	-0.087	0.087

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	10.48		
H =	10.48		
y0 =	0.2		static water level
t =	0.5		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	5.991465		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#DIV/0!		
ln(Rw/rw) =	2.801503		
K (ft/min) =	5.83E-03	K (ft/sec) =	9.71E-05
K (feet/hou	3.50E-01		
K (cm/sec)	2.96E-03		

03/01/2001 11:36	0.1488	-0.081	0.081
03/01/2001 11:36	0.1578	-0.076	0.076
03/01/2001 11:36	0.167	-0.072	0.072
03/01/2001 11:36	0.1768	-0.067	0.067
03/01/2001 11:36	0.1875	-0.063	0.063
03/01/2001 11:36	0.1985	-0.059	0.059
03/01/2001 11:36	0.21	-0.055	0.055
03/01/2001 11:36	0.2225	-0.052	0.052
03/01/2001 11:36	0.2358	-0.048	0.048
03/01/2001 11:36	0.2498	-0.044	0.044
03/01/2001 11:36	0.2647	-0.042	0.042
03/01/2001 11:36	0.2803	-0.039	0.039
03/01/2001 11:36	0.297	-0.036	0.036
03/01/2001 11:36	0.3145	-0.034	0.034
03/01/2001 11:36	0.3333	-0.032	0.032
03/01/2001 11:36	0.3532	-0.029	0.029
03/01/2001 11:36	0.374	-0.027	0.027
03/01/2001 11:36	0.3963	-0.024	0.024
03/01/2001 11:36	0.4198	-0.022	0.022
03/01/2001 11:36	0.4445	-0.021	0.021
03/01/2001 11:36	0.4695	-0.019	0.019
03/01/2001 11:36	0.4963	-0.018	0.018
03/01/2001 11:36	0.5247	-0.016	0.016
03/01/2001 11:36	0.5547	-0.014	0.014
03/01/2001 11:36	0.5862	-0.013	0.013
03/01/2001 11:36	0.6213	-0.011	0.011
03/01/2001 11:36	0.6578	-0.009	0.009
03/01/2001 11:36	0.6963	-0.008	0.008
03/01/2001 11:36	0.738	-0.006	0.006
03/01/2001 11:36	0.7813	-0.005	0.005
03/01/2001 11:36	0.8278	-0.004	0.004
03/01/2001 11:36	0.8762	-0.002	0.002
03/01/2001 11:36	0.9278	-0.001	0.001
03/01/2001 11:37	0.9828	0.001	-0.001
03/01/2001 11:37	1.0412	0.002	-0.002
03/01/2001 11:37	1.103	0.003	-0.003
03/01/2001 11:37	1.1678	0.004	-0.004
03/01/2001 11:37	1.238	0.005	-0.005
03/01/2001 11:37	1.3113	0.005	-0.005
03/01/2001 11:37	1.3895	0.006	-0.006
03/01/2001 11:37	1.4728	0.007	-0.007
03/01/2001 11:37	1.5613	0.007	-0.007
03/01/2001 11:37	1.6547	0.008	-0.008
03/01/2001 11:37	1.753	0.008	-0.008
03/01/2001 11:37	1.858	0.009	-0.009
03/01/2001 11:38	1.9678	0.009	-0.009
03/01/2001 11:38	2.0845	0.008	-0.008
03/01/2001 11:38	2.2097	0.009	-0.009
03/01/2001 11:38	2.3412	0.009	-0.009
03/01/2001 11:38	2.4812	0.009	-0.009
03/01/2001 11:38	2.6297	0.009	-0.009
03/01/2001 11:38	2.7863	0.009	-0.009
03/01/2001 11:34	2.953	0.002	-0.002
03/01/2001 11:34	3.1297	0.002	-0.002
03/01/2001 11:34	3.3162	0.002	-0.002
03/01/2001 11:34	3.5145	0.002	-0.002
03/01/2001 11:34	3.7245	0.001	-0.001
03/01/2001 11:35	3.9463	0.001	-0.001


MW-16S-R
Displacement (ft)
1
0.1
0.01
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
Time (mins)
MW-16S-R

Slug test

Test Information: **MW-17S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t) ln(y0/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B/n[H-Lw)/rw)/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 83

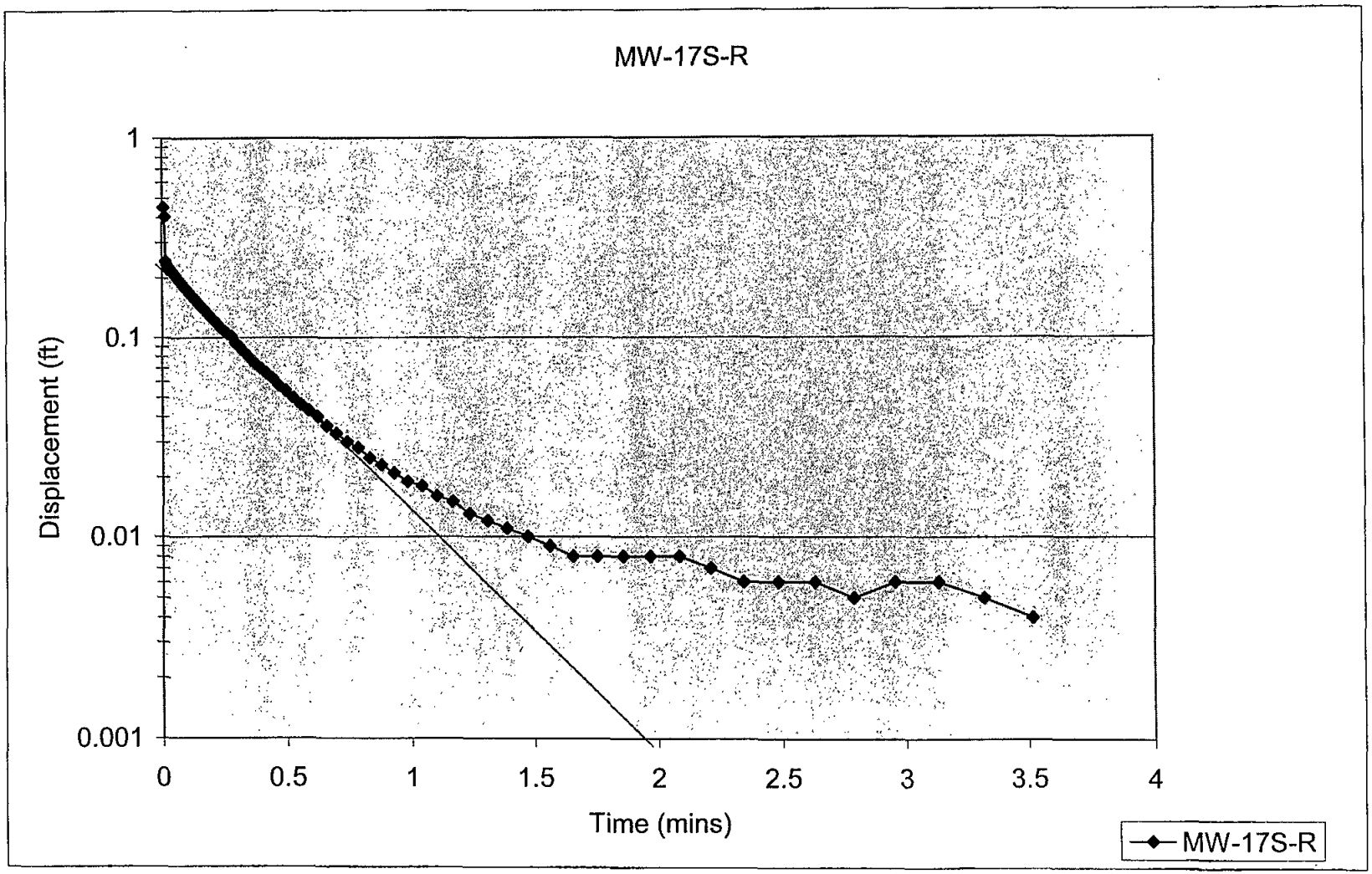
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 1.081 Meters H2O

Depth to water table (ft)	5.27
Total well depth (ft.)	10
Top of screen (ft.)	4
Bottom of screen (ft.)	10

	ET (min)	Feet H20	Transpose Feet H2O
03/01/2001 12:21	0	0	0
03/01/2001 12:21	0.0048	-0.45	0.45
03/01/2001 12:21	0.0098	-0.405	0.405
03/01/2001 12:21	0.015	-0.243	0.243
03/01/2001 12:21	0.0198	-0.234	0.234
03/01/2001 12:21	0.025	-0.229	0.229
03/01/2001 12:21	0.03	-0.224	0.224
03/01/2001 12:21	0.035	-0.22	0.22
03/01/2001 12:21	0.0398	-0.215	0.215
03/01/2001 12:21	0.045	-0.212	0.212
03/01/2001 12:21	0.05	-0.208	0.208
03/01/2001 12:21	0.0548	-0.204	0.204
03/01/2001 12:21	0.06	-0.2	0.2
03/01/2001 12:21	0.0648	-0.197	0.197
03/01/2001 12:21	0.07	-0.193	0.193
03/01/2001 12:21	0.075	-0.19	0.19
03/01/2001 12:21	0.0798	-0.187	0.187
03/01/2001 12:21	0.0848	-0.183	0.183
03/01/2001 12:21	0.09	-0.18	0.18
03/01/2001 12:21	0.095	-0.177	0.177
03/01/2001 12:21	0.1	-0.174	0.174
03/01/2001 12:21	0.1057	-0.171	0.171
03/01/2001 12:21	0.1118	-0.167	0.167
03/01/2001 12:21	0.1185	-0.164	0.164
03/01/2001 12:21	0.1255	-0.16	0.16
03/01/2001 12:21	0.1327	-0.156	0.156
03/01/2001 12:21	0.1405	-0.152	0.152

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	6		screen length
Lw =	4.73		
H =	4.73		
y0 =	0.25		static water level
t =	2		time (mins)
yt =	0.001		water level at 't'
(1/t)*ln(y0/yt) =	2.76073		
		A =	
		B =	
Le/rw =	24	C =	1.4
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.312379		
K (ft/min) =	3.69E-03	K (ft/sec) =	6.16E-05
K (feet/hou	2.22E-01		
K (cm/sec)	1.88E-03		

03/01/2001 12:21	0.1488	-0.148	0.148
03/01/2001 12:21	0.1578	-0.143	0.143
03/01/2001 12:21	0.167	-0.14	0.14
03/01/2001 12:21	0.1768	-0.136	0.136
03/01/2001 12:21	0.1875	-0.131	0.131
03/01/2001 12:21	0.1985	-0.126	0.126
03/01/2001 12:21	0.21	-0.122	0.122
03/01/2001 12:21	0.2225	-0.117	0.117
03/01/2001 12:21	0.2358	-0.112	0.112
03/01/2001 12:21	0.2498	-0.108	0.108
03/01/2001 12:21	0.2647	-0.104	0.104
03/01/2001 12:21	0.2803	-0.101	0.101
03/01/2001 12:21	0.297	-0.094	0.094
03/01/2001 12:21	0.3145	-0.089	0.089
03/01/2001 12:21	0.3333	-0.084	0.084
03/01/2001 12:21	0.3532	-0.079	0.079
03/01/2001 12:21	0.374	-0.074	0.074
03/01/2001 12:21	0.3963	-0.07	0.07
03/01/2001 12:21	0.4198	-0.066	0.066
03/01/2001 12:21	0.4445	-0.062	0.062
03/01/2001 12:21	0.4695	-0.057	0.057
03/01/2001 12:21	0.4963	-0.054	0.054
03/01/2001 12:21	0.5247	-0.05	0.05
03/01/2001 12:21	0.5547	-0.046	0.046
03/01/2001 12:21	0.5862	-0.043	0.043
03/01/2001 12:22	0.6213	-0.04	0.04
03/01/2001 12:22	0.6578	-0.036	0.036
03/01/2001 12:22	0.6963	-0.033	0.033
03/01/2001 12:22	0.738	-0.03	0.03
03/01/2001 12:22	0.7813	-0.028	0.028
03/01/2001 12:22	0.8278	-0.025	0.025
03/01/2001 12:22	0.8762	-0.023	0.023
03/01/2001 12:22	0.9278	-0.021	0.021
03/01/2001 12:22	0.9828	-0.019	0.019
03/01/2001 12:22	1.0412	-0.018	0.018
03/01/2001 12:22	1.103	-0.016	0.016
03/01/2001 12:22	1.1678	-0.015	0.015
03/01/2001 12:22	1.238	-0.013	0.013
03/01/2001 12:22	1.3113	-0.012	0.012
03/01/2001 12:22	1.3895	-0.011	0.011
03/01/2001 12:22	1.4728	-0.01	0.01
03/01/2001 12:22	1.5613	-0.009	0.009
03/01/2001 12:23	1.6547	-0.008	0.008
03/01/2001 12:23	1.753	-0.008	0.008
03/01/2001 12:23	1.858	-0.008	0.008
03/01/2001 12:23	1.9678	-0.008	0.008
03/01/2001 12:23	2.0845	-0.008	0.008
03/01/2001 12:23	2.2097	-0.007	0.007
03/01/2001 12:23	2.3412	-0.006	0.006
03/01/2001 12:23	2.4812	-0.006	0.006
03/01/2001 12:24	2.6297	-0.006	0.006
03/01/2001 12:24	2.7863	-0.005	0.005
03/01/2001 12:24	2.953	-0.006	0.006
03/01/2001 12:24	3.1297	-0.006	0.006
03/01/2001 12:24	3.3162	-0.005	0.005
03/01/2001 12:24	3.5145	-0.004	0.004


MW-17S-R
1
0.1
0.01
0.001
Displacement (ft)
0
0.5
1
1.5
2
2.5
3
3.5
4
Time (mins)
MW-17S-R

Slug test

Test Information: **MW-20S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw))] + (A+B)ln[(H-Lw)/rw)]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 94

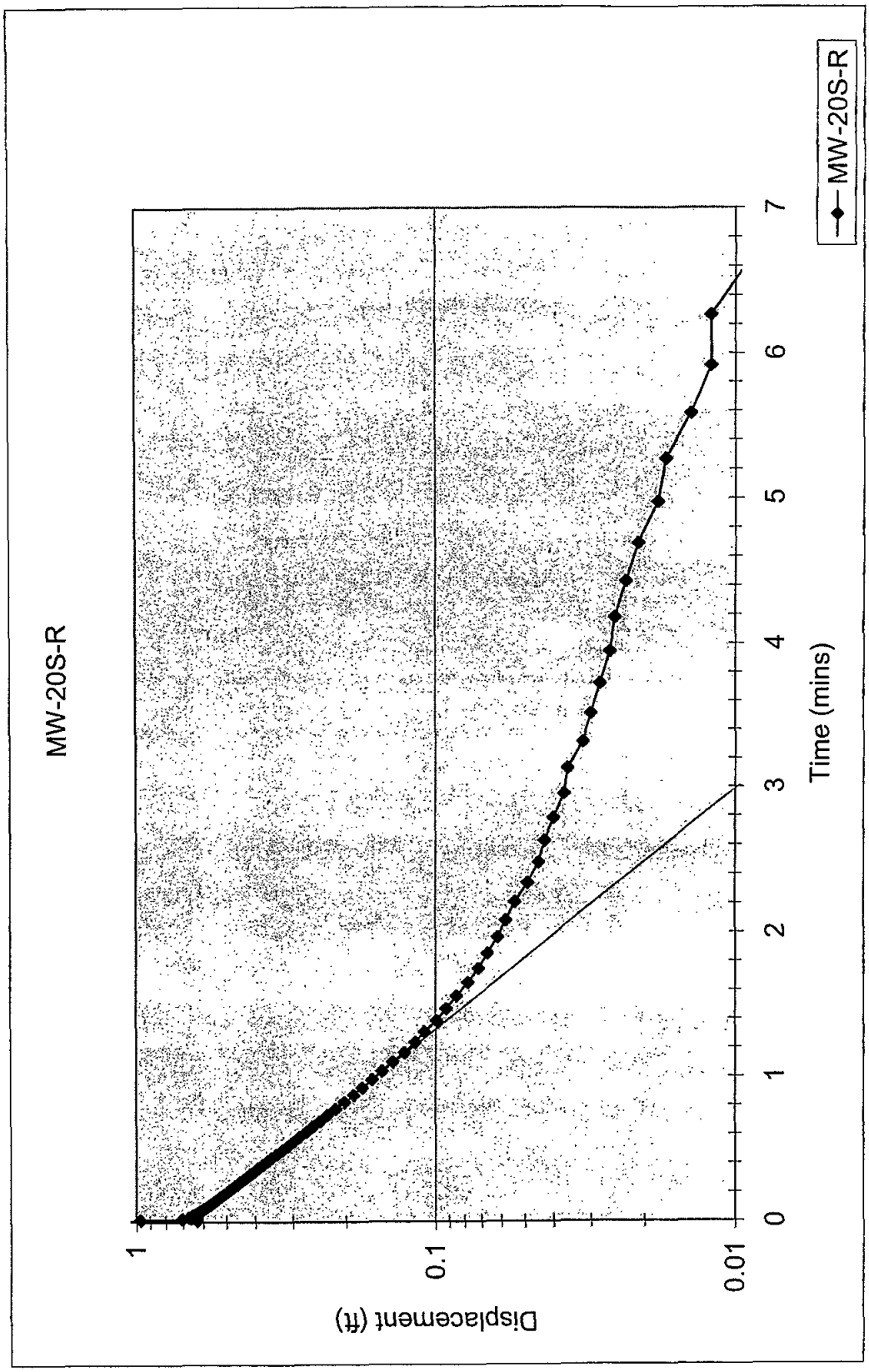
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.793 Meters H2O

Depth to water table (ft)	7.71
Total well depth (ft.)	18.26
Top of screen (ft.)	5
Bottom of screen (ft.)	15

	ET (min)	Feet H2O	Transposed Feet H2O
03/16/2001 10:06	0	0	0
03/16/2001 10:06	0.0048	-1.902	1.902
03/16/2001 10:06	0.0098	-0.63	0.63
03/16/2001 10:06	0.015	-0.969	0.969
03/16/2001 10:06	0.0198	-0.705	0.705
03/16/2001 10:06	0.025	-0.661	0.661
03/16/2001 10:06	0.03	-0.67	0.67
03/16/2001 10:06	0.035	-0.656	0.656
03/16/2001 10:06	0.0398	-0.652	0.652
03/16/2001 10:06	0.045	-0.647	0.647
03/16/2001 10:06	0.05	-0.639	0.639
03/16/2001 10:06	0.0548	-0.63	0.63
03/16/2001 10:06	0.06	-0.625	0.625
03/16/2001 10:06	0.0648	-0.619	0.619
03/16/2001 10:06	0.07	-0.614	0.614
03/16/2001 10:06	0.075	-0.609	0.609
03/16/2001 10:06	0.0798	-0.604	0.604
03/16/2001 10:06	0.0848	-0.599	0.599
03/16/2001 10:06	0.09	-0.594	0.594
03/16/2001 10:06	0.095	-0.589	0.589
03/16/2001 10:06	0.1	-0.585	0.585
03/16/2001 10:06	0.1057	-0.579	0.579
03/16/2001 10:06	0.1118	-0.573	0.573
03/16/2001 10:06	0.1185	-0.567	0.567
03/16/2001 10:06	0.1255	-0.561	0.561
03/16/2001 10:06	0.1327	-0.555	0.555
03/16/2001 10:06	0.1405	-0.549	0.549
03/16/2001 10:06	0.1488	-0.542	0.542
03/16/2001 10:06	0.1578	-0.535	0.535
03/16/2001 10:06	0.167	-0.528	0.528
03/16/2001 10:06	0.1768	-0.521	0.521
03/16/2001 10:06	0.1875	-0.512	0.512

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	7.29		
H =	7.29		
y0 =	0.6		static water level
t =	3		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	1.364782		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.573084		
K (ft/min) =	1.22E-03	K (ft/sec) =	2.03E-05
K (feet/hou	7.32E-02		
K (cm/sec)	6.19E-04		

03/16/2001 10:06	0.1985	-0.504	0.504
03/16/2001 10:06	0.21	-0.495	0.495
03/16/2001 10:06	0.2225	-0.487	0.487
03/16/2001 10:06	0.2358	-0.477	0.477
03/16/2001 10:06	0.2498	-0.468	0.468
03/16/2001 10:06	0.2647	-0.458	0.458
03/16/2001 10:06	0.2803	-0.448	0.448
03/16/2001 10:06	0.297	-0.436	0.436
03/16/2001 10:06	0.3145	-0.425	0.425
03/16/2001 10:06	0.3333	-0.414	0.414
03/16/2001 10:06	0.3532	-0.402	0.402
03/16/2001 10:06	0.374	-0.39	0.39
03/16/2001 10:06	0.3963	-0.377	0.377
03/16/2001 10:06	0.4198	-0.364	0.364
03/16/2001 10:06	0.4445	-0.352	0.352
03/16/2001 10:06	0.4695	-0.339	0.339
03/16/2001 10:06	0.4963	-0.325	0.325
03/16/2001 10:06	0.5247	-0.312	0.312
03/16/2001 10:06	0.5547	-0.299	0.299
03/16/2001 10:06	0.5862	-0.286	0.286
03/16/2001 10:06	0.6213	-0.271	0.271
03/16/2001 10:06	0.6578	-0.258	0.258
03/16/2001 10:06	0.6963	-0.244	0.244
03/16/2001 10:06	0.738	-0.23	0.23
03/16/2001 10:06	0.7813	-0.216	0.216
03/16/2001 10:06	0.8278	-0.202	0.202
03/16/2001 10:07	0.8762	-0.188	0.188
03/16/2001 10:07	0.9278	-0.176	0.176
03/16/2001 10:07	0.9828	-0.163	0.163
03/16/2001 10:07	1.0412	-0.151	0.151
03/16/2001 10:07	1.103	-0.139	0.139
03/16/2001 10:07	1.1678	-0.127	0.127
03/16/2001 10:07	1.238	-0.117	0.117
03/16/2001 10:07	1.3113	-0.109	0.109
03/16/2001 10:07	1.3895	-0.099	0.099
03/16/2001 10:07	1.4728	-0.092	0.092
03/16/2001 10:07	1.5613	-0.085	0.085
03/16/2001 10:07	1.6547	-0.078	0.078
03/16/2001 10:07	1.753	-0.072	0.072
03/16/2001 10:08	1.858	-0.067	0.067
03/16/2001 10:08	1.9678	-0.062	0.062
03/16/2001 10:08	2.0845	-0.058	0.058
03/16/2001 10:08	2.2097	-0.054	0.054
03/16/2001 10:08	2.3412	-0.049	0.049
03/16/2001 10:08	2.4812	-0.045	0.045
03/16/2001 10:08	2.6297	-0.043	0.043
03/16/2001 10:08	2.7863	-0.04	0.04
03/16/2001 10:09	2.953	-0.037	0.037
03/16/2001 10:09	3.1297	-0.036	0.036
03/16/2001 10:09	3.3162	-0.032	0.032
03/16/2001 10:09	3.5145	-0.03	0.03
03/16/2001 10:09	3.7245	-0.028	0.028
03/16/2001 10:10	3.9463	-0.026	0.026
03/16/2001 10:10	4.1812	-0.025	0.025
03/16/2001 10:10	4.4295	-0.023	0.023
03/16/2001 10:10	4.6928	-0.021	0.021
03/16/2001 10:11	4.9728	-0.018	0.018
03/16/2001 10:11	5.2697	-0.017	0.017
03/16/2001 10:11	5.583	-0.014	0.014
03/16/2001 10:12	5.9145	-0.012	0.012
03/16/2001 10:12	6.2663	-0.012	0.012
03/16/2001 10:12	6.6395	-0.009	0.009


MW-20S-R
Displacement (ft)
1
0.1
0.01
0
1
2
3
4
5
6
7
Time (mins)
MW-20S-R

Slug test

Test Information: **MW-20S-A-Rising Head Test**

Hydraulic Condutivity (K) = rc^2 ln (Re/rw)/2Le * (1/t) ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B ln[H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 95

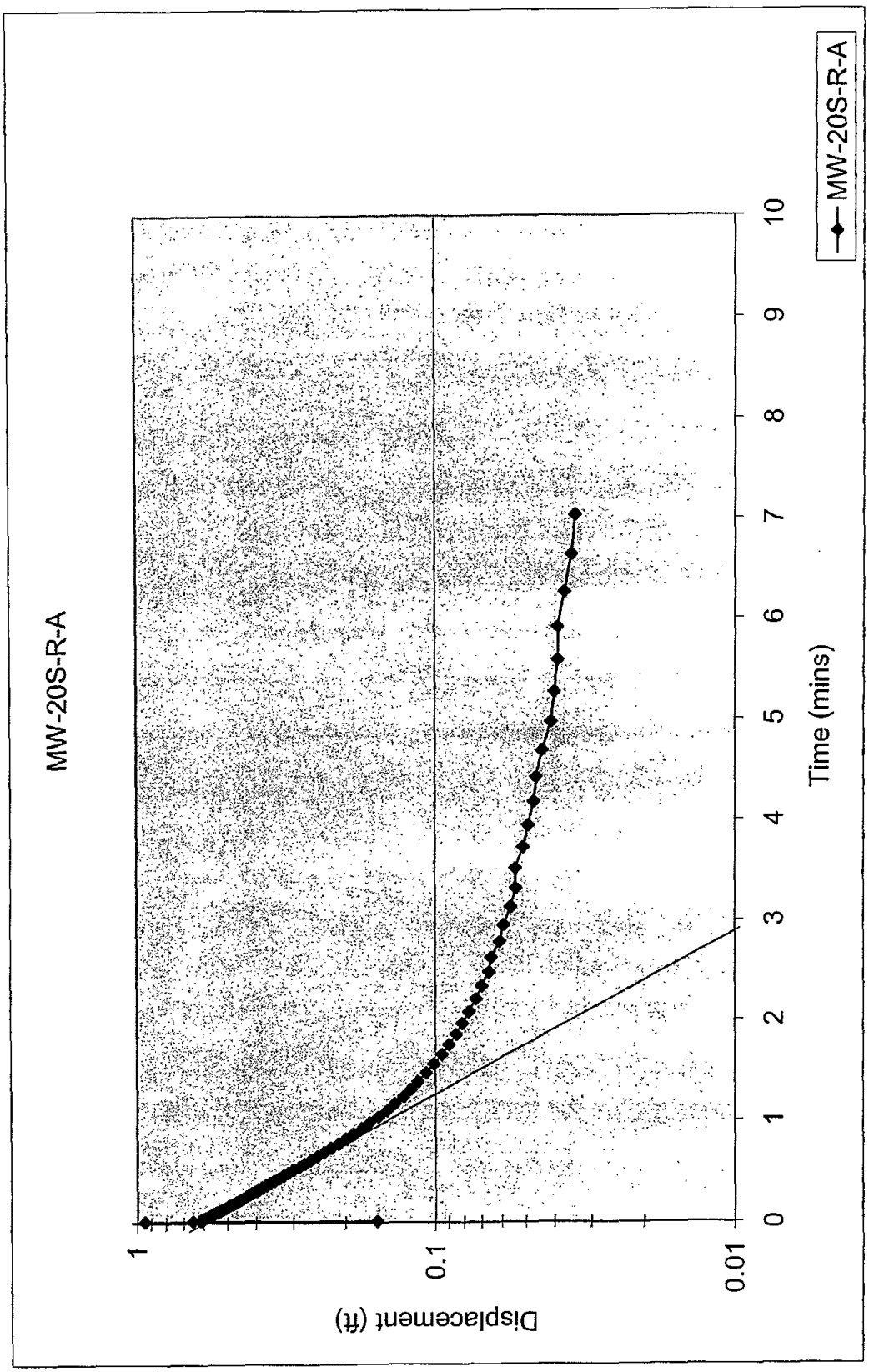
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.82 Meters H2O

Depth to water table (ft)	7.71
Total well depth (ft.)	18.26
Top of screen (ft.)	5
Bottom of screen (ft.)	15

	ET (min)	Feet H2O	Transposed Feet H2O
03/16/2001 10:24	0	0	0
03/16/2001 10:24	0.0048	-1.418	1.418
03/16/2001 10:24	0.0098	-0.157	0.157
03/16/2001 10:24	0.015	-0.944	0.944
03/16/2001 10:24	0.0198	-0.653	0.653
03/16/2001 10:24	0.025	-0.609	0.609
03/16/2001 10:24	0.03	-0.618	0.618
03/16/2001 10:24	0.035	-0.615	0.615
03/16/2001 10:24	0.0398	-0.608	0.608
03/16/2001 10:24	0.045	-0.603	0.603
03/16/2001 10:24	0.05	-0.598	0.598
03/16/2001 10:24	0.0548	-0.593	0.593
03/16/2001 10:24	0.06	-0.587	0.587
03/16/2001 10:24	0.0648	-0.583	0.583
03/16/2001 10:24	0.07	-0.578	0.578
03/16/2001 10:24	0.075	-0.573	0.573
03/16/2001 10:24	0.0798	-0.568	0.568
03/16/2001 10:24	0.0848	-0.563	0.563
03/16/2001 10:24	0.09	-0.559	0.559
03/16/2001 10:24	0.095	-0.554	0.554
03/16/2001 10:24	0.1	-0.55	0.55
03/16/2001 10:24	0.1057	-0.544	0.544
03/16/2001 10:24	0.1118	-0.54	0.54
03/16/2001 10:24	0.1185	-0.534	0.534
03/16/2001 10:24	0.1255	-0.528	0.528
03/16/2001 10:24	0.1327	-0.523	0.523
03/16/2001 10:25	0.1405	-0.516	0.516
03/16/2001 10:25	0.1488	-0.51	0.51
03/16/2001 10:25	0.1578	-0.503	0.503
03/16/2001 10:25	0.167	-0.497	0.497
03/16/2001 10:25	0.1768	-0.491	0.491
03/16/2001 10:25	0.1875	-0.482	0.482
03/16/2001 10:25	0.1985	-0.474	0.474

rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	7.29		
H =	7.29		
y0 =	0.7		static water level
t =	3		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	1.416165		
		A =	
		B =	
Le/rw =	40	C =	2.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.573084		
K (ft/min) =	1.27E-03	K (ft/sec) =	2.11E-05
K (feet/hour) =	7.59E-02		
K (cm/sec) =	6.43E-04		

03/16/2001 10:25	0.21	-0.467	0.467
03/16/2001 10:25	0.2225	-0.458	0.458
03/16/2001 10:25	0.2358	-0.45	0.45
03/16/2001 10:25	0.2498	-0.441	0.441
03/16/2001 10:25	0.2647	-0.432	0.432
03/16/2001 10:25	0.2803	-0.422	0.422
03/16/2001 10:25	0.297	-0.412	0.412
03/16/2001 10:25	0.3145	-0.401	0.401
03/16/2001 10:25	0.3333	-0.391	0.391
03/16/2001 10:25	0.3532	-0.381	0.381
03/16/2001 10:25	0.374	-0.37	0.37
03/16/2001 10:25	0.3963	-0.358	0.358
03/16/2001 10:25	0.4198	-0.346	0.346
03/16/2001 10:25	0.4445	-0.334	0.334
03/16/2001 10:25	0.4695	-0.323	0.323
03/16/2001 10:25	0.4963	-0.311	0.311
03/16/2001 10:25	0.5247	-0.3	0.3
03/16/2001 10:25	0.5547	-0.286	0.286
03/16/2001 10:25	0.5862	-0.274	0.274
03/16/2001 10:25	0.6213	-0.262	0.262
03/16/2001 10:25	0.6578	-0.249	0.249
03/16/2001 10:25	0.6963	-0.236	0.236
03/16/2001 10:25	0.738	-0.224	0.224
03/16/2001 10:25	0.7813	-0.211	0.211
03/16/2001 10:25	0.8278	-0.199	0.199
03/16/2001 10:25	0.8762	-0.188	0.188
03/16/2001 10:25	0.9278	-0.176	0.176
03/16/2001 10:25	0.9828	-0.166	0.166
03/16/2001 10:25	1.0412	-0.155	0.155
03/16/2001 10:25	1.103	-0.145	0.145
03/16/2001 10:26	1.1678	-0.137	0.137
03/16/2001 10:26	1.238	-0.128	0.128
03/16/2001 10:26	1.3113	-0.121	0.121
03/16/2001 10:26	1.3895	-0.114	0.114
03/16/2001 10:26	1.4728	-0.107	0.107
03/16/2001 10:26	1.5613	-0.101	0.101
03/16/2001 10:26	1.6547	-0.095	0.095
03/16/2001 10:26	1.753	-0.09	0.09
03/16/2001 10:26	1.858	-0.085	0.085
03/16/2001 10:26	1.9678	-0.081	0.081
03/16/2001 10:26	2.0845	-0.077	0.077
03/16/2001 10:27	2.2097	-0.073	0.073
03/16/2001 10:27	2.3412	-0.07	0.07
03/16/2001 10:27	2.4812	-0.066	0.066
03/16/2001 10:27	2.6297	-0.065	0.065
03/16/2001 10:27	2.7863	-0.061	0.061
03/16/2001 10:27	2.953	-0.059	0.059
03/16/2001 10:27	3.1297	-0.056	0.056
03/16/2001 10:28	3.3162	-0.054	0.054
03/16/2001 10:28	3.5145	-0.054	0.054
03/16/2001 10:28	3.7245	-0.051	0.051
03/16/2001 10:28	3.9463	-0.049	0.049
03/16/2001 10:29	4.1812	-0.047	0.047
03/16/2001 10:29	4.4295	-0.046	0.046
03/16/2001 10:29	4.6928	-0.044	0.044
03/16/2001 10:29	4.9728	-0.041	0.041
03/16/2001 10:30	5.2697	-0.04	0.04
03/16/2001 10:30	5.583	-0.039	0.039
03/16/2001 10:30	5.9145	-0.039	0.039
03/16/2001 10:31	6.2663	-0.037	0.037
03/16/2001 10:31	6.6395	-0.035	0.035
03/16/2001 10:31	7.0345	-0.034	0.034
03/16/2001 10:21	7.453	0.02	-0.02
03/16/2001 10:21	7.8962	0.02	-0.02
03/16/2001 10:22	8.3663	0.019	-0.019
03/16/2001 10:22	8.8645	0.018	-0.018
03/16/2001 10:23	9.3913	0.019	-0.019


MW-20S-R-A
Displacement (ft)
1
0.1
0.01
0
1
2
3
4
5
6
7
8
9
10
Time (mins)
MW-20S-R-A

Slug test

Test Information: **MW-21S-Rising Head Test**

Hydraulic Condutivity (K) = $rc^2 \ln (Re/rw)/2Le^* (1/t)\ln(y0/yt)$

$\ln(Rw/rw) = [(1.1)/(\ln(Lw/rw) + (A+B\ln[(H-Lw)/rw])/(Le/rw)]^{-1}$ (partially penetrating wells)

$\ln(Re/rw) = [(1.1)/(\ln(Lw/rw) + C/(Le/rw)]^{-1}$

where A, B, and C are dimensionless numbers

SE20	0
Environment	al Logger
07/04 1	3:32
Unit# 609	Test 0
Setups:	INPUT 1
---	---
Type	Level (F)
Mode	TOC
I.D.	MW-21
Reference	0
PSI at Ref.	3.842
SG	1
Linearity	0.121
Scale factor	19.981
Offset	-0.075
Delay mSEC	50
Step 0 07/03	12:36:07

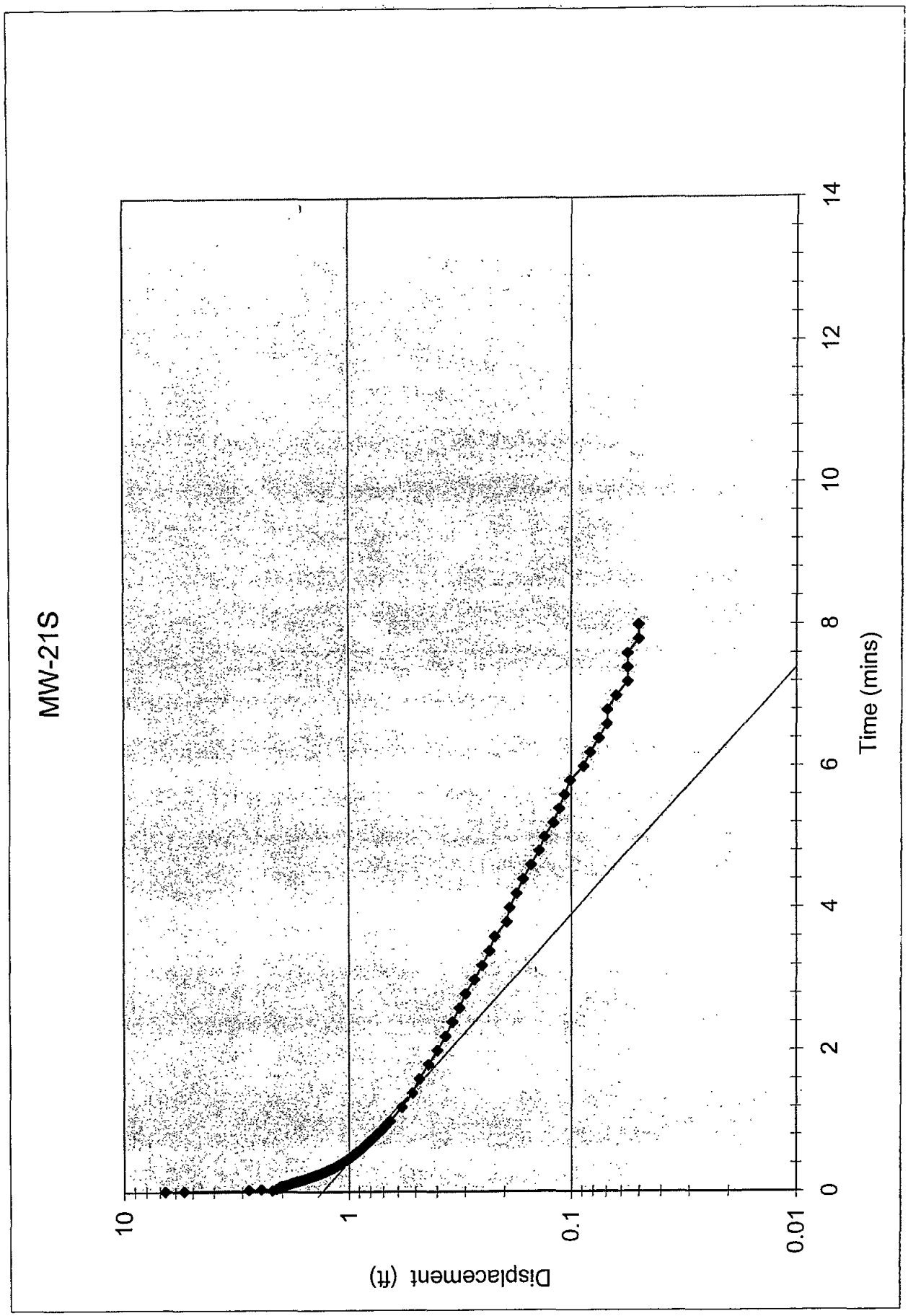
Depth to water table (ft)	4.8
Total well depth (ft.)	14
Top of screen (ft.)	
Bottom of screen (ft.)	

	ET (min)	Feet H2O
---	---	---
	0	0.006
	0.0083	6.65
	0.0166	5.476
	0.025	2.205
	0.0333	2.805
	0.0416	2.47
	0.05	2.116
	0.0583	2.047
	0.0666	2.06
	0.075	2.047
	0.0833	2.009
	0.0916	1.965
	0.1	1.927

rc =	0.166667		radius of the well
rw =	0.5		radius of the borehole
Le =	10		screen length
Lw =	9.2		
H =	9.2		
y0 =	1.5		static water level
t =	6.4		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =		0.782912	
		A =	
		B =	
Le/rw =	20	C =	1.8

0.1083	1.889	ln(Rw/rw) = #NUM!
0.1166	1.857	
0.125	1.82	
0.1333	1.788	ln(Rw/rw) = 2.138115
0.1416	1.756	
0.15	1.725	
0.1583	1.693	K (ft/min) = 2.32E-03 K (ft/sec) = 3.87E-05
0.1666	1.662	K (feet/hou 1.39E-01
0.175	1.63	K (cm/sec) 1.18E-03
0.1833	1.598	
0.1916	1.573	
0.2	1.542	
0.2083	1.516	
0.2166	1.491	
0.225	1.466	
0.2333	1.44	
0.2416	1.415	
0.25	1.39	
0.2583	1.371	
0.2666	1.346	
0.275	1.327	
0.2833	1.308	
0.2916	1.282	
0.3	1.27	
0.3083	1.251	
0.3166	1.232	
0.325	1.213	
0.3333	1.2	
0.35	1.169	
0.3666	1.137	
0.3833	1.112	
0.4	1.087	
0.4166	1.068	
0.4333	1.049	
0.45	1.023	
0.4666	1.011	
0.4833	0.992	
0.5	0.973	
0.5166	0.96	
0.5333	0.941	
0.55	0.929	
0.5666	0.916	
0.5833	0.897	
0.6	0.884	
0.6166	0.872	
0.6333	0.865	
0.65	0.846	
0.6666	0.84	
0.6833	0.827	
0.7	0.815	
0.7166	0.809	
0.7333	0.796	
0.75	0.783	
0.7666	0.777	
0.7833	0.764	
0.8	0.752	

0.8166	0.745
0.8333	0.739
0.85	0.726
0.8666	0.714
0.8833	0.707
0.9	0.701
0.9166	0.695
0.9333	0.682
0.95	0.676
0.9666	0.669
0.9833	0.663
1	0.651
1.2	0.575
1.4	0.518
1.6	0.48
1.8	0.436
2	0.398
2.2	0.366
2.4	0.341
2.6	0.316
2.8	0.297
3	0.271
3.2	0.252
3.4	0.233
3.6	0.221
3.8	0.195
4	0.189
4.2	0.176
4.4	0.164
4.6	0.151
4.8	0.139
5	0.132
5.2	0.12
5.4	0.113
5.6	0.107
5.8	0.101
6	0.088
6.2	0.082
6.4	0.075
6.6	0.069
6.8	0.069
7	0.063
7.2	0.056
7.4	0.056
7.6	0.056
7.8	0.05
8	0.05


MW-21S
Displacement (ft)
10
1
0.1
0.01
0
2
4
6
8
10
12
14
Time (mins)

Slug test

Test Information: **MW-22S-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+B[H-Lw)/rw]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw)) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

SE20	0
Environment	al Logger
07/04 1	3:35
Unit# 609	Test 1
Setups:	INPUT 1
---	---
Type	Level (F)
Mode	TOC
I.D.	MW-22
Reference	0
PSI at Ref.	2.425
SG	1
Linearity	0.121
Scale factor	19.981
Offset	-0.075
Delay mSEC	50
Step 0 07/03	13:22:54

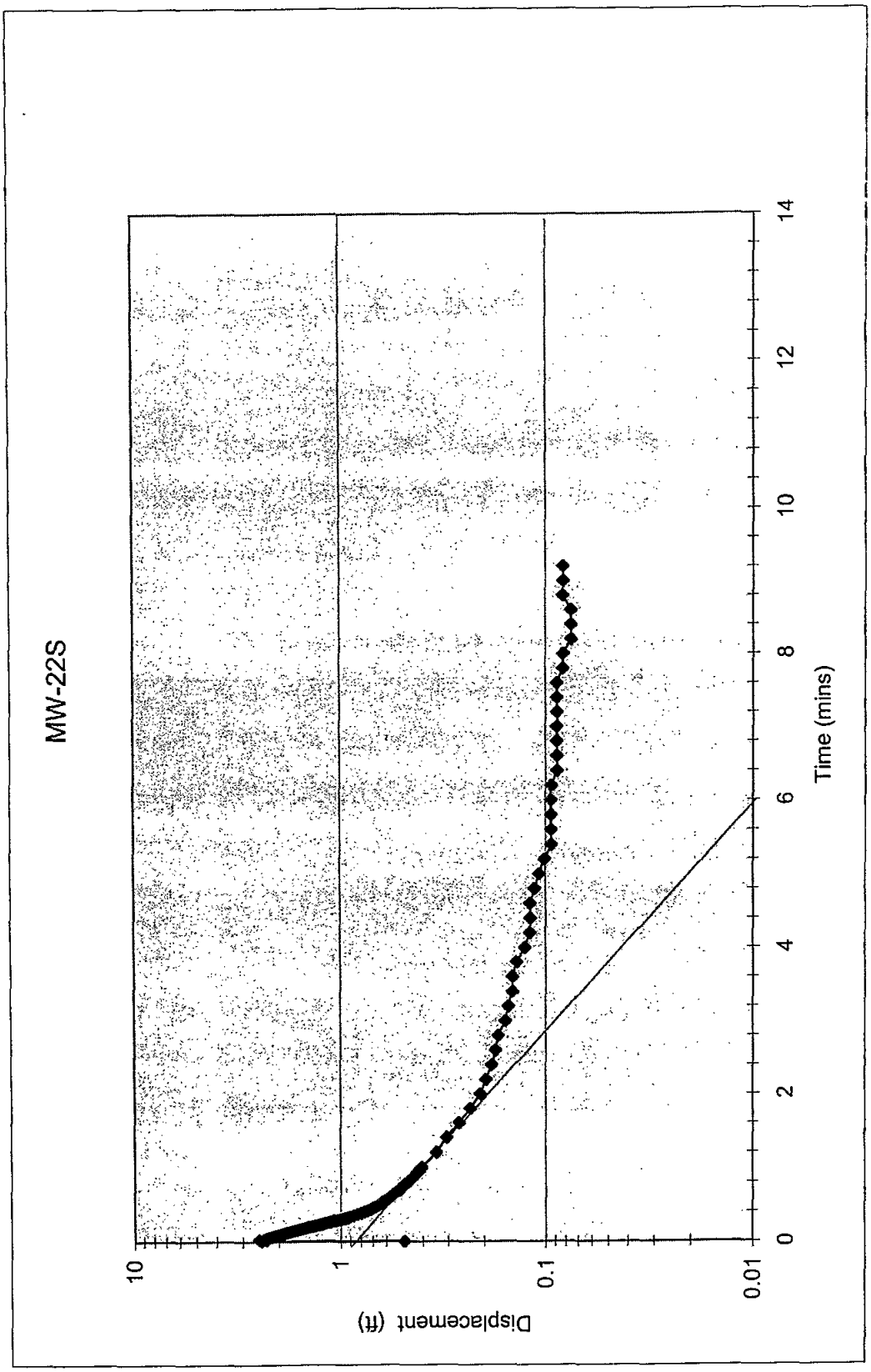
Depth to water table (ft)	3.8
Total well depth (ft.)	12
Top of screen (ft.)	
Bottom of screen (ft.)	

	ET (min)	Feet H2O
---	---	---
	0	0.492
	0.0083	2.437
	0.0166	2.31
	0.025	2.5
	0.0333	2.367
	0.0416	2.329
	0.05	2.272
	0.0583	2.216
	0.0666	2.159
	0.075	2.108
	0.0833	2.058
	0.0916	2.007
	0.1	1.957

rc =	0.166667		radius of the well
rw =	0.5		radius of the borehole
Le =	10		screen length
Lw =	8.2		
H =	8.2		
y0 =	0.9		static water level
t =	6		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =		0.749968	
		A =	
		B =	
Le/rw =	20	C =	1.8

0.1083	1.906	ln(Rw/rw) = #NUM!
0.1166	1.862	
0.125	1.812	
0.1333	1.761	ln(Rw/rw) = 2.06937
0.1416	1.717	
0.15	1.673	
0.1583	1.622	K (ft/min) = 2.16E-03 K (ft/sec) = 3.59E-05
0.1666	1.578	K (feet/hou 1.29E-01
0.175	1.534	K (cm/sec) 1.09E-03
0.1833	1.49	
0.1916	1.452	
0.2	1.408	
0.2083	1.363	
0.2166	1.326	
0.225	1.281	
0.2333	1.25	
0.2416	1.212	
0.25	1.18	
0.2583	1.142	
0.2666	1.111	
0.275	1.079	
0.2833	1.048	
0.2916	1.023	
0.3	0.997	
0.3083	0.966	
0.3166	0.947	
0.325	0.921	
0.3333	0.903	
0.35	0.865	
0.3666	0.827	
0.3833	0.795	
0.4	0.764	
0.4166	0.738	
0.4333	0.713	
0.45	0.694	
0.4666	0.675	
0.4833	0.656	
0.5	0.644	
0.5166	0.631	
0.5333	0.618	
0.55	0.606	
0.5666	0.593	
0.5833	0.581	
0.6	0.574	
0.6166	0.562	
0.6333	0.555	
0.65	0.543	
0.6666	0.536	
0.6833	0.524	
0.7	0.517	
0.7166	0.511	
0.7333	0.505	
0.75	0.498	
0.7666	0.492	
0.7833	0.486	
0.8	0.473	

0.8166	0.467
0.8333	0.461
0.85	0.454
0.8666	0.448
0.8833	0.442
0.9	0.435
0.9166	0.429
0.9333	0.423
0.95	0.416
0.9666	0.416
0.9833	0.41
1	0.404
1.2	0.341
1.4	0.303
1.6	0.265
1.8	0.233
2	0.208
2.2	0.195
2.4	0.183
2.6	0.176
2.8	0.17
3	0.157
3.2	0.151
3.4	0.145
3.6	0.145
3.8	0.138
4	0.126
4.2	0.119
4.4	0.119
4.6	0.119
4.8	0.113
5	0.107
5.2	0.101
5.4	0.094
5.6	0.094
5.8	0.094
6	0.094
6.2	0.094
6.4	0.088
6.6	0.088
6.8	0.088
7	0.088
7.2	0.088
7.4	0.088
7.6	0.088
7.8	0.082
8	0.082
8.2	0.075
8.4	0.075
8.6	0.075
8.8	0.082
9	0.082
9.2	0.082


MW-22S
Displacement (ft)
10
1
0.1
0.01
0
2
4
6
8
10
12
14
Time (mins)

Slug test

Test Information: **OBMW-13-Falling Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)* ln(y0/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw))] + (A+B)ln[(H-Lw)/rw)]/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 101

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Feet H2O
Referenced on: test start
Pressure head at 9.684 Feet H2O

	Depth to water table (ft)	3.54
	Total well depth (ft.)	14
	Top of screen (ft.)	4
	Bottom of screen (ft.)	14

	ET (min)	Feet H2O
02/27/2001 13:32	0	0
02/27/2001 13:32	0.0048	0.004
02/27/2001 13:32	0.0098	0.006
02/27/2001 13:32	0.015	0.533
02/27/2001 13:32	0.0198	1.717
02/27/2001 13:32	0.025	-0.129
02/27/2001 13:32	0.03	1.138
02/27/2001 13:32	0.035	0.305
02/27/2001 13:32	0.0398	0.728
02/27/2001 13:32	0.045	0.55
02/27/2001 13:32	0.05	0.612
02/27/2001 13:32	0.055	0.585
02/27/2001 13:32	0.06	0.591
02/27/2001 13:32	0.0648	0.585
02/27/2001 13:32	0.07	0.585
02/27/2001 13:32	0.075	0.582
02/27/2001 13:32	0.0798	0.581
02/27/2001 13:32	0.085	0.58
02/27/2001 13:32	0.09	0.576
02/27/2001 13:32	0.095	0.574
02/27/2001 13:32	0.1	0.572
02/27/2001 13:32	0.1058	0.572
02/27/2001 13:32	0.1118	0.57
02/27/2001 13:32	0.1185	0.566
02/27/2001 13:32	0.1255	0.564
02/27/2001 13:32	0.1327	0.56
02/27/2001 13:32	0.1405	0.556
02/27/2001 13:32	0.1488	0.556
02/27/2001 13:32	0.1578	0.551
02/27/2001 13:32	0.167	0.545
02/27/2001 13:32	0.177	0.541
02/27/2001 13:32	0.1875	0.537
02/27/2001 13:32	0.1985	0.535
02/27/2001 13:32	0.21	0.529
02/27/2001 13:32	0.2225	0.527

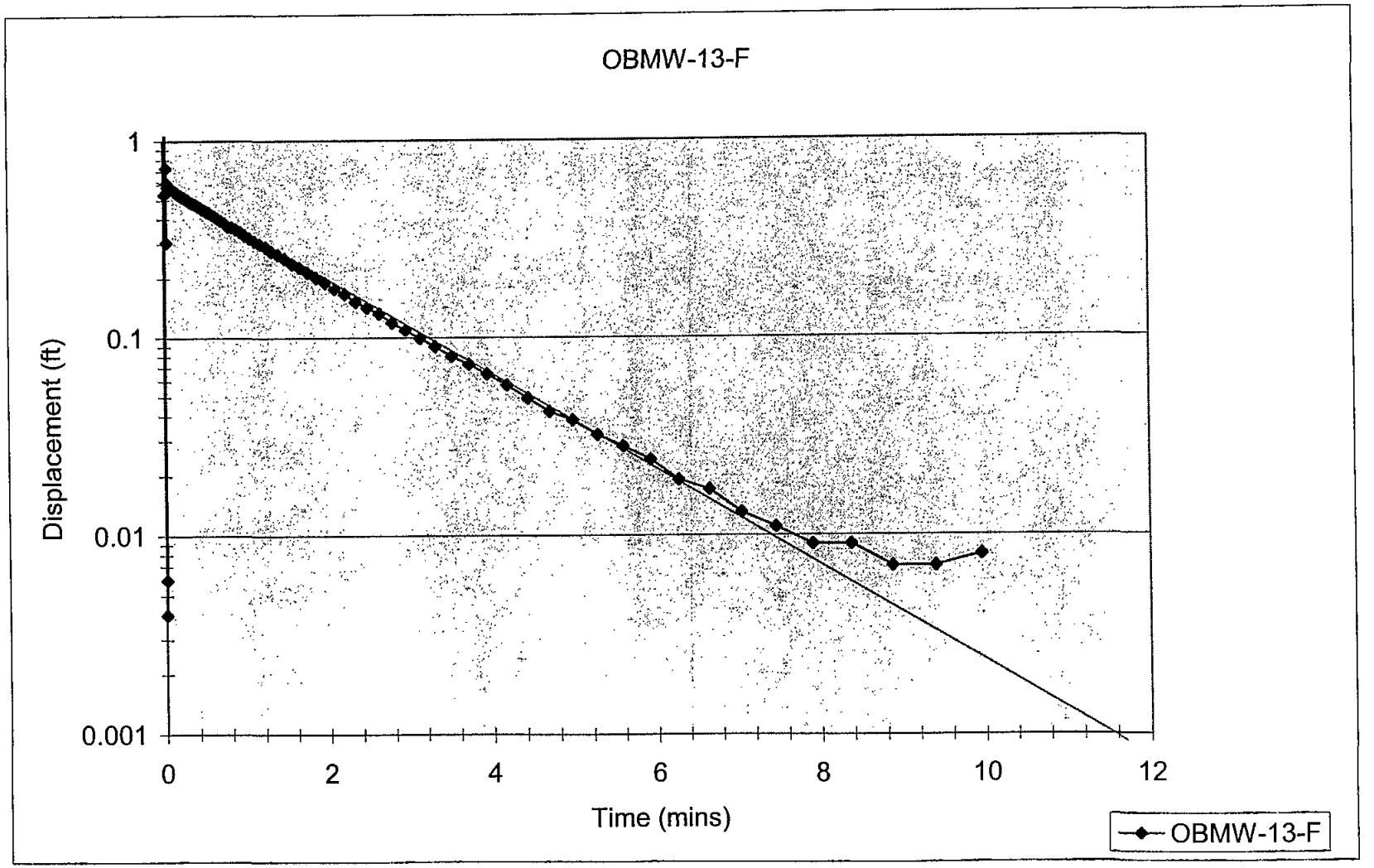
rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	10.46		
H =	10.46		
y0 =	0.7		static water level
t =	11.6		time (mins)
yt =	0.001		water level at 't'
(1/t)*ln(y0/yt) =	0.564748		
		A =	
		B =	
Le/rw =	40	C =	2.5

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.800321

K (ft/min) = 5.49E-04 K (ft/sec) = 9.15E-06
K (feet/hou 3.29E-02
K (cm/sec) 2.79E-04

02/27/2001 13:32	0.2358	0.521
02/27/2001 13:32	0.2498	0.517
02/27/2001 13:32	0.2647	0.512
02/27/2001 13:32	0.2803	0.506
02/27/2001 13:32	0.297	0.502
02/27/2001 13:32	0.3145	0.494
02/27/2001 13:32	0.3333	0.488
02/27/2001 13:32	0.3532	0.483
02/27/2001 13:32	0.374	0.479
02/27/2001 13:32	0.3963	0.473
02/27/2001 13:32	0.4198	0.465
02/27/2001 13:32	0.4445	0.459
02/27/2001 13:33	0.4695	0.45
02/27/2001 13:33	0.4963	0.446
02/27/2001 13:33	0.5247	0.438
02/27/2001 13:33	0.5547	0.432
02/27/2001 13:33	0.5862	0.421
02/27/2001 13:33	0.6213	0.413
02/27/2001 13:33	0.658	0.403
02/27/2001 13:33	0.6963	0.394
02/27/2001 13:33	0.738	0.384
02/27/2001 13:33	0.7813	0.368
02/27/2001 13:33	0.8278	0.365
02/27/2001 13:33	0.8762	0.355
02/27/2001 13:33	0.9278	0.345
02/27/2001 13:33	0.983	0.332
02/27/2001 13:33	1.0413	0.32
02/27/2001 13:33	1.103	0.31
02/27/2001 13:33	1.1678	0.299
02/27/2001 13:33	1.238	0.289
02/27/2001 13:33	1.3113	0.274
02/27/2001 13:33	1.3895	0.264
02/27/2001 13:34	1.4728	0.252
02/27/2001 13:34	1.5613	0.237
02/27/2001 13:34	1.6547	0.227
02/27/2001 13:34	1.753	0.214
02/27/2001 13:34	1.858	0.202
02/27/2001 13:34	1.9678	0.19
02/27/2001 13:34	2.0845	0.177
02/27/2001 13:34	2.2097	0.167
02/27/2001 13:34	2.3412	0.152
02/27/2001 13:35	2.4812	0.142
02/27/2001 13:35	2.6297	0.132
02/27/2001 13:35	2.7863	0.119
02/27/2001 13:35	2.953	0.109
02/27/2001 13:35	3.1297	0.099
02/27/2001 13:35	3.3163	0.09
02/27/2001 13:36	3.5145	0.08
02/27/2001 13:36	3.7247	0.073
02/27/2001 13:36	3.9463	0.065
02/27/2001 13:36	4.1812	0.057
02/27/2001 13:36	4.4297	0.049
02/27/2001 13:37	4.6928	0.042
02/27/2001 13:37	4.9728	0.038
02/27/2001 13:37	5.2697	0.032
02/27/2001 13:38	5.583	0.028
02/27/2001 13:38	5.9145	0.024
02/27/2001 13:38	6.2663	0.019
02/27/2001 13:39	6.6395	0.017
02/27/2001 13:39	7.0345	0.013
02/27/2001 13:39	7.453	0.011
02/27/2001 13:40	7.8963	0.009
02/27/2001 13:40	8.3663	0.009
02/27/2001 13:41	8.8645	0.007
02/27/2001 13:41	9.3913	0.007
02/27/2001 13:42	9.9497	0.008


OBMW-13-F
Displacement (ft)
1
0.1
0.01
0.001
0
2
4
6
8
10
12
Time (mins)
OBMW-13-F

Slug test

Test Information: **OBMW-13-Rising Head Test**

Hydraulic Conductivity (K) = $rc^2 \ln(Re/rw)/2Le * (1/t)*\ln(yo/yt)$

$\ln(Rw/rw) = [(1.1)/(\ln(Lw/rw))] + (A+B\ln[H-Lw)/rw])/(Le/rw)]^{-1}$ (partially penetrating wells)

$\ln(Re/rw) = [(1.1)/(\ln(Lw/rw) + C/(Le/rw)]^{-1}$

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 103

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Density: 1.000 g/cm3
Latitude: 45 degrees
Elevation: 0.000 meters (0.000 feet)
Mode: Surface
User-defined refe 0 Feet H2O
Referenced on: test start
Pressure head at 9.691 Feet H2O

	Depth to water table (ft)	3.54
	Total well depth (ft.)	14
	Top of screen (ft.)	4
	Bottom of screen (ft.)	14

	ET (min)	Feet H2O	
02/27/2001 13:43	0	0	0
02/27/2001 13:43	0.0048	0.002	-0.002
02/27/2001 13:43	0.0098	-2.405	2.405
02/27/2001 13:43	0.015	-0.619	0.619
02/27/2001 13:43	0.0198	-0.487	0.487
02/27/2001 13:43	0.025	-0.808	0.808
02/27/2001 13:43	0.03	-0.679	0.679
02/27/2001 13:43	0.035	-0.65	0.65
02/27/2001 13:43	0.0398	-0.663	0.663
02/27/2001 13:44	0.045	-0.659	0.659
02/27/2001 13:44	0.05	-0.655	0.655
02/27/2001 13:44	0.055	-0.649	0.649
02/27/2001 13:44	0.06	-0.644	0.644
02/27/2001 13:44	0.0648	-0.642	0.642
02/27/2001 13:44	0.07	-0.638	0.638
02/27/2001 13:44	0.075	-0.636	0.636
02/27/2001 13:44	0.0798	-0.632	0.632
02/27/2001 13:44	0.085	-0.628	0.628
02/27/2001 13:44	0.09	-0.624	0.624
02/27/2001 13:44	0.095	-0.624	0.624
02/27/2001 13:44	0.1	-0.62	0.62
02/27/2001 13:44	0.1058	-0.616	0.616
02/27/2001 13:44	0.1118	-0.611	0.611
02/27/2001 13:44	0.1185	-0.609	0.609
02/27/2001 13:44	0.1255	-0.605	0.605
02/27/2001 13:44	0.1327	-0.601	0.601
02/27/2001 13:44	0.1405	-0.597	0.597
02/27/2001 13:44	0.1488	-0.593	0.593
02/27/2001 13:44	0.1578	-0.589	0.589
02/27/2001 13:44	0.167	-0.587	0.587
02/27/2001 13:44	0.177	-0.582	0.582
02/27/2001 13:44	0.1875	-0.578	0.578
02/27/2001 13:44	0.1985	-0.572	0.572
02/27/2001 13:44	0.21	-0.566	0.566
02/27/2001 13:44	0.2225	-0.562	0.562

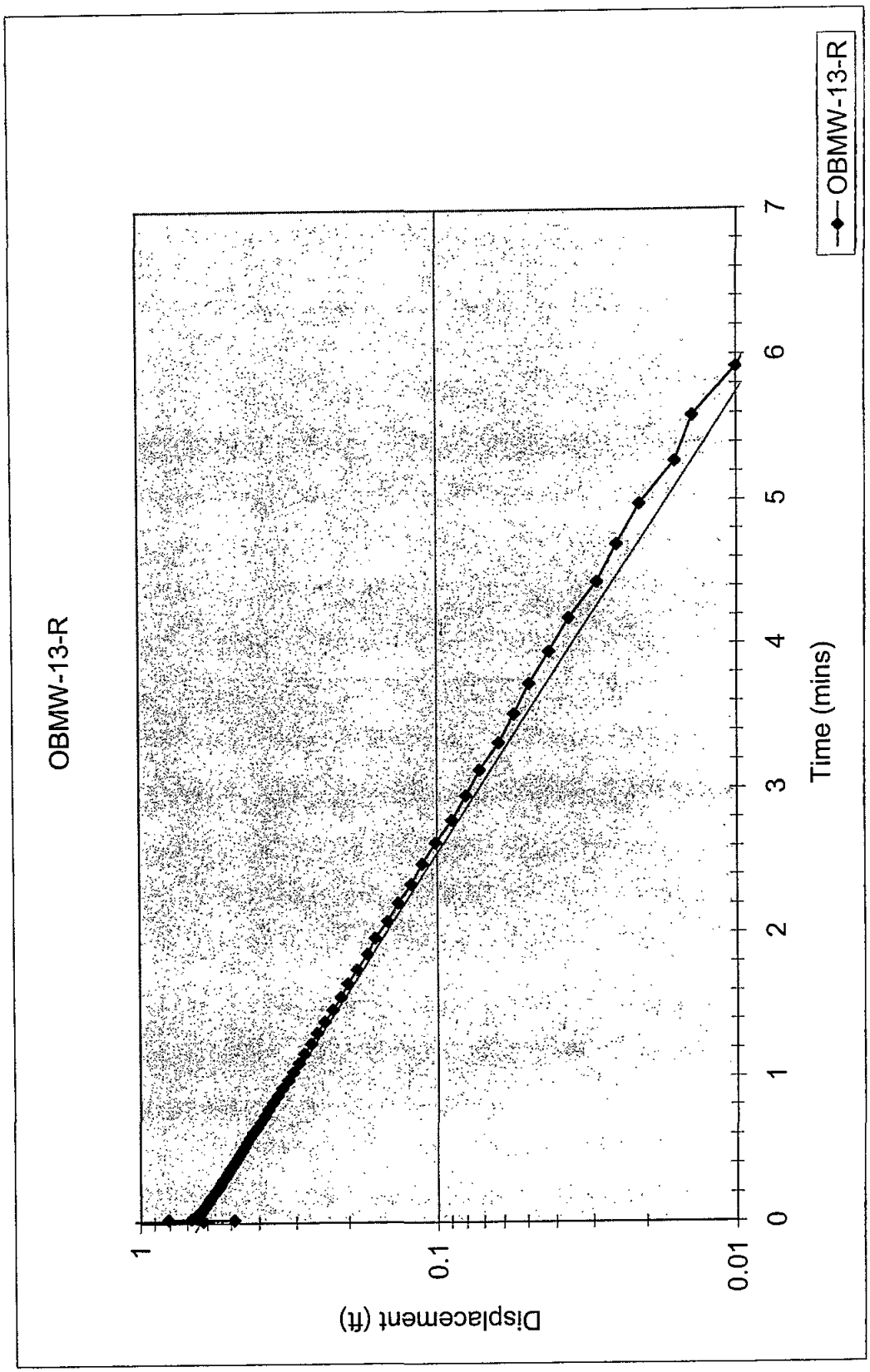
rc =	0.083333		radius of the well
rw =	0.25		radius of the borehole
Le =	10		screen length
Lw =	10.46		
H =	10.46		
y0 =	0.7		static water level
t =	5.8		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	0.732499		
		A =	
		B =	
Le/rw =	40	C =	2.5

ln(Rw/rw) = #NUM!

ln(Rw/rw) = 2.800321

K (ft/min) = 7.12E-04 K (ft/sec) = 1.19E-05
K (feet/hou 4.27E-02
K (cm/sec) 3.62E-04

02/27/2001 13:44	0.2358	-0.553	0.553
02/27/2001 13:44	0.2498	-0.547	0.547
02/27/2001 13:44	0.2647	-0.541	0.541
02/27/2001 13:44	0.2803	-0.537	0.537
02/27/2001 13:44	0.297	-0.531	0.531
02/27/2001 13:44	0.3145	-0.522	0.522
02/27/2001 13:44	0.3333	-0.514	0.514
02/27/2001 13:44	0.3532	-0.508	0.508
02/27/2001 13:44	0.374	-0.501	0.501
02/27/2001 13:44	0.3963	-0.491	0.491
02/27/2001 13:44	0.4198	-0.483	0.483
02/27/2001 13:44	0.4445	-0.474	0.474
02/27/2001 13:44	0.4695	-0.466	0.466
02/27/2001 13:44	0.4963	-0.456	0.456
02/27/2001 13:44	0.5247	-0.448	0.448
02/27/2001 13:44	0.5547	-0.439	0.439
02/27/2001 13:44	0.5862	-0.429	0.429
02/27/2001 13:44	0.6213	-0.419	0.419
02/27/2001 13:44	0.658	-0.404	0.404
02/27/2001 13:44	0.6963	-0.394	0.394
02/27/2001 13:44	0.738	-0.383	0.383
02/27/2001 13:44	0.7813	-0.373	0.373
02/27/2001 13:44	0.8278	-0.359	0.359
02/27/2001 13:44	0.8762	-0.346	0.346
02/27/2001 13:44	0.9278	-0.334	0.334
02/27/2001 13:44	0.983	-0.319	0.319
02/27/2001 13:44	1.0413	-0.307	0.307
02/27/2001 13:45	1.103	-0.294	0.294
02/27/2001 13:45	1.1678	-0.282	0.282
02/27/2001 13:45	1.238	-0.267	0.267
02/27/2001 13:45	1.3113	-0.255	0.255
02/27/2001 13:45	1.3895	-0.241	0.241
02/27/2001 13:45	1.4728	-0.226	0.226
02/27/2001 13:45	1.5613	-0.212	0.212
02/27/2001 13:45	1.6547	-0.201	0.201
02/27/2001 13:45	1.753	-0.187	0.187
02/27/2001 13:45	1.858	-0.172	0.172
02/27/2001 13:45	1.9678	-0.162	0.162
02/27/2001 13:46	2.0845	-0.147	0.147
02/27/2001 13:46	2.2097	-0.135	0.135
02/27/2001 13:46	2.3412	-0.122	0.122
02/27/2001 13:46	2.4812	-0.112	0.112
02/27/2001 13:46	2.6297	-0.101	0.101
02/27/2001 13:46	2.7863	-0.089	0.089
02/27/2001 13:46	2.953	-0.08	0.08
02/27/2001 13:47	3.1297	-0.072	0.072
02/27/2001 13:47	3.3163	-0.062	0.062
02/27/2001 13:47	3.5145	-0.055	0.055
02/27/2001 13:47	3.7247	-0.049	0.049
02/27/2001 13:47	3.9463	-0.042	0.042
02/27/2001 13:48	4.1812	-0.036	0.036
02/27/2001 13:48	4.4297	-0.029	0.029
02/27/2001 13:48	4.6928	-0.025	0.025
02/27/2001 13:48	4.9728	-0.021	0.021
02/27/2001 13:49	5.2697	-0.016	0.016
02/27/2001 13:49	5.583	-0.014	0.014
02/27/2001 13:49	5.9145	-0.01	0.01
02/27/2001 13:50	6.2663	-0.008	0.008
02/27/2001 13:50	6.6395	-0.006	0.006
02/27/2001 13:50	7.0345	-0.004	0.004
02/27/2001 13:51	7.453	-0.002	0.002
02/27/2001 13:51	7.8963	-0.002	0.002
02/27/2001 13:52	8.3663	0	0
02/27/2001 13:52	8.8645	0.001	-0.001
02/27/2001 13:53	9.3913	0.003	-0.003
02/27/2001 13:53	9.9497	0.003	-0.003
02/27/2001 13:54	10.5413	0.005	-0.005
02/27/2001 13:55	11.168	0.005	-0.005


OBMW-13-R
Displacement (ft)
1
0.1
0.01
0
1
2
3
4
5
6
7
Time (mins)
OBMW-13-R

Slug test

Test Information: **OBMW-15-Falling Head Test**

Hydraulic Condutivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+Bln[H-Lw)/rw])/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAM 105

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.468 Meters H2O

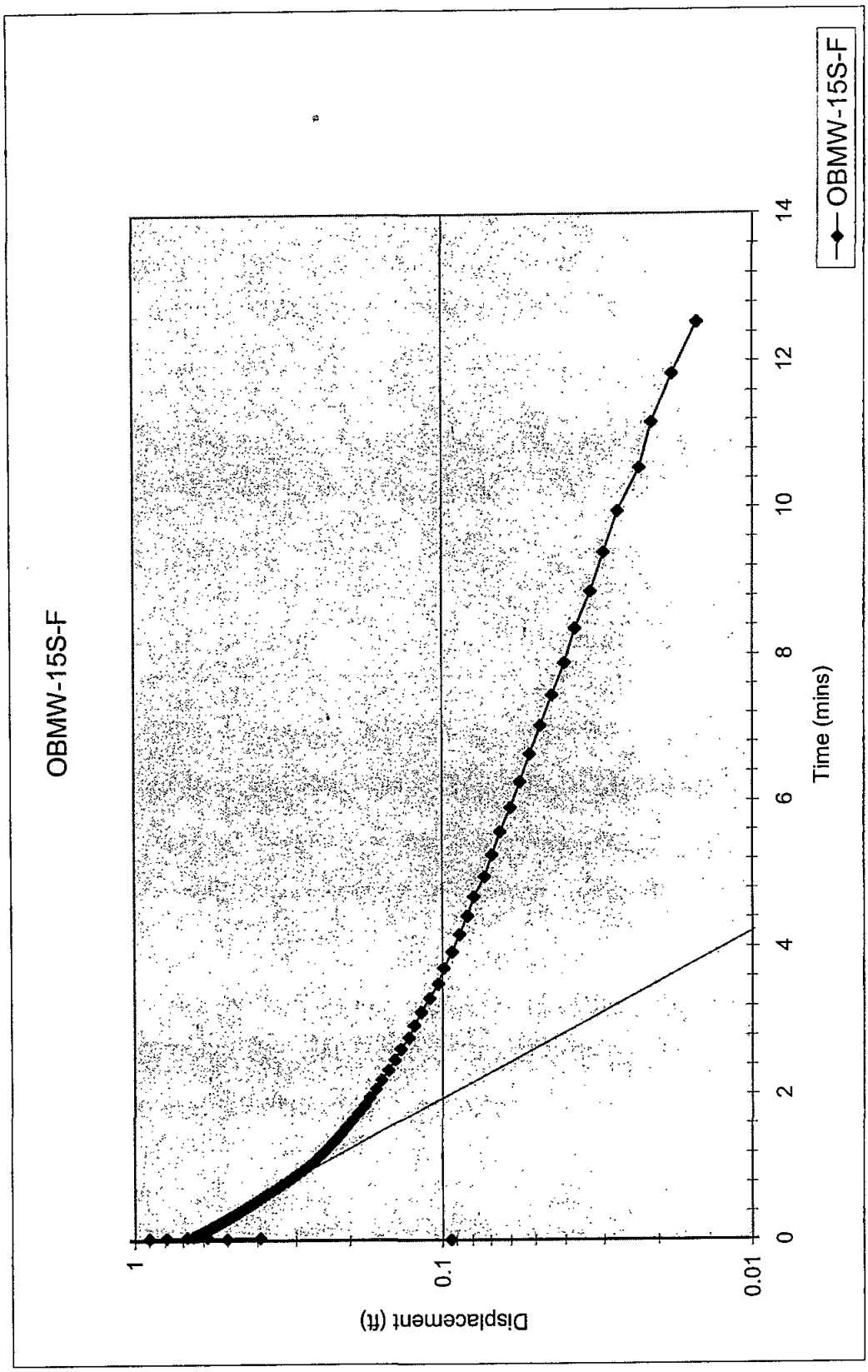
Depth to water table (ft)	11.2
Total well depth (ft.)	20
Top of screen (ft.)	15
Bottom of screen (ft.)	20

	ET (min)	Feet H2O
03/02/2001 9:51	0	0
03/02/2001 9:51	0.0048	0.004
03/02/2001 9:51	0.0098	0.094
03/02/2001 9:51	0.015	1.112
03/02/2001 9:51	0.0198	1.304
03/02/2001 9:51	0.025	1.14
03/02/2001 9:51	0.03	0.502
03/02/2001 9:51	0.035	0.899
03/02/2001 9:51	0.0398	0.392
03/02/2001 9:51	0.045	0.79
03/02/2001 9:51	0.05	0.583
03/02/2001 9:51	0.0548	0.678
03/02/2001 9:51	0.06	0.648
03/02/2001 9:51	0.0648	0.646
03/02/2001 9:51	0.07	0.63
03/02/2001 9:51	0.075	0.634
03/02/2001 9:51	0.0798	0.629
03/02/2001 9:51	0.0848	0.627
03/02/2001 9:51	0.09	0.624
03/02/2001 9:51	0.095	0.62
03/02/2001 9:51	0.1	0.617
03/02/2001 9:51	0.1057	0.613
03/02/2001 9:51	0.1118	0.61
03/02/2001 9:51	0.1185	0.606

rc =	0.166667		radius of the well
rw =	0.333333		radius of the borehole
Le =	5		screen length
Lw =	8.8		
H =	8.8		
y0 =	0.7		static water level
t =	4.2		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =		1.011546	
		A =	
		B =	
Le/rw =	15	C =	1.5
ln(Rw/rw) =	#DIV/0!		
ln(Rw/rw) =	2.293337		
K (ft/min) =	6.44E-03	K (ft/sec) =	1.07E-04
K (feet/hour) =	3.87E-01		
K (cm/sec) =	3.27E-03		

03/02/2001 9:51	0.1255	0.601
03/02/2001 9:51	0.1327	0.597
03/02/2001 9:51	0.1405	0.593
03/02/2001 9:51	0.1488	0.588
03/02/2001 9:51	0.1578	0.583
03/02/2001 9:51	0.167	0.576
03/02/2001 9:51	0.1768	0.57
03/02/2001 9:51	0.1875	0.564
03/02/2001 9:51	0.1985	0.558
03/02/2001 9:51	0.21	0.551
03/02/2001 9:51	0.2225	0.544
03/02/2001 9:51	0.2358	0.537
03/02/2001 9:51	0.2498	0.53
03/02/2001 9:51	0.2647	0.522
03/02/2001 9:51	0.2803	0.514
03/02/2001 9:51	0.297	0.506
03/02/2001 9:51	0.3145	0.498
03/02/2001 9:51	0.3333	0.489
03/02/2001 9:51	0.3532	0.48
03/02/2001 9:52	0.374	0.47
03/02/2001 9:52	0.3963	0.461
03/02/2001 9:52	0.4198	0.452
03/02/2001 9:52	0.4445	0.442
03/02/2001 9:52	0.4695	0.432
03/02/2001 9:52	0.4963	0.422
03/02/2001 9:52	0.5247	0.412
03/02/2001 9:52	0.5547	0.402
03/02/2001 9:52	0.5862	0.391
03/02/2001 9:52	0.6213	0.38
03/02/2001 9:52	0.6578	0.369
03/02/2001 9:52	0.6963	0.356
03/02/2001 9:52	0.738	0.343
03/02/2001 9:52	0.7813	0.332
03/02/2001 9:52	0.8278	0.319
03/02/2001 9:52	0.8762	0.307
03/02/2001 9:52	0.9278	0.295
03/02/2001 9:52	0.9828	0.283
03/02/2001 9:52	1.0412	0.271
03/02/2001 9:52	1.103	0.26
03/02/2001 9:52	1.1678	0.251
03/02/2001 9:52	1.238	0.241
03/02/2001 9:52	1.3113	0.232
03/02/2001 9:53	1.3895	0.222
03/02/2001 9:53	1.4728	0.213
03/02/2001 9:53	1.5613	0.205
03/02/2001 9:53	1.6547	0.196
03/02/2001 9:53	1.753	0.188
03/02/2001 9:53	1.858	0.179
03/02/2001 9:53	1.9678	0.172
03/02/2001 9:53	2.0845	0.164
03/02/2001 9:53	2.2097	0.157
03/02/2001 9:53	2.3412	0.149
03/02/2001 9:54	2.4812	0.142
03/02/2001 9:54	2.6297	0.136
03/02/2001 9:54	2.7863	0.128
03/02/2001 9:54	2.953	0.123
03/02/2001 9:54	3.1297	0.117

03/02/2001 9:54	3.3162	0.11
03/02/2001 9:55	3.5145	0.103
03/02/2001 9:55	3.7245	0.099
03/02/2001 9:55	3.9463	0.093
03/02/2001 9:55	4.1812	0.088
03/02/2001 9:56	4.4295	0.083
03/02/2001 9:56	4.6928	0.079
03/02/2001 9:56	4.9728	0.073
03/02/2001 9:56	5.2697	0.069
03/02/2001 9:57	5.583	0.065
03/02/2001 9:57	5.9145	0.06
03/02/2001 9:57	6.2663	0.056
03/02/2001 9:58	6.6395	0.052
03/02/2001 9:58	7.0345	0.048
03/02/2001 9:59	7.453	0.044
03/02/2001 9:59	7.8962	0.04
03/02/2001 10:00	8.3663	0.037
03/02/2001 10:00	8.8645	0.033
03/02/2001 10:01	9.3913	0.03
03/02/2001 10:01	9.9497	0.027
03/02/2001 10:02	10.5413	0.023
03/02/2001 10:02	11.168	0.021
03/02/2001 10:03	11.8312	0.018
03/02/2001 10:04	12.5347	0.015


OBMW-15S-F
Displacement (ft)
1
0.1
0.01
0
2
4
6
8
10
12
14
Time (mins)
OBMW-15S-F

Slug test

Test Information: **OBMW-15-Rising Head Test**

Hydraulic Condutivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+Bln[H-Lw]/rw))/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 104

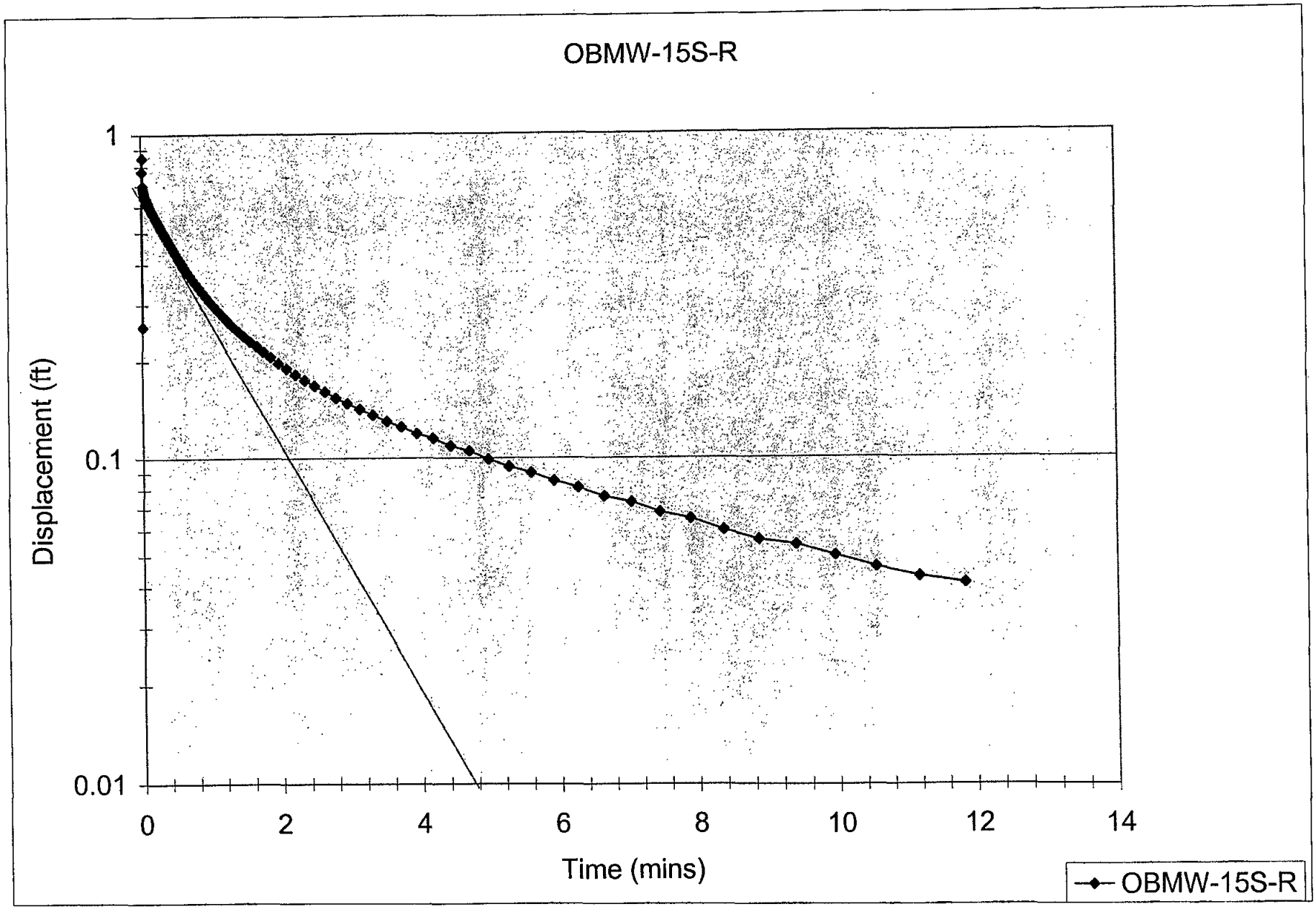
Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.474 Meters H2O

Depth to water table (ft)	11.2
Total well depth (ft.)	20
Top of screen (ft.)	15
Bottom of screen (ft.)	20

	ET (min)	Feet H2O	Transposed Feet H2O
03/02/2001 10:06	0	0	0
03/02/2001 10:06	0.0048	-0.256	0.256
03/02/2001 10:06	0.0098	-0.773	0.773
03/02/2001 10:06	0.015	-0.85	0.85
03/02/2001 10:06	0.0198	-0.7	0.7
03/02/2001 10:06	0.025	-0.685	0.685
03/02/2001 10:06	0.03	-0.674	0.674
03/02/2001 10:06	0.035	-0.666	0.666
03/02/2001 10:06	0.0398	-0.655	0.655
03/02/2001 10:06	0.045	-0.652	0.652
03/02/2001 10:06	0.05	-0.644	0.644
03/02/2001 10:06	0.0548	-0.64	0.64
03/02/2001 10:06	0.06	-0.639	0.639
03/02/2001 10:06	0.0648	-0.639	0.639
03/02/2001 10:06	0.07	-0.635	0.635
03/02/2001 10:06	0.075	-0.628	0.628
03/02/2001 10:06	0.0798	-0.627	0.627
03/02/2001 10:06	0.0848	-0.623	0.623
03/02/2001 10:06	0.09	-0.62	0.62
03/02/2001 10:06	0.095	-0.618	0.618
03/02/2001 10:06	0.1	-0.615	0.615
03/02/2001 10:06	0.1057	-0.612	0.612
03/02/2001 10:06	0.1118	-0.607	0.607
03/02/2001 10:06	0.1185	-0.603	0.603
03/02/2001 10:06	0.1255	-0.599	0.599
03/02/2001 10:06	0.1327	-0.594	0.594
03/02/2001 10:06	0.1405	-0.59	0.59
03/02/2001 10:06	0.1488	-0.585	0.585
03/02/2001 10:06	0.1578	-0.58	0.58
03/02/2001 10:06	0.167	-0.576	0.576
03/02/2001 10:06	0.1768	-0.57	0.57
03/02/2001 10:06	0.1875	-0.565	0.565
03/02/2001 10:06	0.1985	-0.559	0.559
03/02/2001 10:06	0.21	-0.553	0.553
03/02/2001 10:06	0.2225	-0.548	0.548
03/02/2001 10:06	0.2358	-0.541	0.541
03/02/2001 10:06	0.2498	-0.533	0.533

rc =	0.166667		radius of the well
rw =	0.333333		radius of the borehole
Le =	5		screen length
Lw =	8.8		
H =	8.8		
y0 =	0.7		static water level
t =	4.2		time (mins)
yt =	0.01		water level at 't'
(1/t)*ln(y0/yt) =	1.011546		
		A =	
		B =	
Le/rw =	15	C =	1.5
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.293337		
K (ft/min) =	6.44E-03	K (ft/sec) =	1.07E-04
K (feet/hou	3.87E-01		
K (cm/sec)	3.27E-03		

03/02/2001 10:06	0.2647	-0.526	0.526
03/02/2001 10:06	0.2803	-0.519	0.519
03/02/2001 10:06	0.297	-0.511	0.511
03/02/2001 10:06	0.3145	-0.503	0.503
03/02/2001 10:06	0.3333	-0.495	0.495
03/02/2001 10:06	0.3532	-0.486	0.486
03/02/2001 10:06	0.374	-0.477	0.477
03/02/2001 10:06	0.3963	-0.468	0.468
03/02/2001 10:06	0.4198	-0.46	0.46
03/02/2001 10:06	0.4445	-0.45	0.45
03/02/2001 10:06	0.4695	-0.441	0.441
03/02/2001 10:06	0.4963	-0.432	0.432
03/02/2001 10:06	0.5247	-0.421	0.421
03/02/2001 10:07	0.5547	-0.412	0.412
03/02/2001 10:07	0.5862	-0.402	0.402
03/02/2001 10:07	0.6213	-0.391	0.391
03/02/2001 10:07	0.6578	-0.38	0.38
03/02/2001 10:07	0.6963	-0.37	0.37
03/02/2001 10:07	0.738	-0.359	0.359
03/02/2001 10:07	0.7813	-0.349	0.349
03/02/2001 10:07	0.8278	-0.339	0.339
03/02/2001 10:07	0.8762	-0.328	0.328
03/02/2001 10:07	0.9278	-0.318	0.318
03/02/2001 10:07	0.9828	-0.307	0.307
03/02/2001 10:07	1.0412	-0.297	0.297
03/02/2001 10:07	1.103	-0.287	0.287
03/02/2001 10:07	1.1678	-0.277	0.277
03/02/2001 10:07	1.238	-0.267	0.267
03/02/2001 10:07	1.3113	-0.257	0.257
03/02/2001 10:07	1.3895	-0.248	0.248
03/02/2001 10:07	1.4728	-0.239	0.239
03/02/2001 10:08	1.5613	-0.23	0.23
03/02/2001 10:08	1.6547	-0.223	0.223
03/02/2001 10:08	1.753	-0.214	0.214
03/02/2001 10:08	1.858	-0.206	0.206
03/02/2001 10:08	1.9678	-0.197	0.197
03/02/2001 10:08	2.0845	-0.19	0.19
03/02/2001 10:08	2.2097	-0.182	0.182
03/02/2001 10:08	2.3412	-0.175	0.175
03/02/2001 10:08	2.4812	-0.168	0.168
03/02/2001 10:09	2.6297	-0.161	0.161
03/02/2001 10:09	2.7863	-0.154	0.154
03/02/2001 10:09	2.953	-0.148	0.148
03/02/2001 10:09	3.1297	-0.142	0.142
03/02/2001 10:09	3.3162	-0.136	0.136
03/02/2001 10:09	3.5145	-0.13	0.13
03/02/2001 10:10	3.7245	-0.125	0.125
03/02/2001 10:10	3.9463	-0.119	0.119
03/02/2001 10:10	4.1812	-0.115	0.115
03/02/2001 10:10	4.4295	-0.109	0.109
03/02/2001 10:11	4.6928	-0.105	0.105
03/02/2001 10:11	4.9728	-0.099	0.099
03/02/2001 10:11	5.2697	-0.094	0.094
03/02/2001 10:12	5.583	-0.09	0.09
03/02/2001 10:12	5.9145	-0.085	0.085
03/02/2001 10:12	6.2663	-0.081	0.081
03/02/2001 10:13	6.6395	-0.076	0.076
03/02/2001 10:13	7.0345	-0.073	0.073
03/02/2001 10:13	7.453	-0.068	0.068
03/02/2001 10:14	7.8962	-0.065	0.065
03/02/2001 10:14	8.3663	-0.06	0.06
03/02/2001 10:15	8.8645	-0.056	0.056
03/02/2001 10:15	9.3913	-0.054	0.054
03/02/2001 10:16	9.9497	-0.05	0.05
03/02/2001 10:16	10.5413	-0.046	0.046
03/02/2001 10:17	11.168	-0.043	0.043
03/02/2001 10:18	11.8312	-0.041	0.041


OBMW-15S-R
Displacement (ft)
1
0.1
0.01
0
2
4
6
8
10
12
14
Time (mins)
OBMW-15S-R

Client Satisfaction Award of Excellence
Union Carbide Corporation

Excellence in Client Service

The Union Carbide Corporation (UCC) Reich Farm Superfund Project located in Toms River, New Jersey has been an ongoing project for Malcolm Pirnie spanning over a **DECADE** of quality client service. Over this time period, there have been several officers (4), project managers (7), and a host of support staff (over 100) providing quality Pirnie services to make this one of our leading sustainable clients. The project began in 1990 as a groundwater remedial investigation where our work resulted in a modification of the record of decision for the groundwater remedy saving UCC several million dollars. The original remedy was a groundwater pump and treat system with reinjection of the treated groundwater. The modified remedy was wellhead treatment using an existing air stripper at the United Water Toms River Parkway Well Field. During this time period (1990-1995) Malcolm Pirnie also provided innovative engineering services for the remedial design and over sight of the thermal desorption of the contaminated soils on-site.

In 1996, the New Jersey Department of Environmental Protection and the New Jersey Department of Health and Senior Services launched a public health investigation to evaluate the significant increase in the rate of childhood cancer in Toms River area and identified for an unregulated semi-volatile compound refer to as San Trimer in the Reich Farm plume. Through aggressive action, Malcolm Pirnie within three months identified and developed a new treatment approach, designed the treatment system, and oversaw the construction of the treatment system to remove this compound from the groundwater. This enabled the local water utility to prevent a serious summertime water shortage in a seaside community and ease residents' concerns regarding the safety of their water supply. Malcolm Pirnie met and exceeded the client's expectations for this project (see attached letter from Craig Wilger). Malcolm Pirnie received the 1998 CECNJ Engineering Excellence Award for this project.

In 1998, Malcolm Pirnie further assisted UCC in the design an installation of an interceptor well to supplement the capture of the Reich farm plume.

As a result of the cancer issue, a citizen action committee against childhood cancer named UCC in a lawsuit. We were asked to support UCC in this suit by developing a GIS database to aid in developing technical information in support of UCC case. To date we are maintaining this GIS and enhancing it as new technology develops. Malcolm Pirnie also provided team support to UCC by attending monthly public hearing meetings. UCC in December 2001 successfully settled the case out of court.

Malcolm Pirnie is currently assisting UCC with the operation, monitoring and maintenance of the groundwater treatment system.

Malcolm Pirnie's success on this project is due to the team's commitment to excellence and in achieving and maintaining client satisfaction. As portrayed in the project history, the team has demonstrated a commitment to providing high-quality service, solving the client's problems quickly and innovatively, and meeting the clients schedule and budget.

Our success is due to being very client focus, by continuing to ask the question of how are we doing, and by being very proactive in meeting the clients needs. Client meetings are held at a minimum on a monthly basis, feedback sessions have been held with the project team and lead by Eric Dodge and others, project stops within Pirnie have occurred, and we have shared the limelight of the project by winning a CECNJ Engineering Excellence Award. Success has also been demonstrated on this project by meeting the goals of the project and include; assisting UCC in meeting all requirements of its Consent Agreement, avoiding litigation, demonstrating UCC's commitment to "responsible care", implementing the work effectively and efficiently, support of other stake holders, and maintaining a positive relationship with the numerous agencies and the citizens. Our success can be measured by the long lasting and high quality relationship we share with UCC, the opportunities and growth the project has given several of our staff, and the recognition of a job well done by our client as stated in the attached letter and emails.

Current Project Team
Project Officer Peter Witko
Client Service Manager Terry Haelen
Manager Dan St Germain
Deputy Project Manager Janis Karn
Significant Others; Joe Caragine, Mike Wooden, Arnas Nemickas, Ryan Lemli, Rich Neuner, Bob Beyer, and Denis Hayes

Slug test

Test Information: **OBMW-19-Rising Head Test**

Hydraulic Conductivity (K) = rc^2 ln (Re/rw)/2Le * (1/t)*ln(yo/yt)

ln(Rw/rw) = [(1.1)/(ln(Lw/rw)) + (A+Bln[H-Lw]/rw))/(Le/rw)]^-1 (partially penetrating wells)

ln(Re/rw) = [(1.1)/(ln(Lw/rw) + C/(Le/rw)]^-1

where A, B, and C are dimensionless numbers

TOTAL DATA SAI 105

Channel number [2]
Measurement typ Pressure
Channel name: OnBoard Pressure
Sensor Range: 30 PSI.
Specific gravity: 1
Mode: Surface
User-defined refe 0 Meters H2O
Referenced on: test start
Pressure head at 2.29 Meters H2O

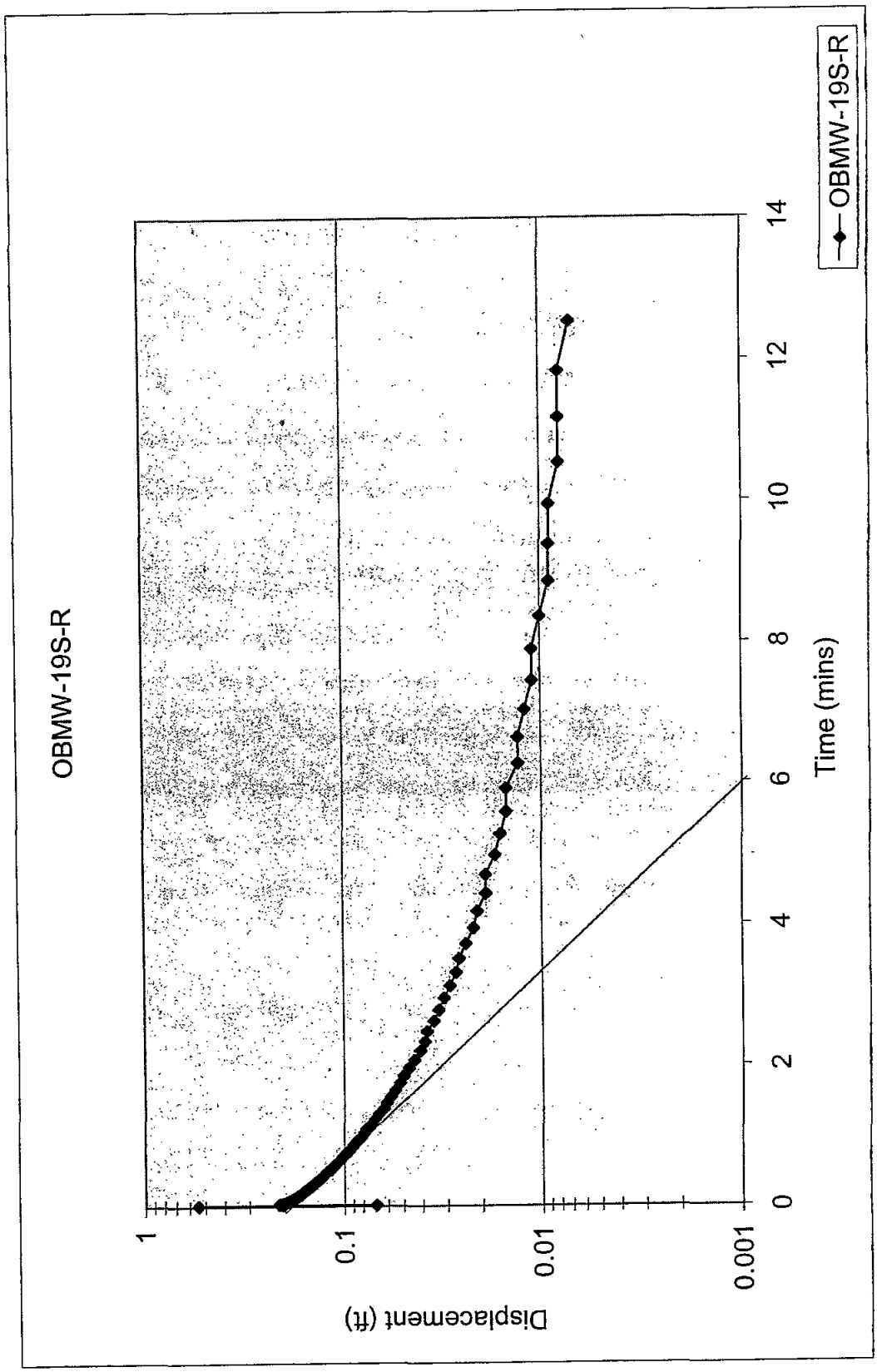
Depth to water table (ft)	9.01
Total well depth (ft.)	17.45
Top of screen (ft.)	5
Bottom of screen (ft.)	15

Note: Screen length information missing. Data not analyzed.

	ET (min)	Feet H2O	Transposed Feet H2O
03/02/2001 10:57	0	0	0
03/02/2001 10:57	0.0048	0.002	-0.002
03/02/2001 10:57	0.0098	-0.543	0.543
03/02/2001 10:57	0.015	-0.069	0.069
03/02/2001 10:57	0.0198	-0.204	0.204
03/02/2001 10:57	0.025	-0.214	0.214
03/02/2001 10:57	0.03	-0.212	0.212
03/02/2001 10:57	0.035	-0.206	0.206
03/02/2001 10:57	0.0398	-0.203	0.203
03/02/2001 10:57	0.045	-0.2	0.2
03/02/2001 10:57	0.05	-0.198	0.198
03/02/2001 10:57	0.0548	-0.196	0.196
03/02/2001 10:57	0.06	-0.195	0.195
03/02/2001 10:57	0.0648	-0.193	0.193
03/02/2001 10:57	0.07	-0.191	0.191
03/02/2001 10:57	0.075	-0.19	0.19
03/02/2001 10:57	0.0798	-0.188	0.188
03/02/2001 10:57	0.0848	-0.186	0.186
03/02/2001 10:57	0.09	-0.185	0.185
03/02/2001 10:57	0.095	-0.184	0.184
03/02/2001 10:57	0.1	-0.183	0.183
03/02/2001 10:57	0.1057	-0.181	0.181
03/02/2001 10:57	0.1118	-0.18	0.18
03/02/2001 10:57	0.1185	-0.178	0.178
03/02/2001 10:57	0.1255	-0.176	0.176
03/02/2001 10:57	0.1327	-0.174	0.174
03/02/2001 10:57	0.1405	-0.173	0.173
03/02/2001 10:57	0.1488	-0.171	0.171
03/02/2001 10:57	0.1578	-0.169	0.169
03/02/2001 10:57	0.167	-0.166	0.166
03/02/2001 10:57	0.1768	-0.166	0.166
03/02/2001 10:57	0.1875	-0.164	0.164
03/02/2001 10:57	0.1985	-0.162	0.162
03/02/2001 10:57	0.21	-0.16	0.16
03/02/2001 10:57	0.2225	-0.158	0.158
03/02/2001 10:57	0.2358	-0.156	0.156
03/02/2001 10:57	0.2498	-0.153	0.153

rc =	0.166667		radius of the well
rw =	0.333333		radius of the borehole
Le =	10		screen length
Lw =	5.99		
H =	5.99		
y0 =	0.15		static water level
t =	6		time (mins)
yt =	0.001		water level at 't'
(1/t)*ln(y0/yt) =	0.835106		
		A =	
		B =	
Le/rw =	30	C =	1.9
ln(Rw/rw) =	#NUM!		
ln(Rw/rw) =	2.251608		
K (ft/min) =	2.61E-03	K (ft/sec) =	4.35E-05
K (feet/hou	1.57E-01		
K (cm/sec)	1.33E-03		

03/02/2001 10:57	0.2647	-0.151	0.151
03/02/2001 10:57	0.2803	-0.148	0.148
03/02/2001 10:57	0.297	-0.146	0.146
03/02/2001 10:57	0.3145	-0.143	0.143
03/02/2001 10:57	0.3333	-0.141	0.141
03/02/2001 10:57	0.3532	-0.138	0.138
03/02/2001 10:57	0.374	-0.135	0.135
03/02/2001 10:57	0.3963	-0.132	0.132
03/02/2001 10:57	0.4198	-0.129	0.129
03/02/2001 10:57	0.4445	-0.127	0.127
03/02/2001 10:57	0.4695	-0.124	0.124
03/02/2001 10:57	0.4963	-0.121	0.121
03/02/2001 10:57	0.5247	-0.117	0.117
03/02/2001 10:57	0.5547	-0.114	0.114
03/02/2001 10:58	0.5862	-0.112	0.112
03/02/2001 10:58	0.6213	-0.108	0.108
03/02/2001 10:58	0.6578	-0.105	0.105
03/02/2001 10:58	0.6963	-0.102	0.102
03/02/2001 10:58	0.738	-0.099	0.099
03/02/2001 10:58	0.7813	-0.095	0.095
03/02/2001 10:58	0.8278	-0.092	0.092
03/02/2001 10:58	0.8762	-0.089	0.089
03/02/2001 10:58	0.9278	-0.086	0.086
03/02/2001 10:58	0.9828	-0.082	0.082
03/02/2001 10:58	1.0412	-0.079	0.079
03/02/2001 10:58	1.103	-0.077	0.077
03/02/2001 10:58	1.1678	-0.073	0.073
03/02/2001 10:58	1.238	-0.07	0.07
03/02/2001 10:58	1.3113	-0.067	0.067
03/02/2001 10:58	1.3895	-0.063	0.063
03/02/2001 10:58	1.4728	-0.061	0.061
03/02/2001 10:58	1.5613	-0.058	0.058
03/02/2001 10:59	1.6547	-0.055	0.055
03/02/2001 10:59	1.753	-0.052	0.052
03/02/2001 10:59	1.858	-0.05	0.05
03/02/2001 10:59	1.9678	-0.047	0.047
03/02/2001 10:59	2.0845	-0.044	0.044
03/02/2001 10:59	2.2097	-0.041	0.041
03/02/2001 10:59	2.3412	-0.039	0.039
03/02/2001 10:59	2.4812	-0.038	0.038
03/02/2001 11:00	2.6297	-0.035	0.035
03/02/2001 11:00	2.7863	-0.033	0.033
03/02/2001 11:00	2.953	-0.031	0.031
03/02/2001 11:00	3.1297	-0.029	0.029
03/02/2001 11:00	3.3162	-0.027	0.027
03/02/2001 11:00	3.5145	-0.026	0.026
03/02/2001 11:01	3.7245	-0.024	0.024
03/02/2001 11:01	3.9463	-0.022	0.022
03/02/2001 11:01	4.1812	-0.021	0.021
03/02/2001 11:01	4.4295	-0.019	0.019
03/02/2001 11:02	4.6928	-0.019	0.019
03/02/2001 11:02	4.9728	-0.017	0.017
03/02/2001 11:02	5.2697	-0.016	0.016
03/02/2001 11:03	5.583	-0.015	0.015
03/02/2001 11:03	5.9145	-0.015	0.015
03/02/2001 11:03	6.2663	-0.013	0.013
03/02/2001 11:04	6.6395	-0.013	0.013
03/02/2001 11:04	7.0345	-0.012	0.012
03/02/2001 11:04	7.453	-0.011	0.011
03/02/2001 11:05	7.8962	-0.011	0.011
03/02/2001 11:05	8.3663	-0.01	0.01
03/02/2001 11:06	8.8645	-0.009	0.009
03/02/2001 11:06	9.3913	-0.009	0.009
03/02/2001 11:07	9.9497	-0.009	0.009
03/02/2001 11:07	10.5413	-0.008	0.008
03/02/2001 11:08	11.168	-0.008	0.008
03/02/2001 11:09	11.8312	-0.008	0.008
03/02/2001 11:09	12.5347	-0.007	0.007

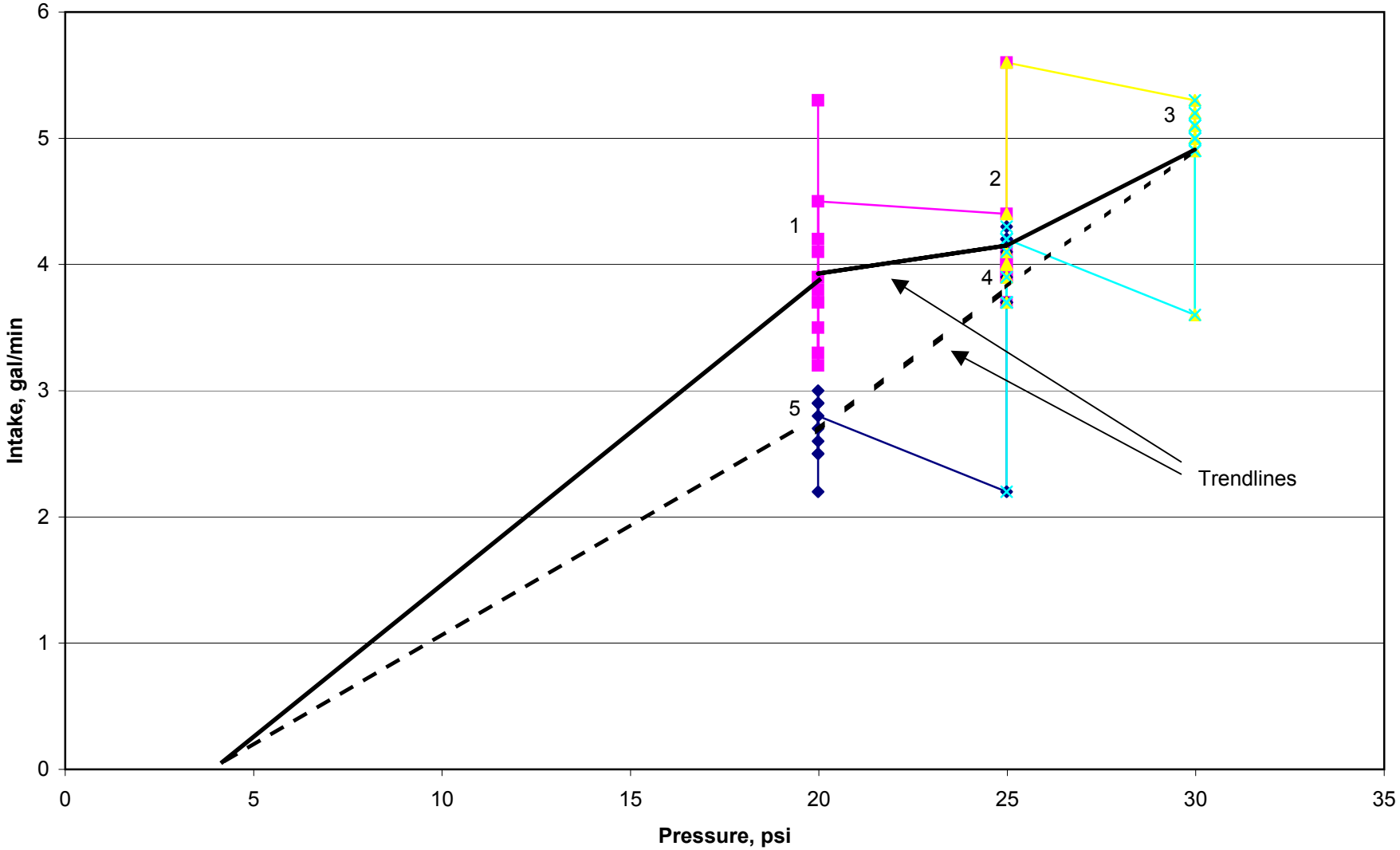

OBMW-19S-R
Displacement (ft)
1
0.1
0.01
0.001
0
2
4
6
8
10
12
14
Time (mins)
OBMW-19S-R

APPENDIX G
PACKER TESTS, RAW DATA, AND DATA PLOTS

Packer Test Data Collection Sheet

Date:	10/25/00
Time test is started:	11:05
Location:	Pilot Hole MW-2D
Test No.	1
Well number:	In front of 84 Becker St.
Interval (feet)	33-37.5
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	12.29
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	31
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8249
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.31
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 2.5'	
Ground surface to water table = 8.5'	

Multiple Pressure Permeability Test For Pilot Hole MW-2D from 33 to 37.5 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-2D		
Test No.	1		
Location	In front of 84 Becker St.		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	15	75	5.3
0:30	15	80.3	4.2
1:00	15	84.5	4.1
1:30	15	88.6	3.8
2:00	15	92.4	3.9
2:30	15	96.3	3.7
3:00	15	100	3.7
3:30	15	103.7	3.3
4:00	15	107	3.5
4:30	15	110.5	3.2
5:00	15	113.7	4.5
5:30	20	118.2	4.4
6:00	20	122.6	4
6:30	20	126.6	4
7:00	20	130.6	4
7:30	20	134.6	3.9
8:00	20	138.5	3.9
8:30	20	142.4	3.9
9:00	20	146.3	4.1
9:30	20	150.4	3.7
10:00	20	154.1	5.6
10:30	25	159.7	5.3
11:00	25	165	5
11:30	25	170	4.9
12:00	25	174.9	5.1
12:30	25	180	4.9
13:00	25	184.9	5
13:30	25	189.9	5.1
14:00	25	195	5
14:30	25	200	5.2
15:00	25	205.2	3.6
15:30	20	208.8	4.2
16:00	20	213	3.7
16:30	20	216.7	4.2
17:00	20	220.9	4.1
17:30	20	225	3.7
18:00	20	228.7	4.2

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-2D		
Test No.	1		
Location	In front of 84 Becker St.		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	232.9	3.7
19:00	20	236.6	4.3
19:30	20	240.9	3.9
20:00	20	244.8	2.2
20:30	15	247	2.8
21:00	15	249.8	2.7
21:30	15	252.5	2.5
22:00	15	255	2.6
22:30	15	257.6	3
23:00	15	260.6	2.5
23:30	15	263.1	2.9
0:00	15	266	2.9
0:30	15	268.9	2.2
1:00	15	271.1	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-2D	
Test No.	1	
Location	In front of 84 Becker St.	
	Cs	78
	r	0.083
	h_1	12.29
	L	0.8249

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	46.0101	19.97833261	75	5.3	0.023620333	7.92976E-05	5.87591E-05
0:30	15	46.0101	19.97833261	80.3	4.2	0.018718	6.28396E-05	
1:00	15	46.0101	19.97833261	84.5	4.1	0.018272333	6.13434E-05	
1:30	15	46.0101	19.97833261	88.6	3.8	0.016935333	5.68549E-05	
2:00	15	46.0101	19.97833261	92.4	3.9	0.017381	5.83511E-05	
2:30	15	46.0101	19.97833261	96.3	3.7	0.016489667	5.53587E-05	
3:00	15	46.0101	19.97833261	100	3.7	0.016489667	5.53587E-05	
3:30	15	46.0101	19.97833261	103.7	3.3	0.014707	4.9374E-05	
4:00	15	46.0101	19.97833261	107	3.5	0.015598333	5.23664E-05	
4:30	15	46.0101	19.97833261	110.5	3.2	0.014261333	4.78778E-05	
5:00	15	46.0101	19.97833261	113.7	4.5	0.020055	6.73282E-05	
5:30	20	57.5251	24.97833261	118.2	4.4	0.019609333	5.26542E-05	4.96625E-05
6:00	20	57.5251	24.97833261	122.6	4	0.017826667	4.78674E-05	
6:30	20	57.5251	24.97833261	126.6	4	0.017826667	4.78674E-05	
7:00	20	57.5251	24.97833261	130.6	4	0.017826667	4.78674E-05	
7:30	20	57.5251	24.97833261	134.6	3.9	0.017381	4.66707E-05	
8:00	20	57.5251	24.97833261	138.5	3.9	0.017381	4.66707E-05	
8:30	20	57.5251	24.97833261	142.4	3.9	0.017381	4.66707E-05	

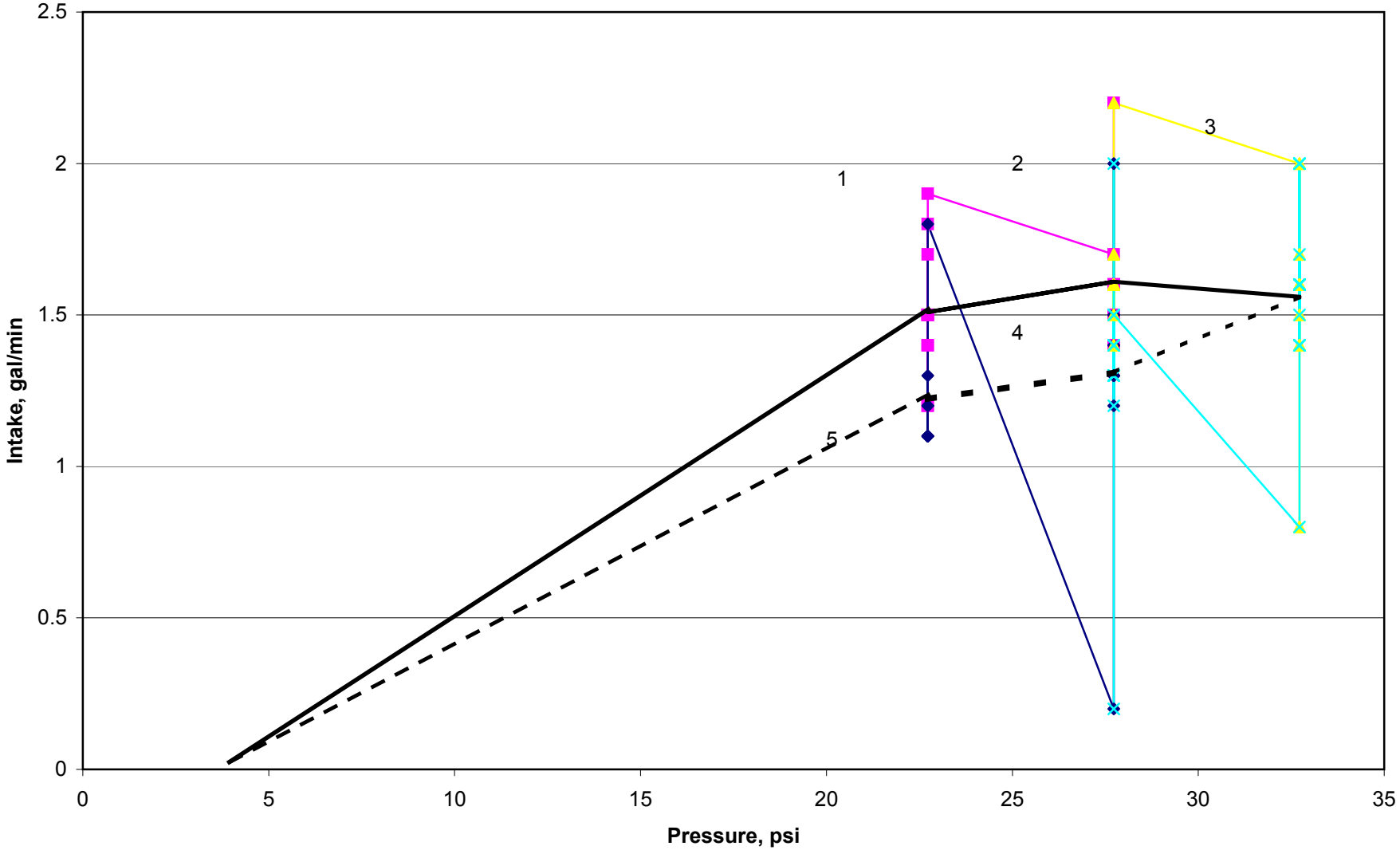
Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
9:00	20	57.5251	24.97833261	146.3	4.1	0.018272333	4.90641E-05	
9:30	20	57.5251	24.97833261	150.4	3.7	0.016489667	4.42774E-05	
10:00	20	57.5251	24.97833261	154.1	5.6	0.024957333	6.70144E-05	
10:30	25	69.0401	29.97833261	159.7	5.3	0.023620333	5.2846E-05	4.89573E-05
11:00	25	69.0401	29.97833261	165	5	0.022283333	4.98547E-05	
11:30	25	69.0401	29.97833261	170	4.9	0.021837667	4.88576E-05	
12:00	25	69.0401	29.97833261	174.9	5.1	0.022729	5.08518E-05	
12:30	25	69.0401	29.97833261	180	4.9	0.021837667	4.88576E-05	
13:00	25	69.0401	29.97833261	184.9	5	0.022283333	4.98547E-05	
13:30	25	69.0401	29.97833261	189.9	5.1	0.022729	5.08518E-05	
14:00	25	69.0401	29.97833261	195	5	0.022283333	4.98547E-05	
14:30	25	69.0401	29.97833261	200	5.2	0.023174667	5.18489E-05	
15:00	25	69.0401	29.97833261	205.2	3.6	0.016044	3.58954E-05	
15:30	20	57.5251	24.97833261	208.8	4.2	0.018718	5.02608E-05	4.57134E-05
16:00	20	57.5251	24.97833261	213	3.7	0.016489667	4.42774E-05	
16:30	20	57.5251	24.97833261	216.7	4.2	0.018718	5.02608E-05	
17:00	20	57.5251	24.97833261	220.9	4.1	0.018272333	4.90641E-05	
17:30	20	57.5251	24.97833261	225	3.7	0.016489667	4.42774E-05	
18:00	20	57.5251	24.97833261	228.7	4.2	0.018718	5.02608E-05	
18:30	20	57.5251	24.97833261	232.9	3.7	0.016489667	4.42774E-05	
19:00	20	57.5251	24.97833261	236.6	4.3	0.019163667	5.14575E-05	
19:30	20	57.5251	24.97833261	240.9	3.9	0.017381	4.66707E-05	
20:00	20	57.5251	24.97833261	244.8	2.2	0.009804667	2.63271E-05	
20:30	15	46.0101	19.97833261	247	2.8	0.012478667	4.18931E-05	4.00644E-05
21:00	15	46.0101	19.97833261	249.8	2.7	0.012033	4.03969E-05	
21:30	15	46.0101	19.97833261	252.5	2.5	0.011141667	3.74045E-05	
22:00	15	46.0101	19.97833261	255	2.6	0.011587333	3.89007E-05	
22:30	15	46.0101	19.97833261	257.6	3	0.01337	4.48854E-05	
23:00	15	46.0101	19.97833261	260.6	2.5	0.011141667	3.74045E-05	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
23:30	15	46.0101	19.97833261	263.1	2.9	0.012924333	4.33893E-05	
0:00	15	46.0101	19.97833261	266	2.9	0.012924333	4.33893E-05	
0:30	15	46.0101	19.97833261	268.9	2.2	0.009804667	3.2916E-05	
1:00	15	46.0101	19.97833261	271.1				
						K value for 33 to 37.5 feet is	**4.90052E-05**	

Packer Test Data Collection Sheet

Date:	11/2/00
Time test is started:	12:00
Location:	Pilot Hole MW-9D
Test No.	1 redo
Well number:	Railroad Track by Ernie's Deli
Interval (feet)	28-32.5
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	17.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	25.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.255
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 2.5'	
Ground surface to water table =14'	
6 psi @ 0 flow	

Multiple Pressure Permeability Test For Pilot Hole MW-9D from 28 to 32.5 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-9D		
Test No.	1		
Location	Railroad Track by Ernie's Deli		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	4	1235	1.8
0:30	10	1236.8	1.7
1:00	15	1238.5	1.5
1:30	15	1240	1.5
2:00	15	1241.5	1.5
2:30	15	1243	1.2
3:00	15	1244.2	1.5
3:30	15	1245.7	1.2
4:00	15	1246.9	1.4
4:30	15	1248.3	1.4
5:00	15	1249.7	1.9
5:30	20	1251.6	1.7
6:00	20	1253.3	1.6
6:30	20	1254.9	1.6
7:00	20	1256.5	1.5
7:30	20	1258	1.6
8:00	20	1259.6	1.4
8:30	20	1261	1.6
9:00	20	1262.6	1.5
9:30	20	1264.1	1.4
10:00	20	1265.5	2.2
10:30	25	1267.7	2
11:00	25	1269.7	1.4
11:30	25	1271.1	1.6
12:00	25	1272.7	1.6
12:30	25	1274.3	1.7
13:00	25	1276	1.5
13:30	25	1277.5	2
14:00	25	1279.5	1.6
14:30	25	1281.1	1.4
15:00	25	1282.5	0.8
15:30	20	1283.3	1.5
16:00	20	1284.8	1.3
16:30	20	1286.1	1.4
17:00	20	1287.5	1.3
17:30	20	1288.8	1.3
18:00	20	1290.1	1.4

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-9D		
Test No.	1		
Location	Railroad Track by Ernie's Deli		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	1291.5	1.5
19:00	20	1293	1.2
19:30	20	1294.2	2
20:00	20	1296.2	0.2
20:30	15	1296.4	1.8
21:00	15	1298.2	1.2
21:30	15	1299.4	1.3
22:00	15	1300.7	1.1
22:30	15	1301.8	1.2
23:00	15	1303	1.1
23:30	15	1304.1	1.1
0:00	15	1305.2	1.1
0:30	15	1306.3	1.1
1:00	15	1307.4	
	10	1308.4	
	6	1308.8	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-9D	
Test No.	1	
Location	Railroad Track by Ernie's Deli	
	Cs	78
	r	0.083
	h_1	17.79
	L	0

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	52.335	22.7247069	1235	1.8	0.008022	2.36765E-05	1.985E-05
0:30	15	52.335	22.7247069	1236.8	1.7	0.007576333	2.23612E-05	
1:00	15	52.335	22.7247069	1238.5	1.5	0.006685	1.97304E-05	
1:30	15	52.335	22.7247069	1240	1.5	0.006685	1.97304E-05	
2:00	15	52.335	22.7247069	1241.5	1.5	0.006685	1.97304E-05	
2:30	15	52.335	22.7247069	1243	1.2	0.005348	1.57843E-05	
3:00	15	52.335	22.7247069	1244.2	1.5	0.006685	1.97304E-05	
3:30	15	52.335	22.7247069	1245.7	1.2	0.005348	1.57843E-05	
4:00	15	52.335	22.7247069	1246.9	1.4	0.006239333	1.84151E-05	
4:30	15	52.335	22.7247069	1248.3	1.4	0.006239333	1.84151E-05	
5:00	15	52.335	22.7247069	1249.7	1.9	0.008467667	2.49919E-05	
5:30	20	63.85	27.7247069	1251.6	1.7	0.007576333	1.83284E-05	1.73581E-05
6:00	20	63.85	27.7247069	1253.3	1.6	0.007130667	1.72503E-05	
6:30	20	63.85	27.7247069	1254.9	1.6	0.007130667	1.72503E-05	
7:00	20	63.85	27.7247069	1256.5	1.5	0.006685	1.61722E-05	
7:30	20	63.85	27.7247069	1258	1.6	0.007130667	1.72503E-05	
8:00	20	63.85	27.7247069	1259.6	1.4	0.006239333	1.5094E-05	
8:30	20	63.85	27.7247069	1261	1.6	0.007130667	1.72503E-05	

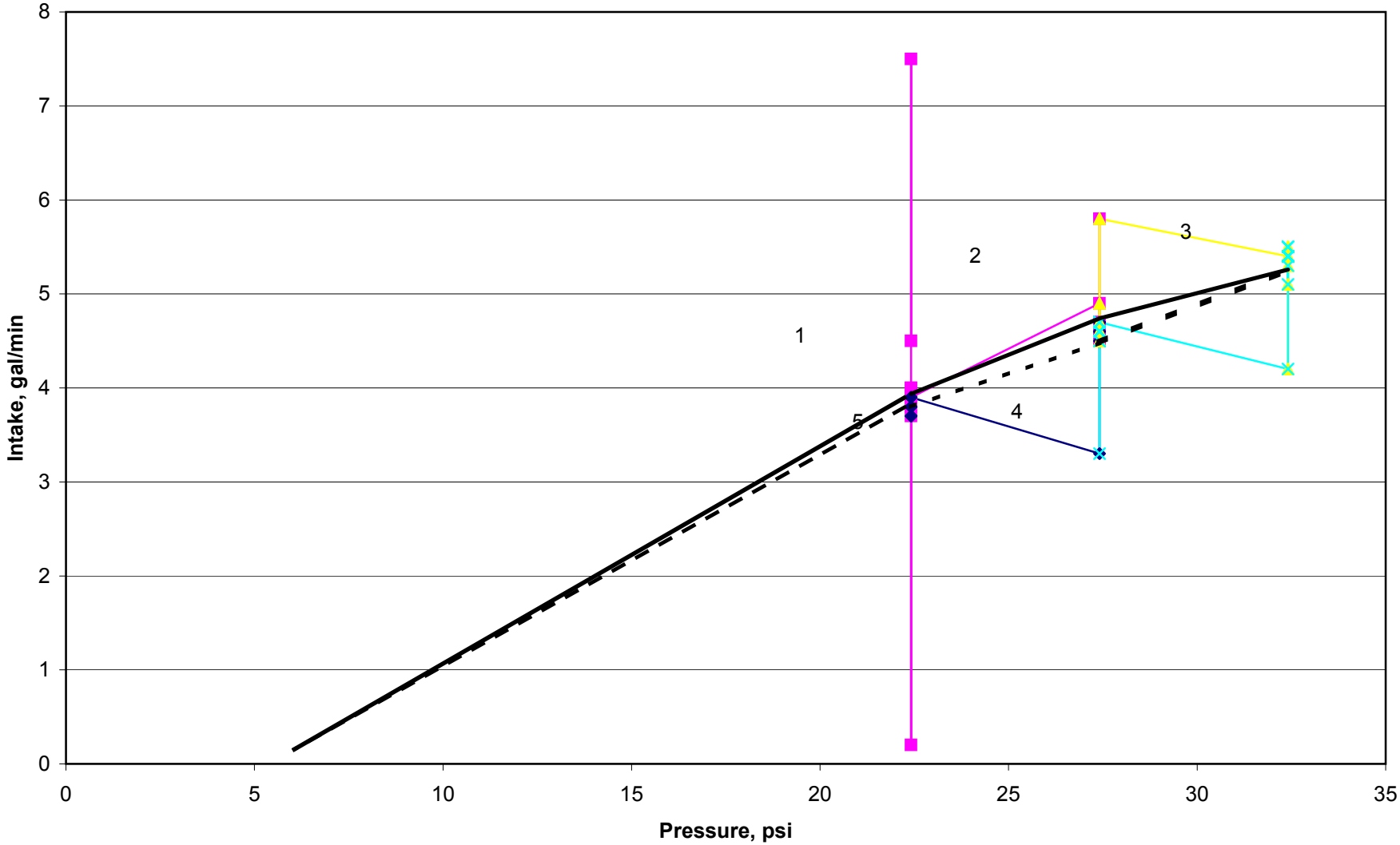
Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
9:00	20	63.85	27.7247069	1262.6	1.5	0.006685	1.61722E-05	
9:30	20	63.85	27.7247069	1264.1	1.4	0.006239333	1.5094E-05	
10:00	20	63.85	27.7247069	1265.5	2.2	0.009804667	2.37192E-05	
10:30	25	75.365	32.7247069	1267.7	2	0.008913333	1.82683E-05	1.42493E-05
11:00	25	75.365	32.7247069	1269.7	1.4	0.006239333	1.27878E-05	
11:30	25	75.365	32.7247069	1271.1	1.6	0.007130667	1.46146E-05	
12:00	25	75.365	32.7247069	1272.7	1.6	0.007130667	1.46146E-05	
12:30	25	75.365	32.7247069	1274.3	1.7	0.007576333	1.5528E-05	
13:00	25	75.365	32.7247069	1276	1.5	0.006685	1.37012E-05	
13:30	25	75.365	32.7247069	1277.5	2	0.008913333	1.82683E-05	
14:00	25	75.365	32.7247069	1279.5	1.6	0.007130667	1.46146E-05	
14:30	25	75.365	32.7247069	1281.1	1.4	0.006239333	1.27878E-05	
15:00	25	75.365	32.7247069	1282.5	0.8	0.003565333	7.30731E-06	
15:30	20	63.85	27.7247069	1283.3	1.5	0.006685	1.61722E-05	1.41237E-05
16:00	20	63.85	27.7247069	1284.8	1.3	0.005793667	1.40159E-05	
16:30	20	63.85	27.7247069	1286.1	1.4	0.006239333	1.5094E-05	
17:00	20	63.85	27.7247069	1287.5	1.3	0.005793667	1.40159E-05	
17:30	20	63.85	27.7247069	1288.8	1.3	0.005793667	1.40159E-05	
18:00	20	63.85	27.7247069	1290.1	1.4	0.006239333	1.5094E-05	
18:30	20	63.85	27.7247069	1291.5	1.5	0.006685	1.61722E-05	
19:00	20	63.85	27.7247069	1293	1.2	0.005348	1.29377E-05	
19:30	20	63.85	27.7247069	1294.2	2	0.008913333	2.15629E-05	
20:00	20	63.85	27.7247069	1296.2	0.2	0.000891333	2.15629E-06	
20:30	15	52.335	22.7247069	1296.4	1.8	0.008022	2.36765E-05	1.60766E-05
21:00	15	52.335	22.7247069	1298.2	1.2	0.005348	1.57843E-05	
21:30	15	52.335	22.7247069	1299.4	1.3	0.005793667	1.70997E-05	
22:00	15	52.335	22.7247069	1300.7	1.1	0.004902333	1.4469E-05	
22:30	15	52.335	22.7247069	1301.8	1.2	0.005348	1.57843E-05	
23:00	15	52.335	22.7247069	1303	1.1	0.004902333	1.4469E-05	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
23:30	15	52.335	22.7247069	1304.1	1.1	0.004902333	1.4469E-05	
0:00	15	52.335	22.7247069	1305.2	1.1	0.004902333	1.4469E-05	
0:30	15	52.335	22.7247069	1306.3	1.1	0.004902333	1.4469E-05	
1:00	15	52.335	22.7247069	1307.4				
						K value for 28 to 32.5 feet is	**1.6407E-05**	
	10			1308.4				
	6			1308.8				

Packer Test Data Collection Sheet

Date:	11/2/00
Time test is started:	11:30
Location:	Pilot Hole MW-9D
Test No.	2
Well number:	Railroad Track by Ernie's Deli
Interval (feet)	19.5-24
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	17.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	20.667
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.72157
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.20667
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 6.167'	
Ground surface to water table =14'	
6 psi @ 0 flow	

Multiple Pressure Permeability Test For Pilot Hole MW-9D from 19.5 to 24 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-9D		
Test No.	2		
Location	Railroad Track by Ernie's Deli		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	15	1002	4.5
0:30	15	1006.5	7.5
1:00	15	1014	0.2
1:30	15	1014.2	3.9
2:00	15	1018.1	4
2:30	15	1022.1	3.7
3:00	15	1025.8	4
3:30	15	1029.8	3.8
4:00	15	1033.6	3.9
4:30	15	1037.5	3.9
5:00	15	1041.4	3.9
5:30	20	1045.3	4.9
6:00	20	1050.2	4.7
6:30	20	1054.9	4.6
7:00	20	1059.5	4.5
7:30	20	1064	4.7
8:00	20	1068.7	4.5
8:30	20	1073.2	4.6
9:00	20	1077.8	4.5
9:30	20	1082.3	4.6
10:00	20	1086.9	5.8
10:30	25	1092.7	5.4
11:00	25	1098.1	5.4
11:30	25	1103.5	5.1
12:00	25	1108.6	5.4
12:30	25	1114	5.5
13:00	25	1119.5	5.3
13:30	25	1124.8	5.4
14:00	25	1130.2	5.4
14:30	25	1135.6	5.5
15:00	25	1141.1	4.2
15:30	20	1145.3	4.7
16:00	20	1150	4.6
16:30	20	1154.6	4.6
17:00	20	1159.2	4.7
17:30	20	1163.9	4.7
18:00	20	1168.6	4.5

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-9D		
Test No.	2		
Location	Railroad Track by Ernie's Deli		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	1173.1	4.5
19:00	20	1177.6	4.6
19:30	20	1182.2	4.6
20:00	20	1186.8	3.3
20:30	15	1190.1	3.9
21:00	15	1194	3.8
21:30	15	1197.8	3.9
22:00	15	1201.7	3.7
22:30	15	1205.4	3.7
23:00	15	1209.1	3.9
23:30	15	1213	3.8
0:00	15	1216.8	3.7
0:30	15	1220.5	3.8
1:00	15	1224.3	
		1227	
		1228.3	
		1229.9	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-9D
Test No.	2
Location	Railroad Track by Ernie's Deli
Cs	78
r	0.083
h_1	17.79
L	0.72157

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K (ft/sec)	Coefficient of permeability per pressure segment, K (ft/sec)
0	15	51.61343	22.41138949	1002	4.5	0.020055	6.00188E-05	5.25013E-05
0:30	15	51.61343	22.41138949	1006.5	7.5	0.033425	0.000100031	
1:00	15	51.61343	22.41138949	1014	0.2	0.000891333	2.6675E-06	
1:30	15	51.61343	22.41138949	1014.2	3.9	0.017381	5.20163E-05	
2:00	15	51.61343	22.41138949	1018.1	4	0.017826667	5.335E-05	
2:30	15	51.61343	22.41138949	1022.1	3.7	0.016489667	4.93488E-05	
3:00	15	51.61343	22.41138949	1025.8	4	0.017826667	5.335E-05	
3:30	15	51.61343	22.41138949	1029.8	3.8	0.016935333	5.06825E-05	
4:00	15	51.61343	22.41138949	1033.6	3.9	0.017381	5.20163E-05	
4:30	15	51.61343	22.41138949	1037.5	3.9	0.017381	5.20163E-05	
5:00	15	51.61343	22.41138949	1041.4	3.9	0.017381	5.20163E-05	
5:30	20	63.12843	27.41138949	1045.3	4.9	0.021837667	5.34329E-05	5.16881E-05
6:00	20	63.12843	27.41138949	1050.2	4.7	0.020946333	5.12519E-05	
6:30	20	63.12843	27.41138949	1054.9	4.6	0.020500667	5.01615E-05	
7:00	20	63.12843	27.41138949	1059.5	4.5	0.020055	4.9071E-05	
7:30	20	63.12843	27.41138949	1064	4.7	0.020946333	5.12519E-05	
8:00	20	63.12843	27.41138949	1068.7	4.5	0.020055	4.9071E-05	

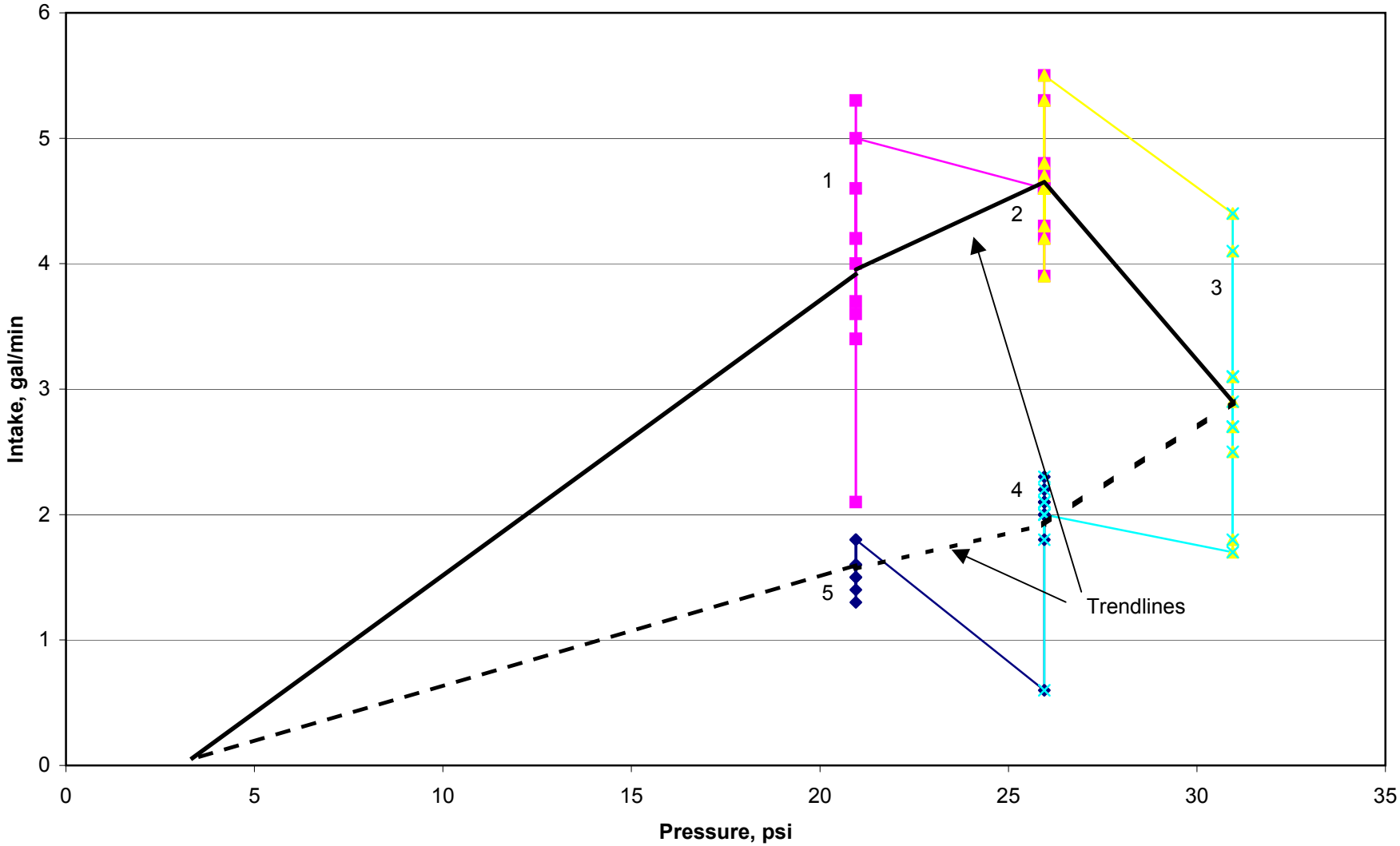
Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K (ft/sec)	Coefficient of permeability per pressure segment, K (ft/sec)
8:30	20	63.12843	27.41138949	1073.2	4.6	0.020500667	5.01615E-05	
9:00	20	63.12843	27.41138949	1077.8	4.5	0.020055	4.9071E-05	
9:30	20	63.12843	27.41138949	1082.3	4.6	0.020500667	5.01615E-05	
10:00	20	63.12843	27.41138949	1086.9	5.8	0.025848667	6.32471E-05	
10:30	25	74.64343	32.41138949	1092.7	5.4	0.024066	4.98012E-05	4.851E-05
11:00	25	74.64343	32.41138949	1098.1	5.4	0.024066	4.98012E-05	
11:30	25	74.64343	32.41138949	1103.5	5.1	0.022729	4.70344E-05	
12:00	25	74.64343	32.41138949	1108.6	5.4	0.024066	4.98012E-05	
12:30	25	74.64343	32.41138949	1114	5.5	0.024511667	5.07234E-05	
13:00	25	74.64343	32.41138949	1119.5	5.3	0.023620333	4.88789E-05	
13:30	25	74.64343	32.41138949	1124.8	5.4	0.024066	4.98012E-05	
14:00	25	74.64343	32.41138949	1130.2	5.4	0.024066	4.98012E-05	
14:30	25	74.64343	32.41138949	1135.6	5.5	0.024511667	5.07234E-05	
15:00	25	74.64343	32.41138949	1141.1	4.2	0.018718	3.87343E-05	
15:30	20	63.12843	27.41138949	1145.3	4.7	0.020946333	5.12519E-05	4.88529E-05
16:00	20	63.12843	27.41138949	1150	4.6	0.020500667	5.01615E-05	
16:30	20	63.12843	27.41138949	1154.6	4.6	0.020500667	5.01615E-05	
17:00	20	63.12843	27.41138949	1159.2	4.7	0.020946333	5.12519E-05	
17:30	20	63.12843	27.41138949	1163.9	4.7	0.020946333	5.12519E-05	
18:00	20	63.12843	27.41138949	1168.6	4.5	0.020055	4.9071E-05	
18:30	20	63.12843	27.41138949	1173.1	4.5	0.020055	4.9071E-05	
19:00	20	63.12843	27.41138949	1177.6	4.6	0.020500667	5.01615E-05	
19:30	20	63.12843	27.41138949	1182.2	4.6	0.020500667	5.01615E-05	
20:00	20	63.12843	27.41138949	1186.8	3.3	0.014707	3.59854E-05	
20:30	15	51.61343	22.41138949	1190.1	3.9	0.017381	5.20163E-05	5.06825E-05
21:00	15	51.61343	22.41138949	1194	3.8	0.016935333	5.06825E-05	
21:30	15	51.61343	22.41138949	1197.8	3.9	0.017381	5.20163E-05	
22:00	15	51.61343	22.41138949	1201.7	3.7	0.016489667	4.93488E-05	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K (ft/sec)	Coefficient of permeability per pressure segment, K (ft/sec)
22:30	15	51.61343	22.41138949	1205.4	3.7	0.016489667	4.93488E-05	
23:00	15	51.61343	22.41138949	1209.1	3.9	0.017381	5.20163E-05	
23:30	15	51.61343	22.41138949	1213	3.8	0.016935333	5.06825E-05	
0:00	15	51.61343	22.41138949	1216.8	3.7	0.016489667	4.93488E-05	
0:30	15	51.61343	22.41138949	1220.5	3.8	0.016935333	5.06825E-05	
1:00	15	51.61343	22.41138949	1224.3				
						K value for 19.5 to 24 feet is	**5.04834E-05**	

Packer Test Data Collection Sheet

Date:	10/25/00
Time test is started:	12:30
Location:	Pilot Hole MW-2D
Test No.	2
Well number:	In front of 84 Becker St.
Interval (feet)	26.5-31
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	14.5
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	28
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.7949
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.28
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 6'	
Ground surface to water table = 8.5'	

Multiple Pressure Permeability Test For Pilot Hole MW-2D from 26.5 to 31 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-2D		
Test No.	2		
Location	In front of 84 Becker St.		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	15	277	4.2
0:30	15	281.2	4.6
1:00	15	285.8	4.2
1:30	15	290	3.7
2:00	15	293.7	4
2:30	15	297.7	5.3
3:00	15	303	2.1
3:30	15	305.1	3.4
4:00	15	308.5	3.6
4:30	15	312.1	3.4
5:00	15	315.5	5
5:30	20	320.5	4.6
6:00	20	325.1	4.7
6:30	20	329.8	4.3
7:00	20	334.1	4.8
7:30	20	338.9	4.6
8:00	20	343.5	4.6
8:30	20	348.1	3.9
9:00	20	352	5.3
9:30	20	357.3	4.2
10:00	20	361.5	5.5
10:30	25	367	4.4
11:00	25	371.4	1.8
11:30	25	373.2	4.1
12:00	25	377.3	3.1
12:30	25	380.4	2.7
13:00	25	383.1	3.1
13:30	25	386.2	2.7
14:00	25	388.9	2.5
14:30	25	391.4	2.9
15:00	25	394.3	1.7
15:30	20	396	2
16:00	20	398	2.3
16:30	20	400.3	1.8
17:00	20	402.1	2
17:30	20	404.1	2.2
18:00	20	406.3	2.1

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-2D		
Test No.	2		
Location	In front of 84 Becker St.		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	408.4	2.1
19:00	20	410.5	2.1
19:30	20	412.6	2
20:00	20	414.6	0.6
20:30	15	415.2	1.8
21:00	15	417	1.4
21:30	15	418.4	1.6
22:00	15	420	1.6
22:30	15	421.6	1.5
23:00	15	423.1	1.6
23:30	15	424.7	1.3
0:00	15	426	1.8
0:30	15	427.8	1.5
1:00	15	429.3	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-2D
Test No.	2
Location	In front of 84 Becker St.

Cs	78
r	0.083
h_1	14.5
L	0.7949

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	48.2501	20.95097699	277	4.2	0.018718	5.99223E-05	5.64204E-05
0:30	15	48.2501	20.95097699	281.2	4.6	0.020500667	6.56292E-05	
1:00	15	48.2501	20.95097699	285.8	4.2	0.018718	5.99223E-05	
1:30	15	48.2501	20.95097699	290	3.7	0.016489667	5.27887E-05	
2:00	15	48.2501	20.95097699	293.7	4	0.017826667	5.70689E-05	
2:30	15	48.2501	20.95097699	297.7	5.3	0.023620333	7.56162E-05	
3:00	15	48.2501	20.95097699	303	2.1	0.009359	2.99612E-05	
3:30	15	48.2501	20.95097699	305.1	3.4	0.015152667	4.85085E-05	
4:00	15	48.2501	20.95097699	308.5	3.6	0.016044	5.1362E-05	
4:30	15	48.2501	20.95097699	312.1	3.4	0.015152667	4.85085E-05	
5:00	15	48.2501	20.95097699	315.5	5	0.022283333	7.13361E-05	
5:30	20	59.7651	25.95097699	320.5	4.6	0.020500667	5.29844E-05	5.35603E-05
6:00	20	59.7651	25.95097699	325.1	4.7	0.020946333	5.41362E-05	
6:30	20	59.7651	25.95097699	329.8	4.3	0.019163667	4.95289E-05	
7:00	20	59.7651	25.95097699	334.1	4.8	0.021392	5.5288E-05	
7:30	20	59.7651	25.95097699	338.9	4.6	0.020500667	5.29844E-05	
8:00	20	59.7651	25.95097699	343.5	4.6	0.020500667	5.29844E-05	
8:30	20	59.7651	25.95097699	348.1	3.9	0.017381	4.49215E-05	

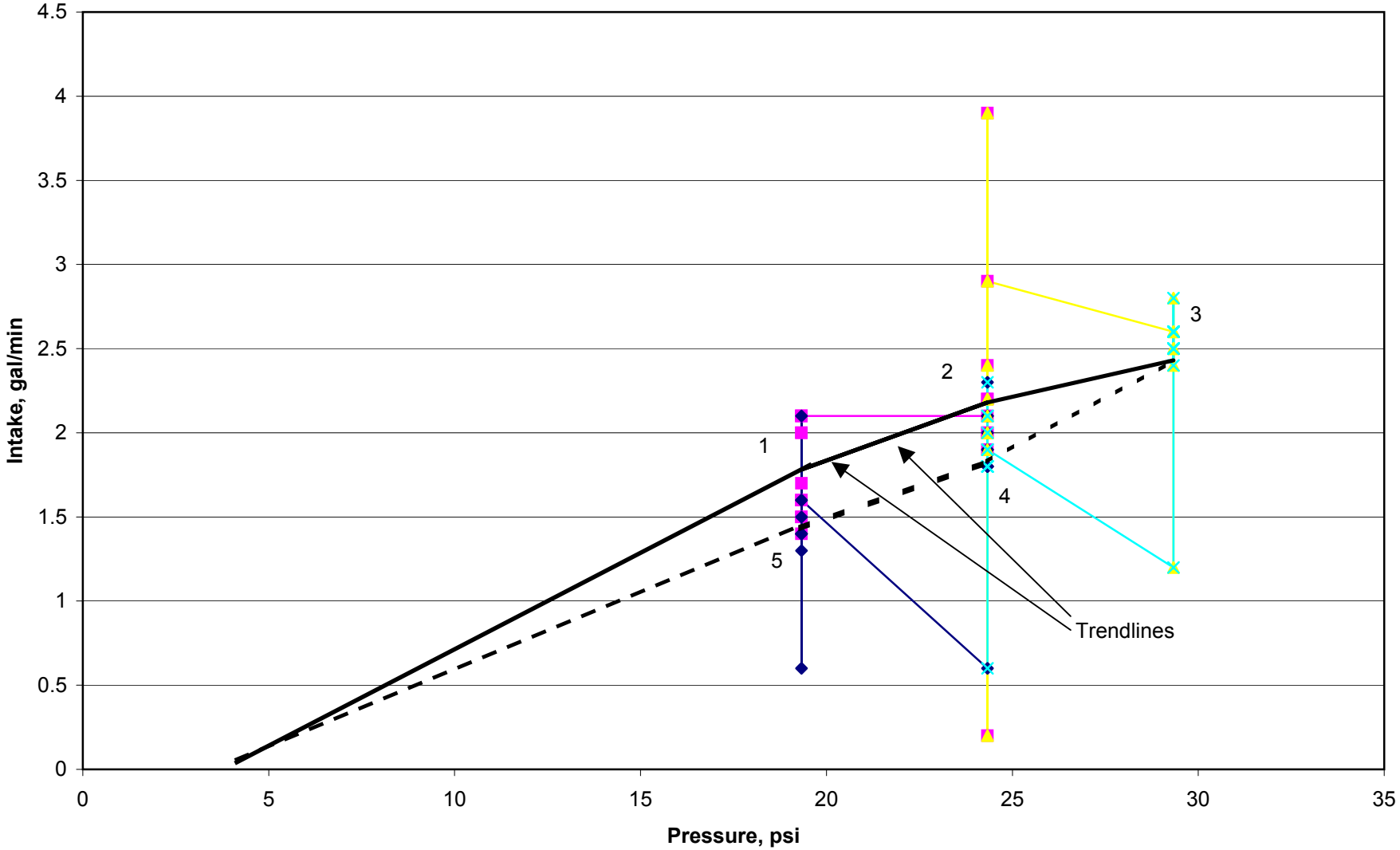
Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
9:00	20	59.7651	25.95097699	352	5.3	0.023620333	6.10472E-05	
9:30	20	59.7651	25.95097699	357.3	4.2	0.018718	4.8377E-05	
10:00	20	59.7651	25.95097699	361.5	5.5	0.024511667	6.33509E-05	
10:30	25	71.2801	30.95097699	367	4.4	0.019609333	4.24934E-05	2.8007E-05
11:00	25	71.2801	30.95097699	371.4	1.8	0.008022	1.73837E-05	
11:30	25	71.2801	30.95097699	373.2	4.1	0.018272333	3.95962E-05	
12:00	25	71.2801	30.95097699	377.3	3.1	0.013815667	2.99386E-05	
12:30	25	71.2801	30.95097699	380.4	2.7	0.012033	2.60755E-05	
13:00	25	71.2801	30.95097699	383.1	3.1	0.013815667	2.99386E-05	
13:30	25	71.2801	30.95097699	386.2	2.7	0.012033	2.60755E-05	
14:00	25	71.2801	30.95097699	388.9	2.5	0.011141667	2.4144E-05	
14:30	25	71.2801	30.95097699	391.4	2.9	0.012924333	2.8007E-05	
15:00	25	71.2801	30.95097699	394.3	1.7	0.007576333	1.64179E-05	
15:30	20	59.7651	25.95097699	396	2	0.008913333	2.30367E-05	2.21152E-05
16:00	20	59.7651	25.95097699	398	2.3	0.010250333	2.64922E-05	
16:30	20	59.7651	25.95097699	400.3	1.8	0.008022	2.0733E-05	
17:00	20	59.7651	25.95097699	402.1	2	0.008913333	2.30367E-05	
17:30	20	59.7651	25.95097699	404.1	2.2	0.009804667	2.53403E-05	
18:00	20	59.7651	25.95097699	406.3	2.1	0.009359	2.41885E-05	
18:30	20	59.7651	25.95097699	408.4	2.1	0.009359	2.41885E-05	
19:00	20	59.7651	25.95097699	410.5	2.1	0.009359	2.41885E-05	
19:30	20	59.7651	25.95097699	412.6	2	0.008913333	2.30367E-05	
20:00	20	59.7651	25.95097699	414.6	0.6	0.002674	6.911E-06	
20:30	15	48.2501	20.95097699	415.2	1.8	0.008022	2.5681E-05	2.2352E-05
21:00	15	48.2501	20.95097699	417	1.4	0.006239333	1.99741E-05	
21:30	15	48.2501	20.95097699	418.4	1.6	0.007130667	2.28275E-05	
22:00	15	48.2501	20.95097699	420	1.6	0.007130667	2.28275E-05	
22:30	15	48.2501	20.95097699	421.6	1.5	0.006685	2.14008E-05	
23:00	15	48.2501	20.95097699	423.1	1.6	0.007130667	2.28275E-05	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
23:30	15	48.2501	20.95097699	424.7	1.3	0.005793667	1.85474E-05	
0:00	15	48.2501	20.95097699	426	1.8	0.008022	2.5681E-05	
0:30	15	48.2501	20.95097699	427.8	1.5	0.006685	2.14008E-05	
1:00	15	48.2501	20.95097699	429.3				
						K value for 26.5 to 31 feet is	**3.71723E-05**	

Packer Test Data Collection Sheet

Date:	10/27/00
Time test is started:	12:45
Location:	Pilot Hole MW-4D
Test No.	1
Well number:	St Ann Place
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	30.42
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8191
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.3042
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 3.92'	
Ground surface to water table =7'	

Multiple Pressure Permeability Test For Pilot Hole MW-4D from 31.5 to 36 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-4D		
Test No.	1		
Location	St Ann Place		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	15	432	4.1
0:30	15	434	2.1
1:00	15	436.1	1.7
1:30	15	438.2	1.6
2:00	15	439.9	1.6
2:30	15	441.5	1.5
3:00	15	443.1	1.5
3:30	15	444.6	1.4
4:00	15	446.1	2
4:30	15	447.5	2.1
5:00	15	449.5	2.1
5:30	20	451.6	2.2
6:00	20	453.7	3.9
6:30	20	455.9	3.9
7:00	20	459.8	0.2
7:30	20	460	2.2
8:00	20	462.2	1.9
8:30	20	464.1	2.4
9:00	20	466.5	2
9:30	20	468.5	2
10:00	20	470.5	2.9
10:30	25	473.4	2.6
11:00	25	476	2.4
11:30	25	478.4	2.6
12:00	25	481	2.6
12:30	25	483.6	2.6
13:00	25	486.2	2.8
13:30	25	489	2.5
14:00	25	491.5	2.5
14:30	25	494	2.5
15:00	25	496.5	1.2
15:30	20	497.7	1.9
16:00	20	499.6	1.8
16:30	20	501.4	2.3
17:00	20	503.7	1.8
17:30	20	505.5	2.1
18:00	20	507.6	1.8

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-4D		
Test No.	1		
Location	St Ann Place		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	509.4	1.9
19:00	20	511.3	2
19:30	20	513.3	2.1
20:00	20	515.4	0.6
20:30	15	516	1.6
21:00	15	517.6	0.6
21:30	15	518.2	2.1
22:00	15	520.3	1.3
22:30	15	521.6	1.6
23:00	15	523.2	1.4
23:30	15	524.6	1.4
0:00	15	526	1.4
0:30	15	527.4	1.5
1:00	15	528.9	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-4D	
Test No.	1	
Location	St Ann Place	
	Cs	78
	r	0.083
	h_1	10.79
	L	0.8191

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	44.5159	19.3295267	432	2	0.008913333	3.0928E-05	2.75541E-05
0:30	15	44.5159	19.3295267	434	2.1	0.009359	3.24744E-05	
1:00	15	44.5159	19.3295267	436.1	2.1	0.009359	3.24744E-05	
1:30	15	44.5159	19.3295267	438.2	1.7	0.007576333	2.62888E-05	
2:00	15	44.5159	19.3295267	439.9	1.6	0.007130667	2.47424E-05	
2:30	15	44.5159	19.3295267	441.5	1.6	0.007130667	2.47424E-05	
3:00	15	44.5159	19.3295267	443.1	1.5	0.006685	2.3196E-05	
3:30	15	44.5159	19.3295267	444.6	1.5	0.006685	2.3196E-05	
4:00	15	44.5159	19.3295267	446.1	1.4	0.006239333	2.16496E-05	
4:30	15	44.5159	19.3295267	447.5	2	0.008913333	3.0928E-05	
5:00	15	44.5159	19.3295267	449.5	2.1	0.009359	3.24744E-05	
5:30	20	56.0309	24.3295267	451.6	2.1	0.009359	2.58006E-05	2.67834E-05
6:00	20	56.0309	24.3295267	453.7	2.2	0.009804667	2.70292E-05	
6:30	20	56.0309	24.3295267	455.9	3.9	0.017381	4.79153E-05	
7:00	20	56.0309	24.3295267	459.8	0.2	0.000891333	2.4572E-06	
7:30	20	56.0309	24.3295267	460	2.2	0.009804667	2.70292E-05	
8:00	20	56.0309	24.3295267	462.2	1.9	0.008467667	2.33434E-05	
8:30	20	56.0309	24.3295267	464.1	2.4	0.010696	2.94864E-05	

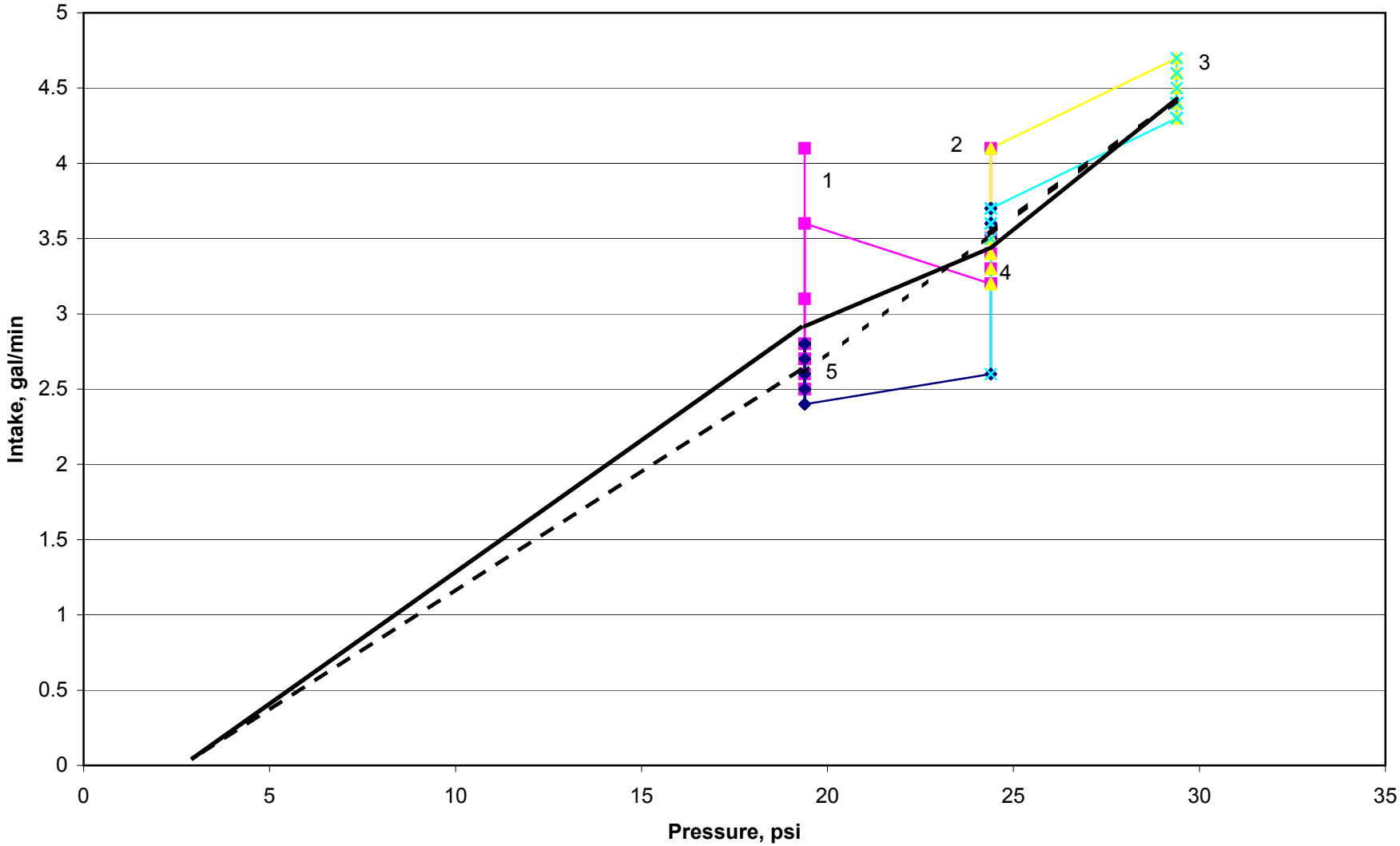
Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
9:00	20	56.0309	24.3295267	466.5	2	0.008913333	2.4572E-05	
9:30	20	56.0309	24.3295267	468.5	2	0.008913333	2.4572E-05	
10:00	20	56.0309	24.3295267	470.5	2.9	0.012924333	3.56293E-05	
10:30	25	67.5459	29.3295267	473.4	2.6	0.011587333	2.64979E-05	2.47654E-05
11:00	25	67.5459	29.3295267	476	2.4	0.010696	2.44596E-05	
11:30	25	67.5459	29.3295267	478.4	2.6	0.011587333	2.64979E-05	
12:00	25	67.5459	29.3295267	481	2.6	0.011587333	2.64979E-05	
12:30	25	67.5459	29.3295267	483.6	2.6	0.011587333	2.64979E-05	
13:00	25	67.5459	29.3295267	486.2	2.8	0.012478667	2.85362E-05	
13:30	25	67.5459	29.3295267	489	2.5	0.011141667	2.54788E-05	
14:00	25	67.5459	29.3295267	491.5	2.5	0.011141667	2.54788E-05	
14:30	25	67.5459	29.3295267	494	2.5	0.011141667	2.54788E-05	
15:00	25	67.5459	29.3295267	496.5	1.2	0.005348	1.22298E-05	
15:30	20	56.0309	24.3295267	497.7	1.9	0.008467667	2.33434E-05	2.24833E-05
16:00	20	56.0309	24.3295267	499.6	1.8	0.008022	2.21148E-05	
16:30	20	56.0309	24.3295267	501.4	2.3	0.010250333	2.82578E-05	
17:00	20	56.0309	24.3295267	503.7	1.8	0.008022	2.21148E-05	
17:30	20	56.0309	24.3295267	505.5	2.1	0.009359	2.58006E-05	
18:00	20	56.0309	24.3295267	507.6	1.8	0.008022	2.21148E-05	
18:30	20	56.0309	24.3295267	509.4	1.9	0.008467667	2.33434E-05	
19:00	20	56.0309	24.3295267	511.3	2	0.008913333	2.4572E-05	
19:30	20	56.0309	24.3295267	513.3	2.1	0.009359	2.58006E-05	
20:00	20	56.0309	24.3295267	515.4	0.6	0.002674	7.37159E-06	
20:30	15	44.5159	19.3295267	516	1.6	0.007130667	2.47424E-05	2.21651E-05
21:00	15	44.5159	19.3295267	517.6	0.6	0.002674	9.27841E-06	
21:30	15	44.5159	19.3295267	518.2	2.1	0.009359	3.24744E-05	
22:00	15	44.5159	19.3295267	520.3	1.3	0.005793667	2.01032E-05	
22:30	15	44.5159	19.3295267	521.6	1.6	0.007130667	2.47424E-05	
23:00	15	44.5159	19.3295267	523.2	1.4	0.006239333	2.16496E-05	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
23:30	15	44.5159	19.3295267	524.6	1.4	0.006239333	2.16496E-05	
0:00	15	44.5159	19.3295267	526	1.4	0.006239333	2.16496E-05	
0:30	15	44.5159	19.3295267	527.4	1.5	0.006685	2.3196E-05	
1:00	15	44.5159	19.3295267	528.9				
						K value for 31.5 to 36 feet is	**2.4858E-05**	

Packer Test Data Collection Sheet

Date:	10/27/00
Time test is started:	14:45
Location:	Pilot Hole MW-4D
Test No.	2
Well number:	St Ann Place
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	16.75
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.6824
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.1675
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 6'	
Ground surface to water table =7'	

Multiple Pressure Permeability Test For Pilot Hole MW-4D from 13.25 to 17.75 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-4D		
Test No.	2		
Location	St Ann Place		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	15	568	4.1
0:30	15	572.1	3.1
1:00	15	575.2	2.8
1:30	15	578	2.8
2:00	15	580.8	2.7
2:30	15	583.5	2.7
3:00	15	586.2	2.7
3:30	15	588.9	2.5
4:00	15	591.4	2.6
4:30	15	594	2.5
5:00	15	596.5	3.6
5:30	20	600.1	3.2
6:00	20	603.3	3.5
6:30	20	606.8	3.3
7:00	20	610.1	3.4
7:30	20	613.5	3.5
8:00	20	617	3.5
8:30	20	620.5	3.5
9:00	20	624	3.2
9:30	20	627.2	3.2
10:00	20	630.4	4.1
10:30	25	634.5	4.7
11:00	25	639.2	4.3
11:30	25	643.5	4.4
12:00	25	647.9	4.4
12:30	25	652.3	4.4
13:00	25	656.7	4.3
13:30	25	661	4.6
14:00	25	665.6	4.5
14:30	25	670.1	4.4
15:00	25	674.5	4.3
15:30	20	678.8	3.7
16:00	20	682.5	3.5
16:30	20	686	3.7
17:00	20	689.7	3.7
17:30	20	693.4	3.6
18:00	20	697	3.6

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-4D		
Test No.	2		
Location	St Ann Place		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	700.6	3.7
19:00	20	704.3	3.6
19:30	20	707.9	3.6
20:00	20	711.5	2.6
20:30	15	714.1	2.4
21:00	15	716.5	2.8
21:30	15	719.3	2.7
22:00	15	722	2.5
22:30	15	724.5	2.5
23:00	15	727	2.8
23:30	15	729.8	2.8
0:00	15	732.6	2.4
0:30	15	735	2.6
1:00	15	737.6	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-4D	
Test No.	2	
Location	St Ann Place	
	Cs	78
	r	0.083
	h_1	10.79
	L	0.6824

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	44.6526	19.38888406	568	4.1	0.018272333	6.32084E-05	4.49887E-05
0:30	15	44.6526	19.38888406	572.1	3.1	0.013815667	4.77917E-05	
1:00	15	44.6526	19.38888406	575.2	2.8	0.012478667	4.31667E-05	
1:30	15	44.6526	19.38888406	578	2.8	0.012478667	4.31667E-05	
2:00	15	44.6526	19.38888406	580.8	2.7	0.012033	4.1625E-05	
2:30	15	44.6526	19.38888406	583.5	2.7	0.012033	4.1625E-05	
3:00	15	44.6526	19.38888406	586.2	2.7	0.012033	4.1625E-05	
3:30	15	44.6526	19.38888406	588.9	2.5	0.011141667	3.85417E-05	
4:00	15	44.6526	19.38888406	591.4	2.6	0.011587333	4.00834E-05	
4:30	15	44.6526	19.38888406	594	2.5	0.011141667	3.85417E-05	
5:00	15	44.6526	19.38888406	596.5	3.6	0.016044	5.55E-05	
5:30	20	56.1676	24.38888406	600.1	3.2	0.014261333	3.92195E-05	4.21609E-05
6:00	20	56.1676	24.38888406	603.3	3.5	0.015598333	4.28963E-05	
6:30	20	56.1676	24.38888406	606.8	3.3	0.014707	4.04451E-05	
7:00	20	56.1676	24.38888406	610.1	3.4	0.015152667	4.16707E-05	
7:30	20	56.1676	24.38888406	613.5	3.5	0.015598333	4.28963E-05	
8:00	20	56.1676	24.38888406	617	3.5	0.015598333	4.28963E-05	
8:30	20	56.1676	24.38888406	620.5	3.5	0.015598333	4.28963E-05	

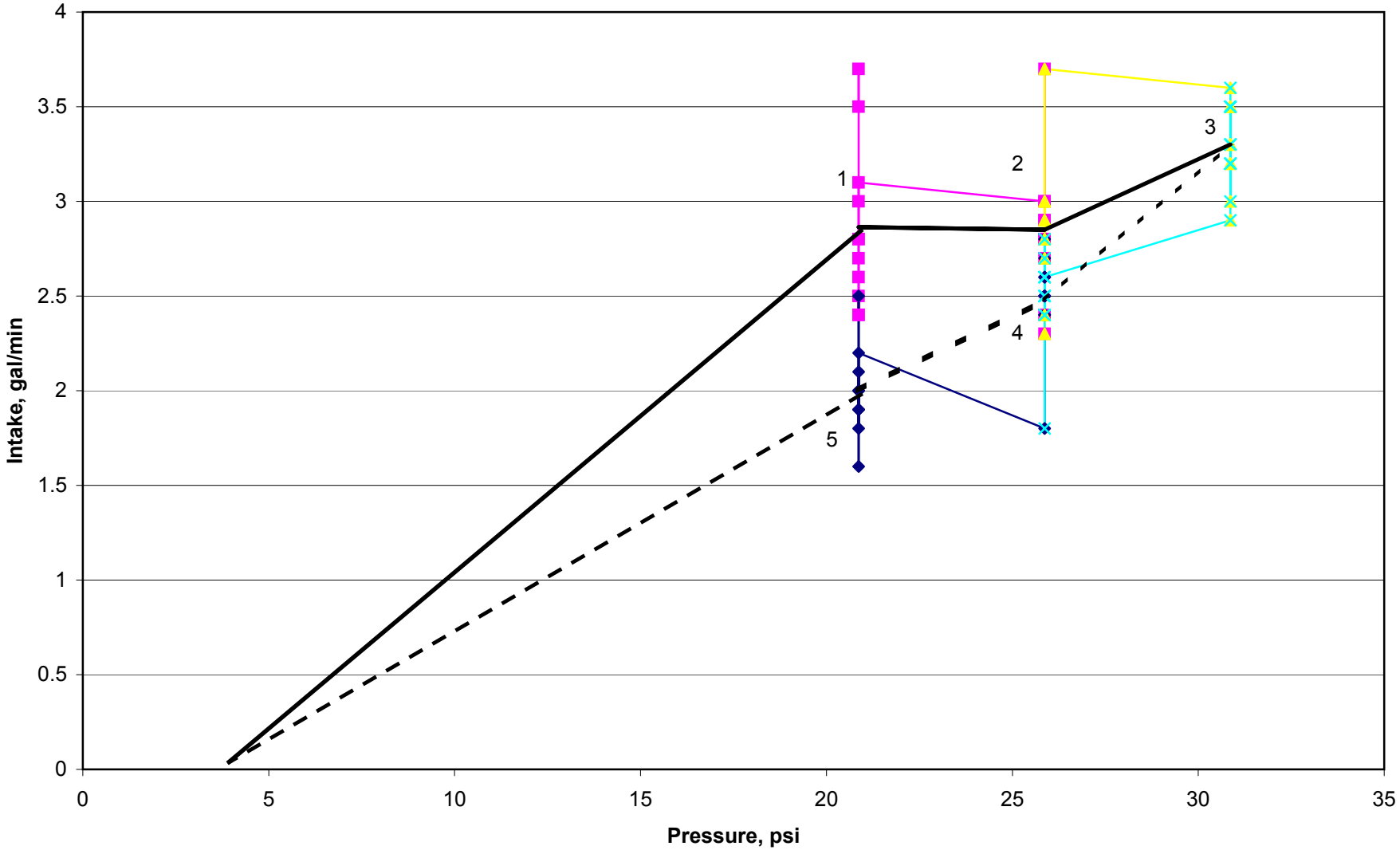
Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
9:00	20	56.1676	24.38888406	624	3.2	0.014261333	3.92195E-05	
9:30	20	56.1676	24.38888406	627.2	3.2	0.014261333	3.92195E-05	
10:00	20	56.1676	24.38888406	630.4	4.1	0.018272333	5.02499E-05	
10:30	25	67.6826	29.38888406	634.5	4.7	0.020946333	4.78033E-05	4.50572E-05
11:00	25	67.6826	29.38888406	639.2	4.3	0.019163667	4.3735E-05	
11:30	25	67.6826	29.38888406	643.5	4.4	0.019609333	4.47521E-05	
12:00	25	67.6826	29.38888406	647.9	4.4	0.019609333	4.47521E-05	
12:30	25	67.6826	29.38888406	652.3	4.4	0.019609333	4.47521E-05	
13:00	25	67.6826	29.38888406	656.7	4.3	0.019163667	4.3735E-05	
13:30	25	67.6826	29.38888406	661	4.6	0.020500667	4.67863E-05	
14:00	25	67.6826	29.38888406	665.6	4.5	0.020055	4.57692E-05	
14:30	25	67.6826	29.38888406	670.1	4.4	0.019609333	4.47521E-05	
15:00	25	67.6826	29.38888406	674.5	4.3	0.019163667	4.3735E-05	
15:30	20	56.1676	24.38888406	678.8	3.7	0.016489667	4.53475E-05	4.3264E-05
16:00	20	56.1676	24.38888406	682.5	3.5	0.015598333	4.28963E-05	
16:30	20	56.1676	24.38888406	686	3.7	0.016489667	4.53475E-05	
17:00	20	56.1676	24.38888406	689.7	3.7	0.016489667	4.53475E-05	
17:30	20	56.1676	24.38888406	693.4	3.6	0.016044	4.41219E-05	
18:00	20	56.1676	24.38888406	697	3.6	0.016044	4.41219E-05	
18:30	20	56.1676	24.38888406	700.6	3.7	0.016489667	4.53475E-05	
19:00	20	56.1676	24.38888406	704.3	3.6	0.016044	4.41219E-05	
19:30	20	56.1676	24.38888406	707.9	3.6	0.016044	4.41219E-05	
20:00	20	56.1676	24.38888406	711.5	2.6	0.011587333	3.18658E-05	
20:30	15	44.6526	19.38888406	714.1	2.4	0.010696	3.7E-05	4.02547E-05
21:00	15	44.6526	19.38888406	716.5	2.8	0.012478667	4.31667E-05	
21:30	15	44.6526	19.38888406	719.3	2.7	0.012033	4.1625E-05	
22:00	15	44.6526	19.38888406	722	2.5	0.011141667	3.85417E-05	
22:30	15	44.6526	19.38888406	724.5	2.5	0.011141667	3.85417E-05	
23:00	15	44.6526	19.38888406	727	2.8	0.012478667	4.31667E-05	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
23:30	15	44.6526	19.38888406	729.8	2.8	0.012478667	4.31667E-05	
0:00	15	44.6526	19.38888406	732.6	2.4	0.010696	3.7E-05	
0:30	15	44.6526	19.38888406	735	2.6	0.011587333	4.00834E-05	
1:00	15	44.6526	19.38888406	737.6				
						K value for 13.25 to 17.75 feet is	**4.32398E-05**	

Packer Test Data Collection Sheet

Date:	10/31/00
Time test is started:	12:30
Location:	Pilot Hole MW-10D
Test No.	1
Well number:	Intersection of West Hunter and Maywood Ave
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	14.29
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	27
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.7849
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.27
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 3'	
Ground surface to water table =10.5'	

Multiple Pressure Permeability Test For Pilot Hole MW-10D from 29 to 33.5 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-10D		
Test No.	1		
Location	Intersection of West Hunter and Maywood Ave		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	15	774	3.5
0:30	15	777.5	3.7
1:00	15	781.2	3
1:30	15	784.2	2.8
2:00	15	787	2.8
2:30	15	789.8	2.7
3:00	15	792.5	2.6
3:30	15	795.1	2.4
4:00	15	797.5	2.5
4:30	15	800	2.4
5:00	15	802.4	3.1
5:30	20	805.5	3
6:00	20	808.5	3
6:30	20	811.5	2.8
7:00	20	814.3	2.7
7:30	20	817	2.4
8:00	20	819.4	2.9
8:30	20	822.3	2.9
9:00	20	825.2	2.3
9:30	20	827.5	2.8
10:00	20	830.3	3.7
10:30	25	834	3.6
11:00	25	837.6	3.5
11:30	25	841.1	3.2
12:00	25	844.3	3.3
12:30	25	847.6	3.5
13:00	25	851.1	3
13:30	25	854.1	3.5
14:00	25	857.6	3.3
14:30	25	860.9	3.2
15:00	25	864.1	2.9
15:30	20	867	2.6
16:00	20	869.6	2.6
16:30	20	872.2	2.4
17:00	20	874.6	2.8
17:30	20	877.4	2.5
18:00	20	879.9	2.5

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-10D		
Test No.	1		
Location	Intersection of West Hunter and Maywood Ave		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	882.4	2.5
19:00	20	884.9	2.7
19:30	20	887.6	2.4
20:00	20	890	1.8
20:30	15	891.8	2.2
21:00	15	894	1.9
21:30	15	895.9	1.6
22:00	15	897.5	2.5
22:30	15	900	2
23:00	15	902	1.9
23:30	15	903.9	1.8
0:00	15	905.7	2.1
0:30	15	907.8	2
1:00	15	909.8	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-10D	
Test No.	1	
Location	Intersection of West Hunter and Maywood Ave	
	Cs	78
	r	0.083
	h_1	14.29
	L	0.7849

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	48.0501	20.86413374	774	3.5	0.015598333	5.01431E-05	4.10262E-05
0:30	15	48.0501	20.86413374	777.5	3.7	0.016489667	5.30084E-05	
1:00	15	48.0501	20.86413374	781.2	3	0.01337	4.29798E-05	
1:30	15	48.0501	20.86413374	784.2	2.8	0.012478667	4.01145E-05	
2:00	15	48.0501	20.86413374	787	2.8	0.012478667	4.01145E-05	
2:30	15	48.0501	20.86413374	789.8	2.7	0.012033	3.86818E-05	
3:00	15	48.0501	20.86413374	792.5	2.6	0.011587333	3.72492E-05	
3:30	15	48.0501	20.86413374	795.1	2.4	0.010696	3.43838E-05	
4:00	15	48.0501	20.86413374	797.5	2.5	0.011141667	3.58165E-05	
4:30	15	48.0501	20.86413374	800	2.4	0.010696	3.43838E-05	
5:00	15	48.0501	20.86413374	802.4	3.1	0.013815667	4.44125E-05	
5:30	20	59.5651	25.86413374	805.5	3	0.01337	3.4671E-05	3.29375E-05
6:00	20	59.5651	25.86413374	808.5	3	0.01337	3.4671E-05	
6:30	20	59.5651	25.86413374	811.5	2.8	0.012478667	3.23596E-05	
7:00	20	59.5651	25.86413374	814.3	2.7	0.012033	3.12039E-05	
7:30	20	59.5651	25.86413374	817	2.4	0.010696	2.77368E-05	
8:00	20	59.5651	25.86413374	819.4	2.9	0.012924333	3.35153E-05	
8:30	20	59.5651	25.86413374	822.3	2.9	0.012924333	3.35153E-05	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
9:00	20	59.5651	25.86413374	825.2	2.3	0.010250333	2.65811E-05	
9:30	20	59.5651	25.86413374	827.5	2.8	0.012478667	3.23596E-05	
10:00	20	59.5651	25.86413374	830.3	3.7	0.016489667	4.27609E-05	
10:30	25	71.0801	30.86413374	834	3.6	0.016044	3.48652E-05	3.19597E-05
11:00	25	71.0801	30.86413374	837.6	3.5	0.015598333	3.38967E-05	
11:30	25	71.0801	30.86413374	841.1	3.2	0.014261333	3.09913E-05	
12:00	25	71.0801	30.86413374	844.3	3.3	0.014707	3.19597E-05	
12:30	25	71.0801	30.86413374	847.6	3.5	0.015598333	3.38967E-05	
13:00	25	71.0801	30.86413374	851.1	3	0.01337	2.90543E-05	
13:30	25	71.0801	30.86413374	854.1	3.5	0.015598333	3.38967E-05	
14:00	25	71.0801	30.86413374	857.6	3.3	0.014707	3.19597E-05	
14:30	25	71.0801	30.86413374	860.9	3.2	0.014261333	3.09913E-05	
15:00	25	71.0801	30.86413374	864.1	2.9	0.012924333	2.80858E-05	
15:30	20	59.5651	25.86413374	867	2.6	0.011587333	3.00482E-05	2.86614E-05
16:00	20	59.5651	25.86413374	869.6	2.6	0.011587333	3.00482E-05	
16:30	20	59.5651	25.86413374	872.2	2.4	0.010696	2.77368E-05	
17:00	20	59.5651	25.86413374	874.6	2.8	0.012478667	3.23596E-05	
17:30	20	59.5651	25.86413374	877.4	2.5	0.011141667	2.88925E-05	
18:00	20	59.5651	25.86413374	879.9	2.5	0.011141667	2.88925E-05	
18:30	20	59.5651	25.86413374	882.4	2.5	0.011141667	2.88925E-05	
19:00	20	59.5651	25.86413374	884.9	2.7	0.012033	3.12039E-05	
19:30	20	59.5651	25.86413374	887.6	2.4	0.010696	2.77368E-05	
20:00	20	59.5651	25.86413374	890	1.8	0.008022	2.08026E-05	
20:30	15	48.0501	20.86413374	891.8	2.2	0.009804667	3.15185E-05	2.86532E-05
21:00	15	48.0501	20.86413374	894	1.9	0.008467667	2.72205E-05	
21:30	15	48.0501	20.86413374	895.9	1.6	0.007130667	2.29226E-05	
22:00	15	48.0501	20.86413374	897.5	2.5	0.011141667	3.58165E-05	
22:30	15	48.0501	20.86413374	900	2	0.008913333	2.86532E-05	
23:00	15	48.0501	20.86413374	902	1.9	0.008467667	2.72205E-05	

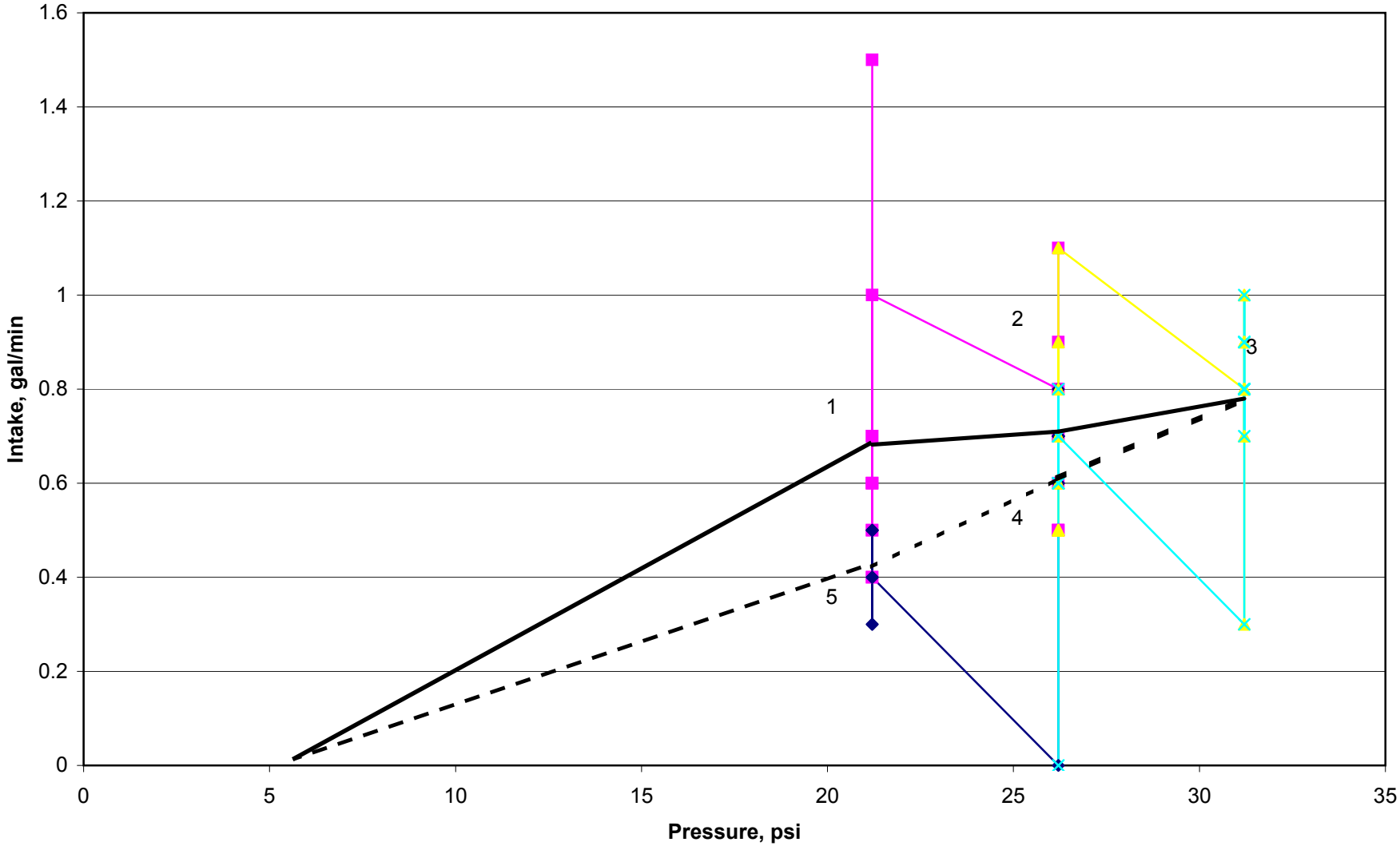
Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
23:30	15	48.0501	20.86413374	903.9	1.8	0.008022	2.57879E-05	
0:00	15	48.0501	20.86413374	905.7	2.1	0.009359	3.00859E-05	
0:30	15	48.0501	20.86413374	907.8	2	0.008913333	2.86532E-05	
1:00	15	48.0501	20.86413374	909.8				
						K value for 29 to 33.5 feet is	**3.28951E-05**	

Packer Test Data Collection Sheet

Date:	10/31/00
Time test is started:	13:30
Location:	Pilot Hole MW-10D
Test No.	2
Well number:	Intersection of West Hunter and Maywood Ave
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	14.29
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	16.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.165
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 3'	
Ground surface to water table =10.5'	

6 psi @ 0 flow	

Multiple Pressure Permeability Test For Pilot Hole MW-10D from 18.5 to 23 feet



Packer Test Data Collection Sheet

Well number	Pilot Hole MW-10D		
Test No.	2		
Location	Intersection of West Hunter and Maywood Ave		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
0	15	910.3	1.5
0:30	15	911.8	0.7
1:00	15	912.5	0.4
1:30	15	912.9	0.6
2:00	15	913.5	0.5
2:30	15	914	0.6
3:00	15	914.6	0.5
3:30	15	915.1	0.6
4:00	15	915.7	0.4
4:30	15	916.1	0.7
5:00	15	916.8	1
5:30	20	917.8	0.8
6:00	20	918.6	0.5
6:30	20	919.1	0.9
7:00	20	920	0.5
7:30	20	920.5	0.5
8:00	20	921	0.8
8:30	20	921.8	0.7
9:00	20	922.5	0.6
9:30	20	923.1	0.7
10:00	20	923.8	1.1
10:30	25	924.9	0.8
11:00	25	925.7	0.7
11:30	25	926.4	0.8
12:00	25	927.2	0.8
12:30	25	928	0.8
13:00	25	928.8	0.8
13:30	25	929.6	0.9
14:00	25	930.5	0.9
14:30	25	931.4	1
15:00	25	932.4	0.3
15:30	20	932.7	0.7
16:00	20	933.4	0.7
16:30	20	934.1	0.6
17:00	20	934.7	0.6
17:30	20	935.3	0.7
18:00	20	936	0.8

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-10D		
Test No.	2		
Location	Intersection of West Hunter and Maywood Ave		
Time (min)	**Pressure (psi)**	**Totalizer or flow rate (gal/min)**	**Flow rate (gal/min), Q**
18:30	20	936.8	0.6
19:00	20	937.4	0.7
19:30	20	938.1	0.7
20:00	20	938.8	0
20:30	15	938.8	0.4
21:00	15	939.2	0.5
21:30	15	939.7	0.3
22:00	15	940	0.4
22:30	15	940.4	0.5
23:00	15	940.9	0.4
23:30	15	941.3	0.5
0:00	15	941.8	0.3
0:30	15	942.1	0.5
1:00	15	942.6	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-10D
Test No. 2
Location Intersection of West Hunter and Maywood Ave

Cs	78
r	0.083
h_1	14.29
L	0

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	48.835	21.20495007	910.3	1.5	0.006685	2.11445E-05	9.61114E-06
0:30	15	48.835	21.20495007	911.8	0.7	0.003119667	9.86744E-06	
1:00	15	48.835	21.20495007	912.5	0.4	0.001782667	5.63853E-06	
1:30	15	48.835	21.20495007	912.9	0.6	0.002674	8.4578E-06	
2:00	15	48.835	21.20495007	913.5	0.5	0.002228333	7.04817E-06	
2:30	15	48.835	21.20495007	914	0.6	0.002674	8.4578E-06	
3:00	15	48.835	21.20495007	914.6	0.5	0.002228333	7.04817E-06	
3:30	15	48.835	21.20495007	915.1	0.6	0.002674	8.4578E-06	
4:00	15	48.835	21.20495007	915.7	0.4	0.001782667	5.63853E-06	
4:30	15	48.835	21.20495007	916.1	0.7	0.003119667	9.86744E-06	
5:00	15	48.835	21.20495007	916.8	1	0.004456667	1.40963E-05	
5:30	20	60.35	26.20495007	917.8	0.8	0.003565333	9.12536E-06	8.09876E-06
6:00	20	60.35	26.20495007	918.6	0.5	0.002228333	5.70335E-06	
6:30	20	60.35	26.20495007	919.1	0.9	0.004011	1.0266E-05	
7:00	20	60.35	26.20495007	920	0.5	0.002228333	5.70335E-06	
7:30	20	60.35	26.20495007	920.5	0.5	0.002228333	5.70335E-06	
8:00	20	60.35	26.20495007	921	0.8	0.003565333	9.12536E-06	
8:30	20	60.35	26.20495007	921.8	0.7	0.003119667	7.98469E-06	
9:00	20	60.35	26.20495007	922.5	0.6	0.002674	6.84402E-06	
9:30	20	60.35	26.20495007	923.1	0.7	0.003119667	7.98469E-06	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
10:00	20	60.35	26.20495007	923.8	1.1	0.004902333	1.25474E-05	
10:30	25	71.865	31.20495007	924.9	0.8	0.003565333	7.6632E-06	7.47162E-06
11:00	25	71.865	31.20495007	925.7	0.7	0.003119667	6.7053E-06	
11:30	25	71.865	31.20495007	926.4	0.8	0.003565333	7.6632E-06	
12:00	25	71.865	31.20495007	927.2	0.8	0.003565333	7.6632E-06	
12:30	25	71.865	31.20495007	928	0.8	0.003565333	7.6632E-06	
13:00	25	71.865	31.20495007	928.8	0.8	0.003565333	7.6632E-06	
13:30	25	71.865	31.20495007	929.6	0.9	0.004011	8.6211E-06	
14:00	25	71.865	31.20495007	930.5	0.9	0.004011	8.6211E-06	
14:30	25	71.865	31.20495007	931.4	1	0.004456667	9.579E-06	
15:00	25	71.865	31.20495007	932.4	0.3	0.001337	2.8737E-06	
15:30	20	60.35	26.20495007	932.7	0.7	0.003119667	7.98469E-06	6.95809E-06
16:00	20	60.35	26.20495007	933.4	0.7	0.003119667	7.98469E-06	
16:30	20	60.35	26.20495007	934.1	0.6	0.002674	6.84402E-06	
17:00	20	60.35	26.20495007	934.7	0.6	0.002674	6.84402E-06	
17:30	20	60.35	26.20495007	935.3	0.7	0.003119667	7.98469E-06	
18:00	20	60.35	26.20495007	936	0.8	0.003565333	9.12536E-06	
18:30	20	60.35	26.20495007	936.8	0.6	0.002674	6.84402E-06	
19:00	20	60.35	26.20495007	937.4	0.7	0.003119667	7.98469E-06	
19:30	20	60.35	26.20495007	938.1	0.7	0.003119667	7.98469E-06	
20:00	20	60.35	26.20495007	938.8	0	0	0	
20:30	15	48.835	21.20495007	938.8	0.4	0.001782667	5.63853E-06	5.95179E-06
21:00	15	48.835	21.20495007	939.2	0.5	0.002228333	7.04817E-06	
21:30	15	48.835	21.20495007	939.7	0.3	0.001337	4.2289E-06	
22:00	15	48.835	21.20495007	940	0.4	0.001782667	5.63853E-06	
22:30	15	48.835	21.20495007	940.4	0.5	0.002228333	7.04817E-06	
23:00	15	48.835	21.20495007	940.9	0.4	0.001782667	5.63853E-06	
23:30	15	48.835	21.20495007	941.3	0.5	0.002228333	7.04817E-06	
0:00	15	48.835	21.20495007	941.8	0.3	0.001337	4.2289E-06	
0:30	15	48.835	21.20495007	942.1	0.5	0.002228333	7.04817E-06	

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1:00	15	48.835	21.20495007	942.6				
						K value for 18.5 to 23 feet is	7.69147E-06	

Packer Test Data Collection Sheet

WELL NUMBER MW-1D	
Date: 5-8-01	
Time test is started: 0850	
Location:	
Test No. 1	
Test Interval (feet). 34 to 40.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	13.19
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	35
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8649
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.35
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 34 ft = 52.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 10.19 ft	
Depth to water (TOC) = _____ft	

Packer Test Data Collection Sheet

Well number MW-1D
Test No. 1
Location

Cs	60
r	0.167
h_1	13.19
L	0.8649

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
850	25	69.9001	30.35175858	3317.00	0.5	0.002228333	3.18152E-06	2.28009E-06
851	25	69.9001	30.35175858	3317.50	0.25	0.001114167	1.59076E-06	
852	25	69.9001	30.35175858	3317.75	0.45	0.0020055	2.86337E-06	
853	25	69.9001	30.35175858	3318.20	0.7	0.003119667	4.45413E-06	
854	25	69.9001	30.35175858	3318.90	0.5	0.002228333	3.18152E-06	
855	25	69.9001	30.35175858	3319.40	0.6	0.002674	3.81782E-06	
856	25	69.9001	30.35175858	3320.00	0.8	0.003565333	5.09043E-06	
857	25	69.9001	30.35175858	3320.80	0.2	0.000891333	1.27261E-06	
858	25	69.9001	30.35175858	3321.00	0.1	0.000445667	6.36304E-07	
859	25	69.9001	30.35175858	3321.10	0.1	0.000445667	6.36304E-07	
900	25	69.9001	30.35175858	3321.20	0	0	0	
901	25	69.9001	30.35175858	3321.20	0.1	0.000445667	6.36304E-07	
902	40	104.4451	45.35175858	3321.30	0.05	0.000222833	2.12924E-07	3.40678E-07
903	40	104.4451	45.35175858	3321.35	0.05	0.000222833	2.12924E-07	
904	40	104.4451	45.35175858	3321.40	0	0	0	
905	40	104.4451	45.35175858	3321.40	0.025	0.000111417	1.06462E-07	
906	40	104.4451	45.35175858	3321.425	0.275	0.001225583	1.17108E-06	
907	60	150.5051	65.35175858	3321.70	0.2	0.000891333	5.91046E-07	7.09255E-07
908	60	150.5051	65.35175858	3321.90	0.3	0.001337	8.86569E-07	
909	60	150.5051	65.35175858	3322.20	0.3	0.001337	8.86569E-07	
910	60	150.5051	65.35175858	3322.50	0.3	0.001337	8.86569E-07	
911	60	150.5051	65.35175858	3322.80	0.1	0.000445667	2.95523E-07	
912	40	104.4451	45.35175858	3322.90	0	0	0	2.51637E-07
913	40	104.4451	45.35175858	3322.90	0	0	0	
914	40	104.4451	45.35175858	3322.90	0.05	0.000222833	2.12924E-07	
915	40	104.4451	45.35175858	3322.95	0.15	0.0006685	6.38772E-07	
916	40	104.4451	45.35175858	3323.10	0.05	0.000222833	2.12924E-07	
917	40	104.4451	45.35175858	3323.15	0	0	0	
918	40	104.4451	45.35175858	3323.15	0.1	0.000445667	4.25848E-07	
919	40	104.4451	45.35175858	3323.25	0.15	0.0006685	6.38772E-07	
920	40	104.4451	45.35175858	3323.40	0.1	0.000445667	4.25848E-07	
921	40	104.4451	45.35175858	3323.50	0.05	0.000222833	2.12924E-07	
922	40	104.4451	45.35175858	3323.55	0	0	0	
923	25	69.9001	30.35175858	3323.55	0	0	0	0
924	25	69.9001	30.35175858	3323.55	0	0	0	
925	25	69.9001	30.35175858	3323.55	0	0	0	
926	25	69.9001	30.35175858	3323.55	0	0	0	
927	25	69.9001	30.35175858	3323.55				
						K value for 34.0 to 40.3 feet is	9.56182E-07	

Packer Test Data Collection Sheet

WELL NUMBER MW-1D	
Date: 5-8-01	
Time test is started: 1043	
Location:	
Test No. 2	
Test Interval (feet). 23 to 34.5	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	13.19
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	23
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.7449
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.23
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	11.5
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	95
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft +22 ft = 40.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 10.19 ft	
Depth to water (TOC) = _____ft	

Packer Test Data Collection Sheet

Well number MW-1D
Test No. 2
Location

Cs	95
r	0.167
h_1	13.19
L	0.8649

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1044	15	46.8701	20.35175858	3557.80	18.7	0.083339667	0.000112077	0.000111655
1045	15	46.8701	20.35175858	3576.50	18.7	0.083339667	0.000112077	
1046	15	46.8701	20.35175858	3595.20	19.2	0.085568	0.000115074	
1047	15	46.8701	20.35175858	3614.40	19.2	0.085568	0.000115074	
1048	15	46.8701	20.35175858	3633.60	19.3	0.086013667	0.000115673	
1049	15	46.8701	20.35175858	3652.90	21.6	0.096264	0.000129458	
1050	20	58.3851	25.35175858	3674.50	21.6	0.096264	0.000103925	
1051	20	58.3851	25.35175858	3696.10	21.6	0.096264	0.000103925	
1052	20	58.3851	25.35175858	3717.70	21.3	0.094927	0.000102482	
1053	20	58.3851	25.35175858	3739.00	21.6	0.096264	0.000103925	
1054	20	58.3851	25.35175858	3760.60	23.8	0.106068667	0.00011451	
1055	25	69.9001	30.35175858	3784.40	24	0.10696	9.64503E-05	9.35568E-05
1056	25	69.9001	30.35175858	3808.40	23.8	0.106068667	9.56465E-05	
1057	25	69.9001	30.35175858	3832.20	23.7	0.105623	9.52447E-05	
1058	25	69.9001	30.35175858	3855.90	23.8	0.106068667	9.56465E-05	
1059	25	69.9001	30.35175858	3879.70	21.1	0.094035667	8.47959E-05	
1100	20	58.3851	25.35175858	3900.80	21	0.09359	0.000101039	9.83924E-05
1101	20	58.3851	25.35175858	3921.80	21	0.09359	0.000101039	
1102	20	58.3851	25.35175858	3942.80	20.7	0.092253	9.95952E-05	
1103	20	58.3851	25.35175858	3963.50	19.1	0.085122333	9.1897E-05	
1104	15	46.8701	20.35175858	3982.60	18.7	0.083339667	0.000112077	0.000111477
1105	15	46.8701	20.35175858	4001.30	18.4	0.082002667	0.000110279	
1106	15	46.8701	20.35175858	4019.70	18.5	0.082448333	0.000110878	
1107	15	46.8701	20.35175858	4038.20	18.7	0.083339667	0.000112077	
1108	15	46.8701	20.35175858	4056.90	18.7	0.083339667	0.000112077	
1109	15	46.8701	20.35175858	4075.60				
						K value for 23.0 to 34.5 feet is	0.000105878	

Packer Test Data Collection Sheet

Date:	10/25/00
Time test is started:	11:05
Location:	Pilot Hole MW-2D
Test No.	1
Well number:	In front of 84 Becker St.
Interval (feet)	33-37.5
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	12.29
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	31
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8249
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.31
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 2.5'	
Ground surface to water table = 8.5'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-2D
Test No. 1
Location In front of 84 Becker St.

Cs	78
r	0.083
h_1	12.29
L	0.8249

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	46.0101	19.97833261	75	5.3	0.023620333	7.92976E-05	5.87591E-05
0:30	15	46.0101	19.97833261	80.3	4.2	0.018718	6.28396E-05	
1:00	15	46.0101	19.97833261	84.5	4.1	0.018272333	6.13434E-05	
1:30	15	46.0101	19.97833261	88.6	3.8	0.016935333	5.68549E-05	
2:00	15	46.0101	19.97833261	92.4	3.9	0.017381	5.83511E-05	
2:30	15	46.0101	19.97833261	96.3	3.7	0.016489667	5.53587E-05	
3:00	15	46.0101	19.97833261	100	3.7	0.016489667	5.53587E-05	
3:30	15	46.0101	19.97833261	103.7	3.3	0.014707	4.9374E-05	
4:00	15	46.0101	19.97833261	107	3.5	0.015598333	5.23664E-05	
4:30	15	46.0101	19.97833261	110.5	3.2	0.014261333	4.78778E-05	
5:00	15	46.0101	19.97833261	113.7	4.5	0.020055	6.73282E-05	
5:30	20	57.5251	24.97833261	118.2	4.4	0.019609333	5.26542E-05	4.96625E-05
6:00	20	57.5251	24.97833261	122.6	4	0.017826667	4.78674E-05	
6:30	20	57.5251	24.97833261	126.6	4	0.017826667	4.78674E-05	
7:00	20	57.5251	24.97833261	130.6	4	0.017826667	4.78674E-05	
7:30	20	57.5251	24.97833261	134.6	3.9	0.017381	4.66707E-05	
8:00	20	57.5251	24.97833261	138.5	3.9	0.017381	4.66707E-05	
8:30	20	57.5251	24.97833261	142.4	3.9	0.017381	4.66707E-05	
9:00	20	57.5251	24.97833261	146.3	4.1	0.018272333	4.90641E-05	
9:30	20	57.5251	24.97833261	150.4	3.7	0.016489667	4.42774E-05	
10:00	20	57.5251	24.97833261	154.1	5.6	0.024957333	6.70144E-05	
10:30	25	69.0401	29.97833261	159.7	5.3	0.023620333	5.2846E-05	4.89573E-05
11:00	25	69.0401	29.97833261	165	5	0.022283333	4.98547E-05	
11:30	25	69.0401	29.97833261	170	4.9	0.021837667	4.88576E-05	
12:00	25	69.0401	29.97833261	174.9	5.1	0.022729	5.08518E-05	
12:30	25	69.0401	29.97833261	180	4.9	0.021837667	4.88576E-05	
13:00	25	69.0401	29.97833261	184.9	5	0.022283333	4.98547E-05	
13:30	25	69.0401	29.97833261	189.9	5.1	0.022729	5.08518E-05	
14:00	25	69.0401	29.97833261	195	5	0.022283333	4.98547E-05	
14:30	25	69.0401	29.97833261	200	5.2	0.023174667	5.18489E-05	
15:00	25	69.0401	29.97833261	205.2	3.6	0.016044	3.58954E-05	
15:30	20	57.5251	24.97833261	208.8	4.2	0.018718	5.02608E-05	4.57134E-05
16:00	20	57.5251	24.97833261	213	3.7	0.016489667	4.42774E-05	
16:30	20	57.5251	24.97833261	216.7	4.2	0.018718	5.02608E-05	
17:00	20	57.5251	24.97833261	220.9	4.1	0.018272333	4.90641E-05	
17:30	20	57.5251	24.97833261	225	3.7	0.016489667	4.42774E-05	
18:00	20	57.5251	24.97833261	228.7	4.2	0.018718	5.02608E-05	
18:30	20	57.5251	24.97833261	232.9	3.7	0.016489667	4.42774E-05	
19:00	20	57.5251	24.97833261	236.6	4.3	0.019163667	5.14575E-05	
19:30	20	57.5251	24.97833261	240.9	3.9	0.017381	4.66707E-05	
20:00	20	57.5251	24.97833261	244.8	2.2	0.009804667	2.63271E-05	
20:30	15	46.0101	19.97833261	247	2.8	0.012478667	4.18931E-05	4.00644E-05
21:00	15	46.0101	19.97833261	249.8	2.7	0.012033	4.03969E-05	
21:30	15	46.0101	19.97833261	252.5	2.5	0.011141667	3.74045E-05	
22:00	15	46.0101	19.97833261	255	2.6	0.011587333	3.89007E-05	
22:30	15	46.0101	19.97833261	257.6	3	0.01337	4.48854E-05	
23:00	15	46.0101	19.97833261	260.6	2.5	0.011141667	3.74045E-05	
23:30	15	46.0101	19.97833261	263.1	2.9	0.012924333	4.33893E-05	
0:00	15	46.0101	19.97833261	266	2.9	0.012924333	4.33893E-05	
0:30	15	46.0101	19.97833261	268.9	2.2	0.009804667	3.2916E-05	
1:00	15	46.0101	19.97833261	271.1				
						K value for 33 to 37.5 feet is	**4.90052E-05**	

Packer Test Data Collection Sheet

Date:	10/25/00
Time test is started:	12:30
Location:	Pilot Hole MW-2D
Test No.	2
Well number:	In front of 84 Becker St.
Interval (feet)	26.5-31
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	14.5
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	28
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.7949
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.28
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 6'	
Ground surface to water table = 8.5'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-2D
Test No. 2
Location In front of 84 Becker St.

Cs	78
r	0.083
h_1	14.5
L	0.7949

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	48.2501	20.95097699	277	4.2	0.018718	5.99223E-05	5.64204E-05
0:30	15	48.2501	20.95097699	281.2	4.6	0.020500667	6.56292E-05	
1:00	15	48.2501	20.95097699	285.8	4.2	0.018718	5.99223E-05	
1:30	15	48.2501	20.95097699	290	3.7	0.016489667	5.27887E-05	
2:00	15	48.2501	20.95097699	293.7	4	0.017826667	5.70689E-05	
2:30	15	48.2501	20.95097699	297.7	5.3	0.023620333	7.56162E-05	
3:00	15	48.2501	20.95097699	303	2.1	0.009359	2.99612E-05	
3:30	15	48.2501	20.95097699	305.1	3.4	0.015152667	4.85085E-05	
4:00	15	48.2501	20.95097699	308.5	3.6	0.016044	5.1362E-05	
4:30	15	48.2501	20.95097699	312.1	3.4	0.015152667	4.85085E-05	
5:00	15	48.2501	20.95097699	315.5	5	0.022283333	7.13361E-05	
5:30	20	59.7651	25.95097699	320.5	4.6	0.020500667	5.29844E-05	5.35603E-05
6:00	20	59.7651	25.95097699	325.1	4.7	0.020946333	5.41362E-05	
6:30	20	59.7651	25.95097699	329.8	4.3	0.019163667	4.95289E-05	
7:00	20	59.7651	25.95097699	334.1	4.8	0.021392	5.5288E-05	
7:30	20	59.7651	25.95097699	338.9	4.6	0.020500667	5.29844E-05	
8:00	20	59.7651	25.95097699	343.5	4.6	0.020500667	5.29844E-05	
8:30	20	59.7651	25.95097699	348.1	3.9	0.017381	4.49215E-05	
9:00	20	59.7651	25.95097699	352	5.3	0.023620333	6.10472E-05	
9:30	20	59.7651	25.95097699	357.3	4.2	0.018718	4.8377E-05	
10:00	20	59.7651	25.95097699	361.5	5.5	0.024511667	6.33509E-05	
10:30	25	71.2801	30.95097699	367	4.4	0.019609333	4.24934E-05	2.8007E-05
11:00	25	71.2801	30.95097699	371.4	1.8	0.008022	1.73837E-05	
11:30	25	71.2801	30.95097699	373.2	4.1	0.018272333	3.95962E-05	
12:00	25	71.2801	30.95097699	377.3	3.1	0.013815667	2.99386E-05	
12:30	25	71.2801	30.95097699	380.4	2.7	0.012033	2.60755E-05	
13:00	25	71.2801	30.95097699	383.1	3.1	0.013815667	2.99386E-05	
13:30	25	71.2801	30.95097699	386.2	2.7	0.012033	2.60755E-05	
14:00	25	71.2801	30.95097699	388.9	2.5	0.011141667	2.4144E-05	
14:30	25	71.2801	30.95097699	391.4	2.9	0.012924333	2.8007E-05	
15:00	25	71.2801	30.95097699	394.3	1.7	0.007576333	1.64179E-05	
15:30	20	59.7651	25.95097699	396	2	0.008913333	2.30367E-05	2.21152E-05
16:00	20	59.7651	25.95097699	398	2.3	0.010250333	2.64922E-05	
16:30	20	59.7651	25.95097699	400.3	1.8	0.008022	2.0733E-05	
17:00	20	59.7651	25.95097699	402.1	2	0.008913333	2.30367E-05	
17:30	20	59.7651	25.95097699	404.1	2.2	0.009804667	2.53403E-05	
18:00	20	59.7651	25.95097699	406.3	2.1	0.009359	2.41885E-05	
18:30	20	59.7651	25.95097699	408.4	2.1	0.009359	2.41885E-05	
19:00	20	59.7651	25.95097699	410.5	2.1	0.009359	2.41885E-05	
19:30	20	59.7651	25.95097699	412.6	2	0.008913333	2.30367E-05	
20:00	20	59.7651	25.95097699	414.6	0.6	0.002674	6.911E-06	
20:30	15	48.2501	20.95097699	415.2	1.8	0.008022	2.5681E-05	2.2352E-05
21:00	15	48.2501	20.95097699	417	1.4	0.006239333	1.99741E-05	
21:30	15	48.2501	20.95097699	418.4	1.6	0.007130667	2.28275E-05	
22:00	15	48.2501	20.95097699	420	1.6	0.007130667	2.28275E-05	
22:30	15	48.2501	20.95097699	421.6	1.5	0.006685	2.14008E-05	
23:00	15	48.2501	20.95097699	423.1	1.6	0.007130667	2.28275E-05	
23:30	15	48.2501	20.95097699	424.7	1.3	0.005793667	1.85474E-05	
0:00	15	48.2501	20.95097699	426	1.8	0.008022	2.5681E-05	
0:30	15	48.2501	20.95097699	427.8	1.5	0.006685	2.14008E-05	
1:00	15	48.2501	20.95097699	429.3				
						K value for 26.5 to 31 feet is	**3.71723E-05**	

Packer Test Data Collection Sheet

Date:	11/6/00
Time test is started:	10:25
Location:	Pilot Hole MW-3D
Test No.	1
Well number:	Railroad tracks near MISS
Interval (feet)	37-41.5
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	15.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	31.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8299
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.315
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 2.5'	
Ground surface to water table =12'	

Packer Test Data Collection Sheet

Well number	Pilot Hole MW-3D
Test No.	1
Location	Railroad tracks near MISS
Cs	78
r	0.083
h_1	15.79
L	0.8299

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K (ft/sec)	Coefficient of permeability per pressure segment, K (ft/sec)
0	15	49.5051	21.49591837	1309.5	0.6	0.002674	8.34332E-06	3.91883E-06
0:30	15	49.5051	21.49591837	1310.1	0.1	0.000445667	1.39055E-06	
1:00	15	49.5051	21.49591837	1310.2	0.2	0.000891333	2.78111E-06	
1:30	15	49.5051	21.49591837	1310.4	0.2	0.000891333	2.78111E-06	
2:00	15	49.5051	21.49591837	1310.6	0.2	0.000891333	2.78111E-06	
2:30	15	49.5051	21.49591837	1310.8	0.3	0.001337	4.17166E-06	
3:00	15	49.5051	21.49591837	1311.1	0.3	0.001337	4.17166E-06	
3:30	15	49.5051	21.49591837	1311.4	0.2	0.000891333	2.78111E-06	
4:00	15	49.5051	21.49591837	1311.6	0.3	0.001337	4.17166E-06	
4:30	15	49.5051	21.49591837	1311.9	0.3	0.001337	4.17166E-06	
5:00	15	49.5051	21.49591837	1312.2	0.4	0.001782667	5.56221E-06	
5:30	20	61.0201	26.49591837	1312.6	0.2	0.000891333	2.25629E-06	2.82036E-06
6:00	20	61.0201	26.49591837	1312.8	0.2	0.000891333	2.25629E-06	
6:30	20	61.0201	26.49591837	1313	0.3	0.001337	3.38443E-06	
7:00	20	61.0201	26.49591837	1313.3	0.2	0.000891333	2.25629E-06	
7:30	20	61.0201	26.49591837	1313.5	0.3	0.001337	3.38443E-06	
8:00	20	61.0201	26.49591837	1313.8	0.3	0.001337	3.38443E-06	
8:30	20	61.0201	26.49591837	1314.1	0.3	0.001337	3.38443E-06	
9:00	20	61.0201	26.49591837	1314.4	0.2	0.000891333	2.25629E-06	
9:30	20	61.0201	26.49591837	1314.6	0.2	0.000891333	2.25629E-06	
10:00	20	61.0201	26.49591837	1314.8	0.3	0.001337	3.38443E-06	
10:30	25	72.5351	31.49591837	1315.1	0.4	0.001782667	3.7962E-06	2.84715E-06
11:00	25	72.5351	31.49591837	1315.5	0.3	0.001337	2.84715E-06	
11:30	25	72.5351	31.49591837	1315.8	0.3	0.001337	2.84715E-06	
12:00	25	72.5351	31.49591837	1316.1	0.3	0.001337	2.84715E-06	
12:30	25	72.5351	31.49591837	1316.4	0.4	0.001782667	3.7962E-06	
13:00	25	72.5351	31.49591837	1316.8	0.2	0.000891333	1.8981E-06	
13:30	25	72.5351	31.49591837	1317	0.3	0.001337	2.84715E-06	
14:00	25	72.5351	31.49591837	1317.3	0.2	0.000891333	1.8981E-06	
14:30	25	72.5351	31.49591837	1317.5	0.2	0.000891333	1.8981E-06	
15:00	25	72.5351	31.49591837	1317.7	0.4	0.001782667	3.7962E-06	
15:30	20	61.0201	26.49591837	1318.1	0.2	0.000891333	2.25629E-06	1.46659E-06
16:00	20	61.0201	26.49591837	1318.3	0.2	0.000891333	2.25629E-06	
16:30	20	61.0201	26.49591837	1318.5	0.1	0.000445667	1.12814E-06	
17:00	20	61.0201	26.49591837	1318.6	0.3	0.001337	3.38443E-06	
17:30	20	61.0201	26.49591837	1318.9	0	0	0	
18:00	20	61.0201	26.49591837	1318.9	0	0	0	
18:30	20	61.0201	26.49591837	1318.9	0.1	0.000445667	1.12814E-06	
19:00	20	61.0201	26.49591837	1319	0.1	0.000445667	1.12814E-06	
19:30	20	61.0201	26.49591837	1319.1	0.2	0.000891333	2.25629E-06	
20:00	20	61.0201	26.49591837	1319.3	0.1	0.000445667	1.12814E-06	
20:30	15	49.5051	21.49591837	1319.4	0.1	0.000445667	1.39055E-06	2.78111E-06
21:00	15	49.5051	21.49591837	1319.5	0.5	0.002228333	6.95276E-06	
21:30	15	49.5051	21.49591837	1320	0.4	0.001782667	5.56221E-06	
22:00	15	49.5051	21.49591837	1320.4	0.3	0.001337	4.17166E-06	
22:30	15	49.5051	21.49591837	1320.7	0.1	0.000445667	1.39055E-06	
23:00	15	49.5051	21.49591837	1320.8	0.1	0.000445667	1.39055E-06	
23:30	15	49.5051	21.49591837	1320.9	0.2	0.000891333	2.78111E-06	
0:00	15	49.5051	21.49591837	1321.1	0.1	0.000445667	1.39055E-06	
0:30	15	49.5051	21.49591837	1321.2	0	0	0	
1:00	15	49.5051	21.49591837	1321.2				
						K value for 37 to 41.5 feet is	**2.78956E-06**	

Packer Test Data Collection Sheet

Date:	11/6/00
Time test is started:	11:30
Location:	Pilot Hole MW-3D
Test No.	2
Well number:	Railroad tracks near MISS
Interval (feet)	29.5-34
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	15.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	15.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.6699
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.155
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 3.5'	
Ground surface to water table =12'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-3D
Test No. 2
Location Railroad tracks near MISS

Cs	78
r	0.083
h_1	15.79
L	0.6699

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K (ft/sec)	Coefficient of permeability per pressure segment, K (ft/sec)
0	15	49.6651	21.56539297	1324	2	0.008913333	2.77215E-05	1.71369E-05
0:30	15	49.6651	21.56539297	1326	1.1	0.004902333	1.52468E-05	
1:00	15	49.6651	21.56539297	1327.1	1.1	0.004902333	1.52468E-05	
1:30	15	49.6651	21.56539297	1328.2	1.2	0.005348	1.66329E-05	
2:00	15	49.6651	21.56539297	1329.4	1	0.004456667	1.38607E-05	
2:30	15	49.6651	21.56539297	1330.4	1.3	0.005793667	1.8019E-05	
3:00	15	49.6651	21.56539297	1331.7	1	0.004456667	1.38607E-05	
3:30	15	49.6651	21.56539297	1332.7	1	0.004456667	1.38607E-05	
4:00	15	49.6651	21.56539297	1333.7	1	0.004456667	1.38607E-05	
4:30	15	49.6651	21.56539297	1334.7	1.1	0.004902333	1.52468E-05	
5:00	15	49.6651	21.56539297	1335.8	1.8	0.008022	2.49493E-05	
5:30	20	61.1801	26.56539297	1337.6	1.4	0.006239333	1.57527E-05	1.58652E-05
6:00	20	61.1801	26.56539297	1339	1.4	0.006239333	1.57527E-05	
6:30	20	61.1801	26.56539297	1340.4	1.4	0.006239333	1.57527E-05	
7:00	20	61.1801	26.56539297	1341.8	1.3	0.005793667	1.46275E-05	
7:30	20	61.1801	26.56539297	1343.1	1.5	0.006685	1.68779E-05	
8:00	20	61.1801	26.56539297	1344.6	1.2	0.005348	1.35023E-05	
8:30	20	61.1801	26.56539297	1345.8	1.4	0.006239333	1.57527E-05	
9:00	20	61.1801	26.56539297	1347.2	0.8	0.003565333	9.00155E-06	
9:30	20	61.1801	26.56539297	1348	1.5	0.006685	1.68779E-05	
10:00	20	61.1801	26.56539297	1349.5	2.2	0.009804667	2.47543E-05	
10:30	25	72.6951	31.56539297	1351.7	1.7	0.007576333	1.60983E-05	1.42991E-05
11:00	25	72.6951	31.56539297	1353.4	1.7	0.007576333	1.60983E-05	
11:30	25	72.6951	31.56539297	1355.1	1.5	0.006685	1.42044E-05	
12:00	25	72.6951	31.56539297	1356.6	1.8	0.008022	1.70453E-05	
12:30	25	72.6951	31.56539297	1358.4	1.4	0.006239333	1.32575E-05	
13:00	25	72.6951	31.56539297	1359.8	1.6	0.007130667	1.51514E-05	
13:30	25	72.6951	31.56539297	1361.4	1.5	0.006685	1.42044E-05	
14:00	25	72.6951	31.56539297	1362.9	1.6	0.007130667	1.51514E-05	
14:30	25	72.6951	31.56539297	1364.5	1.5	0.006685	1.42044E-05	
15:00	25	72.6951	31.56539297	1366	0.8	0.003565333	7.57569E-06	
15:30	20	61.1801	26.56539297	1366.8	1.1	0.004902333	1.23771E-05	1.1702E-05
16:00	20	61.1801	26.56539297	1367.9	1.1	0.004902333	1.23771E-05	
16:30	20	61.1801	26.56539297	1369	1.2	0.005348	1.35023E-05	
17:00	20	61.1801	26.56539297	1370.2	1.2	0.005348	1.35023E-05	
17:30	20	61.1801	26.56539297	1371.4	1.2	0.005348	1.35023E-05	
18:00	20	61.1801	26.56539297	1372.6	1.1	0.004902333	1.23771E-05	
18:30	20	61.1801	26.56539297	1373.7	1	0.004456667	1.12519E-05	
19:00	20	61.1801	26.56539297	1374.7	1.1	0.004902333	1.23771E-05	
19:30	20	61.1801	26.56539297	1375.8	1.1	0.004902333	1.23771E-05	
20:00	20	61.1801	26.56539297	1376.9	0.3	0.001337	3.37558E-06	
20:30	15	49.6651	21.56539297	1377.2	0.5	0.002228333	6.93037E-06	8.77846E-06
21:00	15	49.6651	21.56539297	1377.7	0.8	0.003565333	1.10886E-05	
21:30	15	49.6651	21.56539297	1378.5	0.7	0.003119667	9.70251E-06	
22:00	15	49.6651	21.56539297	1379.2	0.7	0.003119667	9.70251E-06	
22:30	15	49.6651	21.56539297	1379.9	0.7	0.003119667	9.70251E-06	
23:00	15	49.6651	21.56539297	1380.6	0.6	0.002674	8.31644E-06	
23:30	15	49.6651	21.56539297	1381.2	0.6	0.002674	8.31644E-06	
0:00	15	49.6651	21.56539297	1381.8	0.5	0.002228333	6.93037E-06	
0:30	15	49.6651	21.56539297	1382.3	0.6	0.002674	8.31644E-06	
1:00	15	49.6651	21.56539297	1382.9				
						K value for 29.5 to 34 feet is	**1.37235E-05**	

Packer Test Data Collection Sheet

Date:	10/27/00
Time test is started:	12:45
Location:	Pilot Hole MW-4D
Test No.	1
Well number:	St Ann Place
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	30.42
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8191
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.3042
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 3.92'	
Ground surface to water table =7'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-4D
Test No. 1
Location St Ann Place

Cs	78
r	0.083
h_1	10.79
L	0.8191

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	44.5159	19.3295267	432	2	0.008913333	3.0928E-05	2.75541E-05
0:30	15	44.5159	19.3295267	434	2.1	0.009359	3.24744E-05	
1:00	15	44.5159	19.3295267	436.1	2.1	0.009359	3.24744E-05	
1:30	15	44.5159	19.3295267	438.2	1.7	0.007576333	2.62888E-05	
2:00	15	44.5159	19.3295267	439.9	1.6	0.007130667	2.47424E-05	
2:30	15	44.5159	19.3295267	441.5	1.6	0.007130667	2.47424E-05	
3:00	15	44.5159	19.3295267	443.1	1.5	0.006685	2.3196E-05	
3:30	15	44.5159	19.3295267	444.6	1.5	0.006685	2.3196E-05	
4:00	15	44.5159	19.3295267	446.1	1.4	0.006239333	2.16496E-05	
4:30	15	44.5159	19.3295267	447.5	2	0.008913333	3.0928E-05	
5:00	15	44.5159	19.3295267	449.5	2.1	0.009359	3.24744E-05	
5:30	20	56.0309	24.3295267	451.6	2.1	0.009359	2.58006E-05	2.67834E-05
6:00	20	56.0309	24.3295267	453.7	2.2	0.009804667	2.70292E-05	
6:30	20	56.0309	24.3295267	455.9	3.9	0.017381	4.79153E-05	
7:00	20	56.0309	24.3295267	459.8	0.2	0.000891333	2.4572E-06	
7:30	20	56.0309	24.3295267	460	2.2	0.009804667	2.70292E-05	
8:00	20	56.0309	24.3295267	462.2	1.9	0.008467667	2.33434E-05	
8:30	20	56.0309	24.3295267	464.1	2.4	0.010696	2.94864E-05	
9:00	20	56.0309	24.3295267	466.5	2	0.008913333	2.4572E-05	
9:30	20	56.0309	24.3295267	468.5	2	0.008913333	2.4572E-05	
10:00	20	56.0309	24.3295267	470.5	2.9	0.012924333	3.56293E-05	
10:30	25	67.5459	29.3295267	473.4	2.6	0.011587333	2.64979E-05	2.47654E-05
11:00	25	67.5459	29.3295267	476	2.4	0.010696	2.44596E-05	
11:30	25	67.5459	29.3295267	478.4	2.6	0.011587333	2.64979E-05	
12:00	25	67.5459	29.3295267	481	2.6	0.011587333	2.64979E-05	
12:30	25	67.5459	29.3295267	483.6	2.6	0.011587333	2.64979E-05	
13:00	25	67.5459	29.3295267	486.2	2.8	0.012478667	2.85362E-05	
13:30	25	67.5459	29.3295267	489	2.5	0.011141667	2.54788E-05	
14:00	25	67.5459	29.3295267	491.5	2.5	0.011141667	2.54788E-05	
14:30	25	67.5459	29.3295267	494	2.5	0.011141667	2.54788E-05	
15:00	25	67.5459	29.3295267	496.5	1.2	0.005348	1.22298E-05	
15:30	20	56.0309	24.3295267	497.7	1.9	0.008467667	2.33434E-05	2.24833E-05
16:00	20	56.0309	24.3295267	499.6	1.8	0.008022	2.21148E-05	
16:30	20	56.0309	24.3295267	501.4	2.3	0.010250333	2.82578E-05	
17:00	20	56.0309	24.3295267	503.7	1.8	0.008022	2.21148E-05	
17:30	20	56.0309	24.3295267	505.5	2.1	0.009359	2.58006E-05	
18:00	20	56.0309	24.3295267	507.6	1.8	0.008022	2.21148E-05	
18:30	20	56.0309	24.3295267	509.4	1.9	0.008467667	2.33434E-05	
19:00	20	56.0309	24.3295267	511.3	2	0.008913333	2.4572E-05	
19:30	20	56.0309	24.3295267	513.3	2.1	0.009359	2.58006E-05	
20:00	20	56.0309	24.3295267	515.4	0.6	0.002674	7.37159E-06	
20:30	15	44.5159	19.3295267	516	1.6	0.007130667	2.47424E-05	2.21651E-05
21:00	15	44.5159	19.3295267	517.6	0.6	0.002674	9.27841E-06	
21:30	15	44.5159	19.3295267	518.2	2.1	0.009359	3.24744E-05	
22:00	15	44.5159	19.3295267	520.3	1.3	0.005793667	2.01032E-05	
22:30	15	44.5159	19.3295267	521.6	1.6	0.007130667	2.47424E-05	
23:00	15	44.5159	19.3295267	523.2	1.4	0.006239333	2.16496E-05	
23:30	15	44.5159	19.3295267	524.6	1.4	0.006239333	2.16496E-05	
0:00	15	44.5159	19.3295267	526	1.4	0.006239333	2.16496E-05	
0:30	15	44.5159	19.3295267	527.4	1.5	0.006685	2.3196E-05	
1:00	15	44.5159	19.3295267	528.9				
						K value for 31.5 to 36 feet is	**2.4858E-05**	

Packer Test Data Collection Sheet

Date:	10/27/00
Time test is started:	14:45
Location:	Pilot Hole MW-4D
Test No.	2
Well number:	St Ann Place
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	16.75
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.6824
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.1675
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 6'	
Ground surface to water table =7'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-4D
Test No. 2
Location St Ann Place

Cs	78
r	0.083
h_1	10.79
L	0.6824

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	44.6526	19.38888406	568	4.1	0.018272333	6.32084E-05	4.49887E-05
0:30	15	44.6526	19.38888406	572.1	3.1	0.013815667	4.77917E-05	
1:00	15	44.6526	19.38888406	575.2	2.8	0.012478667	4.31667E-05	
1:30	15	44.6526	19.38888406	578	2.8	0.012478667	4.31667E-05	
2:00	15	44.6526	19.38888406	580.8	2.7	0.012033	4.1625E-05	
2:30	15	44.6526	19.38888406	583.5	2.7	0.012033	4.1625E-05	
3:00	15	44.6526	19.38888406	586.2	2.7	0.012033	4.1625E-05	
3:30	15	44.6526	19.38888406	588.9	2.5	0.011141667	3.85417E-05	
4:00	15	44.6526	19.38888406	591.4	2.6	0.011587333	4.00834E-05	
4:30	15	44.6526	19.38888406	594	2.5	0.011141667	3.85417E-05	
5:00	15	44.6526	19.38888406	596.5	3.6	0.016044	5.55E-05	
5:30	20	56.1676	24.38888406	600.1	3.2	0.014261333	3.92195E-05	4.21609E-05
6:00	20	56.1676	24.38888406	603.3	3.5	0.015598333	4.28963E-05	
6:30	20	56.1676	24.38888406	606.8	3.3	0.014707	4.04451E-05	
7:00	20	56.1676	24.38888406	610.1	3.4	0.015152667	4.16707E-05	
7:30	20	56.1676	24.38888406	613.5	3.5	0.015598333	4.28963E-05	
8:00	20	56.1676	24.38888406	617	3.5	0.015598333	4.28963E-05	
8:30	20	56.1676	24.38888406	620.5	3.5	0.015598333	4.28963E-05	
9:00	20	56.1676	24.38888406	624	3.2	0.014261333	3.92195E-05	
9:30	20	56.1676	24.38888406	627.2	3.2	0.014261333	3.92195E-05	
10:00	20	56.1676	24.38888406	630.4	4.1	0.018272333	5.02499E-05	
10:30	25	67.6826	29.38888406	634.5	4.7	0.020946333	4.78033E-05	4.50572E-05
11:00	25	67.6826	29.38888406	639.2	4.3	0.019163667	4.3735E-05	
11:30	25	67.6826	29.38888406	643.5	4.4	0.019609333	4.47521E-05	
12:00	25	67.6826	29.38888406	647.9	4.4	0.019609333	4.47521E-05	
12:30	25	67.6826	29.38888406	652.3	4.4	0.019609333	4.47521E-05	
13:00	25	67.6826	29.38888406	656.7	4.3	0.019163667	4.3735E-05	
13:30	25	67.6826	29.38888406	661	4.6	0.020500667	4.67863E-05	
14:00	25	67.6826	29.38888406	665.6	4.5	0.020055	4.57692E-05	
14:30	25	67.6826	29.38888406	670.1	4.4	0.019609333	4.47521E-05	
15:00	25	67.6826	29.38888406	674.5	4.3	0.019163667	4.3735E-05	
15:30	20	56.1676	24.38888406	678.8	3.7	0.016489667	4.53475E-05	4.3264E-05
16:00	20	56.1676	24.38888406	682.5	3.5	0.015598333	4.28963E-05	
16:30	20	56.1676	24.38888406	686	3.7	0.016489667	4.53475E-05	
17:00	20	56.1676	24.38888406	689.7	3.7	0.016489667	4.53475E-05	
17:30	20	56.1676	24.38888406	693.4	3.6	0.016044	4.41219E-05	
18:00	20	56.1676	24.38888406	697	3.6	0.016044	4.41219E-05	
18:30	20	56.1676	24.38888406	700.6	3.7	0.016489667	4.53475E-05	
19:00	20	56.1676	24.38888406	704.3	3.6	0.016044	4.41219E-05	
19:30	20	56.1676	24.38888406	707.9	3.6	0.016044	4.41219E-05	
20:00	20	56.1676	24.38888406	711.5	2.6	0.011587333	3.18658E-05	
20:30	15	44.6526	19.38888406	714.1	2.4	0.010696	3.7E-05	4.02547E-05
21:00	15	44.6526	19.38888406	716.5	2.8	0.012478667	4.31667E-05	
21:30	15	44.6526	19.38888406	719.3	2.7	0.012033	4.1625E-05	
22:00	15	44.6526	19.38888406	722	2.5	0.011141667	3.85417E-05	
22:30	15	44.6526	19.38888406	724.5	2.5	0.011141667	3.85417E-05	
23:00	15	44.6526	19.38888406	727	2.8	0.012478667	4.31667E-05	
23:30	15	44.6526	19.38888406	729.8	2.8	0.012478667	4.31667E-05	
0:00	15	44.6526	19.38888406	732.6	2.4	0.010696	3.7E-05	
0:30	15	44.6526	19.38888406	735	2.6	0.011587333	4.00834E-05	
1:00	15	44.6526	19.38888406	737.6				
						K value for 13.25 to 17.75 feet is	**4.32398E-05**	

Packer Test Data Collection Sheet

WELL NUMBER MW-5D	
Date: 5-8-01	
Time test is started: 0934	
Location: Parkway	
Test No. 1	
Test Interval (feet). 42.7 to 49.0	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.7
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	45
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9649
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.45
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 42.7 ft = 61.45 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 7.7 ft	
Depth to water (TOC) = 7.4 ft	

Packer Test Data Collection Sheet

WELL NUMBER MW-5D	
Date: 5-8-01	
Time test is started: 1027	
Location:	
Test No. 2	
Test Interval (feet). 35.0 to 41.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.7
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	36
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8749
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.36
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 35 ft = 53.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 7.7 ft	
Depth to water (TOC) = 7.4 ft	

Packer Test Data Collection Sheet

Date:	10/31/00
Time test is started:	12:30
Location:	Pilot Hole MW-6D
Test No.	1
Well number:	Intersection of Madison and Rochelle Ave
Interval (feet)	39.5-44
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	9.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	40.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9199
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.405
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 6'	
Ground surface to water table =6'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-6D
Test No. 1
Location Intersection of Madison and Rochelle Ave

Cs	78
r	0.083
h_1	9.79
L	0.9199

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K (ft/sec)	Coefficient of permeability per pressure segment, K (ft/sec)
0	15	43.4151	18.85154147	1382.4	1.8	0.008022	2.8541E-05	1.09551E-05
0:30	15	43.4151	18.85154147	1384.2	0.8	0.003565333	1.26849E-05	
1:00	15	43.4151	18.85154147	1385	0.8	0.003565333	1.26849E-05	
1:30	15	43.4151	18.85154147	1385.8	1	0.004456667	1.58561E-05	
2:00	15	43.4151	18.85154147	1386.8	0.4	0.001782667	6.34244E-06	
2:30	15	43.4151	18.85154147	1387.2	0.7	0.003119667	1.10993E-05	
3:00	15	43.4151	18.85154147	1387.9	0.3	0.001337	4.75683E-06	
3:30	15	43.4151	18.85154147	1388.2	0.4	0.001782667	6.34244E-06	
4:00	15	43.4151	18.85154147	1388.6	0.3	0.001337	4.75683E-06	
4:30	15	43.4151	18.85154147	1388.9	0.4	0.001782667	6.34244E-06	
5:00	15	43.4151	18.85154147	1389.3	0.7	0.003119667	1.10993E-05	
5:30	20	54.9301	23.85154147	1390	0.5	0.002228333	6.2661E-06	4.0103E-06
6:00	20	54.9301	23.85154147	1390.5	0.2	0.000891333	2.50644E-06	
6:30	20	54.9301	23.85154147	1390.7	0.2	0.000891333	2.50644E-06	
7:00	20	54.9301	23.85154147	1390.9	0.2	0.000891333	2.50644E-06	
7:30	20	54.9301	23.85154147	1391.1	0.2	0.000891333	2.50644E-06	
8:00	20	54.9301	23.85154147	1391.3	0.3	0.001337	3.75966E-06	
8:30	20	54.9301	23.85154147	1391.6	0.3	0.001337	3.75966E-06	
9:00	20	54.9301	23.85154147	1391.9	0.3	0.001337	3.75966E-06	
9:30	20	54.9301	23.85154147	1392.2	0.2	0.000891333	2.50644E-06	
10:00	20	54.9301	23.85154147	1392.4	0.8	0.003565333	1.00258E-05	
10:30	25	66.4451	28.85154147	1393.2	0.5	0.002228333	5.18018E-06	6.42342E-06
11:00	25	66.4451	28.85154147	1393.7	0.6	0.002674	6.21621E-06	
11:30	25	66.4451	28.85154147	1394.3	0.8	0.003565333	8.28828E-06	
12:00	25	66.4451	28.85154147	1395.1	0.5	0.002228333	5.18018E-06	
12:30	25	66.4451	28.85154147	1395.6	0.7	0.003119667	7.25225E-06	
13:00	25	66.4451	28.85154147	1396.3	0.8	0.003565333	8.28828E-06	
13:30	25	66.4451	28.85154147	1397.1	0.7	0.003119667	7.25225E-06	
14:00	25	66.4451	28.85154147	1397.8	0.7	0.003119667	7.25225E-06	
14:30	25	66.4451	28.85154147	1398.5	0.7	0.003119667	7.25225E-06	
15:00	25	66.4451	28.85154147	1399.2	0.2	0.000891333	2.07207E-06	
15:30	20	54.9301	23.85154147	1399.4	0.2	0.000891333	2.50644E-06	1.87983E-06
16:00	20	54.9301	23.85154147	1399.6	0	0	0	
16:30	20	54.9301	23.85154147	1399.6	0.2	0.000891333	2.50644E-06	
17:00	20	54.9301	23.85154147	1399.8	0.1	0.000445667	1.25322E-06	
17:30	20	54.9301	23.85154147	1399.9	0.2	0.000891333	2.50644E-06	
18:00	20	54.9301	23.85154147	1400.1	0.2	0.000891333	2.50644E-06	
18:30	20	54.9301	23.85154147	1400.3	0.2	0.000891333	2.50644E-06	
19:00	20	54.9301	23.85154147	1400.5	0.3	0.001337	3.75966E-06	
19:30	20	54.9301	23.85154147	1400.8	0.1	0.000445667	1.25322E-06	
20:00	20	54.9301	23.85154147	1400.9	0	0	0	
20:30	15	43.4151	18.85154147	1400.9	0	0	0	1.76179E-07
21:00	15	43.4151	18.85154147	1400.9	0	0	0	
21:30	15	43.4151	18.85154147	1400.9	0	0	0	
22:00	15	43.4151	18.85154147	1400.9	0	0	0	
22:30	15	43.4151	18.85154147	1400.9	0	0	0	
23:00	15	43.4151	18.85154147	1400.9	0	0	0	
23:30	15	43.4151	18.85154147	1400.9	0	0	0	
0:00	15	43.4151	18.85154147	1400.9	0	0	0	
0:30	15	43.4151	18.85154147	1400.9	0.1	0.000445667	1.58561E-06	
1:00	15	43.4151	18.85154147	1401				
						K value for 39.5 to 44 feet is	**4.90455E-06**	

Packer Test Data Collection Sheet

Date:	11/7/00
Time test is started:	0:00
Location:	Pilot Hole MW-6D
Test No.	2
Well number:	Intersection of Madison Ave and Rochelle Ave
Interval (feet)	30.5-35
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	9.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	11.25
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.6274
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.1125
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 5.25'	
Ground surface to water table =6'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-6D
Test No. 2
Location Intersection of Madison Ave and Rochelle Ave

Cs	78
r	0.083
h_1	9.79
L	0.6274

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K (ft/sec)	Coefficient of permeability per pressure segment, K (ft/sec)
0	15	43.7076	18.97854972	1401.8	1.3	0.005793667	2.0475E-05	1.28864E-05
0:30	15	43.7076	18.97854972	1403.1	0.7	0.003119667	1.1025E-05	
1:00	15	43.7076	18.97854972	1403.8	0.8	0.003565333	1.26E-05	
1:30	15	43.7076	18.97854972	1404.6	0.7	0.003119667	1.1025E-05	
2:00	15	43.7076	18.97854972	1405.3	0.8	0.003565333	1.26E-05	
2:30	15	43.7076	18.97854972	1406.1	0.7	0.003119667	1.1025E-05	
3:00	15	43.7076	18.97854972	1406.8	0.7	0.003119667	1.1025E-05	
3:30	15	43.7076	18.97854972	1407.5	0.7	0.003119667	1.1025E-05	
4:00	15	43.7076	18.97854972	1408.2	0.7	0.003119667	1.1025E-05	
4:30	15	43.7076	18.97854972	1408.9	0.6	0.002674	9.45E-06	
5:00	15	43.7076	18.97854972	1409.5	1.3	0.005793667	2.0475E-05	
5:30	20	55.2226	23.97854972	1410.8	0.9	0.004011	1.12192E-05	1.17179E-05
6:00	20	55.2226	23.97854972	1411.7	0.8	0.003565333	9.97265E-06	
6:30	20	55.2226	23.97854972	1412.5	1	0.004456667	1.24658E-05	
7:00	20	55.2226	23.97854972	1413.5	0.9	0.004011	1.12192E-05	
7:30	20	55.2226	23.97854972	1414.4	0.9	0.004011	1.12192E-05	
8:00	20	55.2226	23.97854972	1415.3	0.9	0.004011	1.12192E-05	
8:30	20	55.2226	23.97854972	1416.2	1.7	0.007576333	2.11919E-05	
9:00	20	55.2226	23.97854972	1417.9	0	0	0	
9:30	20	55.2226	23.97854972	1417.9	1.1	0.004902333	1.37124E-05	
10:00	20	55.2226	23.97854972	1419	1.2	0.005348	1.4959E-05	
10:30	25	66.7376	28.97854972	1420.2	1.2	0.005348	1.23779E-05	1.1037E-05
11:00	25	66.7376	28.97854972	1421.4	1.2	0.005348	1.23779E-05	
11:30	25	66.7376	28.97854972	1422.6	1.1	0.004902333	1.13464E-05	
12:00	25	66.7376	28.97854972	1423.7	1.2	0.005348	1.23779E-05	
12:30	25	66.7376	28.97854972	1424.9	1.1	0.004902333	1.13464E-05	
13:00	25	66.7376	28.97854972	1426	1.1	0.004902333	1.13464E-05	
13:30	25	66.7376	28.97854972	1427.1	1.1	0.004902333	1.13464E-05	
14:00	25	66.7376	28.97854972	1428.2	1.1	0.004902333	1.13464E-05	
14:30	25	66.7376	28.97854972	1429.3	1.1	0.004902333	1.13464E-05	
15:00	25	66.7376	28.97854972	1430.4	0.5	0.002228333	5.15747E-06	
15:30	20	55.2226	23.97854972	1430.9	0.8	0.003565333	9.97265E-06	9.47402E-06
16:00	20	55.2226	23.97854972	1431.7	0.8	0.003565333	9.97265E-06	
16:30	20	55.2226	23.97854972	1432.5	0.8	0.003565333	9.97265E-06	
17:00	20	55.2226	23.97854972	1433.3	0.9	0.004011	1.12192E-05	
17:30	20	55.2226	23.97854972	1434.2	0.8	0.003565333	9.97265E-06	
18:00	20	55.2226	23.97854972	1435	0.8	0.003565333	9.97265E-06	
18:30	20	55.2226	23.97854972	1435.8	0.8	0.003565333	9.97265E-06	
19:00	20	55.2226	23.97854972	1436.6	0.8	0.003565333	9.97265E-06	
19:30	20	55.2226	23.97854972	1437.4	0.8	0.003565333	9.97265E-06	
20:00	20	55.2226	23.97854972	1438.2	0.3	0.001337	3.73974E-06	
20:30	15	43.7076	18.97854972	1438.5	0.4	0.001782667	6.3E-06	7.525E-06
21:00	15	43.7076	18.97854972	1438.9	0.5	0.002228333	7.875E-06	
21:30	15	43.7076	18.97854972	1439.4	0.5	0.002228333	7.875E-06	
22:00	15	43.7076	18.97854972	1439.9	0.5	0.002228333	7.875E-06	
22:30	15	43.7076	18.97854972	1440.4	0.6	0.002674	9.45E-06	
23:00	15	43.7076	18.97854972	1441	0.5	0.002228333	7.875E-06	
23:30	15	43.7076	18.97854972	1441.5	0.5	0.002228333	7.875E-06	
0:00	15	43.7076	18.97854972	1442	0.4	0.001782667	6.3E-06	
0:30	15	43.7076	18.97854972	1442.4	0.4	0.001782667	6.3E-06	
1:00	15	43.7076	18.97854972	1442.8				
						K value for 30.5 to 35 feet is	**1.06353E-05**	

Packer Test Data Collection Sheet

WELL NUMBER MW-7D	
Date: 6-15-01	
Time test is started: 1031	
Location: Maccione	
Test No. 1	
Test Interval (feet). 37.6 to 42.6	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	11.67
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	37.77
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8926
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.3777
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	5
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 2.7 feet.	
Pipe from gauge to top of test section is 17.92 ft + 35.6 ft = 53.52 ft	
Pipe from pressure gage to ground surface = 17.92 ft	
Depth to water (bgs) = 9.5 ft	
Depth to water (TOC) = 9.0 ft	

Packer Test Data Collection Sheet

Well number MW-7D
Test No. 1
Location

Cs	50
r	0.167
h_1	11.67
L	0.8926

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	0	10.7774	4.679722102	530.09	0.16	0.000713067	7.92373E-06	
1031	35	91.3824	39.6797221	530.25	0.06	0.0002674	3.50439E-07	3.28537E-07
1032	35	91.3824	39.6797221	530.31	0.07	0.000311967	4.08845E-07	
1033	35	91.3824	39.6797221	530.38	0.06	0.0002674	3.50439E-07	
1034	35	91.3824	39.6797221	530.44	0.06	0.0002674	3.50439E-07	
1035	35	91.3824	39.6797221	530.50	0.05	0.000222833	2.92032E-07	
1036	35	91.3824	39.6797221	530.55	0.05	0.000222833	2.92032E-07	
1037	35	91.3824	39.6797221	530.60	0.05	0.000222833	2.92032E-07	
1038	35	91.3824	39.6797221	530.65	0.05	0.000222833	2.92032E-07	
1039	35	91.3824	39.6797221	530.70	0.04	0.000178267	2.33626E-07	2.55144E-07
1040	35	91.3824	39.6797221	530.74	0.07	0.000311967	4.08845E-07	
1041	50	125.9274	54.6797221	530.81	0.05	0.000222833	2.11921E-07	
1042	50	125.9274	54.6797221	530.86	0.06	0.0002674	2.54305E-07	
1043	50	125.9274	54.6797221	530.92	0.05	0.000222833	2.11921E-07	
1044	50	125.9274	54.6797221	530.97	0.06	0.0002674	2.54305E-07	
1045	50	125.9274	54.6797221	531.03	0.05	0.000222833	2.11921E-07	
1046	50	125.9274	54.6797221	531.08	0.06	0.0002674	2.54305E-07	
1047	50	125.9274	54.6797221	531.14	0.05	0.000222833	2.11921E-07	2.31422E-07
1048	50	125.9274	54.6797221	531.19	0.05	0.000222833	2.11921E-07	
1049	50	125.9274	54.6797221	531.24	0.07	0.000311967	2.96689E-07	
1050	65	160.4724	69.6797221	531.31	0.07	0.000311967	2.32821E-07	
1051	65	160.4724	69.6797221	531.38	0.07	0.000311967	2.32821E-07	
1052	65	160.4724	69.6797221	531.45	0.08	0.000356533	2.66081E-07	
1053	65	160.4724	69.6797221	531.53	0.07	0.000311967	2.32821E-07	
1054	65	160.4724	69.6797221	531.60	0.05	0.000222833	1.663E-07	
1055	65	160.4724	69.6797221	531.65	0.08	0.000356533	2.66081E-07	2.21831E-07
1056	65	160.4724	69.6797221	531.73	0.07	0.000311967	2.32821E-07	
1057	65	160.4724	69.6797221	531.80	0.06	0.0002674	1.9956E-07	
1058	65	160.4724	69.6797221	531.86	0.05	0.000222833	1.663E-07	
1059	50	125.9274	54.6797221	531.91	0.06	0.0002674	2.54305E-07	
1100	50	125.9274	54.6797221	531.97	0.05	0.000222833	2.11921E-07	
1101	50	125.9274	54.6797221	532.02	0.07	0.000311967	2.96689E-07	2.45828E-07
1102	50	125.9274	54.6797221	532.09	0.05	0.000222833	2.11921E-07	
1103	50	125.9274	54.6797221	532.14	0.05	0.000222833	2.11921E-07	
1104	50	125.9274	54.6797221	532.19	0.06	0.0002674	2.54305E-07	
1105	50	125.9274	54.6797221	532.25	0.06	0.0002674	2.54305E-07	
1106	50	125.9274	54.6797221	532.31	0.05	0.000222833	2.11921E-07	
1107	35	91.3824	39.6797221	532.36	0.05	0.000222833	2.92032E-07	
1108	35	91.3824	39.6797221	532.41	0.05	0.000222833	2.92032E-07	
1109	35	91.3824	39.6797221	532.46	0.05	0.000222833	2.92032E-07	
1110	35	91.3824	39.6797221	532.51	0.05	0.000222833	2.92032E-07	
1111	35	91.3824	39.6797221	532.56	0.06	0.0002674	3.50439E-07	
1112	35	91.3824	39.6797221	532.62	0.05	0.000222833	2.92032E-07	
1113	35	91.3824	39.6797221	532.67	0.05	0.000222833	2.92032E-07	
1114	35	91.3824	39.6797221	532.72				
						K value for 37.6 to 42.6 feet is	**4.39073E-07**	

Packer Test Data Collection Sheet

WELL NUMBER MW-7D	
Date: 6-15-01	
Time test is started: 1145	
Location:	
Test No. 2	
Test Interval (feet). 23.5 to 28.5	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.3
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	22.3
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.7379
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.223
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	5
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 16.58 ft + 23.5 ft = 40.08 ft	
Pipe from pressure gage to ground surface = 16.58 ft	
Depth to water (bgs) = 9.5 ft	
Depth to water (TOC) = 9.0 ft	

Packer Test Data Collection Sheet

Well number MW-7D
Test No. 2
Location

Cs	50
r	0.167
h_1	11.67
L	0.8926

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1145	35	91.3824	39.6797221	532.95	0.14	0.000623933	8.17691E-07	5.54487E-07
1146	36	93.6854	40.6797221	533.09	0.09	0.0004011	5.12737E-07	
1147	36	93.6854	40.6797221	533.18	0.09	0.0004011	5.12737E-07	
1148	36	93.6854	40.6797221	533.27	0.09	0.0004011	5.12737E-07	
1149	36	93.6854	40.6797221	533.36	0.09	0.0004011	5.12737E-07	
1150	36	93.6854	40.6797221	533.45	0.09	0.0004011	5.12737E-07	
1151	36	93.6854	40.6797221	533.54	0.09	0.0004011	5.12737E-07	
1152	36	93.6854	40.6797221	533.63	0.1	0.000445667	5.69707E-07	
1153	52	130.5334	56.6797221	533.73	0.2	0.000891333	8.17772E-07	
1155	52	130.5334	56.6797221	533.93	0.1	0.000445667	4.08886E-07	
1156	52	130.5334	56.6797221	534.03	0.1	0.000445667	4.08886E-07	
1157	52	130.5334	56.6797221	534.13	0.11	0.000490233	4.49774E-07	3.80854E-07
1158	52	130.5334	56.6797221	534.24	0.1	0.000445667	4.08886E-07	
1159	52	130.5334	56.6797221	534.34	0.12	0.0005348	4.90663E-07	
1200	66	162.7754	70.6797221	534.46	0.11	0.000490233	3.60685E-07	
1201	66	162.7754	70.6797221	534.57	0.12	0.0005348	3.93474E-07	
1202	66	162.7754	70.6797221	534.69	0.11	0.000490233	3.60685E-07	
1203	66	162.7754	70.6797221	534.8	0.09	0.0004011	2.95106E-07	
1204	66	162.7754	70.6797221	534.89	0.11	0.000490233	3.60685E-07	
1205	66	162.7754	70.6797221	535	0.11	0.000490233	3.60685E-07	
1206	66	162.7754	70.6797221	535.11	0.1	0.000445667	3.27895E-07	
1207	66	162.7754	70.6797221	535.21	0.08	0.000356533	2.62316E-07	3.43241E-07
1208	51	128.2304	55.6797221	535.29	0.09	0.0004011	3.74606E-07	
1209	51	128.2304	55.6797221	535.38	0.09	0.0004011	3.74606E-07	
1210	51	128.2304	55.6797221	535.47	0.08	0.000356533	3.32983E-07	
1211	51	128.2304	55.6797221	535.55	0.08	0.000356533	3.32983E-07	
1212	51	128.2304	55.6797221	535.63	0.09	0.0004011	3.74606E-07	
1213	51	128.2304	55.6797221	535.72	0.08	0.000356533	3.32983E-07	
1214	51	128.2304	55.6797221	535.8	0.06	0.0002674	2.49738E-07	
1215	36	93.6854	40.6797221	535.86	0.07	0.000311967	3.98795E-07	
1216	36	93.6854	40.6797221	535.93	0.07	0.000311967	3.98795E-07	
1217	36	93.6854	40.6797221	536	0.06	0.0002674	3.41824E-07	
1218	36	93.6854	40.6797221	536.06	0.06	0.0002674	3.41824E-07	
1219	36	93.6854	40.6797221	536.12	0.07	0.000311967	3.98795E-07	
1220	36	93.6854	40.6797221	536.19	0.06	0.0002674	3.41824E-07	
1221	36	93.6854	40.6797221	536.25				
						K value for 23.5 to 28.5 feet is	**4.21845E-07**	

Packer Test Data Collection Sheet

WELL NUMBER MW-8D	
Date: 5-10-01	
Time test is started: 0825	
Location:	
Test No. 1	
Test Interval (feet). 41 to 47.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.8
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	42
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9349
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.42
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 39.0 ft = 57.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 7.8 ft	
Depth to water (TOC) = 7.5 ft	

Packer Test Data Collection Sheet

Well number MW-8D
Test No. 1
Location

Cs	60
r	0.167
h_1	10.8
L	0.9349

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
825	0	9.8651	4.283586626	5030.0	0.1	0.000445667	4.50859E-06	
826	21	58.2281	25.28358663	5030.1	0.3	0.001337	2.29156E-06	2.19608E-06
827	21	58.2281	25.28358663	5030.4	0.3	0.001337	2.29156E-06	
828	21	58.2281	25.28358663	5030.7	0.3	0.001337	2.29156E-06	
829	21	58.2281	25.28358663	5031.0	0.2	0.000891333	1.52771E-06	
830	21	58.2281	25.28358663	5031.2	0.3	0.001337	2.29156E-06	
831	21	58.2281	25.28358663	5031.5	0.3	0.001337	2.29156E-06	
832	21	58.2281	25.28358663	5031.8	0.25	0.001114167	1.90963E-06	
833	21	58.2281	25.28358663	5032.1	0.35	0.001559833	2.67349E-06	
834	40	101.9851	44.28358663	5032.4	0.35	0.001559833	1.52642E-06	1.74448E-06
835	40	101.9851	44.28358663	5032.8	0.35	0.001559833	1.52642E-06	
836	40	101.9851	44.28358663	5033.1	0.5	0.002228333	2.1806E-06	
837	40	101.9851	44.28358663	5033.6	0.3	0.001337	1.30836E-06	
838	40	101.9851	44.28358663	5033.9	0.35	0.001559833	1.52642E-06	
839	40	101.9851	44.28358663	5034.3	0.35	0.001559833	1.52642E-06	
840	40	101.9851	44.28358663	5034.6	0.35	0.001559833	1.52642E-06	
841	40	101.9851	44.28358663	5035.0	0.65	0.002896833	2.83478E-06	
842	56	138.8331	60.28358663	5035.6	0.7	0.003119667	2.24258E-06	2.16249E-06
843	56	138.8331	60.28358663	5036.3	0.7	0.003119667	2.24258E-06	
844	56	138.8331	60.28358663	5037.0	0.7	0.003119667	2.24258E-06	
845	56	138.8331	60.28358663	5037.7	0.7	0.003119667	2.24258E-06	
846	56	138.8331	60.28358663	5038.4	0.8	0.003565333	2.56295E-06	
847	56	138.8331	60.28358663	5039.2	0.7	0.003119667	2.24258E-06	
848	56	138.8331	60.28358663	5039.9	0.7	0.003119667	2.24258E-06	
849	56	138.8331	60.28358663	5040.6	0.4	0.001782667	1.28147E-06	
850	40	101.9851	44.28358663	5041.0	0.4	0.001782667	1.74448E-06	1.52642E-06
851	40	101.9851	44.28358663	5041.4	0.4	0.001782667	1.74448E-06	
852	40	101.9851	44.28358663	5041.8	0.4	0.001782667	1.74448E-06	
853	40	101.9851	44.28358663	5042.2	0.4	0.001782667	1.74448E-06	
854	40	101.9851	44.28358663	5042.6	0.4	0.001782667	1.74448E-06	
855	40	101.9851	44.28358663	5043.0	0.1	0.000445667	4.3612E-07	
856	22	60.5311	26.28358663	5043.1	0.1	0.000445667	7.34791E-07	1.32262E-06
857	22	60.5311	26.28358663	5043.2	0.2	0.000891333	1.46958E-06	
858	22	60.5311	26.28358663	5043.4	0.2	0.000891333	1.46958E-06	
859	22	60.5311	26.28358663	5043.6	0.2	0.000891333	1.46958E-06	
900	22	60.5311	26.28358663	5043.8	0.2	0.000891333	1.46958E-06	
901	22	60.5311	26.28358663	5044.0				
						K value for 41 to 47. feet is	**1.91957E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-8D	
Date: 5-10-01	
Time test is started: 0921	
Location:	
Test No. 2	
Test Interval (feet). 31 to 37.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	10.8
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	32
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8349
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.32
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 31 ft = 49.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 7.7 ft	
Depth to water (TOC) = 7.4 ft	

Packer Test Data Collection Sheet

Well number MW-8D
Test No. 2
Location

Cs	60
r	0.167
h_1	10.8
L	0.9349

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
921	20	55.9251	24.28358663	5045.00	1.1	0.004902333	8.74839E-06	4.77185E-06
922	20	55.9251	24.28358663	5046.10	0.6	0.002674	4.77185E-06	
923	20	55.9251	24.28358663	5046.70	0.55	0.002451167	4.3742E-06	
924	20	55.9251	24.28358663	5047.25	0.55	0.002451167	4.3742E-06	
925	20	55.9251	24.28358663	5047.80	0.5	0.002228333	3.97654E-06	
926	20	55.9251	24.28358663	5048.30	0.45	0.0020055	3.57889E-06	
927	20	55.9251	24.28358663	5048.75	0.5	0.002228333	3.97654E-06	
928	20	55.9251	24.28358663	5049.25	0.5	0.002228333	3.97654E-06	
929	20	55.9251	24.28358663	5049.75	0.5	0.002228333	3.97654E-06	
930	20	55.9251	24.28358663	5050.25	0.75	0.0033425	5.96481E-06	
931	35	90.4701	39.28358663	5051.00	0.7	0.003119667	3.4414E-06	
932	36	92.7731	40.28358663	5051.70	0.7	0.003119667	3.35597E-06	
933	35	90.4701	39.28358663	5052.40	0.7	0.003119667	3.4414E-06	
934	35	90.4701	39.28358663	5053.10	0.7	0.003119667	3.4414E-06	3.68722E-06
935	35	90.4701	39.28358663	5053.80	0.8	0.003565333	3.93303E-06	
936	35	90.4701	39.28358663	5054.60	0.6	0.002674	2.94977E-06	
937	35	90.4701	39.28358663	5055.20	0.8	0.003565333	3.93303E-06	
938	35	90.4701	39.28358663	5056.00	0.65	0.002896833	3.19559E-06	
939	35	90.4701	39.28358663	5056.65	0.95	0.004233833	4.67047E-06	
940	50	125.0151	54.28358663	5057.60	1.1	0.004902333	3.91357E-06	3.6912E-06
941	50	125.0151	54.28358663	5058.70	1	0.004456667	3.55779E-06	
942	50	125.0151	54.28358663	5059.70	1.05	0.0046795	3.73568E-06	
943	50	125.0151	54.28358663	5060.75	1.05	0.0046795	3.73568E-06	
944	50	125.0151	54.28358663	5061.80	1.1	0.004902333	3.91357E-06	
945	50	125.0151	54.28358663	5062.90	1.1	0.004902333	3.91357E-06	
946	50	125.0151	54.28358663	5064.00	1.1	0.004902333	3.91357E-06	
947	50	125.0151	54.28358663	5065.10	0.8	0.003565333	2.84623E-06	
948	36	92.7731	40.28358663	5065.90	0.7	0.003119667	3.35597E-06	3.4159E-06
949	36	92.7731	40.28358663	5066.60	0.7	0.003119667	3.35597E-06	
950	36	92.7731	40.28358663	5067.30	0.75	0.0033425	3.59568E-06	
951	36	92.7731	40.28358663	5068.05	0.85	0.003788167	4.07511E-06	
952	36	92.7731	40.28358663	5068.90	0.75	0.0033425	3.59568E-06	
953	36	92.7731	40.28358663	5069.65	0.75	0.0033425	3.59568E-06	
954	36	92.7731	40.28358663	5070.40	0.8	0.003565333	3.8354E-06	
955	36	92.7731	40.28358663	5071.20	0.4	0.001782667	1.9177E-06	
956	20	55.9251	24.28358663	5071.60	0.45	0.0020055	3.57889E-06	3.57889E-06
957	20	55.9251	24.28358663	5072.05	0.45	0.0020055	3.57889E-06	
958	20	55.9251	24.28358663	5072.50	0.45	0.0020055	3.57889E-06	
959	20	55.9251	24.28358663	5072.95	0.45	0.0020055	3.57889E-06	
1000	20	55.9251	24.28358663	5073.40	0.45	0.0020055	3.57889E-06	
1001	20	55.9251	24.28358663	5073.85	0.45	0.0020055	3.57889E-06	
1002	20	55.9251	24.28358663	5074.30				
						K value for 31 to 37.3 feet is	**3.86368E-06**	

Packer Test Data Collection Sheet

Date:	11/2/00
Time test is started:	12:00
Location:	Pilot Hole MW-9D
Test No.	1 redo
Well number:	Railroad Track by Ernie's Deli
Interval (feet)	28-32.5
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	17.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	25.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.255
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 2.5'	
Ground surface to water table =14'	
6 psi @ 0 flow	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-9D
Test No. 1
Location Railroad Track by Ernie's Deli

Cs	78
r	0.083
h_1	17.79
L	0

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	52.335	22.7247069	1235	1.8	0.008022	2.36765E-05	1.985E-05
0:30	15	52.335	22.7247069	1236.8	1.7	0.007576333	2.23612E-05	
1:00	15	52.335	22.7247069	1238.5	1.5	0.006685	1.97304E-05	
1:30	15	52.335	22.7247069	1240	1.5	0.006685	1.97304E-05	
2:00	15	52.335	22.7247069	1241.5	1.5	0.006685	1.97304E-05	
2:30	15	52.335	22.7247069	1243	1.2	0.005348	1.57843E-05	
3:00	15	52.335	22.7247069	1244.2	1.5	0.006685	1.97304E-05	
3:30	15	52.335	22.7247069	1245.7	1.2	0.005348	1.57843E-05	
4:00	15	52.335	22.7247069	1246.9	1.4	0.006239333	1.84151E-05	
4:30	15	52.335	22.7247069	1248.3	1.4	0.006239333	1.84151E-05	
5:00	15	52.335	22.7247069	1249.7	1.9	0.008467667	2.49919E-05	
5:30	20	63.85	27.7247069	1251.6	1.7	0.007576333	1.83284E-05	1.73581E-05
6:00	20	63.85	27.7247069	1253.3	1.6	0.007130667	1.72503E-05	
6:30	20	63.85	27.7247069	1254.9	1.6	0.007130667	1.72503E-05	
7:00	20	63.85	27.7247069	1256.5	1.5	0.006685	1.61722E-05	
7:30	20	63.85	27.7247069	1258	1.6	0.007130667	1.72503E-05	
8:00	20	63.85	27.7247069	1259.6	1.4	0.006239333	1.5094E-05	
8:30	20	63.85	27.7247069	1261	1.6	0.007130667	1.72503E-05	
9:00	20	63.85	27.7247069	1262.6	1.5	0.006685	1.61722E-05	
9:30	20	63.85	27.7247069	1264.1	1.4	0.006239333	1.5094E-05	
10:00	20	63.85	27.7247069	1265.5	2.2	0.009804667	2.37192E-05	
10:30	25	75.365	32.7247069	1267.7	2	0.008913333	1.82683E-05	1.42493E-05
11:00	25	75.365	32.7247069	1269.7	1.4	0.006239333	1.27878E-05	
11:30	25	75.365	32.7247069	1271.1	1.6	0.007130667	1.46146E-05	
12:00	25	75.365	32.7247069	1272.7	1.6	0.007130667	1.46146E-05	
12:30	25	75.365	32.7247069	1274.3	1.7	0.007576333	1.5528E-05	
13:00	25	75.365	32.7247069	1276	1.5	0.006685	1.37012E-05	
13:30	25	75.365	32.7247069	1277.5	2	0.008913333	1.82683E-05	
14:00	25	75.365	32.7247069	1279.5	1.6	0.007130667	1.46146E-05	
14:30	25	75.365	32.7247069	1281.1	1.4	0.006239333	1.27878E-05	
15:00	25	75.365	32.7247069	1282.5	0.8	0.003565333	7.30731E-06	
15:30	20	63.85	27.7247069	1283.3	1.5	0.006685	1.61722E-05	1.41237E-05
16:00	20	63.85	27.7247069	1284.8	1.3	0.005793667	1.40159E-05	
16:30	20	63.85	27.7247069	1286.1	1.4	0.006239333	1.5094E-05	
17:00	20	63.85	27.7247069	1287.5	1.3	0.005793667	1.40159E-05	
17:30	20	63.85	27.7247069	1288.8	1.3	0.005793667	1.40159E-05	
18:00	20	63.85	27.7247069	1290.1	1.4	0.006239333	1.5094E-05	
18:30	20	63.85	27.7247069	1291.5	1.5	0.006685	1.61722E-05	
19:00	20	63.85	27.7247069	1293	1.2	0.005348	1.29377E-05	
19:30	20	63.85	27.7247069	1294.2	2	0.008913333	2.15629E-05	
20:00	20	63.85	27.7247069	1296.2	0.2	0.000891333	2.15629E-06	
20:30	15	52.335	22.7247069	1296.4	1.8	0.008022	2.36765E-05	1.60766E-05
21:00	15	52.335	22.7247069	1298.2	1.2	0.005348	1.57843E-05	
21:30	15	52.335	22.7247069	1299.4	1.3	0.005793667	1.70997E-05	
22:00	15	52.335	22.7247069	1300.7	1.1	0.004902333	1.4469E-05	
22:30	15	52.335	22.7247069	1301.8	1.2	0.005348	1.57843E-05	
23:00	15	52.335	22.7247069	1303	1.1	0.004902333	1.4469E-05	
23:30	15	52.335	22.7247069	1304.1	1.1	0.004902333	1.4469E-05	
0:00	15	52.335	22.7247069	1305.2	1.1	0.004902333	1.4469E-05	
0:30	15	52.335	22.7247069	1306.3	1.1	0.004902333	1.4469E-05	
1:00	15	52.335	22.7247069	1307.4				
						K value for 28 to		
	10			1308.4		**32.5 feet is**	**1.6407E-05**	
	6			1308.8				

Packer Test Data Collection Sheet

Date:	10/31/00
Time test is started:	12:30
Location:	Pilot Hole MW-10D
Test No.	1
Well number:	Intersection of West Hunter and Maywood Ave
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	14.29
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	27
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.7849
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.27
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 3'	
Ground surface to water table =10.5'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-10D
Test No. 1
Location Intersection of West Hunter and Maywood Ave

Cs	78
r	0.083
h_1	14.29
L	0.7849

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	48.0501	20.86413374	774	3.5	0.015598333	5.01431E-05	4.10262E-05
0:30	15	48.0501	20.86413374	777.5	3.7	0.016489667	5.30084E-05	
1:00	15	48.0501	20.86413374	781.2	3	0.01337	4.29798E-05	
1:30	15	48.0501	20.86413374	784.2	2.8	0.012478667	4.01145E-05	
2:00	15	48.0501	20.86413374	787	2.8	0.012478667	4.01145E-05	
2:30	15	48.0501	20.86413374	789.8	2.7	0.012033	3.86818E-05	
3:00	15	48.0501	20.86413374	792.5	2.6	0.011587333	3.72492E-05	
3:30	15	48.0501	20.86413374	795.1	2.4	0.010696	3.43838E-05	
4:00	15	48.0501	20.86413374	797.5	2.5	0.011141667	3.58165E-05	
4:30	15	48.0501	20.86413374	800	2.4	0.010696	3.43838E-05	
5:00	15	48.0501	20.86413374	802.4	3.1	0.013815667	4.44125E-05	
5:30	20	59.5651	25.86413374	805.5	3	0.01337	3.4671E-05	3.29375E-05
6:00	20	59.5651	25.86413374	808.5	3	0.01337	3.4671E-05	
6:30	20	59.5651	25.86413374	811.5	2.8	0.012478667	3.23596E-05	
7:00	20	59.5651	25.86413374	814.3	2.7	0.012033	3.12039E-05	
7:30	20	59.5651	25.86413374	817	2.4	0.010696	2.77368E-05	
8:00	20	59.5651	25.86413374	819.4	2.9	0.012924333	3.35153E-05	
8:30	20	59.5651	25.86413374	822.3	2.9	0.012924333	3.35153E-05	
9:00	20	59.5651	25.86413374	825.2	2.3	0.010250333	2.65811E-05	
9:30	20	59.5651	25.86413374	827.5	2.8	0.012478667	3.23596E-05	
10:00	20	59.5651	25.86413374	830.3	3.7	0.016489667	4.27609E-05	
10:30	25	71.0801	30.86413374	834	3.6	0.016044	3.48652E-05	3.19597E-05
11:00	25	71.0801	30.86413374	837.6	3.5	0.015598333	3.38967E-05	
11:30	25	71.0801	30.86413374	841.1	3.2	0.014261333	3.09913E-05	
12:00	25	71.0801	30.86413374	844.3	3.3	0.014707	3.19597E-05	
12:30	25	71.0801	30.86413374	847.6	3.5	0.015598333	3.38967E-05	
13:00	25	71.0801	30.86413374	851.1	3	0.01337	2.90543E-05	
13:30	25	71.0801	30.86413374	854.1	3.5	0.015598333	3.38967E-05	
14:00	25	71.0801	30.86413374	857.6	3.3	0.014707	3.19597E-05	
14:30	25	71.0801	30.86413374	860.9	3.2	0.014261333	3.09913E-05	
15:00	25	71.0801	30.86413374	864.1	2.9	0.012924333	2.80858E-05	
15:30	20	59.5651	25.86413374	867	2.6	0.011587333	3.00482E-05	2.86614E-05
16:00	20	59.5651	25.86413374	869.6	2.6	0.011587333	3.00482E-05	
16:30	20	59.5651	25.86413374	872.2	2.4	0.010696	2.77368E-05	
17:00	20	59.5651	25.86413374	874.6	2.8	0.012478667	3.23596E-05	
17:30	20	59.5651	25.86413374	877.4	2.5	0.011141667	2.88925E-05	
18:00	20	59.5651	25.86413374	879.9	2.5	0.011141667	2.88925E-05	
18:30	20	59.5651	25.86413374	882.4	2.5	0.011141667	2.88925E-05	
19:00	20	59.5651	25.86413374	884.9	2.7	0.012033	3.12039E-05	
19:30	20	59.5651	25.86413374	887.6	2.4	0.010696	2.77368E-05	
20:00	20	59.5651	25.86413374	890	1.8	0.008022	2.08026E-05	
20:30	15	48.0501	20.86413374	891.8	2.2	0.009804667	3.15185E-05	2.86532E-05
21:00	15	48.0501	20.86413374	894	1.9	0.008467667	2.72205E-05	
21:30	15	48.0501	20.86413374	895.9	1.6	0.007130667	2.29226E-05	
22:00	15	48.0501	20.86413374	897.5	2.5	0.011141667	3.58165E-05	
22:30	15	48.0501	20.86413374	900	2	0.008913333	2.86532E-05	
23:00	15	48.0501	20.86413374	902	1.9	0.008467667	2.72205E-05	
23:30	15	48.0501	20.86413374	903.9	1.8	0.008022	2.57879E-05	
0:00	15	48.0501	20.86413374	905.7	2.1	0.009359	3.00859E-05	
0:30	15	48.0501	20.86413374	907.8	2	0.008913333	2.86532E-05	
1:00	15	48.0501	20.86413374	909.8				
						K value for 29 to 33.5 feet is	**3.28951E-05**	

Packer Test Data Collection Sheet

Date:	10/31/00
Time test is started:	13:30
Location:	Pilot Hole MW-10D
Test No.	2
Well number:	Intersection of West Hunter and Maywood Ave
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	14.29
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	16.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.165
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	4.5
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 3'	
Ground surface to water table =10.5'	

6 psi @ 0 flow	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-10D
Test No. 2
Location Intersection of West Hunter and Maywood Ave

Cs	78
r	0.083
h_1	14.29
L	0

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	48.835	21.20495007	910.3	1.5	0.006685	2.11445E-05	9.61114E-06
0:30	15	48.835	21.20495007	911.8	0.7	0.003119667	9.86744E-06	
1:00	15	48.835	21.20495007	912.5	0.4	0.001782667	5.63853E-06	
1:30	15	48.835	21.20495007	912.9	0.6	0.002674	8.4578E-06	
2:00	15	48.835	21.20495007	913.5	0.5	0.002228333	7.04817E-06	
2:30	15	48.835	21.20495007	914	0.6	0.002674	8.4578E-06	
3:00	15	48.835	21.20495007	914.6	0.5	0.002228333	7.04817E-06	
3:30	15	48.835	21.20495007	915.1	0.6	0.002674	8.4578E-06	
4:00	15	48.835	21.20495007	915.7	0.4	0.001782667	5.63853E-06	
4:30	15	48.835	21.20495007	916.1	0.7	0.003119667	9.86744E-06	
5:00	15	48.835	21.20495007	916.8	1	0.004456667	1.40963E-05	
5:30	20	60.35	26.20495007	917.8	0.8	0.003565333	9.12536E-06	8.09876E-06
6:00	20	60.35	26.20495007	918.6	0.5	0.002228333	5.70335E-06	
6:30	20	60.35	26.20495007	919.1	0.9	0.004011	1.0266E-05	
7:00	20	60.35	26.20495007	920	0.5	0.002228333	5.70335E-06	
7:30	20	60.35	26.20495007	920.5	0.5	0.002228333	5.70335E-06	
8:00	20	60.35	26.20495007	921	0.8	0.003565333	9.12536E-06	
8:30	20	60.35	26.20495007	921.8	0.7	0.003119667	7.98469E-06	
9:00	20	60.35	26.20495007	922.5	0.6	0.002674	6.84402E-06	
9:30	20	60.35	26.20495007	923.1	0.7	0.003119667	7.98469E-06	
10:00	20	60.35	26.20495007	923.8	1.1	0.004902333	1.25474E-05	
10:30	25	71.865	31.20495007	924.9	0.8	0.003565333	7.6632E-06	7.47162E-06
11:00	25	71.865	31.20495007	925.7	0.7	0.003119667	6.7053E-06	
11:30	25	71.865	31.20495007	926.4	0.8	0.003565333	7.6632E-06	
12:00	25	71.865	31.20495007	927.2	0.8	0.003565333	7.6632E-06	
12:30	25	71.865	31.20495007	928	0.8	0.003565333	7.6632E-06	
13:00	25	71.865	31.20495007	928.8	0.8	0.003565333	7.6632E-06	
13:30	25	71.865	31.20495007	929.6	0.9	0.004011	8.6211E-06	
14:00	25	71.865	31.20495007	930.5	0.9	0.004011	8.6211E-06	
14:30	25	71.865	31.20495007	931.4	1	0.004456667	9.579E-06	
15:00	25	71.865	31.20495007	932.4	0.3	0.001337	2.8737E-06	
15:30	20	60.35	26.20495007	932.7	0.7	0.003119667	7.98469E-06	6.95809E-06
16:00	20	60.35	26.20495007	933.4	0.7	0.003119667	7.98469E-06	
16:30	20	60.35	26.20495007	934.1	0.6	0.002674	6.84402E-06	
17:00	20	60.35	26.20495007	934.7	0.6	0.002674	6.84402E-06	
17:30	20	60.35	26.20495007	935.3	0.7	0.003119667	7.98469E-06	
18:00	20	60.35	26.20495007	936	0.8	0.003565333	9.12536E-06	
18:30	20	60.35	26.20495007	936.8	0.6	0.002674	6.84402E-06	
19:00	20	60.35	26.20495007	937.4	0.7	0.003119667	7.98469E-06	
19:30	20	60.35	26.20495007	938.1	0.7	0.003119667	7.98469E-06	
20:00	20	60.35	26.20495007	938.8	0	0	0	
20:30	15	48.835	21.20495007	938.8	0.4	0.001782667	5.63853E-06	5.95179E-06
21:00	15	48.835	21.20495007	939.2	0.5	0.002228333	7.04817E-06	
21:30	15	48.835	21.20495007	939.7	0.3	0.001337	4.2289E-06	
22:00	15	48.835	21.20495007	940	0.4	0.001782667	5.63853E-06	
22:30	15	48.835	21.20495007	940.4	0.5	0.002228333	7.04817E-06	
23:00	15	48.835	21.20495007	940.9	0.4	0.001782667	5.63853E-06	
23:30	15	48.835	21.20495007	941.3	0.5	0.002228333	7.04817E-06	
0:00	15	48.835	21.20495007	941.8	0.3	0.001337	4.2289E-06	
0:30	15	48.835	21.20495007	942.1	0.5	0.002228333	7.04817E-06	
1:00	15	48.835	21.20495007	942.6				
						K value for 18.5 to 23 feet is	**7.69147E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-12D	
Date: 5-8-01	
Time test is started: 1318	
Location:	
Test No. 1	
Test Interval (feet). 45.7 to 52	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	5.3
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	46.7
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9819
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.467
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 45.7 ft = 64.45 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 2.30 ft	
Depth to water (TOC) = 4.5 ft	

Packer Test Data Collection Sheet

Well number MW-12D
Test No. 1
Location

Cs	60
r	0.167
h_1	5.3
L	0.9819

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1318	25	61.8931	26.87498914		4088.1	18.219299	0.029377965	0.002274382
1319	25	61.8931	26.87498914	4088.1	0.5	0.002228333	3.59311E-06	
1320	25	61.8931	26.87498914	4088.6	1	0.004456667	7.18621E-06	
1321	25	61.8931	26.87498914	4089.6	1.1	0.004902333	7.90484E-06	
1322	25	61.8931	26.87498914	4090.7	1.6	0.007130667	1.14979E-05	
1323	25	61.8931	26.87498914	4092.3	1.7	0.007576333	1.22166E-05	
1324	25	61.8931	26.87498914	4094.0	1.8	0.008022	1.29352E-05	
1325	25	61.8931	26.87498914	4095.8	2.1	0.009359	1.50911E-05	
1326	25	61.8931	26.87498914	4097.9	2.4	0.010696	1.72469E-05	
1327	25	61.8931	26.87498914	4100.3	2.2	0.009804667	1.58097E-05	
1328	25	61.8931	26.87498914	4102.5	7	0.031196667	5.03035E-05	
1329	25	61.8931	26.87498914	4109.5	2.5	0.011141667	1.79655E-05	
1330	25	61.8931	26.87498914	4112.0	2.4	0.010696	1.72469E-05	
1331	35	84.9231	36.87498914	4114.4	1.1	0.004902333	5.76115E-06	5.00464E-06
1332	35	84.9231	36.87498914	4115.5	1.1	0.004902333	5.76115E-06	
1333	35	84.9231	36.87498914	4116.6	1	0.004456667	5.23741E-06	
1334	35	84.9231	36.87498914	4117.6	1	0.004456667	5.23741E-06	
1335	35	84.9231	36.87498914	4118.6	1	0.004456667	5.23741E-06	
1336	35	84.9231	36.87498914	4119.6	1	0.004456667	5.23741E-06	
1337	35	84.9231	36.87498914	4120.6	1	0.004456667	5.23741E-06	
1339	35	84.9231	36.87498914	4121.6	1	0.004456667	5.23741E-06	
1340	35	84.9231	36.87498914	4122.6	0.4	0.001782667	2.09496E-06	
1341	50	119.4681	51.87498914	4123.0	0.8	0.003565333	2.97838E-06	1.4215E-06
1342	50	119.4681	51.87498914	4123.8	0.4	0.001782667	1.48919E-06	
1343	50	119.4681	51.87498914	4124.2	0.3	0.001337	1.11689E-06	
1344	50	119.4681	51.87498914	4124.5	0.3	0.001337	1.11689E-06	
1345	50	119.4681	51.87498914	4124.8	0.2	0.000891333	7.44596E-07	
1346	50	119.4681	51.87498914	4125.0	0.15	0.0006685	5.58447E-07	
1347	50	119.4681	51.87498914	4125.2	0.55	0.002451167	2.04764E-06	
1348	50	119.4681	51.87498914	4125.7	0.4	0.001782667	1.48919E-06	
1349	50	119.4681	51.87498914	4126.1	0.4	0.001782667	1.48919E-06	
1350	50	119.4681	51.87498914	4126.5	0.5	0.002228333	1.86149E-06	
1351	50	119.4681	51.87498914	4127.0	0.2	0.000891333	7.44596E-07	
1352	35	84.9231	36.87498914	4127.2	0.2	0.000891333	1.04748E-06	1.7458E-06
1353	35	84.9231	36.87498914	4127.4	0.2	0.000891333	1.04748E-06	
1354	35	84.9231	36.87498914	4127.6	0.1	0.000445667	5.23741E-07	
1355	35	84.9231	36.87498914	4127.7	0.2	0.000891333	1.04748E-06	
1356	35	84.9231	36.87498914	4127.9	0.2	0.000891333	1.04748E-06	
1357	35	84.9231	36.87498914	4128.1	1.1	0.004902333	5.76115E-06	
1359	25	61.8931	26.87498914	4129.2	0.8	0.003565333	5.74897E-06	5.86874E-06
1400	25	61.8931	26.87498914	4130.0	0.8	0.003565333	5.74897E-06	
1401	25	61.8931	26.87498914	4130.8	0.9	0.004011	6.46759E-06	
1402	25	61.8931	26.87498914	4131.7	0.8	0.003565333	5.74897E-06	
1403	25	61.8931	26.87498914	4132.5	0.8	0.003565333	5.74897E-06	
1404	25	61.8931	26.87498914	4133.3	0.8	0.003565333	5.74897E-06	
1405	25	61.8931	26.87498914	4134.1				
						K value for 26.5 to 31 feet is	**0.000645072**	

Packer Test Data Collection Sheet

WELL NUMBER MW-12D	
Date: 5-8-01	
Time test is started: 1423	
Location:	
Test No. 2	
Test Interval (feet). 39 to 45.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	5.3
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	40
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9149
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.4
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 39 ft = 47.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 2.30 ft	
Depth to water (TOC) = 4.5 ft	

Packer Test Data Collection Sheet

Well number MW-12D
Test No. 2
Location

Cs	60
r	0.167
h_1	5.3
L	0.9819

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1423	25	61.8931	26.87498914	4135.5	2.7	0.012033	1.94028E-05	1.65283E-05
1424	25	61.8931	26.87498914	4138.2	2.3	0.010250333	1.65283E-05	
1425	25	61.8931	26.87498914	4140.5	2.2	0.009804667	1.58097E-05	
1426	25	61.8931	26.87498914	4142.7	2.2	0.009804667	1.58097E-05	
1427	25	61.8931	26.87498914	4144.9	2.2	0.009804667	1.58097E-05	
1428	25	61.8931	26.87498914	4147.1	2.2	0.009804667	1.58097E-05	
1429	35	84.9231	36.87498914	4149.3	2.4	0.010696	1.25698E-05	1.22206E-05
1430	35	84.9231	36.87498914	4151.7	2.3	0.010250333	1.2046E-05	
1431	35	84.9231	36.87498914	4154.0	2.2	0.009804667	1.15223E-05	
1432	35	84.9231	36.87498914	4156.2	2.2	0.009804667	1.15223E-05	
1433	35	84.9231	36.87498914	4158.4	2.2	0.009804667	1.15223E-05	
1434	35	84.9231	36.87498914	4160.6	2.7	0.012033	1.4141E-05	
1435	50	119.4681	51.87498914	4163.3	2.6	0.011587333	9.67974E-06	8.88861E-06
1436	50	119.4681	51.87498914	4165.9	2.6	0.011587333	9.67974E-06	
1437	50	119.4681	51.87498914	4168.5	2.6	0.011587333	9.67974E-06	
1438	50	119.4681	51.87498914	4171.1	2.4	0.010696	8.93515E-06	
1439	50	119.4681	51.87498914	4173.5	2.4	0.010696	8.93515E-06	
1440	50	119.4681	51.87498914	4175.9	2.3	0.010250333	8.56285E-06	
1441	50	119.4681	51.87498914	4178.2	2.3	0.010250333	8.56285E-06	
1442	50	119.4681	51.87498914	4180.5	1.9	0.008467667	7.07366E-06	
1443	35	84.9231	36.87498914	4182.4	1.9	0.008467667	9.95108E-06	9.42734E-06
1444	35	84.9231	36.87498914	4184.3	1.8	0.008022	9.42734E-06	
1445	35	84.9231	36.87498914	4186.1	1.8	0.008022	9.42734E-06	
1446	35	84.9231	36.87498914	4187.9	1.8	0.008022	9.42734E-06	
1447	35	84.9231	36.87498914	4189.7	1.7	0.007576333	8.9036E-06	
1448	25	61.8931	26.87498914	4191.4	2.4	0.010696	1.72469E-05	9.88105E-06
1449	25	61.8931	26.87498914	4193.8	0.4	0.001782667	2.87449E-06	
1450	25	61.8931	26.87498914	4194.2	1.4	0.006239333	1.00607E-05	
1451	25	61.8931	26.87498914	4195.6	1.3	0.005793667	9.34208E-06	
1452	25	61.8931	26.87498914	4196.9				
						K value for 26.5 to 31 feet is	**1.13884E-05**	

Packer Test Data Collection Sheet

WELL NUMBER MW-13D	
Date: 5-12-01	
Time test is started: 0814	
Location: Muscarelle Property	
Test No. 1	
Test Interval (feet). 33 to 39.3 feet	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	8.55
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	34
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8549
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.34
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is ___3____ feet.	
Pipe from gauge to top of test section is 18.75 ft + 33 ft = 51.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 5.55 ft	
Depth to water (TOC) = 5.35 ft	

Packer Test Data Collection Sheet

Well number MW-13D
Test No. 1
Location Muscarelle Property

Cs	60
r	0.167
h_1	8.55
L	0.8549

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
814	0	7.6951	3.341337386	5098.0	0.5	0.002228333	2.89E-05	4.25151E-06
815	15	42.2401	18.34133739	5098.5	0.1	0.000445667	1.05297E-06	
816	15	42.2401	18.34133739	5098.6	0.1	0.000445667	1.05297E-06	
817	15	42.2401	18.34133739	5098.7	0.1	0.000445667	1.05297E-06	
818	17	46.8461	20.34133739	5098.8	0.1	0.000445667	9.49443E-07	
819	17	46.8461	20.34133739	5098.9	0.9	0.004011	8.54499E-06	
820	30	76.7851	33.34133739	5099.8	0.2	0.000891333	1.1585E-06	
821	30	76.7851	33.34133739	5100.0	0.15	0.0006685	8.68874E-07	
822	30	76.7851	33.34133739	5100.2	0.15	0.0006685	8.68874E-07	
823	30	76.7851	33.34133739	5100.3	0.2	0.000891333	1.1585E-06	
824	30	76.7851	33.34133739	5100.5	0.2	0.000891333	1.1585E-06	
825	30	76.7851	33.34133739	5100.7	0.2	0.000891333	1.1585E-06	2.43285E-06
826	30	76.7851	33.34133739	5100.9	0.2	0.000891333	1.1585E-06	
827	30	76.7851	33.34133739	5101.1	0.2	0.000891333	1.1585E-06	
828	30	76.7851	33.34133739	5101.3	2.2	0.009804667	1.27435E-05	
842	30	76.7851	33.34133739	5103.5	0.25	0.001114167	1.44812E-06	
843	30	76.7851	33.34133739	5103.8	0.25	0.001114167	1.44812E-06	
844	30	76.7851	33.34133739	5104.0	0.25	0.001114167	1.44812E-06	
845	30	76.7851	33.34133739	5104.3	0.25	0.001114167	1.44812E-06	
846	30	76.7851	33.34133739	5104.5	0.2	0.000891333	1.1585E-06	
847	30	76.7851	33.34133739	5104.7	0.2	0.000891333	1.1585E-06	
848	30	76.7851	33.34133739	5104.9	0.2	0.000891333	1.1585E-06	8.2296E-07
849	30	76.7851	33.34133739	5105.1	0.2	0.000891333	1.1585E-06	
850	30	76.7851	33.34133739	5105.3	0.2	0.000891333	1.1585E-06	
851	30	76.7851	33.34133739	5105.5	0.2	0.000891333	1.1585E-06	
852	45	111.3301	48.34133739	5105.7	0.25	0.001114167	9.9878E-07	
853	45	111.3301	48.34133739	5106.0	0.15	0.0006685	5.99268E-07	
854	45	111.3301	48.34133739	5106.1	0.1	0.000445667	3.99512E-07	
855	45	111.3301	48.34133739	5106.2	0.1	0.000445667	3.99512E-07	
856	45	111.3301	48.34133739	5106.3	0.15	0.0006685	5.99268E-07	
857	45	111.3301	48.34133739	5106.5	0.15	0.0006685	5.99268E-07	
858	45	111.3301	48.34133739	5106.6	0.15	0.0006685	5.99268E-07	4.66097E-07
859	45	111.3301	48.34133739	5106.8	0.15	0.0006685	5.99268E-07	
900	45	111.3301	48.34133739	5106.9	0.1	0.000445667	3.99512E-07	
901	45	111.3301	48.34133739	5107.0	0.15	0.0006685	5.99268E-07	
902	45	111.3301	48.34133739	5107.2	0.1	0.000445667	3.99512E-07	
903	45	111.3301	48.34133739	5107.3	0.1	0.000445667	3.99512E-07	
904	45	111.3301	48.34133739	5107.4	0.15	0.0006685	5.99268E-07	
905	45	111.3301	48.34133739	5107.5	0.1	0.000445667	3.99512E-07	
906	45	111.3301	48.34133739	5107.6	0.1	0.000445667	3.99512E-07	
907	45	111.3301	48.34133739	5107.7	0.1	0.000445667	3.99512E-07	
908	45	111.3301	48.34133739	5107.8	0.1	0.000445667	3.99512E-07	
909	45	111.3301	48.34133739	5107.9	0.1	0.000445667	3.99512E-07	
910	45	111.3301	48.34133739	5108.0				
						K value for 33 to 39.3 feet is	**1.97483E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-13D	
Date: 5-12-01	
Time test is started: 0930	
Location: Muscarelle Property	
Test No. 2	
Test Interval (feet). 28 to 34.6 feet	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	8.55
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	29
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8049
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.29
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is ___3____ feet.	
Pipe from gauge to top of test section is 18.75 ft + 28 ft = 46.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 5.55 ft	
Depth to water (TOC) = 5.35 ft	

Packer Test Data Collection Sheet

Well number	MW-13D	
Test No.	2	
Location	Muscarelle Property	
	Cs	60
	r	0.167
	h_1	8.55
	L	0.8549

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
930	15	42.2401	18.34133739	5111.5	2.7	0.012033	2.84303E-05	2.71867E-05
931	15	42.2401	18.34133739	5114.2	2.7	0.012033	2.84303E-05	
932	15	42.2401	18.34133739	5116.9	2.8	0.012478667	2.94833E-05	
933	15	42.2401	18.34133739	5119.7	2.5	0.011141667	2.63243E-05	
934	15	42.2401	18.34133739	5122.2	2.8	0.012478667	2.94833E-05	
935	15	42.2401	18.34133739	5125.0	2.5	0.011141667	2.63243E-05	
936	15	42.2401	18.34133739	5127.5	2.7	0.012033	2.84303E-05	
937	15	42.2401	18.34133739	5130.2	2.5	0.011141667	2.63243E-05	
938	15	42.2401	18.34133739	5132.7	2.8	0.012478667	2.94833E-05	
939	30	76.7851	33.34133739	5135.5	4.1	0.018272333	2.37492E-05	
940	30	76.7851	33.34133739	5139.6	3.9	0.017381	2.25907E-05	
941	30	76.7851	33.34133739	5143.5	4.5	0.020055	2.60662E-05	2.40388E-05
942	30	76.7851	33.34133739	5148.0	3.5	0.015598333	2.02737E-05	
943	30	76.7851	33.34133739	5151.5	4.0	0.017826667	2.317E-05	
944	30	76.7851	33.34133739	5155.5	4.0	0.017826667	2.317E-05	
945	30	76.7851	33.34133739	5159.5	3.5	0.015598333	2.02737E-05	
946	30	76.7851	33.34133739	5163.0	4.0	0.017826667	2.317E-05	
947	30	76.7851	33.34133739	5167.0	4.0	0.017826667	2.317E-05	
948	30	76.7851	33.34133739	5171.0	4.0	0.017826667	2.317E-05	
949	30	76.7851	33.34133739	5175.0	4.0	0.017826667	2.317E-05	
950	30	76.7851	33.34133739	5179.0	6.0	0.02674	3.4755E-05	
951	45	111.3301	48.34133739	5185.0	9.0	0.04011	3.59561E-05	3.13503E-05
952	45	111.3301	48.34133739	5194.0	8.2	0.036544667	3.276E-05	
953	45	111.3301	48.34133739	5202.2	8.3	0.036990333	3.31595E-05	
954	45	111.3301	48.34133739	5210.5	8.5	0.037881667	3.39585E-05	
955	45	111.3301	48.34133739	5219.0	8.0	0.035653333	3.1961E-05	
956	45	111.3301	48.34133739	5227.0	8.0	0.035653333	3.1961E-05	
957	46	113.6331	49.34133739	5235.0	7.5	0.033425	2.93561E-05	
958	48	118.2391	51.34133739	5242.5	8.0	0.035653333	3.00934E-05	
959	48	118.2391	51.34133739	5250.5	7.0	0.031196667	2.63317E-05	
1000	45	111.3301	48.34133739	5257.5	7.0	0.031196667	2.79658E-05	
1001	45	111.3301	48.34133739	5264.5	7.0	0.031196667	2.79658E-05	2.33049E-05
1002	45	111.3301	48.34133739	5271.5	7.0	0.031196667	2.79658E-05	
1003	45	111.3301	48.34133739	5278.5	7.0	0.031196667	2.79658E-05	
1004	45	111.3301	48.34133739	5285.5	7.0	0.031196667	2.79658E-05	
1005	45	111.3301	48.34133739	5292.5	7.0	0.031196667	2.79658E-05	
1006	45	111.3301	48.34133739	5299.5				
						K value for 28 to 34.6 feet is	**2.75771E-05**	

Packer Test Data Collection Sheet

WELL NUMBER MW-14D	
Date: 5-2-01	
Time test is started: 1229	
Location: AT&T Hancock Street	
Test No. 1	
Test Interval (feet). 42.9 to 49.2	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	7.97
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	43.9
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9539
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.439
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 40.9 _ft = 59.65 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 4.97 ft	
Depth to water (TOC) = 4.62 ft	

Packer Test Data Collection Sheet

Well number	MW-14D	
Test No.	1	
Location	AT&T Hancock Street	
	Cs	60
	r	0.167
	h_1	7.97
	L	0.9539

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1229	0	7.0161	3.046504559	2071.0	0	0		0
1230	0	7.0161	3.046504559	2071.0	0	0		
1231	0	7.0161	3.046504559	2071.0	0	0		
1232	15	41.5611	18.04650456	2071.0	0	0	0	
1233	15	41.5611	18.04650456	2071.0	0	0	0	
1234	15	41.5611	18.04650456	2071.0	0	0	0	
1235	15	41.5611	18.04650456	2071.0	0	0	0	
1236	15	41.5611	18.04650456	2071.0	0	0	0	
1237	20	53.0761	23.04650456	2071.0	0	0	0	
1238	20	53.0761	23.04650456	2071.0	0	0	0	
1239	20	53.0761	23.04650456	2071.0	0	0	0	
1240	20	53.0761	23.04650456	2071.0	0	0	0	0
1241	20	53.0761	23.04650456	2071.0	0	0	0	
1242	40	99.1361	43.04650456	2071.0	0	0	0	
1243	40	99.1361	43.04650456	2071.0	0	0	0	
1244	40	99.1361	43.04650456	2071.0	0	0	0	
1245	40	99.1361	43.04650456	2071.0	0	0	0	
1246	40	99.1361	43.04650456	2071.0	0	0	0	
1247	40	99.1361	43.04650456	2071.0	0	0	0	
1248	30	76.1061	33.04650456	2071.0	0	0	0	
1249	30	76.1061	33.04650456	2071.0	0	0	0	
1250	30	76.1061	33.04650456	2071.0	0	0	0	
1251	30	76.1061	33.04650456	2071.0	0	0	0	
1252	30	76.1061	33.04650456	2071.0				
						K value for 42.9 to 49.2 feet is	**0**	

Packer Test Data Collection Sheet

WELL NUMBER MW-14D	
Date: 5-2-01	
Time test is started: 1348	
Location: AT&T Hancock Street	
Test No. 2	
Test Interval (feet). 29.5 to 41	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	7.97
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	30.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8199
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.305
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 29.5 ft = 48.25 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 4.97 ft	
Depth to water (TOC) = 4.62 ft	

Packer Test Data Collection Sheet

Well number	MW-14D	
Test No.	2	
Location	AT&T Hancock Street	
	Cs	60
	r	0.167
	h_1	7.97
	L	0.9539

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1350	0	7.0161	3.046504559	2067.5	12.5	0.055708333	0.000792422	0.000212427
1351	15	41.5611	18.04650456	2080.0	11	0.049023333	0.000117719	
1352	15	41.5611	18.04650456	2091.0	12	0.05348	0.000128421	
1353	15	41.5611	18.04650456	2103.0	13.3	0.059273667	0.000142333	
1354	15	41.5611	18.04650456	2116.3	12.7	0.056599667	0.000135912	
1355	15	41.5611	18.04650456	2129.0	13	0.057936667	0.000139123	
1356	15	41.5611	18.04650456	2142.0	13	0.057936667	0.000139123	
1357	15	41.5611	18.04650456	2155.0	13	0.057936667	0.000139123	
1358	15	41.5611	18.04650456	2168.0	13	0.057936667	0.000139123	
1359	15	41.5611	18.04650456	2181.0	13	0.057936667	0.000139123	
1400	15	41.5611	18.04650456	2194.0	42	0.18718	0.000449474	
1403	15	41.5611	18.04650456	2236.0	14	0.062393333	0.000149825	
1404	15	41.5611	18.04650456	2250.0	14	0.062393333	0.000149825	
1405	15	41.5611	18.04650456	2264.0				
						K value for 29.5 to 41 feet is	**0.000212427**	

Packer Test Data Collection Sheet

WELL NUMBER MW-14D	
Date: 5-2-01	
Time test is started: 1413	
Location: AT&T Hancock Street	
Test No. 3	
Test Interval (feet). 30.5 to 42	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	7.97
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	31.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8299
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.315
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 30.5 ft = 49.25 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 4.97 ft	
Depth to water (TOC) = 4.62 ft	

Packer Test Data Collection Sheet

Well number MW-14D
Test No. 3
Location AT&T Hancock Street

Cs	60
r	0.167
h_1	7.97
L	0.9539

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1413	0	7.0161	3.046504559	2279.5	0	0	0	
1414	0	7.0161	3.046504559	2279.5	0	0	0	
1415	0	7.0161	3.046504559	2279.5	0.6	0.002674	3.80363E-05	
1416	15	41.5611	18.04650456	2280.1	0.5	0.002228333	5.35088E-06	4.92281E-06
1417	15	41.5611	18.04650456	2280.6	0.4	0.001782667	4.28071E-06	
1418	15	41.5611	18.04650456	2281.0	0.4	0.001782667	4.28071E-06	
1419	15	41.5611	18.04650456	2281.4	0.4	0.001782667	4.28071E-06	
1420	15	41.5611	18.04650456	2281.8	0.4	0.001782667	4.28071E-06	
1421	15	41.5611	18.04650456	2282.2	0.4	0.001782667	4.28071E-06	
1422	15	41.5611	18.04650456	2282.6	0.4	0.001782667	4.28071E-06	
1423	15	41.5611	18.04650456	2283.0	0.4	0.001782667	4.28071E-06	
1424	15	41.5611	18.04650456	2283.4	0.4	0.001782667	4.28071E-06	
1425	15	41.5611	18.04650456	2283.8	0.9	0.004011	9.63159E-06	
1426	40	99.1361	43.04650456	2284.7	0.9	0.004011	4.03788E-06	4.2622E-06
1427	40	99.1361	43.04650456	2285.6	1	0.004456667	4.48653E-06	
1428	40	99.1361	43.04650456	2286.60	0.95	0.004233833	4.2622E-06	
1429	40	99.1361	43.04650456	2287.55	0.95	0.004233833	4.2622E-06	
1430	40	99.1361	43.04650456	2288.50	0.9	0.004011	4.03788E-06	
1431	40	99.1361	43.04650456	2289.40	0.9	0.004011	4.03788E-06	
1432	40	99.1361	43.04650456	2290.30	0.9	0.004011	4.03788E-06	
1433	40	99.1361	43.04650456	2291.20	0.9	0.004011	4.03788E-06	
1434	40	99.1361	43.04650456	2292.10	0.9	0.004011	4.03788E-06	
1435	40	99.1361	43.04650456	2293.00	1.2	0.005348	5.38384E-06	
1436	60	145.1961	63.04650456	2294.20	1.8	0.008022	5.51391E-06	5.33887E-06
1437	60	145.1961	63.04650456	2296.00	2	0.008913333	6.12657E-06	
1438	60	145.1961	63.04650456	2298.00	2	0.008913333	6.12657E-06	
1439	60	145.1961	63.04650456	2300.00	2	0.008913333	6.12657E-06	
1440	60	145.1961	63.04650456	2302.00	2.45	0.010918833	7.50505E-06	
1441	60	145.1961	63.04650456	2304.45	1.95	0.0086905	5.97341E-06	
1442	40	99.1361	43.04650456	2306.40	1.9	0.008467667	8.52441E-06	9.15252E-06
1443	40	99.1361	43.04650456	2308.30	1.9	0.008467667	8.52441E-06	
1444	40	99.1361	43.04650456	2310.20	3.8	0.016935333	1.70488E-05	
1445	40	99.1361	43.04650456	2314.00	2.2	0.009804667	9.87037E-06	
1446	40	99.1361	43.04650456	2316.20	1.9	0.008467667	8.52441E-06	
1447	40	99.1361	43.04650456	2318.10	2	0.008913333	8.97306E-06	
1448	40	99.1361	43.04650456	2320.10	1.9	0.008467667	8.52441E-06	
1449	40	99.1361	43.04650456	2322.00	2	0.008913333	8.97306E-06	
1450	40	99.1361	43.04650456	2324.00	1.5	0.006685	6.7298E-06	
1451	40	99.1361	43.04650456	2325.50	1.3	0.005793667	5.83249E-06	
1452	15	41.5611	18.04650456	2326.80	1.3	0.005793667	1.39123E-05	1.41263E-05
1453	15	41.5611	18.04650456	2328.10	1.3	0.005793667	1.39123E-05	
1454	15	41.5611	18.04650456	2329.40	1.4	0.006239333	1.49825E-05	
1455	15	41.5611	18.04650456	2330.80	1.3	0.005793667	1.39123E-05	
1456	15	41.5611	18.04650456	2332.10	1.3	0.005793667	1.39123E-05	
1457	15	41.5611	18.04650456	2333.40				
						K value for 30.5 to 42 feet is	**7.48671E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-15D	
Date: 5-3-01	
Time test is started: 0825	
Location: NJ DMV	
Test No. 1	
Test Interval (feet). 51.7 to 58	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	4.65
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	52.7
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	1.0419
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.527
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 51.7 ft = 70.45 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 1.65 ft	
Depth to water (TOC) = 1.1 ft	

Packer Test Data Collection Sheet

Well number MW-15D
Test No. 1
Location

Cs	60
r	0.167
h_1	4.65
L	1.0419

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1340	0	3.6081	1.566695614	2422.50	1	0.004456667	0.000123272	
1341	25	61.1831	26.56669561	2423.50	0.3	0.001337	2.18088E-06	2.90784E-06
1342	25	61.1831	26.56669561	2423.80	0.5	0.002228333	3.6348E-06	
1343	25	61.1831	26.56669561	2424.30	0.4	0.001782667	2.90784E-06	
1344	26	63.4861	27.56669561	2424.70	0.35	0.001559833	2.45206E-06	2.68559E-06
1345	26	63.4861	27.56669561	2425.05	0.5	0.002228333	3.50295E-06	
1346	26	63.4861	27.56669561	2425.55	0.3	0.001337	2.10177E-06	
1347	26	63.4861	27.56669561	2425.85	0.35	0.001559833	2.45206E-06	
1348	26	63.4861	27.56669561	2426.20	0.3	0.001337	2.10177E-06	
1349	26	63.4861	27.56669561	2426.50	0.5	0.002228333	3.50295E-06	
1350	40	95.7281	41.56669561	2427.00	0.4	0.001782667	1.8585E-06	1.69256E-06
1351	40	95.7281	41.56669561	2427.40	0.3	0.001337	1.39388E-06	
1352	40	95.7281	41.56669561	2427.70	0.4	0.001782667	1.8585E-06	
1353	40	95.7281	41.56669561	2428.10	0.35	0.001559833	1.62619E-06	
1354	40	95.7281	41.56669561	2428.45	0.35	0.001559833	1.62619E-06	
1355	40	95.7281	41.56669561	2428.80	0.3	0.001337	1.39388E-06	
1356	40	95.7281	41.56669561	2429.10	0.45	0.0020055	2.09081E-06	
1357	60	141.7881	61.56669561	2429.55	0.45	0.0020055	1.41161E-06	1.03518E-06
1358	60	141.7881	61.56669561	2430.00	0.4	0.001782667	1.25477E-06	
1359	60	141.7881	61.56669561	2430.40	0.4	0.001782667	1.25477E-06	
1400	60	141.7881	61.56669561	2430.80	0.4	0.001782667	1.25477E-06	
1401	60	141.7881	61.56669561	2431.20	0	0	0	
1402	40	95.7281	41.56669561	2431.20	0.1	0.000445667	4.64625E-07	3.48469E-07
1403	40	95.7281	41.56669561	2431.30	0.06	0.0002674	2.78775E-07	
1404	40	95.7281	41.56669561	2431.36	0.09	0.0004011	4.18163E-07	
1405	40	95.7281	41.56669561	2431.45	0.05	0.000222833	2.32313E-07	
1406	26	63.4861	27.56669561	2431.50	0.1	0.000445667	7.0059E-07	7.0059E-07
1407	26	63.4861	27.56669561	2431.60	0.15	0.0006685	1.05088E-06	
1408	26	63.4861	27.56669561	2431.75	0.05	0.000222833	3.50295E-07	
1409	26	63.4861	27.56669561	2431.80	0.1	0.000445667	7.0059E-07	
1410	26	63.4861	27.56669561	2431.90	0.1	0.000445667	7.0059E-07	
1411	26	63.4861	27.56669561	2432.00	0.1	0.000445667	7.0059E-07	
1412	26	63.4861	27.56669561	2432.10				
						K value for 51.7 to 58 feet is	**5.33532E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-15D	
Date: 5-3-01	
Time test is started: 0921	
Location: NJ DMV	
Test No. 2	
Test Interval (feet). 40 to 46.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	4.65
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	41
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9249
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.41
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 43 ft = 61.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 1.65 ft	
Depth to water (TOC) = 1.1 ft	

Packer Test Data Collection Sheet

Well number MW-15D
Test No. 2
Location

Cs	60
r	0.167
h_1	4.65
L	1.0419

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1430	0	3.6081	1.566695614	2440.0	5.2	0.023174667	0.000641014	
1431	15	38.1531	16.56669561	2445.2	5.1	0.022729	5.94542E-05	
1432	16	40.4561	17.56669561	2450.3	5.2	0.023174667	5.71692E-05	5.63446E-05
1433	16	40.4561	17.56669561	2455.5	5	0.022283333	5.49703E-05	
1434	16	40.4561	17.56669561	2460.5	5	0.022283333	5.49703E-05	
1435	16	40.4561	17.56669561	2465.5	4.9	0.021837667	5.38709E-05	
1436	16	40.4561	17.56669561	2470.4	4.7	0.020946333	5.16721E-05	
1437	16	40.4561	17.56669561	2475.1	4.8	0.021392	5.27715E-05	
1438	16	40.4561	17.56669561	2479.9	4.8	0.021392	5.27715E-05	
1439	16	40.4561	17.56669561	2484.7	6.6	0.029414	7.25608E-05	
1440	30	72.6981	31.56669561	2491.3	6.5	0.028968333	3.97679E-05	
1441	30	72.6981	31.56669561	2497.8	6.7	0.029859667	4.09915E-05	4.11445E-05
1442	30	72.6981	31.56669561	2504.5	6.1	0.027185667	3.73207E-05	
1443	30	72.6981	31.56669561	2510.6	6.4	0.028522667	3.91561E-05	
1444	30	72.6981	31.56669561	2517.0	6.2	0.027631333	3.79325E-05	
1445	30	72.6981	31.56669561	2523.2	6.3	0.028077	3.85443E-05	
1446	30	72.6981	31.56669561	2529.5	6.3	0.028077	3.85443E-05	
1447	30	72.6981	31.56669561	2535.8	6	0.02674	3.67088E-05	
1448	30	72.6981	31.56669561	2541.8	9.8	0.043675333	5.99578E-05	
1449	60	141.7881	61.56669561	2551.6	9.9	0.044121	3.10555E-05	3.13299E-05
1450	60	141.7881	61.56669561	2561.5	9.4	0.041892667	2.9487E-05	
1451	60	141.7881	61.56669561	2570.9	9.1	0.040555667	2.85459E-05	
1452	60	141.7881	61.56669561	2580.0	4.5	0.020055	1.41161E-05	
1453	60	141.7881	61.56669561	2584.5	23	0.102503333	7.2149E-05	
1455	60	141.7881	61.56669561	2607.5	9.5	0.042338333	2.98007E-05	
1456	60	141.7881	61.56669561	2617.0	9.5	0.042338333	2.98007E-05	
1457	60	141.7881	61.56669561	2626.5	5	0.022283333	1.56846E-05	
1458	30	72.6981	31.56669561	2631.5	5.8	0.025848667	3.54852E-05	3.86462E-05
1459	30	72.6981	31.56669561	2637.3	5.5	0.024511667	3.36498E-05	
1500	30	72.6981	31.56669561	2642.8	5.7	0.025403	3.48734E-05	
1501	30	72.6981	31.56669561	2648.5	11.2	0.049914667	6.85232E-05	
1503	30	72.6981	31.56669561	2659.7	5.7	0.025403	3.48734E-05	
1504	30	72.6981	31.56669561	2665.4	4	0.017826667	2.44726E-05	
1505	16	40.4561	17.56669561	2669.4	4.1	0.018272333	4.50757E-05	4.41595E-05
1506	16	40.4561	17.56669561	2673.5	4	0.017826667	4.39763E-05	
1507	16	40.4561	17.56669561	2677.5	4	0.017826667	4.39763E-05	
1508	16	40.4561	17.56669561	2681.5	4	0.017826667	4.39763E-05	
1509	16	40.4561	17.56669561	2685.5	4.1	0.018272333	4.50757E-05	
1510	16	40.4561	17.56669561	2689.6	3.9	0.017381	4.28769E-05	
1511	16	40.4561	17.56669561	2693.5				
						K value for 40 to 46.3 feet is	**5.81442E-05**	

Packer Test Data Collection Sheet

Date:	11/9/00
Time test is started:	10:57
Location:	Pilot Hole MW-16D
Test No.	1
Well number:	Intersection of Sidney St. and Money St.
Interval (feet)	48-50
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	8.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	45.83
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9732
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.4583
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	2
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	44
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from T intersection to ground surface = 2.83'	
Ground surface to water table =7'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-16D
Test No. 1
Location Intersection of Sidney St. and Money St.

Cs	44
r	0.083
h_1	8.79
L	0.9732

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	42.3618	18.3941815	1444	1.1	0.004902333	3.16882E-05	2.04271E-05
0:30	15	42.3618	18.3941815	1445.1	0.6	0.002674	1.72845E-05	
1:00	15	42.3618	18.3941815	1445.7	0.7	0.003119667	2.01652E-05	
1:30	15	42.3618	18.3941815	1446.4	0.8	0.003565333	2.3046E-05	
2:00	15	42.3618	18.3941815	1447.2	0.6	0.002674	1.72845E-05	
2:30	15	42.3618	18.3941815	1447.8	0.7	0.003119667	2.01652E-05	
3:00	15	42.3618	18.3941815	1448.5	0.6	0.002674	1.72845E-05	
3:30	15	42.3618	18.3941815	1449.1	0.7	0.003119667	2.01652E-05	
4:00	15	42.3618	18.3941815	1449.8	0.5	0.002228333	1.44037E-05	
4:30	15	42.3618	18.3941815	1450.3	0.7	0.003119667	2.01652E-05	
5:00	15	42.3618	18.3941815	1451	0.8	0.003565333	2.3046E-05	
5:30	20	53.8768	23.3941815	1451.8	0.6	0.002674	1.35903E-05	1.49493E-05
6:00	20	53.8768	23.3941815	1452.4	0.6	0.002674	1.35903E-05	
6:30	20	53.8768	23.3941815	1453	0.7	0.003119667	1.58553E-05	
7:00	20	53.8768	23.3941815	1453.7	0.6	0.002674	1.35903E-05	
7:30	20	53.8768	23.3941815	1454.3	0.6	0.002674	1.35903E-05	
8:00	20	53.8768	23.3941815	1454.9	0.7	0.003119667	1.58553E-05	
8:30	20	53.8768	23.3941815	1455.6	0.7	0.003119667	1.58553E-05	
9:00	20	53.8768	23.3941815	1456.3	0.6	0.002674	1.35903E-05	
9:30	20	53.8768	23.3941815	1456.9	0.6	0.002674	1.35903E-05	
10:00	20	53.8768	23.3941815	1457.5	0.9	0.004011	2.03854E-05	
10:30	25	65.3918	28.3941815	1458.4	0.7	0.003119667	1.30633E-05	1.325E-05
11:00	25	65.3918	28.3941815	1459.1	0.9	0.004011	1.67957E-05	
11:30	25	65.3918	28.3941815	1460	0.7	0.003119667	1.30633E-05	
12:00	25	65.3918	28.3941815	1460.7	0.8	0.003565333	1.49295E-05	
12:30	25	65.3918	28.3941815	1461.5	0.8	0.003565333	1.49295E-05	
13:00	25	65.3918	28.3941815	1462.3	0.7	0.003119667	1.30633E-05	
13:30	25	65.3918	28.3941815	1463	0.8	0.003565333	1.49295E-05	
14:00	25	65.3918	28.3941815	1463.8	0.7	0.003119667	1.30633E-05	
14:30	25	65.3918	28.3941815	1464.5	0.9	0.004011	1.67957E-05	
15:00	25	65.3918	28.3941815	1465.4	0.1	0.000445667	1.86619E-06	
15:30	20	53.8768	23.3941815	1465.5	0.4	0.001782667	9.0602E-06	9.0602E-06
16:00	20	53.8768	23.3941815	1465.9	0.4	0.001782667	9.0602E-06	
16:30	20	53.8768	23.3941815	1466.3	0.3	0.001337	6.79515E-06	
17:00	20	53.8768	23.3941815	1466.6	0.4	0.001782667	9.0602E-06	
17:30	20	53.8768	23.3941815	1467	0.4	0.001782667	9.0602E-06	
18:00	20	53.8768	23.3941815	1467.4	0.4	0.001782667	9.0602E-06	
18:30	20	53.8768	23.3941815	1467.8	0.5	0.002228333	1.13252E-05	
19:00	20	53.8768	23.3941815	1468.3	0.5	0.002228333	1.13252E-05	
19:30	20	53.8768	23.3941815	1468.8	0.2	0.000891333	4.5301E-06	
20:00	20	53.8768	23.3941815	1469	0.5	0.002228333	1.13252E-05	
20:30	15	42.3618	18.3941815	1469.5	0.4	0.001782667	1.1523E-05	5.44141E-06
21:00	15	42.3618	18.3941815	1469.9	0	0	0	
21:30	15	42.3618	18.3941815	1469.9	0.1	0.000445667	2.88075E-06	
22:00	15	42.3618	18.3941815	1470	0.2	0.000891333	5.76149E-06	
22:30	15	42.3618	18.3941815	1470.2	0.1	0.000445667	2.88075E-06	
23:00	15	42.3618	18.3941815	1470.3	0.2	0.000891333	5.76149E-06	
23:30	15	42.3618	18.3941815	1470.5	0.3	0.001337	8.64224E-06	
0:00	15	42.3618	18.3941815	1470.8	0.1	0.000445667	2.88075E-06	
0:30	15	42.3618	18.3941815	1470.9	0.3	0.001337	8.64224E-06	
1:00	15	42.3618	18.3941815	1471.2				
						K value for 48 to 50 feet is	**1.29253E-05**	

Packer Test Data Collection Sheet

Date:	11/9/00
Time test is started:	11:40
Location:	Pilot Hole MW-16D
Test No.	2
Well number:	Intersection of Sidney St and Money St.
Interval (feet)	43-47.5
Variable to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	8.79
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from T intersection to top of cased packer	44.33
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9582
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.4433
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	2
r (ft)- Radius of the test hole in feet =	0.083
Cs - Conductivity Coefficient from figure 10-8 based on A/r	78
Notes:	
Ground surface to pressure gauge is 45.5 inches (3.79')	
Pipe from gauge to intake is 20.33' + 1.5' = 21.1'	
Pipe from T intersection to ground surface = 5.33'	
Ground surface to water table =5'	

Packer Test Data Collection Sheet

Well number Pilot Hole MW-16D
Test No. 2
Location Intersection of Sidney St. and Money St.

Cs	78
r	0.083
h_1	8.79
L	0.9582

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
0	15	42.3768	18.40069475	1472.5	0.9	0.004011	1.46201E-05	1.09282E-05
0:30	15	42.3768	18.40069475	1473.4	0.8	0.003565333	1.29957E-05	
1:00	15	42.3768	18.40069475	1474.2	0.5	0.002228333	8.12231E-06	
1:30	15	42.3768	18.40069475	1474.7	0.7	0.003119667	1.13712E-05	
2:00	15	42.3768	18.40069475	1475.4	0.6	0.002674	9.74677E-06	
2:30	15	42.3768	18.40069475	1476	0.6	0.002674	9.74677E-06	
3:00	15	42.3768	18.40069475	1476.6	0.6	0.002674	9.74677E-06	
3:30	15	42.3768	18.40069475	1477.2	0.6	0.002674	9.74677E-06	
4:00	15	42.3768	18.40069475	1477.8	0.7	0.003119667	1.13712E-05	
4:30	15	42.3768	18.40069475	1478.5	0.6	0.002674	9.74677E-06	
5:00	15	42.3768	18.40069475	1479.1	0.8	0.003565333	1.29957E-05	
5:30	20	53.8918	23.40069475	1479.9	0.4	0.001782667	5.10946E-06	5.6204E-06
6:00	20	53.8918	23.40069475	1480.3	0.5	0.002228333	6.38682E-06	
6:30	20	53.8918	23.40069475	1480.8	0.4	0.001782667	5.10946E-06	
7:00	20	53.8918	23.40069475	1481.2	0.4	0.001782667	5.10946E-06	
7:30	20	53.8918	23.40069475	1481.6	0.5	0.002228333	6.38682E-06	
8:00	20	53.8918	23.40069475	1482.1	0.4	0.001782667	5.10946E-06	
8:30	20	53.8918	23.40069475	1482.5	0.4	0.001782667	5.10946E-06	
9:00	20	53.8918	23.40069475	1482.9	0.3	0.001337	3.83209E-06	
9:30	20	53.8918	23.40069475	1483.2	0.4	0.001782667	5.10946E-06	
10:00	20	53.8918	23.40069475	1483.6	0.7	0.003119667	8.94155E-06	
10:30	25	65.4068	28.40069475	1484.3	0.4	0.001782667	4.20993E-06	4.20993E-06
11:00	25	65.4068	28.40069475	1484.7	0.5	0.002228333	5.26241E-06	
11:30	25	65.4068	28.40069475	1485.2	0.4	0.001782667	4.20993E-06	
12:00	25	65.4068	28.40069475	1485.6	0.5	0.002228333	5.26241E-06	
12:30	25	65.4068	28.40069475	1486.1	0.4	0.001782667	4.20993E-06	
13:00	25	65.4068	28.40069475	1486.5	0.4	0.001782667	4.20993E-06	
13:30	25	65.4068	28.40069475	1486.9	0.5	0.002228333	5.26241E-06	
14:00	25	65.4068	28.40069475	1487.4	0.4	0.001782667	4.20993E-06	
14:30	25	65.4068	28.40069475	1487.8	0.5	0.002228333	5.26241E-06	
15:00	25	65.4068	28.40069475	1488.3	0	0	0	
15:30	20	53.8918	23.40069475	1488.3	0	0	0	8.94155E-07
16:00	20	53.8918	23.40069475	1488.3	0	0	0	
16:30	20	53.8918	23.40069475	1488.3	0	0	0	
17:00	20	53.8918	23.40069475	1488.3	0.1	0.000445667	1.27736E-06	
17:30	20	53.8918	23.40069475	1488.4	0	0	0	
18:00	20	53.8918	23.40069475	1488.4	0.2	0.000891333	2.55473E-06	
18:30	20	53.8918	23.40069475	1488.6	0.1	0.000445667	1.27736E-06	
19:00	20	53.8918	23.40069475	1488.7	0.2	0.000891333	2.55473E-06	
19:30	20	53.8918	23.40069475	1488.9	0.1	0.000445667	1.27736E-06	
20:00	20	53.8918	23.40069475	1489	0	0	0	
20:30	15	42.3768	18.40069475	1489	0.1	0.000445667	1.62446E-06	7.94181E-06
21:00	15	42.3768	18.40069475	1489.1	0.5	0.002228333	8.12231E-06	
21:30	15	42.3768	18.40069475	1489.6	0.5	0.002228333	8.12231E-06	
22:00	15	42.3768	18.40069475	1490.1	0.6	0.002674	9.74677E-06	
22:30	15	42.3768	18.40069475	1490.7	0.6	0.002674	9.74677E-06	
23:00	15	42.3768	18.40069475	1491.3	0.6	0.002674	9.74677E-06	
23:30	15	42.3768	18.40069475	1491.9	0.4	0.001782667	6.49784E-06	
0:00	15	42.3768	18.40069475	1492.3	0.5	0.002228333	8.12231E-06	
0:30	15	42.3768	18.40069475	1492.8	0.6	0.002674	9.74677E-06	
1:00	15	42.3768	18.40069475	1493.4	0.5	0.002228333	8.12231E-06	
1:30	15	42.3768	18.40069475	1493.9	0.5	0.002228333	8.12231E-06	
2:00	15	42.3768	18.40069475	1494.4				
						K value for 43 to 47.5 feet is	**6.14107E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-17D	
Date: 5-2-01	
Time test is started: 0850	
Location: Mitchell Street	
Test No. 1	
Test Interval (feet). 28 to 39.5	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	8.75
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	29.5
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8099
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.295
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	11.5
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	95
Notes:	
Ground surface to pressure gauge is 3.5 feet.	
Pipe from gauge to top of test section is 19.25 ft + 28 ft = 47.25 ft	
Pipe from pressure gage to ground surface = 19.25 ft	
Depth to water (bgs) = 5.25 ft	
Depth to water (TOC) = 4.45 ft	

Packer Test Data Collection Sheet

Well number MW-17D
Test No. 1
Location

Cs	95
r	0.167
h_1	8.75
L	0.8099

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
847	0	7.9401	3.447720365	1590	0	0	0	6.29665E-05
850	0	7.9401	3.447720365	1590	5	0.022283333	0.000176894	
851	15	42.4851	18.44772036	1595	7	0.031196667	4.62841E-05	
852	15	42.4851	18.44772036	1602	9	0.04011	5.95081E-05	
853	15	42.4851	18.44772036	1611	9	0.04011	5.95081E-05	
854	15	42.4851	18.44772036	1620	9.5	0.042338333	6.28141E-05	
855	15	42.4851	18.44772036	1629.5	8.2	0.036544667	5.42185E-05	
856	15	42.4851	18.44772036	1637.7	8.8	0.039218667	5.81857E-05	
857	15	42.4851	18.44772036	1646.5	8.8	0.039218667	5.81857E-05	
858	15	42.4851	18.44772036	1655.3	8.9	0.039664333	5.88469E-05	
859	15	42.4851	18.44772036	1664.2	8.8	0.039218667	5.81857E-05	
900	15	42.4851	18.44772036	1673	11	0.049023333	7.27321E-05	5.73968E-05
901	20	54.0001	23.44772036	1684	10.5	0.046795	5.46216E-05	
902	20	54.0001	23.44772036	1694.5	10.5	0.046795	5.46216E-05	
903	20	54.0001	23.44772036	1705	10.5	0.046795	5.46216E-05	
904	20	54.0001	23.44772036	1715.5	10.5	0.046795	5.46216E-05	
905	20	54.0001	23.44772036	1726	10.5	0.046795	5.46216E-05	
906	20	54.0001	23.44772036	1736.5	10.7	0.047686333	5.56621E-05	
907	20	54.0001	23.44772036	1747.2	12.3	0.054817	6.39854E-05	
908	25	65.5151	28.44772036	1759.5	12.5	0.055708333	5.35968E-05	
909	25	65.5151	28.44772036	1772	12.8	0.057045333	5.48831E-05	
910	25	65.5151	28.44772036	1784.8	12.4	0.055262667	5.3168E-05	5.56988E-05
911	25	65.5151	28.44772036	1797.2	12.8	0.057045333	5.48831E-05	
912	25	65.5151	28.44772036	1810	12.7	0.056599667	5.44543E-05	
913	25	65.5151	28.44772036	1822.7	12.5	0.055708333	5.35968E-05	
914	25	65.5151	28.44772036	1835.2	12.8	0.057045333	5.48831E-05	
915	25	65.5151	28.44772036	1848	11.5	0.051251667	4.9309E-05	
916	20	54.0001	23.44772036	1859.5	11.5	0.051251667	5.98237E-05	
917	20	54.0001	23.44772036	1871	11.3	0.050360333	5.87833E-05	
918	20	54.0001	23.44772036	1882.3	11.5	0.051251667	5.98237E-05	
919	20	54.0001	23.44772036	1893.8	11.2	0.049914667	5.82631E-05	
920	20	54.0001	23.44772036	1905	11	0.049023333	5.72227E-05	6.05658E-05
921	20	54.0001	23.44772036	1916	11.2	0.049914667	5.82631E-05	
922	20	54.0001	23.44772036	1927.2	11.1	0.049469	5.77429E-05	
923	20	54.0001	23.44772036	1938.3	11.1	0.049469	5.77429E-05	
924	20	54.0001	23.44772036	1949.4	10	0.044566667	5.20206E-05	
925	15	42.4851	18.44772036	1959.4	9.7	0.043229667	6.41365E-05	
926	15	42.4851	18.44772036	1969.1	9.9	0.044121	6.54589E-05	
927	15	42.4851	18.44772036	1979	10	0.044566667	6.61201E-05	
928	15	42.4851	18.44772036	1989	9.5	0.042338333	6.28141E-05	
929	15	42.4851	18.44772036	1998.5	9.7	0.043229667	6.41365E-05	
930	15	42.4851	18.44772036	2008.2	9.8	0.043675333	6.47977E-05	6.47977E-05
931	15	42.4851	18.44772036	2018	9.8	0.043675333	6.47977E-05	
932	15	42.4851	18.44772036	2027.8	9.9	0.044121	6.54589E-05	
933	15	42.4851	18.44772036	2037.7	9.8	0.043675333	6.47977E-05	
934	15	42.4851	18.44772036	2047.5	9.7	0.043229667	6.41365E-05	
935	15	42.4851	18.44772036	2057.2				
						K value for 28 to 39.5 feet is	**6.1183E-05**	

Packer Test Data Collection Sheet

WELL NUMBER MW-18D	
Date: 5-3-01	
Time test is started: 0910	
Location: Ave. C	
Test No. 1	
Test Interval (feet). 47 to 53.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	4.4
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	48
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9949
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.48
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 47 ft = 65.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 1.4 ft	
Depth to water (TOC) = 1.05 ft	

Packer Test Data Collection Sheet

Well number MW-18D
Test No. 1
Location

Cs	60
r	0.167
h_1	4.4
L	0.9949

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
913	0	3.4051	1.478549718	2341.5	0.3	0.001337	3.91863E-05	
914	15	37.9501	16.47854972	2341.8	0.3	0.001337	3.51602E-06	
915	15	37.9501	16.47854972	2342.1	0.3	0.001337	3.51602E-06	
916	16	40.2531	17.47854972	2342.4	0.3	0.001337	3.31485E-06	3.09386E-06
917	16	40.2531	17.47854972	2342.7	0.2	0.000891333	2.2099E-06	
918	16	40.2531	17.47854972	2342.9	0.3	0.001337	3.31485E-06	
919	16	40.2531	17.47854972	2343.2	0.25	0.001114167	2.76238E-06	
920	16	40.2531	17.47854972	2343.45	0.35	0.001559833	3.86733E-06	
921	25	60.9801	26.47854972	2343.8	0.4	0.001782667	2.91752E-06	2.91752E-06
922	25	60.9801	26.47854972	2344.2	0.35	0.001559833	2.55283E-06	
923	25	60.9801	26.47854972	2344.55	0.3	0.001337	2.18814E-06	
924	25	60.9801	26.47854972	2344.85	0.35	0.001559833	2.55283E-06	
925	25	60.9801	26.47854972	2345.2	0.6	0.002674	4.37628E-06	
926	40	95.5251	41.47854972	2345.8	0.45	0.0020055	2.09526E-06	2.44447E-06
927	40	95.5251	41.47854972	2346.25	0.5	0.002228333	2.32806E-06	
928	40	95.5251	41.47854972	2346.75	0.5	0.002228333	2.32806E-06	
929	40	95.5251	41.47854972	2347.25	0.5	0.002228333	2.32806E-06	
930	40	95.5251	41.47854972	2347.75	0.4	0.001782667	1.86245E-06	
931	40	95.5251	41.47854972	2348.15	0.45	0.0020055	2.09526E-06	
932	40	95.5251	41.47854972	2348.6	0.4	0.001782667	1.86245E-06	
933	40	95.5251	41.47854972	2349.0	1	0.004456667	4.65613E-06	
934	60	141.5851	61.47854972	2350.0	1	0.004456667	3.14141E-06	2.788E-06
935	60	141.5851	61.47854972	2351.0	1	0.004456667	3.14141E-06	
936	60	141.5851	61.47854972	2352.0	0.9	0.004011	2.82727E-06	
937	60	141.5851	61.47854972	2352.9	0.95	0.004233833	2.98434E-06	
938	60	141.5851	61.47854972	2353.85	1.05	0.0046795	3.29848E-06	
939	60	141.5851	61.47854972	2354.9	0.95	0.004233833	2.98434E-06	
940	60	141.5851	61.47854972	2355.85	0.9	0.004011	2.82727E-06	
941	60	141.5851	61.47854972	2356.75	0.35	0.001559833	1.09949E-06	
942	40	95.5251	41.47854972	2357.1	0.4	0.001782667	1.86245E-06	2.00214E-06
943	40	95.5251	41.47854972	2357.5	0.45	0.0020055	2.09526E-06	
944	40	95.5251	41.47854972	2357.95	0.45	0.0020055	2.09526E-06	
945	40	95.5251	41.47854972	2358.4	0.4	0.001782667	1.86245E-06	
946	40	95.5251	41.47854972	2358.8	0.45	0.0020055	2.09526E-06	
947	41	97.8281	42.47854972	2359.25	0.45	0.0020055	2.04593E-06	1.76178E-06
948	41	97.8281	42.47854972	2359.7	0.45	0.0020055	2.04593E-06	
949	41	97.8281	42.47854972	2360.15	0.4	0.001782667	1.81861E-06	
950	41	97.8281	42.47854972	2360.55	0.25	0.001114167	1.13663E-06	
951	30	72.4951	31.47854972	2360.8	0.35	0.001559833	2.14734E-06	1.80224E-06
952	30	72.4951	31.47854972	2361.15	0.3	0.001337	1.84058E-06	
953	30	72.4951	31.47854972	2361.45	0.3	0.001337	1.84058E-06	
954	30	72.4951	31.47854972	2361.75	0.35	0.001559833	2.14734E-06	
955	30	72.4951	31.47854972	2362.1	0.3	0.001337	1.84058E-06	
956	30	72.4951	31.47854972	2362.4	0.3	0.001337	1.84058E-06	
957	30	72.4951	31.47854972	2362.7	0.3	0.001337	1.84058E-06	
958	30	72.4951	31.47854972	2363.0	0.15	0.0006685	9.20291E-07	
959	16	40.2531	17.47854972	2363.15	0.15	0.0006685	1.65743E-06	2.13098E-06
1000	16	40.2531	17.47854972	2363.3	0.25	0.001114167	2.76238E-06	
1001	16	40.2531	17.47854972	2363.55	0.15	0.0006685	1.65743E-06	
1002	16	40.2531	17.47854972	2363.7	0.2	0.000891333	2.2099E-06	
1003	16	40.2531	17.47854972	2363.9	0.2	0.000891333	2.2099E-06	
1004	16	40.2531	17.47854972	2364.1	0.2	0.000891333	2.2099E-06	
1005	16	40.2531	17.47854972	2364.3	0.2	0.000891333	2.2099E-06	
1006	16	40.2531	17.47854972	2364.5				
						K value for 47 to 53.3 feet is	**3.10429E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-18D	
Date: 5-3-01	
Time test is started: 1045	
Location:	
Test No. 2	
Test Interval (feet). 35 to 46.5	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	4.4
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	36
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8749
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.36
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	11.5
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	95
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 35 ft = 53.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 1.4 ft	
Depth to water (TOC) = 1.05 ft	

Packer Test Data Collection Sheet

Well number MW-18D
Test No. 2
Location

Cs	95
r	0.167
h_1	4.4
L	0.9949

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1045	0	3.4051	1.478549718	2366.5	1.2	0.005348	9.89969E-05	
1046	16	40.2531	17.47854972	2367.7	0.8	0.003565333	5.58291E-06	4.4198E-06
1047	16	40.2531	17.47854972	2368.5	0.7	0.003119667	4.88505E-06	
1048	16	40.2531	17.47854972	2369.2	0.8	0.003565333	5.58291E-06	
1049	16	40.2531	17.47854972	2370	0.5	0.002228333	3.48932E-06	
1050	16	40.2531	17.47854972	2370.5	0.7	0.003119667	4.88505E-06	
1051	16	40.2531	17.47854972	2371.2	0.55	0.002451167	3.83825E-06	
1052	16	40.2531	17.47854972	2371.75	0.55	0.002451167	3.83825E-06	
1053	16	40.2531	17.47854972	2372.3	0.55	0.002451167	3.83825E-06	
1054	16	40.2531	17.47854972	2372.85	0.45	0.0020055	3.14039E-06	
1055	16	40.2531	17.47854972	2373.3	0.5	0.002228333	3.48932E-06	
1056	16	40.2531	17.47854972	2373.8	0.5	0.002228333	3.48932E-06	
1057	16	40.2531	17.47854972	2374.3	1	0.004456667	6.97864E-06	
1058	30	72.4951	31.47854972	2375.3	1	0.004456667	3.87491E-06	3.82647E-06
1059	30	72.4951	31.47854972	2376.3	1	0.004456667	3.87491E-06	
1100	30	72.4951	31.47854972	2377.3	0.9	0.004011	3.48742E-06	
1101	30	72.4951	31.47854972	2378.2	0.9	0.004011	3.48742E-06	
1102	30	72.4951	31.47854972	2379.1	0.9	0.004011	3.48742E-06	
1103	30	72.4951	31.47854972	2380	0.9	0.004011	3.48742E-06	
1104	30	72.4951	31.47854972	2380.9	0.9	0.004011	3.48742E-06	
1105	30	72.4951	31.47854972	2381.8	1.4	0.006239333	5.42487E-06	
1106	45	107.0401	46.47854972	2383.2	1.4	0.006239333	3.67411E-06	3.30669E-06
1107	45	107.0401	46.47854972	2384.6	1.4	0.006239333	3.67411E-06	
1108	45	107.0401	46.47854972	2386	1.35	0.0060165	3.54289E-06	
1109	45	107.0401	46.47854972	2387.35	1.25	0.005570833	3.28045E-06	
1110	45	107.0401	46.47854972	2388.6	1.2	0.005348	3.14923E-06	
1111	45	107.0401	46.47854972	2389.8	1.2	0.005348	3.14923E-06	
1112	45	107.0401	46.47854972	2391	1.2	0.005348	3.14923E-06	
1113	45	107.0401	46.47854972	2392.2	1.2	0.005348	3.14923E-06	
1114	45	107.0401	46.47854972	2393.4	1.2	0.005348	3.14923E-06	
1115	45	107.0401	46.47854972	2394.6	1.2	0.005348	3.14923E-06	
1116	60	141.5851	61.47854972	2395.8	1.4	0.006239333	2.77767E-06	2.4503E-06
1117	60	141.5851	61.47854972	2397.2	1.4	0.006239333	2.77767E-06	
1118	60	141.5851	61.47854972	2398.6	1.3	0.005793667	2.57926E-06	
1119	60	141.5851	61.47854972	2399.9	1.3	0.005793667	2.57926E-06	
1120	60	141.5851	61.47854972	2401.2	1.2	0.005348	2.38086E-06	
1121	60	141.5851	61.47854972	2402.4	1.25	0.005570833	2.48006E-06	
1122	60	141.5851	61.47854972	2403.65	1.2	0.005348	2.38086E-06	
1123	60	141.5851	61.47854972	2404.85	1.2	0.005348	2.38086E-06	
1124	60	141.5851	61.47854972	2406.05	1.2	0.005348	2.38086E-06	
1125	60	141.5851	61.47854972	2407.25	0.9	0.004011	1.78564E-06	
1126	45	107.0401	46.47854972	2408.15	0.85	0.003788167	2.23071E-06	2.1651E-06
1127	45	107.0401	46.47854972	2409	0.9	0.004011	2.36192E-06	
1128	45	107.0401	46.47854972	2409.9	0.9	0.004011	2.36192E-06	
1129	45	107.0401	46.47854972	2410.8	0.9	0.004011	2.36192E-06	
1130	45	107.0401	46.47854972	2411.7	0.9	0.004011	2.36192E-06	
1131	45	107.0401	46.47854972	2412.6	0.5	0.002228333	1.31218E-06	
1132	30	72.4951	31.47854972	2413.1	0.7	0.003119667	2.71244E-06	2.32494E-06
1133	30	72.4951	31.47854972	2413.8	0.6	0.002674	2.32494E-06	
1134	30	72.4951	31.47854972	2414.4	0.6	0.002674	2.32494E-06	
1135	30	72.4951	31.47854972	2415	0.65	0.002896833	2.51869E-06	
1136	30	72.4951	31.47854972	2415.65	0.65	0.002896833	2.51869E-06	
1137	30	72.4951	31.47854972	2416.3	0.65	0.002896833	2.51869E-06	
1138	30	72.4951	31.47854972	2416.95	0.35	0.001559833	1.35622E-06	
1139	16	40.2531	17.47854972	2417.3	0.35	0.001559833	2.44252E-06	
1140	16	40.2531	17.47854972	2417.65	0.35	0.001559833	2.44252E-06	
1141	16	40.2531	17.47854972	2418				
						K value for 35 to 46.5 feet is	**3.01889E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-19D	
Date: 5-7-01	
Time test is started: 0840	
Location: lincoln	
Test No. 1	
Test Interval (feet). 31.7 to 38	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	12.23
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	32.7
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8419
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.327
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 31.7 ft = 50.45 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 9.23 ft	
Depth to water (TOC) = 9.00 ft	

Packer Test Data Collection Sheet

Well number MW-19D
Test No. 1
Location

Cs	60
r	0.167
h_1	12.23
L	0.8419

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
840	0	11.3881	4.944897959	2700.00	1.2	0.005348	4.68676E-05	
841	20	57.4481	24.94489796	2701.20	0.85	0.003788167	6.58091E-06	6.26887E-06
842	20	57.4481	24.94489796	2702.05	0.75	0.0033425	5.80668E-06	
843	20	57.4481	24.94489796	2702.80	0.9	0.004011	6.96802E-06	
844	21	59.7511	25.94489796	2703.70	0.9	0.004011	6.69945E-06	
845	21	59.7511	25.94489796	2704.60	0.9	0.004011	6.69945E-06	
846	21	59.7511	25.94489796	2705.50	0.8	0.003565333	5.95507E-06	
847	21	59.7511	25.94489796	2706.30	0.7	0.003119667	5.21068E-06	
848	40	103.5081	44.94489796	2707.00	1.45	0.006462167	6.23069E-06	
849	40	103.5081	44.94489796	2708.45	1.25	0.005570833	5.37128E-06	5.39814E-06
850	40	103.5081	44.94489796	2709.7	1.3	0.005793667	5.58614E-06	
851	40	103.5081	44.94489796	2711.0	1.15	0.005125167	4.94158E-06	
852	40	103.5081	44.94489796	2712.2	1.25	0.005570833	5.37128E-06	
853	40	103.5081	44.94489796	2713.4	1.2	0.005348	5.15643E-06	
854	40	103.5081	44.94489796	2714.6	1.2	0.005348	5.15643E-06	
855	40	103.5081	44.94489796	2715.8	1.2	0.005348	5.15643E-06	
856	40	103.5081	44.94489796	2717.0	1.5	0.006685	6.44554E-06	
857	56	140.3561	60.94489796	2718.5	1.52	0.006774133	4.81676E-06	5.1891E-06
858	56	140.3561	60.94489796	2720.0	1.78	0.007932867	5.64068E-06	
859	56	140.3561	60.94489796	2721.8	1.6	0.007130667	5.07027E-06	
900	56	140.3561	60.94489796	2723.4	1.7	0.007576333	5.38716E-06	
901	56	140.3561	60.94489796	2725.1	1.6	0.007130667	5.07027E-06	
902	56	140.3561	60.94489796	2726.7	1.6	0.007130667	5.07027E-06	
903	56	140.3561	60.94489796	2728.3	1.7	0.007576333	5.38716E-06	
904	56	140.3561	60.94489796	2730.0	1.6	0.007130667	5.07027E-06	
905	56	140.3561	60.94489796	2731.6	1.2	0.005348	3.8027E-06	4.57273E-06
906	40	103.5081	44.94489796	2732.8	1.2	0.005348	5.15643E-06	
907	40	103.5081	44.94489796	2734.0	1.2	0.005348	5.15643E-06	
908	40	103.5081	44.94489796	2735.2	1.2	0.005348	5.15643E-06	
909	40	103.5081	44.94489796	2736.4	1.2	0.005348	5.15643E-06	
910	40	103.5081	44.94489796	2737.6	0.7	0.003119667	3.00792E-06	
911	21	59.7511	25.94489796	2738.3	0.7	0.003119667	5.21068E-06	5.21068E-06
912	21	59.7511	25.94489796	2739.0	0.7	0.003119667	5.21068E-06	
913	21	59.7511	25.94489796	2739.7	0.7	0.003119667	5.21068E-06	
914	21	59.7511	25.94489796	2740.4	0.7	0.003119667	5.21068E-06	
915	21	59.7511	25.94489796	2741.1	0.7	0.003119667	5.21068E-06	
916	21	59.7511	25.94489796	2741.8				
917	21			2742.5		**K value for 31.7 to 38 feet is**	**6.53351E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-19D	
Date: 5-7-01	
Time test is started: 0940	
Location:	
Test No. 2	
Test Interval (feet). 20 to 26.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	12.23
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	36.75
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8824
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.3675
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 20 ft = 38.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 9.23 ft	
Depth to water (TOC) = 9.00 ft	

Packer Test Data Collection Sheet

Well number MW-19D
Test No. 2
Location

Cs	60
r	0.167
h_1	12.23
L	0.8419

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
940	0	11.3881	4.944897959	2756.00	2.5	0.011141667	9.76408E-05	3.53036E-05
941	15	45.9331	19.94489796	2758.50	-4.9	-0.021837667	-4.74474E-05	
943	15	45.9331	19.94489796	2753.60	3	0.01337	2.90495E-05	
944	15	45.9331	19.94489796	2756.60	3.2	0.014261333	3.09861E-05	
945	15	45.9331	19.94489796	2759.80	3.2	0.014261333	3.09861E-05	
946	15	45.9331	19.94489796	2763.00	3.2	0.014261333	3.09861E-05	
947	15	45.9331	19.94489796	2766.20	3.1	0.013815667	3.00178E-05	
948	15	45.9331	19.94489796	2769.30	5.9	0.026294333	5.71306E-05	
949	25	68.9631	29.94489796	2775.20	6.4	0.028522667	4.12768E-05	
950	25	68.9631	29.94489796	2781.60	6.7	0.029859667	4.32116E-05	
951	25	68.9631	29.94489796	2788.30	6.9	0.030751	4.45015E-05	
952	25	68.9631	29.94489796	2795.20	7.6	0.033870667	4.90162E-05	5.8568E-05
953	25	68.9631	29.94489796	2802.80	7.7	0.034316333	4.96611E-05	
954	25	68.9631	29.94489796	2810.50	7.7	0.034316333	4.96611E-05	
955	25	68.9631	29.94489796	2818.20	7.8	0.034762	5.03061E-05	
956	25	68.9631	29.94489796	2826.00	7.8	0.034762	5.03061E-05	
957	25	68.9631	29.94489796	2833.80	7.7	0.034316333	4.96611E-05	
958	25	68.9631	29.94489796	2841.50	12.5	0.055708333	8.06187E-05	
959	35	91.9931	39.94489796	2854.00	13.8	0.061502	6.67216E-05	
1000	35	91.9931	39.94489796	2867.80	4.9	0.021837667	2.3691E-05	
1001	35	91.9931	39.94489796	2872.70	24	0.10696	0.000116038	
1002	35	91.9931	39.94489796	2896.70	13.7	0.061056333	6.62381E-05	7.32487E-05
1003	35	91.9931	39.94489796	2910.40	15.8	0.070415333	7.63914E-05	
1004	35	91.9931	39.94489796	2926.20	14.7	0.065513	7.1073E-05	
1005	35	91.9931	39.94489796	2940.90	15.5	0.069078333	7.49409E-05	
1006	35	91.9931	39.94489796	2956.40	14.7	0.065513	7.1073E-05	
1007	35	91.9931	39.94489796	2971.10	15.7	0.069969667	7.59079E-05	
1008	35	91.9931	39.94489796	2986.80	15.2	0.067741333	7.34904E-05	
1009	35	91.9931	39.94489796	3002.00	15.2	0.067741333	7.34904E-05	
1010	35	91.9931	39.94489796	3017.20	14.9	0.066404333	7.204E-05	
1011	35	91.9931	39.94489796	3032.10	16.1	0.071752333	7.78418E-05	
1012	35	91.9931	39.94489796	3048.20	15.8	0.070415333	7.63914E-05	8.4278E-05
1013	35	91.9931	39.94489796	3064.00	15.7	0.069969667	7.59079E-05	
1014	35	91.9931	39.94489796	3079.70	15.8	0.070415333	7.63914E-05	
1015	35	91.9931	39.94489796	3095.50	15.8	0.070415333	7.63914E-05	
1016	35	91.9931	39.94489796	3111.30	12.9	0.057491	6.23702E-05	
1017	25	68.9631	29.94489796	3124.20	12	0.05348	7.73939E-05	
1018	25	68.9631	29.94489796	3136.20	12.6	0.056154	8.12636E-05	
1019	25	68.9631	29.94489796	3148.80	24.4	0.108742667	0.000157368	
1021	25	68.9631	29.94489796	3173.20	12.4	0.055262667	7.99737E-05	
1022	25	68.9631	29.94489796	3185.60	12.3	0.054817	7.93288E-05	
1023	25	68.9631	29.94489796	3197.90	12.2	0.054371333	7.86838E-05	7.76978E-05
1024	25	68.9631	29.94489796	3210.10	12.2	0.054371333	7.86838E-05	
1025	25	68.9631	29.94489796	3222.30	12.3	0.054817	7.93288E-05	
1026	25	68.9631	29.94489796	3234.60	7.7	0.034316333	4.96611E-05	
1027	15	45.9331	19.94489796	3242.30	7.7	0.034316333	7.45603E-05	
1028	14	43.6301	18.94489796	3250.00	8.4	0.037436	8.56319E-05	
1029	15	45.9331	19.94489796	3258.40	8.8	0.039218667	8.52117E-05	
1030	15	45.9331	19.94489796	3267.20	8.7	0.038773	8.42434E-05	
1031	15	45.9331	19.94489796	3275.90	8.6	0.038327333	8.32751E-05	
1032	15	45.9331	19.94489796	3284.50	8.7	0.038773	8.42434E-05	
1033	15	45.9331	19.94489796	3293.20	8.6	0.038327333	8.32751E-05	
1034	15	45.9331	19.94489796	3301.80	-3301.8			

K value for 26.5 to 31 feet is **6.56939E-05**

Packer Test Data Collection Sheet

WELL NUMBER MW-19DD	
Date: 5-7-01	
Time test is started: 1215	
Location:	
Test No. 1	
Test Interval (feet). 62 to 68.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	11.55
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	63
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	1.1449
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.63
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 62 ft = 80.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 8.55 ft	
Depth to water (TOC) = 8.14 ft	

Packer Test Data Collection Sheet

Well number MW-19DD
Test No. 1
Location

Cs	60
r	0.167
h_1	11.55
L	1.1449

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
825	0	10.4051	4.518063396	5030.0	0.1	0.000445667	4.27461E-06	
826	21	58.7681	25.5180634	5030.1	0.3	0.001337	2.2705E-06	2.1759E-06
827	21	58.7681	25.5180634	5030.4	0.3	0.001337	2.2705E-06	
828	21	58.7681	25.5180634	5030.7	0.3	0.001337	2.2705E-06	
829	21	58.7681	25.5180634	5031.0	0.2	0.000891333	1.51367E-06	
830	21	58.7681	25.5180634	5031.2	0.3	0.001337	2.2705E-06	
831	21	58.7681	25.5180634	5031.5	0.3	0.001337	2.2705E-06	
832	21	58.7681	25.5180634	5031.8	0.25	0.001114167	1.89209E-06	
833	21	58.7681	25.5180634	5032.1	0.35	0.001559833	2.64892E-06	
834	40	102.5251	44.5180634	5032.4	0.35	0.001559833	1.51838E-06	1.73529E-06
835	40	102.5251	44.5180634	5032.8	0.35	0.001559833	1.51838E-06	
836	40	102.5251	44.5180634	5033.1	0.5	0.002228333	2.16911E-06	
837	40	102.5251	44.5180634	5033.6	0.3	0.001337	1.30147E-06	
838	40	102.5251	44.5180634	5033.9	0.35	0.001559833	1.51838E-06	
839	40	102.5251	44.5180634	5034.3	0.35	0.001559833	1.51838E-06	
840	40	102.5251	44.5180634	5034.6	0.35	0.001559833	1.51838E-06	
841	40	102.5251	44.5180634	5035.0	0.65	0.002896833	2.81985E-06	
842	56	139.3731	60.5180634	5035.6	0.7	0.003119667	2.23389E-06	2.15411E-06
843	56	139.3731	60.5180634	5036.3	0.7	0.003119667	2.23389E-06	
844	56	139.3731	60.5180634	5037.0	0.7	0.003119667	2.23389E-06	
845	56	139.3731	60.5180634	5037.7	0.7	0.003119667	2.23389E-06	
846	56	139.3731	60.5180634	5038.4	0.8	0.003565333	2.55302E-06	
847	56	139.3731	60.5180634	5039.2	0.7	0.003119667	2.23389E-06	
848	56	139.3731	60.5180634	5039.9	0.7	0.003119667	2.23389E-06	
849	56	139.3731	60.5180634	5040.6	0.4	0.001782667	1.27651E-06	
850	40	102.5251	44.5180634	5041.0	0.4	0.001782667	1.73529E-06	1.51838E-06
851	40	102.5251	44.5180634	5041.4	0.4	0.001782667	1.73529E-06	
852	40	102.5251	44.5180634	5041.8	0.4	0.001782667	1.73529E-06	
853	40	102.5251	44.5180634	5042.2	0.4	0.001782667	1.73529E-06	
854	40	102.5251	44.5180634	5042.6	0.4	0.001782667	1.73529E-06	
855	40	102.5251	44.5180634	5043.0	0.1	0.000445667	4.33823E-07	
856	22	61.0711	26.5180634	5043.1	0.1	0.000445667	7.28294E-07	1.31093E-06
857	22	61.0711	26.5180634	5043.2	0.2	0.000891333	1.45659E-06	
858	22	61.0711	26.5180634	5043.4	0.2	0.000891333	1.45659E-06	
859	22	61.0711	26.5180634	5043.6	0.2	0.000891333	1.45659E-06	
900	22	61.0711	26.5180634	5043.8	0.2	0.000891333	1.45659E-06	
901	22	61.0711	26.5180634	5044.0				
						K value for 26.5 to 31 feet is	**1.90172E-06**	

Packer Test Data Collection Sheet

WELL NUMBER MW-19DD	
Date: 5-7-01	
Time test is started: 1315	
Location:	
Test No. 2	
Test Interval (feet). 54.7 to 61	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	11.55
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	55.7
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	1.0719
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.557
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 54.7 ft = 73.45 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 8.55 ft	
Depth to water (TOC) = 8.14 ft	

Packer Test Data Collection Sheet

Well number MW-19DD
Test No. 2
Location

Cs	60
r	0.167
h_1	11.55
L	1.1449

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1315	0	10.4051	4.518063396	3312.7	0.4	0.001782667	1.70984E-05	2.19333E-06
1316	25	67.9801	29.5180634	3313.1	0.2	0.000891333	1.30855E-06	
1317	25	67.9801	29.5180634	3313.3	0.2	0.000891333	1.30855E-06	
1318	25	67.9801	29.5180634	3313.5	0.1	0.000445667	6.54275E-07	
1319	25	67.9801	29.5180634	3313.6	0.1	0.000445667	6.54275E-07	
1320	25	67.9801	29.5180634	3313.7	0.05	0.000222833	3.27138E-07	
1321	25	67.9801	29.5180634	3313.75	0.075	0.00033425	4.90707E-07	
1322	25	67.9801	29.5180634	3313.825	0.075	0.00033425	4.90707E-07	
1323	25	67.9801	29.5180634	3313.9	0.125	0.000557083	8.17844E-07	
1324	40	102.5251	44.5180634	3314.025	0.125	0.000557083	5.42278E-07	
1325	40	102.5251	44.5180634	3314.15	0.1	0.000445667	4.33823E-07	
1326	40	102.5251	44.5180634	3314.25	0.15	0.0006685	6.50734E-07	5.23301E-07
1327	40	102.5251	44.5180634	3314.4	0.1	0.000445667	4.33823E-07	
1328	40	102.5251	44.5180634	3314.5	0.1	0.000445667	4.33823E-07	
1329	40	102.5251	44.5180634	3314.6	0.1	0.000445667	4.33823E-07	
1330	40	102.5251	44.5180634	3314.7	0.2	0.000891333	8.67645E-07	
1331	40	102.5251	44.5180634	3314.9	0.125	0.000557083	5.42278E-07	
1332	60	148.5851	64.5180634	3315.025	0.175	0.000779917	5.23848E-07	
1333	60	148.5851	64.5180634	3315.2	0.15	0.0006685	4.49012E-07	
1334	60	148.5851	64.5180634	3315.35	0.15	0.0006685	4.49012E-07	
1335	60	148.5851	64.5180634	3315.5	0.15	0.0006685	4.49012E-07	
1336	60	148.5851	64.5180634	3315.65	0.15	0.0006685	4.49012E-07	2.44678E-07
1337	40	102.5251	44.5180634	3315.8	0.15	0.0006685	6.50734E-07	
1338	60	148.5851	64.5180634	3315.95	0.05	0.000222833	1.49671E-07	
1339	60	148.5851	64.5180634	3316	0.05	0.000222833	1.49671E-07	
1340	60	148.5851	64.5180634	3316.05	0.05	0.000222833	1.49671E-07	
1341	60	148.5851	64.5180634	3316.1	0.05	0.000222833	1.49671E-07	
1342	60	148.5851	64.5180634	3316.15	0.075	0.00033425	2.24506E-07	
1343	60	148.5851	64.5180634	3316.225	0.075	0.00033425	2.24506E-07	
1344	60	148.5851	64.5180634	3316.3	0.05	0.000222833	1.49671E-07	
1345	60	148.5851	64.5180634	3316.35	0.05	0.000222833	1.49671E-07	
1346	60	148.5851	64.5180634	3316.4	0.1	0.000445667	2.99342E-07	4.49012E-08
1347	60	148.5851	64.5180634	3316.5	0.05	0.000222833	1.49671E-07	
1348	60	148.5851	64.5180634	3316.55	0	0	0	
1349	40	102.5251	44.5180634	3316.55	0	0	0	
1350	40	102.5251	44.5180634	3316.55	0	0	0	
1351	40	102.5251	44.5180634	3316.55	0	0	0	
1352	40	102.5251	44.5180634	3316.55	0	0	0	
1353	40	102.5251	44.5180634	3316.55	0	0	0	
1354	40	102.5251	44.5180634	3316.55	0	0	0	
1355	40	102.5251	44.5180634	3316.55	0	0	0	
1356	40	102.5251	44.5180634	3316.55	0	0	0	-0.002098393
1357	40	102.5251	44.5180634	3316.55	0	0	0	
1358	25	67.9801	29.5180634	3316.55	0	0	0	
1359	25	67.9801	29.5180634	3316.55	0	0	0	
1400	25	67.9801	29.5180634	3316.55	0	0	0	
1401	25	67.9801	29.5180634	3316.55	0	0	0	
1402	25	67.9801	29.5180634	3316.55	0	0	0	
1403	25	67.9801	29.5180634	3316.55	-2888.75	-12.87419583	-0.018900382	
0:30	15	44.9501	19.5180634	427.8	1.5	0.006685	1.48424E-05	
1:00	15	44.9501	19.5180634	429.3				
						K value for 26.5 to 31 feet is	**-0.000377066**	

Packer Test Data Collection Sheet

WELL NUMBER MW-20D	
Date: 5-9-01	
Time test is started: 1310	
Location: Parkway	
Test No. 1	
Test Interval (feet). 43 to 49.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	12.4
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	44
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.9549
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.44
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: $H = h_1 + h_2 - L$ =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 43 ft = 61.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 9.4 ft	
Depth to water (TOC) = 9.2 ft	

Packer Test Data Collection Sheet

Well number MW-20D
Test No. 1
Location

Cs	60
r	0.167
h_1	12.4
L	0.9549

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1310	22	62.1111	26.96964828	4349.3	7.8	0.034762	5.58557E-05	5.53783E-05
1311	22	62.1111	26.96964828	4357.1	7.9	0.035207667	5.65718E-05	
1312	22	62.1111	26.96964828	4365.0	7.5	0.033425	5.37074E-05	
1313	23	64.4141	27.96964828	4372.5	7.5	0.033425	5.17872E-05	5.1442E-05
1314	23	64.4141	27.96964828	4380.0	7.5	0.033425	5.17872E-05	
1315	23	64.4141	27.96964828	4387.5	7.3	0.032533667	5.04062E-05	
1316	23	64.4141	27.96964828	4394.8	7.5	0.033425	5.17872E-05	
1317	35	92.0501	39.96964828	4402.3	10.2	0.045458	4.92854E-05	5.90096E-05
1318	35	92.0501	39.96964828	4412.5	10.2	0.045458	4.92854E-05	
1319	35	92.0501	39.96964828	4422.7	10.4	0.046349333	5.02518E-05	
1320	35	92.0501	39.96964828	4433.1	20.6	0.091807333	9.95372E-05	
1322	35	92.0501	39.96964828	4453.7	10	0.044566667	4.8319E-05	
1323	35	92.0501	39.96964828	4463.7	10.1	0.045012333	4.88022E-05	
1324	35	92.0501	39.96964828	4473.8	13	0.057936667	6.28147E-05	
1325	35	92.0501	39.96964828	4486.8	13.2	0.058828	6.37811E-05	
1326	47	119.6861	51.96964828	4500.0	13.3	0.059273667	4.94254E-05	4.63905E-05
1327	47	119.6861	51.96964828	4513.3	13.3	0.059273667	4.94254E-05	
1328	47	119.6861	51.96964828	4526.6	13.4	0.059719333	4.9797E-05	
1329	47	119.6861	51.96964828	4540.0	13.3	0.059273667	4.94254E-05	
1330	47	119.6861	51.96964828	4553.3	11	0.049023333	4.08782E-05	
1331	47	119.6861	51.96964828	4564.3	10.6	0.047240667	3.93917E-05	
1332	35	92.0501	39.96964828	4574.9	10.9	0.048577667	5.26677E-05	4.88022E-05
1333	35	92.0501	39.96964828	4585.8	10.7	0.047686333	5.17014E-05	
1334	35	92.0501	39.96964828	4596.5	10.8	0.048132	5.21845E-05	
1335	35	92.0501	39.96964828	4607.3	10.7	0.047686333	5.17014E-05	
1336	35	92.0501	39.96964828	4618.0	10.8	0.048132	5.21845E-05	
1337	35	92.0501	39.96964828	4628.8	8.4	0.037436	4.0588E-05	
1338	35	92.0501	39.96964828	4637.2	8.4	0.037436	4.0588E-05	
1339	23	64.4141	27.96964828	4645.6	8.4	0.037436	5.80017E-05	5.80017E-05
1340	23	64.4141	27.96964828	4654.0	8.4	0.037436	5.80017E-05	
1341	23	64.4141	27.96964828	4662.4	8.4	0.037436	5.80017E-05	
1342	23	64.4141	27.96964828	4670.8	8.4	0.037436	5.80017E-05	
1343	23	64.4141	27.96964828	4679.2				
						K value for 26.5 to 31 feet is	**5.29983E-05**	

Packer Test Data Collection Sheet

WELL NUMBER MW-20D	
Date: 5-9-01	
Time test is started: 1400	
Location:	
Test No. 2	
Test Interval (feet). 33 to 39.3	
Variables to be recorded at location:	
h_1 (ft) - Distance in feet from pressure gauge to water table =	12.4
h_2 (ft) - Gauge pressure in feet (1 psi = 2.303 ft): =	See page 3
Distance (ft) from of pressure gage to top of upper packer	34
L (ft) - Head loss in pipe due to fiction in feet. Use length of pipe from between gauge and top of test section for computation (see head loss diagrams) =	0.8549
Head loss in NQ pipe per 10 foot section based on flow of 5 gal/min	0.34
Head loss in Schedule 40 steel pipe based on flow of 5 gal/min	0.4009
Head loss in Standard Tee (equal to six feet of sch 40)	0.114
H (ft) - effective head: H = h_1 + h_2 -L =	See page 3
NOTE: Make sure your pumping pressure is greater than your effective head by 5 psi.	
A (ft) - Length of test section (distance between bottom of top packer and top of bottom packer in feet =	6.3
r (ft)- Radius of the test hole in feet =	0.167
Cs - Conductivity Coefficient from figure 10-8 based on A/r	60
Notes:	
Ground surface to pressure gauge is 3 feet.	
Pipe from gauge to top of test section is 18.75 ft + 33 ft = 51.75 ft	
Pipe from pressure gage to ground surface = 18.75 ft	
Depth to water (bgs) = 9.4 ft	
Depth to water (TOC) = 9.2 ft	

Packer Test Data Collection Sheet

Well number	MW-20D	
Test No.	2	
Location		
	Cs	60
	r	0.167
	h_1	12.4
	L	0.9549

Time (min)	Pressure (psi)	Pressure (ft), H	Pressure (psi), H	Totalizer or flow rate (gal/min)	Flow rate (gal/min), Q	Flow rate (ft^3/sec), Q	Coefficient of permeability, K	Coefficient of permeability per pressure segment, K
1400	0	11.4451	4.969648285	4680.5	9.5	0.042338333	0.000369187	
1401	16	48.2931	20.96964828	4690.0	8.4	0.037436	7.73636E-05	7.11008E-05
1402	16	48.2931	20.96964828	4698.4	7.9	0.035207667	7.27586E-05	
1403	16	48.2931	20.96964828	4706.3	7.4	0.032979333	6.81536E-05	
1404	16	48.2931	20.96964828	4713.7	6.7	0.029859667	6.17067E-05	
1405	16	48.2931	20.96964828	4720.4	7.7	0.034316333	7.09166E-05	
1406	16	48.2931	20.96964828	4728.1	7.1	0.031642333	6.53907E-05	
1407	16	48.2931	20.96964828	4735.2	7	0.031196667	6.44697E-05	
1408	16	48.2931	20.96964828	4742.2	7	0.031196667	6.44697E-05	
1409	16	48.2931	20.96964828	4749.2	7.1	0.031642333	6.53907E-05	
1410	16	48.2931	20.96964828	4756.3	10.9	0.048577667	0.000100388	
1411	26	71.3231	30.96964828	4767.2	11.3	0.050360333	7.04678E-05	7.38197E-05
1412	26	71.3231	30.96964828	4778.5	11.3	0.050360333	7.04678E-05	
1413	26	71.3231	30.96964828	4789.8	11.3	0.050360333	7.04678E-05	
1414	26	71.3231	30.96964828	4801.1	11.2	0.049914667	6.98442E-05	
1415	26	71.3231	30.96964828	4812.3	11.4	0.050806	7.10914E-05	
1416	26	71.3231	30.96964828	4823.7	11.3	0.050360333	7.04678E-05	
1417	26	71.3231	30.96964828	4835.0	11	0.049023333	6.8597E-05	
1418	26	71.3231	30.96964828	4846.0	15.9	0.070861	9.91538E-05	
1419	36	94.3531	40.96964828	4861.9	16.1	0.071752333	7.58948E-05	8.57156E-05
1420	36	94.3531	40.96964828	4878.0	16.5	0.073535	7.77804E-05	
1421	36	94.3531	40.96964828	4894.5	32.8	0.146178667	0.000154618	
1423	36	94.3531	40.96964828	4927.3	16.3	0.072643667	7.68376E-05	
1424	36	94.3531	40.96964828	4943.6	16.4	0.073089333	7.7309E-05	
1425	36	94.3531	40.96964828	4960.0	11	0.049023333	5.18536E-05	
1426	22	62.1111	26.96964828	4971.0	31.2	0.139048	0.000223423	
1429	26	71.3231	30.96964828	5002.2	10.4	0.046349333	6.48553E-05	5.44618E-05
1430	26	71.3231	30.96964828	5012.6	10.6	0.047240667	6.61025E-05	
1431	26	71.3231	30.96964828	5023.2	5.2	0.023174667	3.24277E-05	
1432	16	48.2931	20.96964828	5028.4	5.1	0.022729	4.69708E-05	4.83522E-05
1433	16	48.2931	20.96964828	5033.5	5.3	0.023620333	4.88127E-05	
1434	16	48.2931	20.96964828	5038.8	5.2	0.023174667	4.78917E-05	
1435	16	48.2931	20.96964828	5044.0	5.3	0.023620333	4.88127E-05	
1436	16	48.2931	20.96964828	5049.3	5.3	0.023620333	4.88127E-05	
1437	16	48.2931	20.96964828	5054.6	5.3	0.023620333	4.88127E-05	
1438	16	48.2931	20.96964828	5059.9				
						K value for 26.5 to 31 feet is	**8.17705E-05**	

APPENDIX H
AQUIFER TEST INFORMATION

APPENDIX H

1.0 INTRODUCTION

An aquifer test was conducted in monitoring well PW-1S to calculate the Transmissivity and Specific Yield of the overburden at the MISS as described in Section 2.2.3. The test was conducted according to 'Groundwater Remedial Investigation Pump Test Work Plan' (Stone & Webster Environmental Technology & Services, April 2001). Prior to the aquifer test, background measurements were collected in PW-1S and other monitoring wells and piezometers to determine if any corrections to the water level measurements were necessary because they were affected by outside influences such as, recharge from precipitation, atmospheric pressure changes, or regional water level trends. These corrections are necessary because the Transmissivity of an aquifer is calculated with the drawdown in an observation well and drawdown must be directly proportional to the pumping rate for the Transmissivity to be accurate. Therefore, it is important to distinguish between water level changes that are due to pumping and water level changes due to recharge from precipitation, barometric changes, or regional trends.

Descriptions of monitoring well and piezometer installation, and operation of the aquifer test are discussed in Section 1.0. The changes due to recharge from precipitation, barometric changes, or regional trends are discussed in Section 2.0. A step drawdown test was conducted in well PW-1S to select the pumping rate for the aquifer test and estimate the Transmissivity and Specific Yield of the overburden. The step drawdown test is discussed in Section 3.0. An aquifer test was conducted and analyzed with methods by Theis, Cooper-Jacob, and Neuman. The aquifer test is discussed in Section 4.0. Water levels measured after the pump was turned off were analyzed by the Theis Recovery method. This analysis is described in Section 5.0. A summary of the results is presented in Section 6.0. The results of this aquifer test were compared to the results of the aquifer test conducted at the Stepan site in Section 7.0.

2.0 MONITORING WELL INSTALLATION AND AQUIFER TEST SETUP

This section describes the methods of installation of monitoring well PW-1S and piezometers specifically installed for the aquifer test. In addition to PW-1S piezometers specifically installed for the aquifer test include OVPZ-9 to OVPZ-18. The locations of PW-1S and these piezometers are shown on Figure 1.

Overburden and bedrock observation wells were installed to monitor water levels during the pumping test (Section 2.4.3). In addition, one bedrock and one overburden test (pumping) well were installed. The installation procedures are described below.

2.1 Installation of Overburden Observation Wells

Ten overburden piezometers were installed to facilitate the implementation of the overburden aquifer test. All piezometers were installed using a direct-push drill rig. Continuous macro-core soil samples were collected to bedrock to evaluate overburden

stratigraphy. A discrete interval sample tool was used to counteract borehole instability, which frequently occurred just before encountering bedrock. Overburden monitoring well boring logs and as-built diagrams are provided in Appendix J.

After encountering bedrock, a 2-inch diameter steel casing was installed with a sacrificial tip. The 1-inch diameter PVC screen and riser were placed into the casing. The top of the riser was then tapped with a hammer to dislodge the sacrificial tip, and the casing was removed. The borehole annulus was filled with Morie No. 0 sand. A bentonite seal and a 2-foot surface seal with a flushmount were used to complete each piezometer in a manner similar to the overburden monitoring wells.

The overburden pumping well (PW-1S) was installed and constructed in a manner similar to the overburden monitoring wells (wash rotary), with the exception of drilling a larger diameter borehole (8-inch) and using a larger diameter well screen and casing (4-inch).

Upon completion of the aquifer pumping test, all of the overburden piezometers were abandoned, except for PW-1S and OVPZ-17. These two piezometers were retained for subsequent sample collection.

2.2 Development of Overburden Observation Wells

Monitoring well development was initiated a minimum of 24 hours after well installation was completed. After each monitoring well was opened, the headspace was field screened for VOCs with a PID. The depth to water and depth to bottom were measured with a water level indicator to calculate the volume of water in the well. All data were recorded on the USACE well development logs (Appendix L).

A whale pump was used to develop overburden monitoring wells. The pump was also used as a surge device to bring sediments that had settled on the bottom of the well into suspension for subsequent removal. During the initial phase of development, the wells were pumped at a relatively high rate to draw down the water level as far as possible. The pump was shut off, and the water level in the well was allowed to recover. The well was then pumped at a sustainable rate to remove the required volume and to achieve turbidity readings under 50 Nepholometric Turbidity Units (NTUs). A Horiba Model U-10 was used to monitor water quality parameters (pH, temperature, conductivity, and turbidity). The depth to water, color, and volume were also monitored and recorded on the well development log (Appendix L).

Either a 2-inch submersible pump or two whale pumps in sequence were used to develop the bedrock wells. However several bedrock wells had substantial volumes of sediment at the bottom of the open borehole. In these instances, the drill rig was used to flush out the sediment from the bedrock wells with fresh water. The water was pumped to the well bottom through drill rods, collected in a mud tub, and discharged into drums.

Upon completion of this process, the wells were pumped to remove three times the water loss plus three well volumes. A Horiba Model U-10 was used to monitor water quality parameters, which were recorded on the well development log (Appendix L).

2.3 Setup For Overburden Aquifer Test

This section describes the physical setup of equipment for the test. The pump, flow control and metering in PW-1S was as follows:

- A 'Grundfos' 3-inch diameter 6-stage, 0.25 HP electro-submersible pump was set at 21.1 feet below the top of the 4-inch diameter riser pipe (20.93 feet below ground surface). The pump was located within the 4-inch diameter screen.
- A vertical 2-inch diameter 22-feet long discharge pipe, with a 90^0 elbow at the well head was attached to the top of the pump. An 'In-Situ, Inc.' "PXD-261®" 4-20mA transducer was strapped to the discharge pipe.
- From the elbow, a leveled 2-inch diameter 3-feet long discharges pipe, with a ball valve 0.7 feet downstream of the elbow.
- An inline electronic/digital instantaneous and cumulative/totaling flow meter ('John Ernst Co. Inc., "Commercial Grade Flowmeter" Model # A104GNN100NJ1, Lot # 31804N100). These meters were purchased new and calibrated at Klieban Machinery Company, Nassau County, New York. The original calibration sheets were provided to the Stone & Webster Team. The meters could not be field calibrated, however the time to fill a 5-gallon bucket compared closely to the readings from the meters.
- A leveled 2-inch diameter 2.65 feet long discharges pipe.
- A backup inline new factory calibrated electronic/digital instantaneous and cumulative/totaling flow meter meter ('John Ernst Co. Inc., "Commercial Grade Flowmeter" Model # A104GNN100NJ1).
- A leveled 2-inch diameter 2-feet long discharges pipe, with sampling port.
- The water was piped to a temporary holding tank, tested and used for dust suppression on the MISS (not during the duration of the test).

A summary of PW-1S construction and pump installation is in the following table:

Depth Below Top of 4-inch PVC Riser	**Item**
-0.17	Ground surface
3.5	Top of Screen
21	"PXD-261" Pressure Transducer Sensor
21.1	Top of Pump
22	Pump Inlet
23.5	Base of Screen

Water level measurements were collected using 'In-Situ, Inc.' "PXD-261®" 4-20mA transducer arrays connected to "Hermit-3000®" data loggers and "miniTroll®" stand-alone data loggers. The "Hermit-3000®" data loggers also recorded barometric pressure measurements. Manual measured water levels were collected using electric water level indicators ('Solinst Canada Limited', and 'Slope Indicator Company,) and recorded in field notebooks and data sheets.

Support equipment included a 'Honda 5500K' generator to power the electro-submersible pump, and an 'Ingersol-Rand TM' lighting plant with four halogen lights. A 30 cubic yard roll-off tank lined with plastic sheeting was used for temporary water containment.

3.0 BACKGROUND MEASUREMENTS

This section describes methods used to correct water level measurements affected by precipitation, changes in atmospheric pressure, and regional water level trends. Since the Transmissivity of an aquifer is calculated using the rate of water level decline, differentiating between the water level changes due to pumping and water level changes due to weather systems passing through the area, recharge from precipitation, and regional water level trends is necessary. From June 8 to July 12, 2001, water levels in observation wells and continuous barometric readings were recorded as follows:

1. Background groundwater level measurements, June 8 to June 13, 2001. Water levels were collected from PW-1S, OVPZ-9, OVPZ-10, OVPZ-12, OVPZ-13, OVPZ-15, OVPZ-16, and BRPZ-9.
2. Background groundwater level measurements, June 18 to June 25, 2001. A total of 21 observation wells were used. The additional wells were; OVPZ-11, OVPZ-14, OVPZ-17, BRPZ-4, BRPZ-6, MISS-3A, MISS-5A, MISS-6A, MISS-7A, MW-9S, MW-9D, B38W19S, and B38W19D.

Tables 1 and 2 show the schedules for the collection of water levels during the step drawdown test, aquifer test, and recovery test. Rainfall measurements were recorded daily from an on-site rainfall gage while hourly rainfall records were obtained for Teterboro Airport. Figure 2 shows the location of wells monitored for the aquifer test.

3.1 Precipitation

The precipitation measurements collected during the background monitoring are shown on Figure 3. Rainfall totaled 0.04-inches on June 11, 1.05-inches on June 17, 0.01 on June 20, and 0.21-inches on June 21, 0.22-inches on June 22, and 0.72-inches on June 23, 2001 before the start of the aquifer test. The data on Figures 4 through 11 show that the water levels in some of the overburden observation wells were affected by the precipitation events. However, the water levels in the overburden observation wells had risen to their maximum amount before the start of the aquifer test. Therefore, no correction to the water levels measured during the aquifer test is necessary as a result of the precipitation events.

3.2 Barometric Pressure

Barometric pressure measurements were collected during the background monitoring as shown on Figure 3. The barometric pressure was moderately low (33.6 ft/water) at the beginning of the monitored period (June 8), increased to a maximum (34.2 ft/water) on June 26 during the aquifer test and then decreased through the remainder of the test. Within this general trend, diurnal barometric fluctuations were recorded. The maximum

diurnal pressures occurred from late morning through early to mid afternoon. Minimum diurnal pressures occurred between approximately 03:00 and 07:00 hours. The data on Figures 4 through 11 show that water levels in overburden and bedrock wells were not affected by changes in barometric pressure during the aquifer test. Therefore, no barometric corrections were made to the aquifer test data.

3.3 Regional Water Level Trends

The data on Figures 4 through 11 show a regional decline of the water table during the aquifer test. Water levels collected from offsite wells MW-9S, MW-9D, and B38W17A (Figure 8) shows a 0.07 feet per day decline in the water during the aquifer test. Thus, the water levels collected during the aquifer test were affected by the regional decline in the water table and were corrected by applying a 0.07 feet/day (0.003 feet/hour) correction factor to the water levels collected during the aquifer test and recovery test.

4.0 STEP DRAWDOWN TEST

On June 13, 2001, from 09:00 hours to 13:35 hours a step-drawdown test was conducted in PW-1S to determine the pumping rate for the aquifer test and estimate the Transmissivity and Specific Yield of the aquifer. The step drawdown test consisted of four 60-minute steps of progressively higher pumping rates as follows:

1. Step 1. 3.8 gallons per minute (gpm), for 60 minutes.
2. Step 2. 6.0 gallons per minute (gpm), for 60 minutes.
3. Step 3. 8.2 gallons per minute (gpm), for 60 minutes.
4. Step 4. 10.4 gallons per minute (gpm), for 60 minutes.

Water level measurements were collected at a logarithmic frequency from the start of each step with 'In-Situ, Inc.' "PXD-261®" 4-20mA transducers connected to "Hermit-3000®" data loggers and "miniTroll®" stand-alone data loggers. Water levels were collected from PW-1S, OVPZ-10, OVPZ-12, OVPZ-13, OVPZ-15, OVPZ-16, and MISS-6A. Manual water level measurements were also collected in PW-1S, OVPZ-9, OVPZ-10, OVPZ-12, OVPZ-13, OVPZ-15, OVPZ-16, and BRPZ-9 at the frequency shown on Table 1.

The flow rate from PW-1S was measured and recorded according to the frequency shown on Table 1. The average flow rate of each step was calculated by dividing the total gallons pumped by the elapsed time of the test.

Water level data from PW-1S was plotted on semi-logarithmic graph paper during the step drawdown test to determine the pumping rate of each successive step. Four progressively increasing pumping rates of 3.8, 6.0, 8.2, and 10.4 gpm were used during the step drawdown test. Thirty-six and a half minutes into Step 4 (215.5 minutes total elapsed time) the pumping water level approached the top of the pump and the pump was turned off.

The water levels collected from PW-1S during the step drawdown test were plotted on semi-logarithmic graph paper, as shown on Figure 12. The drawdown during the first step was extended to determine the drawdown that would have occurred at the end of 72 hours. The drawdown during Steps 2, 3 and 4 were corrected for the drawdown during pervious steps. This is necessary to determine the amount of drawdown that would have occurred if the test were started at the pumping rate of each step. This is shown on Figure 12. This figure shows that a conservative pumping rate of 3 gpm for the aquifer test would cause approximately 4 feet of drawdown at the end of 72 hours. This amount of drawdown would dewater approximately one-third of the aquifer.

The water levels measured in the observation wells were also used to calculate the Transmissivity and Specific Yield of the aquifer. The Transmissivity and Specific Yield were calculated using the Copper-Jacob and Theis methods. The data used for each analysis was corrected for the amount of dewatering that occurred during the test using Equation (1).

$$s' = s - (s^2/2m) \qquad (1)$$

Where: s' = corrected drawdown that would occur in an equivalent confined aquifer, in feet
s = observed drawdown in an unconfined aquifer, in feet
m = aquifer thickness, in feet.

4.1 Cooper-Jacob Method (Time-Drawdown Analysis)

The corrected drawdown (dewatering) versus time was plotted on semi-logarithmic plots are shown on Figures 12 through 18 for the pumping well PW-1S and the following observation wells OVPZ-10, OVPZ-12, OVPZ-13, OVPZ-15, OVPZ-16, and MISS-6A. The time (t) at which 'u' is less than 0.02 was calculated for each well using Equation (1). This is necessary because the Cooper-Jacob equation is a modification to the Theis equation and Copper-Jacob noted that this modification is only valid when "u" is less than 0.02. Therefore, only the water levels measured after this time were used in this analysis. This equation shows that the data from PW-1S and observation wells OVPZ-12, OVPZ-15, and OVPZ-16 cannot be used for this analysis. This was because the time when 'u' is less than or equal to 0.02 is either after the first step has ended, or occurs just before the end of the step.

A straight line was drawn through the water levels that correspond to a time greater than that calculated with Equation (2). The slope of this line through one log cycle for each well was inserted into Equation (3) with the pumping rate to calculate the Transmissivity. The Transmissivity of the aquifer was used in Equation (4) with the time that corresponds to the slope of the line intersecting zero drawdown (t_o) to calculate the Specific Yield of the aquifer. This analysis was conducted using the computer program Aquiferwin 32.

$$t = 1.35 \times 10^5 \, r^2 \, S / T \qquad (2)$$

Where: T = Transmissivity, in gpd/ft
S = Specific Yield (demensionless)
r = radial distance from the observation well to the pumping well, in feet
t = time after pumping started that the Cooper-Jacob equation is valid, in minutes

$$T = 264 \, Q / \Delta s \qquad (3)$$

$$S = T \, t_o / 4790 \, r^2 \qquad (4)$$

Where: T = Transmissivity, in gpd/ft
Q = Pumping rate, in gpm
s = drawdown through one log cycle, in feet
S = Storativity (dimensionless)
r = intersection of the time drawdown slope with the zero drawdown axis, in feet
t_o = time when zero drawdown is reached with the slope drawdown, in minutes.

The results, summarized on Table 3, show that the Transmissivity ranges from 1,200 gpd/ft to 3,000 gpd/ft with a geometric mean of 1,800 gpd/ft and the Specific Yield ranges from 0.0014 to 0.0004 with a geometric mean of 0.001. The Transmissivity values have been rounded to two significant figures to reflect the level of accuracy of the method.

4.2 Theis Method

The water level data was also analyzed with the Theis method. The corrected drawdown verses time was plotted on logarithmic graph paper and used to calculate the Transmissivity and Specific Yield (Figures 19 through 22). These charts were used with the Theis type curve to determine W(u), u, s, and t. These values for s and W(u) were used in Equation (5) to calculate the Transmissivity. The values for u and t were used in Equation (6) to calculate the Specific Yield. This analysis was done using the computer program Aquiferwin 32.

$$T = 114.6 \, Q / s \, W(u) \qquad (5)$$

$$S = T \, t / 2693 \, r^2 \, u \qquad (6)$$

Where: T = Transmissivity, in gpd/ft
S = Storativity, (dimensionless)
Q = pumping rate, in gpm
s = drawdown, in feet
t = time, in minutes
W(u) = Well Function
$u = 2693\ r^2\ S/\ T\ t.$

The results, summarized on Table 3, show that the Transmissivity ranges from 1,100 to 3,000 gpd/ft with a geometric mean of 1,700 gpd/ft and the Specific Yield ranges from 0.001 to 0.0004 with a geometric mean of 0.001. The Transmissivity values have been rounded to two significant figures to reflect the level of accuracy of the method.

5.0 AQUIFER TEST

On June 25, 2001 at 12:00 hours, an aquifer test was conducted in PW-1S. Water level measurements were collected at a logarithmic frequency with data loggers for the duration of the test (72 hours) from 21 wells. Water levels were also measured manually at all monitored wells. Groundwater was pumped from PW-1S at an average constant rate of 3.14 gpm during the aquifer test. The pumping rate was measured manually according to the frequency in Table 2.

During the course of the test, between 09:00 hours and 10:30 hours of June 27, 2001, construction activities at the MISS affected water levels. Approximately 118 feet northeast of PW-1S and near monitoring well MISS-6A, a trench was dug removing soil and groundwater. Therefore, the water levels collected from MISS-6A were affected by construction activities and therefore the data from MISS-6A was not used for the aquifer test analysis.

Water level data from observation wells were hand plotted as the test progressed to monitor water levels in all observation wells. The manual data was compared to the electronic data to determine the accuracy of the electronic data. The results show that the electronic data from OVPZ-13 did not match the manually collected data. Therefore, the manually collected data from this well was used during the analysis.

The following overburden observation wells were selected for aquifer test analysis, as water levels in these wells were affected by pumping from PW-1S:

1. North-south array; OVPZ-9, OVPZ-10, OVPZ-11, OVPZ-15 and OVPZ-17.
2. East-west array; OVPZ-12, OVPZ-13, and OVPZ-16.

Changes in water levels in other overburden wells were either too small to be accurate or could not be attributed to pumping. The water levels in OVPZ-14 were not used during the analysis because there is considerable fluctuation of the water level before the start of the test.

The water levels collected during the aquifer test were evaluated with the Copper-Jacob, Theis, and Neuman methods (Figures 23 through 34). However, a review of the data shows that the characteristic delayed yield response that is expected in a water table aquifer was not seen at all wells. The drawdown of a water table aquifer typically has three parts. The first part or initial drawdown is similar to the drawdown in a confined aquifer because the water is released from storage due to the compaction of the aquifer, expansion of the water, and a small amount of gravity drainage. The second part of the drawdown in an unconfined aquifer is the delayed yield portion where the slope of the drawdown is less than it would be if it were a confined aquifer. Sometimes this is a flat line where the pumping rate is equaled by the amount of recharge provided by the gravity drainage. However, in this case the gravity drainage is very small because of the fine-grained nature of the material. Instead of a flat line, the gravity drainage is represented by a drawdown that is less than what would be expected if it occurred in a confined aquifer. The final part of the drawdown returns to the shape of the Theis curve because the gravity drainage is over and horizontal groundwater flow returns. Because the Neuman solution considers the delayed yield response and was developed specifically for overburden aquifer analysis, the data generated from the Neuman solution is presented in the summary of this Appendix and on Table 3-9 of this Report.

5.1 Correction for Area Wide Water Level Decline

The water level data from each observation well was corrected for the regional decline in the water level in the overburden. This was done by subtracting 0.07 feet per day or 0.003 feet per hour from the water level measurements from each well (PZ-1S, OVPZ-9, OVPZ-10, OVPZ-11, OVPZ-12, OVPZ-13, OVPZ-15, OVPZ-16, and OVPZ-17).

5.2 Cooper-Jacob Method (Time-Drawdown Analysis)

The corrected drawdown (dewatering and regional decline) versus time was plotted on semi-logarithmic plots and is shown on Figures 23 through 28 and Figures 30 and 32 for the following observation wells: PW-1S, OVPZ-9, OVPZ-10, OVPZ-11, OVPZ-12, OVPZ-13, and OVPZ-15. The time (t) at which 'u' is less than 0.02 was calculated for each well using Equation (2). This is necessary because the Cooper-Jacob equation is a modification to the Theis equation and Copper-Jacob noted that this modification is only valid when "u" is less than 0.02. Therefore, only the water levels measured after this time were used in this analysis.

A straight line was drawn through the water levels that correspond to a time greater than that calculated with Equation (2). The slope of this line through one log cycle for each well was inserted into Equation (3) with the pumping rate to calculate the Transmissivity. The Transmissivity of the aquifer was used in Equation (4) with the time that corresponds to the slope of the line intersecting zero drawdown (t_o) to calculate the Specific Yield of the overburden. This was done using a computer program called Aquiferwin 32.

The results summarized on Table 3, show that the Transmissivity ranges from 1,100 gpd/ft to 2,500 gpd/ft with a geometric mean of 1,800 gpd/ft and the Specific Yield

ranges from 0.001 to 0.00008 with a geometric mean of 0.001. The Transmissivity values have been rounded to two significant figures to reflect the level of accuracy of the method.

5.3 Cooper-Jacob Method (Distance-Drawdown Analysis)

The water level data from the aquifer test were also plotted on semi-logarithmic graph paper with the drawdown in each well at 100 minutes verses the distance the observation well is from the pumping well. One hundred minutes was selected because water levels at this time were not affected by delayed drainage of the overburden. The results were plotted with the observation wells in the North-South Array and the East-West Array on Figure 35.

A straight line was drawn through the water levels. The slope of this line through one log cycle for each well was inserted into Equation (7) with the pumping rate to calculate the Transmissivity. The Transmissivity of the aquifer was used in Equation (8) with the time that corresponds to the slope of the line intersecting zero drawdown (r_o) to calculate the Specific Yield of the aquifer.

$$T = 528\ Q / \Delta s \qquad (7)$$

$$S = T\ t / 4790\ r_o^2 \qquad (8)$$

Where:
T = Transmissivity, in gpd/ft
Q = Pumping rate, in gpm
Δs = drawdown in one log cycle, in feet
S = Storativity, (dimensionless)
r_o = radial distance at the x-intercept of zero drawdown, in feet
t = time, in minutes.

The results show that the Transmissivity ranges from 1,200 gpd/ft to 1,300 gpd/ft and the Specific Yield ranges from 0.0003 to 0.0006. The Transmissivity values have been rounded to two significant figures to reflect the level of accuracy of the method. This data shows that material is isotropic in that the Transmissivity does not change with the direction of movement from the pumping well.

5.4 Theis Method

The water level data from observation wells PW-1S, OVPZ-11, OVPZ-13, OVPZ-13, OVPZ-15, OVPZ-15, OVPZ-16, and OVPZ-17 was also analyzed with the Theis method. The corrected drawdown verses time was plotted on logarithmic graph paper and used to calculate the Transmissivity and Specific Yield (Figures 23, 26, 28, 29, 31, 33, and 34). Observation well BRPZ-9 is constructed in the bedrock aquifer. Therefore, the data from

this well was not analyzed. However, this data is presented on Figure 34 to show that the bedrock aquifer was affected when the pumping the overburden. These charts were used with the Theis type curve to determine W(u), u, s, and t using a computer program called Aquiferwin 32. The values for s and W(u) were used in Equation (5) to calculate the Transmissivity. The values for u and t were used in Equation (6) to calculate the Specific Yield.

The results summarized on Table 3, show that the Transmissivity ranges from 1,500 to 3,500 gpd/ft with a geometric mean of 2,200 gpd/ft. The Specific Yield ranges from 0.003 to 0.0004 with a geometric mean of 0.001. The Transmissivity calculated for OVPZ-9 was not included in this summary because the Transmissivity and Specific Yield are unrealistically high. The Transmissivity values have been rounded to two significant figures to reflect the level of accuracy of the method.

5.5 Neuman Delayed Yield Method

The water level measurements from OVPZ-9, OVPZ-10, OVPZ-12, OVPZ-15, and OVPZ-16 were also analyzed with the Neuman Delayed Yield method. The corrected water level measurements from the pumping well (PZ-1S) and the observation wells were plotted on logarithmic graph paper, as shown on Figures 24, 25, 27, 29, and 31. Each plot was superimposed over match curves developed by Neuman, keeping the axes parallel, until the position was found where most of the plotted water levels early in the test fall on the type curve. This was done using a computer program called Aquiferwin 32. A match point was selected noting the values for $W(u_A)$, β, 1/u, s, and t. These values were inserted into Equation (9) with the discharge rate to calculate the Transmissivity of the overburden. The Transmissivity, time, distance to the pumping well, and u_A, were used in Equation (10) to calculate the Specific Yield of the overburden.

$$T = \frac{114.6\ Q\ W(u_A, \beta)}{s} \qquad (9)$$

$$S = \frac{0.0004\ T\ t}{u_A\ r^2} \qquad (10)$$

Where:
- T = Transmissivity, in gpd/ft
- S = volume of water instantaneously released from storage per unit surface area per unit decline in head, (dimensionless)
- Q = discharge, in gpm
- s = drawdown, in feet
- t = time, in minutes
- r = distance from pumping well, in feet
- $W(u_A, \beta)$ = Well function.

The results summarized on Table 3 show that the Transmissivity ranged from 1,200 to 1,500 gpd/ft with a geometric mean of 1,300 gpd/ft and the Specific Yield ranged from 0.01 to 0.051 with a geometric mean of 0.034. The Transmissivity values have been rounded to two significant figures to reflect the level of accuracy of the method. The late data (or third part of the unconfined drawdown plot) collected during the aquifer test was not analyzed when there was no definitive characteristic third part to the drawdown curves (OVPZ-11, OVPZ-13, and OVPZ-17).

6.0 RECOVERY TEST

On June 28, 2001 at 12:00 hours, the recovery test started. After 72 hours of pumping, the pump in PW-1S was shut off and the recovery of the groundwater level was monitored. Continuous groundwater level measurements were collected for 81 hours from OVPZ-9, OVPZ-10, OVPZ-11, OVPZ-12, OVPZ-13, OVPZ-15, OVPZ-16, and OVPZ17. The recovery data collected from MISS-6A was not used because the drawdown was affected by the nearby construction.

The recovery data was analyzed with the Theis Recovery Method. The corrected drawdown was used to calculate the residual drawdown for the pumping well (PZ-1S) and each observation well according to the Theis Recovery method. Residual drawdown versus time was plotted on semi-logarithmic graph paper as shown on Figures 36 through 39. A straight line was drawn through the middle portion of the data and used to calculate the Transmissivity. The slope of the straight line was used in Equation (11) to calculate the Transmissivity.

$$T = 264\ Q / \Delta s \qquad (11)$$

Where: T = Transmissivity, in gpd/ft
Q = Pumping Rate, in gpm
s = drawdown through one log cycle, in feet.

The results summarized in Table 3 show that the Transmissivity ranges from 1,400 to 2,900 gpd/ft with a geometric mean of 1,800 gpd/ft.

7.0 SUMMARY OF RESULTS

An area wide decline in water levels occurred through the constant rate pumping and recovery phases of the test. Both the overburden and bedrock aquifer were affected. For example, the corrected drawdown values for overburden piezometers OVPZ-12 and OVPZ-13 were 1.77 feet and 0.70 feet, respectively. The corrected drawdown in the adjacent bedrock piezometers BRPZ-9 was 0.3 feet. This suggests that there was limited communication between the overburden and bedrock aquifers during the pumping test.

Drawdown due to pumping of PW-1S was noted in the observation wells of the north-south and east-west array (Figure 40). These included:

1. North-south array; OVPZ-9, OVPZ-10, OVPZ-11, OVPZ-15 and OVPZ-17.
2. East-west array; OVPZ-12, OVPZ-13 and OVPZ-16. Water levels in OVPZ-14 were not affected by pumping.
3. Water levels in MISS-6A were affected. However, construction activities adjacent to well MISS-6A (at t=2580 minutes) impacted the water level in that well.
4. Water levels in OVPZ-14 and nearby wells between the rail spur and Route 17 were not affected.
5. The water levels in overburden wells MISS-7A, B38W19S, and MISS-5A showed a slight response to pumping (0.05 to 0.17 feet).
6. The water levels in bedrock wells BRPZ-4, BRPZ-6, and BRPZ-9 showed a slight response to pumping (0.2 to 0.3 feet).

Although drawdown was observed in both the north–south and east-west array wells, the direction of increased drawdown was preferably in the north-south direction, indicating some degree of heterogeneity.

Aquifer test results are summarized as follows for the 'north-south' array (observation wells OVPZ-9, OVPZ-10, OVPZ-11, OVPZ-15 and OVPZ-17):

- Geometric mean overburden hydraulic conductivity, 6.48×10^{-3} cm/sec.
- Geometric mean overburden specific yield (late time response to pumping), 2.98×10^{-2} (0.0298).
- The range of decline in groundwater levels observed in the 'north-south' array wells was approximately 0.75 to 2.0 feet.

Aquifer test results are summarized as follows for the 'east-west' array (observation wells OVPZ-12, OVPZ-13, OVPZ-14, OVPZ-16 and monitoring well B38W19S):

- Geometric mean of the hydraulic conductivity6.48×10^{-3} cm/sec.
- Geometric mean of the specific yield (late time response to pumping), 3.98×10^{-2} (0.0398).
- The range of decline in groundwater levels observed in the 'east-west' array wells was approximately 0.5 to 2.0 feet.

The Transmissivity of the overburden was estimated using the analysis from the Step drawdown test (Copper-Jacob and Theis), aquifer test, (Cooper-Jacob and Neuman), and the recovery test (Theis). The analysis of the aquifer test by Theis yields results that are slightly higher (geometric mean= 2,200 gpd/ft) than the rest of the analyses (geometric mean=1,700 gpd/ft) because the Theis method does not take into account gravity drainage. The Copper-Jacob and Theis methods used during the step drawdown test are valid because the water levels were not affected by gravity drainage by the end of the first step. The Copper-Jacob method used to analyze the data from the aquifer test is also

valid because the data chosen for the analysis was before gravity drainage affected the data. The Theis Recovery method is valid because the recovery of a well is not affected by gravity drainage. The results on Table 3 show that the Transmissivity of the overburden has a fair amount of variability, because the Transmissivity ranges from 1,100 to 3,000 and the average geometric mean is 1,700 gpd/ft. The Transmissivity calculated with the Neuman method (geometric mean = 1,300 gpd/ft) is the most accurate because it was designed to take into account the gravity drainage of the aquifer. The Transmissivity of the aquifer is probably closer to 1,500 gpd/ft. The data also shows that the overburden is isotropic because there is little to no difference in the Transmissivity in the North-South and East-West Arrays in the distance drawdown analysis.

The Specific Yield of the aquifer was also calculated with the Copper-Jacob, Theis, and Neuman methods. These methods (Theis and Copper-Jacob) can be used to calculate the Specific Yield even though they were developed to calculate the Storativity because Specific Yield equals the Storativity in an unconfined aquifer. This is supported by the fact that the amount of elastic storage that was occurring after the first few minutes of the aquifer test was negligible. The results show that the Specific Yield (geometric mean) of the overburden is very small (0.001 to 0.034) and reflects the small amount of water dewatered from the aquifer. This is lower than the typical range of 0.01 to 0.3 for unconfined aquifers (Freeze and Cherry, 1979).

The low specific yields may be attributed to the location of the test well and piezometers within the Former Retention Pond C (see Figure 2). Eight to 10 feet of laminated silt - pond sediments overlie the sand aquifer at most test (and Former Retention Pond) areas, and may account for the locally confined conditions.

8.0 COMPARISON WITH STEPAN OVERBURDEN PUMPING TEST

A 48-hour pumping test was conducted the Stepan Property (1994) at 1.1 gpm using overburden well OBTW-1 (CH2M Hill, 1994) at the Stepan property, followed by a 72-hour recovery period. Test well OBTW-1 and monitoring well OBMW-2 were used to analyze the test. The distance from OBTW-1 to OBMW-2 was 10 feet.

The Transmissivity values calculated from the Stepan test ranged from 42 to 67 ft^2/day, which is 4 to 5 times lower than at the MISS. However, the hydraulic conductivities at the MISS and at the Stepan Property are closer than the transmissivities indicate. This assessment is based on a saturated thickness at Stepan Property of 6.5 feet (in 1994). This thickness yielded a hydraulic conductivity range of 6.5 to 10.3 ft/day. At the MISS in June 2001, the range of hydraulic conductivity was 12 to 95 ft/day, with a geometric mean of approximately 23 ft/day. Table 3-9 in Section 3 compares the results from the MISS and Stepan tests.

Table 1
FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY
Frequency of Water Level Measurements

Time From Start of Step (minutes)	Time Interval (minutes)
0 - 2	0.5
2 - 10	1
10 - 30	2
30 - 60	5

Table 2
FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY
Frequency of Water Level Measurements

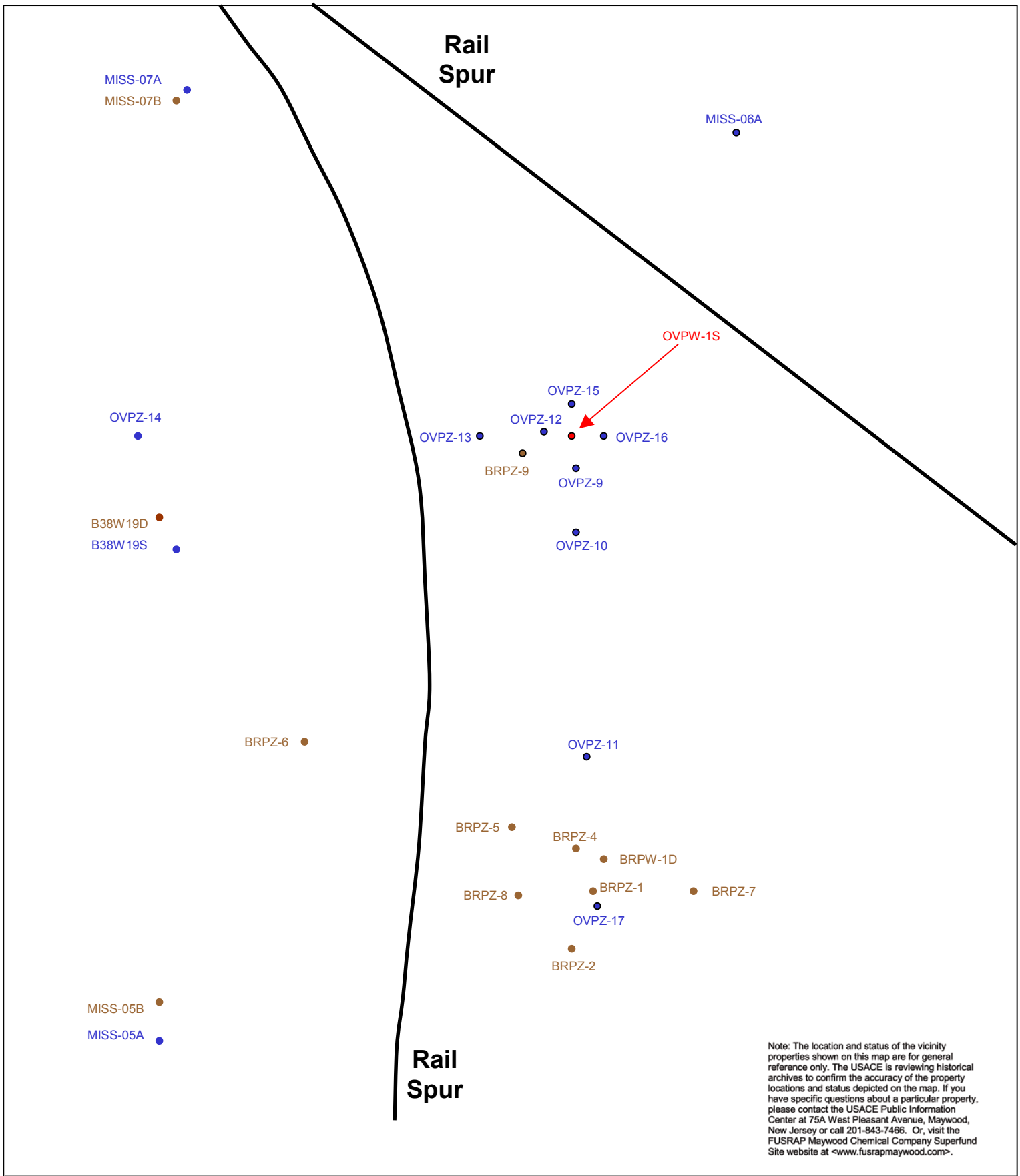
Manual Readings												
High Frequency					Low Frequency					Every 6 Hours		
Well No.	Distance from PW-1S (feet)	Geologic Unit	Time from Start of Test (minutes)	Time Intervals (minutes)	Well No.	Distance from PW-1S (feet)	Geologic Unit	Time from Start of Test (minutes)	Time Intervals (minutes)	Well No.	Distance from PW-1S (feet)	Geologic Unit
PW-1S	NA	Overburden	0 - 2	0.5	OVPZ-11	100	Overburden	0 - 240	60	MW-9S	2000	Overburden
OVPZ-9	10	Overburden	2 - 10	1	OVPZ-14	100	Overburden	240 - 480	120	MW-9D	2000	Bedrock
OVPZ-10	30	Overburden	10 - 30	2	BRPZ-9	31	Bedrock	480 - 4320	180	B38W17A	600	Overburden
OVPZ-12	10	Overburden	30 - 60	5	MISS-1AA	420	Overburden			OBMW-19	690	Overburden
OVPZ-13	30	Overburden	60 - 120	10	MISS-2A	600	Overburden					
			120 - 360	20	MISS-3A	190	Overburden					
			360 - 1980	60	MW-3S	500	Overburden					
			1980 - 4260	120	MISS-4A	240	Overburden					
			4260 - 4320	180	MISS-6A	120	Overburden					
					MISS-7A	155	Overburden					
					PT-2S	670	Overburden					
					B38W19S	120	Overburden					
					B38W24S	190	Overburden					
					B38W25S	195	Overburden					

Electronic Data Loggers		
Logarithmic Frequency		
Well No.	Distance from PW-1S (feet)	Geologic Unit
PW-1S	NA	Overburden
OVPZ-9	10	Overburden
OVPZ-10	30	Overburden
OVPZ-11	100	Overburden
OVPZ-12	10	Overburden
OVPZ-13	30	Overburden
OVPZ-14	100	Overburden
OVPZ-15	10	Overburden
OVPZ-16	10	Overburden
OVPZ-17	150	Overburden
MISS-5A	220	Overburden
MISS-6A	120	Overburden
MISS-7A	155	Overburden
B38W19S	120	Overburden
B38W19D	120	Bedrock
BRPZ-4	100	Bedrock
BRPZ-6	100	Bedrock
BRPZ-9	31	Bedrock

Every 1 Hour		
Well No.	Distance from PW-1S (feet)	Geologic Unit
MW-9S	2000	Overburden

Table 3
FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY
Summary of Results

	Transmissivity							Hydraulic Conductivity			Specific Yield				
	Step Drawdown Test (gpd/ft)		Aquifer Test (gpd/ft)			Recovery (gpd/ft)	Average (gpd/ft)	Average (gpd/ft^2)	Average (ft/day)	Average (cm/sec)	Step Drawdown Test		Aquifer Test		
Observation Well	Copper-Jacob	Theis	Copper-Jacob	Theis	Neuman	Theis					Cooper-Jacob	Theis	Cooper-Jacob	Theis	Neuman
PW-1S	1,200	1,100	1,600	1,700	--	--	1,400	93	12	0.004	--	--	--	--	--
OVPZ-9	--	--	2,500	--	1,300	1,400	1,733	132	18	0.006	--	--	0.0000868		0.047
OVPZ-10	2,000	1,600	2,500	--	1,500	1,700	1,860	118	16	0.00555	0.0007	0.0004	0.0000847		0.0111
OVPZ-11	--	--	2,300	3,300	--	1,700	2,433	149	20	0.007	--	--	0.000847	0.00041	--
OVPZ-12	1,700	1,500	1,500	--	1,200	1,500	1,480	161	22	0.008	0.0014	0.001	0.00106	--	0.0339
OVPZ-13	--	2,600	1,100	1,500	--	2,900	2,025	225	30	0.011	0.0007	0.002	0.00685	0.00343	--
OVPZ-15	1,700	1,300	1,600	2,000	1,300	1,500	1,567	110	15	0.005	0.006	0.002	0.000938	0.00048	0.051
OVPZ-16	1,700	1,600	1,600	2,100	1,300	1,500	1,633	105	14	0.005	0.006	0.001	0.00155	0.00076	0.0468
OVPZ-17	--	--	--	3,500	--	2,700	3,100	337	45	0.016	--	--	--	0.00251	--
MISS-6A	3,000	3,000	--	--	--	--	3,000	714	95	0.034	0.0004	0.0006	--	--	--
Average	1,883	1,814	1,838	2,350	1,320	1,863	2,023	214	29	0.010	0.003	0.001	0.002	0.002	0.038
Geometric Mean	1,812	1,710	1,772	2,232	1,316	1,793	1,947	171	23	0.008	0.001	0.001	0.001	0.001	0.034



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LEGEND

OVPZ-10 — Overburden Monitoring Well or Piezometer

BRPZ-9 — Bedrock Monitoring Well or Piezometer

0 25 50 Feet

APPROXIMATE SCALE

Figure 1
Overburden Aquifer Test Location Detail

US Army Corps of Engineers® FUSRAP Maywood Superfund Site Shaw Stone & Webster, Inc.

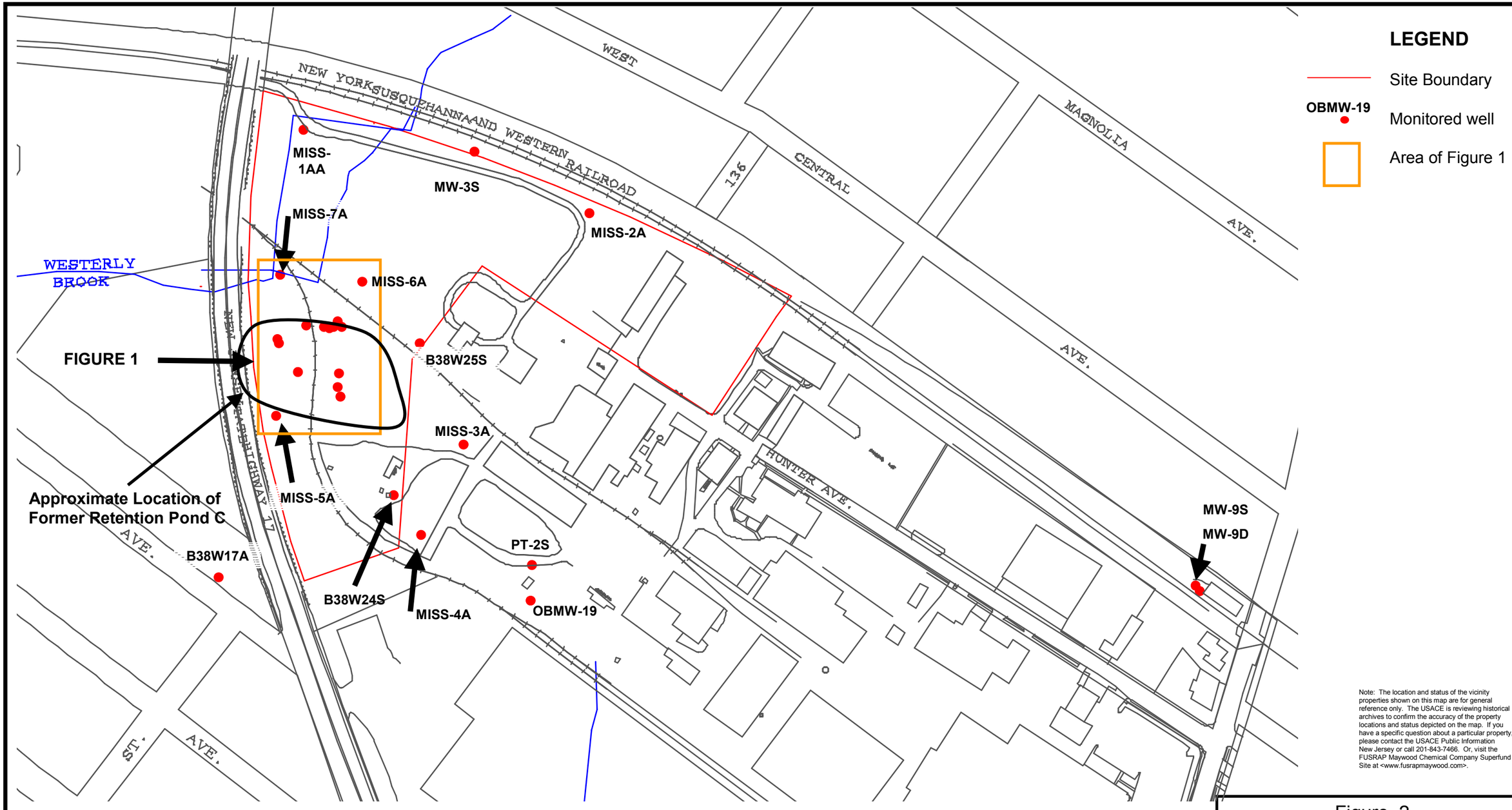

Figure 2
AQUIFER TEST MONITORED WELLS

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

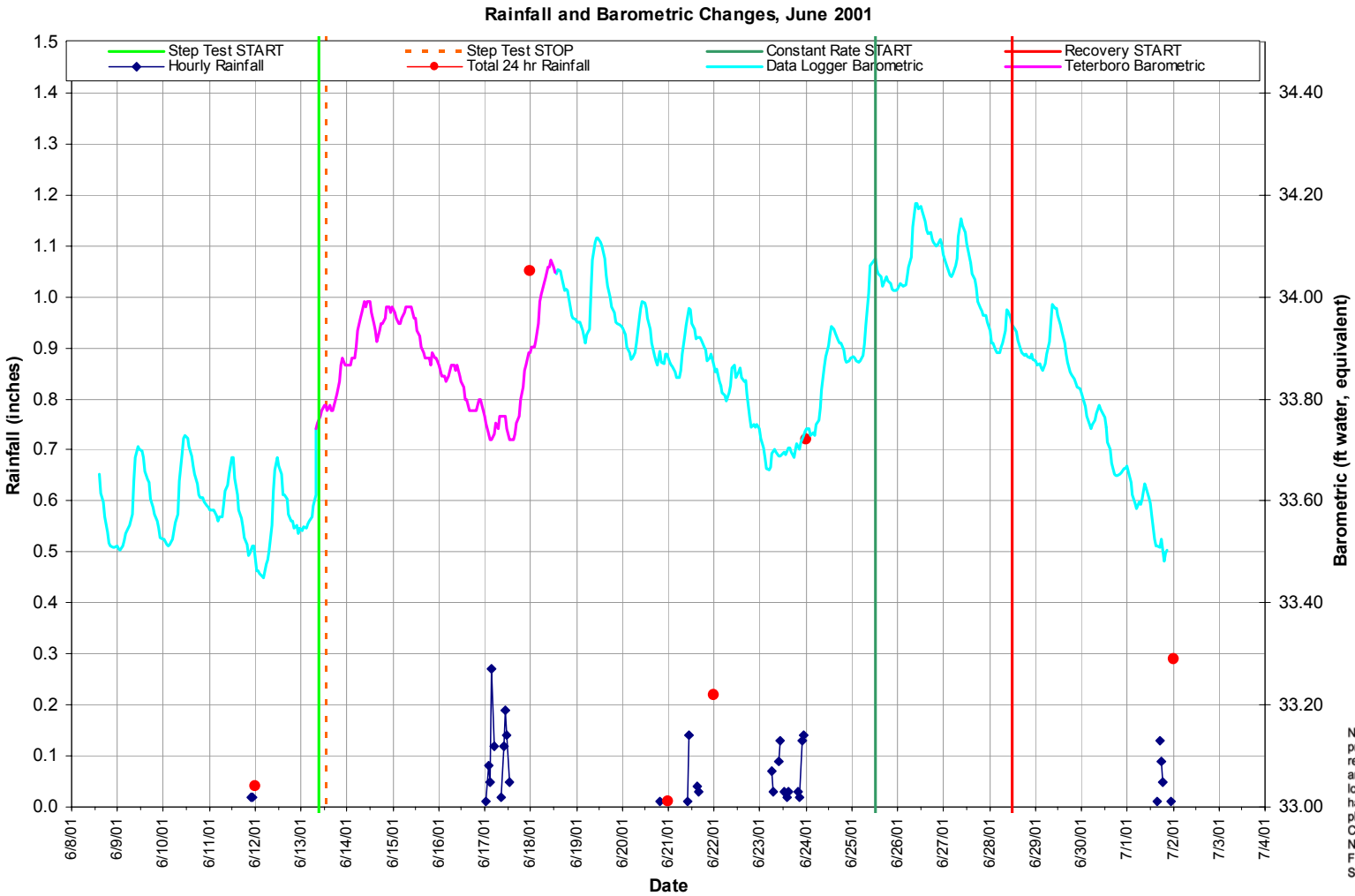

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Figure 3
Rainfall & Barometric Changes

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

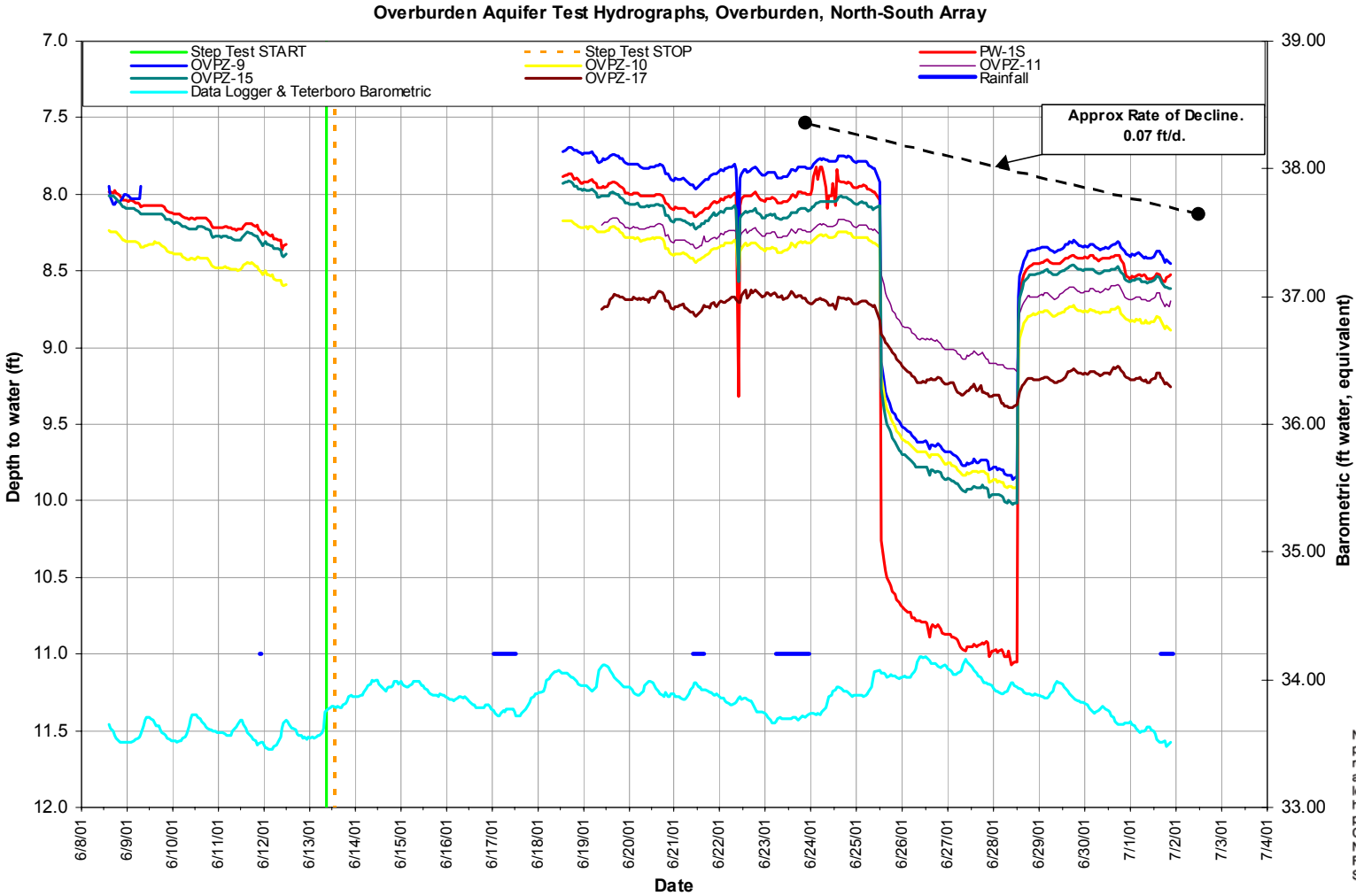

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Figure 4
Overburden, North-South Array

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

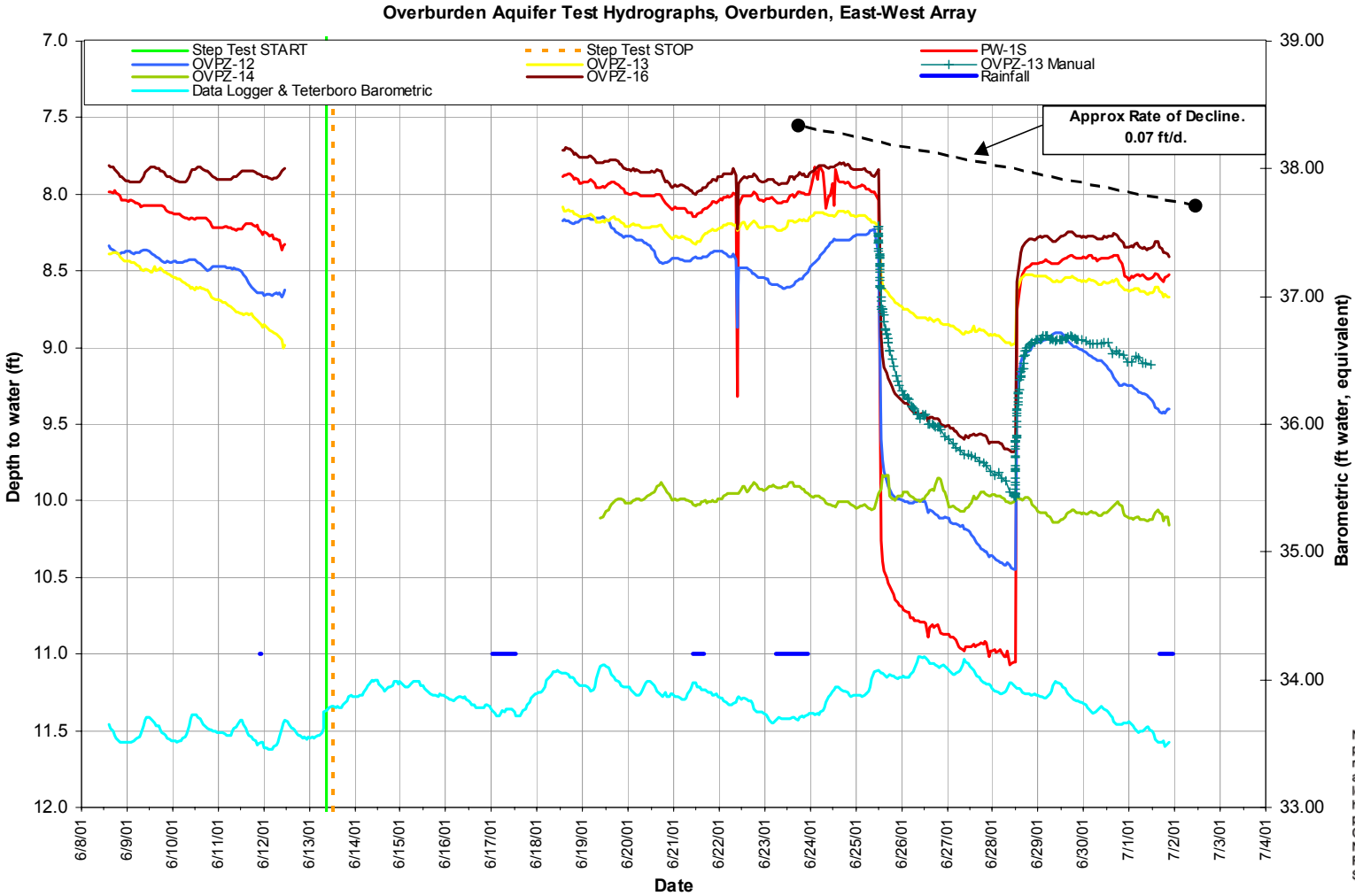

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Figure 5
Overburden, East-West Array

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

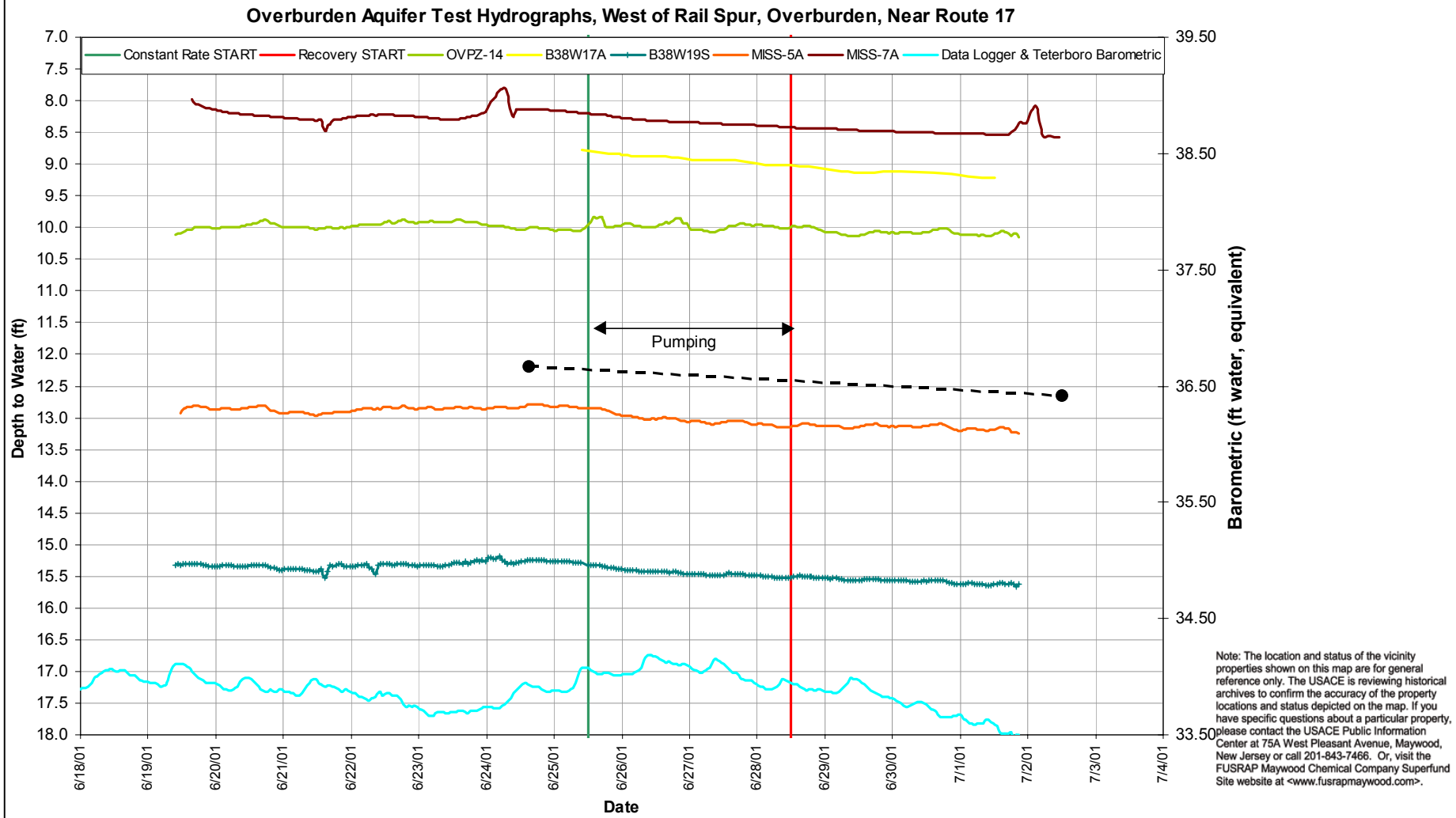

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Figure 6
Overburden, Near Route 17

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

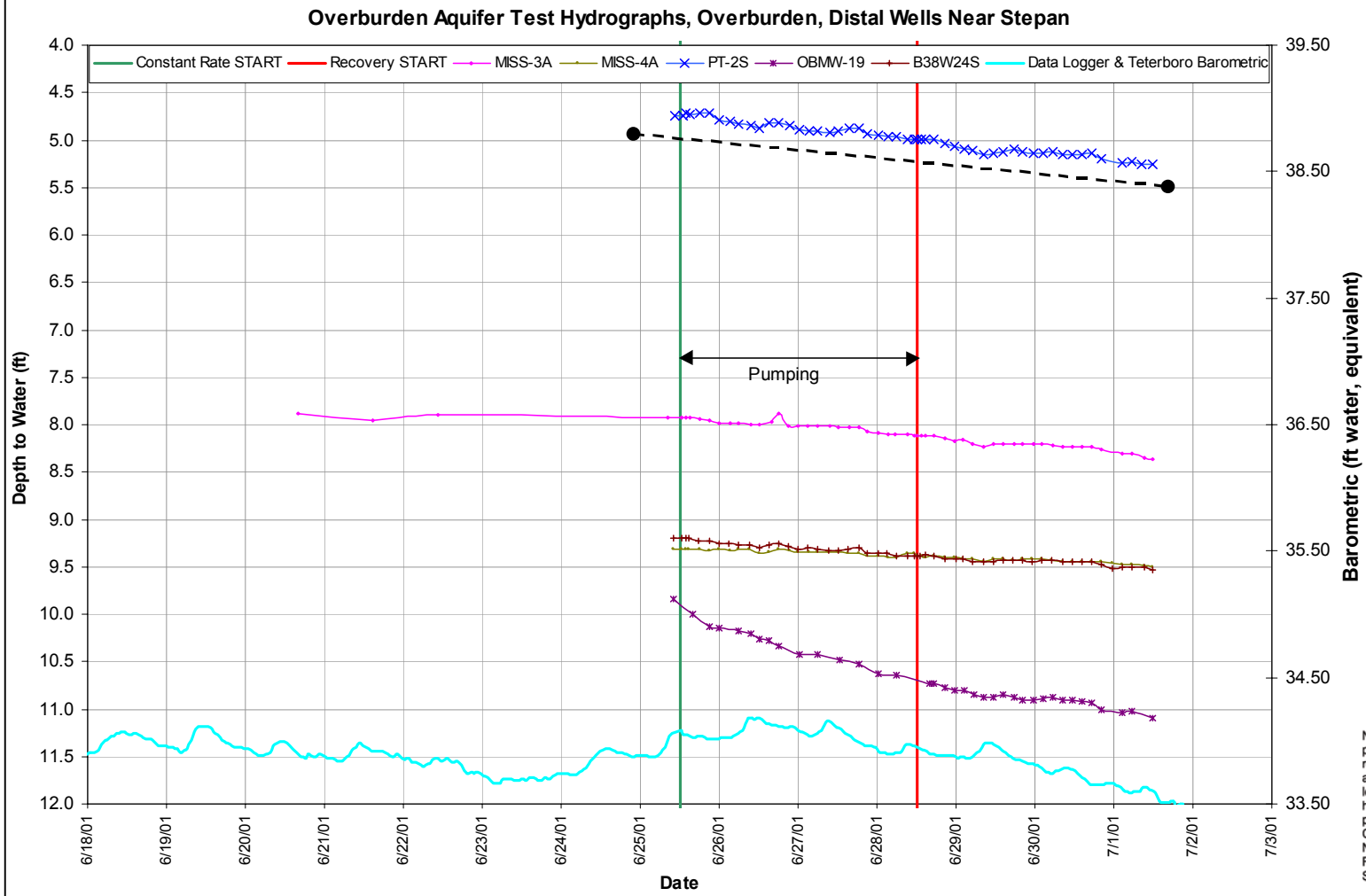

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Figure 7
Distal Wells Near Stepan

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

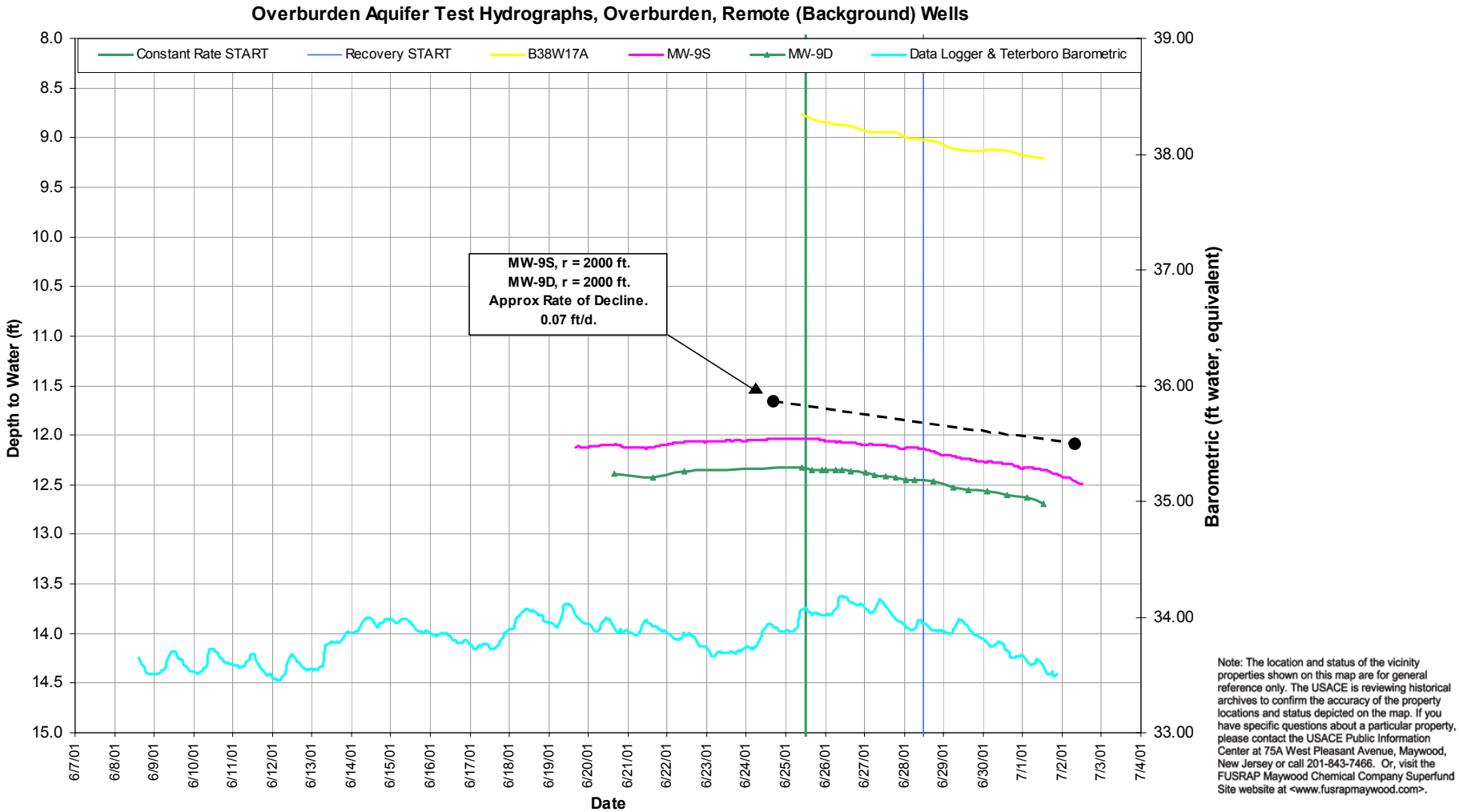

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Figure 8
Remote (Background) Wells

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

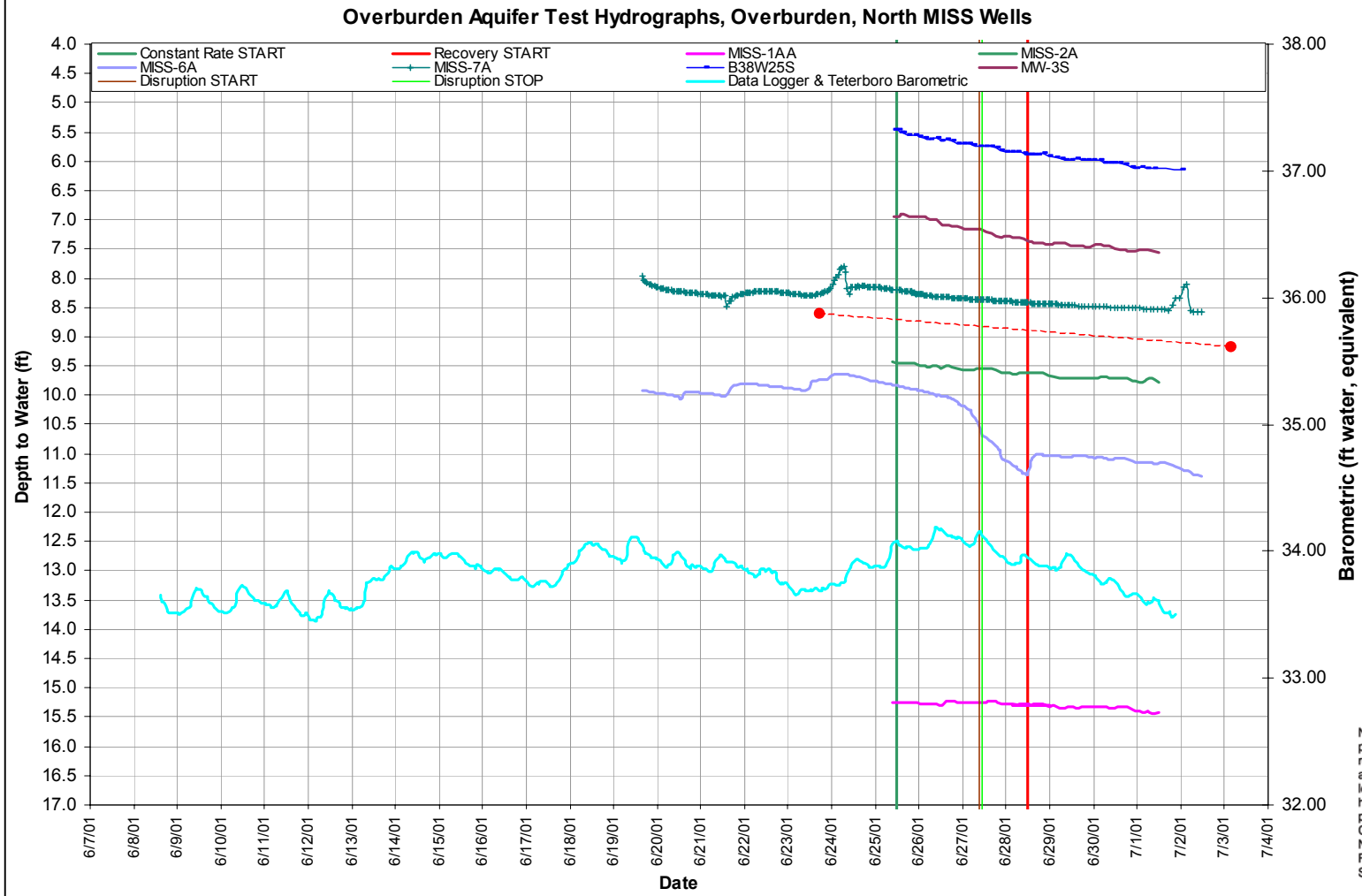

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Figure 9
North MISS Wells

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

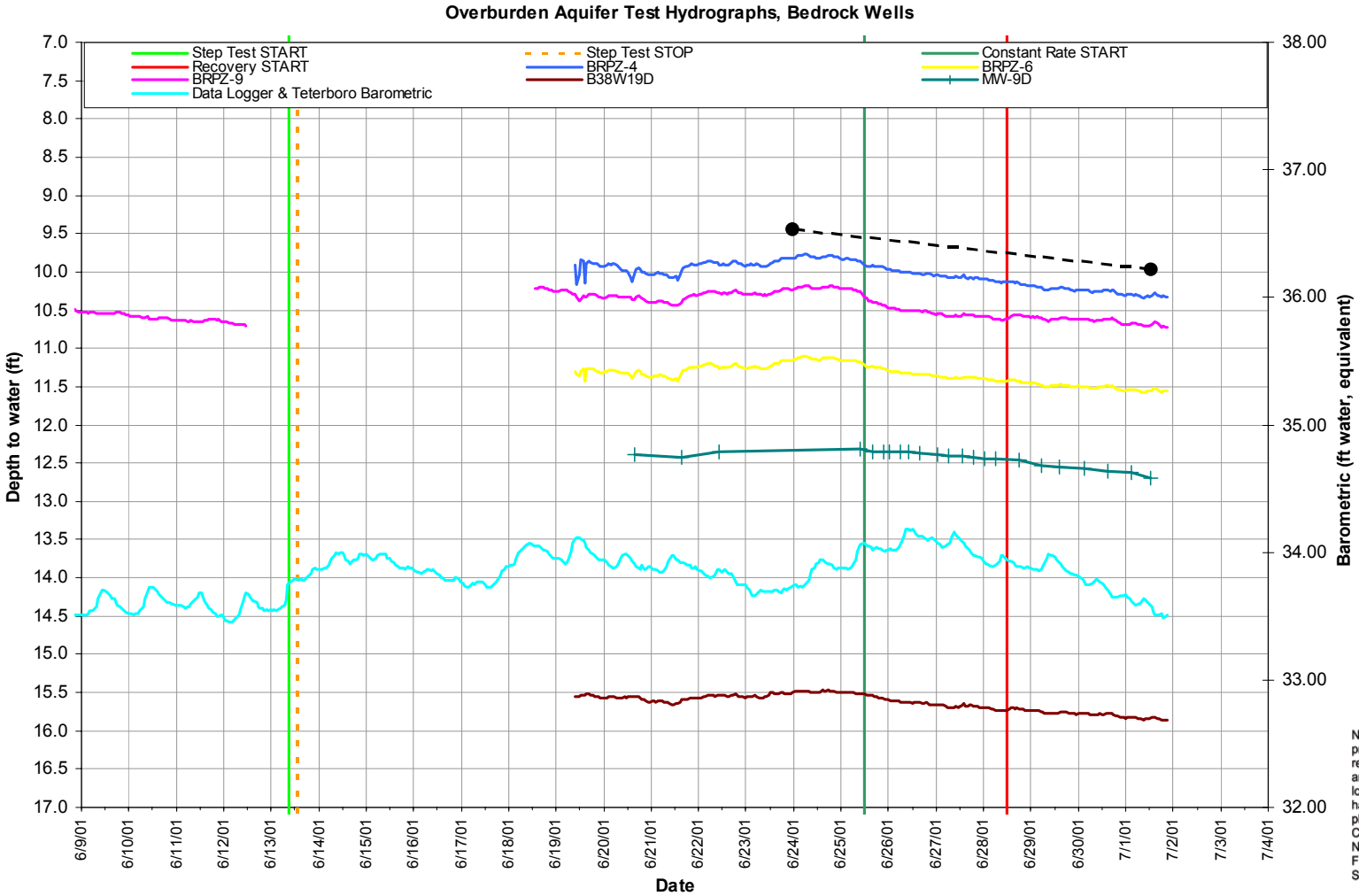

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Figure 10
Bedrock Wells

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

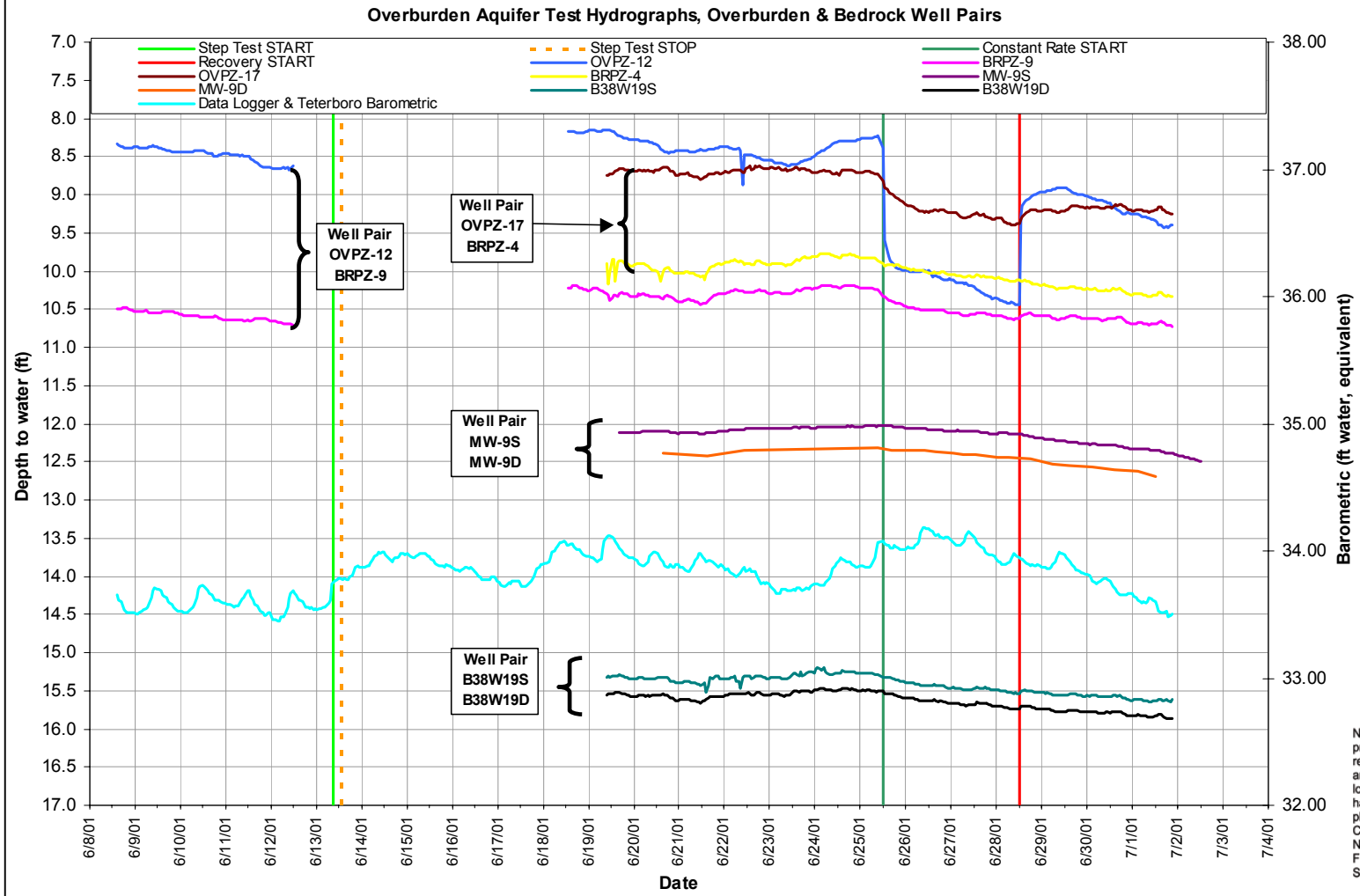

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Figure 11
Overburden & Bedrock Well Pairs

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

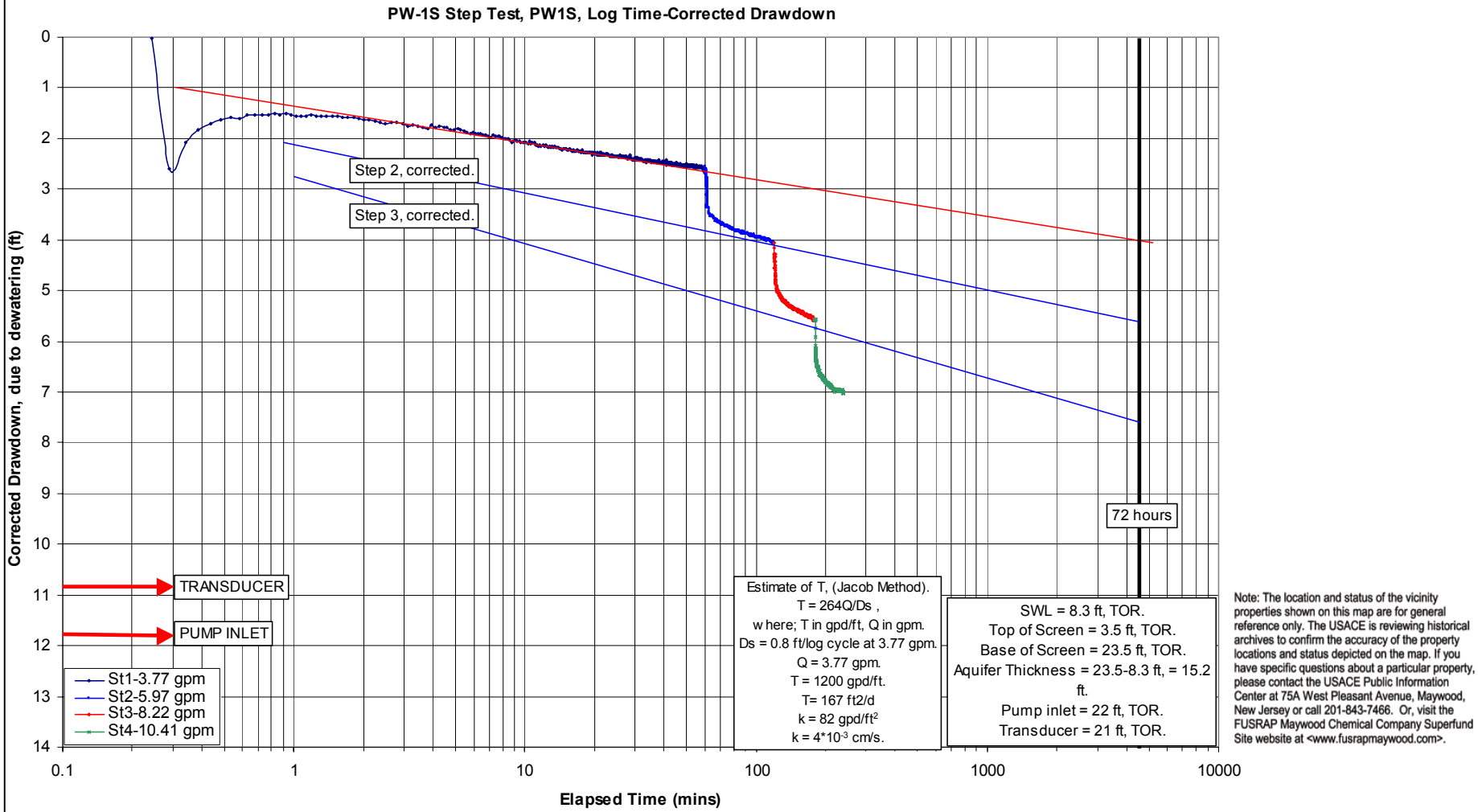

Figure 12
PW-1S Step Test, PW-1S

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

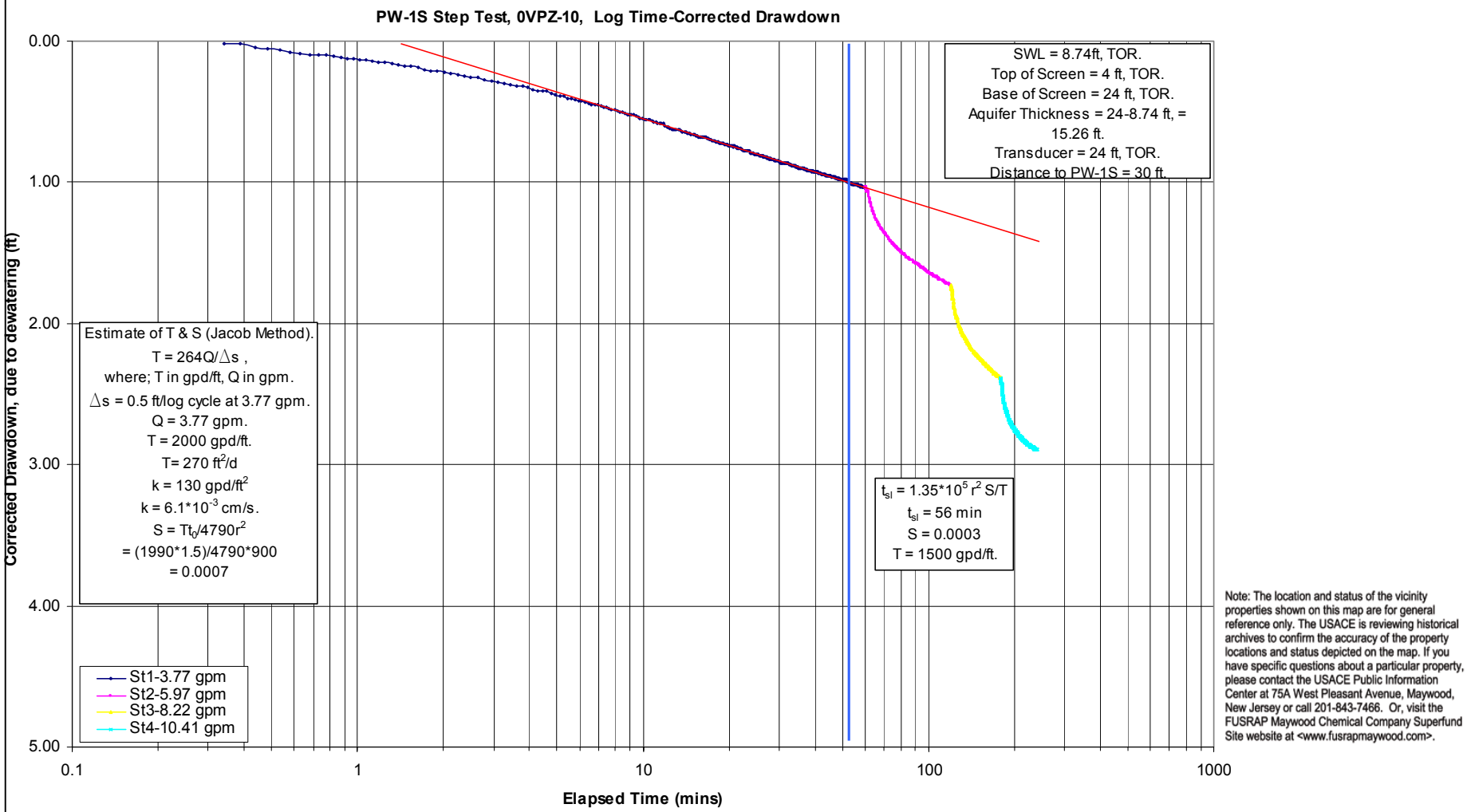

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Figure 13
PW-1S Step Test, OVPZ-10

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

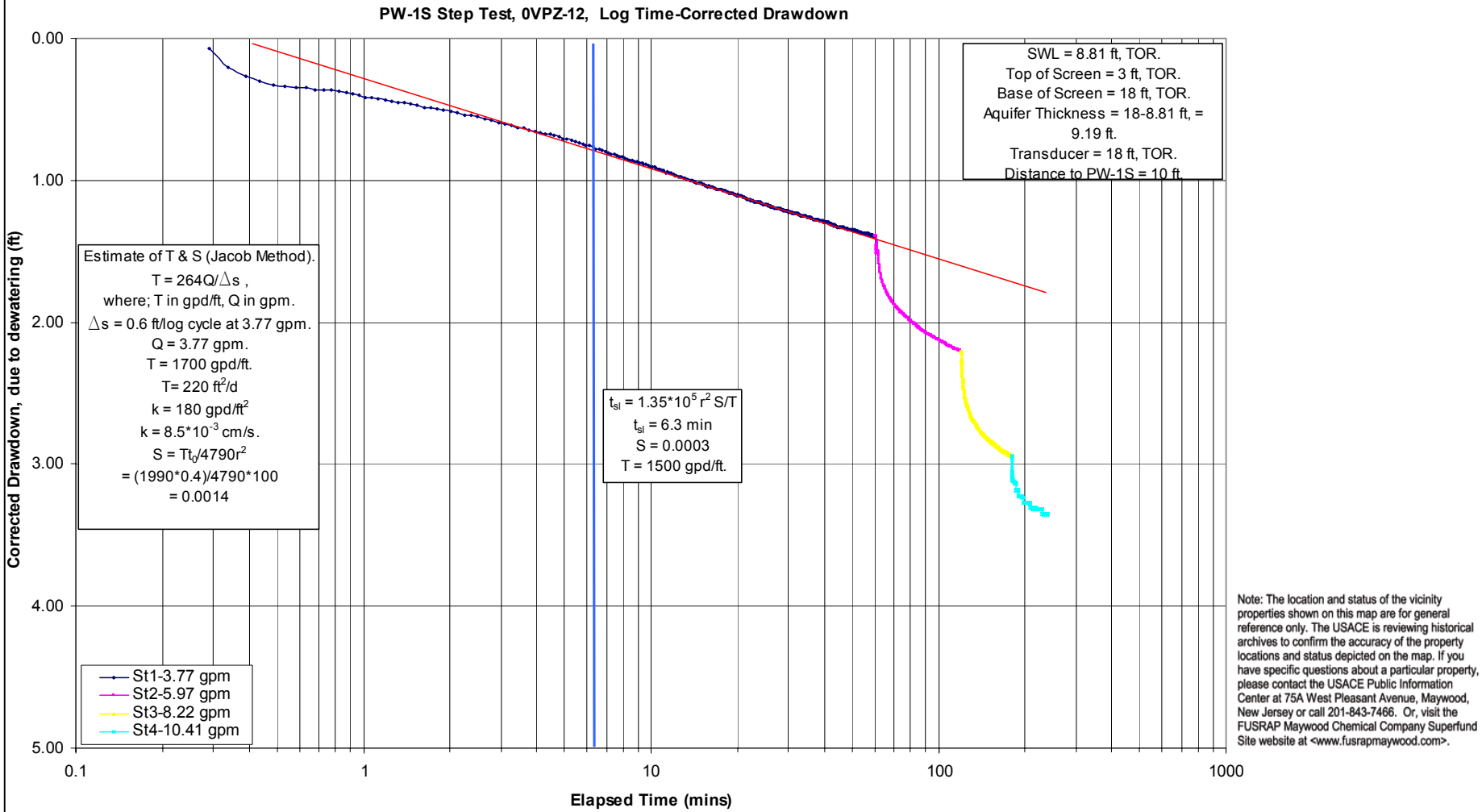

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Figure 14
PW-1S Step Test, OVPZ-12

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

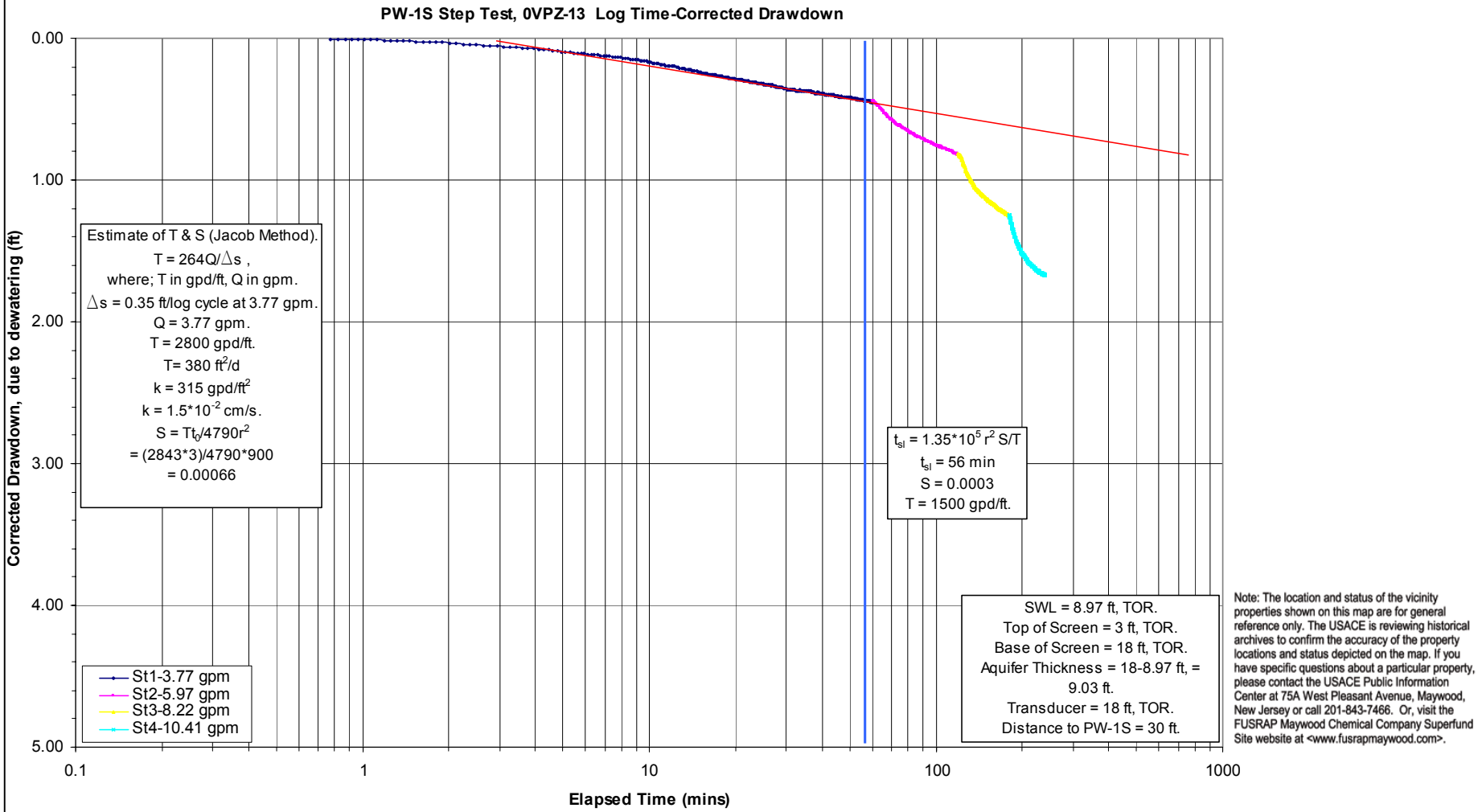

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Figure 15
PW-1S Step Test, OVPZ-13

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

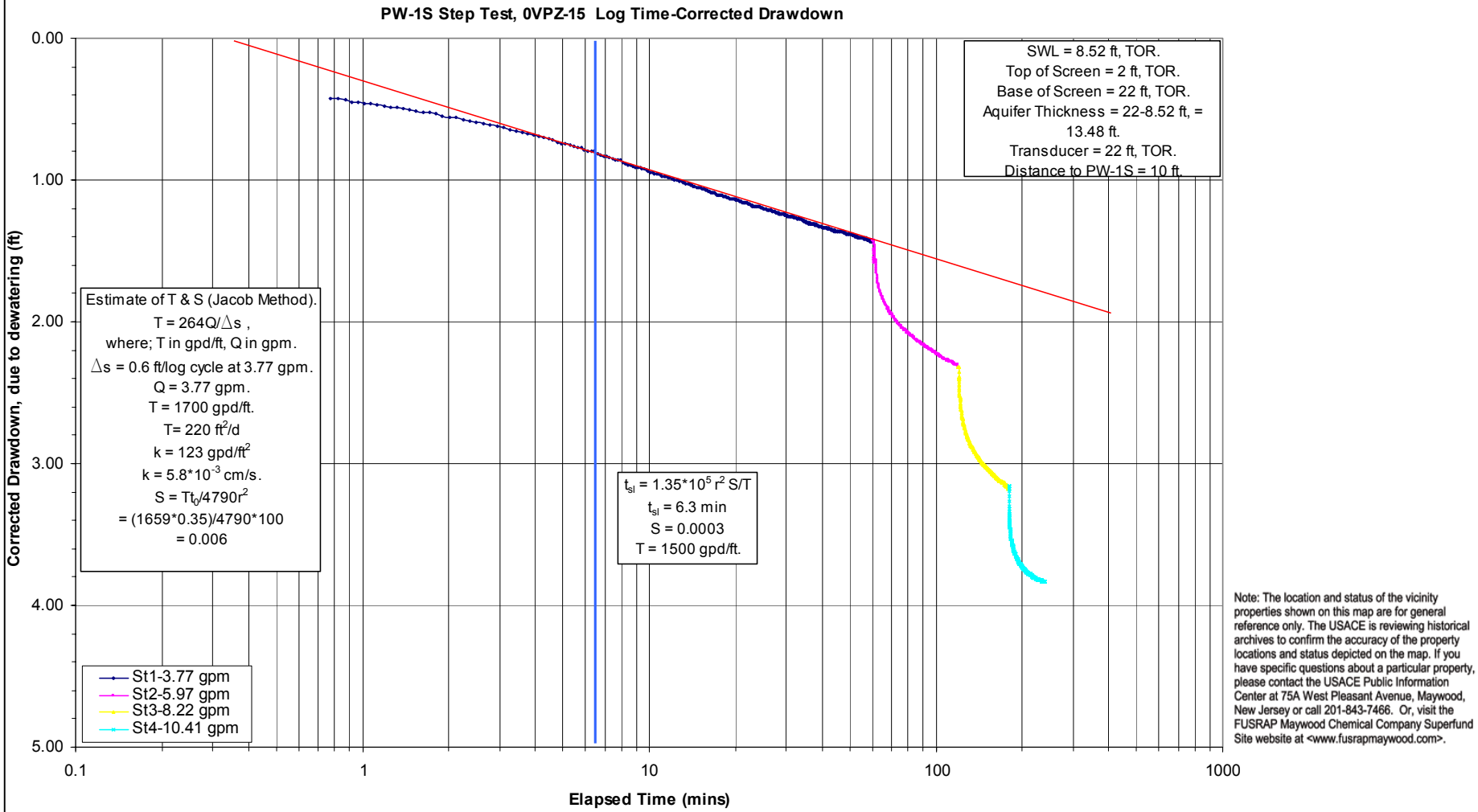

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Figure 16
PW-1S Step Test, OVPZ-15

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

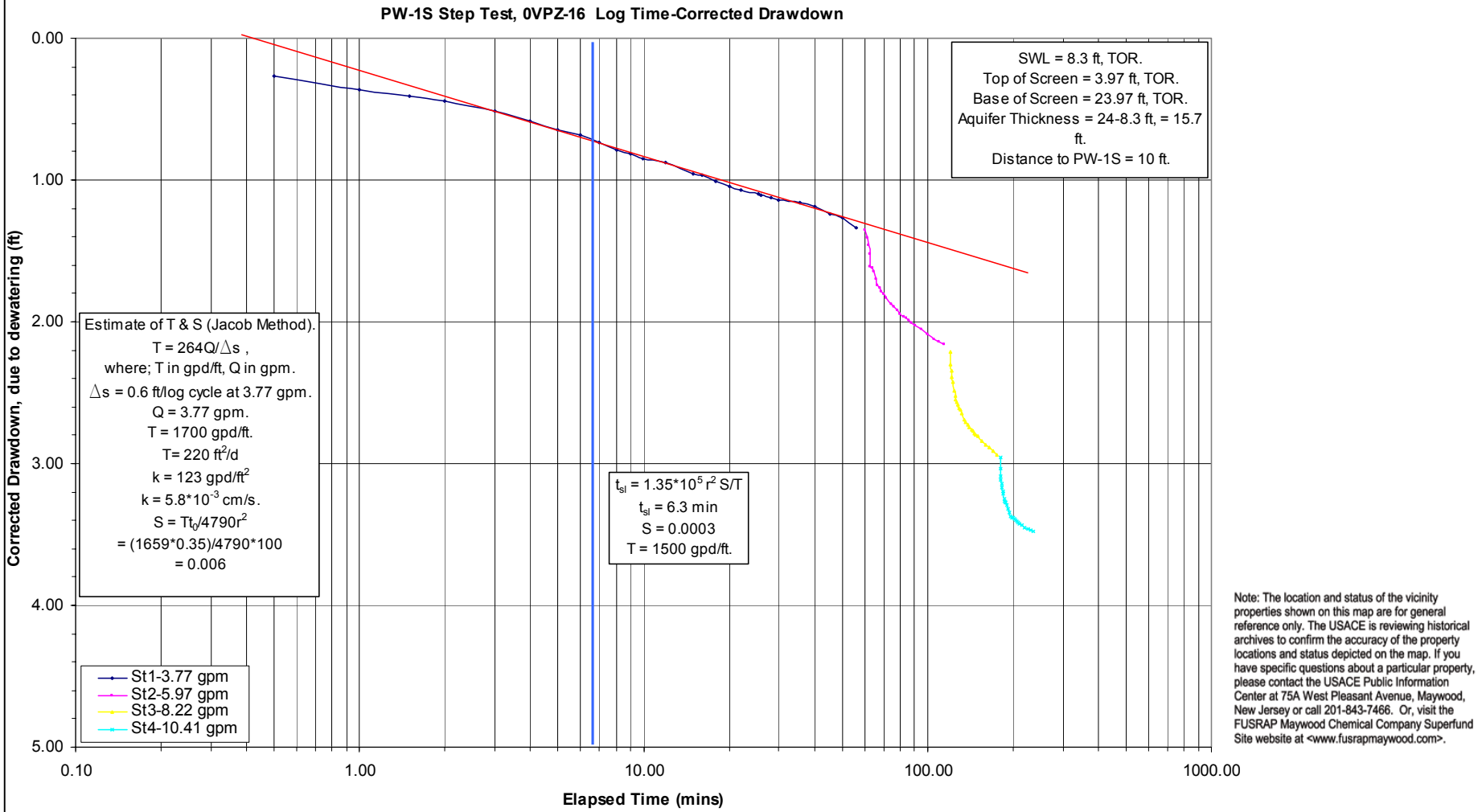

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Figure 17
PW-1S Step Test, OVPZ-16

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FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

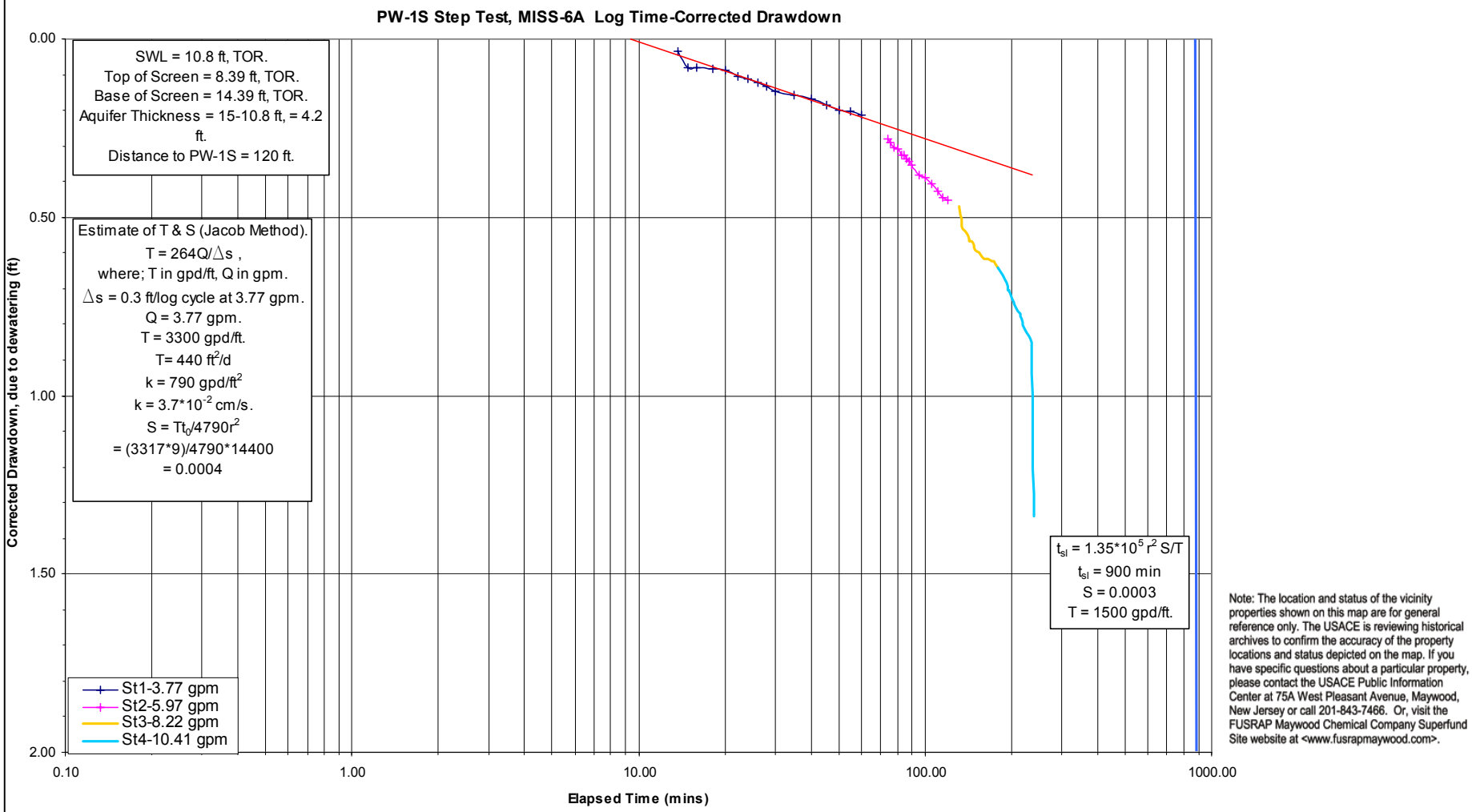

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Figure 18
PW-1S Step Test, MISS-6A

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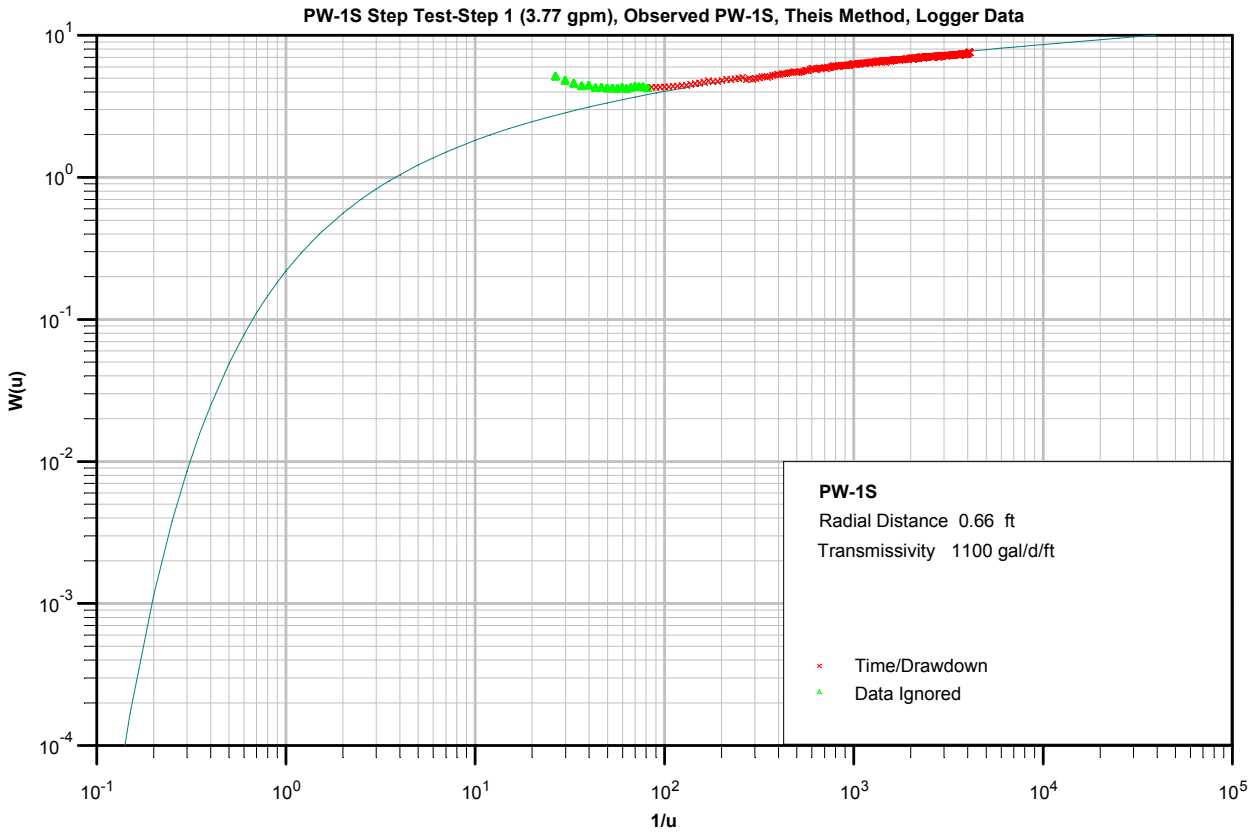
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.



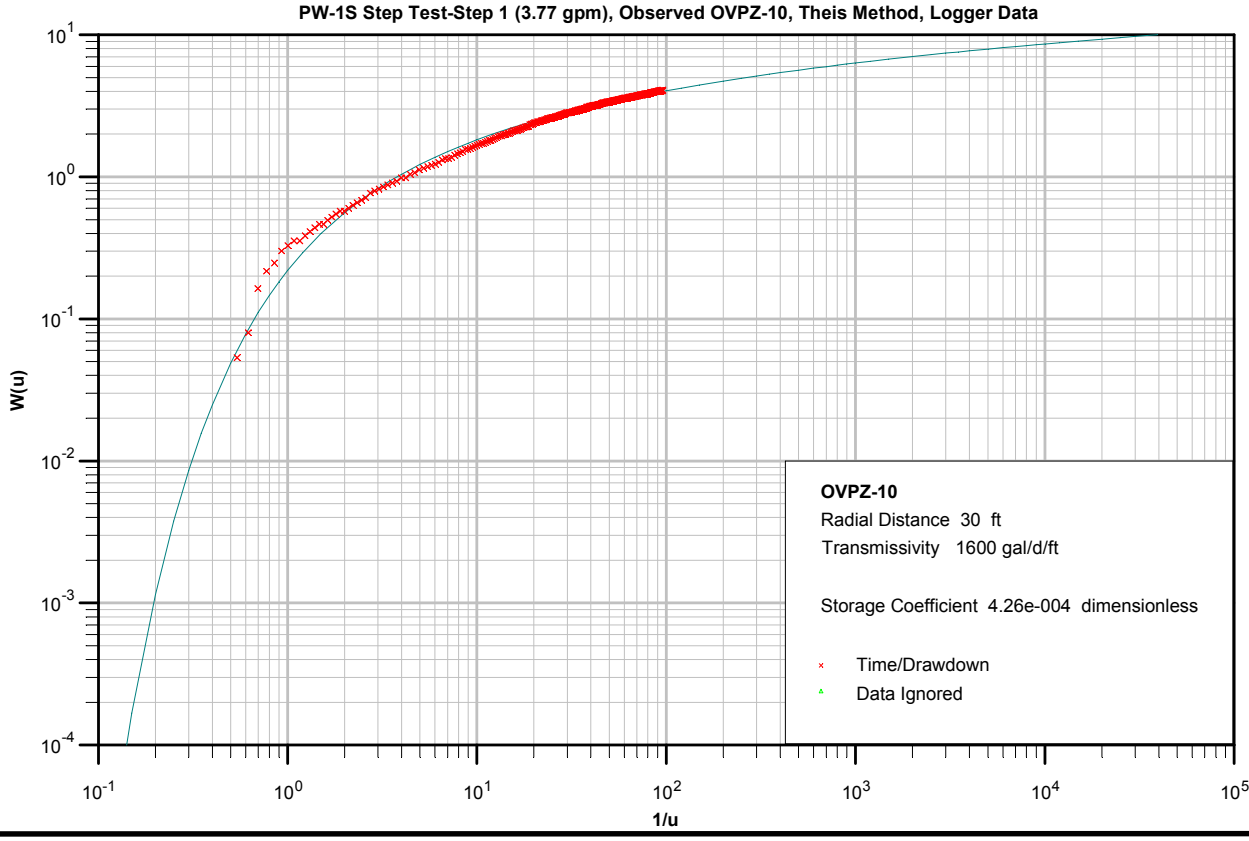


Figure 19
PW-1S, Step Rate Test, Step 1, w(u) vs 1/u

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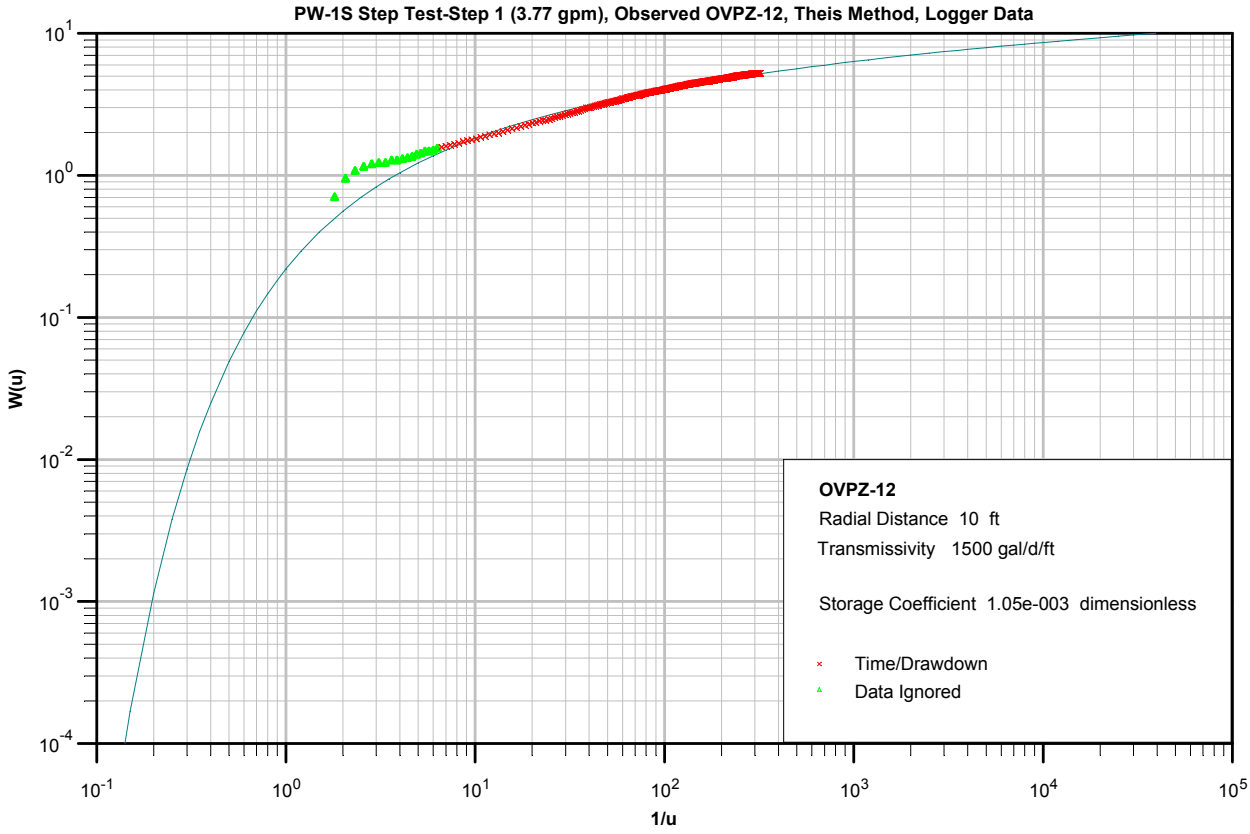

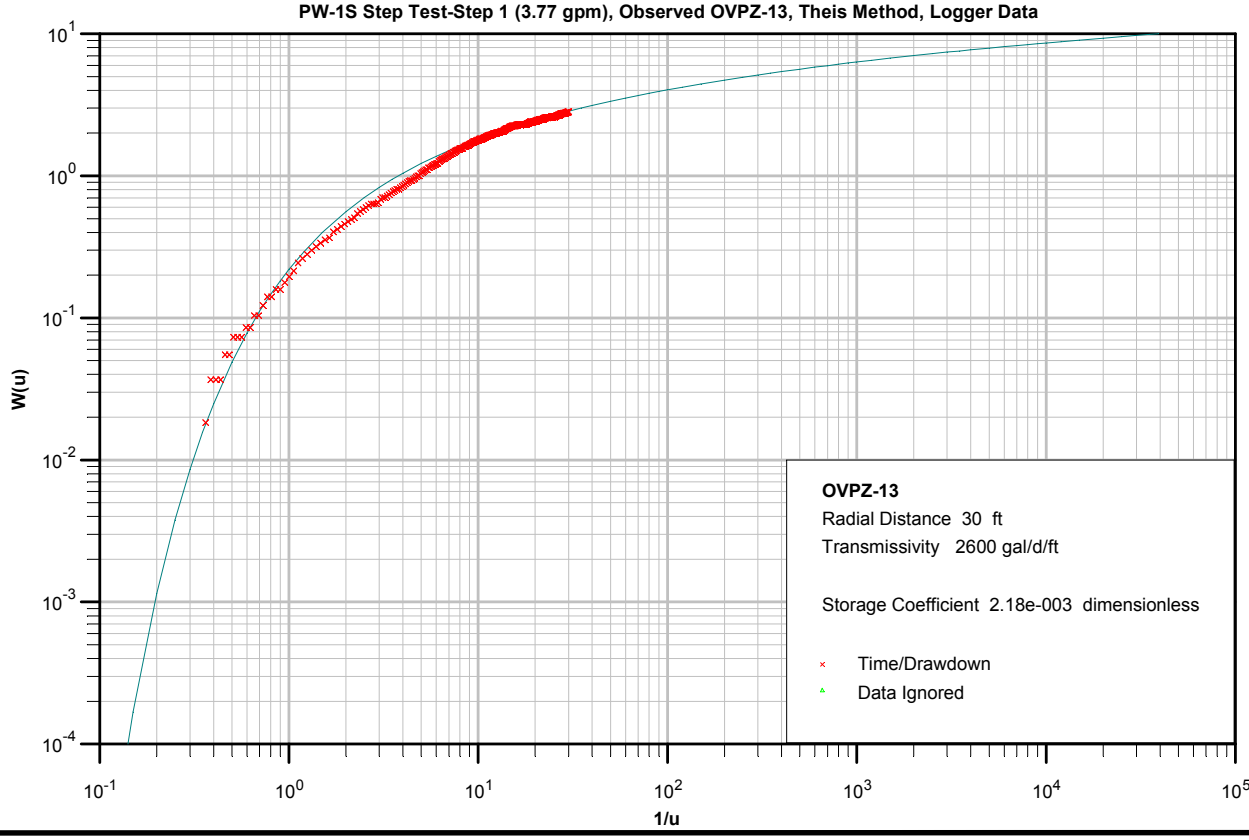

Figure 20
PW-1S, Step Rate Test, Step 1, w(u) vs 1/u

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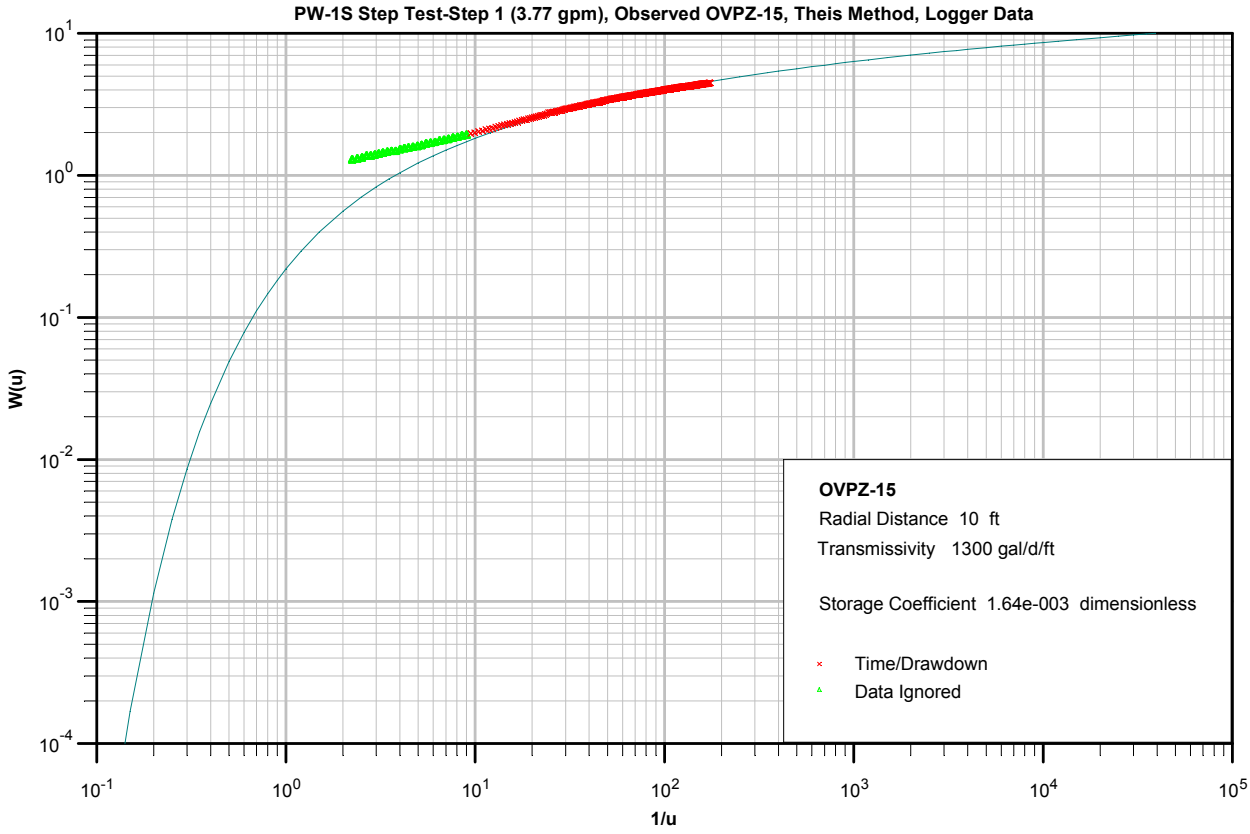

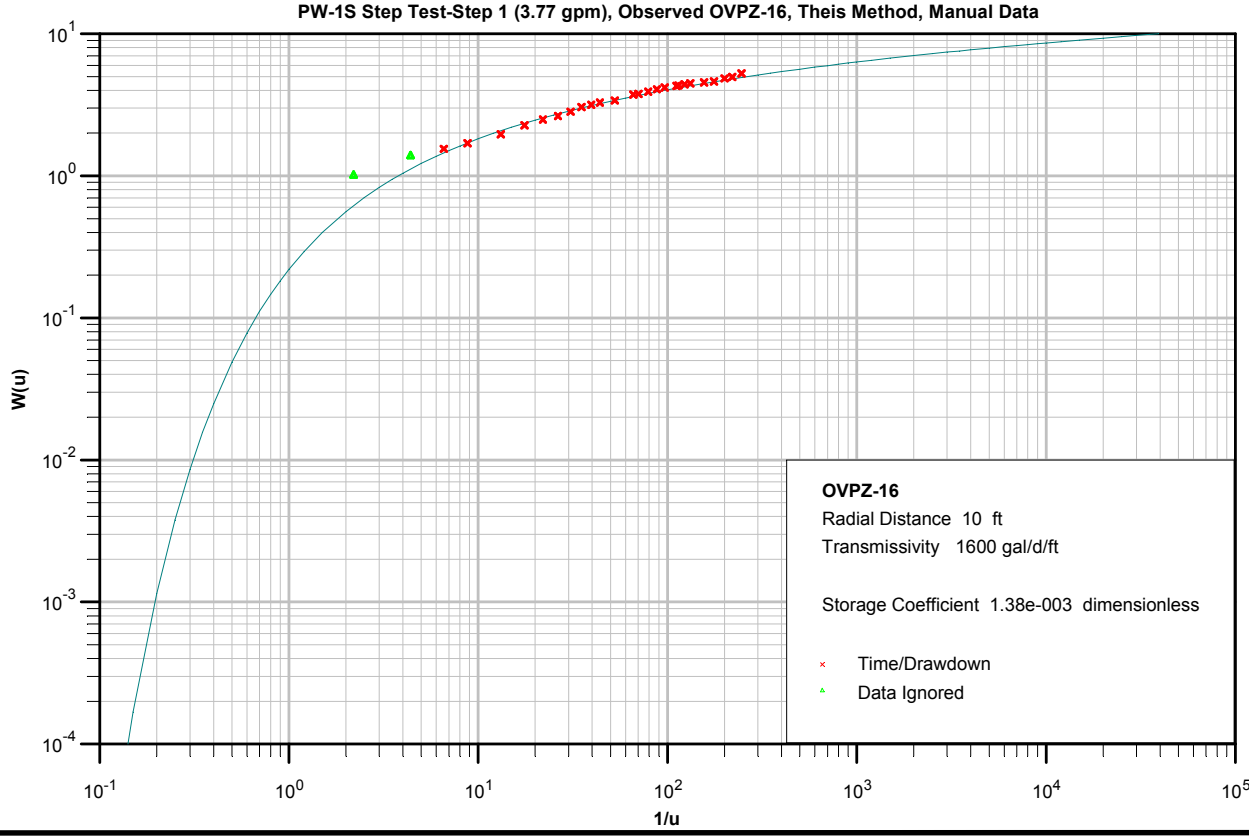

Figure 21
PW-1S, Step Rate Test, Step 1, w(u) vs 1/u

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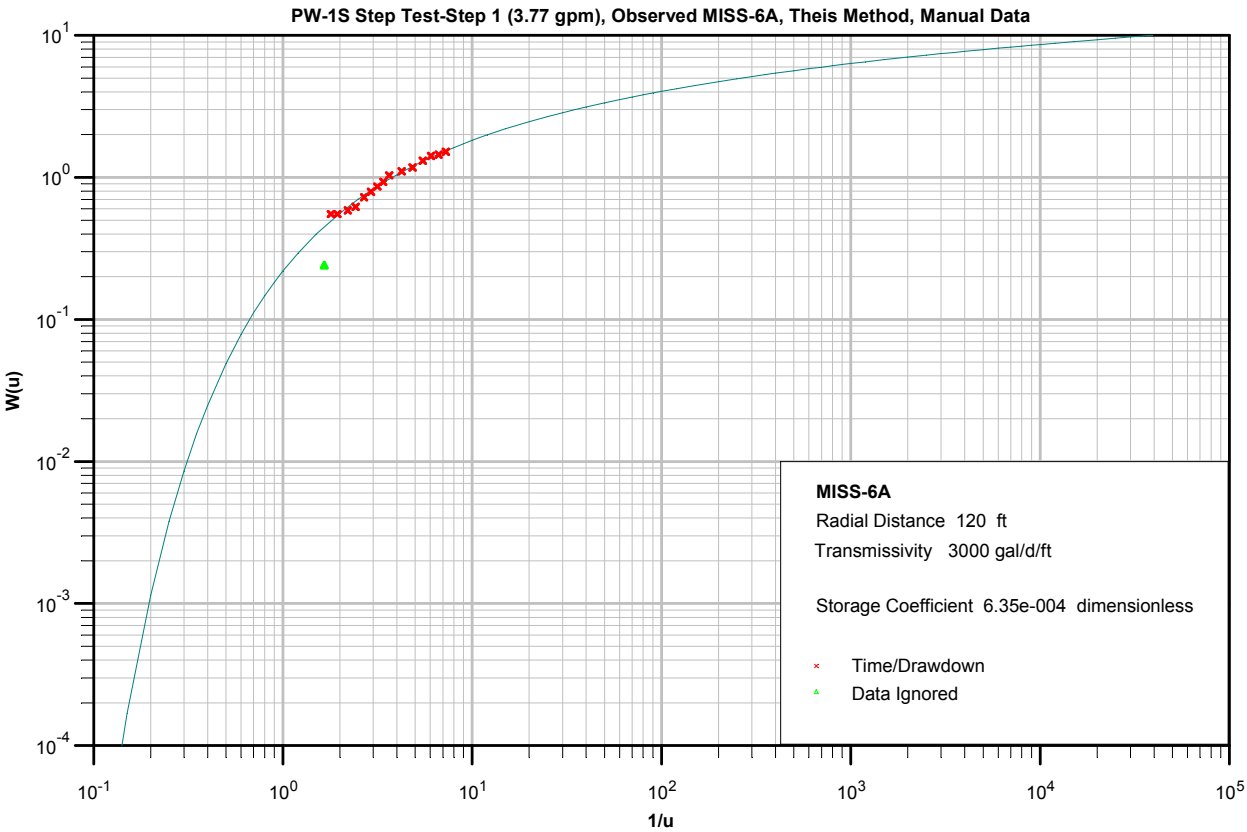

Figure 22
PW-1S, Step Rate Test, Step 1, w(u) vs 1/u

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FUSRAP Maywood Superfund Site

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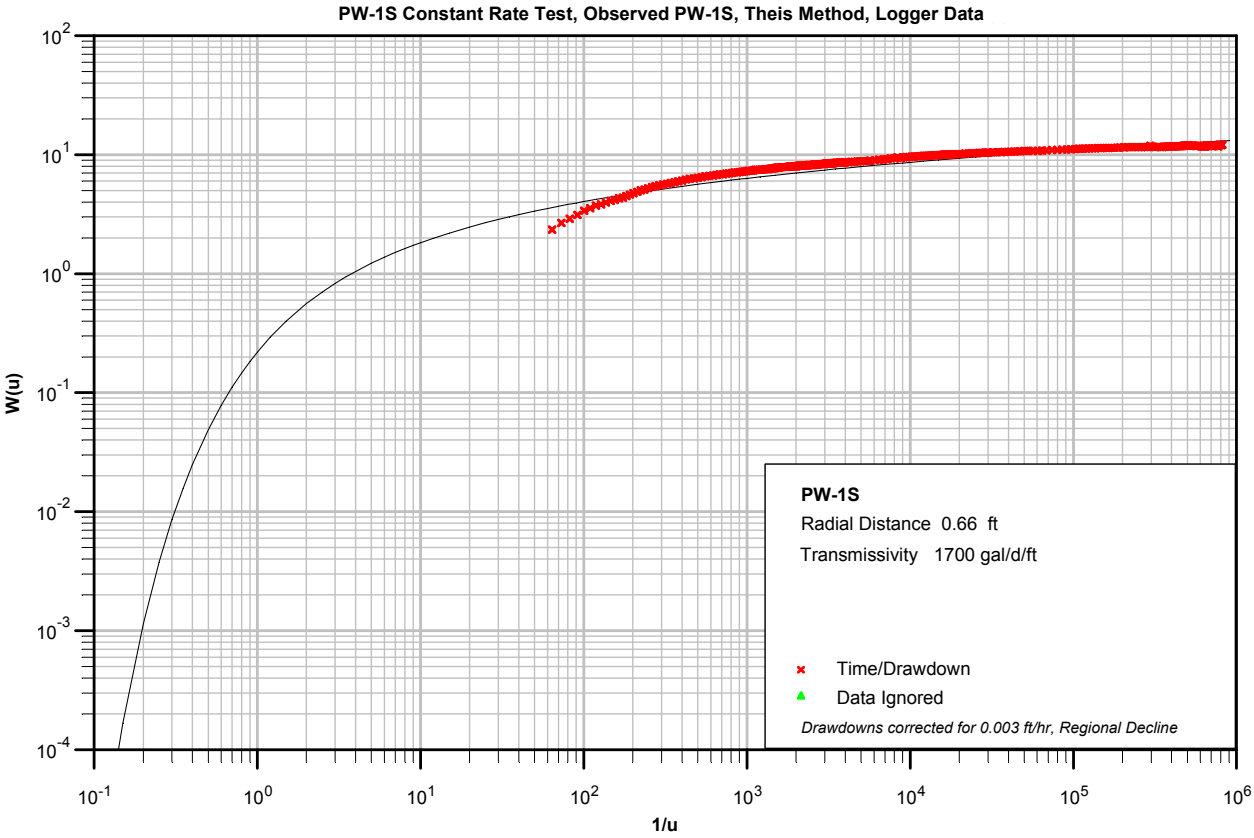

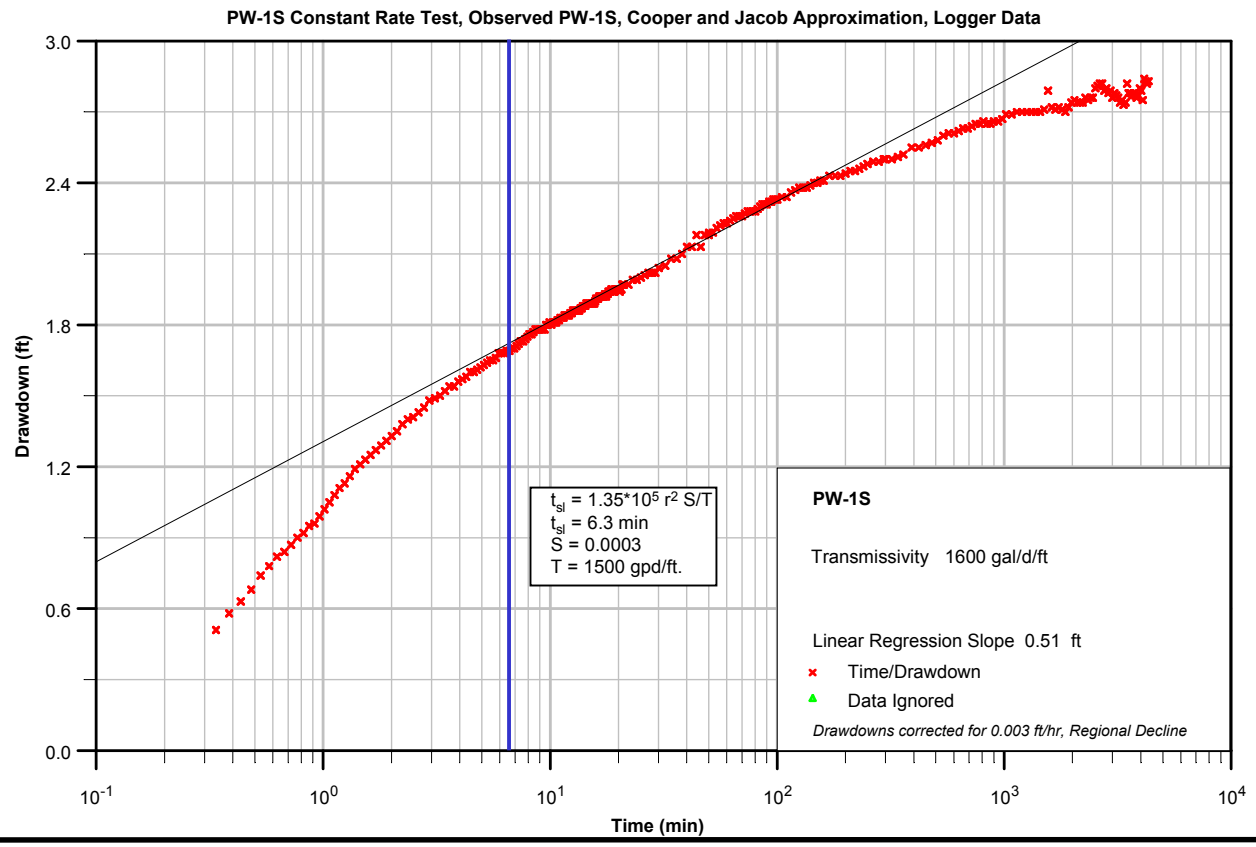

Figure 23
PW-1S, Constant Rate Test Phase,
w(u) - 1/u and Drawdown - Log Time

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

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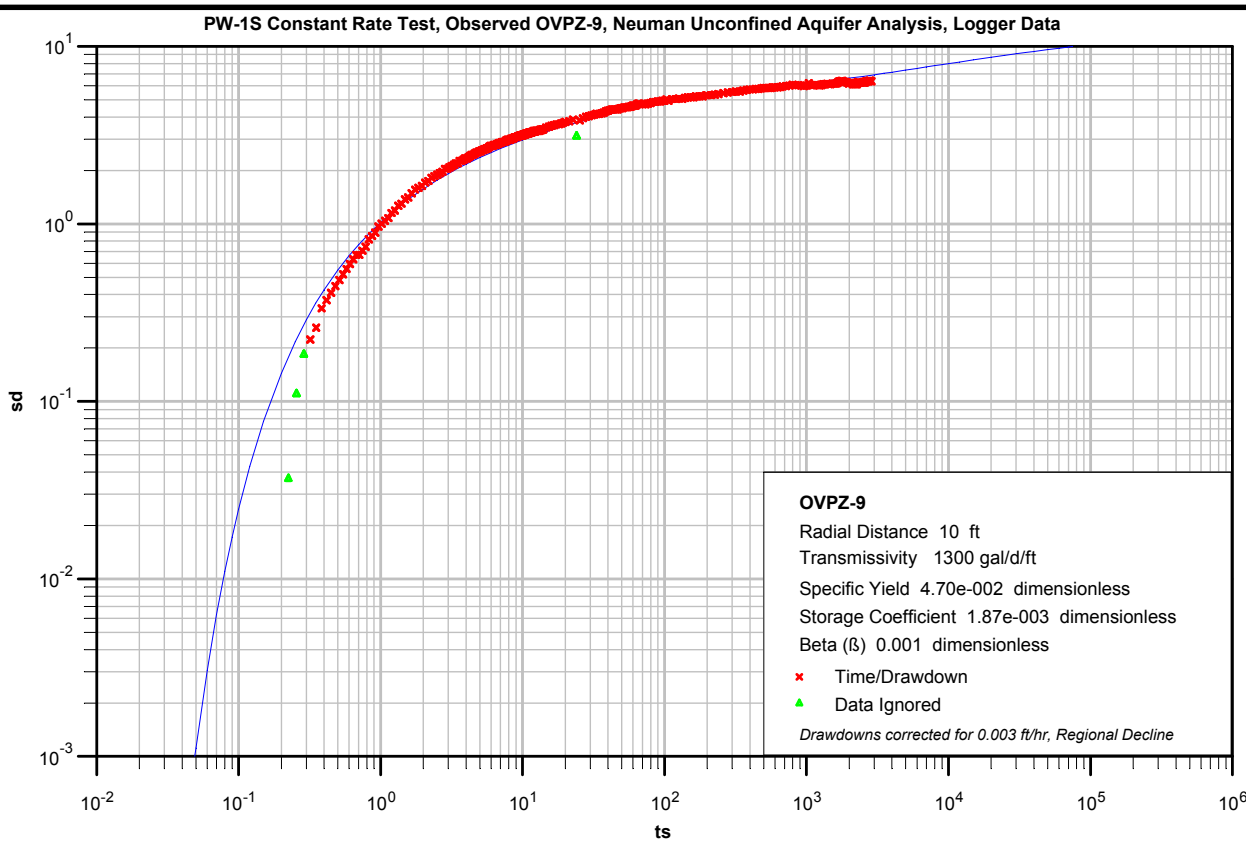

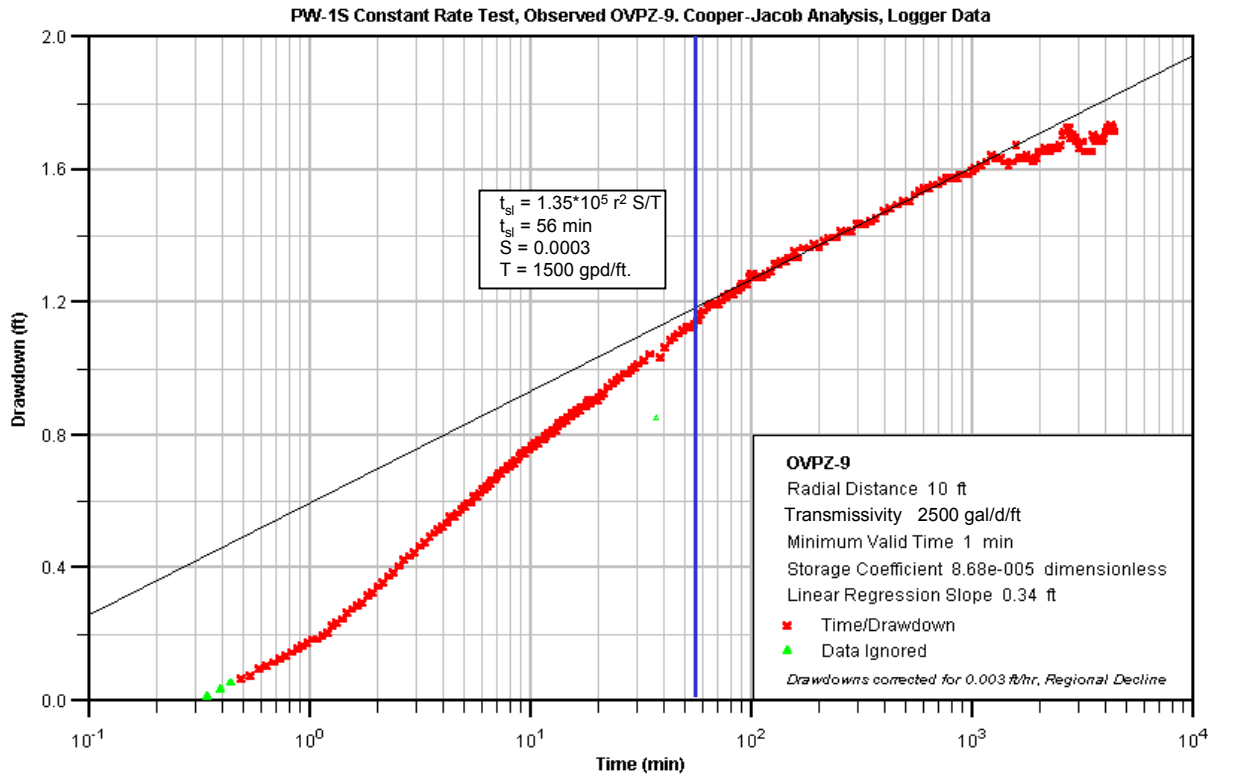

Figure 24
PW-1S, Constant Rate Test Phase,
sd - ts and Drawdown - Log Time

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

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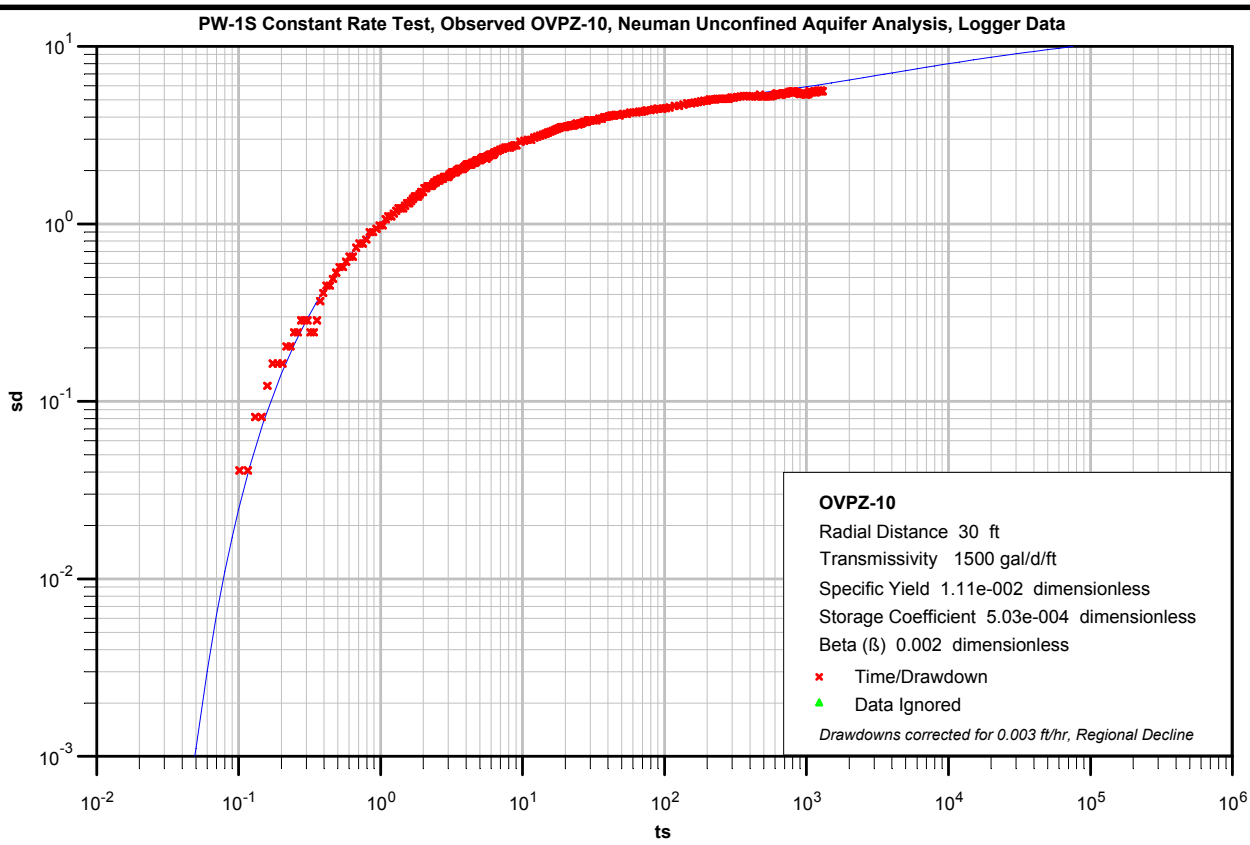


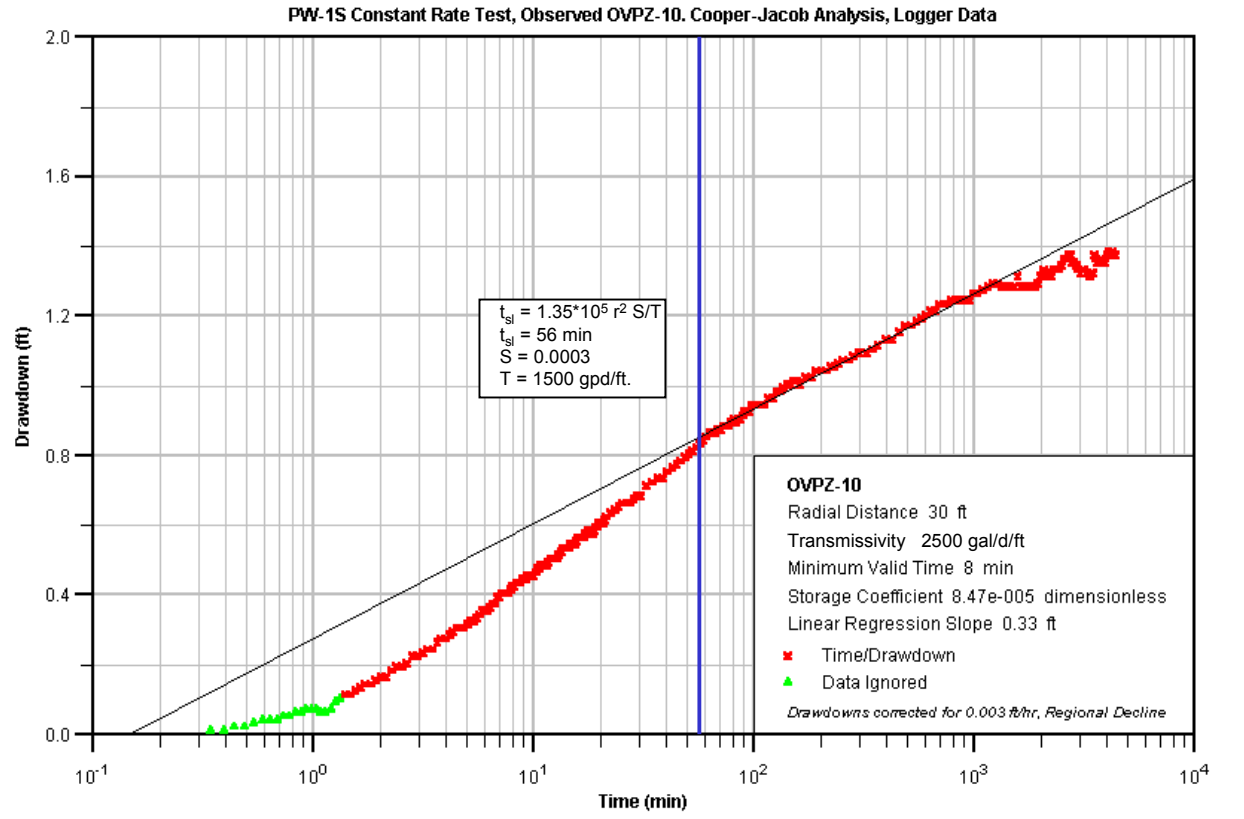


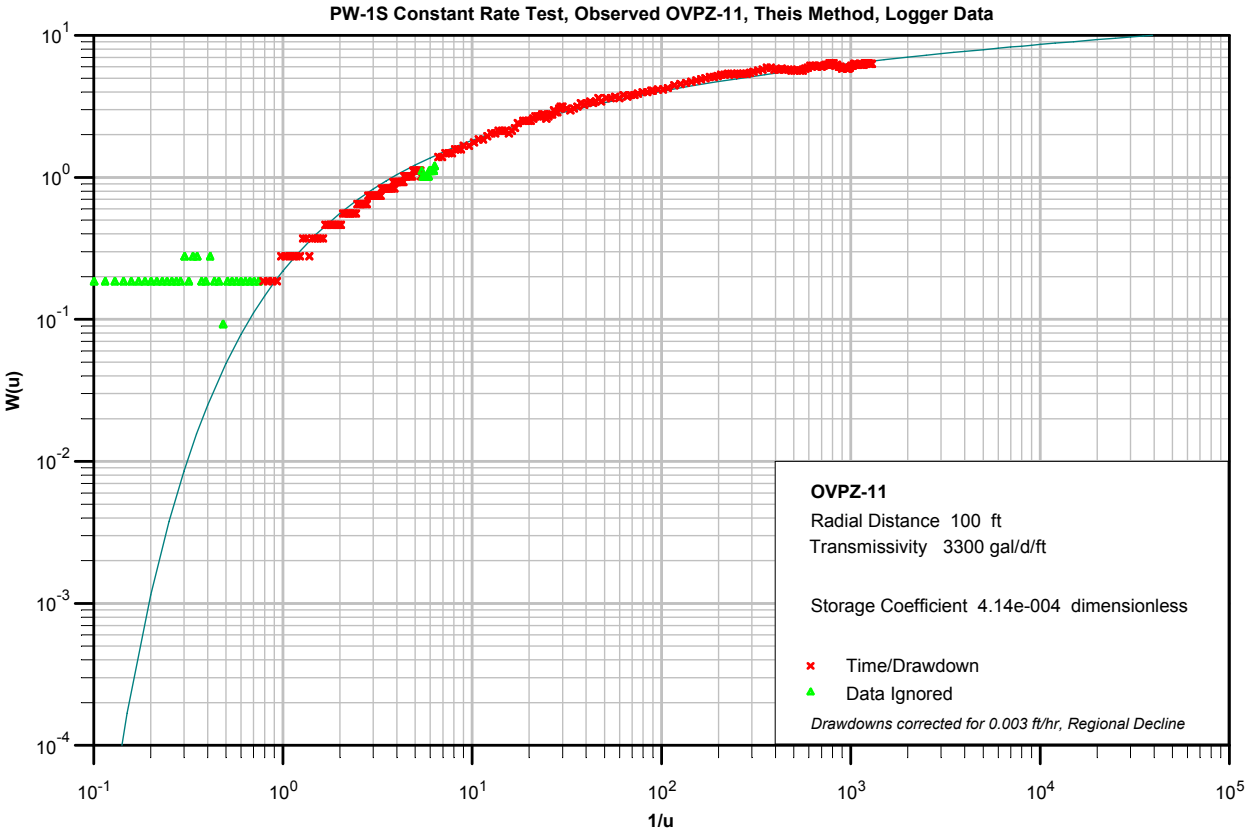
Figure 25
PW-1S, Constant Rate Test Phase,
sd - ts and Drawdown - Log Time

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



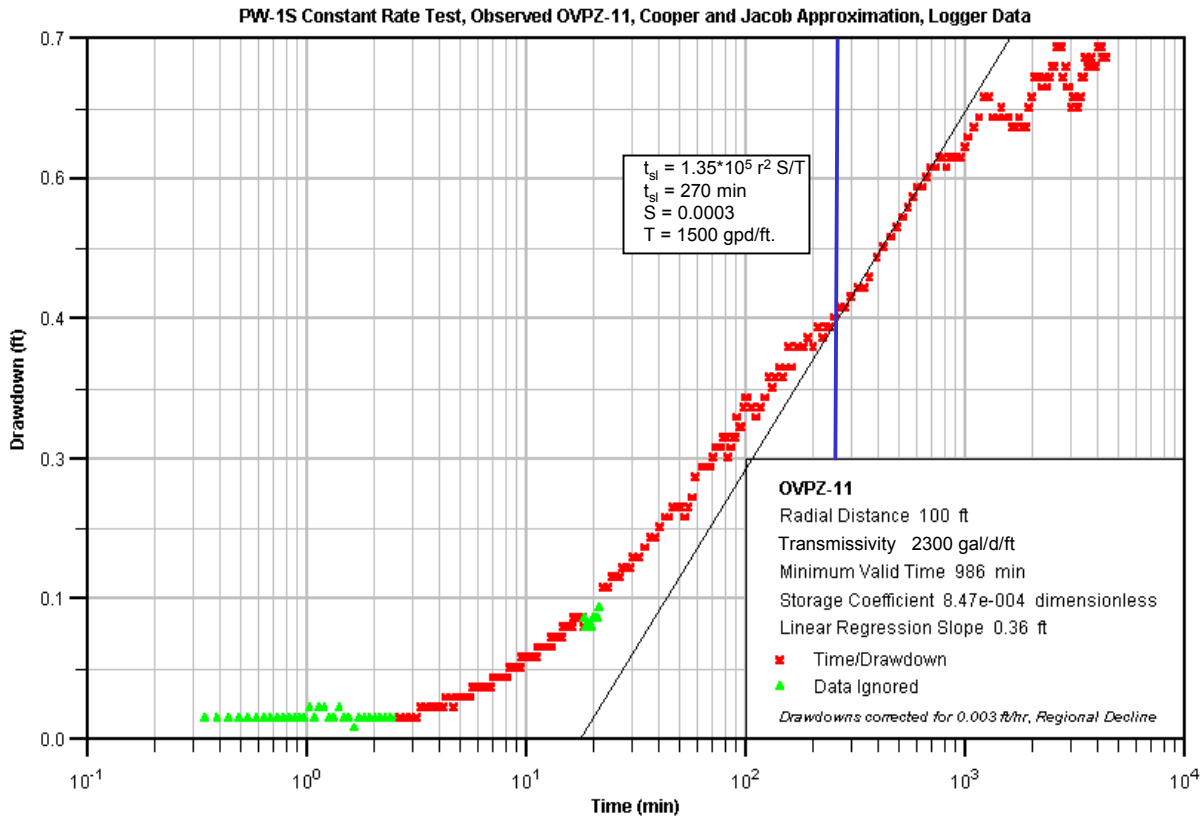
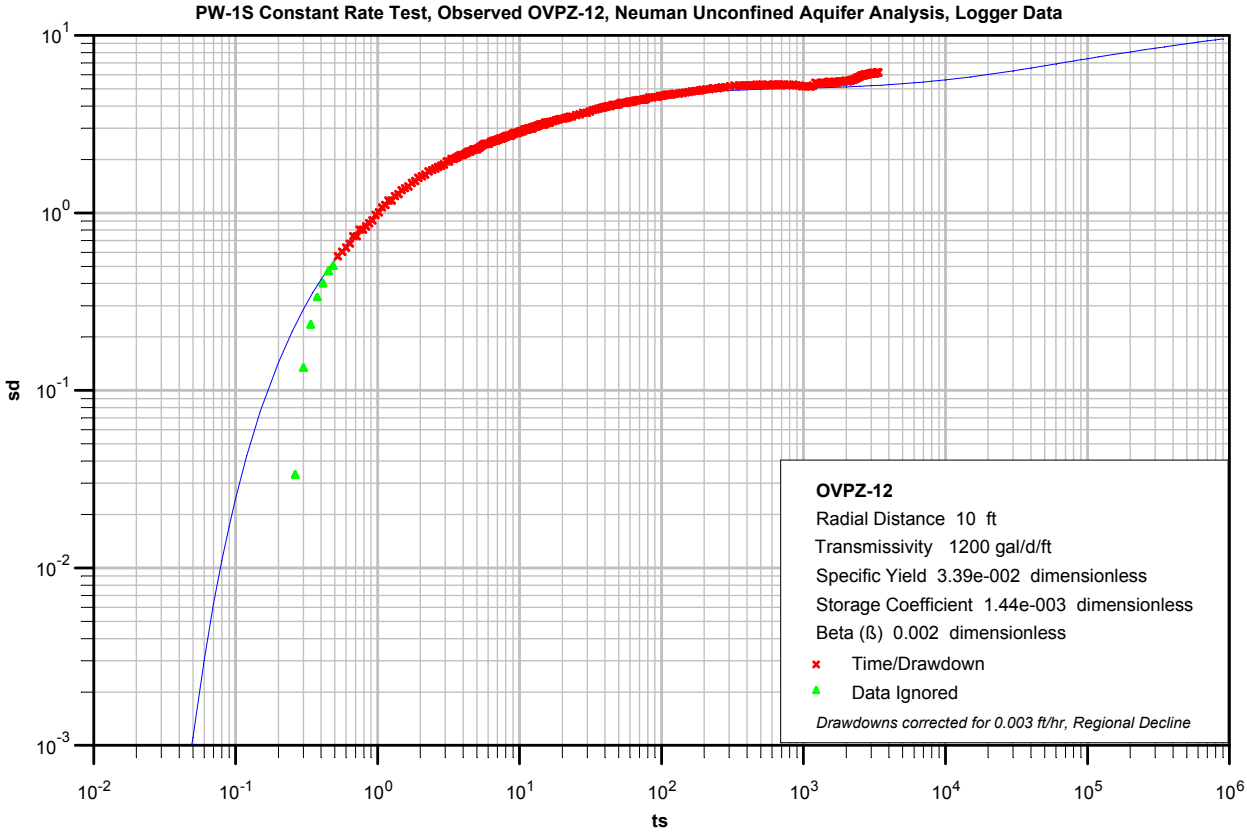


Figure 26
PW-1S, Constant Rate Test Phase,
w(u) - 1/u and Drawdown - Log Time

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



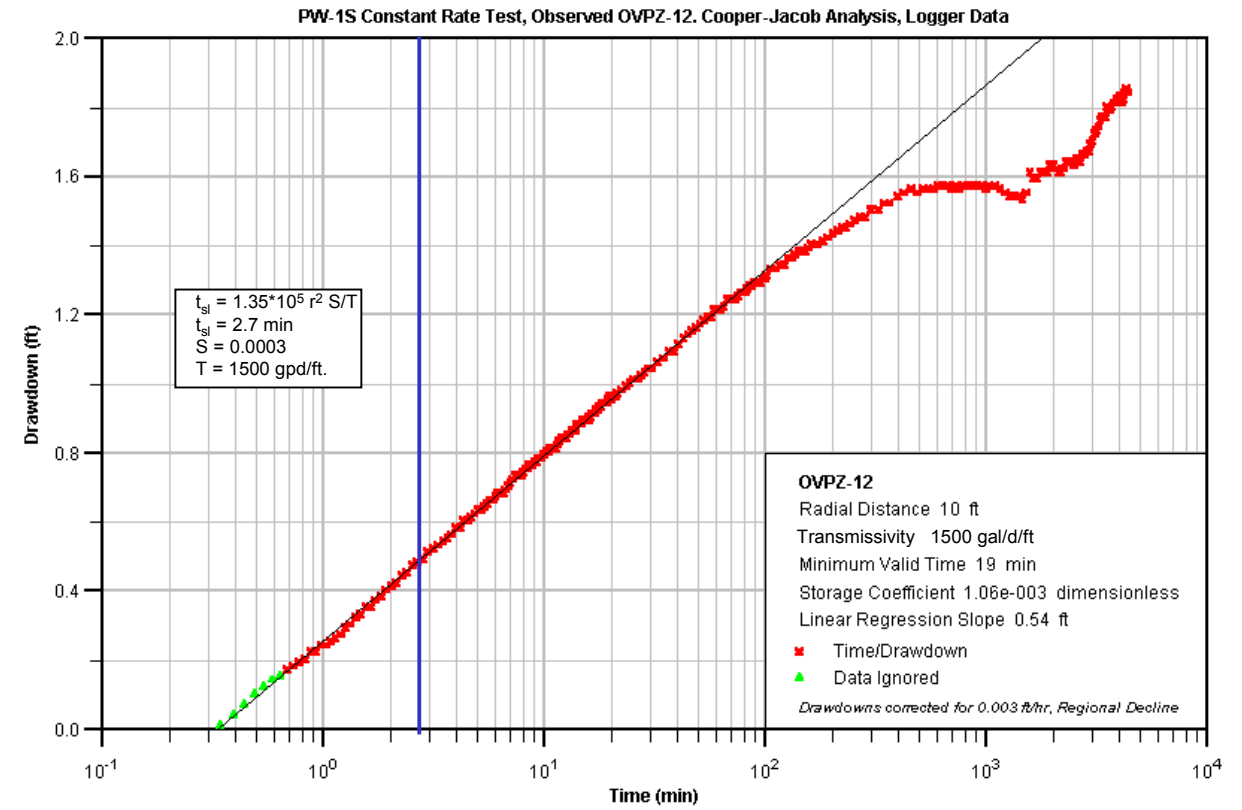


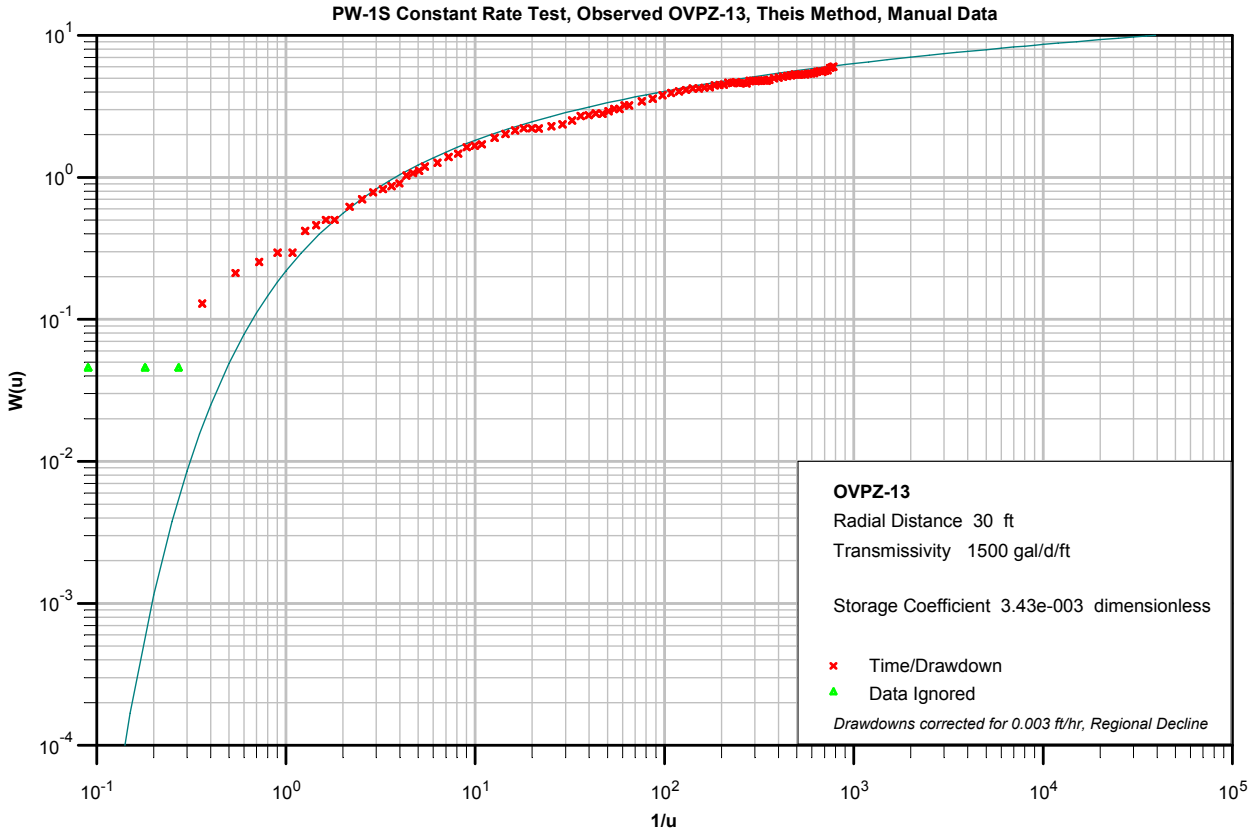
Figure 27
PW-1S, Constant Rate Test Phase,
sd - ts and Drawdown - Log Time

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



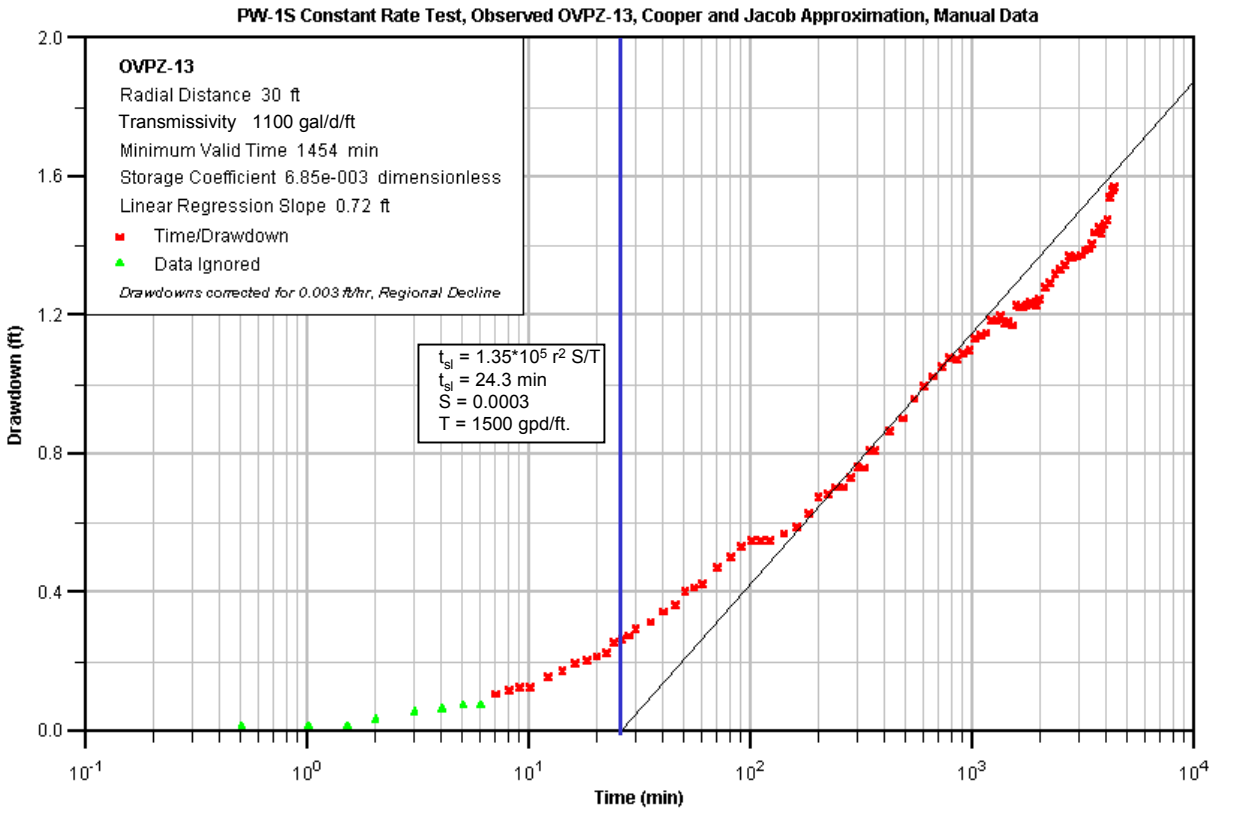
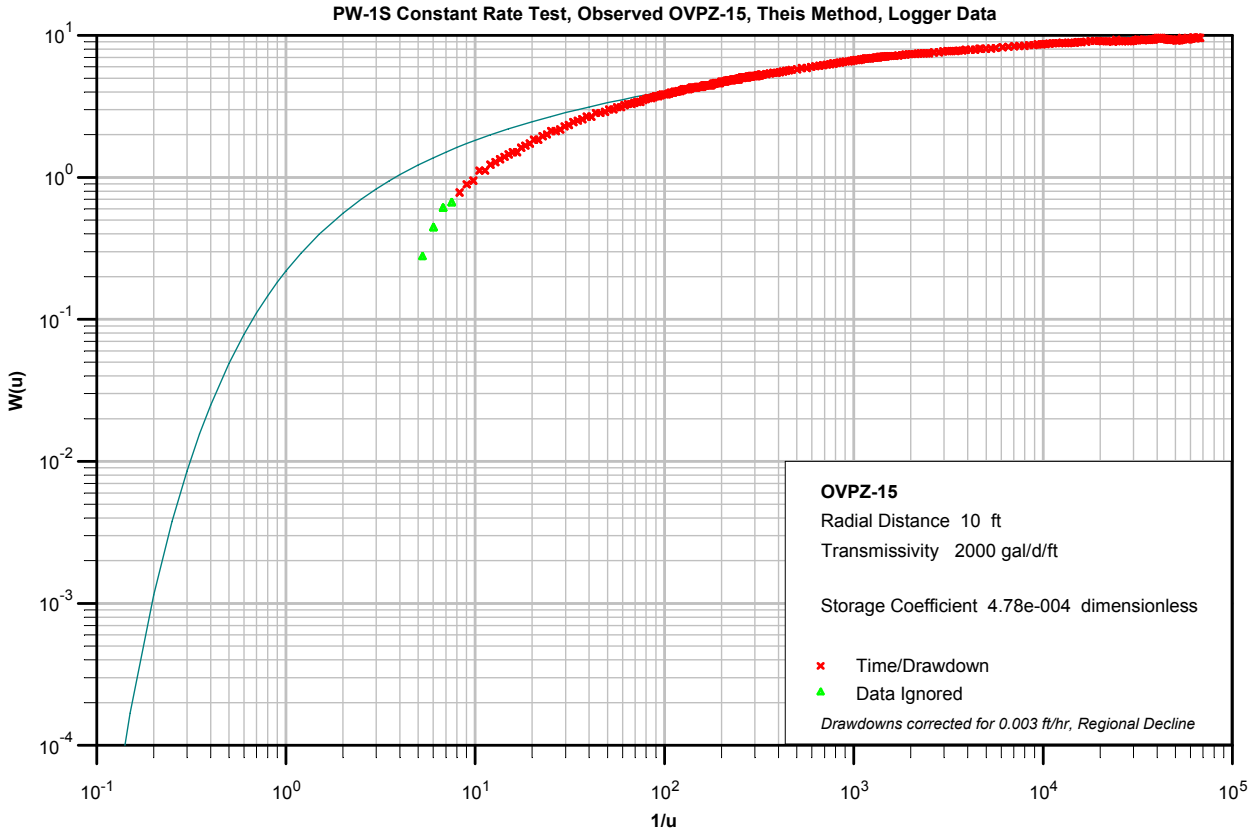


Figure 28
PW-1S, Constant Rate Test Phase,
w(u) - 1/u and Drawdown - Log Time

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



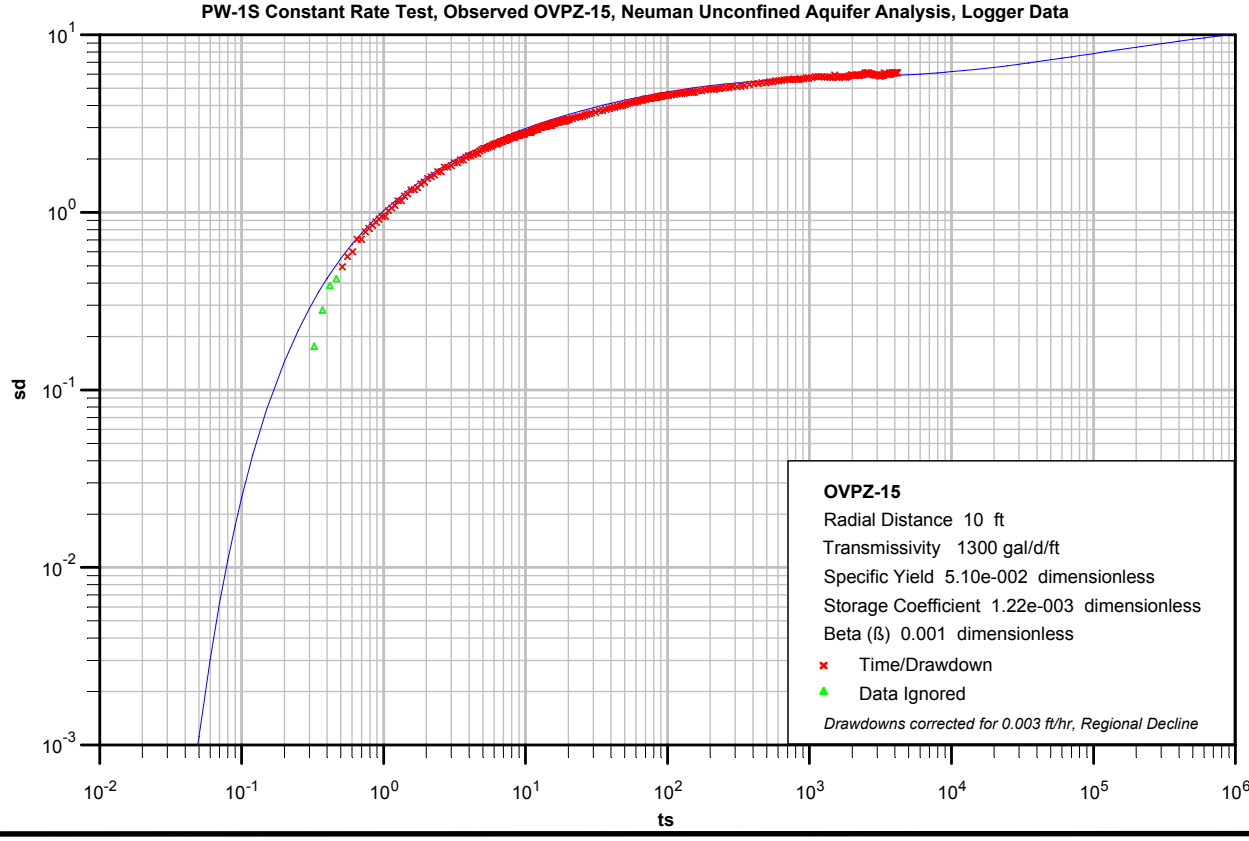


Figure 29
PW-1S, Constant Rate Test Phase,
w(u) - 1/u and sd - ts

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.

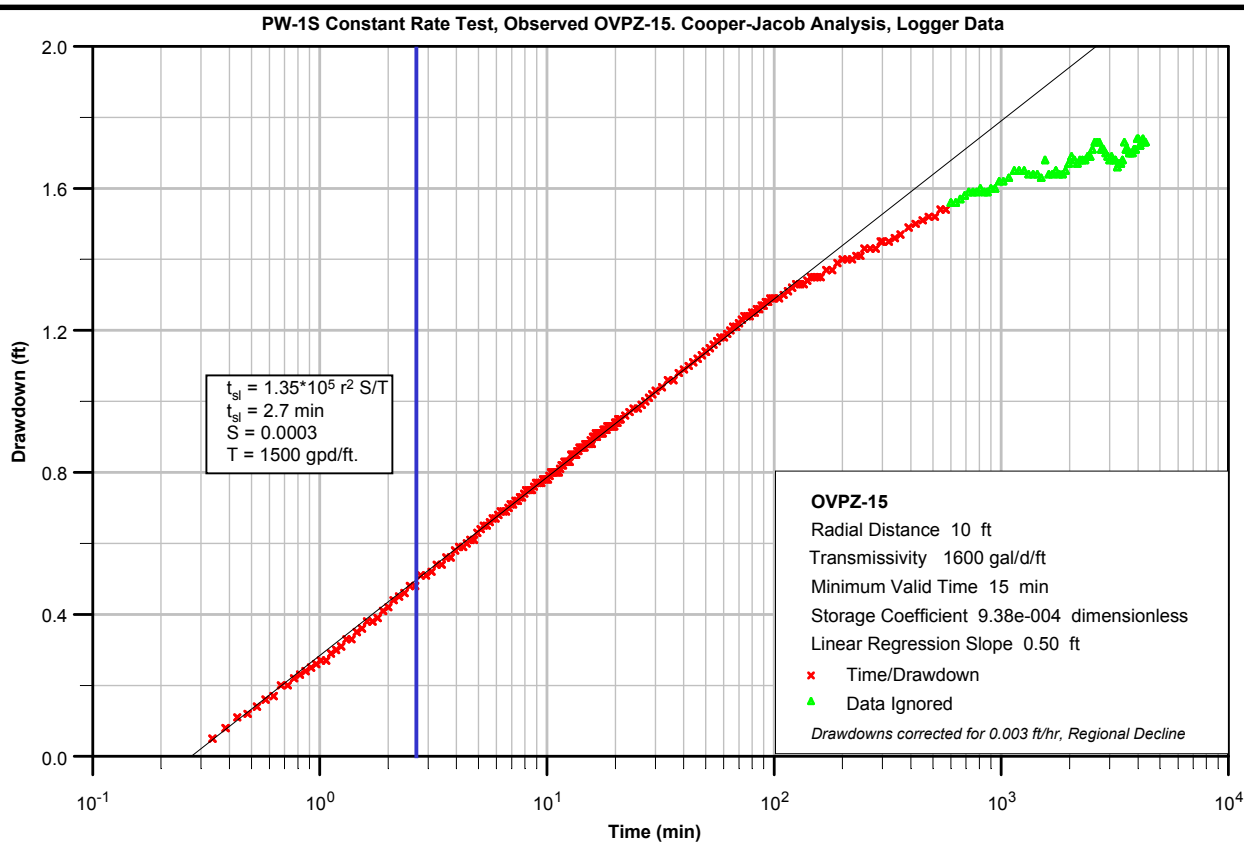
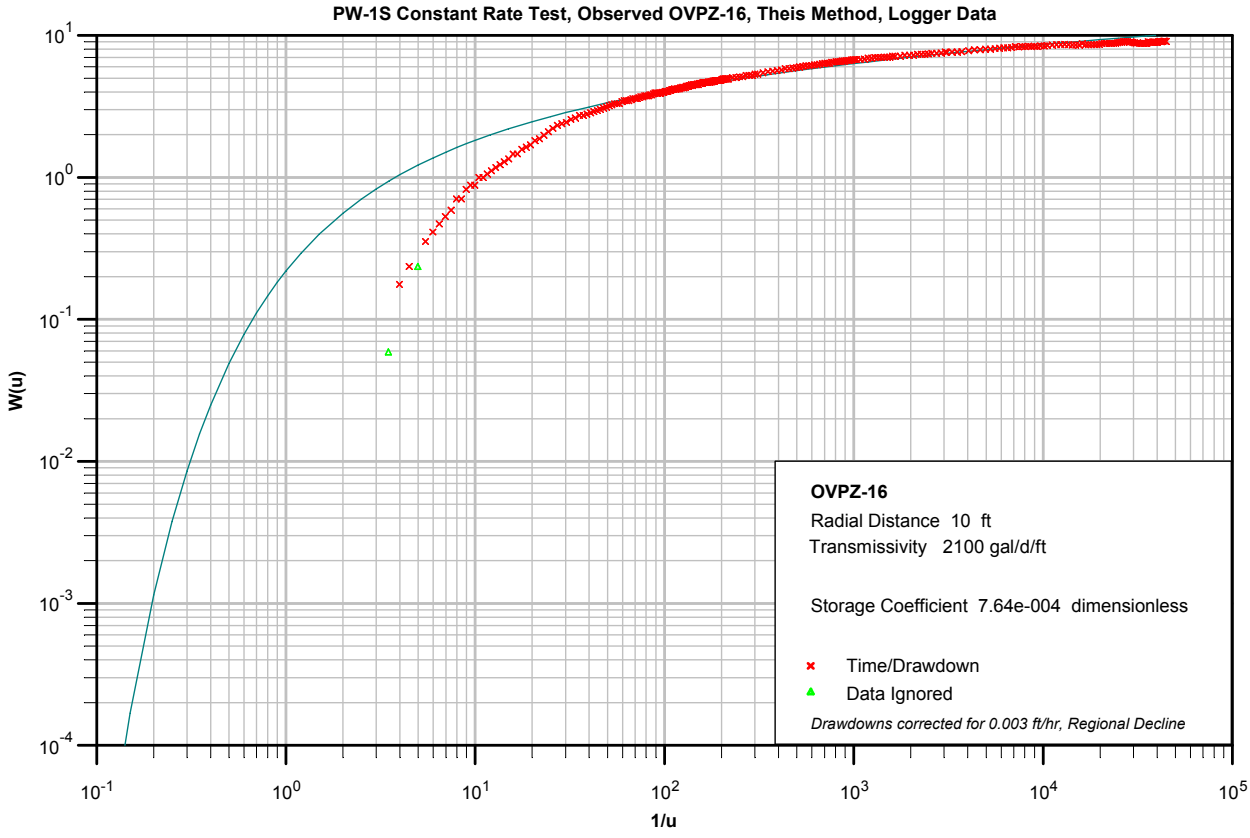


Figure 30
PW-1S, Constant Rate Test Phase,
Drawdown - Log Time

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



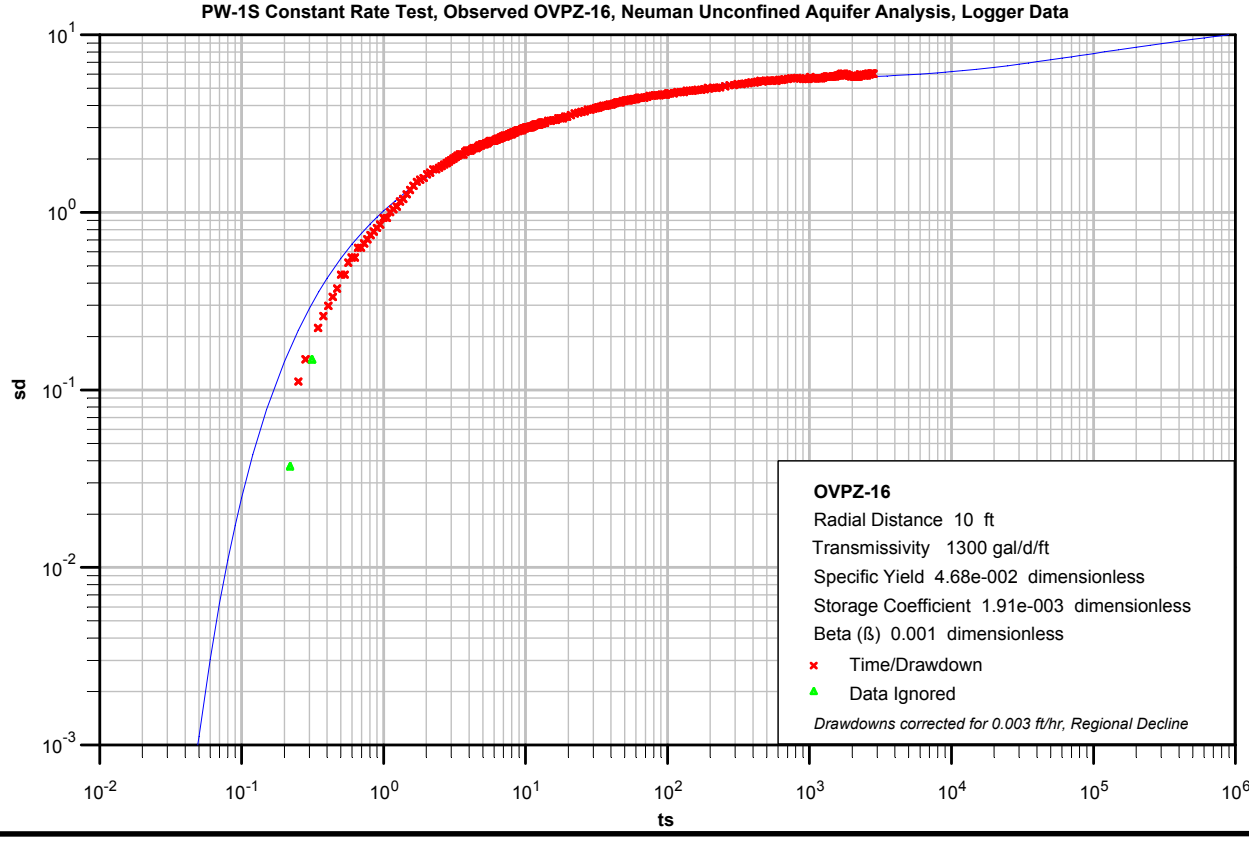


Figure 31
PW-1S, Constant Rate Test Phase,
w(u) - 1/u and sd - ts

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

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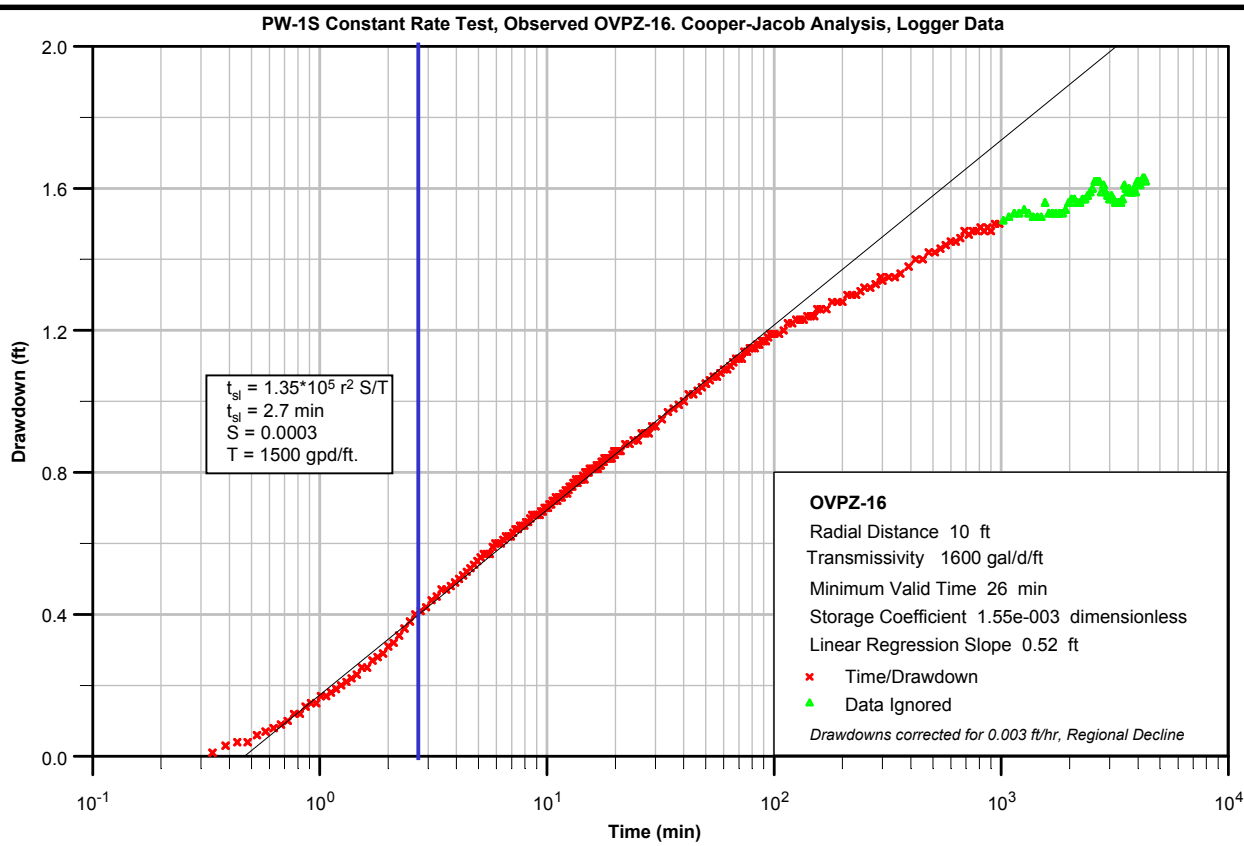


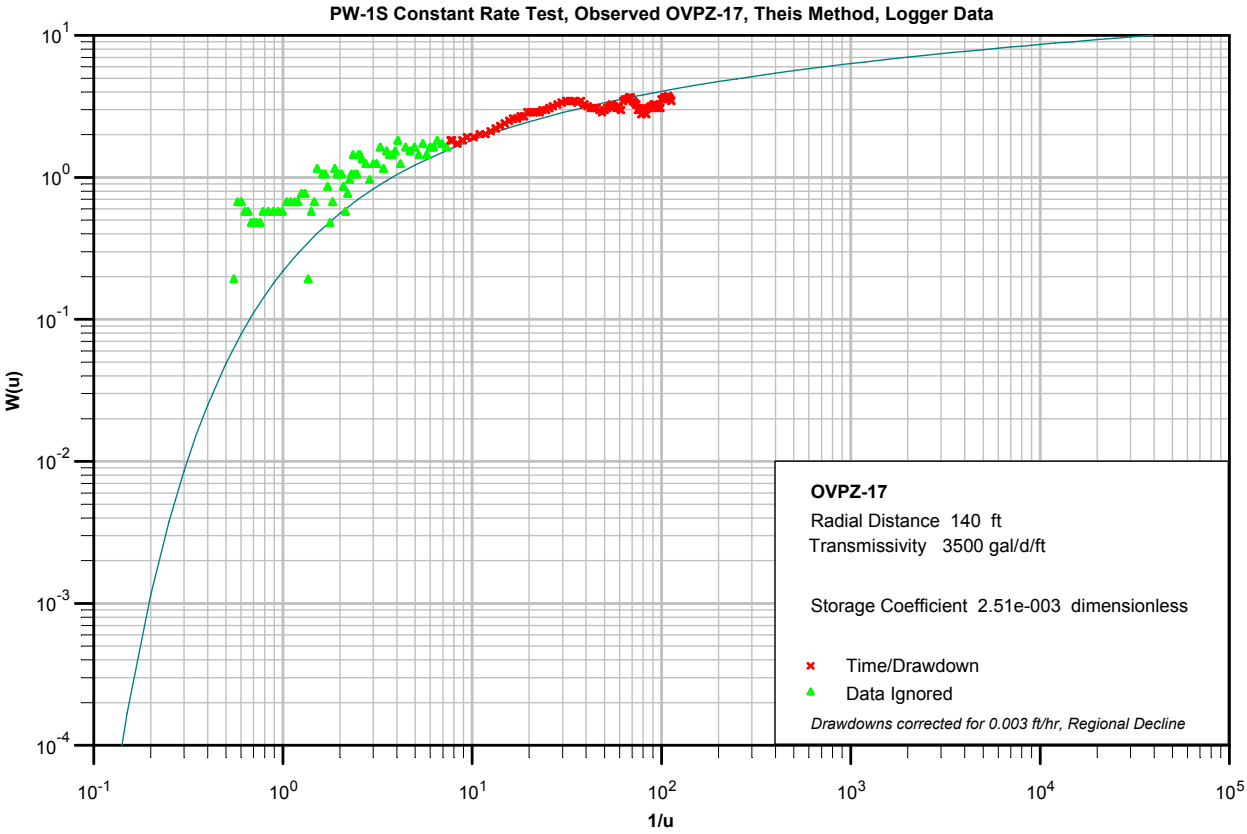
Figure 32
PW-1S, Constant Rate Test Phase,
Drawdown - Log Time

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



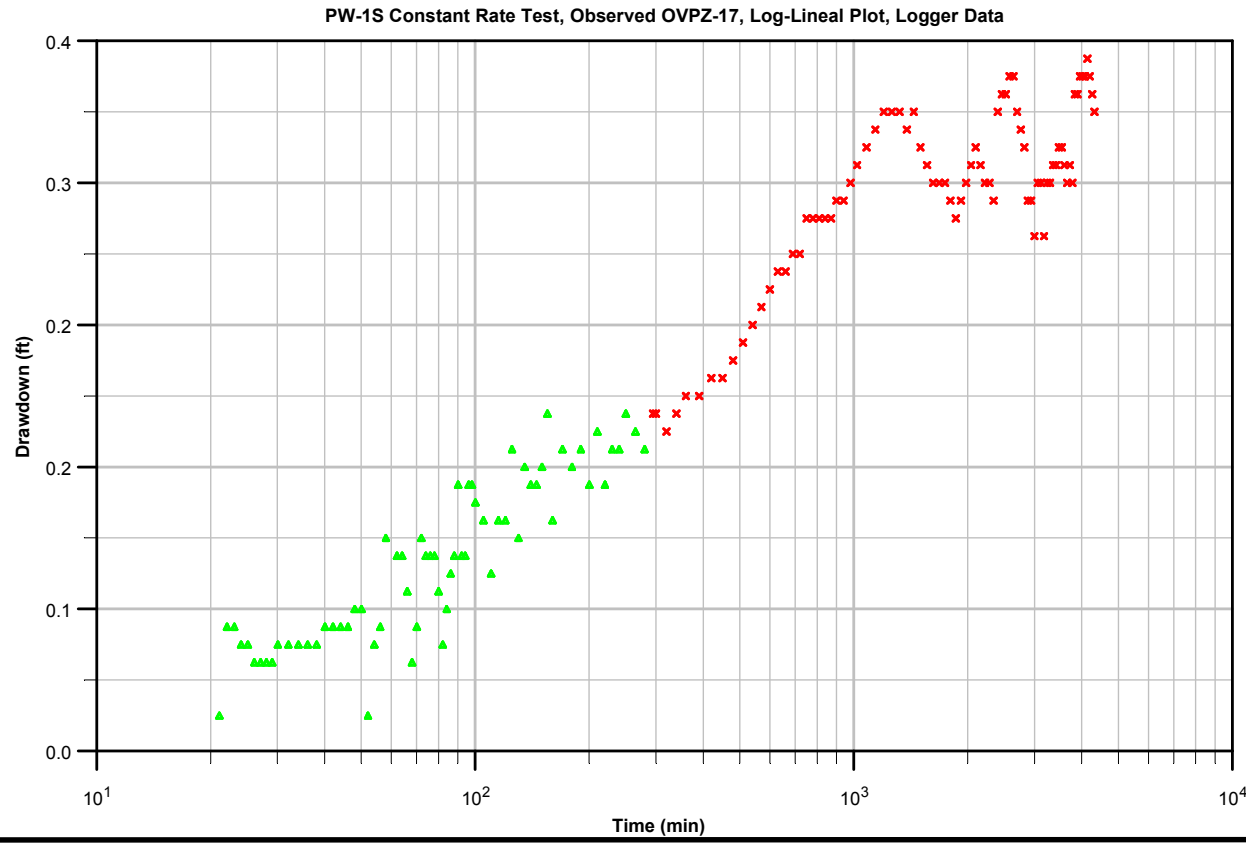


Figure 33
PW-1S, Constant Rate Test Phase,
w(u) - 1/u and Drawdown - Log Time

US Army Corps of Engineers®
FUSRAP Maywood Superfund Site
Shaw Stone & Webster, Inc.

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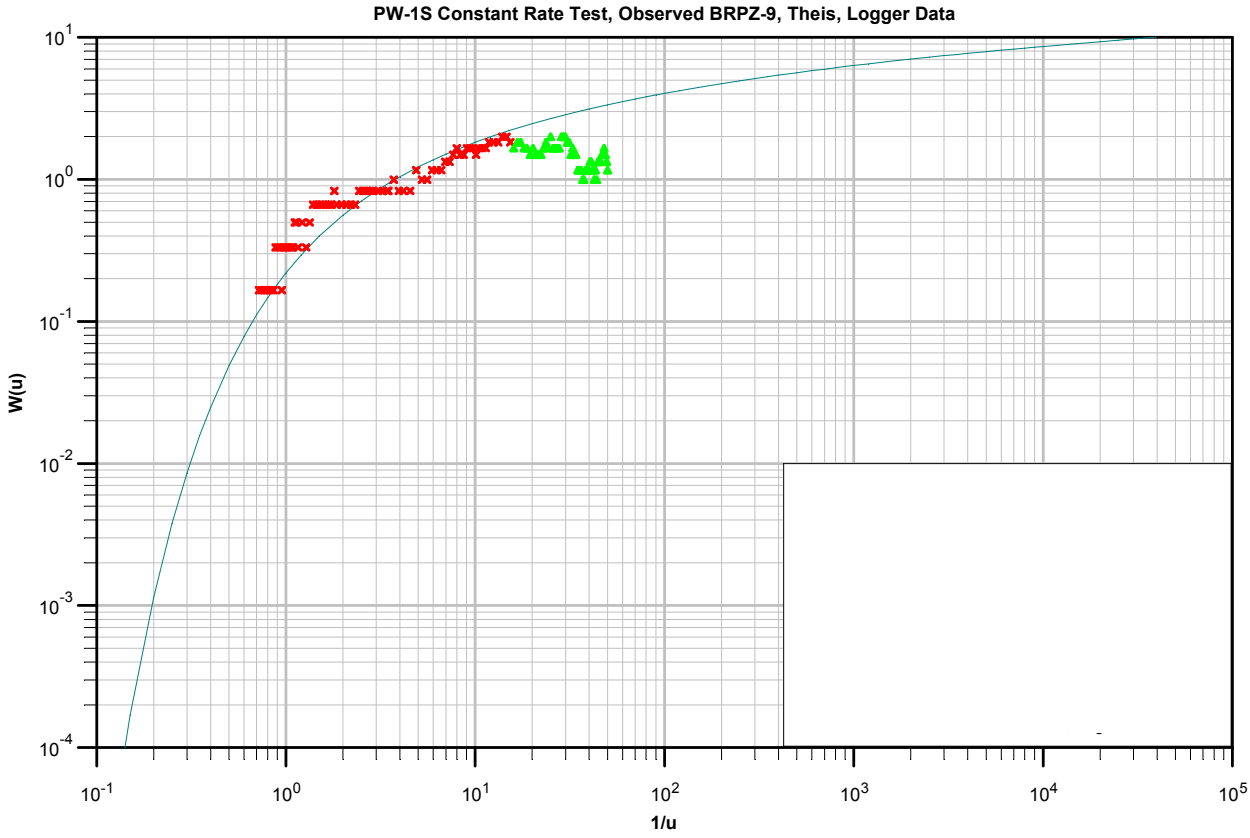


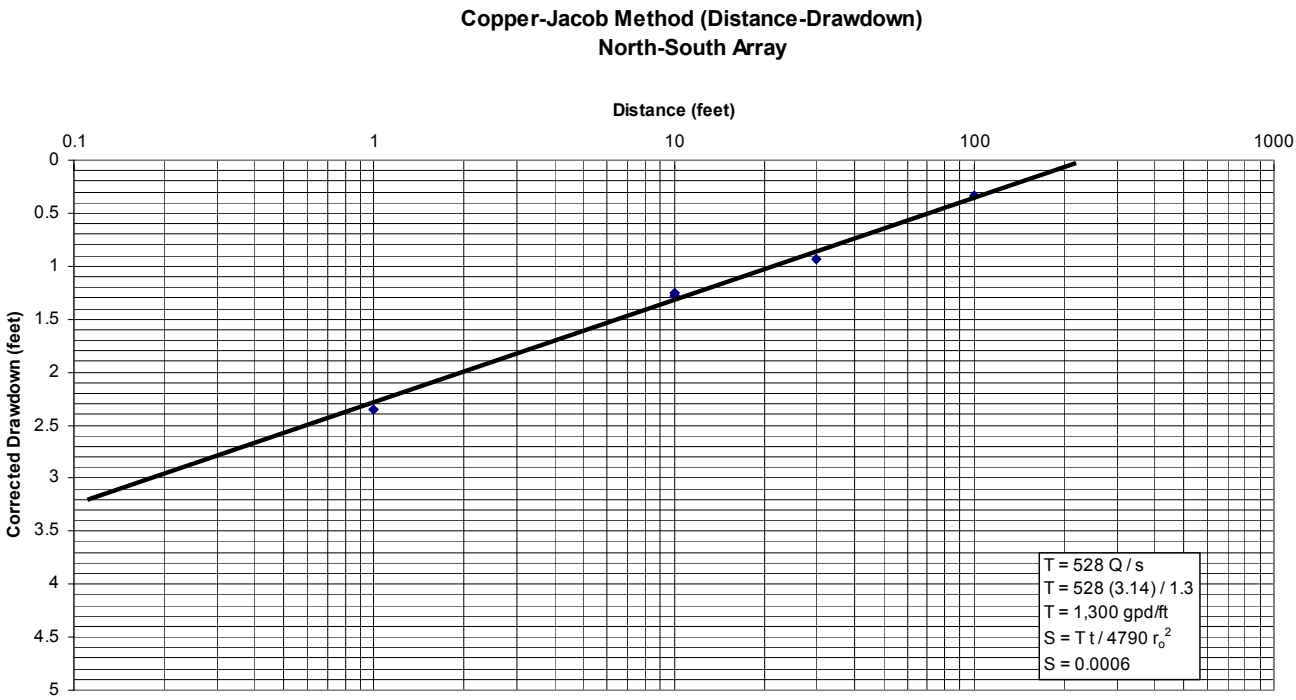
Figure 34
PW-1S, Constant Rate Test Phase,
w(u) - 1/u

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



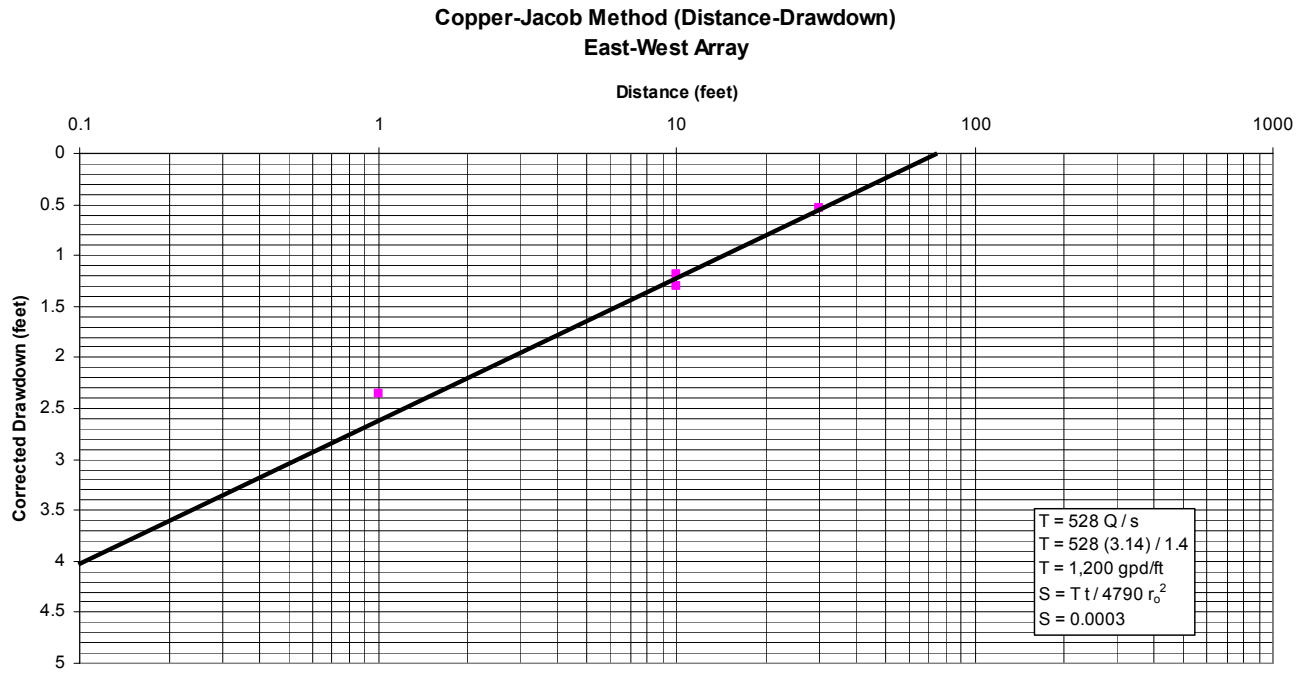


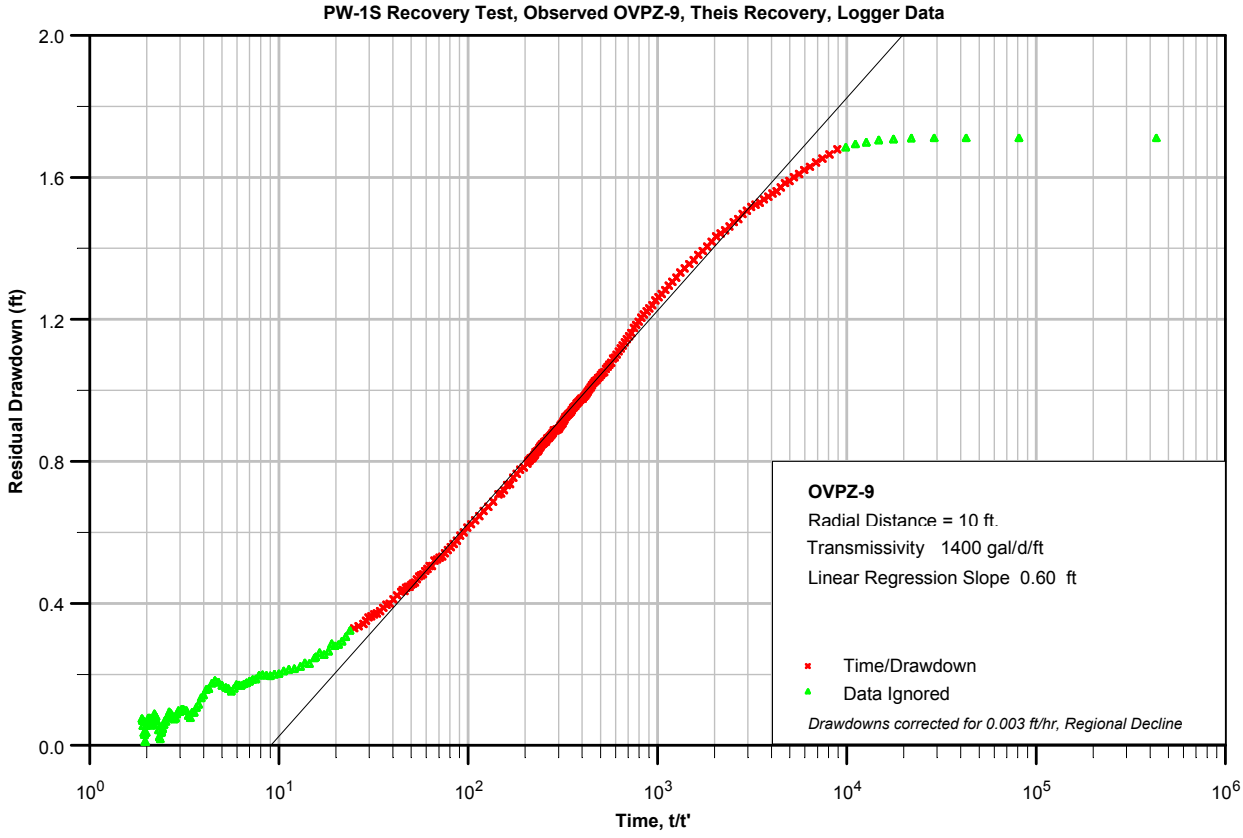
Figure 35
PW-1S, Constant Rate Test Phase,
Distance Drawdown - Log Time

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



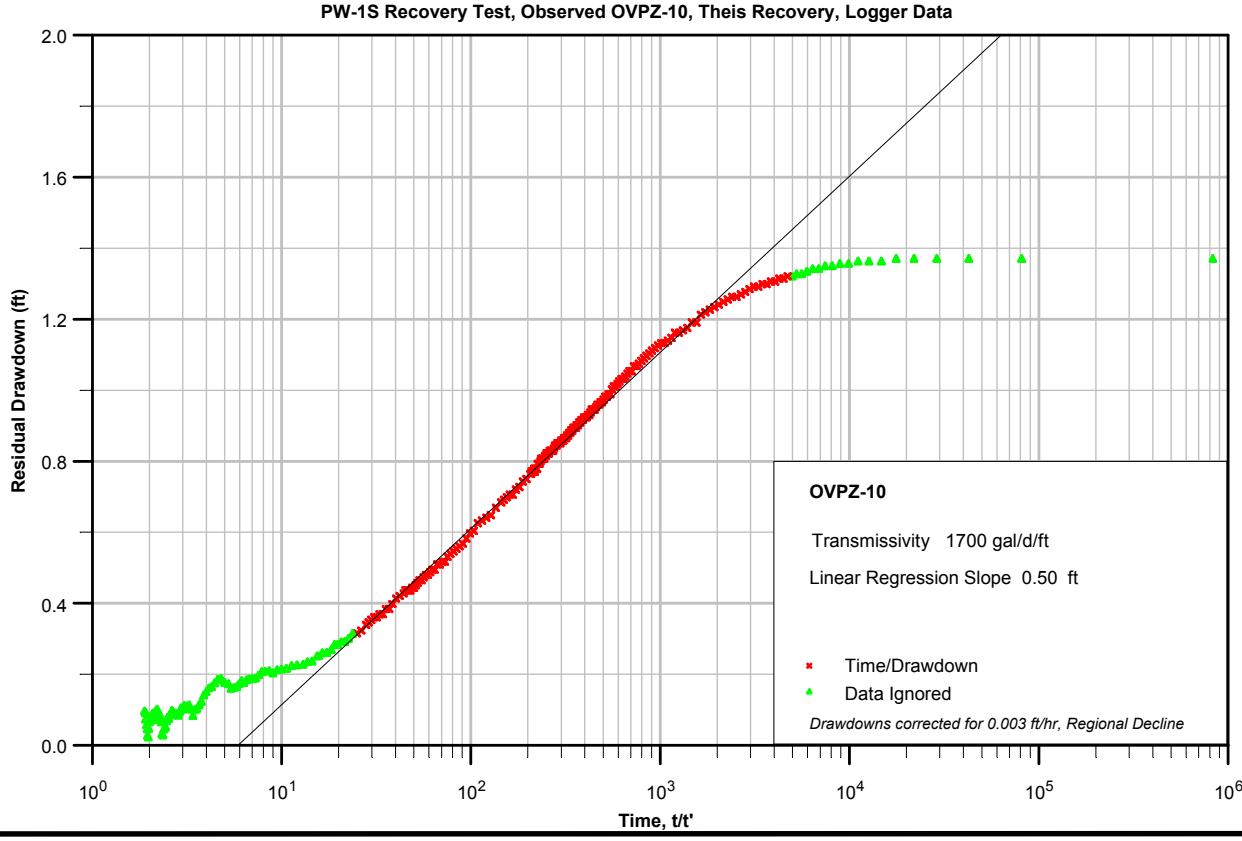


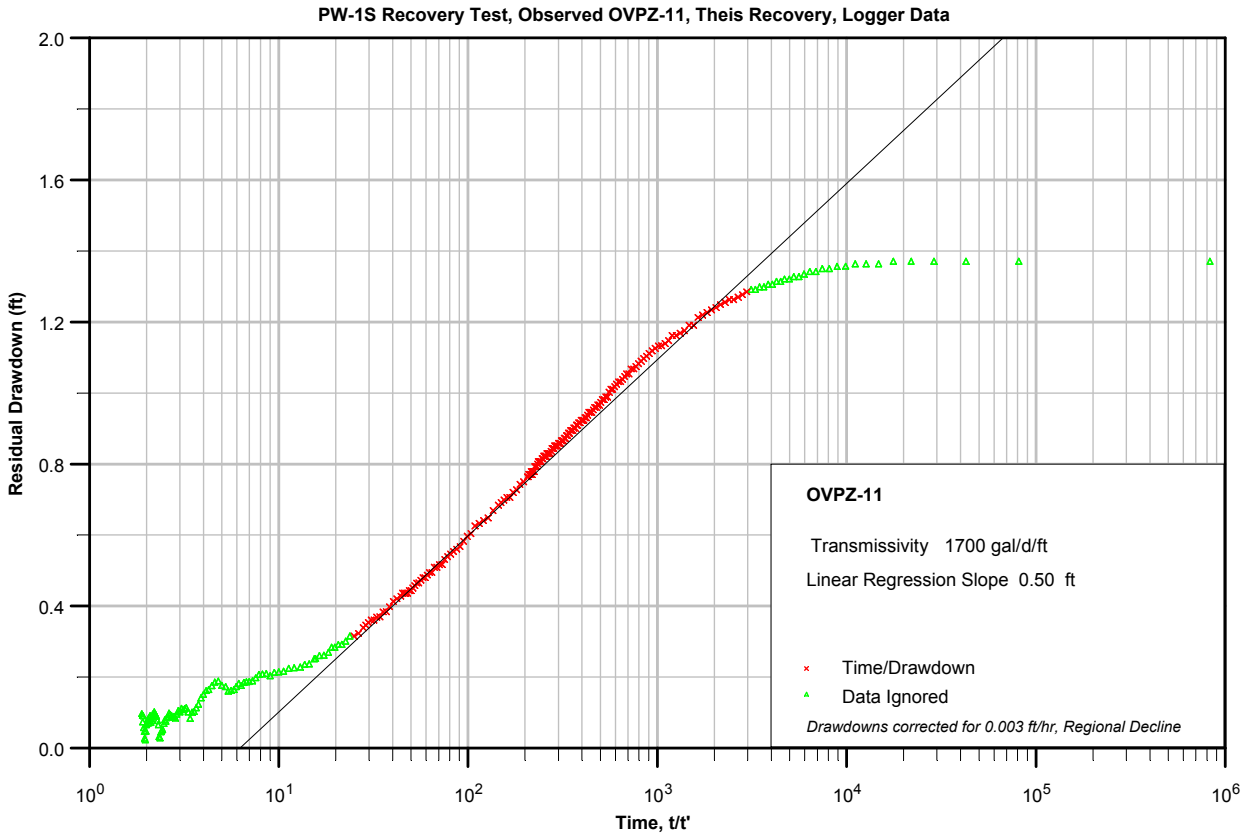
Figure 36
PW-1S, Recovery Test Phase,
Residual Drawdown vs t/t'

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



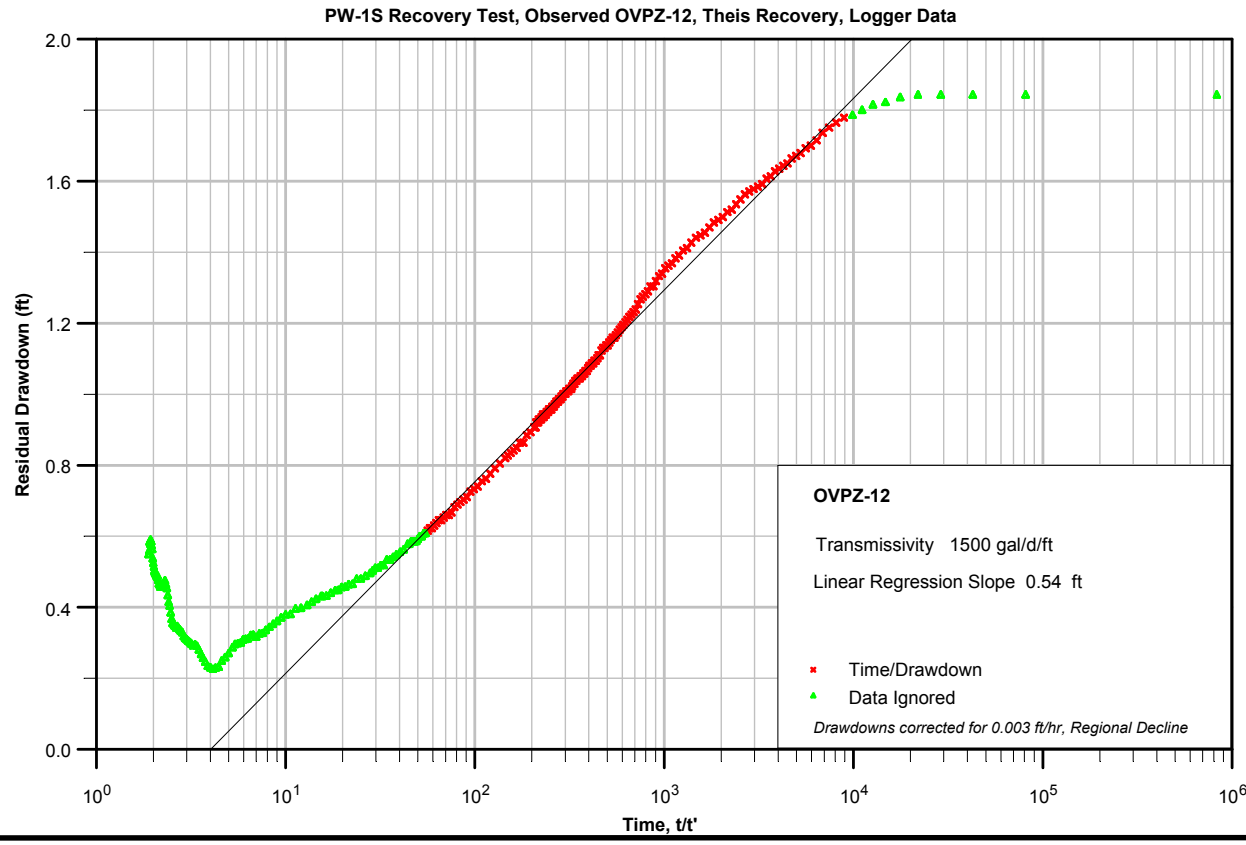


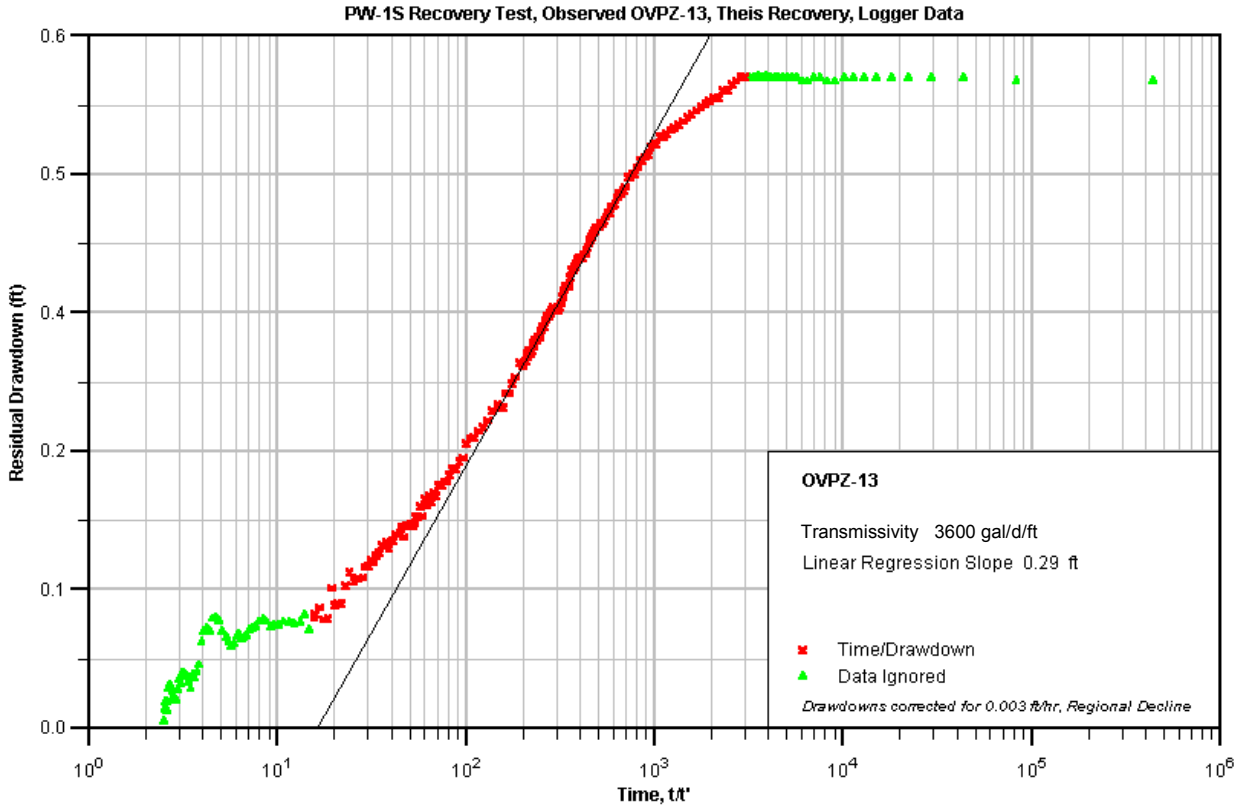
Figure 37
PW-1S, Recovery Test Phase,
Residual Drawdown vs t/t'

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.



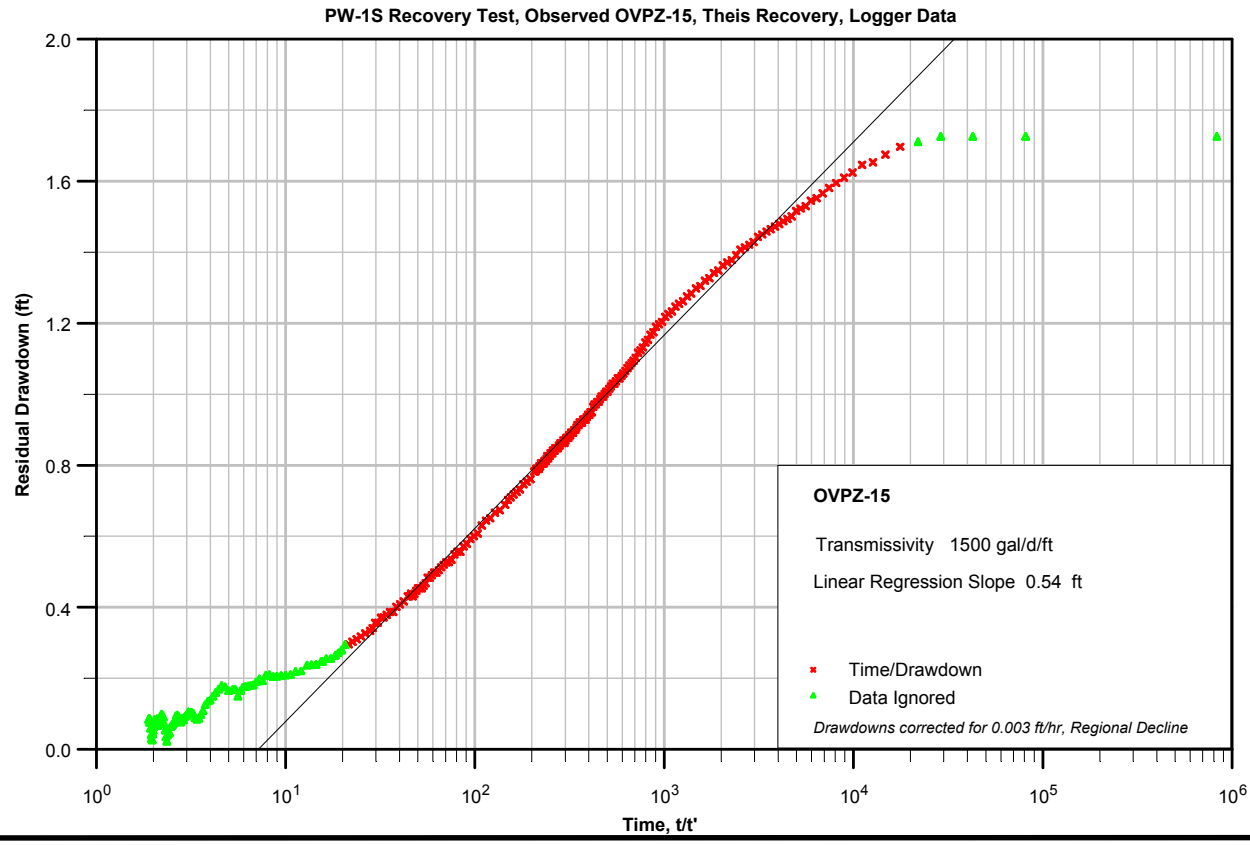


Figure 38
PW-1S, Recovery Test Phase,
Residual Drawdown vs t/t'

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

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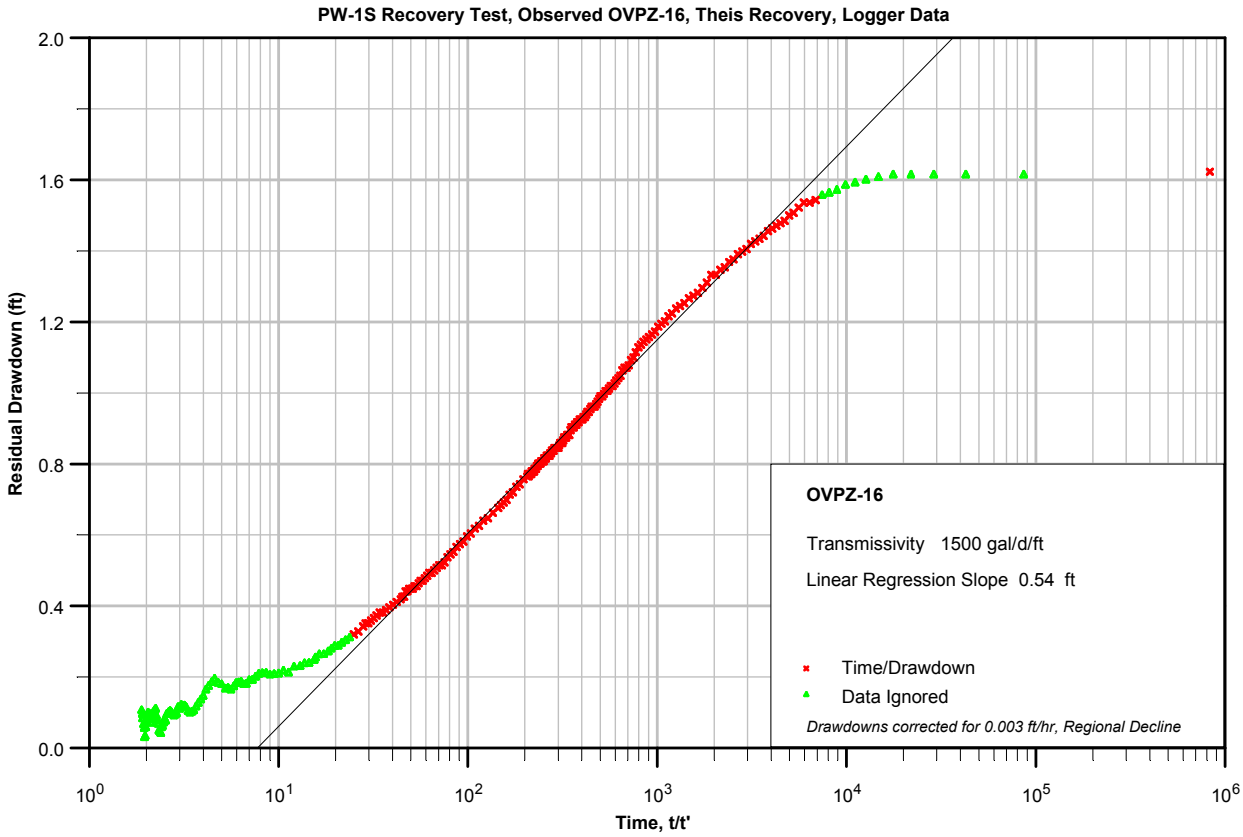

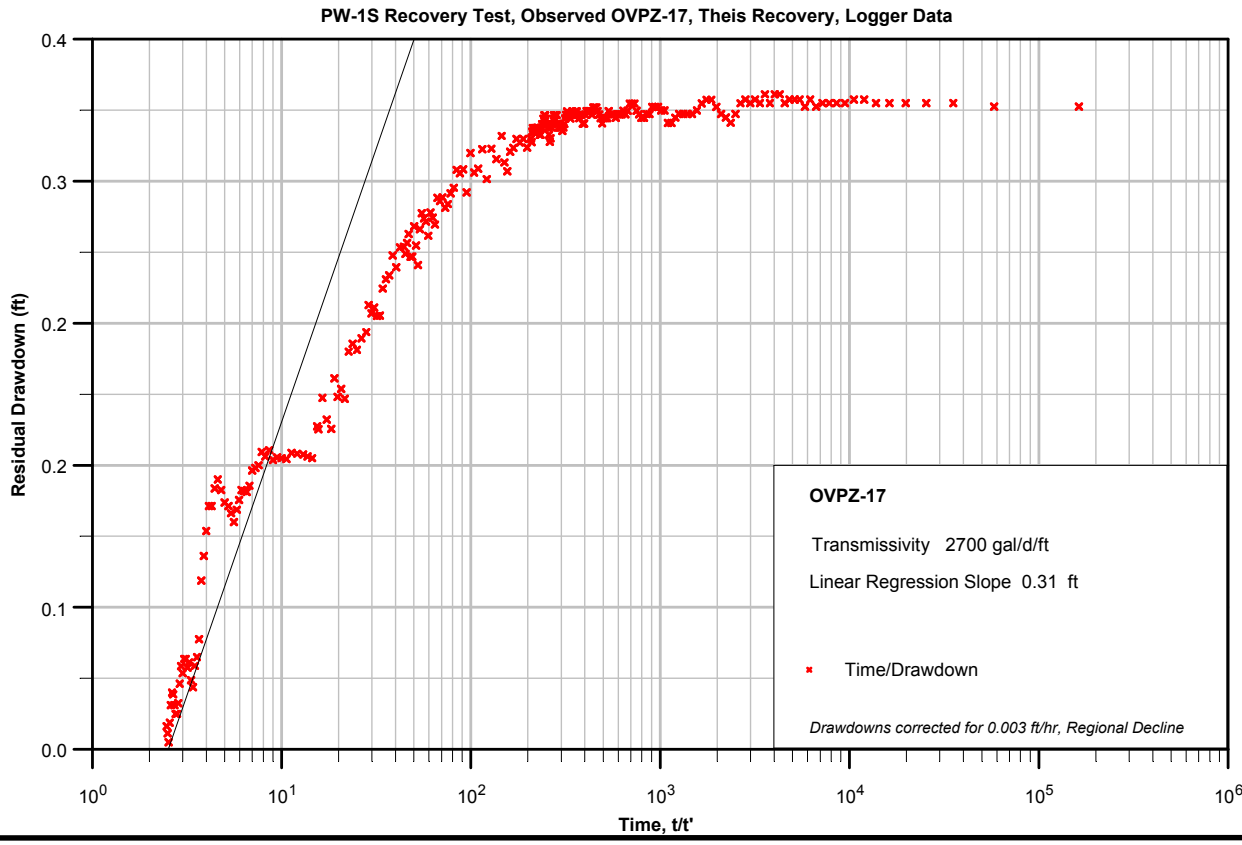

Figure 39
PW-1S, Recovery Test Phase,
Residual Drawdown vs t/t'

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

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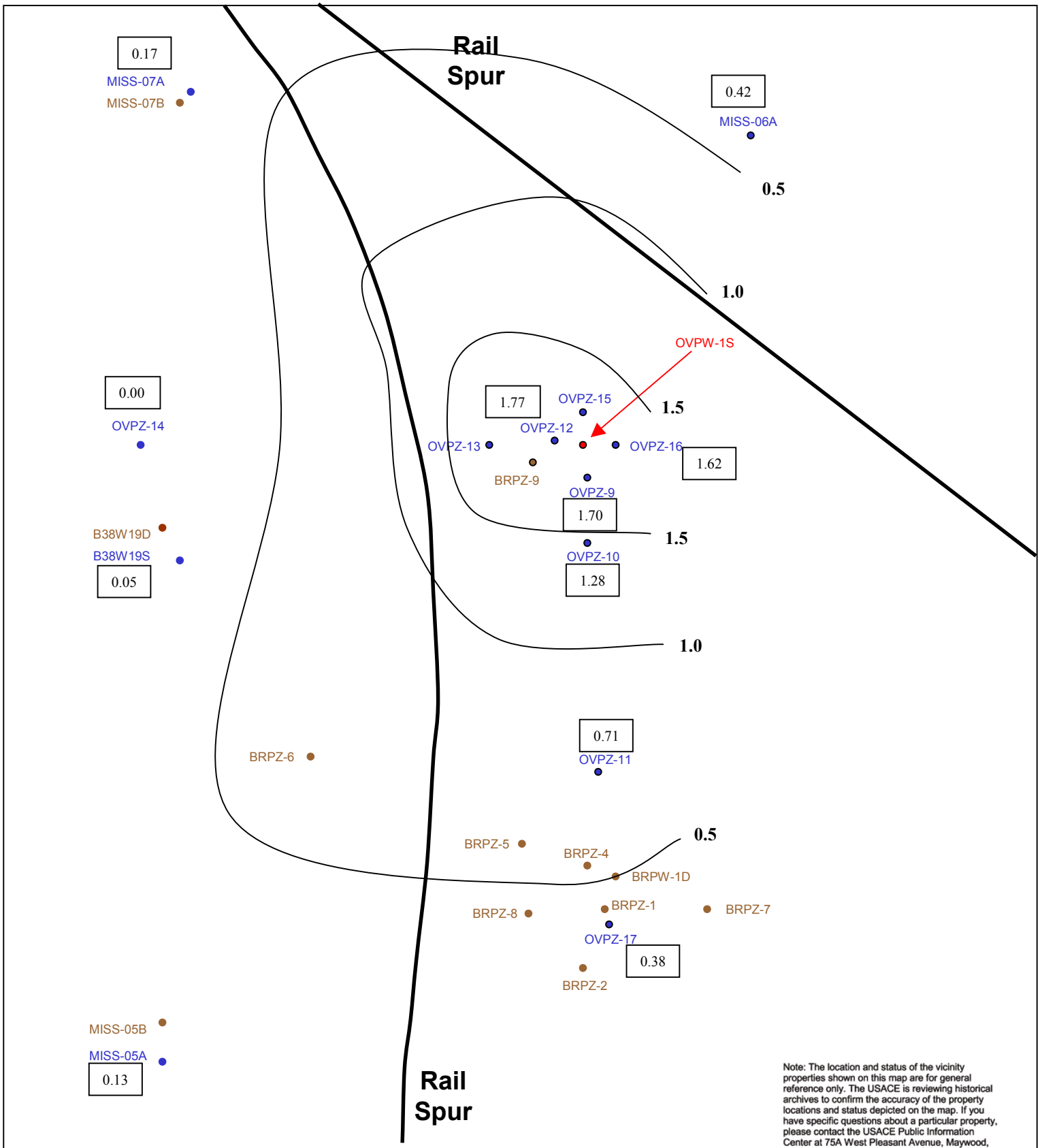

Drawdown values corrected for regional decline.

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LEGEND

OVPZ-10 — Overburden Monitoring Well or Piezometer

BRPZ-9 — Bedrock Monitoring Well or Piezometer

0.13 — Drawdown values (feet) at t=2580 minutes

0 25 50 Feet
APPROXIMATE SCALE

Figure 40
Aquifer Test Drawdown Contour Map

US Army Corps of Engineers® FUSRAP Maywood Superfund Site Shaw Stone & Webster, Inc.

APPENDIX I
GEOPROBE® SOIL PROBE LOGS

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator		23B
Activity Designator		GWR
Field Measurement/Sample Collection Designator		DP
Station Number		001
Media		SB
Sample Type		
Sequential Sample Number		(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-28-00	Date	~~10-00~~ 11/28/00
Time		10 00	Time	10 00
Logger		Remcheck	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____

Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____

Signature (Core Gamma Logging) Date

_____ _____

Signature (Logging) Date

23B-001

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				0-4':									
0.5				BROWN SAND & SILT									
1.0													
1.5													
2.0													
2.5													
3.0													
3.5													
4.0				4-8': BROWN MED TO									
4.5				COARSE SAND W/									
5.0				SOME GRAVEL									
5.5				TIP WET									
6.0													
6.5													
7.0													
7.5													
8.0				8-12 ft:									
8.5				3"-4" RECOVERY									
9.0				COARSE BROWN SAND									
9.5													
10.0				REFUSAL: 8.25 ft									
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
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21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator			23B
Activity Designator			GWR
Field Measurement/Sample Collection Designator			DP
Station Number			002
Media			SB
Sample Type			
Sequential Sample Number			(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-28-00	Date	11-28-00
Time		10 10	Time	10 10
Logger		Remcheck	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____

Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____

Signature (Core Gamma Logging) Date

_____ _____

Signature (Logging) Date

P:\3674011\Sampling forms\GWRI Soil Probe Log Sheet.doc

23B-002

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-1 ft: ASPHALT									
0.5				GRAVEL & RED									
1.0				BROWN									
1.5				1-4 ft: yellow									
2.0				grey & SILT									
2.5				w/ SHALE FRAGMENTS.									
3.0													
3.5				4-8 ft: MOIST									
4.0				RED/BROWN & GREEN									
4.5				BROWN SILT & CLAY									
5.0				w/ LITTLE SM									
5.5				2-3 ft recovery									
6.0													
6.5				8-12 ft: WET									
7.0				RED/BROWN SILT & CLAY									
7.5				2-3 ft recovery									
8.0													
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
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21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	23B
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	003
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-28-00	Date	11-28-00
Time		10 35	Time	10 35
Logger		REMCHECK	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

23 B-003

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-4 ft:									
0.5				3 ft RECOVERY									
1.0				0 - 0.5 ft: ASPHALT									
1.5				& STONE									
2.0				0.5 - 4 ft: BROWN									
2.5				& GRAY / BROWN									
3.0				SILT & CLAY									
3.5				(SOME MOISTURE)									
4.0													
4.5				4-8 ft: 3.5 ft									
5.0				RECOVERY									
5.5				BROWN MED. TO									
6.0				COARSE SAND									
6.5													
7.0				DTW = 8.0 ft.									
7.5													
8.0				8-12 ft. WET									
8.5				(STANDING WET)									
9.0				BROWN & RED									
9.5				BROWN									
10.0				1.5 ft RECOVERY									
10.5													
11.0													
11.5													
12.0				12 ft. BOTTOM OF									
12.5				BORING.									
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator	23B
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	004
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date	[redacted]	11-28-00	Date	11-28-00
Time	[redacted]	11 00	Time	11 00
Logger	[redacted]	REMCHECK	Logger	REMCHECK
Detector Model #	[redacted]		PID Model #	Multi RAE
Detector Serial #	[redacted]		PID Serial #	CENAN 21811
Scaler Model #	[redacted]			
Scaler Serial #	[redacted]			

QA/QC Information

Mixing Bowl/Trowel Lot No.:
Applicable Trip Blank No.:

Comments:

1. MPI No. _____
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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236-004

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-1 ft: ASPHALT/									
0.5				Gravel									
1.0													
1.5				1-4 ft: BROWN									
2.0				& GRAY BROWN SAND									
2.5				SILT & CLAY W/									
3.0				SOME GRAVEL									
3.5				DARK GRADING TO									
4.0				LIGHT BROWN.									
4.5				3ft RECOVERY									
5.0													
5.5				4-8 ft: 3.5 ft RECOVERY									
6.0				RED/BROWN SILT,									
6.5				SAND & CLAY									
7.0				GRADING TO LIGHT									
7.5				BROWN COARSE TO									
8.0				MED SAND. DRY									
8.5				@ TIP WET @									
9.0				2 ft DOWN									
9.5				DTW 6 ft									
10.0													
10.5				8-12 ft:									
11.0				1.5 ft RECOVERY									
11.5				BROWN COARSE TO MED									
12.0				SAND									
12.5													
13.0				12 ft: BOTTOM OF									
13.5				BORING									
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	238
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	005
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-28-00	Date	11-28-00
Time		13 45	Time	1345
Logger		REMCHECK	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____
2. Direct-push location grouted with BenSeal

Signature (Core Gamma Logging) _____ Date _____

Signature (Logging) _____ Date _____

23 B-005

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-0.5ft: 3.5ft RECOVERY									
0.5				ASPHALT & STONE									
1.0				0.5-4ft:									
1.5				DARK BROWN GRADING TO									
2.0				LIGHT BROWN SILT									
2.5				WITH LITTLE CLAY									
3.0													
3.5													
4.0				4-8ft: VERY WET									
4.5				LIGHT BROWN SILT									
5.0				GRADING TO BROWN									
5.5				MED TO COARSE									
6.0				SAND									
6.5				~3ft RECOVERY									
7.0													
7.5													
8.0				8-12ft: VERY WET									
8.5				BROWN SAND									
9.0				GRADING TO RED/									
9.5				BROWN SAND, SILT									
10.0				AND GRAVEL.									
10.5													
11.0				12ft: BOTTOM OF									
11.5				BORING									
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	23 B
Activity Designator	GWRI
Field Measurement/Sample Collection Designator	DP
Station Number	006
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date	[redacted]	11-28-00	Date	11-28-00
Time	[redacted]	1420	Time	1420
Logger	[redacted]	REMCHECK	Logger	REMCHECK
Detector Model #	[redacted]		PID Model #	Multi-RAE
Detector Serial #	[redacted]		PID Serial #	CENAN 21811
Scaler Model #	[redacted]			
Scaler Serial #	[redacted]			

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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23B-006

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-0.5 ft:									
0.5				ASPHALT & GRAVEL									
1.0				0.5-4 ft:									
1.5				BROWN TO LIGHT									
2.0				BROWN SILT w/									
2.5				CLAY & LITTLE SAND									
3.0													
3.5													
4.0				4-8 ft: WET									
4.5				~3 ft RECOVERY.									
5.0				BROWN SILT & CLAY									
5.5				GRADING TO RED/BROWN									
6.0				SILT & SAND w/									
6.5				SOME GRAVEL									
7.0				DTW: 4 ft.									
7.5													
8.0				8-11 ft:									
8.5				REFUSAL @ 11 ft.									
9.0				BROWN SAND &									
9.5				SILT GRADING TO									
10.0				FRACTURED RED BEDROCK.									
10.5				(RED/BROWN SANDSTONE)									
11.0				11 ft BOTTOM OF									
11.5				BORING.									
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	238
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	007
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-28-00	Date	11-28-00
Time		14 45	Time	14 45
Logger		REMCHECK	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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23B-007

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-4 ft:									
0.5				~2.5 ft RECOVERY									
1.0				0-0.5 ft: ASPHALT/									
1.5				GRAVEL									
2.0				0.5-4 ft:									
2.5				DARK BROWN & BROWN									
3.0				SILT, CLAY, & SAND									
3.5				GRADING TO BROWN									
4.0				MED SAND									
4.5													
5.0				4-8 ft: VERY WET									
5.5				3.5 ft RECOVERY									
6.0				BROWN MED SAND									
6.5				GRADING TO									
7.0				RED BROWN SILT AND									
7.5				SAND									
8.0				DTW: 4 ft									
8.5													
9.0				8-12 ft: WET									
9.5				RED/BROWN SILT									
10.0				W/ SOME CLAY									
10.5													
11.0													
11.5				12 ft: BOTTOM OF									
12.0				BORING									
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	23B
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	008
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-28-00	Date	11-28-00
Time		1505	Time	1505
Logger		REMCHECK	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.:

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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23B-008

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	//	#	#
0.0				0-0.5 ft:									
0.5				ASPHALT & GRAVEL									
1.0				0.5-4 ft:									
1.5				DARK BROWN SILT									
2.0				& SAND GRADING TO									
2.5				FINE TO MED BROWN									
3.0				SAND									
3.5													
4.0				4-8 ft:									
4.5				3.5 ft RECOVERY									
5.0				WET									
5.5				BROWN MED SAND									
6.0				WITH GRAVEL									
6.5				DTW- 4 ft.									
7.0													
7.5													
8.0				8-12 ft: VERY WET									
8.5				~3 ft RECOVERY									
9.0				LIGHT BROWN									
9.5				MED SAND									
10.0				GRADING TO DK BROWN									
10.5				MED TO COARSE SAND									
11.0				W/ FINE GRAVEL.									
11.5													
12.0				12 ft: BOTTOM OF									
12.5				BORING									
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	23B
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	009
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-28-00	Date	11-28-00
Time		1530	Time	1530
Logger		REMCHECK	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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235-009

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-4 ft:									
0.5				2.5 ft RECOVERY									
1.0				0-0.5 ft:									
1.5				ASPHALT & GRAVEL									
2.0				0.5-4 ft:									
2.5				BROWN TO LIGHT									
3.0				BROWN MED SAND									
3.5				W/ FINE GRAVEL									
4.0													
4.5				4-8 ft: WET									
5.0				3.5 ft RECOVERY									
5.5				BROWN MED SAND									
6.0				GRADING TO RED/BROWN									
6.5				SILT W/ LITTLE CLAY									
7.0													
7.5													
8.0				8-12 ft:									
8.5				4 ft RECOVERY									
9.0				RED/BROWN SILT									
9.5				& CLAY W/ TRACE									
10.0				SAND									
10.5													
11.0				12 ft: BOTTOM OF									
11.5				BORING.									
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator			13 a
Activity Designator			GWR
Field Measurement/Sample Collection Designator			DP
Station Number			001
Media			SB
Sample Type			
Sequential Sample Number			(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date	[redacted]	12-4-2000	Date	12-4-2000
Time	[redacted]		Time	
Logger	[redacted]		Logger	
Detector Model #	[redacted]		PID Model #	Multi-RAE
Detector Serial #	[redacted]		PID Serial #	CENAN 21811
Scaler Model #	[redacted]			
Scaler Serial #	[redacted]			

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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GEOPROBE BORING 13a-001 Transect I

12/4/2001

Depth (Feet)	Down Hole Gamma Reading (#/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0	Core 1		0										
0.5	0-4'			topsoil									
1.0				red/brown & brown									
1.5	4' recovery			silt, sand & clay									
2.0					13a0211 64								
2.5				black brown	chem								
3.0				gray sand w/some									
3.5				silt & gravel (fill)	rad								
4.0	2'	10k											
4.5	Core 2			brown & yellow brown									
5.0	4'-8			sand & silt w/									
5.5	4' rec.			gravel (fill)									
6.0				red/brown & black									
6.5				& red silt, sand									
7.0				clay w/ gravel (fill)									
7.5													
8.0	Core 3	10k		red/brown & black silt	13a0211 65								
8.5				sand & gravel (fill)	water @ 9								
9.0	8'-12'		0		RAD @ 7.5-8.0								
9.5				brown fine to med	VOC 8.5								
10.0	4' rec.		0	sand w/ fine gravel									
10.5	wet			to gray/medium sand	RGE & TAL @ 8-8.5								
11.0	9'-12'	10.6k	0										
11.5													
12.0	Core 4		0	red/brown silt & sand									
12.5				red/brown silt									
13.0	12'-16'		0	w/ little sand									
13.5				weathered red									
14.0			0	sandstone									
14.5	2.5' rec.												
15.0	wet		0										
15.5													
16.0	Core 5		0	red/brown silt &									
16.5				sand w/ weathered									
17.0	16-20		0	bedrock w/ larger									
17.5	wet	10.5											
18.0	3' rec.		0	proportion of sand @									
18.5				bottom									
19.0			0										
19.5													
20.0			refusal @ 19.6										
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

alpha 0+2 gamma bkgrd 10.6k PID 0

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6000
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	13a
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	002
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		12-4-00	Date	12-4-00
Time			Time	
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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BORING 13a-002 Transect I

12/4/2000

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0	Core 1			topsoil/root									
0.5	0-4'												
1.0	4' rec.	10.5k	0	gray brown &	1	3	a	0	2	1	1	6	6
1.5	dry			black sand and				rad @ 1'					
2.0			0	silt w/ gravel									
2.5				and small roots									
3.0			0	(to 1"Ø) (fill)									
3.5													
4.0	core 2		0	brown & gray									
4.5	4'-8'			silt & sand w/									
5.0		11k	0	gravel & rock to 1"	1	3	a	0	2	1	1	6	7
5.5	3.5' rec			(fill)				rad @ 5'					
6.0	dry		0		1	3	a	0	2	1	1	6	6
6.5					1	3	a	0	2	1	1	6	6
7.0			0	brown sand & silt									
7.5			0	grading to gray/brown									
8.0	core 3	10k		fine to med sand									
8.5	8'-12		0	brown & gray sand &									
9.0			0	gray/black silt w/ gravel	1	3	a	0	2	1	1	6	7
9.5	3' rec.			& clay	1	3	a	0	2	1	1	6	7
10.0	wet		0	black fine to med sand									
10.5	water												
11.0	@		0	gray fine to med sand									
11.5	9.5-11			black fine sand									
12.0	core 4		0	black med. sand									
12.5	12'-16'	10.5k		black sand & silt w/ gravel									
13.0	4' rec.		0	red/brown fine to									
13.5	wet			med sand w/ little silt									
14.0			0	& some rock									
14.5				grading to red/brown									
15.0			0	sand & silt									
15.5	core 5												
16.0	16'-20'	10k	0	red/brown silt &									
16.5	6" rec		0	sand w/ angular rock									
17.0	wet			& some gravel									
17.5													
18.0													
18.5													
19.0				refusal @ 17.0'									
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

bkgrd 10k
alpha 0-2

5.5 YO @ 5.5-6.0 REE, TA

YO REE, TA

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	
Activity Designator	126 GWR
Field Measurement/Sample Collection Designator	DP
Station Number	
Media	019 SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date			Date	
Time			Time	
Logger			Logger	
Detector Model #			PID Model #	Multi RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0			0	Fill - Brick fill and f-c sand and silt, vegetation, moist									
0.5			0										
1.0													
1.5				Brown to lt brown m-f sand & silt, moist									
2.0													
2.5													
3.0			0										
3.5		K											
4.0													
4.5		16		Brown to lt brown c-f sand, tr silt tr. fine gravel, moist									
5.0													
5.5													
6.0													
6.5			0										
7.0													
7.5													
8.0													
8.5		12.5		White & lt gray silt & fine sand, wet									
9.0													
9.5													
10.0				Wet @ ~ 9.0'									
10.5													
11.0													
11.5			0.1	11.5-12 - Black silt, little f-m sand, wet									
12.0													
12.5													
13.0													
13.5				Brown to olive brown silt & fine sand, tr. f. gravel, v. moist to wet									
14.0													
14.5		15	0										
15.0													
15.5													
16.0													
16.5		16.8		Dk brown to brown f-m sand, trace silt, little f-c gravel, v. moist to wet									
17.0													
17.5													
18.0													
18.5			0										
19.0													
19.5													
20.0													
20.5				Olive f-m sand, some silt, little f-c gravel, wet									
21.0													
21.5		14	0										
22.0													
22.5													
23.0				EOB 45AL @ 22' bg									
23.5													
24.0													

Qu Recovery = 3.5'

4-8 Recovery = 3.5'

8-12 Recovery = 4.0'

12-16 Recovery = 3.0'

16-20 Recovery = 2.5'

20-22 Recovery = 2.0'

126-19

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	125
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	020
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date			Date	
Time			Time	
Logger		J LINCOLN	Logger	J LINCOLN
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: ____
Applicable Trip Blank No.: ____

Comments:

1. MPI No. _____
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-4'									
0.5	N/A	BKGr	0	topsoil, grassy layer									
1.0			0	fine to medium gravel									
1.5			0	very coarse to med. Sand									
2.0			0										
2.5			0	silt + fine to m.w.									
3.0			0	Sand - trace fine									
3.5			0	gravel, brown									
4.0			0										
4.5			0										
5.0			0	Silt + fine to Med sand									
5.5			0	trace fine gravel									
6.0			0	little brown									
6.5			0										
7.0		16K	0	while - to light grey									
7.5		BKGr	0	Silt trace of very fine									
8.0			0	Sand. Wet @ 7.5 ft									
8.5													
9.0													
9.5													
10.0				NO recovery									
10.5				(VOID)									
11.0													
11.5													
12.0													
12.5													
13.0		16K		dark clay like									
13.5		BKGr		Silt trace of fine									
14.0				Sand.									
14.5				Wet.									
15.0													
15.5				med to coarse									
16.0				Sand. lighter brown									
16.5				red hint.									
17.0		16K		black silt									
17.5				coarse to fine gravel									
18.0				Sand.									
18.5				Refusal									
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

0-4 recovery (16K)

4-8 recovery (16K)

8-12' recovery = (16K)

13-14' recovery =

16-18' recovery = refusal.

DTW @ 16' bgs

Background = 17K

126-20

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	07a
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	002
Media	SB
Sample Type	00
Sequential Sample Number	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date	[redacted]	11-30-00	Date	11-30-00
Time	[redacted]		Time	
Logger	[redacted]		Logger	
Detector Model #	[redacted]		PID Model #	Multi-RAE
Detector Serial #	[redacted]		PID Serial #	CENAN 21811
Scaler Model #	[redacted]			
Scaler Serial #	[redacted]			

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ _____
Signature (Logging) Date

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Boring no.
07a-002

bkgrd: 10k

11/30/00

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0	core 1												
0.5	0-4'												
1.0	3' recovery			dark brown silt/organic w/some sand/									
1.5				red/brown silt & sand w/ rock fragments									
2.0													
2.5													
3.0		12k		black, red & brown silt w/ rock fill (brick,									
3.5				concrete etc.)									
4.0	core 2												
4.5	4'-8'			black & brown									
5.0		18k		sand/silt w/ misc fill (conc. & brick)									
5.5	refusal @ 5.5'			move to adjacent location									
6.0	(4' recovery)			dark brown sand									
6.5				& silt	07a021153								(6.5-7.5)
7.0	wet	24k		white sand & gravel/conc. grad.									
7.5				brown silt/clay	07a021154								
8.0	core 3			w/organics (Meadow Mat)									
8.5	8'-12'			(?)									
9.0	wet												
9.5	3' recovery			brown silt & fine to med yellow sand &									
10.0		12k		gray sand, red rock fragments									
10.5	LEL			} poorly graded red/brown									
11.0	@ 1%			to brown fine to coarse sand									
11.5				} w/ fine gravel									
12.0	core 4			} poorly graded subangular fine to									
12.5				} coarse sand w/ fine gravel									
13.0	12'-14.5'	13.5k		} Sand grading to sandy									
13.5	wet			} mixed w/ red/brown									
14.0				} silt & clay grading to									
14.5				} weathered bedrock									
15.0													
15.5				refusal @ 14.3'									
16.0													
16.5				Set screen 10.5' - 14.5'									
17.0													
17.5				GW @ 8.30'									
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0	-												
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator			07a
Activity Designator			GWR
Field Measurement/Sample Collection Designator			DP
Station Number			003
Media			SD
Sample Type			
Sequential Sample Number			(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		11-30-00	Date	11-30-00
Time			Time	
Logger		REMCHECK	Logger	REMCHECK
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No.
2. Direct-push location grouted with DenSeal.

_____
Signature (Core Gamma Logging) Date

_____
Signature (Logging) Date

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boring no. 07a-003

11/30/0

Page 2 of 2

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#	
				0-4 wipe 4										
0.0	core 1			core 1 (3.5' recov										
0.5	0-4'			black silt w/ sand										
1.0	3.5 rec			rock, ground conc										
1.5				(mis [illegible])										
2.0		9.5K												
2.5				ground conc/gravel										
3.0				gray sand & gravel										
3.5				w/ some cal										
4.0	core 2			red/brown silt &										
4.5	4-8			sand w/ degraded bedrock										
5.0			9-5	black & gray sand & silt										
5.5	≈3' rec.	20K			07a	02	1	1	5	4	unfilter			
6.0				ground brick w/	07a	02	1	1	8	4	filtered			
6.5				some s										
7.0	wet			ground brick w/										
7.5				brown & black										
8.0				sand & silt										
8.5	core 3													
9.0	8'-12'													
9.5	≈3½ rec	w												
10.0	wipe 10			brown red sand w/ ground brick										
10.5		14.5K		fine gravel										
11.0	wet			black & brown silt & clay										
11.5				gray silt & sand										
12.0	core 4			gray fine to med										
12.5				sand fine										
13.0	12'-16.5'			brown sand w/ trace silt										
13.5	wet			well graded brown										
14.0				sand w/ fine										
14.5	refusal	11.0K		gravel										
15.0														
15.5	@ 15½			red sandstone (weathered)										
16.0	wipe 24													
16.5														
17.0	≈2' recov			refusal @ 15.5'										
17.5				set screen 11.5'-15.5'										
18.0														
18.5	GW @ 8.70' in boring													
19.0														
19.5														
20.0														
20.5														
21.0														
21.5														
22.0														
22.5														
23.0														
23.5														
24.0														

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator			12B
Activity Designator			GWR
Field Measurement/Sample Collection Designator			DP
Station Number			027
Media			SB
Sample Type			
Sequential Sample Number			(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date			Date	12-13-01
Time			Time	10 31
Logger			Logger	DEKOSKIE
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____

Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____

Signature (Core Gamma Logging) Date

_____ 12-13-01

Signature (Logging) Date

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126-027

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				0-1': ROAD / FILL									
0.5				SM + MED GRAVEL									
1.0				1-1.7': BROWN SM									
1.5				TRACE FINE GRAVEL									
2.0				TRACE BRICK									
2.5				1.7-2.2': GREY MED									
3.0				SAND, AND FINE									
3.5				GRAVEL, DRY									
4.0				2.2-3.3': BROWN SM,									
4.5				AND BLACK SM, TRACE									
5.0				RED/BROWN MED.									
5.5				GRAVEL.									
6.0				3.3-4': WHITE/GRAY									
6.5				SILT, INTERBEDDED W/									
7.0				BLACK SILT									
7.5				4-8': SAA									
8.0				8-9': GREY SILT									
8.5				9-10': BLACK FINE									
9.0				TO MED SAND, TRACE									
9.5				SILT									
10.0				10-12': RED/BROWN SM									
10.5				AND FINE TO MED									
11.0				GRAVEL.									
11.5				12-16': RED/BROWN									
12.0				SM, AND FINE TO MED									
12.5				GRAVEL, TRACE CLAY									
13.0				16-17.5': SAA									
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator			12B
Activity Designator			GWR
Field Measurement/Sample Collection Designator			DP
Station Number			028
Media			SB
Sample Type			
Sequential Sample Number			(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date			Date	12-14-01
Time			Time	
Logger			Logger	DEKOSKIE
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____

Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____

Signature (Core Gamma Logging) Date

_____ 12/14/01

Signature (Logging) Date

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126-028

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				0-3': RED/BROWN SM									
0.5													
1.0													
1.5													
2.0													
2.5													
3.0				3-4': BLACK SILT									
3.5													
4.0				4-6': RED/BROWN									
4.5				SM, AND MED RED									
5.0				GRAVEL									
5.5													
6.0				6-6.5': GREY/WHITE									
6.5				GP AND COARSE SAND									
7.0													
7.5				6.5-8': RED/BROWN									
8.0				SM, AND GP									
8.5													
9.0				Refusal @ 9ft									
9.5				MOVE UP 3ft Re-try									
10.0				0830: 2ft Refusal									
10.5				Move back 6 ft.									
11.0													
11.5				8-12ft: RED/BROWN									
12.0				SM, and GP, DRY									
12.5													
13.0				12-16': RED/BROWN									
13.5				SM, and GP									
14.0													
14.5				16-17.5': SAA									
15.0													
15.5				17.5': Refusal.									
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	12 B
Activity Designator	GWR
Field Measurement/Sample Collection Designator	DP
Station Number	029
Media	SB
Sample Type	
Sequential Sample Number	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date			Date	12-13-01
Time			Time	1345
Logger			Logger	DEKOSIAIE
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

QA/QC Information

Mixing Bowl/Trowel Lot No.: _____
Applicable Trip Blank No.: _____

Comments:

1. MPI No. _____.
2. Direct-push location grouted with BenSeal.

_____ _____
Signature (Core Gamma Logging) Date

_____ 12-13-01
Signature (Logging) Date

126-029

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				0-0.7': ROAD/FILL									
0.5				.7-3.0': GREY SM,									
1.0				AND FINE TO MED									
1.5				GRAVEL									
2.0													
2.5													
3.0				3-4': DARK BROWN									
3.5				SM, TRACE CLAY,									
4.0				TRACE FINE TO MED									
4.5				GRAVEL									
5.0				4-5': GREY SM, AND									
5.5				MED GRAVEL									
6.0													
6.5				5-7.6': RED/BROWN									
7.0				SM, AND FINED MED									
7.5				GRAVEL									
8.0				7.6-8': WHITE SILT/									
8.5				SLUDGE									
9.0				8-11': SAA									
9.5													
10.0				11-12': BLACK SILT/									
10.5				SLUDGE									
11.0													
11.5													
12.0				12-15': GREY FINE TO									
12.5				MED. SAND, TRACE									
13.0				SILT									
13.5													
14.0													
14.5				15-15.6': BLACK FINE									
15.0				TO MED SAND, TRACE									
15.5				SILT									
16.0				15.6-16': RED/BROWN									
16.5				SM, SOME SANDSTONE									
17.0				GRAVEL									
17.5													
18.0				16 ft: Refusal.									
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	001A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	746635.509	2161840.368	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/15/00	Date 3/15/00	
Time		10:30	Time 10:30	
Logger		E. WIEDERKEHR	Logger E.W.	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-01-1001.
2. Direct-push location grouted with BenSeal.

E.R. Wiederkehr — Signature (Core Gamma Logging) — 3/15/00 — Date

E.R. Wiederkehr — Signature (Logging) — 3/15/00 — Date

B.G. = ~4-5

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
0.0				80% RECOVERY	O / A 0 2.0 5 0 0
0.5					
1.0				FILL, ROCK FRAGS	
1.5				W/MD, CONC. CHIPS, IN	
2.0				SILTY f-c SAND MATRIX	
2.5					
3.0					
3.5					
4.0		5.7	0.3		
4.5				75% REC - ~4" OF BLK	
5.0				CINDER MATERIAL.	
5.5					
6.0		B.G.	1.0	LT-MED BROWN	
6.5				SILTY f-SAND	
7.0					
7.5					
8.0					
8.5				GRAY/BROWN CLAYEY SILT	
9.0					
9.5		5.5			
10.0			1.1	GR/BR. SILTY f-m SAND	
10.5					
11.0		B.G.			
11.5					
12.0					
12.5				50% REC.	
13.0					
13.5					
14.0		5.0-5.6	0.0		
14.5					
15.0				RED/BROWN f-m SAND	
15.5				W/OCCASIONAL m-C GRAVEL	
16.0					
16.5				75% REC.	
17.0					
17.5				SAME AS ABOVE (SAA)	
18.0					
18.5		4.5-5.0	0.0		
19.0					
19.5					
20.0					
20.5				REFUSAL @ 20.3'	
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

START 0:30

STOP 1:25

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

020512

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	02D
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	747598.748	216286.494	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/15/00	Date 3/15/00	
Time		1435	Time 1435	
Logger		E. WIEDERKEHR	Logger E.W.	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			~~PID Serial #~~	~~CENAN-21811~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV 02-2003
2. Direct-push location grouted with BenSeal.

E.B. Wiederkehr
Signature (Core Gamma Logging)

3/15/00
Date

E.B. Wiederkehr
Signature (Logging)

3/15/00
Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
0.0				75% REC.	02D0205/2
0.5				DRK BROWN TOP SOIL	
1.0		12.4		GRADING TO DRK.BR.	
1.5				SILTY f-m sand	
2.0		BG	0.0	OCCASIONAL FRAGMENTED	
2.5		2.10		ROCK, QRTZ GRAVEL.	
3.0					
3.5					
4.0					
4.5				100% RECOVERY	
5.0				VERY DRK GRAY SILTY	
5.5				SAND.	
6.0				~~VERY DRK GRAY~~	
6.5		BG.	0.0	YELLOWISH RED SILTY	
7.0				VERY f-SAND	
7.5					
8.0					
8.5				80% REC.	
9.0				RED/BROWN	
9.5				CLAYEY SILT	
10.0					
10.5		BG	0.0		
11.0					
11.5					
12.0					
12.5				50% REC.	
13.0					
13.5				RED/BROWN f-m SAND	
14.0				W/ LENSES OF	
14.5		B.G	0.0	CLAYEY SILT	
15.0					
15.5					
16.0					
16.5					
17.0				40%	
17.5					
18.0				DRK RED/GRAY m-SAND	
18.5		B.G	0.0	GRADING TO f-SAND	
19.0				@ 19'	
19.5					
20.0					
20.5				REFUSAL @ 20'	
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	03a
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	
Media		mm	SB
Sample Type		n	
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	747635.561	2164528.176	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/16	Date 3/16	
Time		1320	Time 1320	
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-03-3001
2. Direct-push location grouted with BenSeal.

Charles T. — Signature (Core Gamma Logging) — 3/16/00 — Date

Charles T. — Signature (Logging) — 3/16/00 — Date

START ~~1310~~ 1245

STOP ~~1320~~ 1300

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				100% SP 5YR 4\2	0	3	aro	2	0	5	1	8	
0.5													
1.0		0.0	0.0										
1.5													
2.0													
2.5													
3.0				SM mf 5YR 3\2									
3.5													
4.0				80%									
4.5													
5.0				SAA trace SILT									
5.5		0.0	0.0										
6.0													
6.5													
7.0													
7.5													
8.0													
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
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20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	025
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
	748098.431	2163053.451	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/16	Date	3/16
Time		1410	Time	1410
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-02-7025
2. Direct-push location grouted with BenSeal.

Charles T. — Signature (Core Gamma Logging) — 3/16/00 — Date

Charles T. — Signature (Logging) — 3/16/00 — Date

	Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
START 1405	0.0		↑	↑	100% RECV.	0	2	C	0	2	0	5	1	0
	0.5				SM ms 5YR 4\2									
	1.0		0.0	0.0	SAND trace SILT									
	1.5													
	2.0													
	2.5													
	3.0													
	3.5													
	4.0		↑	↑	75% RECV.									
	4.5				SAA									
	5.0		0.0											
	5.5			0.0										
	6.0													
	6.5													
	7.0													
	7.5													
STOP 416	8.0													
	8.5		END OF SAMPLING @ 8.0'											
	9.0													
	9.5		OVERDRILLED TO 16' TO											
	10.0													
	10.5		FACILITATE GW COLLECTION											
	11.0													
	11.5													
	12.0													
	12.5													
	13.0													
	13.5													
	14.0													
	14.5													
	15.0													
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	19.0													
	19.5													
	20.0													
	20.5													
	21.0													
	21.5													
	22.0													
	22.5													
	23.0													
	23.5													
	24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	02d
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	003
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	746938.769	2163657.928	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/16	Date	3/16
Time		11:38	Time	11:33
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. F-NV-02-2004
2. Direct-push location grouted with BenSeal.

Signature (Core Gamma Logging) — Date: 3/16/00

Signature (Logging) — Date: 3/16/00

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				100% RECOV.	D	2	d	0	2	0	5	1	6
0.5				SP cf 5YR 3\2 SAND									
1.0		0.0	0.0	some SILT some GRAVEL									
1.5													
2.0													
2.5													
3.0				SM mf BLK SAND									
3.5				some SILT									
4.0				100% RECOV.									
4.5													
5.0				SP cf 5YR 4\4									
5.5		0.0	0.0	SAND some GRAVEL									
6.0				trace SILT									
6.5													
7.0													
7.5													
8.0													
8.5													
9.0													
9.5		0.0	0.0										
10.0													
10.5													
11.0													
11.5													
12.0													
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13.0													
13.5													
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18.5													
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19.5													
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20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	020
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	002
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	747376.427	2162546.223	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/16	Date	3/16
Time		0423	Time	0423
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-02-2109
2. Direct-push location grouted with BenSeal.

Signature (Core Gamma Logging) — Date: 3/16/00

Signature (Logging) — Date: 3/16/00

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/M Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				90% RECOV.	A	2	A	0	2	0	5	1	4
0.5				5M m-f 5YR 3\1 SAND									
1.0			0.1	some SILT									
1.5		0.0											
2.0													
2.5													
3.0													
3.5				SP-cf 5YR 5\4 SAND									
4.0				100% RECOV.									
4.5				ML 2.5Y 3\1 SILT									
5.0				Trace SAND Trace CLAY									
5.5			0.0	poor Elasticity									
6.0		0.0		SP cf 2.5Y 3\1 SAND									
6.5				Trace SILT									
7.0													
7.5													
8.0													
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
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19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

020522

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	042
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	749885.648	2164210.298	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/17	Date	3/17
Time		1020	Time	1020
Logger		ED WIEDERKEHR	Logger	ED WIEDERKEHR
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			~~PID Serial #~~	~~CENAN 21811~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. EW044001
2. Direct-push location grouted with BenSeal.

E.R. Wiederkehr
Signature (Core Gamma Logging)

3/17/00
Date

E.R. Wiederkehr
Signature (Logging)

3/17/00
Date

HAD
B.G. ≅ 5 CPM - FOR LOCATION

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # # #
START 10:00 hr 0.0		↑	↑	50% REC'V.	0 4 A 0 2 0 5 2 B
0.5		RANGE		5YR 4\2 Silty f.m	
1.0		4.8 TO	0.0	SAND Abams BLK CINDER	
1.5		6.05		grading TO 5YR 4\4	
2.0				f SANDY SILT OCCASIONAL	
2.5				GRAVEL fragments	
3.0					
3.5					
4.0		↓	↓		
4.5		RANGE		40% REC'V.	
5.0		5.0 TO	0.0	5YR 4\4 f SANDY	
H_2O ↓ 5.5 6.15 ↓		6.3		SILT OCCASIONAL GRAVEL	
6.0				fragment	
6.5					
7.0					
7.5		↓	↓		
8.0		PUSHED FOR GW SAMPLING			
8.5					
9.0					
9.5					
10.0				REFUSAL @ 10'	
STOP 10:20 hr 10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

020524

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	04a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	003
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750130.735	2116930.465	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/22	Date	3/22
Time		1200	Time	1200
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-04-4005
2. Direct-push location grouted with BenSeal.

DRILLER
1145 – 1200 SOIL SAMPLING – 8'
1200 – 1300 H_2O SAMPLE
1300 – 1345 STEAM CLEAN

Signature (Core Gamma Logging) — Date 3/22/00

Signature (Logging) — Date 3/22/00

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/mm Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0		↑	↑	90% RECV.	0	4	a	0	2	0	5	2	4
0.5				m-f SAND processed									
1.0		0.0	0.0	STONE, GLASS & BRICK									
1.5													
2.0		↓											
2.5			↓										
3.0		2.0											
3.5													
4.0		↑	↑	100% RECV.									
4.5				SILTY CLAY, GRAY									
5.0				m-f poorly sorted									
5.5		0.0	0.0	SAND									
6.0													
6.5		↓	↓										
7.5		↓	↓										
8.0				END OF SAMPLING @ 8'									
8.5				OVERDRILLED TO									
9.0				12' for GW SAMPLE									
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O ▽

SN

V

SCS

SWS

V

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

020526

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator	XXX	05a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	0, 1, X
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750394.573	2164417.785	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/22	Date	3/22
Time		1400	Time	1400
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-05-5019
2. Direct-push location grouted with BenSeal.

DRILLER
1345-1400 SOIL SAMPLING 8'
1400-1445 H_2O SAMPLE
1445-1600 SOIL SAMPLING (DUPLICATE)
1600-1630 STEAM CLEAN
RAD DUPLICATE COLLECTED, MS/MSD (ORG., INORG.) COLLECTED

[signature] 3/22/00
Signature (Core Gamma Logging) Date

[signature] 3/22/00
Signature (Logging) Date

Note: Logging inspector was E. R. Weederkehr (6/4m)

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Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				90% RECV.	0	5	a	0	2	0	5	2	6
0.5				M-f SAND trace									
1.0				GRAVEL, SILT									
1.5		0,0	0,0										
2.0													
2.5													
3.0													
3.5													
4.0													
4.5													
5.0													
5.5													
6.0		0,0	0,0										
6.5													
7.0													
7.5													
8.0				END OF SAMPLING									
8.5				@ 8'									
9.0													
9.5				OVER DRILLED TO									
10.0				12' for GW SAMPLE									
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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020520

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator	XXX	04a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	~~001~~ 002
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

GHM 5/24

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750221.824	2164106.223	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/22	Date	3/22
Time		0945	Time	0945
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			~~PID Serial #~~	~~CENAN 21811~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-04-4008
2. Direct-push location grouted with BenSeal.

DRILLER

0800 – 0815 SITE SAFETY
0815 – 0930 STEAM CLEAN
0930 – 0945 SOIL SAMPLING – 8'
0945 – 1045 H_2O SAMPLE
1045 – 1145 STEAM CLEAN

George Markt — Signature (Core Gamma Logging) — 3/22/00 Date

George Markt — Signature (Logging) — 3/22/00 Date

Note:
Logging inspector was E. R. Wiederkehr. GHM

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0				90% RECV.	0 4 a 0 2 0 5 2 0
0.5				m-f SAND trace SILT	
1.0					
1.5		0,0	0,0		
2.0					
2.5					
3.0		0,0			
3.5					
4.0				100% RECV.	
4.5				SAME AS ABOVE	
5.0				WOOD CHIPS BLK.	
5.5					
6.0		0,0	0,0	m-f SAND, trace SILT	
6.5					
7.0					
7.5					
8.0					
8.5				END OF SAMPLING	
9.0				@ 8'	
9.5					
10.0				OVERDRILLED TO	
10.5				14' FOR GW SAMPLE	
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O ▽

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	256
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	001
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750342.326	2164233.264	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/23	Date	3/23
Time		1015	Time	1015
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-05-5002
2. Direct-push location grouted with BenSeal.

DRILLER
0730-1015 STAND BY
1015-1030 SOIL SAMPLE 12'
1030-1130 H_2O SAMPLE
1130-1200 STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/23/00 — Date

George H. Markt — Signature (Logging) — 3/23/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0		↑	↑	95% RECV	0	5	6	0	2	0	5	2	8
0.5				TOP SOIL RED BR									
1.0		0.0	0.0	M-F SAND, TRACE F GRAVEL									
1.5													
2.0													
2.5		↓	↓										
3.5		2→3											
4.0		↑	↑	100% RECV									
4.5													
5.0		0.0	0.0										
5.5													
6.0													
6.5				GRAY SILTY CLAY									
7.0				6" LENS 5Y 4/1									
7.5		↓	↓	GRAY M-F SAND									
8.0				POORLY SORTED, TRACE									
8.5				ANGULAR GRAVEL									
9.0													
9.5													
10.0													
10.5													
11.0				LT BR GRAY									
11.5													
12.0				~~END OF SAMPLING~~									
12.5				@ 12'									
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0				~~BOTTOM OF BORING~~									
16.5				FOR GW SAMPLE									
17.0				@ 16'									
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H2O @ 6.1'

SW SC5

SC6

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	05a C
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750682.064	2164432.575	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/23	Date	3/23
Time		1230	Time	1230
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. GNV-05-5024
2. Direct-push location grouted with BenSeal.

DRILLER
1230 - 1245 SOIL SAMPLE 8'
1245 - 1415 H_2O SAMPLE
1415 - 1430 STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/23/00 — Date

George H. Markt — Signature (Logging) — 3/23/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0		↑	↑	95% RECV 5YR3/2	0	5	C	0	2	0	3	3	0
0.5				BLK C-m-f SAND									
1.0		0.0	0.0	PROCESS STONE									
1.5													
2.0		↓	↓	5YR4/2									
2.5													
3.0		1.5											
3.5													
4.0		↑	↑	40% RECV 5YR4/2									
4.5				m-f SAND trace SILT									
5.0		0.0	0.0	occasional f GRAVEL									
5.5													
6.0													
6.5				COARSE Angular GRAVEL									
7.0		↓	↓	& m-f SAND									
7.5													
8.0				END OF SAMPLING									
8.5				@ 8.0'									
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0				BOTTOM OF BORING									
12.5				@ 12' for GW SAMPLE									
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O ↓ 4.3' ▽

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	06G
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750588.771	2165041.566	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/23	Date	3/23
Time		1430	Time	1430
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-06-6013
2. Direct-push location grouted with BenSeal.

DRILLER
1430 – 1445 SOIL SAMPLING - 8'
1445 – 1530 H_2O SAMPLE
1530 – 1545 STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/23/00 — Date

George H. Markt — Signature (Logging) — 3/23/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0		↑	↑	70% RECV	0	6	a	0	2	0	5	3	2
0.5				TOPSOIL									
1.0		0.0	0.0	RD BR C-m f SAND									
1.5				some SILT									
2.0				BLK C-m f SAND									
2.5				little SILT, Organic matl									
3.0		↓	↓										
3.5				LT GRAY @ SILT									
4.0		↑	↑	100% RECV.									
4.5													
5.0				RD BR f-m SAND									
5.5				some SILT trace f									
6.0		0.0	0.0	GRAVEL - poorly									
6.5				sorted									
7.0		↓	↓										
7.5		30											
8.0				END OF SAMPLING									
8.5				@ 8'									
9.0													
9.5				BOTTOM OF BORING									
10.0				@ 8'									
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 3.7

SM

SC

SM

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kcpm Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				95% RECV	0	6	B	0	2	0	5	3	4
0.5				SP 5YR 2.5/1									
1.0			0.0										
1.5		0.0											
2.0													
2.5				SM 5YR 4/4									
3.0													
3.5													
4.0				60% RECV									
4.5													
5.0													
5.5		0.0	0.0										
6.0													
6.5				GM 5YR 3/4, moist									
7.0													
7.5													
8.0													
8.5													
9.0													
9.5													
10.0													
10.5													
11.0				REFUSAL @ 10.8									
11.5				END OF SAMPLING									
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 4.1

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	06e
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	~~002~~ 001
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/24	Date	3/24
Time		1400	Time	1400
Logger		G. MARKT	Logger G	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-06-6010
2. Direct-push location grouted with BenSeal.

1345 - 1400 - SOIL SAMPLE 5'-7'
1400 - 1515 - H_2O SAMPLE
1515 - 1530 - STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/24/00 — Date

George H. Markt — Signature (Logging) — 3/24/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0				60% RECV	0 6 C 0 2 0 5 3 6
0.5				SM 5YR 2.5/1 FILL	
1.0				CONCRETE	
1.5	0.0	0.0	0.0		
2.0					
2.5				SM 5YR 3/4 FILL	
3.0					
3.5					
4.0				100% RECV. SM 5YR 4/1	
4.5			0.0	SM 5YR 2.5/1	
5.0					
5.5		0.0			
6.0			.1	SP 5YR 2.5/1 (1" LENS)	
6.5			0.0		
7.0					
7.5					
8.0				END OF SAMPLING	
8.5				@ 8'	
9.0					
9.5					
10.0					
10.5					
11.0					
11.5					
12.0				BOTTOM OF BORING	
12.5				FOR GW SAMPLE	
13.0				@ 12'	
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O @ 6.1'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	06d
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750890.229	2164526.867	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/24	Date	3/24
Time		1115	Time	1115
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV.06-6017
2. Direct-push location grouted with BenSeal.

1100 – 1115 SOIL SAMPLE 6'–9'
1115 – 1130 H_2O SAMPLE
1130 – 1200 STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/24/00 — Date

George H. Markt — Signature (Logging) — 3/24/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				70% REC'V	0 6 d 0 2 0 6 4 0
0.5				SW 5YR 2.5/1	5
1.0					
1.5					
2.0		0.0	0.0		
2.5				SW 5YR 4/8	
3.0					
3.5					
4.0				80% REC'V.	
4.5					
5.0		0.0		SM 5YR 2.5/1	
5.5					
6.0					
6.5					
7.0		6.0			
7.5					
8.0				~~100%~~ REC'V	
8.5		0.0		SM 5YR 2.5/1	
9.0					
9.5					
10.0		3.0			
10.5				SP 5YR 4/4	
11.0					
11.5				REFUSAL @ 11.2'	
12.0				END OF SAMPLING	
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O 7.2

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	06C
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		N N N	002
Media		m m	SB
Sample Type		n	0
Sequential Sample Number		# # # # # #	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/24	Date 3/24	3/24
Time			Time	
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. EWV-06-6005 13:15 To 13:45 REFUSAL @ START — (COULD NOT DRILL THROUGH SLAB)
2. Direct-push location grouted with BenSeal.

— — SOIL SAMPLE
— — H_2O SAMPLE
— — STEAM CLEAN

Signature (Core Gamma Logging) Date

Signature (Logging) Date

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	07a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	001
Media	m m	SB
Sample Type	n	D
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	749073.989	2166634.266	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/27	Date	3/27
Time		1000	Time	1000
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial # 101911	~~CENAN 21811~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-07-7002
2. Direct-push location grouted with BenSeal.

0945 – 1000 – SOIL SAMPLE 5'–8'
1000 – 1115 – H_2O SAMPLE
1115 – 1130 – STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/27/00 — Date

George H. Markt — Signature (Logging) — 3/27/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				85% RECV SP 5YR3/4	D	7	6	0	2	0	5	4	4
0.5													
1.0													
1.5		0,0											
2.0													
2.5				punch thru tin plate									
3.0				black cement cinders									
3.5				SP 5YR 3/4									
4.0				60% RECV. SM 5YR2.5/1									
4.5													
5.0		0,0											
5.5													
6.0				drilled thru cement concrete									
6.5				to, brick fragments and									
7.0		15,0		coal									
7.5													
8.0				100% RECV. SW 5YR									
8.5				2.5/1									
9.0				SM 5YR 2.5/1									
9.5													
10.0				SC 5YR 2.5/1									
10.5				SP 1 GREY 4/N c. lens									
11.0				at 11.5'									
11.5													
12.0				END OF SAMPLING									
12.5				@ 12'									
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H2O @ 5.1'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	06C
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	002
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750821.837	2164633.015	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/27	Date	3/27
Time		0830	Time	0830
Logger		G.MARKT	Logger	G.MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial # 101914	~~CENAN 21811~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-06-6005
2. Direct-push location grouted with BenSeal.

0830 – 0845 – SOIL SAMPLE 4.5'-7'

0845 – 0945 – H_2O SAMPLE

– – ~~STEAM CLEAN~~

George H. Markt — Signature (Core Gamma Logging) — 3/27/00 — Date

George H. Markt — Signature (Logging) — 3/27/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0		↑	↑	75% REC'V. SP (fill)	D	6	C	0	2	0	5	3	8
0.5				pieces of wood + concrete									
1.0				5YR4/4									
1.5		8.0	0.0										
2.0													
2.5													
3.0		↓	↓	SM 5YR2.5/1 rotting									
3.5				leafs									
4.0		↑	↑	100% REC'V. SC LGREY									
4.5				5/10Y									
5.0													
5.5		7.0	0.0										
6.0													
6.5													
7.0													
7.5		↓	↓										
8.0				END OF SAMPLING @ 8'									
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 3'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	11B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	752091.820	2165433.75	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/27	Date	3/27
Time		1215	Time	1215
Logger		G. MARKT	Logger	G MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial # 101914	~~CENAN 21811~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-11-11000
2. Direct-push location grouted with BenSeal.

1215 — 1230 — SOIL SAMPLE 2'-6'
1230 — 1400 - H_2O SAMPLE (NO RECOVERY)
1400 — 1415 - STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/27/00 — Date

George H. Markt — Signature (Logging) — 3/27/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				60% RECV. SW5YR	1	1	6	0	2	0	5	9	6
0.5				2.5/1									
1.0													
1.5		0,0	0,0										
2.0													
2.5				SW5YR 4/4 coal +									
3.0				organic matter, roots									
3.5													
4.0				75% RECV. 5YR5YR									
4.5				4/4									
5.0													
5.5		0,0	0,0										
6.0													
6.5				damp @ 6.5'									
7.0													
7.5				weathered bedrock									
8.0				END of BORING									
8.5				@ 8'									
9.0													
9.5													
10.0				OVERDRILLED TO									
10.5				10' for GW SAMPLE									
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H2O @ 7.0

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	N/A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	751729.236	2165457.603	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/27	Date	3/27
Time		1415	Time	1415
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial # 101914	~~CENAN-21811~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-11-11016
2. Direct-push location grouted with BenSeal.

1415 – 1430 – SOIL SAMPLE 3' – 6'
1430 – 1600 – H_2O SAMPLE (LESS THAN 1/2 OUNCE RECOVERY)
1600 – 1615 – STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/27/00 — Date

George H. Markt — Signature (Logging) — 3/27/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1] Kc/m	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				75% RECV. SW 2GLEY 4/10BG with processed STONE	I I a:0 2 0 5 9 4
0.5					
1.0					
1.5		0.0	0.0		
2.0					
2.5				SM 5YR3/4	
3.0					
3.5				BOULDER	
4.0				85% RECV.	
4.5				SM 5YR3/4	
5.0					
5.5		0.0	0.0		
6.0					
6.5					
7.0				SM (weathered bedrock)	
7.5					
8.0				END OF BORING @ 8'	
8.5					
9.0					
9.5					
10.0				OVERDRILLED TO 10' FOR GW SAMPLE	
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O @ 5.9 ▽

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

a-020552

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	09a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	001
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	# # # # # #	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/28	Date	3/28
Time		0915	Time	0915
Logger		G. MARKT	Logger	G MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	~~GENAN 2181~~
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-09-9021
2. Direct-push location grouted with BenSeal.

0915 – 0930 – SOIL SAMPLE 5'–8'

0930 – 0945 – H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 3/28/00 — Date

George H Markt — Signature (Logging) — 3/28/00 — Date

H2O @ 1.1

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0		↑	↑	80% RECV SC 5YR 2.5/1	0	9	a	0	2	0	5	5	2
0.5													
1.0		0.0	0.0										
1.5													
2.0													
2.5		↓	↓	SM 5YR 4/4 (2in) SC									
3.0													
3.5													
4.0		↑	↑	100% RECV SC 5YR 4/2									
4.5													
5.0													
5.5		0.0	0.0										
6.0													
6.5		↓	↓	SM 5YR 4/4									
7.0													
7.5													
8.0				END OF BORING @ 8' (BEDROCK)									
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

09a - 020554

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	09a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	002
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750403.574	2165176.644	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/28	Date	3/28
Time		10:45	Time	
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-09-9026
2. Direct-push location grouted with BenSeal.

1045 – 1100 – SOIL SAMPLE 6'-9'

1100 – 1200 – H_2O SAMPLE

1200 – 1215 – STEAM CLEAN

George H. Markt
Signature (Core Gamma Logging)

3/28/00
Date

George H. Markt
Signature (Logging)

3/28/00
Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				60% REC'V. SC	0	9	a	0	2	0	5	5	4
0.5				5YR 3/1 cal frag.									
1.0				occational cobblestones									
1.5													
2.0													
2.5													
3.0				SM 5YR 2.5/1									
3.5													
4.0				95% REC'V.									
4.5				2.5GLEY 5/10g									
5.0													
5.5													
6.0													
6.5				1" black layer (organic)									
7.0				SC 5YR 4/4									
7.5													
8.0				100% REC'V. ORGANICS									
8.5				marsh deposit, SP 5YR									
9.0				4/2									
9.5				SC 5YR 4/2, weathered									
10.0				Bedrock									
10.5				REFUSAL @ 10.5									
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

09a-020556

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	09a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	003
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	751324.718	2165270.058	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/28	Date	3/28
Time		1300	Time	1300
Logger		G. MARKI	Logger	G. MARKI
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-09-9028
2. Direct-push location grouted with BenSeal.

1300 — 1315 — SOIL SAMPLE 6'-9'
1315 - 1330 - H_2O SAMPLE

George H. Marki — Signature (Core Gamma Logging) — 3/28/00 — Date

George H. Marki — Signature (Logging) — 3/28/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				10% RECV. SM 5YR4/3	0	9	9	0	2	0	5	5	6
0.5													
1.0		0.0	0.0										
1.5													
2.0													
2.5													
3.0													
3.5													
4.0				80% RECV. SC 5YR 4/3 CONSOLID ROCK									
4.5													
5.0		0.0	0.0										
5.5													
6.0													
6.5													
7.0													
7.5													
8.0				60% RECV. SM 5YR4/3									
8.5													
9.0													
9.5		0.0	0.0										
10.0													
10.5													
11.0													
11.5													
12.0				END OF BORING @ 12'									
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

06E-020542

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	06E
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750152.136	2165358.991	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/28	Date	3/28
Time		1445	Time	1445
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV 06-6016
2. Direct-push location grouted with BenSeal.

1445-1500 — SOIL SAMPLE 6'-9'
1500-1530 — H_2O SAMPLE
1530-1600 — STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/28/00 — Date

George H. Markt — Signature (Logging) — 3/28/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				90% REC' 2 GLEY 4/10G SW SM 5YR 5/6	0	0	E	0	2	0	5	4	2
0.5													
1.0													
1.5		0.0	0.0										
2.0													
2.5													
3.0				GC 5YR 4/4									
3.5													
4.0				90% RECV.									
4.5													
5.0													
5.5		0.0	0.0										
6.0													
6.5													
7.0													
7.5													
8.0				90% RECV.									
8.5													
9.0													
9.5		0.0	0.0										
10.0													
10.5													
11.0													
11.5													
12.0				~~END OF BORING~~									
12.5													
13.0				@ 12'									
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 6.6

2A-020582

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	10a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	752388.452	2164889.082	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/29	Date	3/29
Time		0845	Time	0845
Logger		G. MARKT	Logger	GMARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10-10013 ← location moved 4' due EAST from marked location.
2. Direct-push location grouted with BenSeal.

C700 - 0845 - H+S + STANDBY
0845-0930 - SOIL SAMPLE 5'-8' (due to running sand)
0930-1030 - H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 3/29/00 — Date

George H. Markt — Signature (Logging) — 3/29/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				100% RECV-	1	0	a	0	1	0	5	8	2
0.5				SM 5YR 2.5/1									
1.0	0	0.0	0.0										
1.5				Trace brick + coal									
2.0													
2.5													
3.0													
3.5				SP 5YR 2.5/1									
4.0													
4.5													
5.0		0.0	0.0										
5.5													
6.0													
6.5				SW 5YR 2.5/4									
7.0				GC 5YR 2.5/4									
7.5				100% RECV.									
8.0				GC 5YR 2.5/4									
8.5													
9.0		0.0	0.0										
9.5													
10.0													
10.5													
11.0				running sand									
11.5													
12.0				REFUSAL @ 11.75									
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

HP @ 6.45 ▽

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

(2)

'0A-020584
002

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	10a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	008
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	752557.008	2164532.824	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/29	Date 3/29	3/29
Time		1030	Time	1030
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10-10918
2. Direct-push location grouted with BenSeal.

1030 – 1045 – SOIL SAMPLE 6' → 9'
1045 – 1145 – H_2O SAMPLE (Sheen on sample H_2O)
2nd SOIL SAMPLE (MS/MSD)
1145 – 1200 – ~~STEAM CLEAN~~
1200 – 1215 – STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/29/00 — Date

George H. Markt — Signature (Logging) — 3/29/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				50% REC'V, GM5YR	1	0	a	0	2	0	5	8	4
0.5				2.5/1									
1.0		0.0											
1.5			0.0										
2.0													
2.5													
3.0				GP 2GLEY 3/10g									
3.5													
4.0													
4.5													
5.0													
5.5		0.0	0.0										
6.0				SM 2GLEY 2.5/5BG									
6.5				cobble									
7.0													
7.5				SP 2GLEY 2.5/5BG									
8.0		2		2									
8.5													
9.0													
9.5		0.0	0.0	GC 5YR 4/4									
10.0													
10.5													
11.0													
11.5													
12.0				REFUSAL @ 12'									
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 4.5

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

'0A-020586
003

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	10a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	003
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	751876.934	2164727.134	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/29	Date	3/29
Time		1300	Time	1300
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10-10107
2. Direct-push location grouted with BenSeal.

1300 - 1315 SOIL SAMPLE 6' → 8'

1315 - 1400 H_2O SAMPLE

1400 - 1415 2nd SOIL SAMPLING — (DUPLICATE)

George H. Markt — Signature (Core Gamma Logging) — 3/29/00 Date

George H. Markt — Signature (Logging) — 3/29/00 Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				50% RECV	1 0 a 0 2 0 5 8 6
0.5				GM, brick, quartz,	
1.0				metals, (Fill materials)	
1.5		0.0	0.0		
2.0					
2.5					
3.0					
3.5					
4.0				75% RECV.	
4.5		2		*	
5.0					
5.5		0.0	0.0		
6.0				SC 5YR 4/6	
6.5					
7.0				SC 5YR 3/3	
7.5				cobble @ 7.5	
8.0				100% RECV SC	
8.5				10YR 2.5/N	
9.0		0.0	0.0		
9.5					
10.0					
10.5					
11.0				GC 5YR 4/4	
11.5					
12.0				REFUSAL @ 12'	
12.5					
13.0					
13.5					
14.0					
14.5				* noted blue residue	
15.0				at 4.5 mixed with	
15.5				brick (second sampling	
16.0				at this depth)	
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

10A-020588

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	10a
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	004
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	752099.129	2164320.746	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/29	Date	3/29
Time		1415	Time	1415
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10-10001
2. Direct-push location grouted with BenSeal.

1415 – 1430 – SOIL SAMPLE 10' → 13'

1430 – 1530 – H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 3/29/00 — Date

George H. Markt — Signature (Logging) — 3/29/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
				50% REC ✓	X X X # # # # # #
0.0				10YR5YR4/4 coal	1 0 2 0 2 0 5 8 8
0.5				fragments	
1.0		0.0	0.0	pieces of concrete	
1.5					
2.0				5YR4/4	
2.5					
3.0					
3.5					
4.0				70% REC✓	
4.5					
5.0		0.0	0.0	GC 5YR 4/4	
5.5					
6.0					
6.5					
7.0					
7.5					
8.0				70% REC✓	
8.5					
9.0		0.0	0.0		
9.5					
10.0					
10.5					
11.0					
11.5		0.0	0.0		
12.0					
12.5				5YR4/4	
13.0				REFUSAL @ 13'	
13.5					
14.0					
14.5					
15.0					
15.5				* from 8.0' to 11.0 only	
16.0				3' recovery due to expanding	
16.5				soil	
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

* H2O 10.9 ▽

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

08A-020549

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	08A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750883-191	2116553.758	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/30	Date	3/30
Time		0815	Time	0815
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-08-8005
2. Direct-push location grouted with BenSeal.

0815-0830- SOIL SAMPLE 9'=>12'
0830-0945- H2O SAMPLE
0945-1000- MOVE TO NEXT BORING--

George H. Markt — Signature (Core Gamma Logging) — 3/30/00 — Date

George H. Markt — Signature (Logging) — 3/30/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0		A	Δ	60% REC'V SW5YR4/4	C	8	A	0	2	0	5	4	8
0.5				TRACE COAL									
1.0													
1.5		0.0	0.0										
2.0													
2.5													
3.0													
3.5				SC 2GLEY2.5/10BG									
4.0				70% RECV.									
4.5													
5.0													
5.5													
6.0				SP 5YR4/4									
6.5													
7.0													
7.5													
8.0				60% RECV									
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0				~~END OF BORING~~									
12.5				@ 12.0									
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

08A 020 503

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	08A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	003
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750488.369	2165358.541	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/30	Date	3/30
Time		1000	Time	1000
Logger		G.MARKT	Logger	G.MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-08-8006
2. Direct-push location grouted with BenSeal.

1000 – 1015 – SOIL SAMPLE 1' ⇒ 3'
1015 – 1145 – H_2O SAMPLE
1230 – 1300 – STEAM CLEAN

George H. Markt — Signature (Core Gamma Logging) — 3/30/00 — Date

George H. Markt — Signature (Logging) — 3/30/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0		0.0		60% RECV. TOPSOIL	0	8	A	0	2	0	5	5	0
0.5		20		SC 2.5Y 7/10B									
1.0		0.0	0.0										
1.5				GM (COAL FRAGMENTS)									
2.0				SC 2.5Y 7/10B									
2.5													
3.0													
3.5				70% RECV									
4.0				GM (COAL FRAGMENTS)									
4.5				SC ~~2.5GY~~ 5YR 6/1									
5.0													
5.5		0.0	0.0										
6.0				SP 5YR 4/4									
6.5													
7.0				SC 5YR 4/4									
7.5													
8.0				80% RECV									
8.5													
9.0													
9.5		0.0	0.0										
10.0													
10.5													
11.0													
11.5													
12.0				END OF BORING @ 12'									
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

08A 020772

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	08A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	003
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	750556.996	2165524.762	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/30	Date	3/30
Time		1315	Time	1315
Logger		G. MARKS	Logger	G. MARKS
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-08-8004
2. Direct-push location grouted with BenSeal.

1300 – 1315 – SOIL SAMPLE 5'–8'
1315 – 1500 H_2O SAMPLE
1500 – 1515 STEAM CLEAN

George H. Marks — Signature (Core Gamma Logging) — 3/30/00 — Date

George H. Marks — Signature (Logging) — 3/30/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				50% RECV. SM 5YR	0	8	410	2	0	7	7	2	
0.5				2.5/1 (TOPSOIL)									
1.0		0.0	0.0	SM 5YR 3/3 mixed									
1.5				W/white material									
2.0													
2.5				PEAT									
3.0													
3.5													
4.0				100% RECV- SP 5YR									
4.5				4/1 SC: 2 GLEY									
5.0				5/10									
5.5		0.0	0.0										
6.0				SP 5YR 4/6									
6.5													
7.0													
7.5													
8.0				40% RECV: (*) SM									
8.5				5YR 4/4									
9.0		0.0	0.0										
9.5													
10.0													
10.5													
11.0													
11.5													
12.0				END OF BORING									
12.5				@ 10'									
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

Hit @ 6.7

*depth uncertain due to poor recovery

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site Stone & Webster Environmental Technology & Services 100 West Hunter Avenue Maywood, New Jersey 07607 Tel: (201) 226-6600 FAX: (201) 226-6660	Task Description: GWRI Job Number: 085750503 Activity: Direct-Push Sampling

Site Designator		XXX	024
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	002
Media		mm	SB
Sample Type		n	0
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/3	Date	4/3
Time		0800	Time	0800
Logger		G MARKT	Logger	G MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-02-2072
2. Direct-push location grouted with BenSeal.

0800 - 0845 - SOIL SAMPLE 5'⇒8'

0845 - 0930 - H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 4/3/2000 — Date

George H. Markt — Signature (Logging) — 4/3/2000 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				95% RECV.	D 2 A 0 2 0 5 0 1 4
0.5				GM 2.5GY 5/5B (PROCESSED STONE)	
1.0					
1.5		0.0	0.0	GM 5YR 4/4	
2.0					
2.5				SM 5YR 4/3	
3.0			0.1		
3.5			0.0	GRASS ; marsh deposit	
4.0				100% RECV.	
4.5		0.0		SC 5YR 4/4	
5.0					
5.5			0.0		
6.0		3			
6.5					
7.0		0.0			
7.5					
8.0					
8.5					
9.0					
9.5		0.0	0.0		
10.0					
10.5					
11.0					
11.5					
12.0					
12.5		0.0	0.0		
13.0				SP 5YR 4/4	
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0				NOTE: 1ST DRILLED TO 4' NG - CUTTER HEAD BROKE	
17.5				MOVED TO SECOND HOLE	
18.0				DRILLED TO 16', Pushed to 18'	
18.5				FOR GW SAMPLING	
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O 05.7

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	10A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	006
Media	m m	SB
Sample Type	n	
Sequential Sample Number	# # # # # #	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	751830.371	2165287.509	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/3	Date	4/3
Time		1315	Time	1315
Logger		G. MARKT	Logger	G. MARKS
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10 - 10020
2. Direct-push location grouted with BenSeal.

1315 - 1330 SOIL SAMPLE 5' ⇒ 9'

1330 - 1445 - H_2O SAMPLE

1445 - 1515 - steam clean

George H. Markt — Signature (Core Gamma Logging) — 4/3/00 — Date

George H. Markt — Signature (Logging) — 4/3/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
0.0				~~80~~% RECV - GC	X X X # # # # # #
0.5				2-GLEY 4/5BG	
1.0			0.0	(processed stone)	
1.5		0.0		SW 2-GLEY 4/5B	
2.0				trace brick, coal and	
2.5				cinders	
3.0				SC 5YR 3/2	
3.5				~~SM 5YR 3/4~~	
4.0				90% RECV.	
4.5					
5.0				GC 5YR 4/4	
5.5		0.0	0.0		
6.0				SM 5YR 4/4	
6.5					
7.0					
7.5				GC 5YR 4/4	
8.0				75% RECV.	
8.5		0.0	0.0	~~SM 5YR 4/4~~	
9.0				~~SW 2-GLEY 3/5 (1")~~	
9.5				~~GC 5YR 4/4~~	
10.0				REFUSAL @ 10FT.	
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O @ 8.5'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	10A
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	005
Media		mm	SB
Sample Type		n	0
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/3	Date	4/3
Time		1015	Time	1015
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10-10500 *
2. Direct-push location grouted with BenSeal.

1015 - 1030 - SOIL SAMPLE 5' ⇒ 9'
1030 - 1200 - H_2O SAMPLE
1200 - 1315 - H_2O SAMPLE (CONT.) MS/MSD

George H. Markt
Signature (Core Gamma Logging)

4/3/2000
Date

George H. Markt
Signature (Logging)

4/3/2000
Date

* ADDED LOCATION, NO EASTING/NORTHING COORDINATES AVAILABLE AT SAMPLING TIME.

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0				80% RECV.	1 0 A 0 2 0 5 9 0
0.5				GC 2GLEY4 2.5/10BG	
1.0					
1.5		0,0		SW 2GLEY 2.5/10BG	
2.0				trace brick, bolt	
2.5				SW 5YR 4/4 trace	
3.0				brick + coal	
3.5					
4.0				80% RECV	
4.5				GC 5YR 4/4	
5.0		0,0			
5.5					
6.0					
6.5					
7.0					
7.5					
8.0		0,0			
8.5				GRAVEL (wet approx 3")	
9.0				REFUSAL @ 9'	
9.5					
10.0					
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O @ 8.6'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	09A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	004
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	751876.356	2164427.431	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/31	Date	3/31
Time		0745	Time	0745
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-09-9024
2. Direct-push location grouted with BenSeal.

0745–0815 - SOIL SAMPLE 6' ⇒ 9'

0815-1105 - H_2O SAMPLE

KEVIN (S&W) REMAINED @ THIS LOCATION UNTIL GW SAMPLE WAS COLLECTED, WHILE THE GEOPROBE CREW MOVED TO 09A-005

George H. Markt — Signature (Core Gamma Logging) — 3/31/00 — Date

George H. Markt — Signature (Logging) — 3/31/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				75% RECV.	0	4	A	0	2	0	5	5	8
0.5				GC 5YR 4/4									
1.0													
1.5		0.0											
2.0													
2.5													
3.0													
3.5													
4.0				80% RECV									
4.5													
5.0													
5.5													
6.0		0.0											
6.5													
7.5													
8.0				100% RECV.									
8.5													
9.0				REFUSAL @ 9'									
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 3.0

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	094
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	005
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/31	Date	3/31
Time		1100	Time	1100
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-09-005
2. Direct-push location grouted with BenSeal.

1100 - 1115 - SOIL SAMPLE 6' ⇒ 9'

1115 - 1200 - H_2O SAMPLE

1300 - 1330 - STEAM CLEAN

George A. Markt — Signature (Core Gamma Logging) — 3/31/00 — Date

George A. Markt — Signature (Logging) — 3/31/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	KC fm Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				80% REC GW RR. BALLAST	0	9	A	0	2	0	5	6	0
0.5				GC 5YR 4/4									
1.0		0.0											
1.5													
2.0				SC 5YR 5/4									
2.5													
3.0													
3.5													
4.0				SP 5YR 3/2 (40% REC'V)									
4.5													
5.0		0.0											
5.5													
6.0				SP 5YR 4/4									
6.5													
7.0		0.0											
7.5													
8.0													
8.5													
9.0				REFUSAL @ 9.0'									
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

(3)

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	02A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	748560.887	2163386.66	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		3/31/	Date	3/31
Time		1345	Time	1345
Logger		G MARKT	Logger	G MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV02-2073
2. Direct-push location grouted with BenSeal.

1345 - 1415 — SOIL SAMPLE 5' ⇒ 8'

1400 - 1505 — H2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 3/31/00 — Date

George H. Markt — Signature (Logging) — 3/31/00 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0				60% REWORK (TOPSOIL)	0 7 B 0 2 0 5 D 2
0.5				5YR 3/1	
1.0					
1.5		0.0	0.0	GM 5YR 4/4	
2.0				↓	
2.5				SM 5YR 4/4	
3.0					
3.5					
4.0					
4.5		0.0			
5.0			0.0		
5.5					
6.0		?			
6.5				Cobble fragments	
7.0		0.0		SC 2.5GLEY 2.5/10G	
7.5					
8.0					
8.5					
9.0					
9.5		0.0	0.0		
10.0				SC 5YR 5/4	
10.5				↓	
11.0				SP 5YR 4/4 coarse	
11.5				SAND (wet)	
12.0					
12.5		0.0	0.0		
13.0				GC 5YR 4/4	
13.5				?	
14.0				REFUSAL @ 13.7'	
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H2O @ 3.5

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	10A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	007
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/4	Date	4/4
Time		0830	Time	0830
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10-10501 *
2. Direct-push location grouted with BenSeal.

0815 - 0830 SOIL SAMPLE 2' ⇒ 5'
0830 - 0930 H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 4/4/2000 — Date

George H. Markt — Signature (Logging) — 4/4/2000 — Date

* ADDED LOCATION - NO COORDINATES AVAILABLE AT SAMPLING TIME -

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0	↑	↑	↑	100% RECV. SM 2.5GY 2.5/10BG (moist) GC 5YR 4/4	1 0 A 0 2 0 7 7 9
0.5					
1.0					
1.5					
2.0	0.0	0.0	0.0		
2.5					
3.0		↓	↓		
3.5				(1" SP material)	
4.0					
4.5					
5.0					
5.5				REFUSAL @ 5'	
6.0					
6.5					
7.0					
7.5					
8.0					
8.5					
9.0					
9.5					
10.0					
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H2O @ 3.75 ▽

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	10A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	008
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	752085.058	2164775.172	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/4	Date	4/4
Time		0930	Time	0930
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-10-10021
2. Direct-push location grouted with BenSeal.

0930 – 1000 SOIL SAMPLE 10' => 15' { LIQUIFIES WHEN COMPOSITING SOILS
1000 – 1030 H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 4/4/2000 — Date

George H. Markt — Signature (Logging) — 4/4/2000 — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	KC/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0				100% RECV. GM 5YR 4/1	0 A 0 2 0 7 8
0.5				GC 5YR 4/4	
1.0					
1.5		0.0	0.0		
2.0					
2.5					
3.0				GM 2.5GLEY 2.5/10G	
3.5					
4.0				100% RECV.	
4.5					
5.0		0.0		SC 10YR 2.5/10G	
5.5			0.0	(peat)	
6.0				SC 5YR 2.5/0	
6.5				BLK 6' → 6.5'	
7.0		0.0			
7.5			0.0 to		
8.0			5.0	100% RECV.	
8.5				SP 5YR 2.5/2 (wet)	
9.0					
9.5					
10.0		0.0	0.0		
10.5					
11.0					
11.5					
12.0		0.0			
12.5					
13.0		3		SC 5YR 4/6	
13.5			0.0		
14.0		0.0		GC 5YR 4/6	
14.5					
15.0				GM 5YR 4/4	
15.5				SC 5YR 3/3	
16.0				REFUSAL @ 16'	
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O @ 4.5

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	752732.291	2164694.944	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/4	Date	4/4
Time		1115	Time	1115
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No ENV-12-12080
2. Direct-push location grouted with BenSeal.

1115 - 1200 - SOIL SAMPLE 16' ⇒ 20'
1300 - 1400 - H_2O SAMPLE
1400 - 1430 - STEAM CLEAN

George H. Markt
Signature (Core Gamma Logging)

4/4/2000
Date

George H. Markt
Signature (Logging)

4/4/2000
Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Ke/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				80% Recv. GM 5YR 2.5/1									
0.5													
1.0													
1.5		0.0	0.0										
2.0													
2.5				PEAT									
3.0				@ 2.75 punched thru boulder									
3.5				GC 5YR 4/4									
4.0				50% Recv.									
4.5													
5.0													
5.5		0.0	0.0										
6.0													
6.5													
7.0													
7.5													
8.0				NO RECOVERY RUNNING SAND									
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0				70% Recv. (Strong									
12.5		0.0		organic odor) GC 2GLEY									
13.0				2.5/10G									
13.5			0.0	SM 2GLEY 2.5/10B									
14.0		2											
14.5				SC 2GLEY 2.5/10B									
15.0				SC 5YR 2.5/2									
15.5													
16.0		0.0		50% Recv. SM 5YR									
16.5				2.5/1									
17.0		3.0		(unable to extract									
17.5			0.0	acetate sleeve from									
18.0		0.0		barrel)									
18.5													
19.0													
19.5													
20.0				END OF BORING @ 20'									
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

#20 @ 6.66

NO RECOV. RUNNING SAND

SEALED SAMPLER USED 12' → 16'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	002
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location	752855.429	2164534.014	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/4	Date	4/4
Time		1430	Time	1430
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-12-12060
2. Direct-push location grouted with BenSeal.

1430 - 1445 - SOIL SAMPLE 7' => 10'
1445 - 1600 - H_2O SAMPLE

George W. Markt — Signature (Core Gamma Logging) — 4/4/2000 Date

George W. Markt — Signature (Logging) — 4/4/2000 Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				50% RECV. GM5YR	1	2	B	0	2	0	6	0	0
0.5				2.5/1									
1.0				SC5YR4/4									
1.5		0.0	0.0										
2.0													
2.5													
3.0													
3.5													
4.0													
4.5													
5.0		0.0	0.0	SC2GLEY8/5B									
5.5													
6.0													
6.5													
7.0				SC2GLEY2.5/5PB									
7.5				(trace gravel)									
8.0		6.0											
8.5													
9.0													
9.5		0.0	0.0										
10.0													
10.5													
11.0													
11.5				GM2GLEY2.5/5PB									
12.0													
12.5		0.0	0.0										
13.0													
13.5													
14.0				REFUSAL @ 14'									
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 7.85

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	128
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	006
Media	m m	SB
Sample Type	n	O
Sequential Sample Number	# # # # # #	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/5	Date	4/5
Time		1445	Time	1445
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-12-12162
2. Direct-push location grouted with BenSeal.

1445 - 1500 - SOIL SAMPLE 4' => 8'
1500 - 1600 - H_2O SAMPLE

E.B. Wedekind — Signature (Core Gamma Logging)
4/5/00 — Date

Signature (Logging)
Date

RAD BACKGROUND = 60 Kc/m

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0				50% RECV.	1 2 B 0 2 0 6 0 8
0.5				SM 5YR 3/3	
1.0			0.0		
1.5		1.0			
2.0					
2.5					
3.0					
3.5					
4.0				90% RECV.	
4.5		RANGE 2.5		GM 5YR 3/4	
5.0					
5.5			0.0		
6.0					
6.5					
7.0					
7.5					
8.0		0.0		25% RECV.	
8.5			0.0		
9.0				SP 5YR 3/4	
9.5					
10.0				REFUSAL @ 9'	
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

HD @ 5.4'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	005
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	# # # # # #	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/5	Date	4/5
Time		1315	Time	1315
Logger		ED WIEDENKEHR	Logger	ED WIEDENKEHR
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-12-12122
2. Direct-push location grouted with BenSeal.

1315-1345- SOIL SAMPLE 8' ⇒ 12'
1345- 1430- H_2O SAMPLE

E.B. Wiedenkeh
Signature (Core Gamma Logging)

4/5/00
Date

Signature (Logging)

Date

RAD BACKGROUND = 40

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0				90% RECV, TOPSOIL.	1 2 B 0 2 0 6.0 6
0.5					
1.0		0.0		white material (SM)	
1.5			0.0		
2.0					
2.5		12 to			
3.0		15			
3.5					
4.0				50% RECV	
4.5		2 to			
5.0		5	0.0		
5.5					
6.0				2.5YR4/8, brick	
6.5		10			
7.0				SM 7.5YR4/2	
7.5					
8.0				90% RECV. SP	
8.5					
9.0		10			
9.5			0.0		
10.0					
10.5		15		SM 2.5GY5/1	
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0				BOTTOM OF BORING @ 16.0'	
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	004
Media	m m	SB
Sample Type	n	
Sequential Sample Number	# # # # # #	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/5	Date	4/5
Time		0946	Time	0945
Logger		ED WEIDENHAMER	Logger	ED WEIDENHAMER
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. EUV-12-12009
2. Direct-push location grouted with BenSeal.

0945-1015 - SOIL SAMPLE 8' → 12'
1015-1200 - H_2O SAMPLE
1200-1215 - STEAM CLEAN

E.B. Weidenhamer — Signature (Core Gamma Logging)
4/5/00 — Date

Signature (Logging)
Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Ka/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				60% REC/SM 5YR	1	2	3	0	2	0	6	0	4
0.5				4/2									
1.0													
1.5		0.0	0.0										
2.0				SP5YR									
2.5				4/1									
3.0				SP5YR8/1									
3.5													
4.0				varies from silty SAND									
4.5				white to gray with									
5.0		0.0	0.0	traces of organic									
5.5				material									
6.0													
6.5		3 to 5											
7.0													
7.5													
8.0				Varies from 5YR 8/1									
8.5				to a 5YR 2.5/1 SM									
9.0													
9.5		8.0	0.0										
10.0													
10.5													
11.0													
11.5													
12.0				SM 2.5Y 2.5/1									
12.5													
13.0													
13.5													
14.0		3.0	0.0	SM 5YR 3/4									
14.5													
15.0													
15.5				mottled material									
16.0													
16.5													
17.0													
17.5		0.0	0.0	SM 5YR 3/4									
18.0													
18.5													
19.0													
19.5				REFUSAL @ 19.8'									
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

H_2O @ 17.3

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	12B
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	003
Media		mm	SB
Sample Type		n	O
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/5	Date	4/5
Time		0815	Time	0815
Logger		ED WIEDERKEHR	Logger	ED WIEDERKEHR
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV-12-12051
2. Direct-push location grouted with BenSeal.

0815-0845-SOIL SAMPLE ~~4'-8'~~ 8' ⇒ 12'
0845-0945- H_2O SAMPLE

E.R. Wiederkehr — Signature (Core Gamma Logging) — 4/5/00 — Date

Signature (Logging) — Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)								
					X	X	X	#	#	#	#	#	#
0.0				80% REC'V									
0.5				GM									
1.0		0.0	0.0										
1.5													
2.0				SILT 5YR 8/4									
2.5													
3.0													
3.5													
4.0				80% REC'V. GM mottling									
4.5		0.0		colors, woodchips 5YR									
5.0				5/3 to 2.5/1									
5.5			0.0										
6.0													
6.5		0.0											
7.0													
7.5													
8.0				GM 2.5YR 3/6									
8.5													
9.0													
9.5		0.0	0.0										
10.0													
10.5													
11.0													
11.5													
12.0													
12.5													
13.0		0.0	0.0										
13.5													
14.0													
14.5				REFUSAL @ 14.5'									
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	007
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/6	Date	4/6
Time		0800	Time	0800
Logger		E. WIEDERKEHR	Logger	E. WIEDERKEHR
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. ENV12-12046
2. Direct-push location grouted with BenSeal.

0800-0830 - SOIL SAMPLE
NONE TAKEN - H_2O SAMPLE

0830 - Stand by high LEL >+100%
0835 - CANCELLED SAMPLING DUE TO HIGH LEL PER SEC.
0845 - MOVED TO NEW LOCATION ~~HIGH LEL READINGS~~
0850 - MOVED AGAIN DUE WEST - APPROX 20FT HIGH LEL READINGS
0900 - ~~MOVED SOUTH FROM~~ ORIGINAL APPROX 20FT HIGH LEL READINGS

George H Market for Ed Wiederkehr — Signature (Core Gamma Logging) — Date

George H Market for Ed Wiederkehr — Signature (Logging) — 4/6/00 Date

BACKGROUND = 17.6 Kc/m

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
					X X X # # # # # #
0.0		2		40% RECV. FILL 5YR5/3	1 2 B 0 2 0 6 1 0
0.5		4		Sand, Gravel and Silt	
1.0					
1.5		4			
2.0					
2.5		↓			
3.0					
3.5		2		white material	
4.0		↑		50% RECV.	
4.5					
5.0		4			
5.5					
6.0		2		Blk cinder material	
6.5					
7.0		↓		5YR3/4 GM	
7.5		1		7	
8.0					
8.5					
9.0					
9.5					
10.0					
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

MOVED TO NEW LOCATION

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	009
Media	m m	SB
Sample Type	n	
Sequential Sample Number	# # # # # #	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/6	Date	4/6
Time		0945	Time	0945
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. E6
2. Direct-push location grouted with BenSeal.

0945 - 1000 - SOIL SAMPLE 7' ⇒ 9' (UPPER)
9' ⇒ 11' (LOWER)

1000 - 1145 - H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 4/6/00 — Date

George H. Markt — Signature (Logging) — 4/6/00 — Date

BACKGROUND = 14 Kc/m

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/ym Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
0.0				80% GC 5YR3/4	X X # # # # # #
0.5				(TOPSOIL trace org.	
1.0				GC 5YR 4/4	
1.5		0.0			
2.0					
2.5				SM (sand lens)	
3.0					
3.5					
4.0				80% Red. SM 5YR 4/6	
4.5				(trace g[illegible]el)	
5.0					
5.5					
6.0		0.0			
6.5				SC 5YR 4/4	
7.0					
7.5				1" peat layer	
8.0					
8.5				SAND UNIT SM 5YR	
9.0				SC 5YR 4/4	1 2B 0 2 0 6 1 5
9.5					1 2B 0 2 0 6 1 [illegible]
10.0		0.0			
10.5				Sand lens SM clamp	
11.0				GC 5YR 4/4	
11.5					
12.0					
12.5					
13.0				Sand UNIT SM 5YR 4/6	
13.5				GC wet 5YR 4/4	
14.0					
14.5					
15.0				REFUSAL @ 14'	
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H2O @ 9.5'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	010
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/6	Date	4/6
Time		1300	Time	1300
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. E-5
2. Direct-push location grouted with BenSeal.

1230 – 1245 - STEAM CLEAN
1300 – 1330 - SOIL SAMPLE 4'–6' & 10'–12'
1330 – 1500 - H_2O SAMPLE
1500 – 1515 - SOIL DRILLING 16 → 17.5'
1515 – – H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 4/6/00 — Date

George H. Markt — Signature (Logging) — 4/6/00 — Date

BACKGROUND = 23 Kc/m

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Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				60% Rec SW 5YR 3/3	1	2	B	0	2	0	6	1	8
0.5				SC 2GLEY 8/10B									
1.0		0.0	0.0	SM 2GLEY 8/10B									
1.5													
2.0													
2.5													
3.0				SC 2GLEY 8/10B									
3.5													
4.0				(1" SM material @ 4')									
4.5													
5.0				(wet)									
5.5		0.0	0.0										
6.0				SM 2GLEY 8/10B									
6.5													
7.0				*SC white 2GLEY 8/10B									
7.5				SC black 2GLEY 2.5/10B									
8.0				(damp)									
8.5													
9.0													
9.5			0.0	(dry)									
10.0				SM 2GLEY 2.5/10B									
10.5													
11.0		15		GM 5YR 2.5/1									
11.5													
12.0				80% Rec SM 2GLEY 8/10B									
12.5				(wet)									
13.0													
13.5		0.0	0.0										
14.0				GC 5YR 2.5/1									
14.5													
15.0				GC 5YR 3/4									
15.5													
16.0				20% Rec. GC 5YR 4/1									
16.5				SM 5YR 4/1									
17.0													
17.5				BEDROCK @ 17.5'									
18.0				Weathered at Tip end.									
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

*** S SA

*SC mat's bar

*** S sa

Note: – Set PVC screen from 3' to 8' found well to be dry when sounded for water.

** – Soil [illegible] These

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood. New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	011
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/7	Date	4/7
Time		0800	Time	0800
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. E4.
2. Direct-push location grouted with BenSeal.

0800-0900 – ① SOIL SAMPLE < 0'-4' (Top sample + duplicate) / 6'-8' (bottom sample)
0900-1030 – ① H_2O SAMPLE
0915-0930 – ② SOIL SAMPLE
0930-1230 – ② H_2O SAMPLE (duplicate GW 19'-23')
1330-1500 –

George H. Marlatt
Signature (Core Gamma Logging) 4/7/00 Date

George H. Marlatt
Signature (Logging) 4/7/00 Date

BACKGROUND = 80 Kcts

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Ke/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				90% REW. SC 2GLEY	1 2 B 0 2 0 6 2 2
0.5				~~5/10BG~~ 6/10G	
1.0				(FILL)	
1.5		0.0	0.0		
2.0					
2.5				SM (WHITE) 2GLEY8/10BG	
3.0				SC (WHITE)	
3.5					
4.0				SM	
4.5					
5.0					
5.5					
6.0		0.0	0.0		
6.5				SC (BLACK)	
7.0					
7.5					
8.0				NO RECOVERY	
8.5					
9.0					
9.5					
10.0		0.0	0.0		
10.5					
11.0					
11.5					
12.0				SM (BLACK)	
12.5					
13.0					
13.5		0.0	0.0		
14.0					
14.5					
15.0					
15.5					
16.0				SM (BLACK)	
16.5					
17.0					
17.5		0.0	0.0		
18.0					
18.5					
19.0				GC 5YR 4/4	
19.5					
20.0				GC 5YR 4/1	
20.5					
21.0					
21.5		0.0	0.0		
22.0					
22.5					
23.0				REFUSAL @ 23.0'	
23.5					
24.0					

FILL

H2O ~ 11'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	128
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	012
Media		mm	SB
Sample Type		n	
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/7	Date	4/7
Time		1045	Time	1045
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. E3
2. Direct-push location grouted with BenSeal.

1030 – 1045 – STEAM CLEAN
1045 – 1145 – SOIL SAMPLE < 2'=4' / 6'=8'
1145 – 1230 – ② H_2O SAMPLE
1300 – 1330 – STEAM CLEAN
1330 – 1430 – ① H_2O SAMPLE

George H. Markt — Signature (Core Gamma Logging) — 4/7/00 Date

George H. Markt — Signature (Logging) — 4/7/00 Date

BACKGROUND = 16 Ko/MM

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X.X # # # # # #
0.0				50% RECV. (TOPSOIL)	1 2 B V 2 0 6 2 6
0.5				SC Cobbles	
1.0				GM 2.5GLEY2.5/10B	
1.5					
2.0		0.0	0.0		
2.5					
3.0					
3.5					
4.0				50% RECV. 2.5/10B	
4.5					
5.0					
5.5		0.0	0.0		
6.0					
6.5					
7.0					
7.5					
8.0		0.0			
8.5				2GLEY 2.5/10B	
9.0		2		SC 2GLEY(2.5/10G	
9.5			0.0	MOIST ↓	
10.0				SM5YR 2.5/1 wet	
10.5		0.0		↓	
11.0				SC 2GLEY 5/10G	
11.5				SM 5YR 2.5/1 wet	
12.0				50% RECV. SM5YR2.5/1	
12.5				wet	
13.0					
13.5					
14.0		0.0	0.0		
14.5					
15.0					
15.5					
16.0				50% RECV. SM5YR2.5/1	
16.5					
17.0					
17.5		0.0	0.0		
18.0					
18.5					
19.0				GC 5YR4/4	
19.5					
20.0				30% RECV. GC 5YR4/4	
20.5					
21.0					
21.5		0.0	0.0		
22.0					
22.5					
23.0				REFUSAL @ 23'	
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	1&B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	013
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/10	Date	4/10
Time		0815	Time	0815
Logger		G.MARKT	Logger	G.MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. E2
2. Direct-push location grouted with BenSeal.

0815 - 9000 - SOIL SAMPLE. 3'-5' (UPPER)
6'-8' (LOWER)

1000 - 1130. H_2O SAMPLE

George H. Markt
Signature (Core Gamma Logging)

4/10/2000
Date

George H. Markt
Signature (Logging)

4/10/2000
Date

BACKGROUND = 45 KL/m

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				85% RECV. ST 5YR 4/4	~~[illegible]~~								
0.5				(TOP SOIL 3")									
1.0													
1.5			0.0										
2.0													
2.5													
3.0				GP 2GLEY 2.5/10B	1	2	B	0	2	0	6	3	0
3.5		30		SC 2GLEY 8/10B									
4.0				90% RECV. (mustard yellow									
4.5				band 2.5Y 8/8)									
5.0					1	2	B	0	2	0	6	3	0
5.5			0.0										
6.0					1	2	B	0	2	0	6	3	1
6.5													
7.0		10		SC 2GLEY 2.5/10B									
7.5													
8.0				95% RECV. SC 2GLEY 6/10B	1	2	B	0	2	0	6	3	1
8.5				SM 2GLEY 6/10B									
9.0			0.0	SP (C SAND) 2GLEY 6/10B									
9.5				SM 2GLEY 6/10B									
10.0				SP (C SAND) 5YR 3/2									
10.5				(WET)									
11.0													
11.5													
12.0		~~[illegible]~~		100% RECV.									
12.5													
13.0													
13.5			0.0										
14.0													
14.5													
15.0													
15.5		5											
16.0				80% RECV SP (C SAND)									
16.5				2GLEY 2.5/10B									
17.0				SP (M SAND) 5YR 3/2									
17.5			0.0										
18.0													
18.5													
19.0													
19.5		3		SC 2GLEY ~~[illegible]~~ 6/10B									
20.0				50% RECV. GC 5YR 4/4									
20.5													
21.0			0.0										
21.5		10.0											
22.0													
22.5													
23.0				REFUSAL @ 23'									
23.5													
24.0													

FIL

H_2O @ 8.4'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	014
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)
Location	Northing (NAD 1927)	Easting (NAD 1927) / Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/10	Date	4/10
Time		1130	Time	1130
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. E1
2. Direct-push location grouted with BenSeal.

1130-1200: SOIL SAMPLE < 2'-4' (UPPER) / 4'-6' (LOWER)
1300-1330 H_2O SAMPLE (LOWER)

George H Markt — Signature (Core Gamma Logging) — 4/10/2000 — Date

George H. Markt — Signature (Logging) — 4/10/2000 — Date

BACKGROUND = 13 Kc/m

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # # #
0.0				50% REC'd. SM 5YR 3/3	
0.5				(TOPSOIL)	
1.0				GM 5YR 3/3	
1.5		0.0	0.0	SC 5YR 4/4	
2.0					1 2B 0 2 0 6 3 4
2.5					
3.0				SM 5YR 4/4	
3.5					1 2B 0 2 0 6 3 4
4.0				85% REC'd.	1 2B 0 2 0 6 3 5
4.5					
5.0					
5.5		0.0	0.0		
6.0				GM 5YR 4/4	1 2B 0 2 0 6 3 5
6.5					
7.0					
7.5				SM 5YR 4/4	
8.0					
8.5				WET GC 5YR 4/4	
9.0					
9.5					
10.0		0.0	0.0		
10.5					
11.0					
11.5					
12.0				70% REC'd GC 5YR 4/4	
12.5					
13.0					
13.5		0.0	0.0		
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5		0.0	0.0		
18.0					
18.5					
19.0				REFUSAL @ 19'	
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

+2.0 6.4

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	09A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	008
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/11	Date	4/11
Time		1330	Time	1330
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. F1
2. Direct-push location grouted with BenSeal.

1330 - 1445 SOIL SAMPLE
1445 - 1500 STANDBY
1500 - 1600 H_2O SAMPLE
1600 - 1630 STANDBY (due to lack of drilling permit)

George H. Markt — Signature (Core Gamma Logging) — 4/11/00 — Date

George H. Markt — Signature (Logging) — 4/11/00 — Date

BACKGROUND = 45 Kc/m RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
0.0				20% RECV SC 2GLEY	
0.5				3/1CB trace brick	
1.0					09A02056
1.5					
2.0			0.0		
2.5					09A02056
3.0				clamp @ 3.5'	09A02057
3.5				trace wood @ 4'	
4.0		20		100% RECV.	
4.5					09A02057
5.0					
5.5		10	0.0		
6.0				SC: 2GLEY 2/10B	
6.5					
7.0				SC: 5YR 6/4	
7.5					
8.0				80% RECV.	
8.5					
9.0				SP 5YR 5/3 (wet)	
9.5		0.0			
10.0			0.0	SC 5YR 5/3	
10.5				SP 5YR 5/3	
11.0					
11.5				SC 5YR 5/3	
12.0				65% RECV.	
12.5					
13.0				GM 5YR 4/4 (wet)	
13.5		0.0	0.0	water with residue	
14.0				cobbles)	
14.5					
15.0					
15.5					
16.0				GM 5YR 4/4 (wet)	
16.5				50% RECV.	
17.0					
17.5		0.0	0.0		
18.0					
18.5					
19.0					
19.5					
20.0				GM 5YR 4/4 (75% RECV	
20.5					
21.0					
21.5		0.0	0.0		
22.0					
22.5					
23.0					
23.5				GC 5YR 4/4	
24.0					

REFUSAL @ 24.25'

Fi
Ma

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	09A
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	006
Media		m m	SB
Sample Type		n	
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/11	Date	4/11
Time		1300	Time	1300
Logger		G. HERKT	Logger	G. HERKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. F5
2. Direct-push location grouted with BenSeal.

1300 – 1315 SOIL SAMPLE 1.5' ⇒ 3.5'
1C WATER SAMPLE COLLECTED
1315 – 1345 STAND BY
~~1345 – 1445 SOIL SAMPLES~~

George H. Merkt — Signature (Core Gamma Logging) — 4/11/00 — Date

George H. Merkt — Signature (Logging) — 4/11/00 — Date

*BACKGROUND = 11 K/min RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0			*	Asphalt sub base	~~[illegible]~~								
0.5		10		material SM5YR4/4	0	9	A	0	2	0	5	6	2
1.0		↑		trace Gravel Trace-									
1.5		to		brick									
2.0													
2.5		↓		SP5YR 2.5/1									
3.0		14		Wood Material									
3.5													
4.0				REFUSAL @ 3.5									
4.5													
5.0													
5.5													
6.0				* NOTED ODOR IN BORE									
6.5				HOLE PID = 3.6									
7.0													
7.5													
8.0													
8.5													
9.0													
9.5													
10.0													
10.5													
11.0													
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

F

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	CGA
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	010
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	# # # # # #	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/13	Date	4/13
Time		0800	Time	0800
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. F4
2. Direct-push location grouted with BenSeal.

0800 - 0830 SOIL SAMPLE (0'-3') + (3'-4')
0830 - 0930 H_2O SAMPLE (LOWER)
0930 - 1030 - H_2O SAMPLE (UPPER)

Signature (Core Gamma Logging) _____ Date _____

Signature (Logging) _____ Date _____

BACKGROUND = 6 Kc/m RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1] (Kc/m)	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				100% RECV. GW 5YR4/4	0	9	A	0	2	0	5	7	8
0.5				(crushed rock)									
1.0													
1.5		0.0	0.0		0	9	A	0	2	0	5	7	8
2.0					0	9	A	0	2	0	5	7	9
2.5				GC 5YR 2.5/2									
3.0		3		SC 2GLEY 2.5/10B									
3.5				SK 2GLEY 4/5BG									
4.0				100% RECV.	0	9	A	0	2	0	5	7	9
4.5				SM 5YR 4/3 (damp)									
5.0				SC 2GLEY 4/5BG									
5.5			0.0										
6.0		0.0		GM 5YR 4/4									
6.5				SC 1GLEY 4/5G (greenish)									
7.0				GM 5YR 4/4 (angular									
7.5				cobbles)									
8.0				75% RECV.									
8.5													
9.0													
9.5			0.0										
10.0		0.0											
10.5													
11.0				(wet)									
11.5													
12.0				50% RECV. (acetate									
12.5				sleeve shattered) GM									
13.0				5YR 4/4 wet sample									
13.5		0.0	0.0										
14.0													
14.5													
15.0				REFUSAL @ 15 FT									
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

F1.

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

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GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	15A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	0
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/13	Date	4/13
Time		1330	Time	1330
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. G1
2. Direct-push location grouted with BenSeal.

1330 - 1415 SOILS CHARACT. ← NO SAMPLE COLLECTED
1415 - 1530 H_2O SAMPLE (5' → 9')

George H. Markt
Signature (Core Gamma Logging)

4/13/00
Date

George H. Markt
Signature (Logging)

4/13/00
Date

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # - # # - # #
0.0				80% REC'V GW 2 GLEY 6/5B (processed stone)	
0.5					
1.0					
1.5		0.0			
2.0			0.0		
2.5					
3.0				SM 5YR 4/4	
3.5				SC 5YR 4/4 (w/ roots)	
4.0				SM 5YR 4/4, 70% Rec'v	
4.5					
5.0				SC 5YR 4/4	
5.5		0.0		SP 5YR 4/4	
6.0			0.0	(damp) (wet)	
6.5					
7.0					
7.5					
8.0				50% REC'V, (dry)	
8.5					
9.0				SM 5YR 3/4	
9.5					
10.0		0.0	0.0		
10.5					
11.0					
11.5					
12.0				50% REC'V.	
12.5		0.0			
13.0			0.0		
13.5					
14.0				REFUSAL @ 14 FT	
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	09A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	011
Media	m m	SB
Sample Type	n	0
Sequential Sample Number	# # # # # #	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/13	Date	4/13
Time		~~1045~~ 1130	Time	~~1045~~ 1130
Logger		G. MARKT	Logger	G. MARKT
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

LOCATION ABANDONED AFTER 4 ATTEMPTS DUE TO COMBUSTIBLE GAS.

1. MPI No. F5
2. Direct-push location grouted with BenSeal.

~~1045~~ 1130 – 1200
1230 – 1330

UNABLE TO DO SOIL SAMPLE COLLECTION AT THIS LOCATION 4 ATTEMPTS WERE MADE TO A DEPTH NOT GREATER THAN 3ft.

George H. Markt — Signature (Core Gamma Logging) — 4/13/00 — Date

George H. Markt — Signature (Logging) — 4/13/00 — Date

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	15A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	003
Media	m m	SB
Sample Type	n	
Sequential Sample Number	# # # # # #	(see Below)
	Northing (NAD 1927) / Easting (NAD 1927)	Elevation (NGVD 1929)
Location		

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/14	Date	4/14
Time		1300	Time	1300
Logger		G. MARKT	Logger	G MARKT
Detector Model #		Ludlum 43-5	PID Model #	Multi-RAE
Detector Serial #		164996	PID Serial #	CENAN 21811
Scaler Model #		L2241-2		
Scaler Serial #		159480		

Comments:

1. MPI No. C1
2. Direct-push location grouted with BenSeal.

1300 - 1330 SOILS
1330 - 1500 H_2O SAMPLES

George H. Markt — Signature (Core Gamma Logging) — 4/14/00 — Date

George H. Markt — Signature (Logging) — 4/14/00 — Date

BACKGROUND = 6 Kc/m RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/fm Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X X # # # # # #
0.0				60% Recv. GW 2 GLEY		
0.5				2.5/10G (Asphalt Sub-		
1.0				grade material)		
1.5		0.0	0.0	SW 5YR 6/8		
2.0				SC 5YR 4/6		
2.5				GRA 5YR 3/4		
3.0						
3.5						
4.0				70% REC'V.		
4.5						
5.0		0.0	0.0			
5.5						
6.0						
6.5						
7.0						
7.5						
8.0				70% RECV. SW 5YR 4/4		
8.5						
9.0				GW 5YR 4/4 (coarser		
9.5		0.0	0.0	Than above.)		
10.0						
10.5						
11.0						
11.5						
12.0				50% RECV GW 5YR 4/4		
12.5				water wash cobbles		
13.0				very tight material		
13.5						
14.0		0.0	0.0			
14.5						
15.0						
15.5						
16.0				END OF BORING @ 14 FT		
16.5				~~BEDROCK~~ NOT ENCOUNTERED		
17.0				Geoprobe refusal due		
17.5				to tight materials.		
18.0						
18.5						
19.0						
19.5						
20.0						
20.5						
21.0						
21.5						
22.0						
22.5						
23.0						
23.5						
24.0						

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	13A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	002
Media	m m	SB
Sample Type	n	
Sequential Sample Number	# # # # # #	(see Below)
Location	Northing (NAD 1927) / Easting (NAD 1927) / Elevation (NGVD 1929)	

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date			Date	
Time			Time	
Logger			Logger	
Detector Model #	Ludlum 43-5 → ~~2241-2~~		PID Model #	Multi-RAE
Detector Serial #	164996 → ~~159480~~		PID Serial #	CENAN 21811
~~Scaler Model #~~	L2241-2 → ~~164996~~			
Scaler Serial #	159480 →			

Comments:

1. MPI No. C2
2. Direct-push location grouted with BenSeal.

0830 – 0915 SOILS — (20ft)
0915 – 1015 H_2O SAMPLE (LOWER) 15.75' → 19.75'
1015 – 1235 H_2O SAMPLE (UPPER) 6.0' → 10.0'
1230 – 1245 STEAM

George H. Marlatt — Signature (Core Gamma Logging) — 4/14/00 — Date

George H. Marlatt — Signature (Logging) — 4/14/00 — Date

BACKGROUND = 7 Kc/m RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				80% RECV. GW 2GLEY 2.5/10G	
0.5					
1.0				SM 5YR 4/4	
1.5		0.0	0.0		
2.0					
2.5					
3.0				SC 5YR 4/4	
3.5					
4.0				70% RECV. SM 5YR 4/4 wet @ 5ft	
4.5					
5.0					
5.5		0.0	0.0		
6.0					
6.5				GW 2GLEY 4/10G SM 5YR 4/6 trace GRAVEL f grained Than above. 100% RECV.	
7.0					
7.5					
8.0					
8.5		0.0		GM 5YR 3/4 (c GRAVEL)	
9.0			0.0		
9.5					
10.0		2			
10.5					
11.0		0.0			
11.5					
12.0				70% RECV. GM 5YR 3/4 water wash GRAVEL	
12.5					
13.0					
13.5					
14.0		0.0	0.0		
14.5					
15.0					
15.5					
16.0				65% RECV. GM 5YR 3/4	
16.5					
17.0					
17.5					
18.0		0.0	0.0		
18.5					
19.0					
19.5					
20.0				REFUSAL @ 19.75 ft	
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O @ 6.5'

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling
@ Grove Ave in front of #66

Site Designator	XXX	I6A
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	001
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/17	Date	4/17
Time		0830	Time	0830
Logger		G. MARKT	Logger	G MARKT
Detector Model #		LUDLUM 43-5	PID Model #	Multi-RAE
Detector Serial #		164996	PID Serial #	CENAN 21811
Scaler Model #		L2241-2		
Scaler Serial #		159480		

Comments:

1. MPI No. D1001
2. Direct-push location grouted with BenSeal.

0830 - 0900 Soils
0900 - 1200 H_2O

George H. Markt — Signature (Core Gamma Logging) — 4/17/00 — Date

George H. Markt — Signature (Logging) — 4/17/00 — Date

BACKGROUND = 6 Kc/m KC

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Ke/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				80% Recv - SM 5YR4/4	
0.5				(trace f Gravel)	
1.0					
1.5					
2.0		0.0	0.0		
2.5					
3.0					
3.5					
4.0					
4.5					
5.0		0.0		drilled through cobble	
5.5			0.0	SC 5YR4/4	
6.0		2		GM 5YR4/4 (water washed	
6.5				cobbles) damp	
7.0		0.0		GW (weathered bedrock)	
7.5				5YR4/4 (dry)	
8.0					
8.5					
9.0		0.0	0.0	wet @ 9 ft	
9.5				SC 5YR4/4 (2cm thk)	
10.0				REFUSAL AT 10 ft	
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	16A
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	002
Media		mm	SB
Sample Type		n	
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/17	Date	4/17
Time		1015	Time	1015
Logger		G. MARKT	Logger	G. MARKT
Detector Model #		Ludlum 43-5	PID Model #	Multi-RAE
Detector Serial #		164996	PID Serial #	CENAN 21811
Scaler Model #		42241-2		
Scaler Serial #		159480		

Comments:

1. MPI No. D2
2. Direct-push location grouted with BenSeal.

1015-1045 SOILS
1045-1245 H_2O

George H. Markt — Signature (Core Gamma Logging) — 4/17/00 — Date

George H. Markt — Signature (Logging) — 4/17/00 — Date

BACKGROUND = 7 Kcfm RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X	X	X	#	#	#	#	#	#
0.0				70% REC'V. GW 2GL6Y									
0.5				2.5/10BG asphalt, processed									
1.0				stone -									
1.5		0.0	0.0	SM 5YR4/4									
2.0													
2.5													
3.0				punched through cobble									
3.5													
4.0				20% REC'V. GW 5YR 4/4									
4.5				estimate due to low REC'V.									
5.0													
5.5		0.0	0.0										
6.0													
6.5													
7.0													
7.5													
8.0				70% REC'V. GC 5YR									
8.5				4/4 water washed cobble									
9.0		0.0	0.0	damp									
9.5													
10.0				GW 5YR 4/4 dry									
10.5													
11.0				REFUSAL HT 11 FT									
11.5													
12.0													
12.5													
13.0													
13.5													
14.0													
14.5													
15.0													
15.5													
16.0													
16.5													
17.0													
17.5													
18.0													
18.5													
19.0													
19.5													
20.0													
20.5													
21.0													
21.5													
22.0													
22.5													
23.0													
23.5													
24.0													

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	16A
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	003
Media		mm	SB
Sample Type		n	
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/18	Date	4/18
Time		0800	Time	0800
Logger		G. MARKET	Logger	G. MARKET
Detector Model #		LUDLUM 43-5	PID Model #	Multi-RAE
Detector Serial #		164996	PID Serial #	CENAN 21811
Scaler Model #		L2241-2		
Scaler Serial #		159480		

Comments:

1. MPI No. D3
2. Direct-push location grouted with BenSeal.

0800 — 0930 SOILS
0930 — 1100 H_2O

George H. Market — Signature (Core Gamma Logging) — 4/18/00 — Date

George H. Market — Signature (Logging) — 4/18/00 — Date

BACKGROUND = 7 Kc/m RHD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
0.0				60% RECV GW 2GLEY	
0.5				2.5/10BG	
1.0				SM 5YR 5/6	
1.5		0.0	0.0		
2.0					
2.5					
3.0				SC 5YR 3/1	
3.5				SM 5YR 7/1	
4.0				75% RECV GW 5YR 4/4	
4.5				(crushed rock)	
5.0		0			
5.5			0.0	SM 5YR 4/6	
6.0		2			
6.5				SM 5YR 4/3 (K SAND) damp	
7.0		0		SM 5YR 4/4 (F SAND) dry	
7.5					
8.0				60% RECV. GC 5YR 4/4	
8.5				(water washed cobble damp)	
9.0		0			
9.5			0.0		
10.0					
10.5					
11.0		1			
11.5					
@ 13ft 12.0		0		65% RECV. GC 5YR 4/4	
12.5				(water washed cobble)	
13.0				wet	
13.5		0.0			
14.0			0.0		
14.5					
15.0					
15.5					
16.0					
16.5		0.0	0.0		
17.0					
17.5					
18.0					
18.5				PROBE REFUSAL @ 18ft	
19.0				NO BEDROCK ENCOUNTERED	
19.5				IN SAMPLE.	
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator		XXX	177A
Activity Designator		AAA	GWR
Field Measurement/Sample Collection Designator		VV	DP
Station Number		NNN	001
Media		mm	SB
Sample Type		n	
Sequential Sample Number		######	(see Below)
	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location			

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/18	Date	4/18
Time		1300	Time	1300
Logger		G. MARKS	Logger	G MARKS
Detector Model #		Ludlum 43-5	PID Model #	Multi-RAE
Detector Serial #		164996	PID Serial #	CENAN 21811
Scaler Model #		L2241-2		
Scaler Serial #		159480		

Comments:

1. MPI No. G4
2. Direct-push location grouted with BenSeal.

1300 – 1315 – SOILS
1315 – 1345 – H_2O

George H. Markt — Signature (Core Gamma Logging) — 4/18/00 — Date

George H. Markt — Signature (Logging) — 4/18/00 — Date

BACKGROUND = 8 Kc/sec RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Kc/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				80% REV. GW 2GLEY	
0.5				2.5/10G	
1.0				SM 5YR 5/6	
1.5		0.0	0.0	SC 5YR 2.5/1	
2.0					
2.5					
3.0				drilled through cobble	
3.5				SM 5YR 4/4 (mc SAND	
4.0				damp)	
4.5		0.0	0.0		
5.0				SM 5YR 5/4 (f SAND)	
5.5					
6.0				SM 5YR 4/4 (mc SAND)	
6.5					
7.0				REFUSAL @ 6.5 ft	
7.5					
8.0					
8.5					
9.0					
9.5					
10.0					
10.5					
11.0					
11.5					
12.0					
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0					
16.5					
17.0					
17.5					
18.0					
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

H_2O @ 3.1

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation)
0.0				60% RECV SW5YR3/2	25020638
0.5				(TOP Soil) organic material throughout	
1.0					
1.5		0.0	0		12B020638
2.0					12B020639
2.5					
3.0		10		+ trace coal/slag?	
3.5				GW5YR4/4 (crushed	12B020639
4.0		10		rock) 75% RECV. SC	
4.5				2GLEY 8/5B white wet	
5.0				@ 4ft greenish material	
5.5		0.0	0	@ 6ft. inclusions	
6.0					
6.5					
7.0					
7.5				SM 5YR 2.5/1 (organic	
8.0				material Through out)	
8.5				decomposed leaves at 7.5ft	
9.0		0		damp below 8ft	
9.5			0		
10.0				SM 2GLEY 2.5/10BG	
10.5				damp	
11.0					
11.5					
12.0				20% RECV. SM 2GLEY	
12.5				2.5/10BG	
13.0					
13.5		0	0		
14.0				wet (depth questionable due to low recovery)	
14.5					
15.0					
15.5				SC 5YR 4/4 (depth questionable due to low recovery)	
16.0				70% RECV. SC 5YR 4/4	
16.5					
17.0					
17.5		0	0		
18.0					
18.5					
19.0				SM 1GLEY 5/10GY	
19.5				GW 5YR 4/4 (crushed rock)	
20.0				50% RECOV.	
20.5					
21.0					
21.5					
22.0			0	GC 5YR 4/4 (very TIGHT MATERIAL)	
22.5					
23.0					
23.5					
24.0					

Upper H2O Sample

Lower H2O Sample

* LOW SAMPLE RECOVERY IN TUBE.

** SAMPLING TUBE BROKE IN HALF (STUCK IN BARREL)

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[2]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
24.0		↑	↑	GC54R4/4 (very Tight	
24.5		0	0	material)	
25.0		↓	↓	↓	
				Refusal @25ft	

[2] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	LOAT 12-B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	N N N	~~001~~ 015
Media	m m	SB
Sample Type	n	
Sequential Sample Number	# # # # # #	(see Below)
Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)
Location		

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/19	Date	4/19
Time		0800	Time	0800
Logger		G. MARKT	Logger	G. MARKT
Detector Model #		4410	PID Model #	Multi-RAE
Detector Serial #		164996	PID Serial #	CENAN 21811
Scaler Model #		2241-2		
Scaler Serial #		159480		

Comments:

1. MPI No. A1
2. Direct-push location grouted with BenSeal.

0800 - 1000 - SOILS

1015 - 1200 - H_2O SAMPLE (LOWER COLLECT.)

1230 - 1345 - H_2O SAMPLE (RESUMED LOWER SAMPLE COLLECT.)

1315 - 1330 - H_2O SAMPLE (MOVED DRILL TO LOCATION 5 FT WEST AHEAD OF ORIGINAL WELL TO COLLECT UPPER H_2O SAMPLE) HOLE COLLAPSED WHILE SETTING SCREEN)

1345 - 1430 - H_2O SAMPLE (MOVED SCREEN UP TO 4' → 8' INTERVAL TO COLLECT UPPER H_2O SAMPLE) AVC

NOTE: ① 0.5 HRS TO RECOVER H_2O SAMPLING RODS LEFT INADVERTANTLY AT AN OFF-SITE LOCATION (G4)

② 0.5 HRS TO RESET WELL BECAUSE SEAL WAS NOT USED IN FIRST SETTING OF W.

George H. Markt — Signature (Core Gamma Logging) — 4/19/00 — Date

George H. Markt — Signature (Logging) — 4/19/00 — Date

BACKGROUND = 22 Kc/m RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X = = = = = =	
0.0				60% RECV SW5YR3/2	1 2 B 0 2 0 6 3 8	*
0.5				(Top Soil) organic material		
1.0				throughout		
1.5		0.0	0		1 2 B 0 2 0 6 3 8	
2.0					1 2 B 0 2 0 6 3 9	
2.5				trace coal/slag?		
3.0		10				
3.5				GW5YR4/4 (crushed	1 2 B 0 2 0 6 3 9	
4.0		10		rock) 75% RECV. SC		
4.5				2GLEY 8/5B white wet		
5.0				@ 4 ft greenish material		
5.5		0.0	0	@ 6 ft, inclusions		
6.0						
6.5						
7.0						
7.5				SM5YR2.5/1 (organic		
8.0				material Through out),		
8.5				decomposed leaves at 7.5 ft		
9.0		0		damp below 8 ft		
9.5			0			
10.0				SM2GLEY 2.5/10BG		
10.5				damp		
11.0						
11.5						
12.0				20% RECV. SM2GLEY		
12.5				2.5/10BG		
13.0						
13.5		0	0			
14.0				wet (depth questionable due to low recovery)		
14.5						
15.0						
15.5				SC5YR4/4 (depth questionable due to low recovery)		
16.0				70% RECV. SC5YR4/4		
16.5						
17.0						
17.5		0	0			
18.0						
18.5						
19.0				SM1GLEY 5/10GY		
19.5				GW5YR4/4 (crushed rock)		
20.0				50% RECOV.		**
20.5						
21.0						
21.5						
22.0			0	GC5YR4/4 (very Tight material)		
22.5						
23.0						
23.5						
24.0						

Upper H_2O Sample

Lower H_2O Sample

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

A:\GWRI Soil Probe Log Sheet.doc

* LOW SAMPLE RECOVERY IN TUBE.

** SAMPLING TUBE BROKE IN HALF (STUCK IN BARREL) EXAMINED LOWER HALF

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Core Gamma Reading[2]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
24.0		↑	↑	GC 5YR 4/4 (very Tight	
24.5		0	0	material)	
25.0		↓	↓	↓	
				Refusal @ 25 ft	

[2] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	123
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	016
Media	mm	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)
Location	Northing (NAD 1927)	Easting (NAD 1927) / Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/19	Date	4-19
Time		1430	Time	1430
Logger		G. MARKT	Logger	G. MARKT
Detector Model #		44P0	PID Model #	Multi-RAE
Detector Serial #		164996	PID Serial #	CENAN 21811
Scaler Model #		2241-2		
Scaler Serial #		159480		

Comments:

1. MPI No. A2.
2. Direct-push location grouted with BenSeal.

1430_ 1515 SOILS

George H. Markt
Signature (Core Gamma Logging) 4/19/00 Date

George H. Markt
Signature (Logging) 4/19/00 Date

BACKGROUND = 15 Kc/m RAD

Depth (Feet)	Down Hole Gamma Reading (c/10 sec)	Ke/m Core Gamma Reading[1]	PID Reading (ppm)	Sample Description (per Field Operations Manual)	Laboratory Sample ID (Laboratory Designation) X X X # # # # # #
0.0				40% REC'V. GW 5YR 3/2	
0.5				(processed GRAVEL	
1.0				GM 5YR 4/4 (Crushed	1 2B 0 2 0 6 4 2
1.5		0.0	0.0	STONE) trace organic	
2.0				material	
2.5				SM 2GLEY 2.5/10B	1 2B 0 2 0 6 4 2
3.0				GW 5YR 4/4 (Crushed	
3.5				STONE) SM 5YR 4/4	
4.0				60% REC'V.	
4.5					
5.0					1 2B 0 2 0 6 4 3
5.5		0.0	0.0		
6.0				GW 5YR 4/4	
6.5					1 2B 0 2 0 6 4 3
7.0				damp @	
7.5				SM 2GLEY 7/10BG	
8.0				90% REC'V (greenish	
8.5		2	.6	inclusions. Wet from	
9.0				8 to 9'	
9.5				SC 2GLEY 2.5/10BG	
10.0		0	0	dry	
10.5					
11.0					
11.5				damp @ 11.5'	
12.0				0% RECOVERY	
12.5					
13.0					
13.5					
14.0					
14.5					
15.0					
15.5					
16.0				Unable To obtain	
16.5				sample due To Expanding	
17.0				clays - will continue	
17.5				To try Tomorrow 4/20/2000	
18.0				as INSTRUCTED by ED WIEDERKEHR	
18.5					
19.0					
19.5					
20.0					
20.5					
21.0					
21.5					
22.0					
22.5					
23.0					
23.5					
24.0					

[1] Location of Core Gamma Reading Based on Initial Continuous Scan

GWRI SOIL PROBE LOG SHEET

FUSRAP Maywood Superfund Site
Stone & Webster Environmental Technology & Services
100 West Hunter Avenue
Maywood, New Jersey 07607

Tel: (201) 226-6600
FAX: (201) 226-6660

Task Description: GWRI
Job Number: 085750503
Activity: Direct-Push Sampling

Site Designator	XXX	12B
Activity Designator	AAA	GWR
Field Measurement/Sample Collection Designator	VV	DP
Station Number	NNN	~~000~~16
Media	m m	SB
Sample Type	n	
Sequential Sample Number	######	(see Below)

Location	Northing (NAD 1927)	Easting (NAD 1927)	Elevation (NGVD 1929)

	Gamma Logging		Photoionization Detector (PID) Logging	
	Down Hole	Core		
Date		4/20	Date	4/20
Time		0800	Time	0800
Logger			Logger	
Detector Model #			PID Model #	Multi-RAE
Detector Serial #			PID Serial #	CENAN 21811
Scaler Model #				
Scaler Serial #				

Comments:

1. MPI No. A2
2. Direct-push location grouted with BenSeal.

0800 – 0915 SOILS
0915 – 1330 H_2O SAMPLE (METALS)
1330 – 1530 H_2O SAMPLE (VOCS)

George H. Marlet — Signature (Core Gamma Logging) — 4/20/00 — Date

George H. Marlet — Signature (Logging) — 4/20/00 — Date

BACKGROUND = 13Kc/m RAD

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 01A 020501

PROJECT: FUSRAP MAYWOOD | SITE: 01A | Page 1 of 1

Project No: 08575053 | Client: USACE

Contractor: TERRA PROBE | SAMPLE DEPTH: 10' - 14'

Start Date/Time: 3/15/00 1233 | Completion Date/Time: 1305 | Well Diameter:

Development Method/Equipment:

Logged by: E. WIEDERKEHR | Water Level (ft bgs): 4.3' | Protection Level: D

Pre-development DTW (PVC) (ft): 4.3' DTB (PVC) (ft): 14'

Post-development DTW (PVC) (ft): —

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 . 25 GAL.

(2-inch well = 0.164 x (DTB-DTW)(ft)) = NA

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = NA

Minimum Purge Volume (gal) (3 well volumes) = .75 GAL

Development Purge/Discharge Rate (gpm): 500 ml / min.

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 4.5 GAL.

Disposition of Purge Water:

Hours of Development: 20 min.

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1140	—	—	—	—	—	—	—	DOWNTIME DUE TO PERISTALTIC PUMP FAILURE
1230	INITIAL	4.3	BROWN	13°	6.45	.521	>999	
	1		"	12.7°	6.59	.533	840	
	2		CLEARING	12.9°	6.46	.537	335	
	3			12.3°	6.4	.539	210	
	4			12.4°	6.36	.539	115	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

VOLUME	DO	SAL
1	2.25	.02
2	2.50	↓
3	2.70	
4	2.82	

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 02D020513

PROJECT: ~~0857~~ MAYWOOD	SITE: 02D	Page 1 of 1
Project No: 08575053	Client: USACE	
Contractor: TERRA PROBE		SAMPLE DEPTH: 6'-10'
Start Date/Time: 1505 3/15/00	Completion Date/Time: 1540	Well Diameter:
Development Method/Equipment:		
Logged by: E. WIEDERKEHR	Water Level (ft bgs): ~ 4'	Protection Level: D

Pre-development DTW (PVC) (ft): 4' DTB (PVC) (ft): 10'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ .15 GAL.

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = .45 GAL.

Development Purge/Discharge Rate (gpm): 250 ml /min

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 2.5 GAL

Disposition of Purge Water: —

Hours of Development: 30 min.

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1505	INITIAL	4'	BROWN CLOUDY	13.8	7.63	2.46	>999	
	1		"	13.6	7.66	2.46	>999	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

VOL	DO	SAL
D	2.47	.11
1	2.74	.11

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 02A020503

PROJECT: FUSRAP MAYWOOD	SITE: 02A	Page 1 of 1
Project No: 08750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 10 – 14'
Start Date/Time: 3/31 1400	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 3.5	Protection Level: D

Pre-development DTW (PVC) (ft): 3.5 DTB (PVC) (ft): _____

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0.10 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0.30 gal

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged: —

Disposition of Purge Water: ~ 1 ℓ/min

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1415		3.5	—	11.8	6.93	1.01	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do = 2.22 flow rate ⇒ 58 sec/ltr

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 09A-020561

PROJECT: FUSRAP MAYWOOD	SITE: 09A	Page 1 of 1
Project No: 08575050 3	Client: USACE	
Contractor: TERRA PROBE INC-		SAMPLE DEPTH: 4'-8'
Start Date/Time: 3/31 1115	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 0.0'	Protection Level: D

Pre-development DTW (PVC) (ft): 0.0' DTB (PVC) (ft): 9'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0.10

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0.3gal

Development Purge/Discharge Rate (gpm): —

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 0.5 gal

Disposition of Purge Water: ⇒ MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1115	-	0.0	—	11.0	6.62	.712	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do = 2.3

flow rate 3'10"/ea

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 09A - 080559

PROJECT: FUSRAP MAYWOOD	SITE: 09A	Page 1 of 1
Project No: 0857500503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 4'-9'
Start Date/Time: 3/31	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 3,0	Protection Level: D

Pre-development DTW (PVC) (ft): 3,0 DTB (PVC) (ft): 9'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 = 0.1 gal.

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0.3 gal

Development Purge/Discharge Rate (gpm): —

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: —

Disposition of Purge Water: ~~STORED @ MISS~~

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
	—	3.0'	—	11.5	5.73	1.04	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do = 3.2

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 020511

PROJECT: FUSRAP MAYWOOD | SITE: 02C | Page 1 of 1

Project No: 08575053 | Client: USACE

Contractor: TERRA PROBE | SAMPLE DEPTH: 12-16'

Start Date/Time: 3/16/00-1445 | Completion Date/Time: 3/16/00 1532 | Well Diameter:

Development Method/Equipment:

Logged by: C. TRIONE | Water Level (ft bgs): 8.7' | Protection Level: D

Pre-development DTW (PVC) (ft): 8.7' | DTB (PVC) (ft): 16'

Post-development DTW (PVC) (ft): —

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 .183 GAL

(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = N/A

Minimum Purge Volume (gal) (3 well volumes) = .55 GAL

Development Purge/Discharge Rate (gpm): ~250 ml/min

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: .55 gal

Disposition of Purge Water: Returned to MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1447		8.7'	—	13.0°	7.29	.484	888	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

1445 STARTS H_2O SAMPLING

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 02d020517

PROJECT: FUSRAP MAYWOOD | SITE: 02d | Page 1 of 1

Project No: 08575053 | Client: USACE

Contractor: TERRA PROBE | SAMPLE DEPTH: 8-12'

Start Date/Time: 3/16-1200 | Completion Date/Time: 3/16 | Well Diameter:

Development Method/Equipment:

Logged by: C. TRIONE | Water Level (ft bgs): 4.5' | Protection Level: D

Pre-development DTW (PVC) (ft): 4.5' DTB (PVC) (ft): 12'

Post-development DTW (PVC) (ft): —

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 . 189 GAL

(2-inch well = 0.164 x (DTB-DTW)(ft)) = NA

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = NA

Minimum Purge Volume (gal) (3 well volumes) = . 56 GAL

Development Purge/Discharge Rate (gpm): — 250-500 ml/min

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 3 gal

Disposition of Purge Water: Returned to Miss

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1200		4.5'	—	11.1°	7.17	.96	663	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

1205 START H_2O SAMPLING

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 02d020515

PROJECT: FUSRAP MAYWOOD	SITE: 02d	Page 1 of 1
Project No: 08575053	Client: USACE	
Contractor: TERRA PROBE		SAMPLE DEPTH: 4-8'
Start Date/Time: 3/16	Completion Date/Time: 3/16 11:35	Well Diameter:
Development Method/Equipment:		
Logged by: C. TRIONE	Water Level (ft bgs): 6.0'	Protection Level: D

Pre-development DTW (PVC) (ft): 6.0' DTB (PVC) (ft): 8'

Post-development DTW (PVC) (ft): —

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 .05 GAL

(2-inch well = 0.164 x (DTB-DTW)(ft)) = NA

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = NA

Minimum Purge Volume (gal) (3 well volumes) = .15 GAL

Development Purge/Discharge Rate (gpm): 250-500 ml/min

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 1 gal

Disposition of Purge Water: Returned to Miss

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
10:07				13.5°	7.18	.568	78	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

10:20 START H_2O SAMPLING

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 04a 020523

PROJECT: FUSRAP MAYWOOD	SITE: 04a	Page 1 of 1
Project No: 08575053	Client: USACE	
Contractor: TERRA PROBE		SAMPLE DEPTH: 8 - 10'
Start Date/Time: 3/17/00 1020	Completion Date/Time: 3/17/00 1245	Well Diameter:
~~Development~~ PURGE Method/Equipment: PERISTATIC PUMP		
Logged by:	Water Level (ft bgs): 6.05'	Protection Level: D

Pre-development DTW (PVC) (ft): 6.05' DTB (PVC) (ft): 10.0'

Post-development DTW (PVC) (ft): ——

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 , .025 GAL

(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = N/A

Minimum Purge Volume (gal) (3 well volumes) = 0.1 GAL

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft): ——

Total Quantity Purged: 2 lit.

Disposition of Purge Water:

Hours of Development: 20 min.

Hours of Decon: ——

Hours of Standby: ——

	Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1	10:48		6.15'	—	7.7°	7.82	1.72	999+	DO ⇒ 9.20
2	10:53		6.15'	—	7.4°	7.7	1.7	999+	DO ⇒ 9.40

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

START PURGE @ 10:20
END PURGE @ 10:40
1 DO = 9.20
2 DO = 9.4

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 056020529

PROJECT: FUSRAP MAYWOOD | SITE: 056 | Page 1 of 1

Project No: 0857053 | Client: USACE

Contractor: TERRA PROBE INC. | SAMPLE DEPTH:

Start Date/Time: 3/23/00 1030 | Completion Date/Time: 1130 | Well Diameter:

Development Method/Equipment:

Logged by: G. MARKT | Water Level (ft bgs): 6.1 | Protection Level: D

Pre-development DTW (PVC) (ft): 6.1 DTB (PVC) (ft): 16'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0.247 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) => 0.7425 gal

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged: 2 gal

Disposition of Purge Water: STORED @ MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

	Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1	1055		6.1	—	14.4	6.36	2.85	999+	
2	↓		6.1	—	14.2	6.6	2.67	999+	
3	↓		6.1	—	14.2	6.63	2.66	555	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 12'-16'

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 05c 020531

PROJECT: FUSRAP MAYWOOD	SITE: 05c	Page 1 of 1
Project No: 0857053	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH:
Start Date/Time: 3/23/00 1245	Completion Date/Time: 1415	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 4.3'	Protection Level: D

Pre-development DTW (PVC) (ft): 4.3' DTB (PVC) (ft): 11'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 => 0.1675 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = ——

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = ——

Minimum Purge Volume (gal) (3 well volumes) => 0.50 gal

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged: 2 gal

Disposition of Purge Water: STORED @ MISS

Hours of Development:

Hours of Decon:

Hours of Standby:

	Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1	1245		4.3'	—	13.7	7.77	.974	999+	
2	1245		4.3'	-	13.8	7.74	.972	285	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 8'-18'

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 06a020533

PROJECT: FUSRAP NIAGWOOD | SITE: 06a | Page 1 of 1

Project No: 0857053 | Client: USACE

Contractor: TERRA PROBE INC | SAMPLE DEPTH:

Start Date/Time: 3/23/00 1445 | Completion Date/Time: 1530 | Well Diameter:

Development Method/Equipment:

Logged by: G, MARKT | Water Level (ft bgs): 3,7' | Protection Level: D

Pre-development DTW (PVC) (ft): 3,7' DTB (PVC) (ft): 8'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0.1075 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) => 0.322 gal

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged: 2 gal

Disposition of Purge Water: STORED @ MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1445		3.7'	~	11.4	7.11	1.18	31	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 4'-8'

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 066 020535

PROJECT: FUSRAP MAYWOOD	SITE: 066	Page 1 of 1
Project No: 0857053	Client: USA	
Contractor: TERRA PROBE INC		SAMPLE DEPTH:
Start Date/Time: 3/24 0830	Completion Date/Time: 1000	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 4.1	Protection Level: D

Pre-development DTW (PVC) (ft): 4.1 DTB (PVC) (ft): 10.8

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 => 0.167 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0.50 gal

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged: 2 gal

Disposition of Purge Water: STORED @ MISS

Hours of Development:

Hours of Decon:

Hours of Standby:

	Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1	0915		4.1	-	9.8	7.3	1.43	999+	
2	0920		4.1		9.9	7.2	1.43	112	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 1-6'

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 06c020537

PROJECT: FUSRAP MAYWOOD	SITE: 06c	Page 1 of 1
Project No: 08517053	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH:
Start Date/Time: 3/24/00	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by:	Water Level (ft bgs): 6.1	Protection Level: D

Pre-development DTW (PVC) (ft): 6.1 DTB (PVC) (ft): 12'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 => 0.147 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = ——

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = ——

Minimum Purge Volume (gal) (3 well volumes) = > 0.44 gal

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged: 2 gal

Disposition of Purge Water: STORED @ MLSS

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
		6.1	—	13.0	6.45	1.35	378	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN 8' - 12'

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 06d020541

PROJECT: FUSRAP MAYWOOD | SITE: 06d | Page 1 of 1

Project No: 0857053 | Client: USACE

Contractor: TERRA PROBE INC - | SAMPLE DEPTH:

Start Date/Time: 3/24 1115 | Completion Date/Time: | Well Diameter:

Development Method/Equipment:

Logged by: G. MARKT | Water Level (ft bgs): 7.2' | Protection Level: D

Pre-development DTW (PVC) (ft): 7.2' DTB (PVC) (ft): 11.2'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 => 0.1 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = ——

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = ——

Minimum Purge Volume (gal) (3 well volumes) => 0.3 gal

Development Purge/Discharge Rate (gpm):

)ximum Drawdown During Purging (ft):

Total Quantity Purged: 2 gal

Disposition of Purge Water: STORED @ MISS

Hours of Development:

Hours of Decon:

Hours of Standby:

	Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1	1150	[illegible]	7.2	—	15.7	7.23	1.59	205	
2	1155		7.2	—	15.0	7.33	1.59	121	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 5'—9'

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 06E020543

PROJECT: FUSRAP MAYWOOD	SITE: 06E	Page 1 of 1
Project No: 08575053	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH:
Start Date/Time: 3/28	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 6.6'	Protection Level: D

Pre-development DTW (PVC) (ft): 6.6' DTB (PVC) (ft): 12'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1530		6.6'		11.3	6.46	.55	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 8'–12'
do = *4.0

* VARIES

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 08A020549

PROJECT: FUSRAP MAYWOOD	SITE: 08A	Page 1 of ____
Project No: 08576053	Client: USACE	
Contractor: TERRA PROBE INC-		SAMPLE DEPTH: 8'-12'
Start Date/Time: 3/30	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 1.0'	Protection Level: D

Pre-development DTW (PVC) (ft): 1.0' DTB (PVC) (ft): 12'

Post-development DTW (PVC) (ft): —

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ ~~2.75~~ 0.250 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0.75 gal

Development Purge/Discharge Rate (gpm): —

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 2.0 gal

Disposition of Purge Water: — MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

	Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1	0845	-	1.0	-	10.3	6.53	1.22	79	
2					~~8.9~~ 10.1	7.0	1.19	867	
					10.05	7.15	1.18	355	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

1 Vol = 2.40 2 Vol = 2.10 3 Vol = 1.23

SCREEN 8' → 12'

Flow rate = 1.35"/cu

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID: 08A020551

PROJECT: FUSRAP MAYWOOD	SITE: 08A	Page 1 of 1
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC-		SAMPLE DEPTH: 8'-12'
Start Date/Time: 3/30 1015	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: S. MARKT	Water Level (ft bgs): 5.7'	Protection Level: D

Pre-development DTW (PVC) (ft): 5.7' DTB (PVC) (ft): 12'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0.15 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0.45 gal

Development Purge/Discharge Rate (gpm): —

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 1 gal

Disposition of Purge Water: MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1045		5.7'	—	10.3	6.72	2.47	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN 0'-4.5' (PVC SCREEN) flow rate ⇒ 3:40"/Hr.
do = 2.83

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 08A020773

PROJECT: FUSRAP MAYWOOD	SITE: 08A	Page ____ of ____
Project No: 05750503	Client: USACE	
Contractor: TERRA PROBE INC-		SAMPLE DEPTH:
Start Date/Time: 2/3/0	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 6.7	Protection Level: D

Pre-development DTW (PVC) (ft): 6.7 DTB (PVC) (ft): 12'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0.15 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0.45 gal

Development Purge/Discharge Rate (gpm): —

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 1 gal

Disposition of Purge Water: ⇒ MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
			-	12.2	7.1	2.39	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN — 4'→8' (ORIGINAL SCREEN SET @ 6'→10' NO WATER
RESET TO 4'→8' FOR SAMPLING)

DO = 7.5

FLOW RATE ⇒ 2':10"/Min

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 09a020553

PROJECT: FUSRAP MAYWOOD	SITE: 09a	Page 1 of 1
Project No: 08575053	Client: USACE	
Contractor: TERRA PROBE INC		SAMPLE DEPTH:
Start Date/Time: 3/28 0930	Completion Date/Time: 0945	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 1.1'	Protection Level: D

Pre-development DTW (PVC) (ft): 1.1' DTB (PVC) (ft): 8'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1 0930		1.1	-	10.0	6.19	2.02	999+	
3				9.7	6.44	1.99	116	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 4'–8'

1 do = 2.16

2 do = 3.1

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 09a 020555

PROJECT: FUSRAP Maywood	SITE: 09a	Page 1 of 1
Project No: 08575053	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH:
Start Date/Time: 3/28	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 2.0	Protection Level: D

Pre-development DTW (PVC) (ft): 2.0 DTB (PVC) (ft): 10.5

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1		~~2.0~~ 2.0		~~9.6~~ 9.5 9.5	~~6.56~~ 6.57 6.65	~~1.4~~ 1.4 1.43	~~84~~ 604 133 748	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN @ 6'–10'
1 do 3.2
do 3.7
NO 9.53

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 09a 020557

PROJECT: FUSRAP MAYWOOD	SITE: 09a	Page 1 of 1
Project No: 085750053	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH:
Start Date/Time: 3/28 1330	Completion Date/Time: 1330	Well Diameter:
Development Method/Equipment:		
Logged by:	Water Level (ft bgs): 1.4'	Protection Level: D

Pre-development DTW (PVC) (ft): 1.4' DTB (PVC) (ft): 12'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1330	-	1.4	-	11.1	6.75	1.88	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

DO = 5.94

SCREEN @ 6'-10'

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 10a 020583

PROJECT: FUSRAP MAYWOOD | SITE: 10a | Page 1 of 1

Project No: 08575053 | Client: USACE

Contractor: TERRA PROBE INC. | SAMPLE DEPTH:

Start Date/Time: 3/29 0930 | Completion Date/Time: 1035 | Well Diameter:

Development Method/Equipment:

Logged by: G. MARKT | Water Level (ft bgs): 6.45 | Protection Level: D

Pre-development DTW (PVC) (ft): 6.45 DTB (PVC) (ft): 11.75

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0.025 gal

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = ~~0.13~~ 0.40 gal

Development Purge/Discharge Rate (gpm): —

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: 0.50 gal

Disposition of Purge Water: ⇒ STORED @ MISS

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0930	—	6.45	—	11.7	6.47	.464	999+	
		6.45	—	11.6	6.49	.375	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

SCREEN 6' → 10'

flow rate ⇒ 1.15 min./1 liter

1 do = 2.87

2 do = 5.6

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 10a020585

PROJECT: FUSRAP MAYWOOD	SITE: 10a	Page 1 of 1
Project No: 08575053	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH:
Start Date/Time: 3/29 1045	Completion Date/Time: 1200	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs):	Protection Level: D

Pre-development DTW (PVC) (ft): 4.5' DTB (PVC) (ft): 10

Post-development DTW (PVC) (ft): —

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 ⇒ 0,14

(2-inch well = 0.164 x (DTB-DTW)(ft)) = —

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = —

Minimum Purge Volume (gal) (3 well volumes) = 0,4

Development Purge/Discharge Rate (gpm): —

Maximum Drawdown During Purging (ft): —

Total Quantity Purged: ⇒ 0.5 gal

Disposition of Purge Water: STORED @ M185

Hours of Development: —

Hours of Decon: —

Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1045	—	4.5	—	10,7	6,63	1,10	999+	
		4,5	—	10,2	6,66	,898	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

1 do = 0,70 ^{2}do=2.64

SCREEN 6' ⇒ 10'

flow rate ⇒ 1.25 min/1 liter

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 10A020780

PROJECT: FUSRAP MAYWOOD	SITE: 10A007	Page 1 of 1
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 1 PVC SCREEN 5'
Start Date/Time: 4/4 0830	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 3.75	Protection Level: D

Pre-development DTW (PVC) (ft): 3.75 DTB (PVC) (ft): 5'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0830	—	3.75	—	15.8	5.7	1.31	732	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

DO = 6.96

flow rate = 3:00"/cc

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 10A020782

PROJECT: FUSRAP MAYWOOD	SITE: 10A-008	Page 1 of 1
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 12' → 16'
Start Date/Time: 4/4 1000	Completion Date/Time: 1030	Well Diameter: 1" ~~PVC~~ SCREEN
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 4.5'	Protection Level: D

Pre-development DTW (PVC) (ft): 4.5' DTB (PVC) (ft): 16'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1000	–	4.5		15.0	6.94	1.48	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

DO = 1.23.

flow rate = 1.55"/hr

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID: 10A020591

PROJECT: FUSRAP MAYWOOD	SITE: 10A	Page 1 of 1
Project No: 0857505O3	Client: USACE	
Contractor: TERRA PROBE INC -		SAMPLE DEPTH: 5' PVC SCREEN
Start Date/Time: 4/3 1030	Completion Date/Time: 1315	Well Diameter: + 4' RISER
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 8.6	Protection Level: D

Pre-development DTW (PVC) (ft): 8.6 DTB (PVC) (ft): 9'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1030	-	8.6	-	15.3	5.56	1.31	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do = 6.3

flow rate = 1':30"/lts

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 10A030593

PROJECT: FUSRAP MAYWOOD	SITE: 10A	Page 1 of 1
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 5' → 9'
Start Date/Time: 4/3 1330	Completion Date/Time: 1445	Well Diameter: 1,5' screen, 1 riser
Development Method/Equipment:		
Logged by: G. MARKT	Water Level (ft bgs): 8.5'	Protection Level: D
Pre-development DTW (PVC) (ft): 8.5'	DTB (PVC) (ft): 10'	

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1330	—	8,5'	—	15,2	5,24	.452	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do = 5.8 (bulb broken, needs Replacement)

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID: 12B020603

PROJECT: FUSRAP MAYWOOD	SITE: 12B003	Page _____ of _____
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC -		SAMPLE DEPTH: 6' – 10'
Start Date/Time: 4/5 0845	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: ED WIEDEKEHR	Water Level (ft bgs): 8.8	Protection Level: D

Pre-development DTW (PVC) (ft): 8.8 DTB (PVC) (ft): _____

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0845		8.8	–	9.9	6.91	1.74	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do = 1.28

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 12B020605

PROJECT: FUSRAP MAYWOOD	SITE: 12B004	Page 1 of 1
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 16'—20'
Start Date/Time: 4/6/1015	Completion Date/Time: 1200	Well Diameter:
Development Method/Equipment:		
Logged by: ED WIEDEKEHR	Water Level (ft bgs): 17.3	Protection Level: D
Pre-development DTW (PVC) (ft): 17.3	DTB (PVC) (ft): 19.8	

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1015	—	17.3	—	11.2	6.78	2.50	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do = 5.21

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 12B020607

PROJECT: FUSRAP MAYWOOD	SITE: 12B005	Page 1 of 1
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 12'→16'
Start Date/Time: 4/5 1345	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: ED WIEDERKEHR	Water Level (ft bgs): 10,0'	Protection Level: D

Pre-development DTW (PVC) (ft): 10,0 DTB (PVC) (ft): 16.

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1345	-	10,0	-	11.1	7,07	3.38	999+	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

do: 0.37

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 12B020609

PROJECT: FUSRAP MAYWOOD	SITE: 12B006	Page 1 of 1
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH: 5'-9'
Start Date/Time: 4/5 1500	Completion Date/Time: 1600	Well Diameter:
Development Method/Equipment:		
Logged by: ED WIEDERKEHR	Water Level (ft bgs): 5.4'	Protection Level: D

Pre-development DTW (PVC) (ft): 5.4' DTB (PVC) (ft): 9'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1500	—	5.4'	—	9.3	6.71	.081	966	

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

RAD BACKGROUND = 60 Kc/m
pH = 7.63

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

SAMPLE ID. 12B020611

PROJECT: FUSRAP MAYWOOD	SITE: 12B007	Page _____ of _____
Project No: 085750503	Client: USACE	
Contractor: TERRA PROBE INC.		SAMPLE DEPTH:
Start Date/Time:	Completion Date/Time:	Well Diameter:
Development Method/Equipment:		
Logged by: ED WIEDERKEHR	Water Level (ft bgs):	Protection Level: D

Pre-development DTW (PVC) (ft): _____ DTB (PVC) (ft): _____

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) =

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	~~Remarks~~ EH	DO

Notes: = be bgs = below ground surface D = well diameter D (2-inch well) = 0.167 feet
PVC = below top of PVC DTB = depth to bottom of well D (2.5-inch well) = 0.208 feet
DTW = depth to water gpm = gallons per minute

FUSRAP
Maywood Superfund Site



Groundwater Remedial Investigation Report

Volume 7
Appendices J through L

Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:

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100 West Hunter Avenue
Maywood, New Jersey 07607

Prepared for:

US Army Corps
of Engineers®

Contract No. DACW41-99-D-9001

July 2005, Revision 4

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APPENDIX J
OVERBURDEN MONITORING WELLS

BORING LOGS

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-1S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Birch Manor Nursing Home
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
6-inch casing, 5-7/8-inch tricone roller bit, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube Sampler, drive and wash casing, Ludlum 4410 RAD meter, Multi RAE Plus PID, PVC well screen and riser.	753,087.9 feet North 2,163,483.1 feet East
	9. SURFACE ELEVATION: 52.7 feet MSL
	10. DATE STARTED: 12/8/2000 / 11. DATE COMPLETED: 12/8/2000
12. OVERBURDEN THICKNESS: 10.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 10 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: dry
14. TOTAL DEPTH OF HOLE: 10.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): dry 7/26/01

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	10 - 12 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	4 - 6 feet	4 - 6 feet	RAD 6 - 8 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-1S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
52.7	0	SM 5yr 3/3, some organic materials, trace fine gravel	RAD = 45 cpm PID = 0.2 ppmV			2 2 3 2	Time: 08:10 Recovery = 100.0% 3-inch spoon 300-lb. hammer
51.7	1	SW 5yr 4/6					
50.7	2	SM 5yr 4/6, tree root at 3', trace fine Gravel	RAD = 57 cpm PID = 0.4 ppmV			4 5 10 14	Time: 08:15 Recovery = 91.7% 3-inch spoon 300-lb. hammer
49.7	3	SM 5yr 4/6, some medium to fine Gravel					
48.7	4	SM 5yr 4/6, some medium to fine Gravel	RAD = 59 cpm PID = 0.7 ppmV		VOC and Metals 23b-020950	10 9 9 9	Time: 08:20 Recovery = 83.3% 3-inch spoon 300-lb. hammer
47.7	5	GC 5yr 4/4, (weathered bedrock)					
46.7	6	SM 5yr 4/4	RAD = 68 cpm PID = 0.3 ppmV		RAD Sample 23b - 021007	7 11 13 14	Time: 08:25 Recovery = 83.3% 3-inch spoon 300-lb. hammer
45.7	7	SM 5yr 4/4, trace medium to fine Gravel, grading coarser with depth					
44.7	8	SM 5yr 4/4, trace medium to fine gravel, grading coarser with depth and weathered bedrock (wet at tip of spoon)	RAD = 48 cpm PID = 0.1 ppmV			9 14 9 8	Time: 08:30 Recovery =75.0% 2-inch spoon 140-lb. hammer
43.7	9						
42.7	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-1S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
42.7	10	SM 5yr 4/4, trace medium to fine gravel, grading coarser with depth and weathered bedrock		California Tube Sample 23b-020951		25	Time: 08:30 Recovery = 33.3% 2-inch spoon 140-lb. hammer
		Bedrock at 10.5-feet based upon split spoon refusal.				50/0"	
41.7	11					-	Total Water loss = 100 gallons
40.7	12						
39.7	13						
38.7	14						
37.7	15						
36.7	16						
35.7	17						
34.7	18						
33.7	19						
32.7	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-1S

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-2S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	84 Becker Ave, Rochelle Park
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-61
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 300-lb. hammer, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,057.0 feet North 2,163,409.1 feet East
	9. SURFACE ELEVATION: 47.1 feet MSL
	10. DATE STARTED: 10/26/00 — 11. DATE COMPLETED: 10/26/00
12. OVERBURDEN THICKNESS: 14 feet	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 14.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 6.62 feet below top of riser, 7/26/01, 14:23

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	17 - 18 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
None	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-2S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-2S	

PROJECT	INSPECTOR	SHEET	OF	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	2	OF	3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
47.1	0						
46.1	1						
45.1	2	No soil sample collected. See overburden HTRW Drilling Log compiled during the construction of MW-2D (pilot)					
44.1	3						
43.1	4						
42.1	5	2-inch diameter, 0.010 slot PVC well screen from 5 to 13 feet bgs.					
41.1	6						
40.1	7						
39.1	8						
38.1	9						
37.1	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-2S

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-2S	

PROJECT	INSPECTOR	SHEET	OF	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	3	OF	3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
37.1	10						
36.1	11						
35.1	12						
34.1	13						Date: 10/26/00 Time: 16:00 Completed setting of 2-inch diameter 0.010 slot PVC well screen from 5 to 13 feet bgs. Date: 10/26/00 Time: 13:38 Completed advancement of 6-inch diameter temporary steel casing to 14 feet bgs.
33.1	14	Bedrock at 14 feet bgs based upon casing refusal.					
32.1	15						Total Water Loss = 15 gallons
31.1	16						
30.1	17						
29.1	18						
28.1	19						
27.1	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-2S

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-3S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Dirt Road North of MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
	752,924.8 feet North 2,164,441.1 feet East
6-inch steel casing, 5-7/8-inch tricone roller bit, 300-lb. hammer, drive and wash casing	9. SURFACE ELEVATION
advancement, PVC well screen and riser, Ludlum 4410 RAD meter, multi RAE Plus	55.1 feet MSL
PID.	10. DATE STARTED / 11. DATE COMPLETED
	11/27/00 / 11/27/00
12. OVERBURDEN THICKNESS	15. DEPTH GROUNDWATER ENCOUNTERED
18 feet	12 feet bgs
13. DEPTH DRILLED INTO ROCK	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
0 feet	
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
18.0 feet bgs	15.50 feet below top of riser, 7/26/01, 15:15

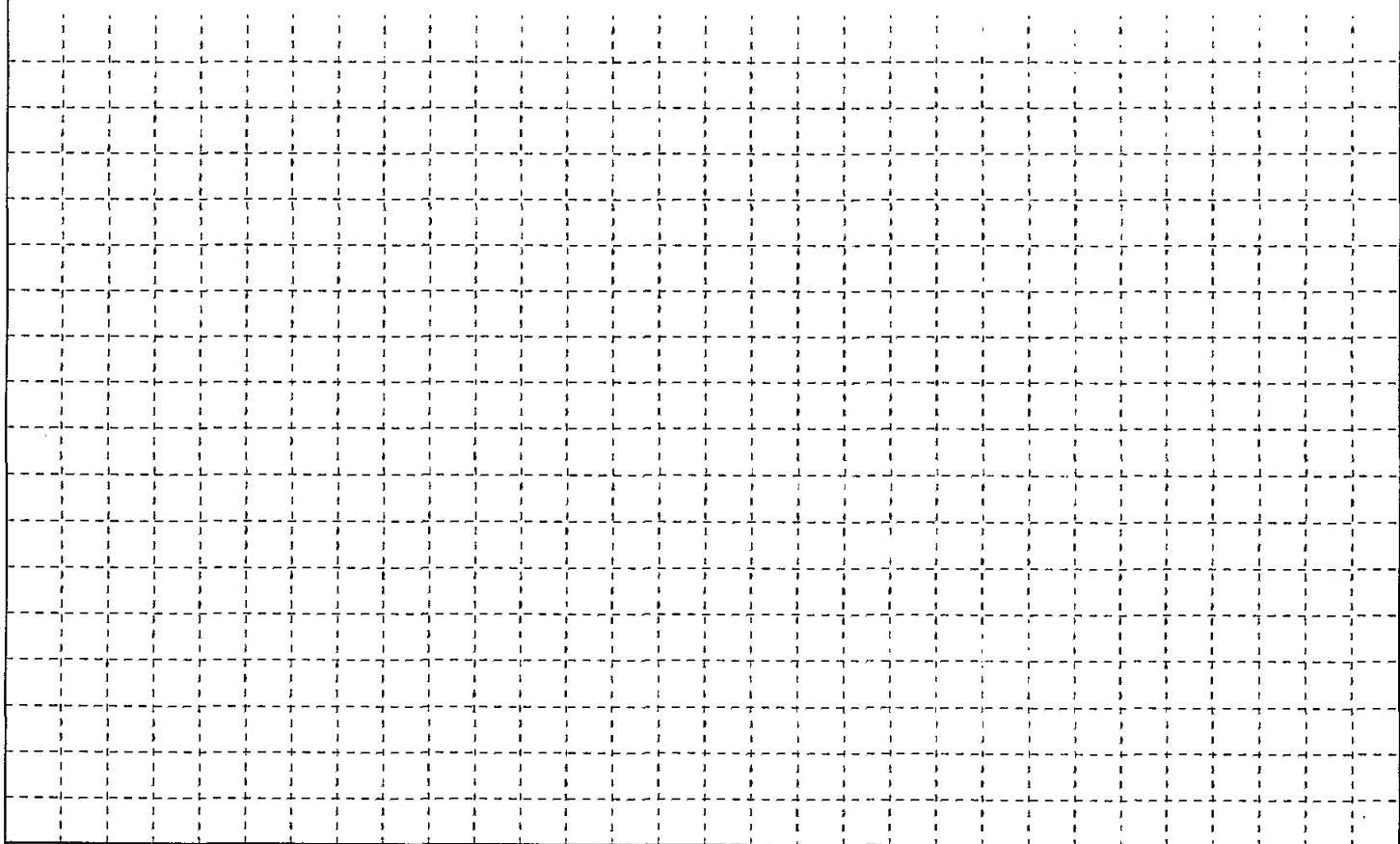
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	—	—	—

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
None	None	None	—	—	—	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	—	YES	—	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-3S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-3S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Dirt Road North of MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
6-inch steel casing, 5-7/8-inch tricone roller bit, 300-lb. hammer, drive and wash casing advancement, PVC well screen and riser, Ludlum 4410 RAD meter, multi RAE Plus PID.	752,924.8 feet North 2,164,441.1 feet East
	9. SURFACE ELEVATION: 55.1 feet MSL
	10. DATE STARTED: 11/27/00 / 11. DATE COMPLETED: 11/27/00
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 12 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 15.50 feet below top of riser, 7/26/01, 15:15

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-3S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.1	0						
54.1	1						
53.1	2						
52.1	3	No soil samples collected. See overburden HTRW Drilling Log compiled during the construction of Pilot Boring MW-3D.					
51.1	4						
50.1	5						
49.1	6						
48.1	7	2-inch diameter, 0.010 slot PVC well screen from 7 to 17 feet bgs.					
47.1	8						
46.1	9						
45.1	10						Date: 11/27/01 Time: 12:30 Completed advancement of 6-inch diameter steel casing to 10 feet bgs.

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.1	10						
44.1	11						
43.1	12						
42.1	13						
41.1	14						
40.1	15						
39.1	16						Date: 11/27/01 Time: 13:10 Completed advancement of 6-inch diameter temporary casing from 10 to 17 feet bgs.
38.1	17						Date: 11/27/01 Time: 14:30 Completed advancement of 6-inch diameter temporary casing from 17 to 19 feet bgs.
37.1	18	Bedrock at 18 feet bgs based upon casing refusal.					Date: 11/27/01 Time: 15:00 Completed setting 2-inch diameter, 0.010 slot PVC well screen from 9 to 19 feet bgs (1 foot into bedrock).
36.1	19						
35.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-4S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 3 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: St. Ann Street, Rochelle Park	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-61	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, 140-lb. hammer, drive and wash casing advancement, PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,903.7 feet North 2,162,939.1 feet East	
	9. SURFACE ELEVATION: 44.1 feet MSL	
	10. DATE STARTED: 10/30/00	11 DATE COMPLETED: 10/30/00
12. OVERBURDEN THICKNESS: 9.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 6 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 10.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-4S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
44.1	0						
43.1	1						
42.1	2						
41.1	3	No soil sample collected. See overburden HTRW Drilling Log compiled during the construction of Pilot Boring MW-4D					
40.1	4						
39.1	5	2-inch diameter, 0.010 slot PVC well screen from 5 to 9 feet bgs.					
38.1	6						
37.1	7						
36.1	8						Date: 10/30/00 Time: 12:35 Completed setting 2-inch diameter 0.010 slot PVC well screen from 5 to 9 feet bgs. Water loss = 10 gallons.
35.1	9						Date 10/30/00 Time: 11:00 Completed advancement of 6-inch diameter temporary steel casing to 10 feet bgs.
34.1	10	Bedrock at 9.5 feet bgs based upon casing refusal.					

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.1	10	Bottom of 6-inch diameter borehole at 10 feet bgs.					
33.1	11						
32.1	12						Total water loss = 10 gallons.
31.1	13						
30.1	14						
29.1	15						
28.1	16						
27.1	17						
26.1	18						
25.1	19						
24.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-5S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 4
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Park Way Avenue	
5. NAME OF DRILLER: Dennis Mayer	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch casing, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube Sampler, drive & wash casing advancement, PVC well screen and riser, Encore Sampler, stainless steel trowel and bowl, Ludlum 4410 RAD meter, Multi RAE Plus PID.	8. HOLE LOCATION: 753,032.1 feet North 2,162,616.5 feet East	
	9. SURFACE ELEVATION: 45.4 feet MSL	
	10. DATE STARTED: 11/6/00	11. DATE COMPLETED: 11/7/00
12. OVERBURDEN THICKNESS: 22.2 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 9 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 22.2 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.10 feet below top of riser, 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	13 - 15 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
NO	None	None	RAD	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-5S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.4	0						
44.4	1	SM 5 yr 5/6, trace medium to fine Gravel.				8 5 5 10	Date: 11/6/00 Time: 14:00 Recovery = 80% 2-inch split spoon 140-lb. hammer.
43.4	2						
42.4	3	SM 5 yr 5/6, trace medium to fine Gravel.				9 8 12 9	Date: 11/6/00 Recovery = 50% 2-inch split spoon 140-lb. hammer.
41.4	4						
		SC 5 yr 4/4.					
40.4	5	SW 5 yr 7/1. 2-inch diameter, 0.010 slot PVC well screen set from 5 to 15 feet bgs.				7 9 8 12	Date: 11/6/00 Recovery = 100% 2-inch split spoon 140-lb. hammer.
39.4	6						
		SC 5 yr 2.5/2, trace fine Gravel, damp.					
38.4	7	SM 5 yr 4/4, trace angular gravel; damp.				9 13 8 12	Date: 11/6/00 Recovery = 50% 2-inch split spoon 140-lb. hammer.
37.4	8						
36.4	9	SM 5 yr 4/4; wet.				6 6	Date: 11/6/00 Recovery = 60% 2-inch split spoon 140-lb. hammer.
35.4	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.4	10					7 10	
34.4	11	Cobble in spoon at 11 feet, wet SM 5 yr 4/4, some medium fine gravel.				7 7	Date: 11/6/00 Recovery = 80% 2-inch split spoon 140-lb. hammer.
33.4	12	SC 5 yr 4/4.				8	Date: 11/6/00 Time: 14:35 Completed advancement of 6-inch diameter temporary steel casing to 13 feet bgs.
		SM 5 yr 4/4, some Gravel, moist.				12	
32.4	13					8 6	Date: 11/6/00 Time: 2-inch split spoon 140-lb. hammer
31.4	14					6 12	Date: 11/7/00 Time: 14:00 Completed setting of 2-inch diameter, 0.010 slot PVC well screen from 5 to 15 feet bgs.
30.4	15	SC 5 yr 4/4 SM 5 yr 4/4, little angular Gravel.				8 7	Date: 11/6/00 Time: Recovery = 20% 2-inch split spoon 140-lb. hammer.
29.4	16					8 12	
28.4	17	No sample, driller over drilled.					
27.4	18						Date: 11/7/00 Time: 11:15 Completed advancement of 6-inch diameter temporary steel casing from 13 to 19 feet bgs.
26.4	19	GC 5 yr 4/4 and weathered bedrock.				18 9	Date: 11/6/00 Time: 11:40 Recovery = 50% 2-inch split spoon 140-lb. hammer.
25.4	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.4	20					13 7	
24.4	21	GC 5 yr 4/4.				22 50	Date: 11/6/00 Time: Recovery = 40% 2-inch split spoon 140-lb. hammer.
23.4	22	Bedrock at 22.2 feet bgs based on split spoon refusal.				50/3	Total Water Loss = 275 gallons
22.4	23						
21.4	24						
20.4	25						
19.4	26						
18.4	27						
17.4	28						
16.4	29						
15.4	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-6S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 3
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: 14 Madison Avenue, Lodi	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-61	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch casing, 2-inch split spoon, 140-lb. hammer, 300-lb. hammer, drive and wash casing advancement, Encore Sampler, stainless steel trowel and bowl, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,333.4 feet North 2,162,611.7 feet East	
	9. SURFACE ELEVATION: 43.0 feet MSL	
	10. DATE STARTED: 10/31/00	11. DATE COMPLETED: 10/31/00
12. OVERBURDEN THICKNESS: 16 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 16.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 6.11 feet below top of riser, 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NONE	---	17 - 18 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	1 - 3 feet	1 - 3 feet	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-6S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR:

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
43.0	0						
42.0	1		PID = 0.2 ppmV		RAD VOC & Metals Sample 23b 020960		Date: 10/27/01 Time: 10:30 Recovery = 100% 2-inch split spoon 140-lb. hammer.
41.0	2	No soil sample collected. See overburden HTRW Drilling Log compiled during the construction of Monitoring Well MW-6S (abandoned) on 10/27/00					Date: 10/27/00 Time: 15:00 Completed collection of soil sample from 1 to 3 feet bgs for VOC, metals, and RAD analyses.
40.0	3						
39.0	4						
38.0	5	2-inch diameter, 0.010 slot PVC well screen from 5 to 15 feet bgs.					
37.0	6						
36.0	7						
35.0	8						
34.0	9						Date: 10/31/00 Time: 12:10 Completed setting 2-inch diameter, 0.010 slot PVC well screen from 5 to 10 feet bgs.
33.0	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6S

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR:

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
33.0	10						
32.0	11						
31.0	12						
30.0	13						
29.0	14						Date: 10/31/00 Time: 10:15 Completed advancement of 6-inch diameter temporary steel casing to 15 feet bgs.
28.0	15						Date: 10/31/00 Time: 10:15 Completed advancement of 5-7/8-inch roller bit from 15 to 16 feet bgs.
27.0	16	Bedrock at 16 feet bgs based upon casing refusal.					
26.0	17						Total water loss = 20 gallons.
25.0	18						
24.0	19						
23.0	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-6S (abandoned)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 3
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: 14 Madison Avenue, Lodi	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-61	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch casing, 140-lb. hammer, 300-lb. hammer, 2 and 3-inch split spoons, California Tube Sampler, Drive and wash casing advancement, Ludium 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 10/27/00	11. DATE COMPLETED: 10/27/00
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 6 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 18.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-6S (abandoned)

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6S (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 2 OF 3 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	0	Asphalt / Road base material					
	1	SM 10yr 3/6, wet	PID = 0.2 ppmV			11 14 17 23	Date: 10/27/00 Time = 3:00 Recovery = 100% 3-inch split spoon 300-lb. hammer
	2						
	3	SP & SM 2.5yr 3/4				9 11 13 13	Date: 10/27/00 Recovery = 87.5% 2-inch split spoon 140-lb. hammer
	4						
	5	SP & SM 2.5yr 3/4				6 7 8 9	Date: 10/27/00 Recovery = 75% 2-inch split spoon 140-lb. hammer
	6	Groundwater encountered at 6 feet bgs.					
	7	SM 10yr 3/6, saturated				7 8 10 12	Date: 10/27/00 Recovery = 58.3% 2-inch split spoon 140-lb. hammer
	8						
	9	SM 10yr 3/6. saturated				9 14	Date: 10/27/00 Recovery = 75% 2-inch split spoon 140-lb. hammer
	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6S (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6S (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	10					14 8	
	11	SM & GP 2.5yr 3/4, saturated				8 12 13 18	Date: 10/27/00 Recovery = 37.5% 2-inch split spoon 140-lb. hammer
	12						
	13	SM & GP, 2.5yr 3/4, Saturated				14 10 11 9	Date: 10/27/00 Time: 13:15 Recovery = 83.3% 2-inch split spoon 140-lb. hammer
	14						
	15	SM & GP 2.5yr 3/4, saturated				13 9 6 11	Date: 10/27/00 Recovery = 87.5% 2-inch split spoon 140-lb. hammer
	16						
	17	SM & GP, 2.5yr 3/4			California Tube Sample 23B - 020961	12 50/6" - -	Date: 10/27/00 Time = 14:15 Recovery = 58.3% 2-inch split spoon 140-lb. hammer
	18	Bedrock at 18 feet bgs based upon split spoon refusal.					
	19						Total Water loss = 20 gallons.
	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6S (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-7S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	141 West Central Avenue; Rochelle Park
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
6-inch casing, 5-7/8-inch tricone roller bit, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube Sampler, drive and wash casing, Ludlum 4410 RAD meter, Multi RAE Plus PID, PVC well screen and riser.	753,174.5 feet North 2,163,860.2 feet East
	9. SURFACE ELEVATION: 53.8 feet MSL
	10. DATE STARTED: 12/4/01 / 11. DATE COMPLETED: 12/4/01
12. OVERBURDEN THICKNESS: 16.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 11 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 16.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
YES	---	8 - 12 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	2 - 4 feet	2 - 4 feet	RAD 2 - 4 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-7S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
53.8	0	SM 5yr 4/2, with fill material/ brick/ tile	RAD = 43 cpm PID = 0.2 ppmV			4 4 3 3	Date: 12/4/00 Time: 07:35 Recovery = 100% 3-inch split spoon 300-lb. hammer
52.8	1						
51.8	2	SM 5yr 3/1, cement fill grades to 5yr 5/2 SM.	RAD = 54 cpm PID = 0.4 ppmV		RAD Sample 23b - 021005	8 10 12 13	Date: 12/4/00 Time: 07:40 Recovery = 100% 3-inch split spoon 300-lb. hammer
50.8	3						
49.8	4	SM 5yr 3/1 grading to 5 yr 5/2. Boulder at 4.5 ft. bgs	RAD = 44 cpm PID = 0.4 ppmV			28 50/0"	Date: 12/4/00 Time: 07:45 Recovery = 25% 3-inch split spoon 300-lb. hammer
48.8	5	2-inch diameter, 0.010 slot PVC well screen from 5 to 15 feet bgs.				-	Date: 12/4/00 Time: 08:00 Completed advancement of 6-inch diameter casing through boulder at 4.5 feet bgs to 6 fet bgs.
47.8	6	SW 5yr 4/4, trace silt and trace fine Gravel.	RAD = 46 cpm PID = 0.8 ppmV			18 23 24 24	Date: 12/4/00 Time: 08:20 Recovery = 83.3% 3-inch split spoon 300-lb. hammer
46.8	7						
45.8	8	SM 5yr 4/4, trace coarse Sand, firm/dry.	RAD = 45 cpm PID = 1.2 ppmV		VOC and Metals Sample 23b - 020962	6 6 8 7	Date: 12/4/00 Time: 08:25 Recovery = 83.3% 2-inch split spoon 140-lb. hammer
44.8	9						
43.8	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-7S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
43.8	10	SM 5 yr 4/4, trace coarse Sand.	RAD = 48 cpm			7 5	Date: 12/4/00 Time: 08:30 Recovery = 75% 2-inch split spoon 140-lb. hammer wet at 11 feet bgs
42.8	11	Wet at 11 feet bgs.				4 3	
41.8	12	SM 5yr 4/4, trace coarse Sand, trace clay.	RAD = 44 cpm			9 7	Date: 12/4/00 Time: 08:35 Recovery = 75% 2-inch split spoon 140-lb. hammer
40.8	13					13 21	Date: 12/4/00 Time: 09:00 Completed advancement of 6-inch diameter temporary steel casing to 14 feet bgs.
39.8	14	SM 5yr 4/4, weathered bedrock.		California Tube Sample 23b - 020963		20 14	Date: 12/4/00 Time: 10:20 Recovery = 50% 2-inch split spoon 140-lb. hammer.
38.8	15					15 29	Date: 12/4/00 Time: 11:45 Completed setting 2-inch diameter, 0.010 slot PVC well screen from 5 to 15 feet bgs.
37.8	16					39 50/0"	Date: 12/4/00 Time: 10:25 Recovery = 12.5% 2-inch split spoon 140-lb. hammer.
36.8	17	Bedrock at 16.5 feet bgs based on split spoon and casing refusal.				-	Date: 12/4/00 Time: 10:55 Completed advancement of 6-inch diameter temporary steel casing from 14 to 16.5 feet bgs.
35.8	18						Total Water loss = 50 gallons
34.8	19						
33.8	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-7S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-8S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 4
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Central Ave, near Rt. 17 overpass. Maywood	
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2-inch split spoon, 140-lb. hammer, California Tube Sampler, Ludlum 4410 RAD meter, Multi RAE Plus PID	8 HOLE LOCATION: 753,324.4 feet North 2,164,123.9 feet East	
	9. SURFACE ELEVATION: 54.3 feet MSL	
	10. DATE STARTED: 11/30/00	11. DATE COMPLETED: 11/30/00
12. OVERBURDEN THICKNESS: 20 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 8 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 20.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 7.80 feet below top of riser, 7/26/01, 12:40	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	14 - 16 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	0 - 2 feet	0 - 2 feet	RAD	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-8S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
54.3	0	SM 5yr 4/4, some Gravel.	RAD = 76 cpm PID = 0.0 ppmV		VOC and Metals Sample 23b 020964	8 9 10 12	Date: 11/30/00 Time: 08:20 Recovery = 75% 3-inch split spoon 300-pound hammer.
53.3	1						
52.3	2	SM 5yr, 2.5/1 in tip of spoon SM 5yr 4/4.	RAD = 64 cpm PID = 0.0 ppmV			15 9	Date: 11/30/00 Time: 08:25 Recovery = 75% 3-inch split spoon 300-lb. hammer.
51.3	3	SM 5yr 5/6, and brick (FILL). SM 5yr 5/6, trace Clay.				6 5	
50.3	4	SM 5yr 6/4, trace Clay mottled with SM 5yr 6/1.	RAD = 45 cpm PID = 0.0 ppmV			3 2	Date: 11/30/00 Time: 08:30 Recovery = 91.7% 3-inch split spoon 300-lb. hammer.
49.3	5	2-inch diameter, 0.010 slot PVC well screen set from 5 to 15 feet bgs. SM 5yr 6/3, trace Gravel.				6 17	
48.3	6	SM 5yr 4/4, some small Gravel.	RAD = 43 cpm PID = 0.0 ppmV			3 10 6 6	Date: 11/30/00 Time: 08:35 Recovery = 91.7% 3-inch split spoon 300-lb. hammer.
47.3	7						
46.3	8	SM 5yr 4/4, some small Gravel, trace Clay, wet.	RAD = 45 cpm PID = 0.0 ppmV			2 2 4 3	Date: 11/30/00 Time: 08:40 Recovery = 83.3% 2-inch split spoon 140-lb. hammer.
45.3	9						
44.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
44.3	10	SM 5yr 4/4, some small Gravel, trace Clay, wet to saturated, trace weathered bedrock.	RAD = 47 cpm			4 7 11 12	Date: 11/30/00 Time: 08:45 Recovery = 6.7% 2-inch split spoon 140-lb. hammer.
43.3	11						
42.3	12	SM 5yr 4/4, trace Gravel, trace Clay, trace weathered bedrock, trace quartz Gravel, wet.	RAD = 51 cpm			7 7 10 38	Date: 11/30/00 Time: 08:50 Recovery = 41.7% 2-inch split spoon 140-lb. hammer. Date: 11/30/00 Time: 09:25 Recovery = 33.3% 2-inch split spoon 140-lb. hammer.
41.3	13						
40.3	14	SM 5yr 4/4 and weathered bedrock.		California Tube Sample 23b - 020965		7 18 9 10	Date: 11/30/00 Time: 13:00 Completed setting 2-inch diameter 0.010 slot PVC well screen from 5 to 15 feet bgs.
39.3	15						
38.3	16	SM 5yr 4/4 and weathered bedrock, trace Clay.	RAD = 46 cpm			22 18 11 11	Date: 11/30/00 Time: 09:30 Recovery = 41.7% 2-inch split spoon 140-lb. hammer.
37.3	17						
36.3	18	SM 5yr 4/4 and weathered bedrock, trace Clay.	RAD = 50 cpm			9 15 14 50/5"	Date: 11/30/00 Time: 09:50 Recovery = 50% 2-inch split spoon 140-lb. hammer. Date: 11/30/00 Time: 09:55 Completed advancement of 6-inch diameter temporary steel casing to 20 feet bgs.
35.3	19						
34.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.3	20	Bedrock at 20 feet bgs based on split spoon refusal.					Total Water loss = 30 gallons
33.3	21						
32.3	22						
31.3	23						
30.3	24						
29.3	25						
28.3	26						
27.3	27						
26.3	28						
25.3	29						
24.3	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-9S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 3
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Maywood Ave. Train Station	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-61	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch casing, 5-7/8-inch tricone roller bit, 300-lb. hammer, drive and wash casing advancement, PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 751,992.0 feet North 2,165,992.4 feet East	
	9. SURFACE ELEVATION: 69.8 feet MSL	
	10. DATE STARTED: 11/3/00	11. DATE COMPLETED: 11/3/00
12. OVERBURDEN THICKNESS: 13 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 13 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 12.12 feet approximately 2 hours after well completion	
14. TOTAL DEPTH OF HOLE: 13.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 8.58 feet below top of riser, 7/26/01, 08:58	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
None	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-9S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
69.8	0						
68.8	1						
67.8	2						
66.8	3	No soil sample collected. See overburden HTRW Drilling Log compiled during the construction of Pilot Boring MW-9D					
65.8	4						
64.8	5	2-inch diameter, 0.010 slot PVC well screen from 5 to 13 feet bgs.					
63.8	6						
62.8	7						
61.8	8						
60.8	9						
59.8	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
59.8	10						
58.8	11						Date: 11/3/01 Time: 09:50 Completed advancement of 6-inch diameter temporary steel casing to 13 feet bgs.
57.8	12						Date: 11/3/01 Time: 11:50 Completed setting of 2-inch diameter 0.010 slot, PVC well screen from 5 to 13 feet bgs.
56.8	13	Bedrock at 13 feet bgs based upon casing refusal.					
55.8	14						Total water loss = 15 gallons.
54.8	15						
53.8	16						
52.8	17						
51.8	18						
50.8	19						
49.8	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-10S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	West Hunter Ave. near Central Ave.
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-61
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 300-lb hammer, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 751,711.7 feet North 2,165,912.4 feet East
	9. SURFACE ELEVATION: 62.6 feet MSL
	10. DATE STARTED: 11/2/00 — 11. DATE COMPLETED: 11/3/00
12. OVERBURDEN THICKNESS: 10.8 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 10 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:
14 TOTAL DEPTH OF HOLE: 10.8 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 8.98 feet below top of riser, 7/26/01, 09:10

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-10S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
62.6	0						
61.6	1						
60.6	2						
		No soil samples collected. See overburden HTRW Drilling Log compiled during the construction of Pilot Boring MW-10D.					
59.6	3						
58.6	4						
57.6	5	2-inch diameter, 0.010 slot PVC well screen from 5 to 10 feet bgs.					
56.6	6						
55.6	7						
54.6	8						
53.6	9						Date: 11/2/00 Time: 12:00 Completed advancement of 6-inch diameter temporary steel casing to 10.5 feet bgs.
52.6	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
52.6	10						Date: 11/2/00 Time: 12:30 Completed setting of 2-inch diameter 0.010 slot, PVC well screen from 5 to 10 feet bgs.
		Bedrock at 10.5 feet bgs based upon casing refusal.					
51.6	11						
50.6	12						Total water loss = 15 gallons.
49.6	13						
48.6	14						
47.6	15						
46.6	16						
45.6	17						
44.6	18						
43.6	19						
42.6	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-11S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 3 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: SLS Property. Maywood Ave.	
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube sampler, Encore sampler, stainless steel trowel and bowl, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 751,013.8 feet North 2,165,772.1 feet East	
	9. SURFACE ELEVATION: 48.1 feet MSL	
	10. DATE STARTED: 11/28/00	11. DATE COMPLETED: 11/28/00
12. OVERBURDEN THICKNESS: 10.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 4.3 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 10.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): Not measured on 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	YES	None	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	2 - 4 feet	2 - 4 feet	2 - 4 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-11S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-11S	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt, Julie Lincoln	2	OF 3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
48.1	0	SM 5yr 3/2, trace fine angular Gravel.	RAD = 44 cpm PID = 0.0 ppmV			2 2 2 2	Time: 10:15 Recovery = 100% 3-inch split spoon 300-lb. hammer
47.1	1						
46.1	2		RAD = 45 cpm PID = 0.0 ppmV		VOC RAD and Metals Sample 09A - 020970	4 3 14 13	Time: 10:20 Recovery = 100% 2-inch split spoon 140-lb. hammer
		SC 5yr 4/1.					
45.1	3						
		SW 5yr 5/6, uniform. 2-inch diameter, 0.010 slot PVC well					
44.1	4	screen from 3.5 to 8.5 feet bgs. Groundwater encountered at 4.3 feet bgs.	RAD = 55 cpm PID = 0.0 ppmV			12 8 8 7	Time = 10:25 Recovery = 100% 2-inch split spoon 140-lb. hammer Water encountered at 4.3 feet bgs
43.1	5						
42.1	6	SW, 5yr 5/6 uniform.	RAD = 50 cpm PID = 0.0 ppmV			2 3 5 18	Time: 10:30 Recovery = 100% 2-inch split spoon 140-lb. hammer Date: 11/28/00 Time: 12:00 Completed setting of 2-inch diameter PVC well screen from 3.5 to 8.5 feet bgs.
41.1	7						
40.1	8	GC 5yr 4/4, weathered bedrock.	RAD = 47 cpm PID = 0.0 ppmV			13 17 15 33	Time: 10:35 Recovery = 29.2% 2-inch split spoon 140-lb. hammer Date: 11/28/00 Time: 11:30 Completed advancement of 6-inch temporary steel casing to 10.5 feet bgs.
39.1	9						
38.1	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-11S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-11S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt, Julie Lincoln

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
38.1	10	Bedrock at 10.5 feet bgs based upon split spoon and casing refusal.		California Tube Sample 09A - 020971		50/5"	Time: 10:40 Recovery = 25% 2-inch split spoon 140-lb. hammer
37.1	11						
36.1	12						
35.1	13						
34.1	14						
33.1	15						
32.1	16						
31.1	17						
30.1	18						
29.1	19						
28.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-11S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-12S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Open Field South of Sears building & North of SLS
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2-inch split spoon, 140-lb. hammer, 300-lb. hammer, California Tube, Encore sampler, stainless steel trowel and bowl, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 750,765.2 feet North 2,165,010.1 feet East 9. SURFACE ELEVATION: 44.3 feet MSL 10. DATE STARTED: 11/29/00 — 11. DATE COMPLETED: 11/29/00
12. OVERBURDEN THICKNESS: 19.08 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 7 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:
14. TOTAL DEPTH OF HOLE: 19.1 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.51 feet below top of riser, 7/26/01, 09:41

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	4 - 6 feet	4 - 6 feet	6 - 8 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-12S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF SHEETS 3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
44.3	0	SM 5yr 3/1 organics.	RAD= 65 cpm			1 3 2 2	Date: 11/29/00 Time: 09:00 Recovery = 8.3% 2-inch split spoon 140-lb. hammer
43.3	1						
42.3	2	SM 5yr 2.5/1, interbedded with SM 5 yr 4/4 SM 5yr 4/1.	RAD= 60 cpm PID= 1.4 ppmV			2 6 10 14	Date: 11/29/00 Time: 09:05 Recovery = 75% 2-inch split spoon 140-lb. hammer
41.3	3	SW 5yr 6/1, fine Sand.					
40.3	4	2-inch dia., 0.010-slot PVC well screen from 4 to 14 feet bgs. SM 5yr 5/3.	RAD= 37 cpm PID= 9.4 ppmV		VOC and Metals Sample 08a - 020972	10 11 9 8	Date: 11/29/00 Time: 09:10 Recovery = 75% 2-inch split spoon 140-lb. hammer
39.3	5	SM 5yr 5/4.					
38.3	6	SM 5yr 5/3.	RAD = 71 cpm		RAD Sample 12S - 021182	3 4 8 9	Date: 11/29/00 Time: 09:15 Recovery = 58.3% 2-inch split spoon 140-lb. hammer
37.3	7	SM with weathered bedrock					
36.3	8			California Tube sample 08A - 020973		16 21 10 30	Date: 11/29/00 Time: 09:20 Recovery = 100% 2-inch split spoon 140-lb. hammer
35.3	9						
34.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-12S	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	3	OF 3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.3	10	SM 5yr 4/4 and weathered bedrock.	RAD = 51 cpm			37	Date: 11/29/00 Time: 09:30 Recovery = 42% 2-inch split spoon 140-lb. hammer
						20	
33.3	11					17	Date: 11/29/00 Time: 10:00 Completed advancement of 6-inch temporary steel casing to 12 feet bgs.
						8	
32.3	12	SM 5 yr 4/4, some weathered bedrock.	RAD = 45 cpm			8	Date: 11/29/00 Time: 10:25 Recovery = 42% 2-inch split spoon 140-lb. hammer
						12	
31.3	13					11	Date: 11/29/00 Time: 11:30 Completed advancement of 6-inch diameter temporary steel casing to 14 feet bgs.
						10	
30.3	14	SM 5 yr 4/4 and weathered bedrock, trace fine Gravel.	RAD = 48 cpm			8	Date: 11/29/00 Time: 10:35 Recovery = 50% 2-inch split spoon 140-lb. hammer
						15	
29.3	15					16	Date: 11/29/01 Time: 12:10 Completed setting 2-inch diameter, 0.010 slot PVC well screen from 4 to 14 feet bgs.
						14	
28.3	16	SM 5 yr 4/4 and weathered bedrock, trace fine Gravel.	RAD = 56 cpm			5	Date: 11/29/00 Time: 11:00 Recovery = 17% 2-inch split spoon 140-lb. hammer
						7	
27.3	17					6	
						7	
26.3	18	SM 5 yr 4/4 and weathered bedrock, trace fine Gravel.	RAD = 69 cpm			33	Date: 11/29/00 Time: 11:10 Recovery = 42% 2-inch split spoon 140-lb. hammer
						27	
25.3	19	Bedrock at 19.08 ft. bgs based upon split spoon and 6-inch casing refusal.				50/1"	
						-	Total water loss = 30 gallons.
24.3	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-12S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-14S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 4

3. PROJECT	4 LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	100 Hancock Street Lodi, NJ
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube Sampler, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore Sampler, stainless steel trowel and bowl.	8. HOLE LOCATION: 748,454.1 feet North 2,163,262.2 feet East 9. SURFACE ELEVATION: 39.2 feet MSL 10. DATE STARTED: 11/10/00 — 11. DATE COMPLETED: 11/13/00
12. OVERBURDEN THICKNESS: 22.25 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 5 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:
14. TOTAL DEPTH OF HOLE: 22.3 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.25 feet below top of riser, 7/23/01, 10:29

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	--	20 - 22 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	2 - 4 feet	2 - 4 feet	2 - 4 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-14S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
39.2	0	SC 5yr 3/2 and coarse to medium Gravel	RAD = 58 cpm PID = 0.2 ppmV			3 2 2 1	Date: 11/10/00 Time: 12:25 Recovery = 80% 3-inch split spoon 300-lb. hammer
38.2	1	SM 5yr 4/4					
37.2	2	SC 5yr 3/1, grading to SC 5yr 3/4, damp.	RAD = 470 cpm PID = 0.6 ppmV		VOC Metals and RAD Sample 02a - 020976	2 2 2 1	Date: 11/10/00 Time: 12:30 Recovery = 60% 3-inch split spoon 300-lb. hammer
36.2	3						
35.2	4	SC 5yr 2.5/2, wet.	RAD = 210 cpm PID = 0.1ppmV			2 2 6 8	Date: 11/10/00 Time: 12:35 Recovery = 100% 3-inch split spoon 300-lb. hammer
34.2	5	2-inch diameter, 0.010 slot PVC well screen from 4 to 14 feet bgs. SM 5 yr 3/1, damp.					
		SC 5yr 5/4, dry.					
33.2	6	SC 5yr 4/2	RAD = 52 cpm PID = 0.1ppmV			5 4 4 6	Date: 11/10/00 Time: 12:40 Recovery = 70% 3-inch split spoon 300-lb. hammer
32.2	7						
		SM 5yr 4/4, wet.					
31.2	8	SM 5yr 4/4, wet.	RAD = 92 cpm PID = 0.2ppmV			4 7 7 7	Date: 11/10/00 Time: 12:45 Recovery = 60% 2-inch split spoon 140-lb. hammer
30.2	9						
29.2	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
29.2	10	SM 5yr 4/4, wet.	RAD = 53 cpm			6 6	Date: 11/10/00 Time: 12:50 Recovery = 50% 2-inch split spoon 140-lb. hammer
28.2	11	SM 5yr 4/4, wet.				8 6	
27.2	12	SM 5yr 4/4, wet.	RAD = 58 cpm			4 6	Date: 11/10/00 Time: 12:55 Recovery = 30% 2-inch split spoon 140-lb. hammer
26.2	13					5 7	Date: 11/13/00 Time: 12:30 Completed setting of 2-inch diameter 0.010 slot PVC well screen and riser from 4 to 14 feet bgs.
25.2	14	SM 5yr 4/4, wet.	RAD = 52 cpm			4 9	Date: 11/10/00 Time: 13:30 Recovery = 50% 2-inch split spoon 140-lb. hammer
24.2	15	SM 5yr 6/4, trace Clay, wet.				11 10	
23.2	16		RAD = 59 cpm			8 9	Date: 11/10/00 Time: 13:35 Recovery = 50% 2-inch split spoon 140-lb. hammer
22.2	17	SM 5yr 5/4, wet.				12 11	
21.2	18	SM 5yr 5/4, wet.	RAD = 49 cpm			12 13	Date: 11/10/00 Time: 13:40 Recovery = 33.3% 2-inch split spoon 140-lb. hammer
20.2	19					14 19	Date: 11/10/00 Time: 13:45 Completed advancement of 6-inch diameter temporary steel casing from 14 to 20 feet bgs.
19.2	20	fine sand in tip of spoon.					

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
19.2	20	SM 5yr 4/4	RAD = 53 cpm	California Tube Sample 02a - 020977		20 33	Date: 11/13/00 Time: 08:30 2-inch split spoon 140-lb. hammer
18.2	21	5yr 4/4 weathered bedrock.				24	Date: 11/13/00 Time: 09:25 Completed advancement of 6-inch diameter temporary steel casing from 20 to 22 feet bgs.
17.2	22	Bedrock at 22.25 feet bgs based on split spoon refusal.				24 50/3"	Date: 11/13/00 Time: 08:35 2-inch split spoon 140-pound hammer
16.2	23					-	Total water loss = 100 gallons
15.2	24					-	
14.2	25					-	
13.2	26						
12.2	27						
11.2	28						
10.2	29						
9.2	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-15S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	4

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Dept. of Motor Vehicles, Lodi
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME - 75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube sampler, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and steel bowl.	8. HOLE LOCATION: 747,615.0 feet North 2,163,010.1 feet East
	9. SURFACE ELEVATION: 34.9 feet MSL
	10. DATE STARTED: 11/17/00 — 11. DATE COMPLETED: 11/17/00
12. OVERBURDEN THICKNESS: 24 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 5 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 24.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 2.60 feet below top of riser, 7/26/01, 10:40

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	10 - 12 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	4 - 6 feet	4 - 6 feet	6 - 8 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-15S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt, Julie Lincoln

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.9	0	SM 5yr 3/2, some inorganic s. trace medium to fine Gravel.	RAD = 62 cpm PID = 0.4 ppmV			2 2 4 4	Date: 11/17/00 Time: 09:00 Recovery = 87.5% 3-inch split spoon 300-lb. hammer
33.9	1	SM 5yr 3/2, evidence of mottling.					
32.9	2	SM 5yr 3/2, evidence of mottling.	RAD = 60 cpm PID = 1.0 ppmV		VOC and Metals Sample 02d - 020978	3 3 5 6	Date: 11/17/00 Time: 09:05 Recovery = 75% 3-inch split spoon 300-lb. hammer
		SC 5yr 2.5/1, some organics.					
31.9	3	SC 5yr 4/1, moist.					
30.9	4	SC 5yr 4/1, moist. 2-inch diameter, 0.010 slot PVC well screen from 4 to 14 feet bgs.	RAD = 63 cpm PID = 0.4 ppmV		RAD Sample 02d - 021001	7 11 13 13	Date: 11/17/00 Time: 09:10 Recovery = 79.2% 3-inch split spoon 300-lb. hammer
29.9	5	SW 5yr 4/4, wet.					
28.9	6	SW 5yr 4/4, wet.	RAD = 76 cpm			10 10 9 10	Date: 11/17/00 Time: 09:15 Recovery = 91.7% 3-inch split spoon 300-lb. hammer
27.9	7						
26.9	8	SW 5yr 4/4, wet.	RAD = 88 cpm			8 10 4 7	Date: 11/17/00 Time: 09:20 Recovery = 100% 2-inch split spoon 140-lb. hammer
25.9	9						
		SC 5 yr 4/4, (highly plastic)					
24.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt, Julie Lincoln

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
24.9	10	California tube sample interval, no classification			California Tube Sample 02d - 020979	4 11 11 13	Date: 11/17/00 Time: 09:25 Recovery = 75% 2-inch split spoon 140-lb. hammer Date: 11/17/00 Time: 09:55 Completed advancement of 6-inch temporary steel casing to 12 feet bgs.
22.9	12	SM 5yr 4/4 (fine silty sand).				6 6 5 7	Date: 11/17/00 Time: 10:00 Recovery = 58.3% 2-inch split spoon 140-lb. hammer
20.9	14	SM 5yr 4/4. 2-inch diameter PVC sump from 14 to 19 feet bgs.				1 2 2 3	Date: 11/17/00 Time: 10:35 Recovery = 25% 2-inch split spoon 140-lb. hammer
18.9	16					3 3 6 36	Date: 11/17/00 Time: 10:40 Recovery = 0% 2-inch split spoon 140-lb. hammer 2-inch split spoon lost in borehole.
16.9	18	GP 5yr 4/4, weathered bedrock.				12 18 26 20	Date: 11/17/00 Time: 09:00 Recovery = 33.3% 2-inch split spoon 140-lb. hammer
14.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt, Julie Lincoln

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
14.9	20	GP 5yr 4/4, weathered bedrock.				12 12 14 16	Date: 11/17/00 Time: 11:25 2-inch split spoon 140-lb. hammer. Date: 11/17/01 Time: 12:00 Completed advancement of 6-inch temporary steel casing from 12 to 21 feet bgs.
13.9	21						
12.9	22					8 10 23 50/5"	Date: 11/17/00 Time: 11:40 2-inch split spoon 140-pound hammer
11.9	23						
10.9	24	Bedrock at 24 feet bgs based on split spoon refusal.					
9.9	25						
8.9	26						
7.9	27						
6.9	28						
5.9	29						
4.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-16S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Vacant lot at Intersection of Money & Sidney Streets
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 300-lb. hammer, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	8. HOLE LOCATION: 746,553.9 feet North 2,161,863.0 feet East
	9. SURFACE ELEVATION: 29.1 feet MSL
	10. DATE STARTED: 11/14/00 — 11. DATE COMPLETED: 11/14/00
12. OVERBURDEN THICKNESS: Unknown	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 16.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 4.08 feet below top of riser, 7/23/01, 11:00

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-16S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
29.1	0						
28.1	1						
27.1	2						
26.1	3	No soil sample collected. See overburden HTRW Drilling Log compiled during the construction of Pilot Boring MW-16D					
25.1	4	2-inch diameter, 0.010 slot PVC well screen from 4 to 14 feet bgs.					
24.1	5						
23.1	6						
22.1	7						
21.1	8						
20.1	9						
19.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
19.1	10						
18.1	11						
17.1	12						
16.1	13						Date: 11/14/00 Time: 11:00 Completed setting of 2-inch diameter, 0.010 slot PVC well screen from 4 to 14 feet bgs.
15.1	14						
14.1	15						Date: 11/14/00 Time: 10:30 Completed advancement of 6-inch diameter temporary steel casing to 16 feet bgs.
13.1	16	Botom of Borehole at 16 feet bgs.					
12.1	17						
11.1	18						Total water loss = 18 gallons.
10.1	19						
9.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-17S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 3 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Mitchell Street, Lodi	
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube Sampler, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler steel trowel and bowl.	8. HOLE LOCATION: 747,276.9 feet North 2,161,414.5 feet East	
	9. SURFACE ELEVATION: 28.2 feet MSL	
	10. DATE STARTED: 11/20/00	11. DATE COMPLETED: 11/20/00
12. OVERBURDEN THICKNESS: 11.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 7 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 11.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.68 feet below top of riser, 7/26/01, 10:07	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	1 - 3 feet	1 - 3 feet	5 - 7 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-17S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-17S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
28.2	0	Asphalt					
		Concrete					
27.2	1	SM 5yr 4/4, trace coarse / medium / fine Gravel.			VOC and Metals Sample 22b - 020982	5 6 6 5	Date: 11/20/00 Time: 09:10 Recovery = 40% 3-inch split spoon 300-lb. hammer
26.2	2						
25.2	3	No recovery, cobble in tip of split spoon.				10 9 9 15	Date: 11/20/00 Time: 09:15 Recovery = 5% 3-inch split spoon 300-lb. hammer
24.2	4	2-inch diameter, 0.010 slot PVC well screen from 4 to 10 feet bgs.					
23.2	5	SM 5yr 4/4, little coarse / medium / fine Sand.			RAD sample 22b - 021004	14 9 9 8	Date: 11/20/00 Time: 09:20 Recovery = 80% 3-inch split spoon 300-lb. hammer
22.2	6	SC 5yr 4/2, interbedded with gray SM trace organics.					
		SM 5yr 4/4.					
21.2	7	SC 5yr 4/4, wet.				9 10 11 12	Date: 11/20/00 Time: 09:25 Recovery = 80% 2-inch split spoon 140-lb. hammer
20.2	8	SM 5yr 2.5/2, mottled. SM 5yr 4/4, some coarse Sand.					
19.2	9	SM 5yr 4/4, some coarse Sand.				4 6	Date: 11/20/00 Time: 09:30 Recovery = 80% 2-inch split spoon 140-lb. hammer
18.2	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-17S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-17S	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	3	OF 3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
18.2	10					7 8	Date: 11/21/00 Time: 10:13 Completed advancement of 6-inch diameter temporary steel casing to 11.5 feet bgs.
17.2	11	SM 5yr 4/4, some coarse Sand, some coarse weathered bedrock in tip of split spoon.				21	Date: 11/20/00 Time: 09:35 Recovery = 40% 3-inch split spoon 300-lb. hammer
		Bedrock at 11.5 feet bgs based on split spoon refusal.				100/1"	
16.2	12					-	Date: 11/21/00 Time: 11:00 Completed setting of 2-inch diameter, 0.010 slot PVC well screen from 4 to 10 feet bgs.
15.2	13						
14.2	14						
13.2	15						
12.2	16						
11.2	17						
10.2	18						
9.2	19						
8.2	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-17S

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-18S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	4

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Avenue C, Lodi
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing) Doug Wood (open hole)	DK-5 (casing), CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl	748,682.5 feet North 2,161,803.4 feet East
	9. SURFACE ELEVATION: 35.2 feet MSL
	10. DATE STARTED: 11/20/00 — 11. DATE COMPLETED: 11/20/00
12. OVERBURDEN THICKNESS: 20.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 11.5 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 20.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 6.24 feet below top of riser, 7/26/01, 10:19

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	19 - 21 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	7 - 9 feet	7 - 9 feet	RAD 3 - 5 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-18S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.2	0	Asphalt and concrete.					
34.2	1	SM 5yr 3/2 with coarse Sand.				2 4	Date: 11/20/00 Time: 09:20 Recovery = 90% 3-inch split spoon 300-lb. hammer
33.2	2	SM 5yr 4/4, trace Clay.				3 5	
32.2	3	SM 5yr 4/4, trace Clay.			RAD Sample 23b - 021002	2 3	Date: 11/20/00 Time: 09:25 Recovery = 30% 3-inch split spoon 300-lb. hammer
31.2	4					11 11	
30.2	5	SM 5yr 4/4, trace Clay.				10 10	Date: 11/20/00 Time: 09:30 Recovery = 75% 3-inch split spoon 300-lb. hammer
29.2	6					12	
		SM 5 yr 4/4, trace Clay.Moist.				13	
28.2	7	SM 5yr 4/4 mottled with SM 5yr 6/2, little Clay.			VOC and Metals Sample 22b - 020984	8 4	Date: 11/20/00 Time 09:35 Recovery = 80% 3-inch split spoon 300-lb. hammer
27.2	8					10 12	
26.2	9	SM 5yr 4/4 mottled with SM 5yr 6/2, little Clay.				4 4	Date: 11/20/00 Time: 09:40 Recovery = 90% 2-inch split spoon 140-lb. hammer
25.2	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.2	10					6 5	
24.2	11	SM 5yr 4/4 mottled with SM 5yr 6/2, little Clay. Groundwater encountered at 11.5 feet bgs.				19 19	Date: 11/20/00 Time: 09:45 Recovery = 90% 2-inch split spoon 140-lb. hammer
23.2	12					14 11	Date: 11/20/00 Time: 13:20 Completed setting of 2-inch diameter, 0.010 slot PVC well screen from 3.75 to 13.75 feet bgs.
22.2	13	SM and SP, 5yr 4/2, trace fine Gravel and trace weathered bedrock.				9 11	Date: 11/20/00 Time: 09:50 Recovery = 90% 2-inch split spoon 140-lb. hammer
21.2	14					14 10	Date: 11/20/00 Time: 10:00 Completed advancement of 6-inch diameter temporary steel casing to 15 feet bgs.
20.2	15	SM and SP, 5yr 4/2, trace fine Gravel and trace weathered bedrock.				11 11 9 8	Date: 11/20/00 Time: 10:20am Recovery = 20% 2-inch split spoon 140-lb. hammer
19.2	16						
18.2	17	SP 5yr 4/4, some medium to fine gravel.				6 10 19 15	Date: 11/20/00 Time: 11:17 Recovery = 40% 2-inch split spoon 140-lb. hammer
17.2	18						
16.2	19	California tube sample interval, no classification.			California Tube Sample 22b - 020985	14 20	Date: 11/20/00 Time: 11:30am Recovery = 40% 2-inch split spoon 140-lb. hammer
15.2	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-18S	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	4 OF	4

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.2	20					20	
		Bedrock at 20.50 feet bgs based upon split spoon refusal.				50/2"	
14.2	21						Total water loss = 0 gallons
13.2	22						
12.2	23						
11.2	24						
10.2	25						
9.2	26						
8.2	27						
7.2	28						
6.2	29						
5.2	30						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-18S

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-19S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Unpaved road North of MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Rick Tabor	Mobile B-61
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
6-inch steel casing, 5-7/8-inch tricone roller bit, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, drive and wash casing advancement, PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	753,689.4 feet North 2,163,870.9 feet East
	9. SURFACE ELEVATION: 56.3 feet MSL
	10. DATE STARTED: 11/1/00 — 11. DATE COMPLETED: 11/1/00
12. OVERBURDEN THICKNESS: 13.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 11.14 feet below top of riser, 7/26/01, 12:56
14. TOTAL DEPTH OF HOLE: 13.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	1 - 3 feet	1 - 3 feet	RAD 1 - 3 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-19S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.3	0	Pavement	PID = 5.2 ppmV				
55.3	1	GM			RAD VOC and Metals Sample 23b 020986	19	Date: 11/1/00 Time: 11:15 Recovery = 50% 3-inch split spoon 300-lb. hammer
		SM 5yr 4/4.				14	
54.3	2					16	
		GC 5yr 4/4 (weathered bedrock)				18	
53.3	3	No recovery from 3 to 4 feet bgs.				50/3"	Date: 11/1/00 Time: 11:18 Recovery = 0% 3-inch split spoon 300-lb. hammer
52.3	4						
51.3	5	2-inch diameter, 0.010 slot PVC well screen set from 5 to 12 feet bgs.					
50.3	6						
49.3	7						Date: 11/1/00 Time: 12:35 Completed advancement of 7-7/8-inch diameter roller bit from 4 to 8 feet bgs at rate of 0.2 ft/min.
48.3	8	No sample description avaliable.				40	Date: 11/1/00 Time: 12:56 2-inch split spoon 140-lb. hammer
						23	
47.3	9					31	
						33	
46.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
46.3	10	SC 5yr 4/4, trace GM				9 7	Date: 11/1/00 Time: 13:04 pm 3-inch split spoon 300-lb. hammer.
45.3	11					6 14	Date: 11/1/00 Time: 16:00 Completed setting of 2-inch diameter, 0.010 slot PVC monitoring well screen from 5 to 12 feet bgs.
44.3	12	SC 5yr 4/4, trace GM				4 22	Date: 11/1/00 Time: 13:15 3-inch split spoon 300-lb. hammer.
43.3	13					50/3"	Date: 11/1/00 Time: 14:20 Completed drive and wash casing advancement to 13.5 feet bgs at rate of 0.34 ft/min.
42.3	14	Bedrock at 13.5 feet bgs based upon split spoon refusal.					Total water loss = 10 gallons
41.3	15						
40.3	16						
39.3	17						
38.3	18						
37.3	19						
36.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-20S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	4

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Dirt Road, North of MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
	752,826.5 feet North 2,164,679.8 feet East
6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing	9. SURFACE ELEVATION
advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb.	58.5 feet MSL
hammer, 300-lb. hammer, California Tube Sampler, Ludlum 4410 RAD meter,	10. DATE STARTED: 11/22/00 / 11. DATE COMPLETED: 11/27/00
Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	
12. OVERBURDEN THICKNESS	15. DEPTH GROUNDWATER ENCOUNTERED
19.8 feet	8 feet bgs
13. DEPTH DRILLED INTO ROCK	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
0 feet	
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
19.8 feet bgs	11.81 feet below top of riser, 7/26/01, 15:21

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	10 - 12 feet	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	6 - 8 feet	6 - 8 feet	RAD 6 - 8 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-20S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
58.5	0	SM 5yr 2.5/2 (FILL).	RAD = 52 cpm PID = 1.1 ppmV			12	Date: 11/22/00 Time: 08:20 Recovery = 40% 3-inch split spoon 300-lb. hammer
						14	
57.5	1	SP 5yr 4/4, trace glass, cobble in tip of spoon (FILL).				7	
						6	
56.5	2	SP 5yr 4/4, trace organics, glass & slag (FILL).	RAD = 44 cpm PID = 1.0 ppmV			6	Date: 11/22/00 Time: 08:25 Recovery = 90% 3-inch split spoon 300-lb. hammer
						3	
55.5	3	SC 5yr 6/2, gypsum (FILL).				3	
						3	
54.5	4	SC 5yr 6/2, gypsum (FILL).	RAD = 38 cpm PID = 0.8 ppmV			3	Date: 11/22/00 Time: 08:30 Recovery = 90% 3-inch split spoon 300-lb. hammer
						4	
53.5	5	2-inch diameter, 0.010 slot PVC well screen set from 5 to 15 feet bgs.				4	
		SC 5yr 6/2, gypsum, trace organics (FILL).				6	
52.5	6	SC 5yr 7/2, gypsum (FILL).	RAD = 52 cpm PID = 1.6 ppmV		RAD VOC and Metals Sample 12a - 020988	4	Date: 11/22/00 Time: 08:35 Recovery = 90% 3-inch split spoon 300-lb. hammer
		SC 5yr 2.5/1, trace organics (FILL).				4	
51.5	7	SM 5yr 3/2, trace organics, damp.				3	
						4	
50.5	8	SC 5yr 4/1, wet.	RAD = 56 cpm PID = 0.0 ppmV			2	Date: 11/22/00 Time: 08:40 Recovery = 75% 2-inch split spoon 140-lb. hammer
						4	
49.5	9					8	
						9	
48.5	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-20S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
48.5	10	California Tube sample interval. No classification.		California Tube Sample 12a-020989		8 9 14 9	Date: 11/22/00 Time: 08:45 2-inch split spoon 140-lb. hammer
47.5	11						
46.5	12	SM 5yr 2.5/1.	RAD = 57 cpm			7 11 16 16	Date: 11/22/00 Time: 08:50 Recovery = 90% 2-inch split spoon 140-lb. hammer
45.5	13	SM 5yr 5/3, trace Clay, high plasticity.					Date: 11/22/00 Time: 09:45 Completed setting of 2-inch diameter 0.010 slot PVC well screen from 5 to 15 feet bgs.
44.5	14	SM 5yr 2.5/1.	RAD = 53 cpm			9 12 9 10	Date: 11/22/00 Time: 09:00 Recovery = 95% 2-inch split spoon 140-lb. hammer
43.5	15						Date: 11/22/00 Time: 09:30 Completed advancement of 6-inch temporary steel casing to 16 feet bgs.
42.5	16	SC 5yr 2.5/1, varved.	RAD = 39 cpm			10 14 21 24	Date: 11/22/00 Time: 11:20 Recovery = 30% 2-inch split spoon 140-lb. hammer
41.5	17						
40.5	18	Weathered bedrock in tip of spoon. GP 5 yr 4/4	RAD = 56 cpm			22 20 20 50/4"	Date: 11/22/00 Time: 11:25 Recovery = 30% 2-inch split spoon 140-lb. hammer
39.5	19	Weathered bedrock cobble in tip of spoon.					Date: 11/22/00 Time: 11:30 Completed advancement of 5-7/8-inch roller bit from 16 to 19.5 feet bgs.
38.5	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-20S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
38.5	20	Bedrock at 19.8 feet bgs based upon split spoon refusal.					
37.5	21						
36.5	22						
35.5	23						
34.5	24						
33.5	25						
32.5	26						
31.5	27						
30.5	28						
29.5	29						
28.5	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-20S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-21S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Skinel Property. Essex Street
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer	DK-5
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8 HOLE LOCATION
6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube Sampler, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	749,075.3 feet North 2,166,629.9 feet East
	9. SURFACE ELEVATION: 38.9 feet MSL
	10. DATE STARTED: 6/26/01 / 11. DATE COMPLETED: 6/26/01
12. OVERBURDEN THICKNESS: 13.8 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 9 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 5.32 feet below top of riser, 7/26/01, 15:00
14. TOTAL DEPTH OF HOLE: 13.8 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	0 - 2 feet	0 - 2 feet	0 - 2 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-21S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-21S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
38.9	0	SM and Gravel, brown, 5 yr 4/3.	PID = 0 ppmV		RAD VOC and Metals samples 07a - 021581	21 27 17 21	Date: 6/26/01 Time: 08:30 Recovery = 10% 3-inch split spoon 300-lb. hammer
37.9	1						
36.9	2	GW, FILL and cement, gray.	PID = 0 ppmV			10 40 6 8	Date: 6/26/01 Time: 09:50 Recovery = 40% 2-inch split spoon 140-lb. hammer
35.9	3						
34.9	4	No recovery.	PID = 0 ppmV			4 3 5 5	Date: 6/26/01 Time: 09:15 Recovery = 10% 2-inch split spoon 140-lb. hammer
33.9	5						
32.9	6	SM and organics, brown 5 yr 4/3.				4 3 3 3	Date: 6/26/01 Time: 10:00 2-inch split spoon 140-lb. hammer
31.9	7						
30.9	8	SC and SM, brown.	PID = 0 ppmV			3 3 8 16	Date: 6/26/01 2-inch split spoon 140-lb. hammer
29.9	9	Groundwater encountered at 9 feet bgs.					
28.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-21S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-21S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
28.9	10	SP, trace SM, gray.				10 16	Date: 6/26/01 2-inch split spoon 140-lb. hammer
27.9	11					7	
26.9	12					10	
		SP, gray.				24	Date: 6/26/01 2-inch split spoon 140-lb. hammer
25.9	13					14	
		SM 5 yr 4/4, red/brown weathered bedrock.				25	Date: 6/26/01 Time: 10:20 Completed advancement of 6-inch diameter temporary steel casing to 14 feet bgs. at rate of 0.7 ft/min
24.9	14	Bedrock at 13.8 ft. bgs based upon split spoon refusal.				50/4"	
23.9	15						
22.9	16						
21.9	17						
20.9	18						
19.9	19						
18.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-21S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-22S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 3
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: 156 Madison Avenue	
5. NAME OF DRILLER: Dennis Mayer	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, *PVC well screen and riser, 2 and 3-inch split spoon*, 140-lb. hammer, 300-lb. hammer, California Tube Sampler, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	8. HOLE LOCATION: 751,173.2 feet North 2,164,101.1 feet East	
	9. SURFACE ELEVATION: 46.2 feet MSL	
	10. DATE STARTED: 6/4/01	11. DATE COMPLETED: 6/11/01
12. OVERBURDEN THICKNESS: 10 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 4.5 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 10.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 4.35 feet below top of riser, 7/26/01, 14:11	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	YES	YES	RAD	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-22S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-22S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.2	0	Asphalt.	PID = 0 ppmV				
		SM 5 yr 6/4, trace medium to fine Gravel.	PID = 0 ppmV			7	Date: 6/11/01 Time: 10:45 Recovery = 50% 2-inch split spoon 140-lb. hammer
45.2	1					5	
						7	
44.2	2	SM 5 yr 4/3.				14	
			PID = 0 ppmV		RAD VOC and Metals Sample 17a - 021564.	2	Date: 6/11/01 Time: 10:50 Recovery = 70% 2-inch split spoon 140-lb. hammer
43.2	3	Red brown cobble in spoon at 3 feet bgs.				27	
						27	
42.2	4					23	
		SW 5 yr 4/4, (uniform fine SAND), wet.	PID = 0 ppmV			22	Date: 6/11/01 Time: 10:55 Recovery = 100% 2-inch split spoon 140-lb. hammer
41.2	5					17	
						20	
40.2	6					17	
		SW 5 yr 4/4, (uniform fine SAND).	PID = 0 ppmV			10	Date: 6/11/01 Time: 11:00 Recovery = 100% 2-inch split spoon 140-lb. hammer
39.2	7					11	
						14	
38.2	8					16	
		SW 5 yr 4/4, (uniform fine SAND).				32	Date: 6/11/01 Time: 11:10 Recovery = 100% 2-inch split spoon 140-lb. hammer
37.2	9					40	
		SM 5 yr 4/4 (coarse, medium fine SAND and medium to fine Gravel.				37	
36.2	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-22S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-22S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.2	10	Weathered bedrock 5 yr 4/4 at 10 feet bgs based on split spoon refusal.				50/1	Date: 6/11/01 Time: 13:06 Completed advancement of 6-inch diameter temporary steel casing to 10.5 feet bgs. (0.5-foot into bedrock)
35.2	11						
34.2	12						
33.2	13						
32.2	14						
31.2	15						
30.2	16						
29.2	17						
28.2	18						
27.2	19						
26.2	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-22S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

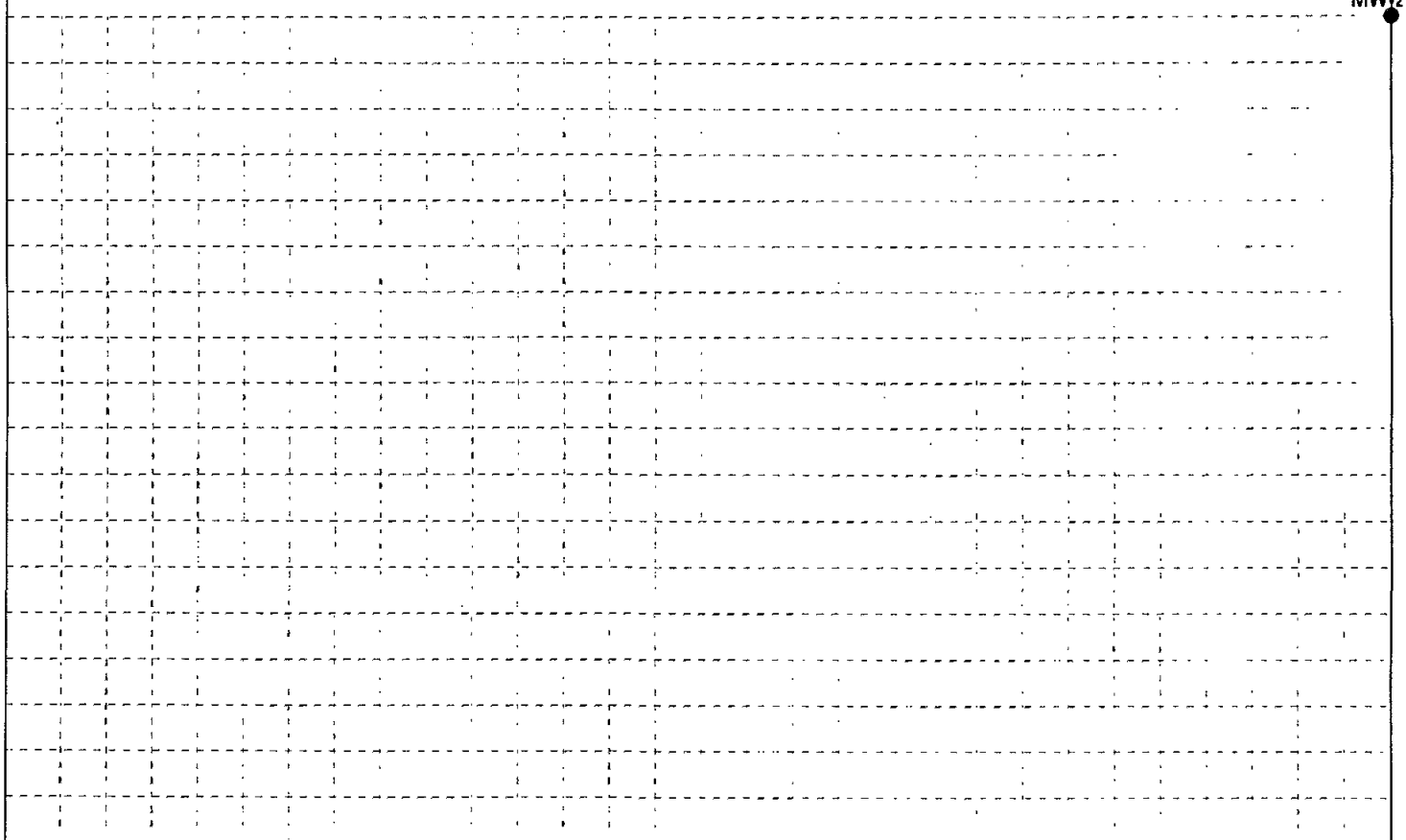
DISTRICT		HOLE NUMBER: MW-25S
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: B & B Drilling	SHEET 1 OF 4 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: MISS	
5. NAME OF DRILLER: Doug Myerchin	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B-61	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5-7/8-inch dia. roller bit, 6-inch dia. drive and wash casing, 2-inch O.D. Split Spoon	8. HOLE LOCATION (NEW JERSEY STATE PLANAR COORDINATES): 752,388.7 feet North 2,164,313.5 feet East	
	9. SURFACE ELEVATION: 56.3 feet MSL	
	10. DATE STARTED: 12/7/01	11. DATE COMPLETED: 12/8/01
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 10 feet	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 18.0 feet	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	No	NO	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	YES	YES	RAD	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed		YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-25S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
56.3	0	Brown SM trace organics, Dry.	18" recovery			4	Time: 1338 Start Split Spoon Sampling
		Black fine Sand, trace Silt, Slag, dry				6	
55.3	1	White Silt and Orange fine to medium Sand, Dry				11	
		small				6	
54.3	2	Red / Brown SM, ~~sm~~oe Sandstone Gravel	9" recovery			4	
						6	
53.3	3					12	
						7	
52.3	4	Red / Brown SM, little Clay, trace fine to medium Sand, trace Sandstone, Gravel, dry	20" recovery			5	
						10	
51.3	5					11	
						14	
50.3	6	Red / Brown fine Sand, Some Sandstone Gravel, trace Silt, Dry	15" recovery			19	
						36	
49.3	7					57	
						38	
48.3	8	Brown / red fine Sand, some Sandstone Gravel, trace Silt, Dry	5" recovery			98	Time: 1355 Rock at 8.6 feet Try to drill through and continue
		Red fine Sand, little Silt, little Gravel, Till				100/2"	
47.3	9	Roller bit to 10.5 feet					
		Refusal				22	9.1 feet, Rock drilled through
						100/1"	
46.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
46.3	10						
		Red fine Sand, little Silt, little Gravel, Till	24" recovery			21	
45.3	11					32	
						57	
44.3	12					2	
		Red fine Sand, little Silt, little Gravel, Till				29	
43.3	13					100/5"	Rock at 13.6 feet bgs Drill to 13.6 feet and try another spoon.
		Sandstone / Gravel				100/1"	
42.3	14						Rock at 14 feet bgs Drill through to 16 feet
41.3	15	Soft					15 to 16 feet, Material soft (able to drill through)
40.3	16	SM and Sandstone gravel					
		10 slot screen 16.6 feet, #0 Sand					
39.3	17						
38.3	18	Refusal at 18 feet bgs					
37.3	19						
36.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
36.3	20						
35.3	21						
34.3	22						
33.3	23						
32.3	24						
31.3	25						
30.3	26						
29.3	27						
28.3	28						
27.3	29						
26.3	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	OVPW-1S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1	OF 4

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Overburden Pump Test Array on MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Rick Tabor	Mobile B-61
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
2 and 3-inch split spoon, 140-lb hammer, 300-lb. hammer, 3-7/8-inch tricone roller bit, 4-inch casing, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID	752,549.3 feet North 2,164,173.1 feet East
	9. SURFACE ELEVATION: 55.9 feet MSL
	10. DATE STARTED: 4/3/01 — 11. DATE COMPLETED: 4/5/01
12. OVERBURDEN THICKNESS: 20 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 6 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 6.9 feet below top of riser, 4/3/01, 11:16
14. TOTAL DEPTH OF HOLE: 20.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.07 feet below top of riser, 7/26/01, 10:23

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
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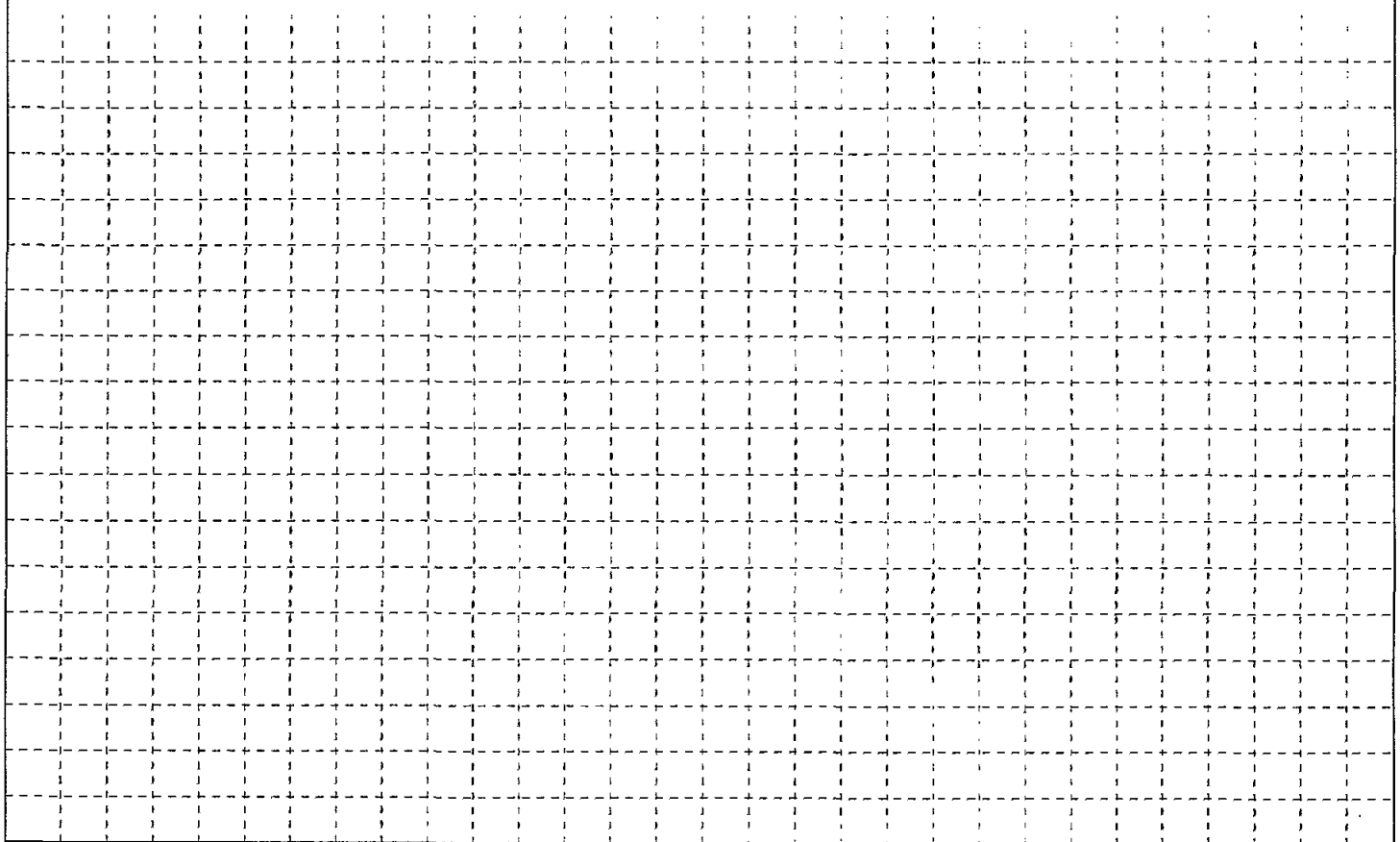
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPW-1S

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OBPW-1S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie and George Markt

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.9	0	SM 5 yr 4/1, Fill.				2	Date: 4/3/01 Time: 10:35 2-inch split spoon 140-lb. hammer
		SM 5 yr 8/1, banded with SM 5 yr 6/1, Fill.				3	
54.9	1					4	
						4	
53.9	2					3	Date: 4/3/01 Time: 10:40 Recovery = 100% 2-inch split spoon 140-lb. hammer
						3	
52.9	3					4	
		2-inch diameter, 0.010-slot, stainless steel wire wound well screen from 3.5				2	
51.9	4	to 23.5 feet bgs. possible subsurface void.				1	Date: 4/3/01 Time: 10:53 Recovery = 0% 2-inch split spoon 140-lb. hammer
						1	
50.9	5					0	
						0	
49.9	6	SM 5 yr 8/1, banded with SM 5 yr 6/1,saturated, Fill.				1	Date: 4/3/01 Time: 10:55 Recovery = 100% 2-inch split spoon 140-lb. hammer
						1	
48.9	7					0	
						0	
		SC 5 yr 2.5/1, (not cohesive), saturated SM 5 yr 2.5/1, banded with					
47.9	8	SM 5 yr 3/1, at 2 to 6-inch intervals, Fill.				3	Date: 4/3/01 Time: 10:58 Recovery = 70% 2-inch split spoon 140-lb. hammer
						8	
46.9	9					9	
						11	
45.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OBPW-1S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OBPW-1S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie and George Markt

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.9	10					8	Date: 4/3/01 Time: 11:10 Recovery = 30% 2-inch split spoon 140-lb. hammer
						8	
44.9	11					16	Date: 4/4/01 Time: 09:51 Completed advancement of 8-inch diameter casing to 12 feet bgs.
						15	
43.9	12	Fine SW 5 yr 2.5/1, trace fine Gravel.				5	Date: 4/4/01 Time: 10:00 Recovery = 50%
						5	
42.9	13	Fine SW 5 yr 4/1.				8	
						10	
41.9	14					4	Date: 4/4/01 Time: 10:16 Recovery = 70%
		GW, trace SW 5 yr 4/1.				4	
40.9	15	Fine SW 5 yr 4/1.				8	
						7	
39.9	16					4	Date: 4/4/01 Time: 10:33 Recovery = 55%
						3	
38.9	17					5	
						5	
37.9	18	Coarse SP, trace fine Gravel 5 yr 4/1.				4	Date: 4/4/01 Time: 10:49 Recovery = 65%
						4	
36.9	19	Fine SW, trace fine Gravel 5 yr 4/1.				6	Date: 4/4/01 Time: 10:55 Completed advancement of 8-inch diameter steel casing to 20 feet bgs.
						7	
35.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OBPW-1S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OBPW-1S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie and George Markt

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.9	20	Observed running sands inside of 8-inch diameter casing. Over drilled to 21 feet bgs Medium to coarse SW 5 yr 4/1, trace fine Gravel, trace weathered bedrock.					
34.9	21					15 31 30 40	Date: 4/4/01 Time: 13:55 Recovery = 60% 2-inch split spoon 140-lb. hammer (Sampled inside 8-inch casing)
33.9	22						
32.9	23					34 35 100/4"	Date: 4/4/01 Time: Recovery = 45% 2-inch split spoon 140-lb. hammer (Sampled inside 8-inch casing)
31.9	24	SILT 5 yr 4/4, with fine Sand, little Clay, trace medium Gravel.					
30.9	25	Bedrock at 24.5 feet bgs based upon split spoon refusal confirmed by roller bit.				20 50/0"	Date: 4/4/01 Time: Recovery = 10% 2-inch split spoon 140-lb. hammer (Sampled inside 8-inch casing)
29.9	26						Date: 4/4/01 Time: 13:38 Completed advancement of 8-inch diameter steel casing to 26 feet bgs, ahead of split spoon to account for running sands.
28.9	27						
27.9	28						Date: 4/5/01 Time: 15:00 Completed setting 0.010-slot PVC well screen from 3.5 to 23.5 feet bgs.
26.9	29						
25.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OBPW-1S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	OVPB-1 (abandoned)

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	4

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	West of Railroad Tracks
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
3-inch split spoon, 300-lb. hammer, 3-7/8-inch tricone roller bit, 4-inch casing, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	9. SURFACE ELEVATION
	10. DATE STARTED: 12/19/2001 / 11. DATE COMPLETED: 12/19/2001
12. OVERBURDEN THICKNESS: 19.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 14.25 feet bgs
13. DEPTH DRILLED INTO ROCK: 2.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 22.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	---	NO	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPB-1 (abandoned)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPB-1 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF SHEETS 4

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	0	SM 5yr 7/1, trace organics.	RAD = 55 cpm VOC = 0.8 ppm			2	Date: 12/19/01 Time: 08:30 Recovery = 100% 3-inch split spoon 300-lb. hammer
		SM 5yr 8/1 (gypsum).				1	
	1					2	
						2	
	2	SM 5yr 8/1 (gypsum).	RAD = 37 cpm VOC = 0.1 ppmV			1	Date: 12/19/01 Time: 08:35 Recovery = 60% 3-inch split spoon 300-lb. hammer
						2	
	3					1	
						1	
	4	SM 5yr 8/1 (gypsum).	RAD = 29 cpm VOC = 0.1 ppmV			1	Date: 12/19/01 Time: 08:40 Recovery = 40% 3-inch split spoon 300-lb. hammer
						2	
	5					1	
						1	
	6	SM 5yr 8/1 (gypsum).	RAD = 75 cpm VOC = 0.9 ppmV			-	Date: 12/19/01 Time: 08:45 Recovery = 80% 3-inch split spoon 300-lb. hammer
						-	
	7	Chunks of black material mixed with gypsum from 7 to 8 feet.				-	
						1	
	8	SM 5yr 8/1 (gypsum). Chunks of black material mixed with gypsum (FILL).	RAD = 137 cpm VOC = 0.2 ppmV			1	Date: 12/19/01 Time: 08:50 Recovery = 40% 3-inch split spoon 300-lb. hammer
		SM 5yr4/2 coarse SAND / cinders (FILL), dry				3	
	9					4	
						8	
	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPB-1 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPB-1 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF SHEETS 4

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	10	No recovery, 3" cobble in spoon.				7 9 7 9	Date: 12/19/01 Time: 08:55 Recovery = 0% 3-inch split spoon 300-lb. hammer
	11						
	12	SM 5yr 3/1, dry fine silty SAND.	RAD = 64 cpm VOC = 0.5 ppmV			2 2 3 6	Date: 12/19/01 Time: 09:15 Recovery = 80% 3-inch split spoon 300-lb. hammer
		SC 5yr 3/1, dry.					
	13						Date: 12/19/01 Time: 09:20 Completed driving 4-inch casing to 14 feet bgs
	14	GC 5yr 4/4, dry, weathered rock. GC 5yr 4/4, dry.	RAD = 66 cpm			6 19 17 13	Date: 12/19/01 Time: 09:30 Recovery = 90% 3-inch split spoon 300-lb. hammer
		SM 5yr 3/1, wet, fine uniform SAND.					
	15						Date: 12/19/01 Time: 10:15 Completed advancing 4-inch casing to 16 feet bgs
		GC 5yr4/4 possible weathered bedrock. SM 5yr3/1, damp. GC 5yr4/4					
	16	GM 5yr4/4 some coarse Gravel (angular cobbles throughout)	RAD = 46 cpm			17 14 11 12	Date: 12/19/01 Time: 10:20 Recovery = 70% 3-inch split spoon 300-lb. hammer
		SM 5yr 3/1					
	17	GM 5 yr 4/4 some coarse Gravel (angular cobbles throughout)					
	18	GC 5yr4/4 weathered rock.	RAD = 58 cpm			12 17 50/5"	Date: 12/19/01 Time: 10:25 Recovery = 40% 3-inch split spoon 300-lb. hammer
	19						
		Red / brown Sandstone bedrock encountered at 19.5 feet bgs based					
	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPB-1 (abandoned)

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPB-1 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	20	on split spoon refusal confirmed by roller bit.					
	21						Date: 12/19/01 Time: 10:30 Completed advancement of 3-7/8-inch diameter roller bit from 20 to 22 feet bgs at rate of 0.07 ft/min.
	22						
	23						Date: 12/14/00 Time: 12:00 Completed abandonment of borehole.
	24						
	25						
	26						
	27						
	28						
	29						
	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPB-1 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-9
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 4
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,539.9 feet North 2,164,173.7 feet East	
	9. SURFACE ELEVATION: 55.7 feet MSL	
	10. DATE STARTED: 4/13/01	11. DATE COMPLETED: 4/13/01
12. OVERBURDEN THICKNESS: 21 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 21.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 9.48 feet below top of riser, 7/26/01, 10:22	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-9

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.7	0	5 yr 4/3 brown SM.				P U S H	Date: 11/13/01 Time: 09:30 Recovery = 100%
54.7	1						
53.7	2						
52.7	3						
51.7	4	5 yr 8/1 SILT laminated with 5 yr 6/1 gray Silt.				P U S H	Date: 4/13/0 Recovery = 20%
50.7	5						
49.7	6	1-inch diameter, 0.010-slot, PVC well screen set from 6 to 21 feet bgs.					
48.7	7						
47.7	8	5 yr 8/1 SILT laminated with 5 yr 6/1 gray Silt.				P U S H	Date: 4/13/01 Recovery = 95%
46.7	9						
45.7	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.7	10	5 yr 5/1 gray SC.					
44.7	11						
		5 yr 3/1 black SP, trace SM.					
43.7	12	5 yr 2.5/1 black SP trace SM.				P	Date: 4/13/01
		5 yr 3/1 gray SW trace fine Gravel.					Recovery = 90%
						U	
42.7	13						
						S	
						H	
41.7	14						
		5 yr 5/1 gray SP, hydrogen sulfide odor.					
40.7	15						
39.7	16	5 yr 4/1 gray SP.				P	Date: 4/13/01
							Recovery = 100%
						U	
38.7	17						
						S	
						H	
37.7	18						
36.7	19						
35.7	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.7	20	5 yr 4/1 SW.				P	Date: 4/13/01 Time: 10:30 Recovery = 25%
		5 yr 4/3 SM trace SC trace weathered bedrock.				U	
34.7	21	5 yr 2.5/1 small trace SC trace weathered bedrock.				S	Date: 4/13/01 Time: 10:35
		Refusal at 21 ft. Bedrock encountered at 21 feet bgs based on Geoprobe refusal.				H	Completed setting 1-inch diameter, 0.010-slot PVC well screen from 6 to 21 feet bgs.
33.7	22						
32.7	23						
31.7	24						
30.7	25						
29.7	26						
28.7	27						
27.7	28						
26.7	29						
25.7	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-10
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 4
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4 LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6 MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,519.9 feet North 2,164,174.6 feet East	
	9. SURFACE ELEVATION: 56.0 feet MSL	
	10. DATE STARTED: 4/12/01	11. DATE COMPLETED: 4/12/01
12. OVERBURDEN THICKNESS: 24 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 24.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.31 feet below top of riser, 7/26/01, 10:21	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
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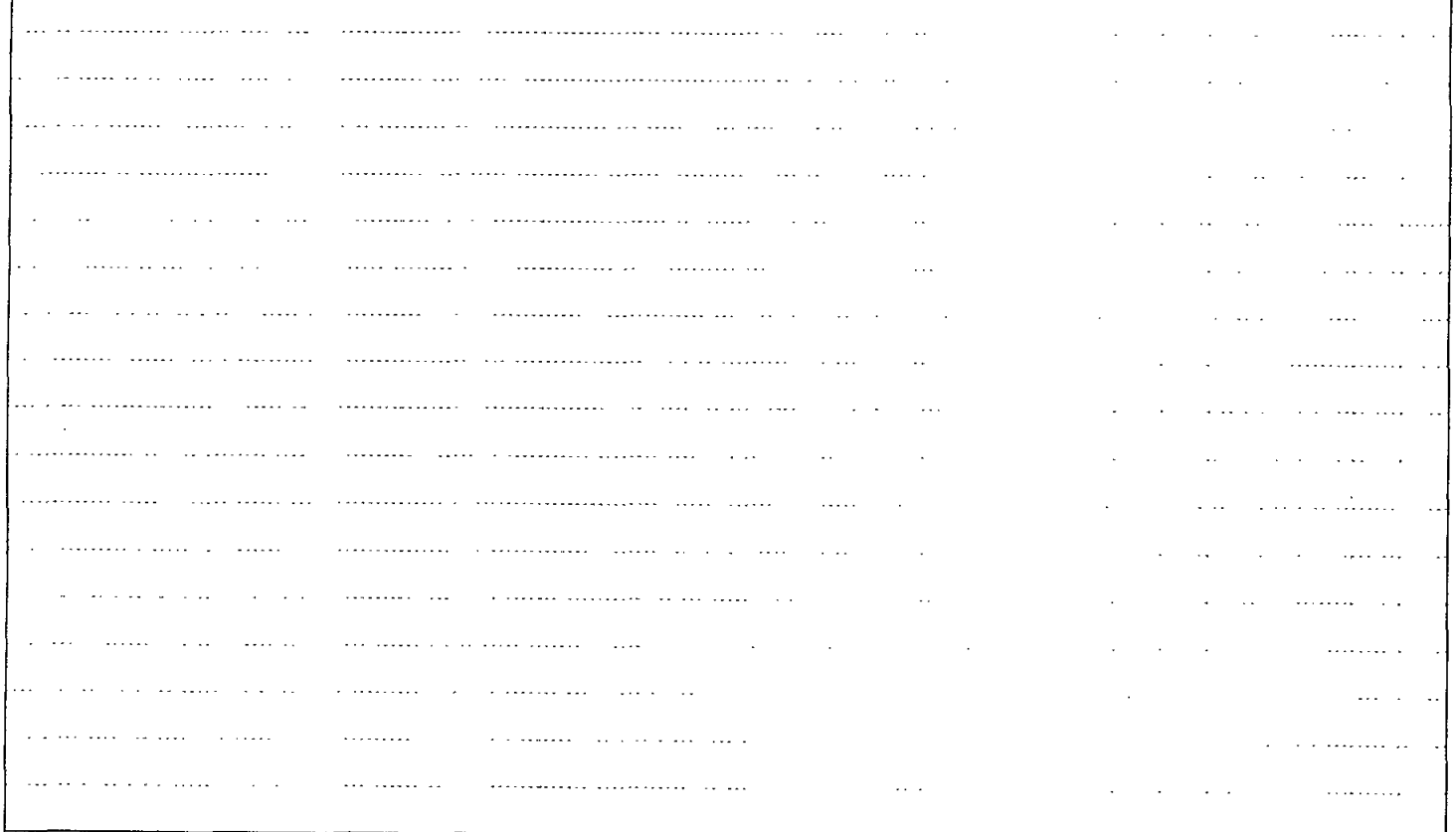
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	—	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-10

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-10

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
56.0	0	SM 5yr 4/3 (FILL).	-			P	Date: 4/12/01 Time: 12:05 Recovery = 75%
		SILT 5yr 8/1 laminated with 5yr 6/1 silt (FILL).				U	
55.0	1					S	
						H	
54.0	2						
53.0	3						
52.0	4	1-inch diameter, 0.010 slot PVC well screen set from 4 to 24 feet bgs.				P	Date: 4/12/01 Recovery = 90%
						U	
51.0	5					S	
						H	
50.0	6						
49.0	7						
48.0	8					P	Date: 4/12/01 Recovery = 100%
						U	
47.0	9					S	
		SC 5yr 6/1 (FILL).				H	
46.0	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-10

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-10

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.0	10	SM 5yr 6/1.					
45.0	11						
44.0	12	SP 5yr 2.5/1, trace SM				P U S H	Date: 4/12/01 Recovery = 100%
43.0	13						
42.0	14						
		SP 5yr 6/1.					
41.0	15						
40.0	16					P U S H	Date: 4/12/01 Recovery = 100%
39.0	17						
38.0	18						
37.0	19						
36.0	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-10

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-10

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.0	20	SM 5yr 4/3, trace medium to fine grained, mottled with 5yr 2.5/1 SM, organics.				P U S H	Date: 4/12/01 Time: 14:05 Recovery = 100%
35.0	21						
34.0	22						
33.0	23						Date: 4/12/01 Time: 16:00 Completed setting 1-inch diameter 0.010-slot PVC well screen from 4 to 24 feet bgs.
32.0	24	Bedrock at 24 feet bgs based on Geoprobe refusal.					
31.0	25						
30.0	26						
29.0	27						
28.0	28						
27.0	29						
26.0	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-10

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-11
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 4
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,449.7 feet North 2,164,177.2 feet East	
	9. SURFACE ELEVATION: 55.4 feet MSL	
	10. DATE STARTED: 4/9/2001	11. DATE COMPLETED: 4/9/2001
12. OVERBURDEN THICKNESS: 24.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 4 feet bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 24.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.11 feet below top of riser, 7/26/01, 09:03	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
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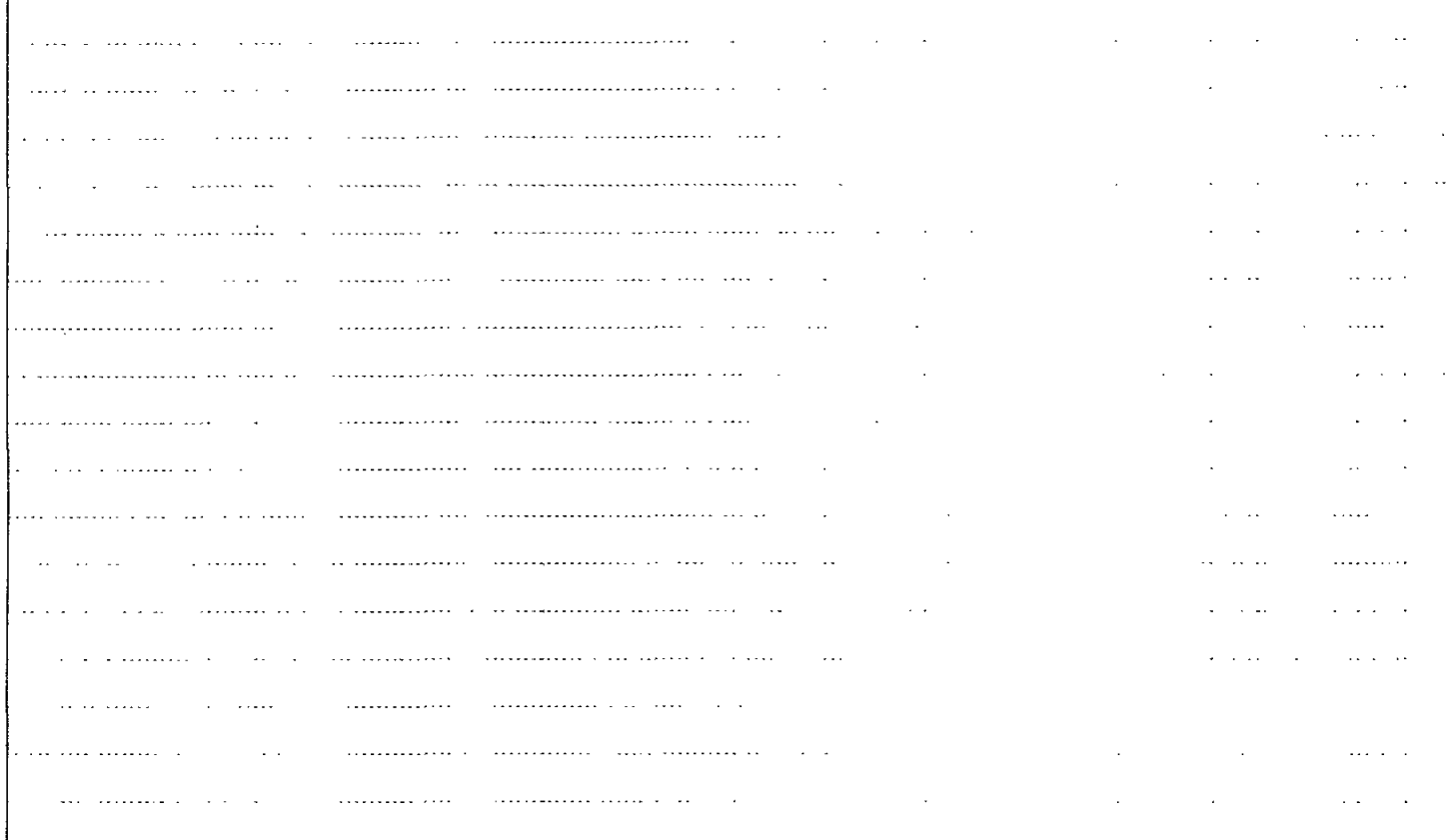
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-11

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-11

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF SHEETS 4

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.4	0	Topsoil, organics.				P	Date: 4/9/01 Time: 10:09 Recovery = 80%
		SM 5yr, moist white fine SAND some silt, laminated with gray Silt (moist).				U	
54.4	1					S	
						H	
53.4	2						
52.4	3						
51.4	4	SC 5yr 7/1, white SILT, trace fine Sand banded with gray Silt (5yr 8/1) throughout, wet 1-inch diameter, 0.010-slot PVC well screen set from 4.5 to 24.5 feet bgs.				P	Date: 4/9/01 Time: 10:12 Recovery = 100%
						U	
50.4	5					S	
						H	
49.4	6						
48.4	7						
		SC 5yr 2.5/2, black SILT, wet.					
47.4	8	SC 5yr 5/1, gray SILT, trace coarse Sand and trace organics, wet.				P	Date: 4/9/01 Time: 10:20 Recovery = 100%
						U	
46.4	9					S	
						H	
45.4	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-11

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-11

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.4	10						
		SM 5yr 5/1, gray SAND, trace Silt.					
44.4	11	SM 5yr 2.5/1, wet.					
43.4	12	No recovery.				P U S H	Date: 4/9/01 Time: 10:33 Recovery = 50% Flowing sand broke tube. Sample not cohesive to 16 feet bgs.
42.4	13						
		SM 5yr 2.5/1, black SAND, trace Silt.					
41.4	14						
		SP 5yr 5/1, gray fine SAND, trace Silt.					
40.4	15	SP 5yr 2.5/1, black fine SAND, uniform.					
39.4	16	SP 5yr 5/1.				P U S H	Date: 4/9/01 Time: 10:50 Recovery = 80% Flowing sand broke tube. Sample not cohesive to 18 feet bgs. Samples deeper than 16 feet bgs suspect due to flowing sands.
38.4	17						
37.4	18						
		SC 5yr 5/1. SP 5yr 2.5/1, black fine SAND.					
36.4	19						
35.4	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-11

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-11

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.4	20					P U S H	Date: 4/9/01 Time: 11:40 Recovery = 80% Flowing sand broke tube. Sample not cohesive.
34.4	21						
33.4	22						
32.4	23						
31.4	24	GW 5yr 2.5/1, black angular fine to medium GRAVEL, trace Silt.				P U S H	Date: 4/9/01 Time: 12:40 Recovery = 5%
30.4	25	Bedrock at 24.5 feet bgs based on Geoprobe refusal.					
29.4	26						
28.4	27						Date: 4/9/01 Time: 13:00 Completed setting 1-inch diameter 0.010-slot PVC well screen from 4.5 to 24.5 feet bgs.
27.4	28						
26.4	29						
25.4	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-11

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-12
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 3
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser. Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,550.0 feet North 2,164,163.7 feet East	
	9. SURFACE ELEVATION: 56.0 feet MSL	
	10. DATE STARTED: 4/12/2001	11. DATE COMPLETED: 4/12/2001
12. OVERBURDEN THICKNESS: 18.0 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 18.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.40 feet below top of riser, 7/26/01, 10:26	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-12

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-12

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
56.0	0	SM 5yr 4/3, dry.				P U S H	Date: 4/12/01 Time: 08:20 Recovery = 60%
55.0	1	SILT 5yr 8/1, laminated with 5yr 6/1 Silt.					
54.0	2						
53.0	3	1-inch diameter, 0.010-slot PVC well screen set from 2.5 to 17.5 feet bgs.					
52.0	4	No recovery from 4 to 8 feet bgs.				P U S H	Date: 4/12/01 Time: 08:28 Recovery = 0%
51.0	5						
50.0	6						
49.0	7						
48.0	8	SC SILT 5yr 8/1. laminated with 5yr 6/1 Silt.				P U S H	Date: 4/12/01 Time: 08:40 Recovery = 100%
47.0	9						
46.0	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-12

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-12

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
46.0	10	SC 5yr 6/1, trace SM.					
45.0	11						
		SW 5yr 6/1.					
44.0	12	SW 5yr 2.5/1.				P U S H	Date: 4/12/01 Recovery = 75%
43.0	13						
42.0	14						
41.0	15	SP 5yr 6/1.					
40.0	16					P U S H	Date: 4/12/01 Time: 09:00 Recovery 70%
39.0	17	SW 5yr 6/1.					
38.0	18	Bedrock at 18.0 feet bgs based on Geoprobe refusal.					Date: 4/12/01 Time: 09:30 Completed setting 1-inch diameter, 0.010-slot PVC well screen from 2.5 to 17.5 feet bgs.
37.0	19						
36.0	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-12

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-13
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 3
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,549.2 feet North 2,164,143.4 feet East	
	9. SURFACE ELEVATION: 56.1 feet MSL	
	10. DATE STARTED: 4/11/01	11. DATE COMPLETED: 4/11/01
12. OVERBURDEN THICKNESS: 18.0 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 18.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.79 feet below top of riser, 7/26/01, 10:27	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-13

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-13

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF SHEETS 3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
56.1	0	Brown SM 5 yr 3/3, with organics.				P U S H	Date: 4/11/01 Recovery = 75%
55.1	1	White SC 5 yr 8/1, laminated with SC 5 yr 6/1					
54.1	2						
53.1	3	1-inch diameter, 0.010-slot PVC well screen set from 3 to 18 feet bgs.					
52.1	4					P U S H	Date: 4/11/01 Recovery = 50%
51.1	5						
50.1	6	No recovery (void space) from 6 to 8 feet bgs.					
49.1	7						
48.1	8	No recovery (void space) from 8 to 10 feet bgs.				P U S H	Date: 4/11/01 Recovery = 0%
47.1	9						
46.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-13

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-13

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 3 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.1	10						
45.1	11						
44.1	12	White SC 5 yr 8/1, laminated with SC 5 yr 6/1.				P U S H	Date: 4/11/01 Recovery = 100%
43.1	13	Gray SC 5 yr 6/1.					
42.1	14	SW 5 yr 2.5/1.					
41.1	15	Brown, gray SP 5 yr 4/3 trace SM, trace medium Gravel, mottled with 5 yr 2/1 SP.					
40.1	16	Brown gray SP 5 yr 4/3, and SM 5 yr 4/3 with weathered bedrock and medium Gravel.				P U S H	Date: 4/11/01 Recovery = 100% Sample collected with macro sampler.
39.1	17						
38.1	18	Bedrock at 18.0 feet bgs based on Geoprobe Refusal.					Date: 4/11/01 Time: 11:32 Completed setting 1-inch diameter 0.010-slot PVC well screen from 3 to 18 feet bgs.
37.1	19						
36.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-13

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-14
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 3
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 4/20/2001	11. DATE COMPLETED: 4/20/2001
12. OVERBURDEN THICKNESS: 13.0 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 13.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.85 feet below top of riser, 7/26/01, 09:56	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-14

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-14

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF SHEETS 3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	0	SM 5yr 4/3, brown.				P U S H	Date: 4/20/01 Time: 11:05 Recovery = 90%
	1	SILT 5yr 8/1, white.					
	2						
	3	1-inch diameter, 0.010-slot PVC well screen set from 3 to 13 feet bgs.					
	4					P U S H	Date: 4/20/01 Recovery = 100%
	5						
	6						
	7	SC 5yr 2.5/1, black.					
	8					P U S H	Date: 4/20/01 Recovery = 75%
	9						
	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-14

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
OVPZ-14	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	3	OF 3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	10						
	11	SM 5yr 3/1, trace SC, dark gray.					
	12	SM 5yr 4/4, red brown, SM and weathered red bedrock.				P U S H	Date: 4/20/01 Time: 11:26 Recovery = 25%
	13	Bedrock at 13 feet bgs based on Geoprobe refusal.					
	14						
	15						
	16						Date: 4/20/01 Time: 12:00 Completed setting 1-inch diameter, 0.010-slot PVC well screen from 3 to 13 feet bgs.
	17						
	18						
	19						
	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-14

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-15
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET: 1 OF SHEETS: 4
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, 1-inch dia. piezometer, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,559.2 feet North 2,164,173.3 feet East	
	9. SURFACE ELEVATION: 55.9 feet MSL	
	10. DATE STARTED: 4/12/01	11. DATE COMPLETED: 4/12/01
12. OVERBURDEN THICKNESS: 21.9 feet	15. DEPTH GROUNDWATER ENCOUNTERED: bgs	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 21.9 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.15 feet below top of riser, 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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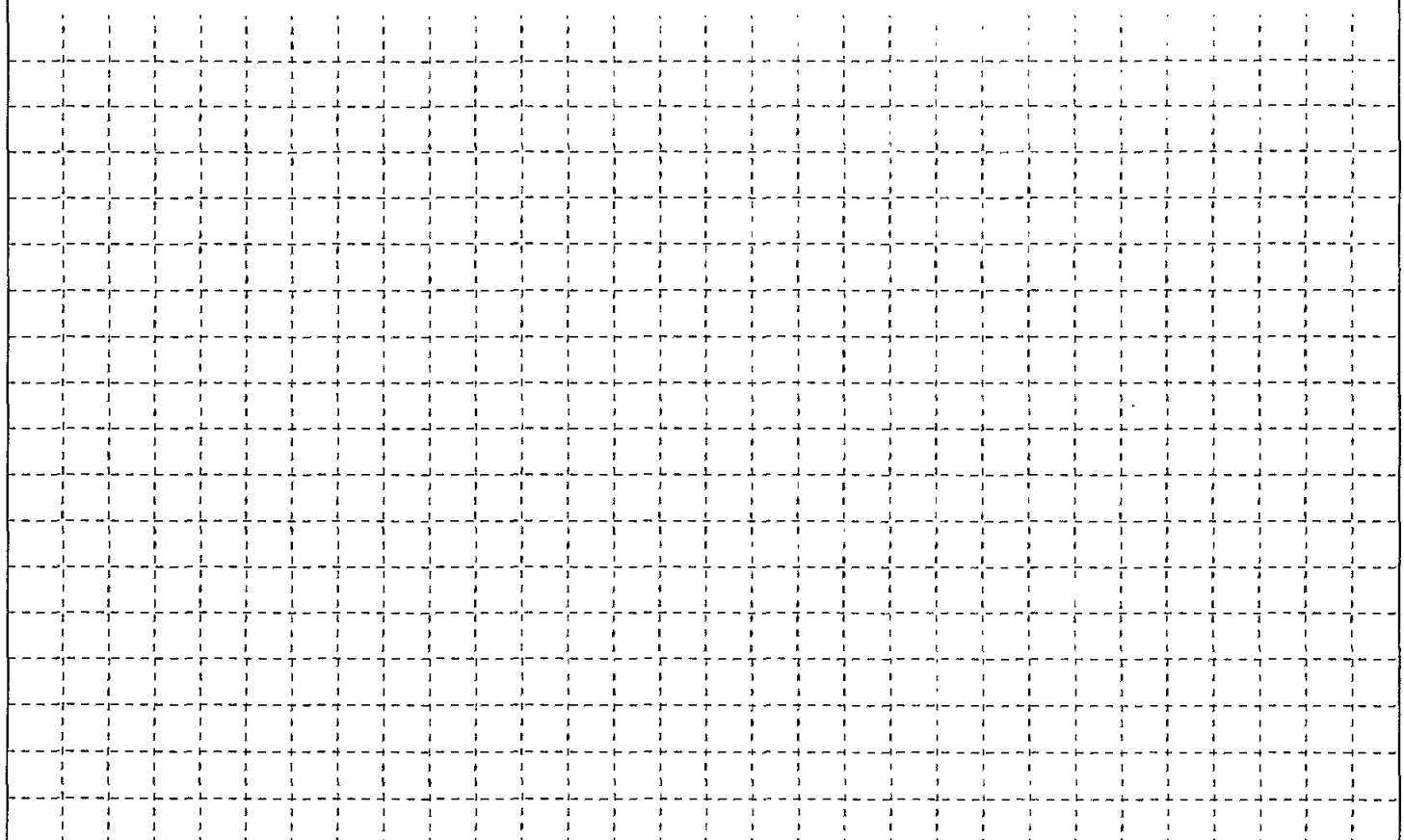
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-15

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-15

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.9	0	SM 5yr 4/3 (fill) 5yr 8/1, Silt laminated with 5yr 6/1 Silt (fill).				P U S H	Date: 4/12/01 Time: 09:06 Recovery = 75%
54.9	1						
53.9	2	1-inch diameter, 0.010-slot PVC well screen from 2 to 21.9 feet bgs					
52.9	3						
51.9	4					P U S H	Date: 4/12/01 Time: 10:05 Recovery = 100%
50.9	5						
49.9	6						
48.9	7						
47.9	8	SC, 5yr 6/1 gray, laminated with SC 5yr 2.5/1 black (fill).	RAD = 2 cpm VOC = 0.3 ppmV			P U S H	Date: 4/12/01 Time: 10:15 Recovery = 100%
46.9	9	SC, 5yr 6/1 gray with SM, 10yr 4/8 red (fill). SC, 5yr 2.5/1 black (soft) organic color					
45.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-15

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-15

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF SHEETS 4

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.9	10	SC 5yr 6/1 gray trace SM.					
		SP 5yr 2.5/1 black.					
44.9	11						
43.9	12					P	Date: 4/12/01
						U	Time: 10:26
							Recovery = 100%
42.9	13					S	
						H	
41.9	14						
40.9	15						
		SP, 5yr 6/1 gray.					
39.9	16					P	Date: 4/12/01
						U	Time: 10:38
							Recovery = 85%
38.9	17					S	
						H	
37.9	18						
36.9	19						
35.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-15

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-15

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.9	20						Date: 4/12/01 Time: 10:45 Recovery = 100%
34.9	21						
33.9	22	Bedrock at 21.9 feet bgs based on Geoprobe refusal.					Date: 4/12/01 Time: 12:00 Completed setting of 1-inch diameter, 0.010-slot PVC well screen from 2 to 21.9 feet bgs.
32.9	23						
31.9	24						
30.9	25						
29.9	26						
28.9	27						
27.9	28						
26.9	29						
25.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-15

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-15 (abandoned)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 4
3 PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,559.2 feet North 2,164,173.3 feet East	
	9 SURFACE ELEVATION: 55.9 feet MSL	
	10. DATE STARTED: 4/11/01	11. DATE COMPLETED: 4/11/01
12. OVERBURDEN THICKNESS: 20 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 20.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-15 (abandoned)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-15 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF SHEETS 4

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.9	0	SM 5yr 4/3, with organic material.				P	Date: 4/11/01 Recovery = 80%
		SC 5yr 8/1, laminated with SC 5yr 6/1, (1/4" lamination intervals).				U	
54.9	1					S	
						H	
53.9	2						
52.9	3						
51.9	4					P	Date: 4/11/01 Recovery = 80%
						U	
50.9	5					S	
		SW 5yr 3/3 and SM.				H	
49.9	6						
		SC 5yr 7/1.					
48.9	7						
47.9	8					P	Date: 4/11/01 Recovery = 80%
		SC 5yr 3/1.					
		SM 5yr 3/1, trace SC.				U	
46.9	9					S	
		SP 5yr 2.5/1, cohesive.				H	
45.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-15 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-15 (abandoned

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.9	10						
44.9	11						
43.9	12					P	Date: 4/11/01 Recovery = 100%
						U	
42.9	13					S	
						H	
41.9	14						
40.9	15						
		SW 5yr 3/1, cohesive.					
39.9	16	SP 5yr 3/1, non cohesive, flowing sand.				P	Date: 4/11/01 Recovery = 100%
						U	
38.9	17					S	
						H	
37.9	18						
36.9	19						
35.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-15 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-15 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.9	20	Bedrock at 20.0 feet bgs based on Geoprobe refusal.				P U S H	Date: 4/11/01 Recovery = 100%
34.9	21						
33.9	22						
32.9	23						
31.9	24					P U S H	Date: 4/11/01 Time: 15:00 Completed abandonment of piezometer.
30.9	25						
29.9	26						
28.9	27						
27.9	28						
26.9	29						
25.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-15 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

	DISTRICT	HOLE NUMBER: OVPZ-16
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 4
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,549.1 feet North 2,164,183.3 feet East	
	9. SURFACE ELEVATION: 55.6 feet MSL	
	10. DATE STARTED: 4/13/01	11 DATE COMPLETED: 4/13/01
12. OVERBURDEN THICKNESS: 24 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 24.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 9.92 feet below top of riser, 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-16

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-16

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
55.6	0	SM 5yr 4/3, and organics.				P	
		SILT 5yr 8/1, laminated with 5yr 6/1 Silt.				U	
54.6	1					S	
						H	
53.6	2						
52.6	3						
51.6	4	SILT 5yr 8/1, laminated with 5yr 6/1 Silt.				P	Date: 4/13/01 Recovery = 95%
		1-inch diameter, 0.010-slot PVC well screen set from 4 to 24 feet bgs.				U	
50.6	5					S	
						H	
49.6	6						
48.6	7						
47.6	8					P	Date: 4/13/01 Recovery = 100%
		SC 5yr 4/1. Gray.				U	
46.6	9					S	
						H	
45.6	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-16

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-16

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.6	10						
		SM 5yr 4/1.					
44.6	11						
		SP 5yr 2.5/1, trace SM					
43.6	12					P	Date: 4/13/01
						U	Recovery = 100%
42.6	13					S	
						H	
41.6	14						
40.6	15						
		SP 5yr 4/1.					
39.6	16	SP 5yr 6/1. Grey.				P	Date: 4/13/01
						U	Recovery = 95%
38.6	17					S	
		SW 5yr 6/1.				H	
37.6	18						
36.6	19						
		SP 5yr 6/1.					
35.6	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-16

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-16

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.6	20	SW 5yr 6/1.				P	Date: 4/13/01 Recovery = 100%
						U	
34.6	21					S	
						H	
33.6	22						
32.6	23						Date: 4/13/01 Time: 09:30 Completed setting 1-inch diameter, 0.010-slot PVC well screen from 4 to 24 feet bgs.
31.6	24	SM 5yr 4/3 brown with weathered bedrock and gravel. Bedrock at 24.0 ft bgs, based on Geoprobe refusal.					
30.6	25						
29.6	26						
28.6	27						
27.6	28						
26.6	29						
25.6	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-16

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: OVPZ-17
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 4 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Overburden Pump Test Array on MISS	
5. NAME OF DRILLER: Rick Tabor	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Geoprobe Macrocore, acetate sleeves, 1-inch dia. PVC well screen and riser, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,403.1 feet North 2,164,180.3 feet East	
	9. SURFACE ELEVATION: 55.7 feet MSL	
	10. DATE STARTED: 4/13/01	11. DATE COMPLETED: 4/13/01
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 18.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 8.48 feet below top of riser, 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	OVPZ-17

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-17

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF SHEETS 4

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.7	0	Brown SM 5yr 4/3 (fill).				P U S H	Date: 4/13/01 Time 11:40 Recovery = 80%
		SILT 5yr 3/1 laminated with 5yr 6/1 (fill).					
54.7	1						
53.7	2						
52.7	3	1-inch, 0.010-slot PVC well screen set from 3 to 18 feet bgs.					
51.7	4					P U S H	Date: 4/13/01 Recovery = 70%
50.7	5						
49.7	6						
48.7	7						
47.7	8					P U S H	Date: 4/13/01 Recovery = 70%
		SC 5yr 6/1, gray.					
46.7	9						
		SW 5yr 6/1, trace fine GRAVEL. Gray.					
45.7	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-17

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-17

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.7	10	Black SP 5yr 2.5/1, trace SM. Gray SP 5yr 6/1, trace SM.					
44.7	11						
43.7	12	SM 5yr 3/1. Dark gray trace SP.				P U S H	Date: 4/13/01 Recovery = 80%
42.7	13						
41.7	14						
40.7	15	SM 5yr 6/1, trace fine gravel.					
39.7	16	SM 5 yr. 6/1 grey trace SM trace fine Gravel.				P U S H	Date: 4/13/01 Time: 12:55 Recovery = 80%
38.7	17						
37.7	18	SM 5yr 4/3 with gravel/ weathered bedrock in tip. Geoprobe Refusal.					Date: 4/13/01 Time: 13:30 Completed setting of 1-inch diameter 0.010-slot PVC well screen from 3 to 18 feet bgs.
36.7	19						
35.7	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-17

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: OVPZ-17

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 4 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.7	20	Bedrock at 20 feet bgs based on split spoon refusal.				P U S H	Recovery = 50%
34.7	21						
33.7	22						
32.7	23						
31.7	24						
30.7	25						
29.7	26						
28.7	27						
27.7	28						
26.7	29						
25.7	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: OVPZ-17

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

AS-BUILT DIAGRAMS

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	MW-1S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	12/08/2000
Type of Protective Cover	St. Plane 753.087.898 ft. N. 2.163.483.094 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	12/08/2000
Distance from Waste/ Source 1100 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐E ☐W	**Well Installed By: (Person's Name and Firm** JULIE LINCOLN
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 52.65 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 3.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 8.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 9.50 ft. (TOC)

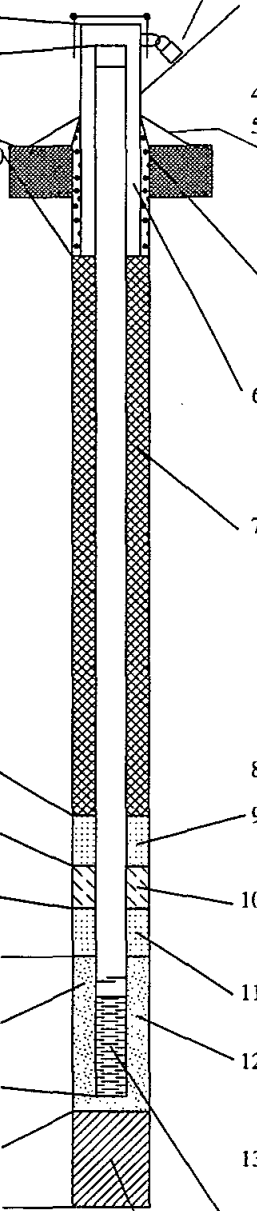
L. Borehole, bottom ____ ft. MSL or 10.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or ____ ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 5.92 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 5.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-21
Fax: (914) 641-24

Facility/Project Name: Maywood

Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.

Well Number: MW-2S

Facility License, Permit or Monitoring No.: 123

Local Grid Origin ☐ (estimated: ☐) or Well Location ☒

Lat. ° ' " Long. ° ' " or

St. Plane 752.057.022 ft. N. 2.163.409.127 ft. E. S/C/N

Date Well Installed (Started): 10/26/2000

Date Well Installed (Completed): 10/27/2000

Type of Protective Cover: ☒ Flush-to-Ground ☐ Above-Ground

Section Location of Waste/Source: ____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W

Well Installed By: (Person's Name and Firm): JEFF DEKOSKIE / MALCOLM PIRNIE

Distance from Waste/Source: 2000 ft.

Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known

Max. Depth of Frost Protection (Estimated): 4.5

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 47.08 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒ Hollow Stem Auger ☐ ____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required): STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 13.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 13.50 ft. (TOC)

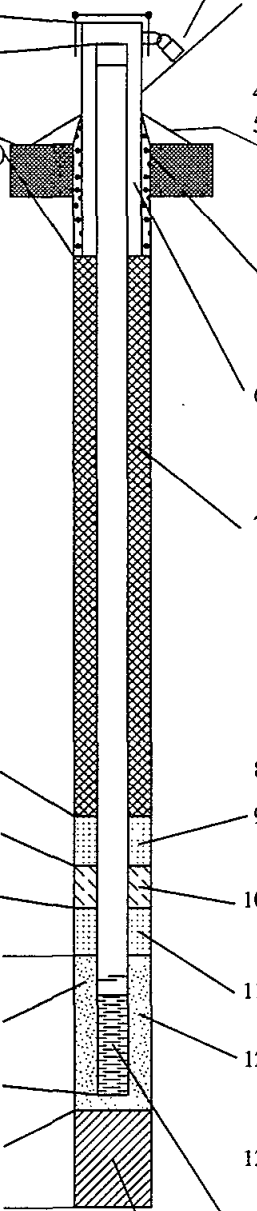
L. Borehole, bottom ____ ft. MSL or 14.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 7.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
   a. Inside diameter: 6.0
   b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
   a. Cap: Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
   b. Annular Space Seal: Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☒
   b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
   c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
   d. ____ % Bentonite . . . Bentonite-cement grout ☐
   e. 0.75 Ft^3 volume added for any of the above
   f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
   b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
    b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
    c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
    b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
    a. FILPRO # 00 SAND
    b. Volume added 7.77 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
    a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
    b. Manufacturer JOHNSON
    c. Slot size: 10.000
    d. Slotted length: 8.0
15. Backfill material (below filter pack): None ☐ 14
    BENTONITE Other ☒ ____

Tel: (914) 694-2
Fax: (914) 641-2

Maywood	ft. ☐ N. ☐ S. ft. ☐ E. ☐ W.	MW-3S
Facility License, Permit or Monitoring No.: 123	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started): 11/27/2000
Type of Protective Cover: ☒ Flush-to-Ground ☐ Above-Ground	Lat. ° ' " Long. ° ' " or St. Plane 752,924.805 ft. N. 2,164,441.128 ft. E. S/C/N	Date Well Installed (Completed): 11/27/2000
Distance from Waste/ ource: 300 ft.	Section Location of Waste/Source: 1/4 of 1/4 of Sec. T. N. R. ☐ E ☐ W	Well Installed By: (Person's Name and Firm: GEORGE MARKT
Max. Depth of Frost Protection (Estimated): 4.5	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	MALCOLM PIRNIE

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation 55.06 ft. MSL

D. Surface seal, bottom _____ ft. MSL or 5.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
_____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe _____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top _____ ft. MSL or _____ ft. (TOC)

F. Bentonite seal, top _____ ft. MSL or 5.00 ft. (TOC)

G. Secondary Filter, top _____ ft. MSL or _____ ft. (TOC)

H. Filter pack, top _____ ft. MSL or 6.00 ft. (TOC)

I. Screen joint, top _____ ft. MSL or 7.00 ft. (TOC)

J. Well bottom _____ ft. MSL or 17.00 ft. (TOC)

K. Filter pack, bottom _____ ft. MSL or 18.00 ft. (TOC)

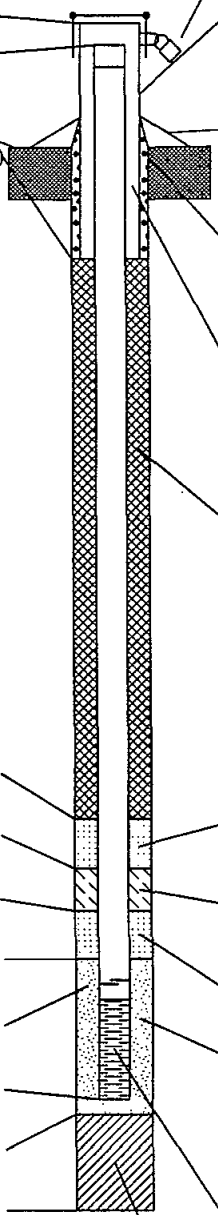
L. Borehole, bottom _____ ft. MSL or 17.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion _____ ft. MSL or 12.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0 i
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
_____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
_____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
_____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. _____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. _____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added _____ ft^3 _____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. _____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added _____ ft^3 _____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh siz
a. FILPRO # 00 SAND
b. Volume added 8.88 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
_____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
_____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 10.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-2
Fax: (914) 641-2

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-4S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	10/30/2000
Type of Protective Cover	St. Plane 752.903.684 ft. N. 2.162.939.079 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	10/30/2000
Distance from Waste/ Source 1400 ft.	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	Well Installed By: (Person's Name and Firm
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	JEFF DEKOSKIE
4.5	u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	MALCOLM PIRNIE

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 44.10 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 9.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 9.50 ft. (TOC)

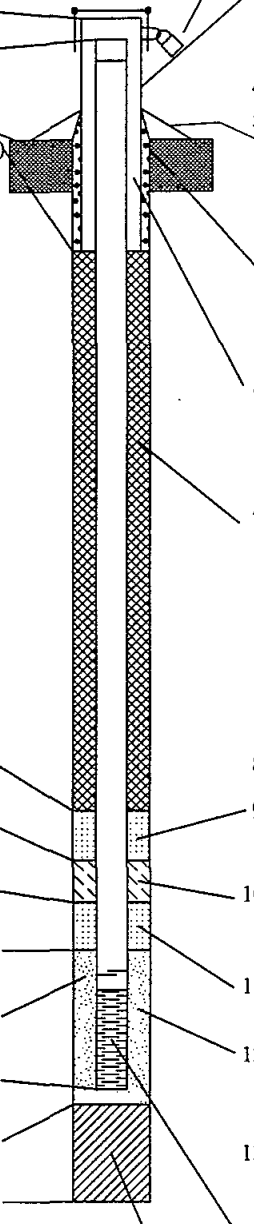
L. Borehole, bottom ____ ft. MSL or 10.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 6.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 00 SAND
b. Volume added 4.51 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 4.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-2
Fax: (914) 641-2

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-5S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	11/06/2000
Type of Protective Cover	St. Plane 753.032.081 ft. N. 2.162.616.532 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	11/07/2000
Distance from Waste/ ource 1500 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	Well Installed By: (Person's Name and Firm
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	JEFF DEKOSKIE
4.5	u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	MALCOLM PIRNIE

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 45.40 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 15.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 15.00 ft. (TOC)

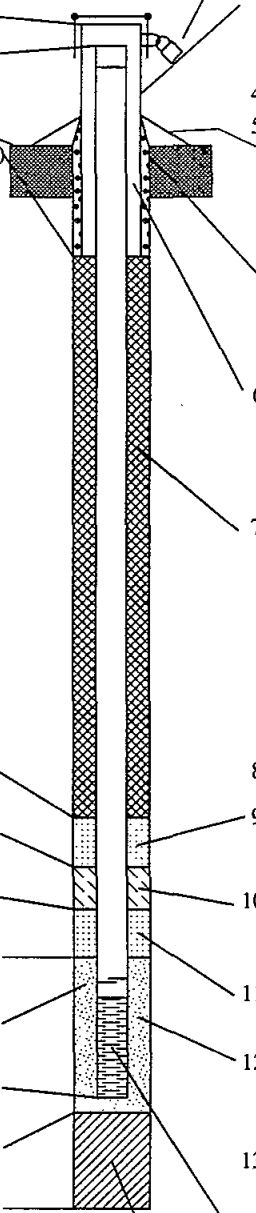
L. Borehole, bottom ____ ft. MSL or 22.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 9.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 00 SAND
b. Volume added 8.88 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 10.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-2
Fax: (914) 641-2

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-6S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	10/27/2000
Type of Protective Cover	St. Plane 752,333.401 ft. N. 2,162,611.658 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground		10/30/2000
Distance from Waste/ Source	**Section Location of Waste/Source**	**Well Installed By: (Person's Name and Firm**
1500 ft.	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 43.00 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 17.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 17.50 ft. (TOC)

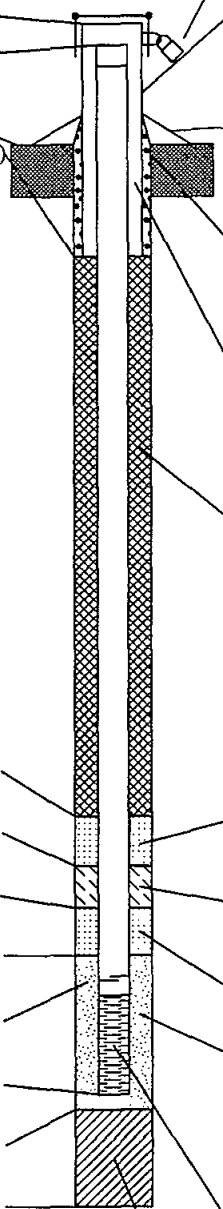
L. Borehole, bottom ____ ft. MSL or 18.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 6.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ ____ Other ☐
b. Annular Space Seal — Bentonite ☐ Concrete ☒ ____ Other ☐
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ ____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 10.72 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ ____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ ____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 12.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-21
Fax: (914) 641-2

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-7S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	12/04/2000
Type of Protective Cover	St. Plane 753,174.522 ft. N. 2,163,860.151 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	12/04/2000
Distance from Waste/ Source 350 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 53.81 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 15.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 16.00 ft. (TOC)

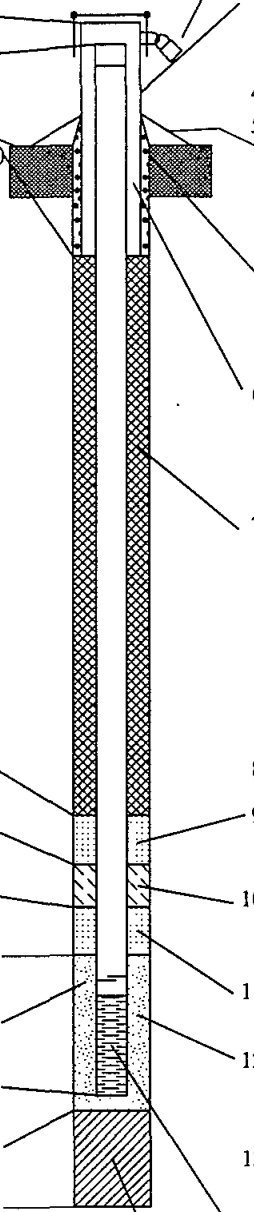
L. Borehole, bottom ____ ft. MSL or 16.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 11.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh siz
a. FILPRO # 0 SAND
b. Volume added 9.62 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 10.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-2
Fax: (914) 641-2

Facility/Project Name: Maywood

Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.

Well Number: MW-8S

Facility License, Permit or Monitoring No.: 123

Local Grid Origin ☐ (estimated: ☐) or Well Location ☒

Lat. ° ' " Long. ° ' " or

St. Plane 753.324.639 ft. N. 2.164.123.863 ft. E. S/C/N

Date Well Installed (Started): 11/30/2000

Date Well Installed (Completed): 11/30/2000

Type of Protective Cover: ☒ Flush-to-Ground ☐ Above-Ground

Section Location of Waste/Source

____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W

Well Installed By: (Person's Name and Firm)

JEFF DEKOSKIE

MALCOLM PIRNIE

Distance from Waste/Source: 300 ft.

Location of Well Relative to Waste/Source

u ☐ Upgradient s ☒ Sidegradient

d ☐ Downgradient n ☐ Not Known

Max. Depth of Frost Protection (Estimated): 4.5

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 54.27 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:

GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐

SM ☐ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐

Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒

Hollow Stem Auger ☐

____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐

Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 15.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 16.00 ft. (TOC)

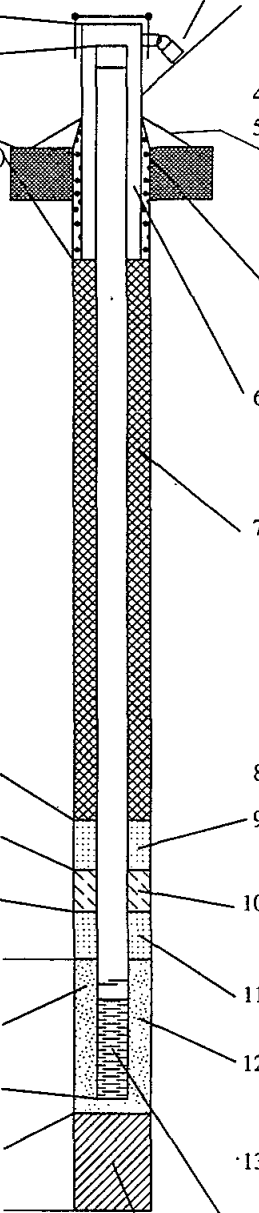
L. Borehole, bottom ____ ft. MSL or 20.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 11.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No

2. Protective Posts? ☐ Yes ☒ No

3. Protective cover pipe:

a. Inside diameter: 6.0 in.

b. Length: 1.0 ft.

4. Drainage Port (s) ☐ Yes ☒ No

5. Surface seal:

a. Cap: Gravel Blanket ☐ Bentonite ☐ Concrete ☒ ____ Other ☐

b. Annular Space Seal: Bentonite ☐ Concrete ☒ ____ Other ☐

6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ ____ Other ☐

7. Annular space seal: a. Granular/Chipped Bentonite ☒

b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐

c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐

d. ____ % Bentonite . . . Bentonite-cement grout ☐

e. 0.75 Ft^3 volume added for any of the above

f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒

8. Centralizers ☐ Yes ☐ No

9. Secondary Filter ☐ Yes ☐ No

b. Volume added ____ ft^3 ____ Bags/Size

10. Bentonite seal: a. Bentonite granules ☒

b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐

c. ____ Other ☐

11. Secondary Filter ☐ Yes ☐ No

b. Volume added ____ ft^3 ____ Bags/Size

12. Filter pack material: Manufacturer, product name & mesh size

a. FILPRO # 00 SAND

b. Volume added 9.62 ft^3

13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ ____ Other ☐

14. Screen material: PVC

a. Screen Type: Factory cut ☒ Continuous slot ☐ ____ Other ☐

b. Manufacturer JOHNSON

c. Slot size: 10.000 in.

d. Slotted length: 10.0 ft.

15. Backfill material (below filter pack): None ☐ ____ BENTONITE ____ Other ☒

Tel: (914) 694-2
Fax: (914) 641-2

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-9S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	11/03/2000
Type of Protective Cover	St. Plane 751,992.011 ft. N. 2,165,992.421 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	11/03/2000
Distance from Waste/ ource	☐ E ____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ W	**Well Installed By: (Person's Name and Firm**
400 ft.	**Location of Well Relative to Waste/Source**	JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	u ☒ Upgradient s ☐ Sidegradient	MALCOLM PIRNIE
4.5	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 69.80 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 13.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 13.50 ft. (TOC)

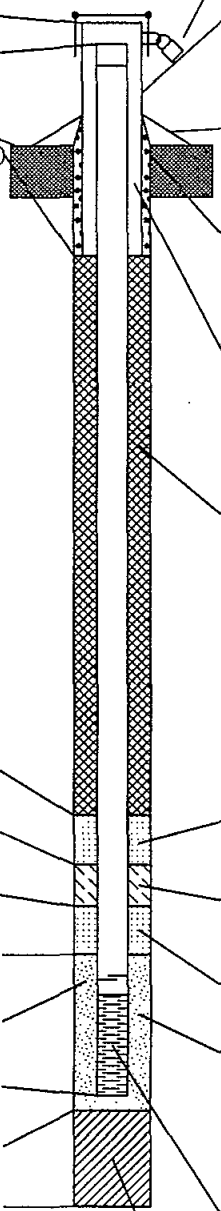
L. Borehole, bottom ____ ft. MSL or 13.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 13.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0 in
b. Length: 1.0 ft
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 9.99 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000 in
d. Slotted length: 8.0 ft
15. Backfill material (below filter pack): None ☐
NONE Other ☒

Tel: (914) 694-21
Fax: (914) 641-24

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-10S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	11/02/2000
Type of Protective Cover	St. Plane 751.711.744 ft. N. 2.165.912.384 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	11/03/2000
Distance from Waste/ Source 400 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	Well Installed By: (Person's Name and Firm
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	JEFF DEKOSKIE
4.5	u ☒ Upgradient s ☐ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 62.56 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 10.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 10.50 ft. (TOC)

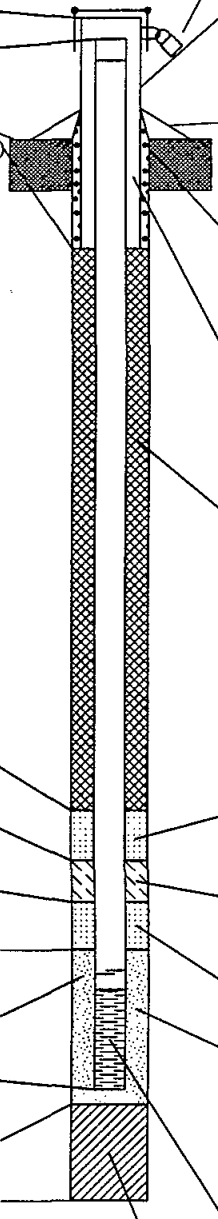
L. Borehole, bottom ____ ft. MSL or 10.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 10.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 5.55 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 5.0
15. Backfill material (below filter pack): None ☐
NONE Other ☒

Tel: (914) 694-2
Fax: (914) 641-2

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	MW-11S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	11/28/2000
Type of Protective Cover	St. Plane 751,013.789 ft. N. 2,165,772.050 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	11/28/2000
Distance from Waste/ Source 400 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐E ☐W	Well Installed By: (Person's Name and Firm
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	JULIE LINCOLN
4.5	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 48.06 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 3.50 ft. (TOC)

J. Well bottom ____ ft. MSL or 8.50 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 9.50 ft. (TOC)

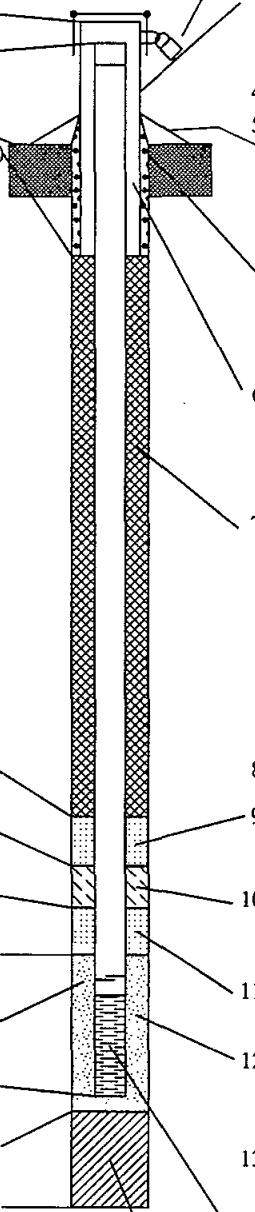
L. Borehole, bottom ____ ft. MSL or 10.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 4.3 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0 i
b. Length: 1.0 f
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 5.55 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐ ___
b. Manufacturer JOHNSON
c. Slot size: 10.000 in
d. Slotted length: 5.0 f
15. Backfill material (below filter pack): None ☐ 1 4
BENTONITE Other ☒ ___

Tel: (914) 694-21
Fax: (914) 641-24

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-12S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	11/29/2000
Type of Protective Cover	St. Plane 750.765.233 ft. N. 2.165.010.094 ft. E. S/C/N	**Date Well Installed (Completed)**
☐ Flush-to-Ground ☒ Above-Ground	**Section Location of Waste/Source**	11/29/2000
Distance from Waste/ ource 500 ft.	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 44.25 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 4.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 14.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 15.00 ft. (TOC)

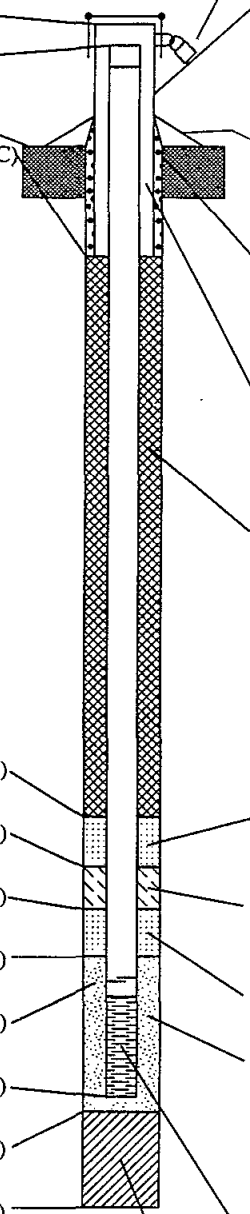
L. Borehole, bottom ____ ft. MSL or 12.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 7.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0 in
b. Length: 1.0 ft
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ ____ Other ☐
b. Annular Space Seal — Bentonite ☐ Concrete ☒ ____ Other ☐
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ ____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft³ volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft³ ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft³ ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 9.62 ft³
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ ____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ ____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000 in
d. Slotted length: 10.0 ft
15. Backfill material (below filter pack): None ☐ 14
BENTONITE Other ☒

Tel: (914) 694-21(
Fax: (914) 641-24

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	MW-13S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	12/05/2000
Type of Protective Cover	St. Plane 750.417.029 ft. N. 2.164.497.678 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	12/05/2000
Distance from Waste/ Source 1100 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐E ☐W	Well Installed By: (Person's Name and Firm
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	GEORGE MARKT
4.5	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 46.27 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 4.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 11.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 12.00 ft. (TOC)

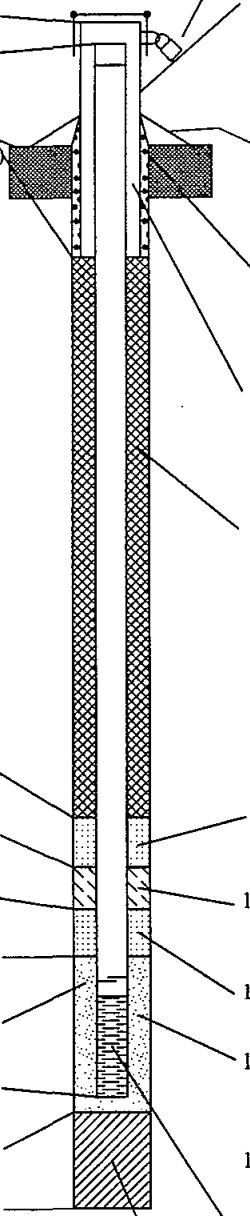
L. Borehole, bottom ____ ft. MSL or 14.75 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 6.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 5.18 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 7.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-2
Fax: (914) 641-2

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	MW-14S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	11/10/2000
Type of Protective Cover	St. Plane 748.454.069 ft. N. 2.163.262.214 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	11/13/2000
Distance from Waste/ Source 5200 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐E ☐W	Well Installed By: (Person's Name and Firm)
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	JULIE LINCOLN
4.5	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 39.19 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 4.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 20.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 20.00 ft. (TOC)

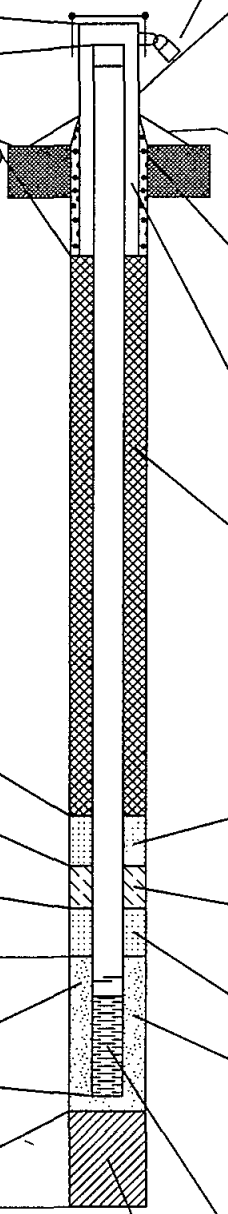
L. Borehole, bottom ____ ft. MSL or 22.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 5.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 13.32 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000 in
d. Slotted length: 10.0 ft
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-21
Fax: (914) 641-24

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-15S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	11/17/2000
Type of Protective Cover	St. Plane 747.615.022 ft. N. 2.163.010.129 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	11/17/2000
Distance from Waste/ Source 5400 ft.	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	Well Installed By: (Person's Name and Firm)
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	JULIE LINCOLN
4.5	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 34.56 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 4.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 19.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 20.00 ft. (TOC)

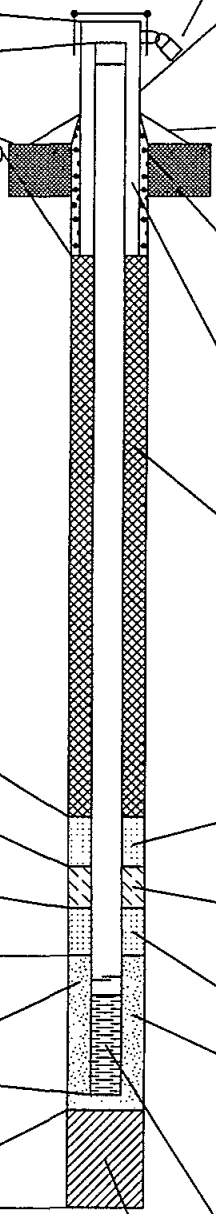
L. Borehole, bottom ____ ft. MSL or 24.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 5.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
b. Annular Space Seal — Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 12.58 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ ____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000 i
d. Slotted length: 10.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-21
Fax: (914) 641-24

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-16S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	11/13/2000
Type of Protective Cover	St. Plane 746.553.892 ft. N. 2.161.863.038 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	11/13/2000
Distance from Waste/ Source 5700 ft.	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm** JULIE LINCOLN
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 29.12 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 4.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 14.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 15.00 ft. (TOC)

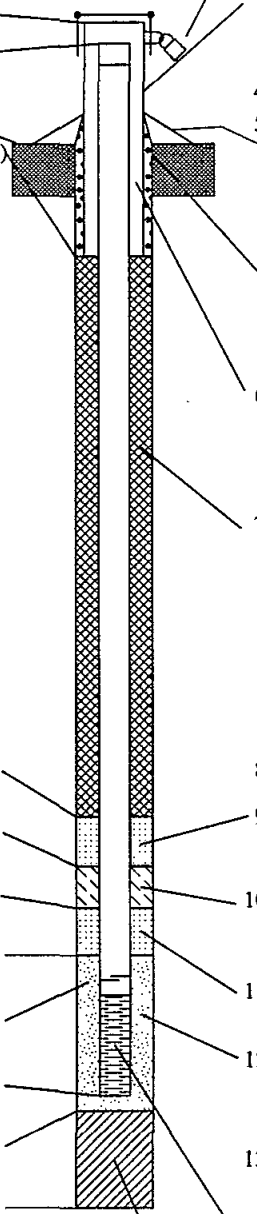
L. Borehole, bottom ____ ft. MSL or 16.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 5.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 10.36 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 10.0
15. Backfill material (below filter pack): None ☐
BENTONITE Other ☒

Tel: (914) 694-21
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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-17S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	11/21/2000
Type of Protective Cover	St. Plane 747.276.885 ft. N. 2.161.414.538 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	11/21/2000
Distance from Waste/ Source	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm**
5700 ft.	**Location of Well Relative to Waste/Source**	JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
4.5	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 28.21 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 4.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 10.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 11.00 ft. (TOC)

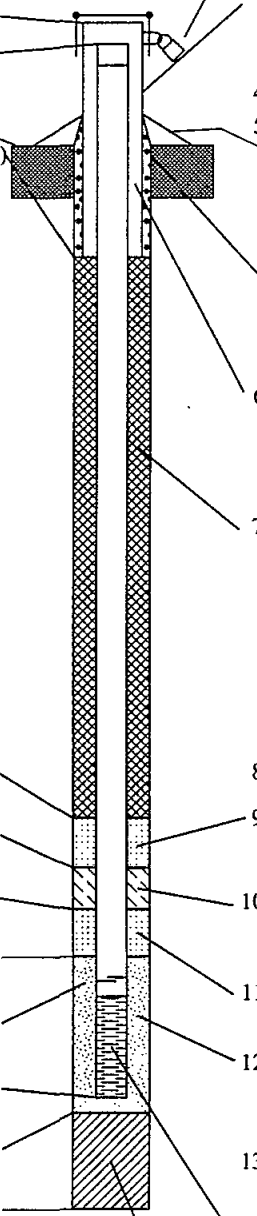
L. Borehole, bottom ____ ft. MSL or 11.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 6.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0 i
b. Length: 1.0 f
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ ____ Other ☐
b. Annular Space Seal — Bentonite ☐ Concrete ☒ ____ Other ☐
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ ____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 6.66 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ ____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ ____ Other ☐ __
b. Manufacturer JOHNSON
c. Slot size: 10.000 i
d. Slotted length: 6.0 f
15. Backfill material (below filter pack): None ☐ 14
BENTONITE Other ☒ __

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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-18S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	11/20/2000
Type of Protective Cover	St. Plane 748.682.461 ft. N. 2.161.803.360 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	11/20/2000
Distance from Waste/ Source 5300 ft.	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated) 4.5	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	MALCOLM PIRNIE

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 35.20 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 3.75 ft. (TOC)

J. Well bottom ____ ft. MSL or 16.75 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 16.00 ft. (TOC)

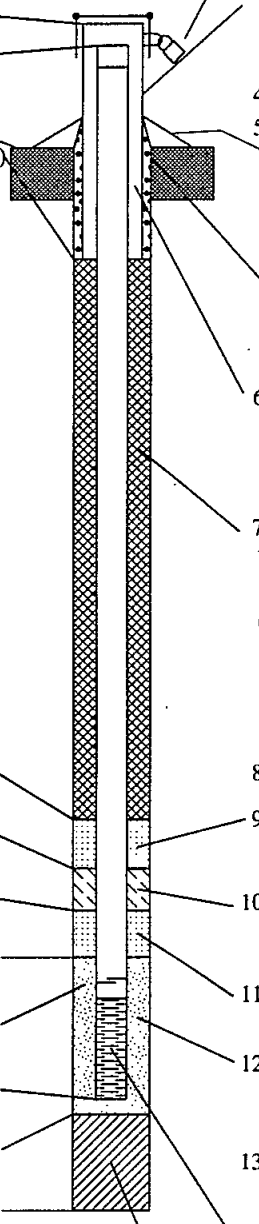
L. Borehole, bottom ____ ft. MSL or 21.75 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 11.5 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
b. Annular Space Seal — Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 00 SAND
b. Volume added 10.36 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ ____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ ____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 10.0
15. Backfill material (below filter pack): BENTONITE None ☐ Other ☒

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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-19S
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started)
123	Lat. ° ' " Long. ° ' " or	11/01/2000
Type of Protective Cover	St. Plane 753,689.388 ft. N. 2,163,870.886 ft. E. S/C/N	Date Well Installed (Completed)
☒ Flush-to-Ground ☐ Above-Ground	Section Location of Waste/Source	11/01/2000
Distance from Waste/ Source 1300 ft.	____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	Well Installed By: (Person's Name and Firm
Max. Depth of Frost Protection (Estimated)	Location of Well Relative to Waste/Source	JEFF DEKOSKIE
4.5	u ☐ Upgradient s ☐ Sidegradient	MALCOLM PIRNIE
	d ☒ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 56.26 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☒ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 12.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 13.00 ft. (TOC)

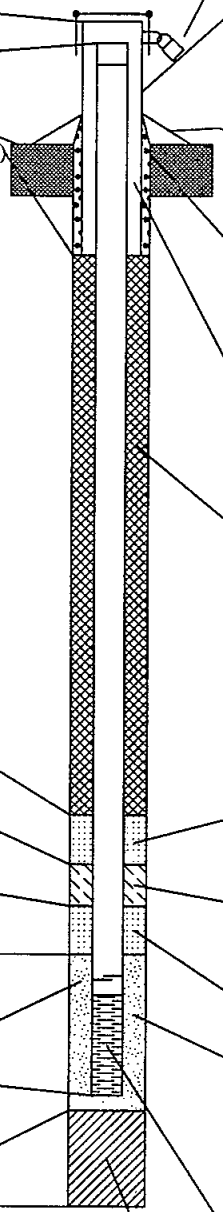
L. Borehole, bottom ____ ft. MSL or 13.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or ____ ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0 i
b. Length: 1.0 f
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 00 SAND
b. Volume added 7.4 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐ __
b. Manufacturer JOHNSON
c. Slot size: 10.000 in
d. Slotted length: 7.0 ft
15. Backfill material (below filter pack): None ☐ 1 4
BENTONITE Other ☒ __

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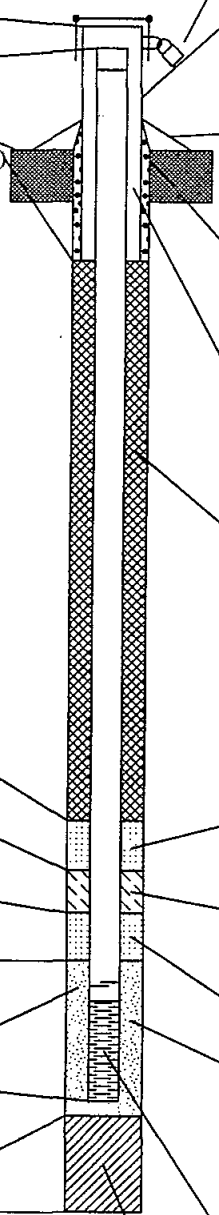
Facility/Project Name: Maywood	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Number: MW-20S
Facility License, Permit or Monitoring No.: 123	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Date Well Installed (Started): 11/22/2000
Type of Protective Cover: ☐ Flush-to-Ground ☒ Above-Ground	Lat. ° ' " Long. ° ' " or St. Plane 752,826.539 ft. N. 2,164,679.825 ft. E. S/C/N	Date Well Installed (Completed): 11/27/2000
Distance from Waste/ Source: 50 ft.	Section Location of Waste/Source: ____ 1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	Well Installed By: (Person's Name and Firm): JEFF DEKOSKIE / MALCOLM PIRNIE
Max. Depth of Frost Protection (Estimated): 4.5	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	



A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 58.54 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒ Hollow Stem Auger ☐ ____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 3.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 5.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 15.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 16.00 ft. (TOC)

L. Borehole, bottom ____ ft. MSL or 19.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 9.0 ft. (TOC)

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap: Gravel Blanket ☐ Bentonite ☐ Concrete ☒ ____ Other ☐
b. Annular Space Seal: Bentonite ☐ Concrete ☒ ____ Other ☐
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ ____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.75 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 00 SAND
b. Volume added 9.62 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ ____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ ____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000 in
d. Slotted length: 10.0 ft
15. Backfill material (below filter pack): None ☐ BENTONITE Other ☒

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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-21S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	06/26/2001
Type of Protective Cover	St. Plane 749,075.377 ft. N. 2,166,629.897 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	06/26/2001
Distance from Waste/ ource 2500 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☒ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 38.92 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.5 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.50 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 4.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 14.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 14.00 ft. (TOC)

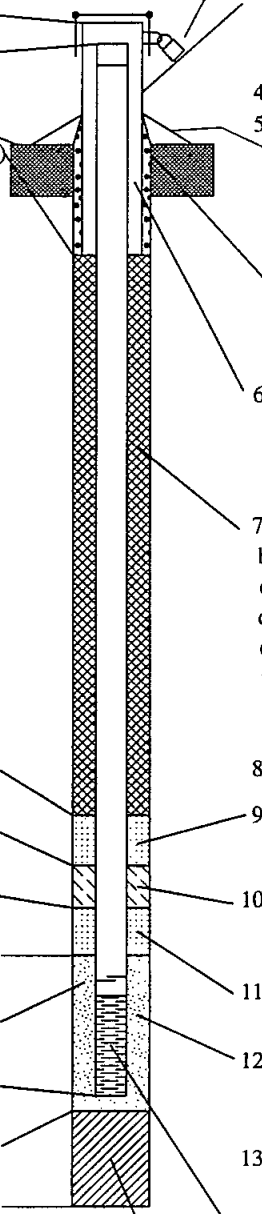
L. Borehole, bottom ____ ft. MSL or 14.00 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

P. 24-hr water level after completion ____ ft. MSL or 9.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.375 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 8.88 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000
d. Slotted length: 10.0
15. Backfill material (below filter pack): None ☐
NONE Other ☒

Tel: (914) 694-21
Fax: (914) 641-24

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	MW-22S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	06/11/2001
Type of Protective Cover	St. Plane 751,173.173 ft. N. 2,164,101.105 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	06/11/2001
Distance from Waste/ Source 1500 ft.	____1/4 of ____ 1/4 of Sec. ____ T. ____ N. R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm** JULIE LINCOLN
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation 46.22 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.5 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒
Hollow Stem Auger ☐
____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐
Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or 1.50 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or 2.00 ft. (TOC)

I. Screen joint, top ____ ft. MSL or 2.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 10.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or 10.50 ft. (TOC)

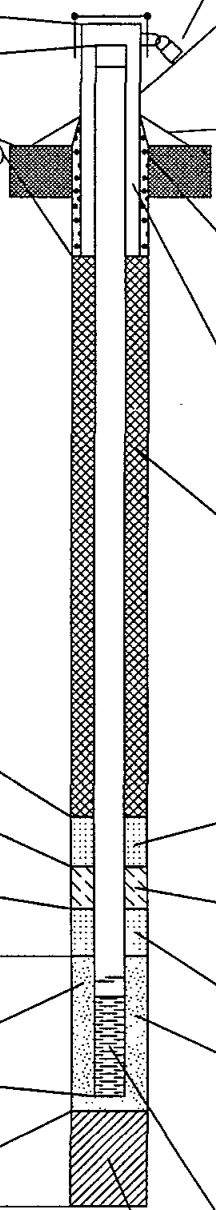
L. Borehole, bottom ____ ft. MSL or 10.50 ft. (TOC)

M. Borehole, diameter 6.0 in.

N. O.D. well casing 2.00 in.

O. I.D. well casing 2.00 in.

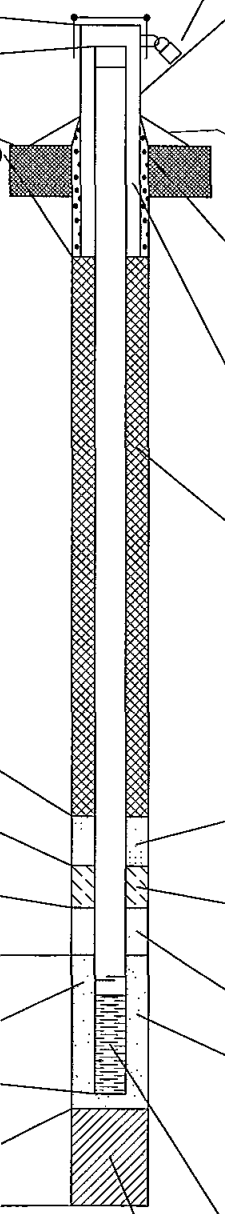
P. 24-hr water level after completion ____ ft. MSL or 4.5 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 6.0 i
b. Length: 1.0
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap
Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal
Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. 0.375 Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 0 SAND
b. Volume added 6.29 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐ __
b. Manufacturer JOHNSON
c. Slot size: 10.000 i
d. Slotted length: 8.0 i
15. Backfill material (below filter pack): None ☐ 1 4
NONE Other ☒ __

Tel: (914) 694-21
Fax: (914) 641-24

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	OBPW-1S
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/03/2001
Type of Protective Cover	St. Plane 752,549.260 ft. N, 2,164,173.122 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground		04/05/2001
Distance from Waste/ Source	**Section Location of Waste/Source**	**Well Installed By: (Person's Name and Firm)**
300 ft.	____ 1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	



A. Protective pipe, top elevation 56.06 ft. MSL

B. Well casing, top elevation 55.71 ft. MSL

C. Land surface elevation 55.89 ft. MSL

D. Surface seal, bottom 53.71 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☒ Hollow Stem Auger ☐ ____ Other ☐

19. Drilling fluid used: Water ☒ Air ☐ Drilling Mud ☐ None ☐

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):
STEPAN HYDRANT

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top 53.71 ft. MSL or 2.00 ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top 53.21 ft. MSL or 2.50 ft. (TOC)

I. Screen joint, top 52.21 ft. MSL or 3.50 ft. (TOC)

J. Well bottom 32.21 ft. MSL or 23.50 ft. (TOC)

K. Filter pack, bottom 29.71 ft. MSL or 26.00 ft. (TOC)

L. Borehole, bottom 29.71 ft. MSL or 26.00 ft. (TOC)

M. Borehole, diameter 8.0 in.

N. O.D. well casing 4.00 in.

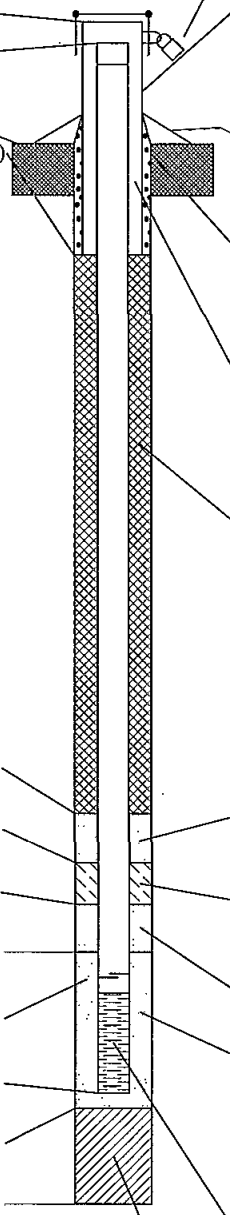
O. I.D. well casing 4.00 in.

P. 24-hr water level after completion 49.7 ft. MSL or 6.0 ft. (TOC)

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 8.0 in.
b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
b. Annular Space Seal — Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☒
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. 0.375 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☒
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☒
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. ____ Other ☐
11. Secondary Filter ☒ Yes ☐ No
b. Volume added 4.8 ft^3 3 BAGS # 0 Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. FILPRO # 1 SAND
b. Volume added 19.1 ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
a. Screen Type: Factory cut ☐ Continuous slot ☒ Other ☐ ____
b. Manufacturer JOHNSON
c. Slot size: 10.000 in.
d. Slotted length: 20.0 ft.
15. Backfill material (below filter pack): None ☐ Other ☒
NONE

Tel: (914) 694-2100
Fax: (914) 641-2455

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	OVPZ-10
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/12/2001
Type of Protective Cover	St. Plane 752,519.863 ft. N, 2,164,174.605 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	04/12/2001
Distance from Waste/ Source 300 ft.	____ 1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm)** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated) 4.5	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	MALCOLM PIRNIE



A. Protective pipe, top elevation 56.07 ft. MSL

B. Well casing, top elevation 55.93 ft. MSL

C. Land surface elevation 55.95 ft. MSL

D. Surface seal, bottom 53.93 ft. MSL or 2.0 ft. (TOC)

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 51.93 ft. MSL or 4.00 ft. (TOC)

J. Well bottom 31.93 ft. MSL or 24.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

L. Borehole, bottom 31.93 ft. MSL or 24.00 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 49.9 ft. MSL or 6.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐ Hollow Stem Auger ☐ GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐ Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

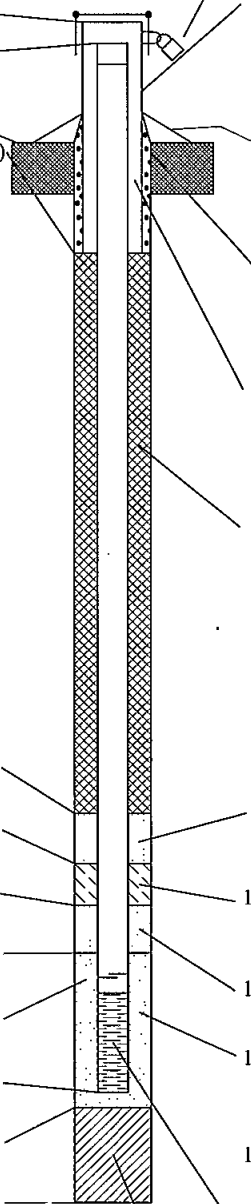
Describe ____

21. Source of water (attach analysis, if required):

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
   a. Inside diameter: 4.0 in.
   b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
   a. Cap: Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
   b. Annular Space Seal: Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☐
   b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
   c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
   d. ____% Bentonite . . . Bentonite-cement grout ☐
   e. ____ Ft^3 volume added for any of the above
   f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
   b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
    b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
    c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
    b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
    a. ____
    b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
    a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
    b. Manufacturer JOHNSON
    c. Slot size: 10.000 in.
    d. Slotted length: 20.0 ft.
15. Backfill material (below filter pack): None ☐ Other ☒ NONE

Tel: (914) 694-2100
Fax: (914) 641-2455

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	OVPZ-9
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/13/2001
Type of Protective Cover	St. Plane 752,539.897 ft. N, 2,164,173.740 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground		04/13/2001
Distance from Waste/ Source	**Section Location of Waste/Source**	**Well Installed By: (Person's Name and Firm)**
300 ft.	____ 1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	MALCOLM PIRNIE
4.5	u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	



A. Protective pipe, top elevation 55.76 ft. MSL

B. Well casing, top elevation 55.60 ft. MSL

C. Land surface elevation 55.65 ft. MSL

D. Surface seal, bottom 53.60 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐
Hollow Stem Auger ☐
GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

____

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 49.60 ft. MSL or 6.00 ft. (TOC)

J. Well bottom 34.60 ft. MSL or 21.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

L. Borehole, bottom 34.60 ft. MSL or 21.00 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

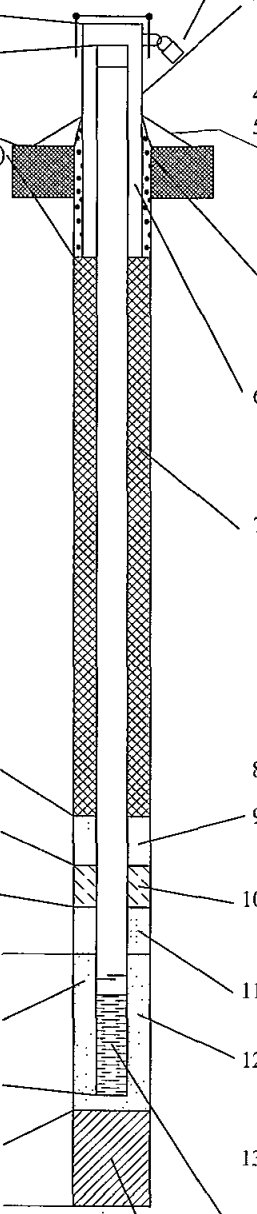
O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 49.6 ft. MSL or 6.0 ft. (TOC)

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☐
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. ____
b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000 in.
d. Slotted length: 15.0 ft.
15. Backfill material (below filter pack): None ☐
NONE Other ☒

Tel: (914) 694-2100
Fax: (914) 641-2455

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	OVPZ-11
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/09/2001
Type of Protective Cover	St. Plane 752,449.677 ft. N, 2,164,177.236 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground		04/09/2001
Distance from Waste/ Source	**Section Location of Waste/Source** ☐ E ☐ W	**Well Installed By: (Person's Name and Firm)**
300 ft.	____ 1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____	GEORGE MARKT
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	
4.5	u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	



A. Protective pipe, top elevation 55.59 ft. MSL

B. Well casing, top elevation 55.40 ft. MSL

C. Land surface elevation 55.39 ft. MSL

D. Surface seal, bottom 53.40 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐
Hollow Stem Auger ☐
GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

____

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 50.90 ft. MSL or 4.50 ft. (TOC)

J. Well bottom 30.90 ft. MSL or 24.50 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

L. Borehole, bottom 30.90 ft. MSL or 24.50 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 49.4 ft. MSL or 6.0 ft. (TOC)

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap Gravel Blanket ☐
Bentonite ☐
Concrete ☒
____ Other ☐
b. Annular Space Seal Bentonite ☐
Concrete ☒
____ Other ☐
6. Material between well casing and protective pipe:
Bentonite ☐
Cement ☒
____ Other ☐
7. Annular space seal: a. Granular/Chipped Bentonite ☐
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐
Tremie pumped ☐
Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. ____
b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
Flush threaded PVC schedule 80 ☐
____ Other ☐
14. Screen material: PVC
a. Screen Type: Factory cut ☒
Continuous slot ☐
____ Other ☐
b. Manufacturer JOHNSON
c. Slot size: 10.000 in.
d. Slotted length: 20.0 ft.
15. Backfill material (below filter pack): None ☐
NONE Other ☒

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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	OVPZ-12
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/12/2001
Type of Protective Cover	St. Plane 752,549.989 ft. N, 2,164,163.654 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	04/12/2001
Distance from Waste/ Source 300 ft.	____ 1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm)** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated) 4.5	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	MALCOLM PIRNIE

A. Protective pipe, top elevation 56.20 ft. MSL

B. Well casing, top elevation 56.02 ft. MSL

C. Land surface elevation 56.02 ft. MSL

D. Surface seal, bottom 54.02 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐
Hollow Stem Auger ☐
GOEPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 53.02 ft. MSL or 3.00 ft. (TOC)

J. Well bottom 38.52 ft. MSL or 17.50 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

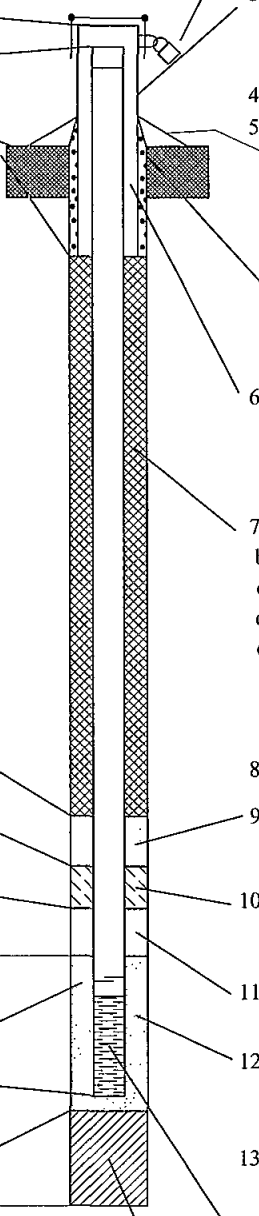
L. Borehole, bottom 38.52 ft. MSL or 17.50 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 50.0 ft. MSL or 6.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
b. Annular Space Seal — Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☐
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____ % Bentonite . . . Bentonite-cement grout ☐
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. ____
b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
b. Manufacturer JOHNSON
c. Slot size: 10.000 in.
d. Slotted length: 15.0 ft.
15. Backfill material (below filter pack): None ☐ Other ☒ NONE

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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	OVPZ-13
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/11/2001
Type of Protective Cover	St. Plane 752,549.195 ft. N, 2,164,143.387 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	04/11/2001
Distance from Waste/ Source 300 ft.	____1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm)** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated) 4.5	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	MALCOLM PIRNIE

A. Protective pipe, top elevation 56.28 ft. MSL

B. Well casing, top elevation 56.14 ft. MSL

C. Land surface elevation 56.12 ft. MSL

D. Surface seal, bottom 54.14 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐
Hollow Stem Auger ☐
GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 53.14 ft. MSL or 3.00 ft. (TOC)

J. Well bottom 38.14 ft. MSL or 18.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

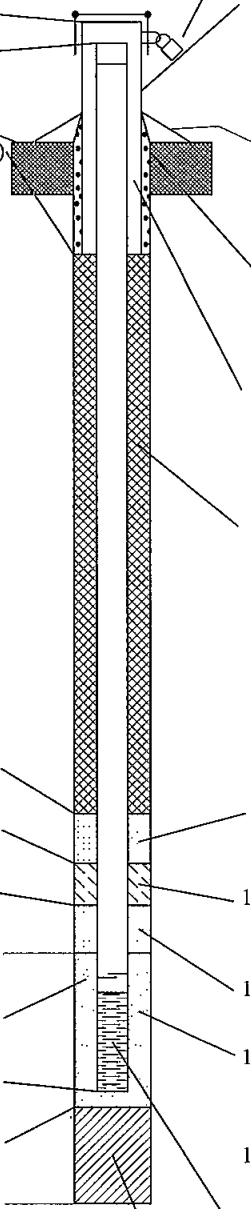
L. Borehole, bottom 38.14 ft. MSL or 18.00 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 50.1 ft. MSL or 6.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
   a. Inside diameter: 4.0 in.
   b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
   a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
   b. Annular Space Seal — Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☐
   b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
   c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
   d. ____% Bentonite . . . Bentonite-cement grout ☐
   e. ____Ft^3 volume added for any of the above
   f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
   b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
    b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
    c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
    b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
    a. ____
    b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
    a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
    b. Manufacturer JOHNSON
    c. Slot size: 10.000 in.
    d. Slotted length: 15.0 ft.
15. Backfill material (below filter pack): None ☐ Other ☒ NONE

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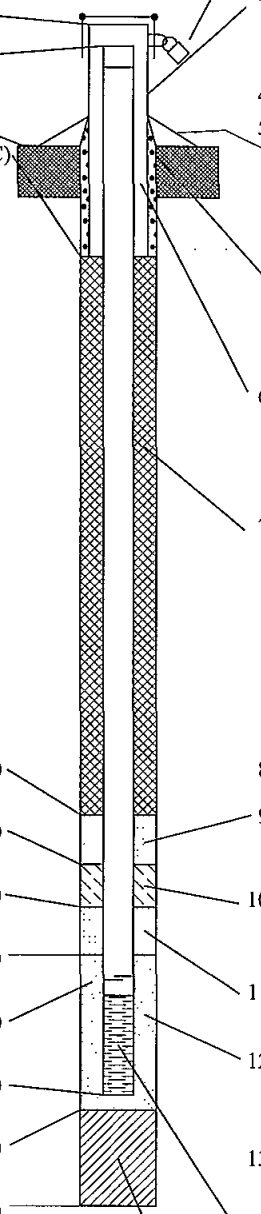
Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	OVPZ-14
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/20/2001
Type of Protective Cover	St. Plane ____ ft. N, ____ ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground		04/20/2001
Distance from Waste/ Source 300 ft.	**Section Location of Waste/Source** ____1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐E ☐W	**Well Installed By: (Person's Name and Firm)** JEFF DEKOSKIE
Max. Depth of Frost Protection (Estimated) 4.5	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	MALCOLM PIRNIE



A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation ____ ft. MSL

D. Surface seal, bottom ____ ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐
Hollow Stem Auger ☐
GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top ____ ft. MSL or 3.00 ft. (TOC)

J. Well bottom ____ ft. MSL or 13.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

L. Borehole, bottom ____ ft. MSL or 13.00 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

O. I.D. well casing 1.00 in.

P. 24-hr water level after completion ____ ft. MSL or 6.0 ft. (TOC)

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
b. Annular Space Seal Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☐
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. ____
b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
b. Manufacturer JOHNSON
c. Slot size: 10.000 in.
d. Slotted length: 10.0 ft.
15. Backfill material (below filter pack): None ☐ Other ☒
NONE

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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	OVPZ-15
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/11/2001
Type of Protective Cover	St. Plane 752,559.201 ft. N, 2,164,173.324 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	04/11/2001
Distance from Waste/ Source 300 ft.	____1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm)**
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	JEFF DEKOSKIE
4.5	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 56.08 ft. MSL

B. Well casing, top elevation 55.87 ft. MSL

C. Land surface elevation 55.92 ft. MSL

D. Surface seal, bottom 53.87 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐
Hollow Stem Auger ☐
GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 53.87 ft. MSL or 2.00 ft. (TOC)

J. Well bottom 35.87 ft. MSL or 20.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

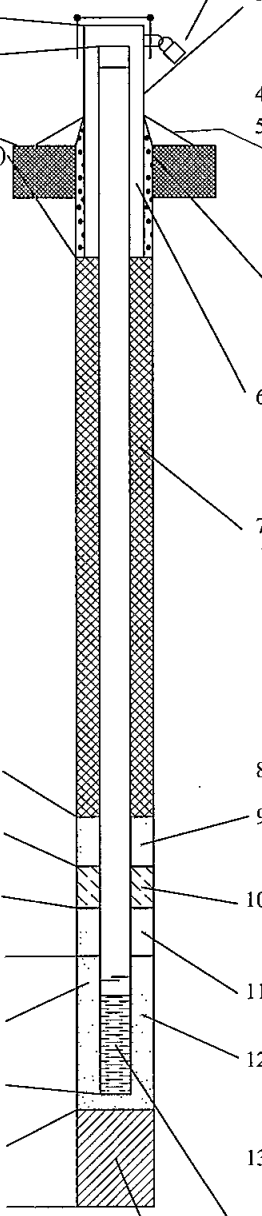
L. Borehole, bottom 35.87 ft. MSL or 20.00 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 49.9 ft. MSL or 6.0 ft. (TOC)



1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
   a. Inside diameter: 4.0 in.
   b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
   a. Cap — Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
   b. Annular Space Seal — Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☐
   b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
   c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
   d. ____% Bentonite . . . Bentonite-cement grout ☐
   e. ____Ft^3 volume added for any of the above
   f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
   b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
    b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
    c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
    b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
    a. ____
    b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒
    Flush threaded PVC schedule 80 ☐
    Other ☐ ____
14. Screen material: PVC
    a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
    b. Manufacturer JOHNSON
    c. Slot size: 10.000 in.
    d. Slotted length: 20.0 ft.
15. Backfill material (below filter pack): None ☐ Other ☒
    NONE

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Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	OVPZ-16
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/13/2001
Type of Protective Cover	St. Plane 752,549.056 ft. N, 2,164,183.261 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	04/13/2001
Distance from Waste/ Source 300 ft.	____1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐E ☐W	**Well Installed By: (Person's Name and Firm)**
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	JEFF DEKOSKIE
4.5	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 55.79 ft. MSL

B. Well casing, top elevation 55.60 ft. MSL

C. Land surface elevation 55.63 ft. MSL

D. Surface seal, bottom 53.60 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐ Hollow Stem Auger ☐ GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐ Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 51.60 ft. MSL or 4.00 ft. (TOC)

J. Well bottom 31.60 ft. MSL or 24.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

L. Borehole, bottom 31.60 ft. MSL or 24.00 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

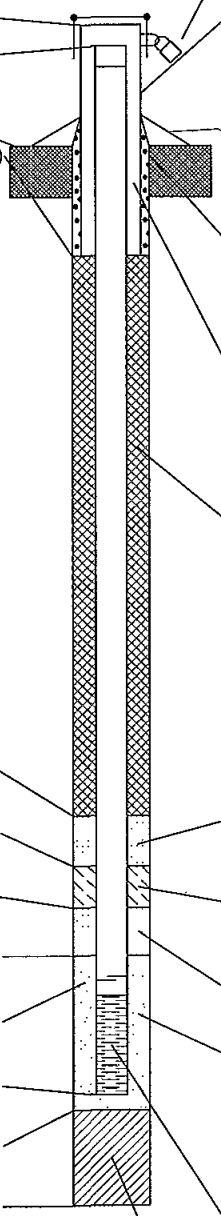
O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 49.6 ft. MSL or 6.0 ft. (TOC)

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
   a. Inside diameter: 4.0 in.
   b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
   a. Cap: Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
   b. Annular Space Seal: Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☐
   b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
   c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
   d. ____% Bentonite . . . Bentonite-cement grout ☐
   e. ____Ft^3 volume added for any of the above
   f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
   b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
    b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐
    c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
    b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
    a. ____
    b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
    a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
    b. Manufacturer JOHNSON
    c. Slot size: 10.000 in.
    d. Slotted length: 20.0 ft.
15. Backfill material (below filter pack): None ☐ Other ☒ NONE

Tel: (914) 694-2100
Fax: (914) 641-2455

Facility/Project Name	Local Grid Location of Well	Well Number
Maywood	____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	OVPZ-17
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☒	**Date Well Installed (Started)**
123	Lat. ° ' " Long. ° ' " or	04/13/2001
Type of Protective Cover	St. Plane 752,403.072 ft. N, 2,164,180.308 ft. E. S/C/N	**Date Well Installed (Completed)**
☒ Flush-to-Ground ☐ Above-Ground	**Section Location of Waste/Source**	04/13/2001
Distance from Waste/ Source 300 ft.	____ 1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	**Well Installed By: (Person's Name and Firm)**
Max. Depth of Frost Protection (Estimated)	**Location of Well Relative to Waste/Source**	JEFF DEKOSKIE
4.5	u ☐ Upgradient s ☒ Sidegradient	MALCOLM PIRNIE
	d ☐ Downgradient n ☐ Not Known	



A. Protective pipe, top elevation 55.76 ft. MSL

B. Well casing, top elevation 55.64 ft. MSL

C. Land surface elevation 55.66 ft. MSL

D. Surface seal, bottom 53.64 ft. MSL or 2.0 ft. (TOC)

16. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

17. Sieve analysis attached? ☐ Yes ☐ No

18. Drilling method used: Rotary ☐
Hollow Stem Auger ☐
GEOPROBE Other ☒

19. Drilling fluid used: Water ☐ Air ☐
Drilling Mud ☐ None ☒

20. Drilling additives used? ☐ Yes ☒ No

Describe ____

21. Source of water (attach analysis, if required):

E. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

F. Bentonite seal, top ____ ft. MSL or ____ ft. (TOC)

G. Secondary Filter, top ____ ft. MSL or ____ ft. (TOC)

H. Filter pack, top ____ ft. MSL or ____ ft. (TOC)

I. Screen joint, top 52.64 ft. MSL or 3.00 ft. (TOC)

J. Well bottom 37.64 ft. MSL or 18.00 ft. (TOC)

K. Filter pack, bottom ____ ft. MSL or ____ ft. (TOC)

L. Borehole, bottom 37.64 ft. MSL or 18.00 ft. (TOC)

M. Borehole, diameter 2.0 in.

N. O.D. well casing 1.00 in.

O. I.D. well casing 1.00 in.

P. 24-hr water level after completion 49.6 ft. MSL or 6.0 ft. (TOC)

1. Cap and lock? ☒ Yes ☐ No
2. Protective Posts? ☐ Yes ☒ No
3. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 1.0 ft.
4. Drainage Port (s) ☐ Yes ☒ No
5. Surface seal:
a. Cap Gravel Blanket ☐ Bentonite ☐ Concrete ☒ Other ☐ ____
b. Annular Space Seal Bentonite ☐ Concrete ☒ Other ☐ ____
6. Material between well casing and protective pipe: Bentonite ☐ Cement ☒ Other ☐ ____
7. Annular space seal: a. Granular/Chipped Bentonite ☐
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐
d. ____% Bentonite . . . Bentonite-cement grout ☐
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ Tremie pumped ☐ Gravity ☐
8. Centralizers ☐ Yes ☐ No
9. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
10. Bentonite seal: a. Bentonite granules ☐
b. ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite chips ☐
c. CEMENT Other ☒
11. Secondary Filter ☐ Yes ☐ No
b. Volume added ____ ft^3 ____ Bags/Size
12. Filter pack material: Manufacturer, product name & mesh size
a. ____
b. Volume added ____ ft^3
13. Well casing: Flush threaded PVC schedule 40 ☒ Flush threaded PVC schedule 80 ☐ Other ☐ ____
14. Screen material: PVC
a. Screen Type: Factory cut ☒ Continuous slot ☐ Other ☐ ____
b. Manufacturer JOHNSON
c. Slot size: 10.000 in.
d. Slotted length: 15.0 ft.
15. Backfill material (below filter pack): None ☐ 14
NONE Other ☒ ____

Tel: (914) 694-2100
Fax: (914) 641-2455

MONITORING WELL PERMITS AND RECORDS

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 54

Permit No. [illegible]

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26.03.[illegible]

Owner Connie Tiuber - Omni Assets

Address 26 Journal Square 16th Floor
Jersey City N.J 07306

Name of Facility Maywood Chemical Co Superfund Site

Address c/o Stone + Webster. 100 W. Hunter Ave.
Maywood N.J. 07609

Driller Aquifer Drilling + Testing Inc

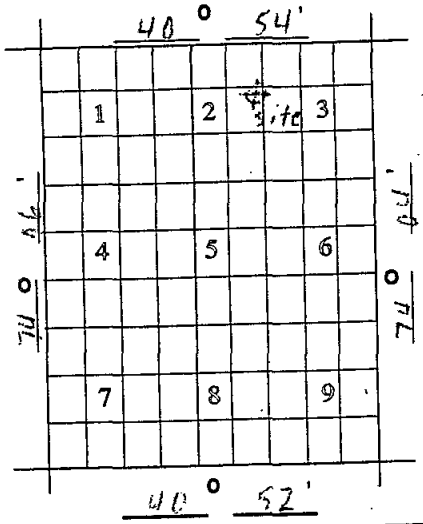
Address 150 Nassau Terminal Rd.
New Hyde Park. N.Y. 11040

Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	NA cumulativ

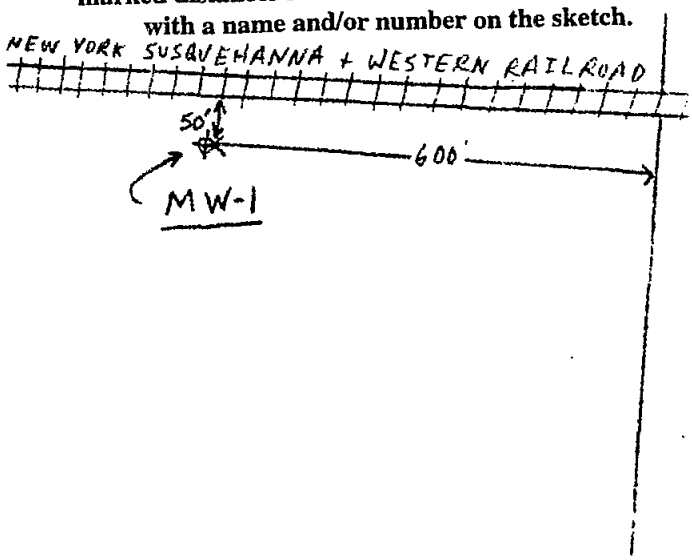
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	19.02	Rochelle Pk.	Bergen

State Atlas Map No. 26



Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval S

WELL PERMIT APPROVE
N.J.D.E.P.
OCT 12 2000
BUREAU OF WATER ALLOC

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐

☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date [illegible]

Signature of Driller [illegible]

Registration No. J-1579

J-161

Signature of Property Owner [illegible]

DWR-138 M
11/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59180

Atlas Sheet Coordinates 26 : 03 526

OWNER IDENTIFICATION - Owner OMNI ASSETS/TAUBER. COMNT
Address 26 JOURNAL SQUARE 16TH FLOOR
City JERSEY CITY State N.J Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-1S
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 19.02
Address ROUTE 17

DATE WELL STARTED 12 / 8 /
DATE WELL COMPETED 12 / 8 /

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556 0160

WELL CONSTRUCTION

Total depth drilled 10.5 ft.
Well finished to 8.5 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 8 ft.

Water level was measured using Tape

Well was developed for 2.5 hours at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	3.5	2	PVC	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	3.5	8.5	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	1.5	10.5	6	3 Morie 00	3001
Grout	0	1.5	6	Neat Cement / Bentonite	94 / 5

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE.JR.

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 12 / 18 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Red Brown Silty Fine Sand w/ Gravel
5
10 Weathered Red Shale
EOH 10.5

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 54

Permit No. _____

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #:

Owner _____ Driller _____

Address _____ Address _____

Name of Facility _____

Address _____

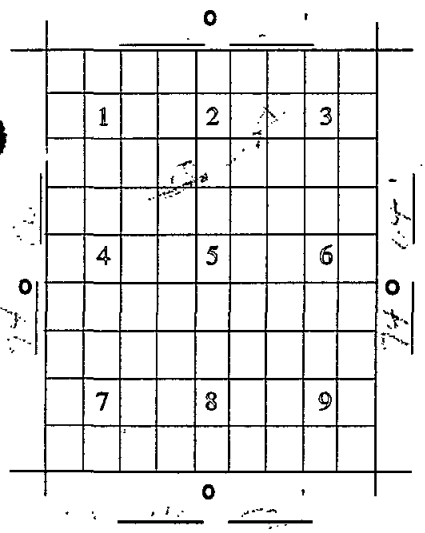
Diameter of Well(s) Inches	Proposed Depth of Well(s)
# of Wells Applied for (max. 10) 1	Will pumping equipment be utilized? YES ☐
Type of Well (see reverse) Monitor	If Yes, give pump capacity cumulati

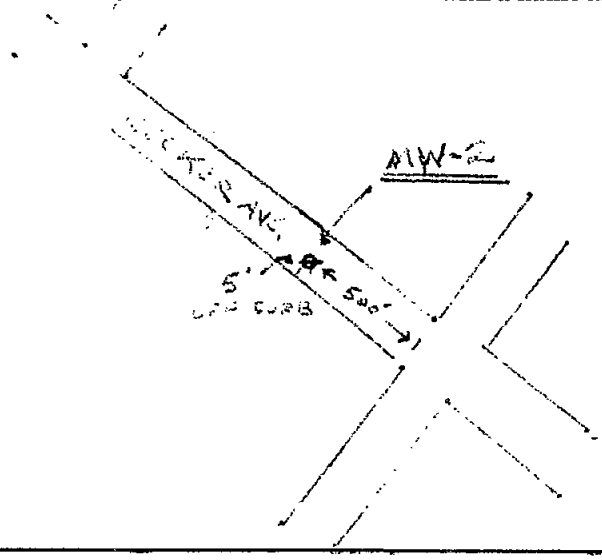
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
		Rockaway Boro	Morris

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)_____

CASE I.D. Number _____

This Space for Approval Sta

WELL PERMIT APPROVE
N.J.D.E.P.
SEP 12 2000
BUREAU OF WATER ALLOC

D.E.P. USE

☐ Issuance of this permit is subject to the conditions attached. (see next page)

☐ *For monitoring purposes only*

☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date _____ Signature of Driller _____ Registration No. _____

J-163

Signature of Property Owner

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 58834

Atlas Sheet Coordinates 26 03 526

OWNER IDENTIFICATION - Owner DIMARIA, VIRGINIA-ROCHELL
Address 194-D ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-2S
County BERGEN Municipality ROCHELLE PARK T Lot No R.O.W. Block No R.O.W.
Address 100 W HUNTER AVE

DATE WELL STARTED 10 / 26 / 00
DATE WELL COMPLETED 10 / 26 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556 0160

WELL CONSTRUCTION

Total depth drilled 14 ft.
Well finished to 13 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

finished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 8.5 ft.

Water level was measured using Tape

Well was developed for 1 hours
at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type; —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch n
Single/Inner Casing	0	5	2	PVC	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	5	13	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	14	6	Morie 00	300 l
Grout	0	3	6	Neat Cement	94
				Bentonite	5

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 12 / 18 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Black Top
Red Medium Fine Silty Sand + Gravel
5
10
14 Red Shale
15 EOH 14'

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 34 3 6 5 1 6

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 2r 035. 33

Owner R. GZESNIEWSKI

Address 80 PARK PLAZA, T-25
NEWARK N.J. 07101

Driller ALPHA DRILLING & TESTING, INC.

Address 120 MAPLE AVE. TERRACE RD.
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVE.
MAYWOOD, N.J. 07607

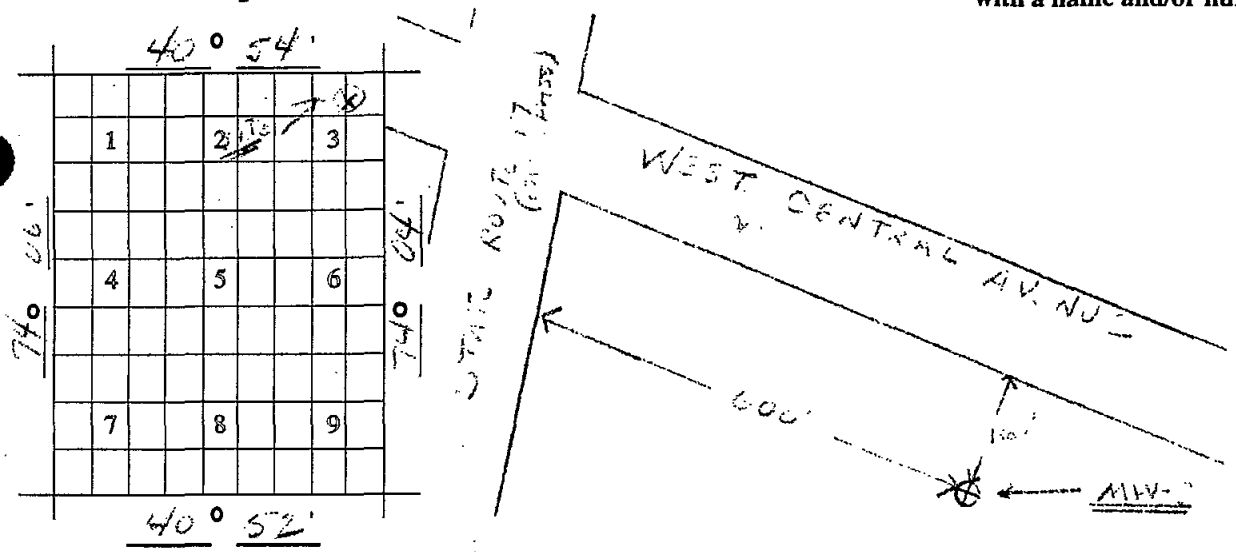
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
91	124	MAYWOOD	BERGEN

State Atlas Map No. 26.

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



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FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Star

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 25 2000
BUREAU OF WATER ALLOC

D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/20/00 Signature of Driller R. Gzesniewski Registration No. J-1494

Signature of Property Owner

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59008

Atlas Sheet Coordinates 26 03 533

OWNER IDENTIFICATION - Owner GZESNIEWSKI, R
Address 80 PARK PLAZA T-25
City NEWARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-3S
County BERGEN Municipality MAYWOOD BORO Lot No. 91 Block No. 124
Address 100 W HUNTER AVE

DATE WELL STARTED 11/27/0
DATE WELL COMPLETED 11/27/0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-8016

WELL CONSTRUCTION

Total depth drilled 20 ft.
Well finished to 17 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 12 ft.

Water level was measured using Tape

Well was developed for 1 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	7	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	7	17	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	5	20	6	Morie 00	700 lb
Grout	0	5	6	Neat Cement Bentonite	200 lb 10 lb

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 Med Fine Red Brown Silty Sand
5
10 Fine Silty Red Sand w/ Clay
15
20 Weathered Red Shale
EOH 20

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 12/18/00

COPIES: White - DEP Canary - Driller Pink - Owner

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26596

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26 • 035 23

Owner VIRGINIA DIAMARIA - ROCHELLE PARK TWP. CLERK

Address 194-D ROUTE 17 NORTH
ROCHELLE PARK, N.J. 07662

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, N.Y. 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, NJ 07609

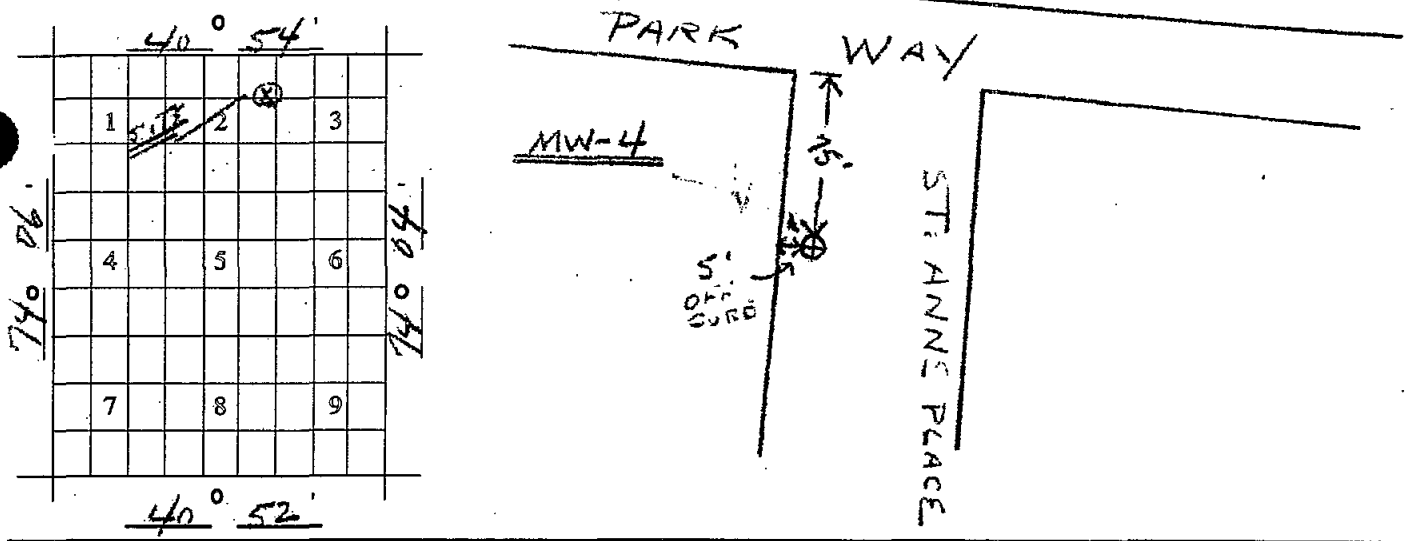
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulauve

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
ROW	ROW	ROCHELLE PK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPROV
N.J.D.E.P.
SEP 25 2000
BUREAU OF WATER ALLO

D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/19/00 Signature of Driller [signature] Registration No. T-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 52010

Atlas Sheet Coordinates 26 03 523

OWNER IDENTIFICATION - Owner DIMHRIA, VIRGINA ROCHELLE
Address 194-D ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-4S
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address 100 W HUNTER AVE

DATE WELL STARTED 10 / 30 / 00
DATE WELL COMPLETED 10 / 30 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556-01(

WELL CONSTRUCTION

Total depth drilled 10 ft.
Well finished to 9 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

nished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 8 ft.

Water level was measured using Tape

Well was developed for 1 hours at .5 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch n
Single/Inner Casing	0	5	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	5	9	2	PVC	Sch 4(
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	10	6	Morie 0	350 lb
Grout	0	3	6	Neat Cement Bentonite	94 l 5 l

Grouting Method Tremie
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 12 / 18 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Med fine Red Silty Sand + Gravel
5
↓
Weathered Red Shale
10 EOH 10

COPIES: White DEP Canary: Driller

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 2[illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 40.63.4[illegible]

Owner VIRGINIA D.MARIA - ROCHELLE PARK TWP. CLERK

Address 194-D ROUTE 17 NORTH
ROCHELLE PARK NJ 07662

Driller AQUIFER DRILLING & TESTING, INC.

Address 1568 NASSAU TERMINAL ROAD
NEW HYDE PARK, N.Y. 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ. 07609

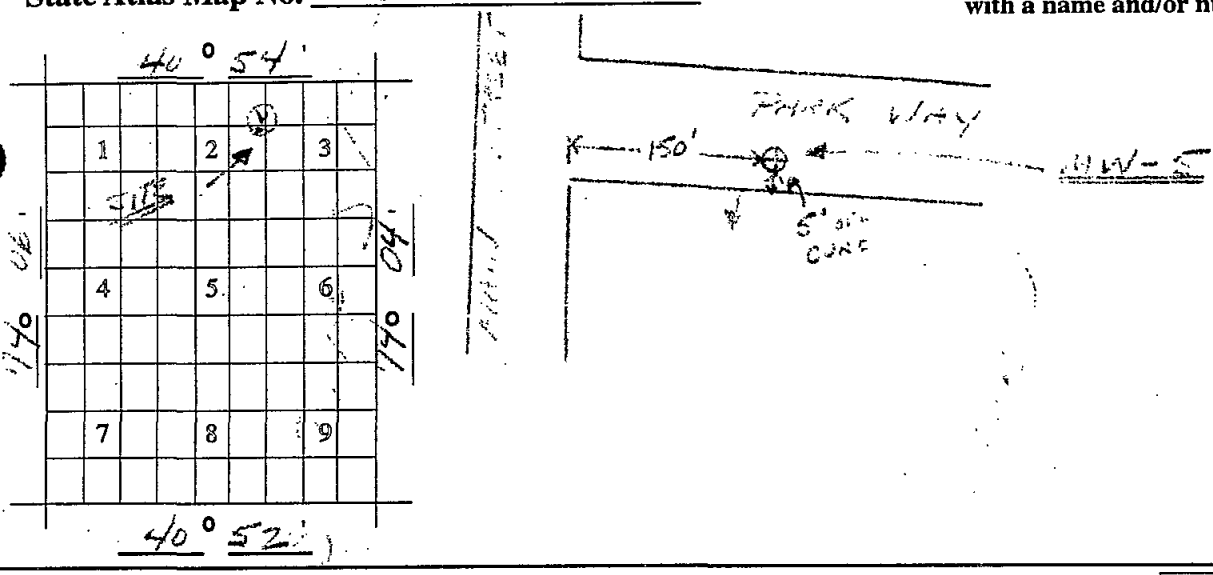
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ.

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
ROW	ROW	ROCHELLE PK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test/Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space For Approval Via
WELL PERMIT PROCESSING
N.J.D.E.P.
SEP 22 2000
BUREAU OF WATER ALLO

D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/18/00 Signature of Driller [signature] Registration No. 494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 58960

Atlas Sheet Coordinates 26 03 523

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT. 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-5S
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address HAYWOOD CHEMICAL/100 W. H

DATE WELL STARTED 11 / 6 / 0
DATE WELL COMPLETED 11 / 7 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201-556-01

WELL CONSTRUCTION

Total depth drilled 21 ft.
Well finished to 20 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 9 ft.

Water level was measured using Tape

Well was developed for 7 hours at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	10	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	10	20	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	7	21	6	Morie O	600 l
Grout	0	7	6	Neat Cement Bentonite	300 15

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 12 / 18 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Medium Fine Silty Red Brown Sand w Gravel
20 Weathered Red Shale
EOH 21

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 54

Permit No. [illegible]

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 21 • 07 • 5 24

Owner VIRGINIA DiMARIA - ROCHELLE PK TOWNSHIP CLERK
Address 194-D ROUTE 17 NORTH
ROCHELLE PARK, N.J.

Driller AQUIFER DRILLING & TESTING, I.
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 1104

Name of Facility MAYWOOD CHEMICAL COMPANY SUPERFUND S.TE
Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, N.J. 07609

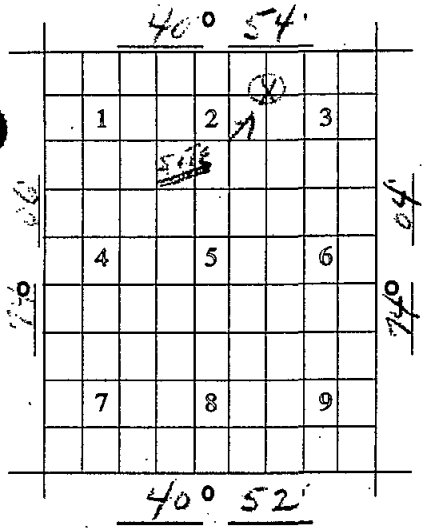
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

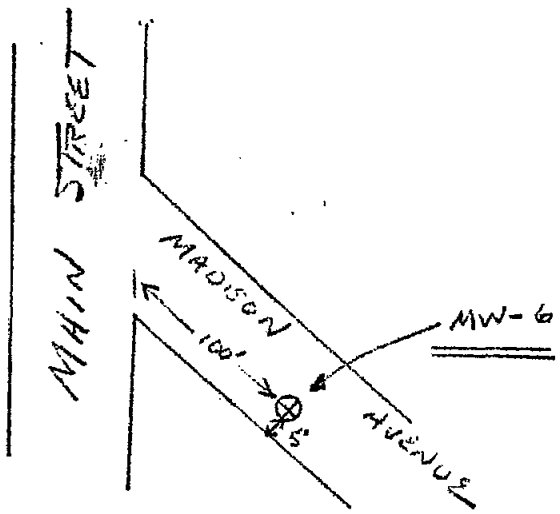
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W.	ROCHELLE PARK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)_____

CASE I.D. Number _____

This Space for Approval Sta

WELL PERMIT APPROVE
N.J.D.E.P.
SEP 12 2000
BUREAU OF WATER ALLOC

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/8/00 Signature of Driller [signature] Registration No. 7-1404

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. ~~26~~ ~~58835~~

Atlas Sheet Coordinates 26 03 526

OWNER IDENTIFICATION - Owner ~~DIMARIA, VIRGINIA-ROCHELL~~
Address ~~194-D ROUTE 17 NORTH~~
City ~~ROCHELLE PARK~~ State ~~NJ~~ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-6S
County ~~BERGEN~~ Municipality ~~ROCHELLE PARK T~~ Lot No. ~~R.O.W.~~ Block No ~~R.O.W.~~
Address ~~100 W HUNTER AVE~~

DATE WELL STARTED 10 / 31 / 0
DATE WELL COMPLETED 10 / 31 / 0

TYPE OF WELL (as per Well Permit Categories) ~~MONITORING~~
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556-0

WELL CONSTRUCTION

Total depth drilled 16 ft.
Well finished to 15 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 1 hours
at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Mobile B61

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rat (lbs/sch r
Single/Inner Casing	0	5	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	5	15	2	PVC	Sch
Blank Casings (No. Used —)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	16	6	Morie 00	350
Grout	0	3	6	Neat Cement	94
				Bentonite	5

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company ~~H. LEONARD REXRODE, JR.~~
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 12 / 18 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Black Top
1 Red Medium fine Silty Sand + Gravel
5
10
15
16 Weathered Red Shale
EOH 16'

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26581

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.522

Owner FRANK MACCHIONE

Address 141 WEST CENTRAL AVENUE
ROCHELLE PARK, N.J. 07662

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVE.
MAYWOOD, N.J. 07609

Driller AQUIFER DRILLING & TESTING INC.

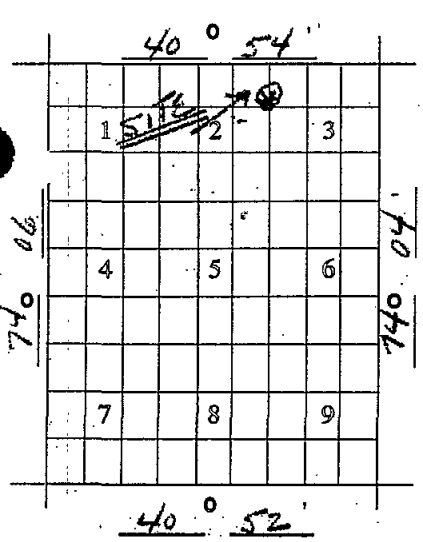
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, N.Y. 11040

Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

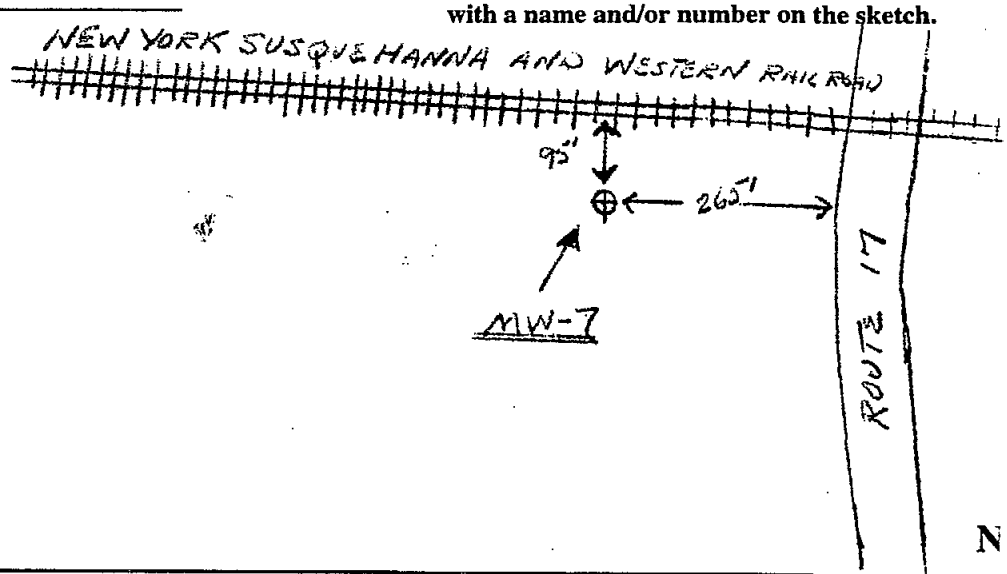
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
32	2401	ROCHELLE PK	BERGEN

State Atlas Map No. 26



Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test,Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Star

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 22 2000
BUREAU OF WATER ALLOCATI

D.E.P. USE

- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/18/00 Signature of Driller [signature] Registration No. J-1494

Signature of Property Owner

DWR-138 M
11/98

0

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 58963

Atlas Sheet Coordinates 26 - 03 - 523

OWNER IDENTIFICATION - Owner MACCHIONE, FRANK
Address 141 W. CENTRA AVENUE
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-7S
County BERGEN Municipality ROCHELLE PARK T Lot No. 32 Block No. 24.0
Address 100 W. HUNTER AVE./MAYWOO

DATE WELL STARTED 12 / 4 / 0
DATE WELL COMPLETED 12 / 4 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556 016

WELL CONSTRUCTION

Total depth drilled 16.5 ft.
Well finished to 15 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 11 ft.

Water level was measured using Tape

Well was developed for 2.5 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rat (lbs/sch r
Single/Inner Casing	0	5	2	PVC	Sch *
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	5	15	2	PVC	Sch
Blank Casings (No. Used 4)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	16.5	6	Morie 0	400
Grout	0	3	6	Neat Cement Bentonite	150 7

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 18 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Red Fine Silty Sand
5
10
15 Weathered Rock
16.5 Red Shale Bedrock

J-174

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26516

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 2003532

Owner GUSSIE AND THOMAS STAVOLA

Address P.O. BOX 1058
MAYWOOD, N.J. 07607

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, N.J. 07609

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

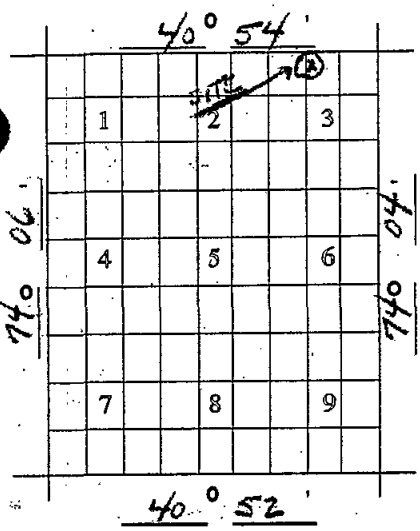
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

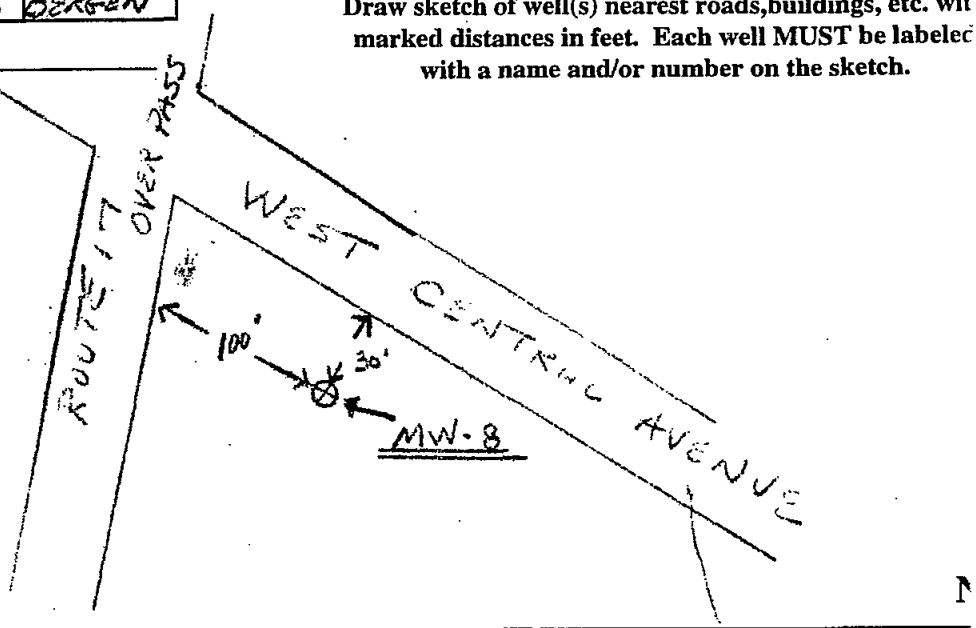
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
35	24.02	ROCHELLE PK.	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labelec with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta
WELL PERMIT APPROV
N.J.D.E.P.
SEP 25 2000
BUREAU OF WATER ALLO

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☐ For monitoring purposes only
☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/19/00 Signature of Driller [signature] Registration No. J-14944

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59012

Atlas Sheet Coordinates 26 03 532

OWNER IDENTIFICATION - Owner STAVOLA, GUSSIE & THOMAS
Address PO BOX 1058
City HAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-8S
County BERGEN Municipality ROCHELLE PARK T Lot No. 35 Block No. 24.02
Address 100 W HUNTER AVE

DATE WELL STARTED 11 / 30 / 0
DATE WELL COMPLETED 11 / 30 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556 016

WELL CONSTRUCTION

Total depth drilled 20 ft.
Well finished to 15 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

nished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 11 ft.
Water level was measured using Tape
Well was developed for 2 hours
at 1 gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity — gpm
Pump type: —
Drilling Fluid — Type of Rig CME-75
Health and Safety Plan submitted? ☒ Yes ☐ No
Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch n
Single/Inner Casing	0	5	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	5	15	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	20	6	Morie 00	450
Grout	0	3	6	Neat Cement	150
				Bentonite	10

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 18 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Fine Red Silty Sand
5
10 42 Med Fine Ok Red Sand + Gravel
15 Weathered Red Shale
20 Bedrock
EOH 20'

COPIES: White - DEP Canary - Driller

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No 265904

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.614

Owner NATHAN FENNO

Address 1 RAILROAD AVENUE
COOPERSTOWN, NY 13326

Driller AQUIFER DRILLING & TESTING, I

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, N.Y. 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND S.

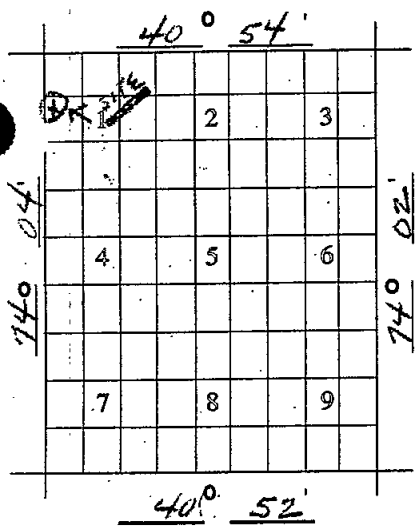
Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, N.J. 07609

Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

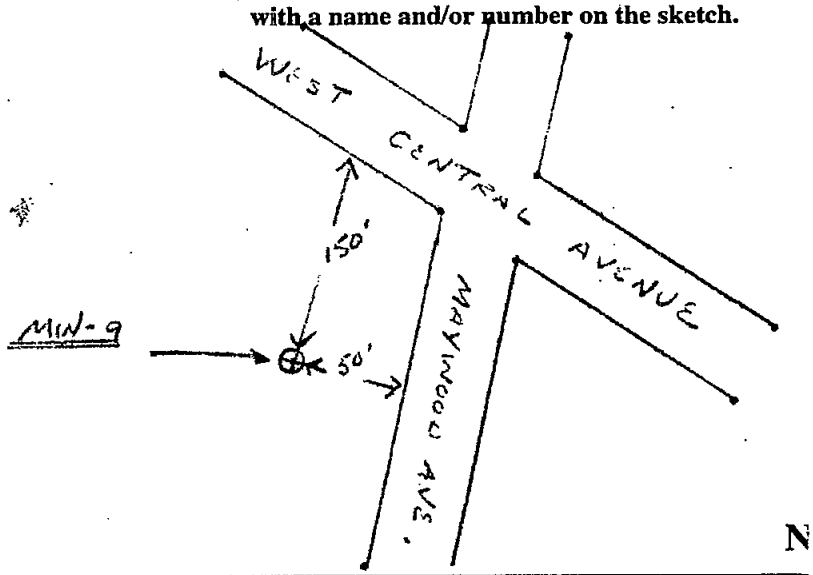
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
55	124	MAYWOOD	BERGEN

State Atlas Map No. 26



Draw sketch of well(s) nearest roads,buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Star

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 26 2000
BUREAU OF WATER ALLOCATI

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/21/00 Signature of Driller [signature] Registration No. T-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59042

Atlas Sheet Coordinates 26 :03 :614

OWNER IDENTIFICATION - Owner FENNO, NATHAN
Address 1 RAILROAD AVE.
City COOPERSTOWN State NY Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 9 S
County BERGEN Municipality MAYWOOD BORO Lot No. 55 Block No. 124
Address 100 N. HUNTER AVE.

DATE WELL STARTED 11 / 3 / 0
DATE WELL COMPLETED 11 / 3 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556 016

WELL CONSTRUCTION

Total depth drilled 13.5 ft.
Well finished to 13 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 12 ft.

Water level was measured using Tape

Well was developed for 2 hours
at .5 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	5	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	5	13	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	13.5	6	Morie 0	300 l.
Grout	0	3	6	Neat Cement Bentonite	150 10

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Medium Fine Red Silty Sand w/ Gravel & Cobbles
5
10
13.5 Red Shale
EOH 13.5

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 18 / 01

COPIES: White - DEP Canary - Driller Pink - Owner

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

34

Permit No. 265901

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.536

Owner MARY ANN RAMPOLLA - MAYWOOD BOROUGH CLERK

Address 459 MAYWOOD AVENUE

MAYWOOD, N.J. 07607

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE

MAYWOOD, NJ 07609

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD

NEW HYDE PARK, NY 11040

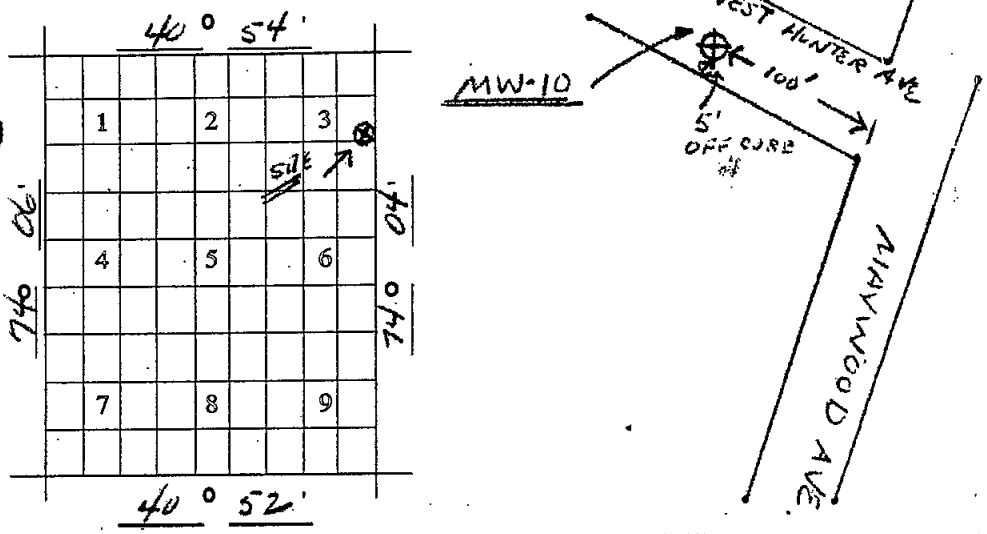
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W.	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. wit marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 26 2000
BUREAU OF WATER ALLOCATIO

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☐ For monitoring purposes only
☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 9/21/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59044

Atlas Sheet Coordinates 26 03 536

OWNER IDENTIFICATION - Owner MAYWOOD BOROUGH CLERK
Address 459 MAYWOOD AVE.
City MAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-10S
County BERGEN Municipality MAYWOOD BORO Lot No. ROW Block No. ROW
Address WEST HUNTER AVE & MAYWOOD

DATE WELL STARTED 11/2/00
DATE WELL COMPLETED 11/2/00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556 01

WELL CONSTRUCTION

Total depth drilled 11 ft.
Well finished to 10 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 10 ft.

Water level was measured using Tape

Well was developed for — 2 hours
at — .5 gpm

Method of development Submersible

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	5	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	5	10	2	PVC	Sch 4
Blank Casings (No. Used ,)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	11	6	Morie "0	250
Grout	0	3	6	Neat Cement Bentonite	94 lb 5 lb

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1/19/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Red Fine Silty Sand & Gravel
5
10 Red Shale Bedrock
EOH 11'

COPIES: White - DEP Canary: Driller

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

34

MONITORING WELL PERMIT

Permit No. 265904

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.539

Owner MR. HOWARD HELLER, ESQ.

Address 77 TARRYTOWN RD, SUITE 100
WHITE PLAINS, NY 10607

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07609

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

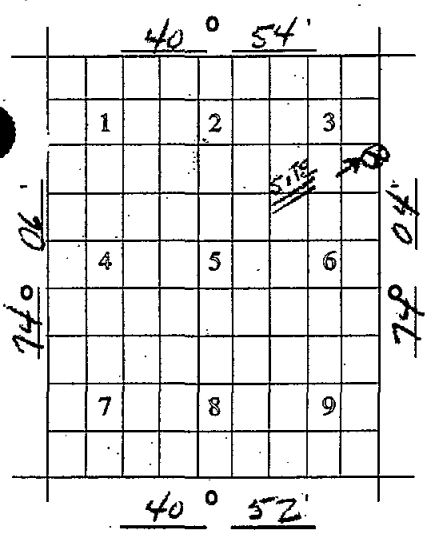
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

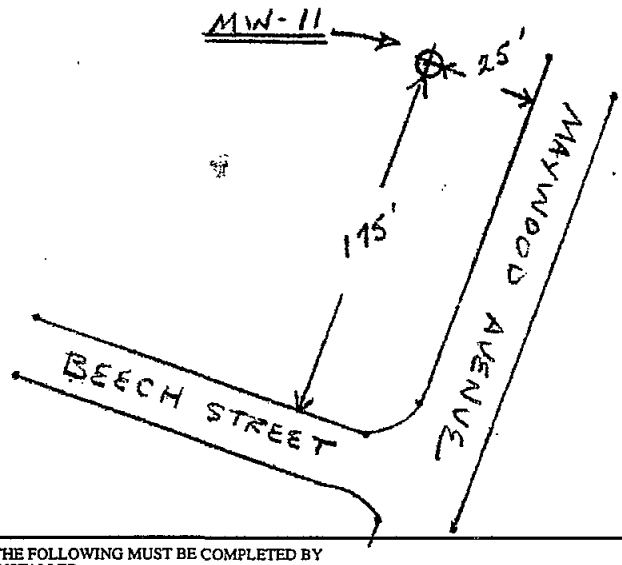
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
30	124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





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FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta:

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 26 2000
BUREAU OF WATER ALLOCATION

D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/21/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59046

Atlas Sheet Coordinates 26 03 539

OWNER IDENTIFICATION - Owner HELLER, HOWARD, ESQ.
Address 77 TARRYTOWN RD SUITE 100
City WHITE PLAINS State NY Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-11 S
County BERGEN Municipality MAYWOOD BORO Lot No. 30 Block No. 124
Address BEECH ST. & MAYWOOD AVE.

DATE WELL STARTED 11 / 28 / 0
DATE WELL COMPLETED 11 / 28 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (If applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 10.5 ft.
Well finished to 8.5 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☑ flush mounted

ished above grade, casing height (stick above land surface — ft.

Was steel protective casing installed?
☐ Yes ☑ No

Static water level after drilling 4.3 ft.

Water level was measured using Tape

Well was developed for 1 hours
at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch n
Single/Inner Casing	0	3.5	2	PVC	Sch 40
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	3.5	8.5	2	PVC	Sch 40
Blank Casings (No. Used	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	1.5	10.5	6	Morie 00	250
Grout	0	1.5	6	Neat Cement Bentonite	94 lb 4 lb

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 19 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Med. Fine Dark Red Silty Sand & Gravel w/ cobbles
5
10 Red Shale
EOH 10.5

COPIES: White - DEP Canary - Driller Pink - Co

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34

Permit No. 26570

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.073534

Owner WILLIAM DE SAUSSAVRE

Address 23 WEST HOWCROFT ROAD
MAYWOOD, NJ 07607

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, NJ 07609

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, N.Y. 11040

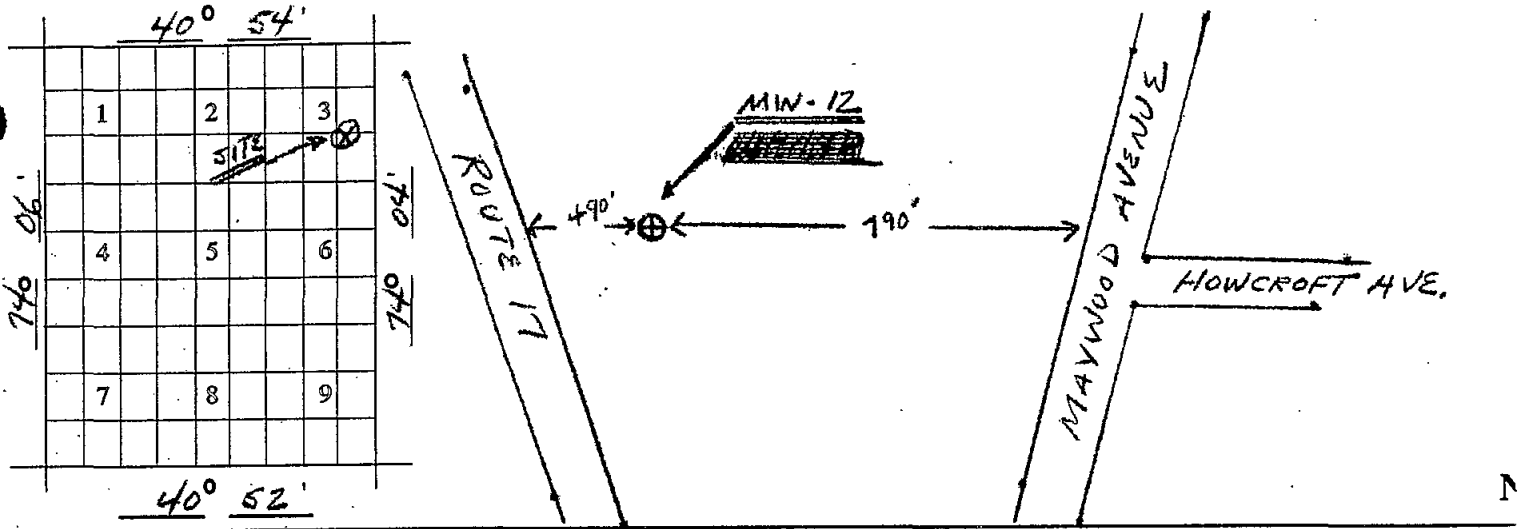
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	N/A cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
17	124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta:

WELL PERMIT APPR
N.J.D.E.P.
SEP 27 200
BUREAU OF WATER AL

D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/25/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59051

Atlas Sheet Coordinates 26 :03 536

OWNER IDENTIFICATION - Owner DeSAUSSAYRE, WILLIAM
Address 23 W. HOWCROFT ROAD
City MAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-12S
County BERGEN Municipality MAYWOOD BORO Lot No. 17 Block No. 124
Address ROUTE 17 & MAYWOOD AVENUE

DATE WELL STARTED 11/29/01
DATE WELL COMPLETED 11/29/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 19 ft.
Well finished to 14 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 7 ft.

Water level was measured using Tape

Well was developed for 1.5 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	4	2"	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	4	14	2"	PVC	Sch 4
Blank Casings (No. Used	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	19	6	Morie 0	500 lb
Grout	0	2	6	Neat Cement Bentonite	50 4

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Med. Dark Brown Silty Sand
5 ↓
Med Fine Red Silty Sand and Gravel
10 ↓
15 Bedrock Red Shale EOH 19'
20

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1/19/01

COPIES: White - DEP Canary - Driller Pink - Owner Gold -

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34

Permit No. 21 576

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 . 03 5 58

Owner JOSEPH MUSCARELLE, JR.

Address 99 ESSEX STREET
MAYWOOD, N.J. 07607

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07609

Driller ADVANCED DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

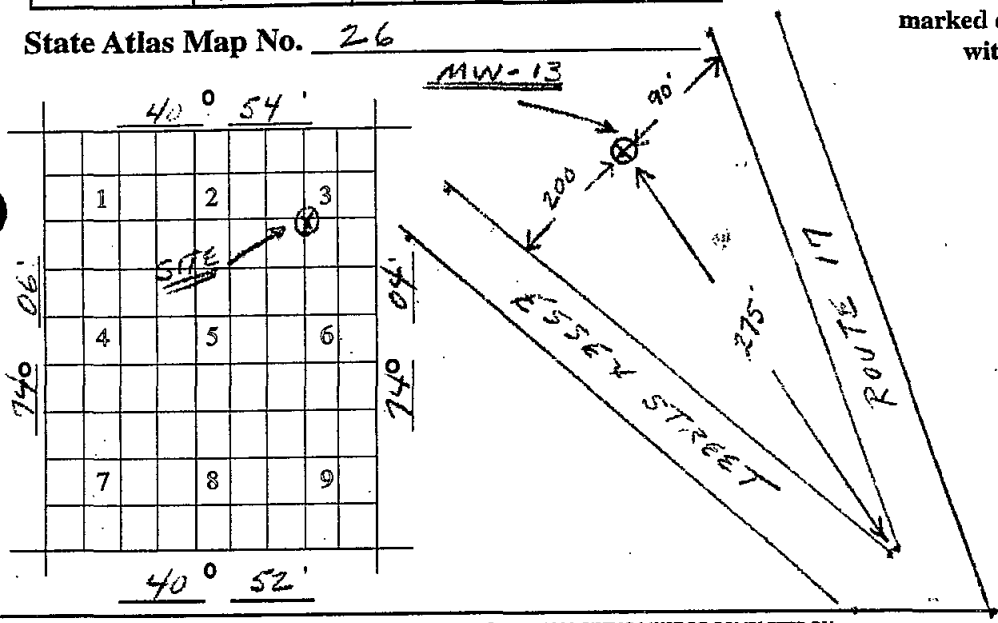
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	125	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPRO
N.J.D.E.P.
SEP 27 200
BUREAU OF WATER ALL

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/25/00 Signature of Driller [signature] Registration No. J-1494

Signature of Property Owner [signature]

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59052

Atlas Sheet Coordinates 26 :03 538

OWNER IDENTIFICATION - Owner MUSCARELLE, JOSEPH JR.
Address 99 ESSEX STREET
City MAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 13 S
County BERGEN Municipality MAYWOOD BORO Lot No. 1 Block No. 125
Address ESSEX STREET & ROUTE 17

DATE WELL STARTED 12 / 5 / 00
DATE WELL COMPLETED 12 / 5 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556 01

WELL CONSTRUCTION

Total depth drilled 14.75 ft.
Well finished to 11 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

nished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 3 hours
at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	4	2	PVC	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	4	11	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	14.75	6	Morie 0	3501
Grout	0	2	6	Neat Cement	96
				Bentonite	4

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above refererenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 1 / 19 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Black Top
Med. Fine Red Silty Sand w/ Gravel & Cobbles
5
10
15 Red Shale
EOH 14.75

COPIES: White - DEP Canary - Driller Pink - C

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 31

Permit No. 2[illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: [illegible]

Owner ROBERT WELLINS

Address 411 ROUTE 17
HASBROUCK HEIGHTS NJ 07604

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, NJ 07609

Driller AQUIFER DRILLING & TESTING INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

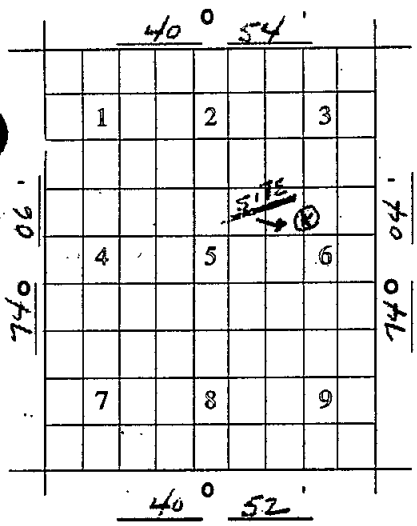
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

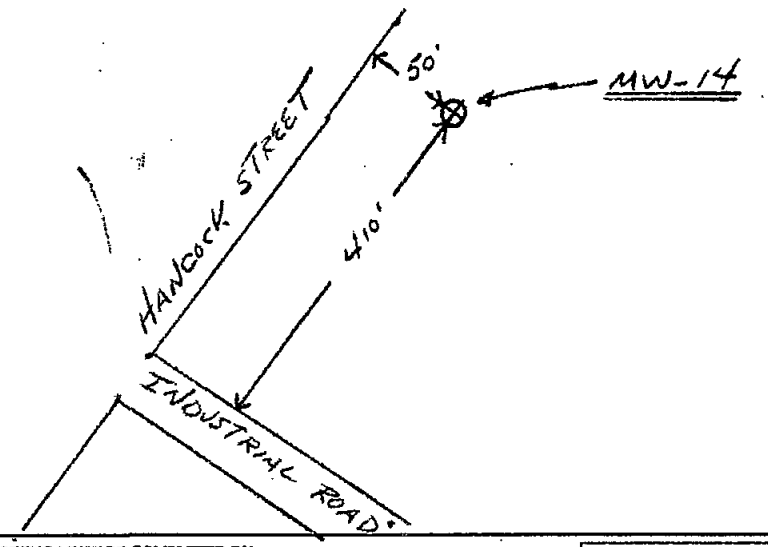
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
2.04	205.03	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta:

WELL PERMIT APPRO
N.J.D.E.P.
SEP 27 2000
BUREAU OF WATER ALLC

D.E.P. USE

- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/25/00 Signature of Driller [illegible] Registration No. J-1494

Signature of Property Owner [illegible]

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. ~~26~~ ~~59053~~

Atlas Sheet Coordinates ~~26~~ 03 562

OWNER IDENTIFICATION - Owner ~~WELLINS, ROBERT~~
Address ~~411 ROUTE 17~~
City ~~HASBROUCK HEIGHTS~~ State ~~NJ~~ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-14S
County ~~BERGEN~~ Municipality ~~LODI BORO~~ Lot No. ~~2.04~~ Block No. ~~205.0~~
Address ~~HANCOCK ST. & INDUSTRIAL~~

DATE WELL STARTED 11/13/0
DATE WELL COMPLETED 11/13/0

TYPE OF WELL (as per Well Permit Categories) ~~MONITORING~~
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 22 ft.
Well finished to 20 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

nished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 5 ft.

Water level was measured using Tape

Well was developed for 5 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	4	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	4	14	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	14	20	2	PVC	Sch 4
Gravel Pack	2	22	6	Morie 0	400
Grout	0	2	6	Neat Cement Bentonite	94 6

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company ~~H. LEONARD REXRODE, JR.~~
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1/23/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0	Black Top
5	Medium fine Red Silty Sand W Gravel & Cobbles
10	
15	
20	Weathered Rock
22	Red Shale / Sandstone
	EOH 22

COPIES: White - DEP Canary - Driller Pink - Owner

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 2653

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 . 05 . 52

Owner NJ DEPT. OF TRANSPORTATION, ATTN: DONALD CHIACCHIO

Address 1035 PARKWAY AVENUE
TRENTON, NJ 08625

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07609

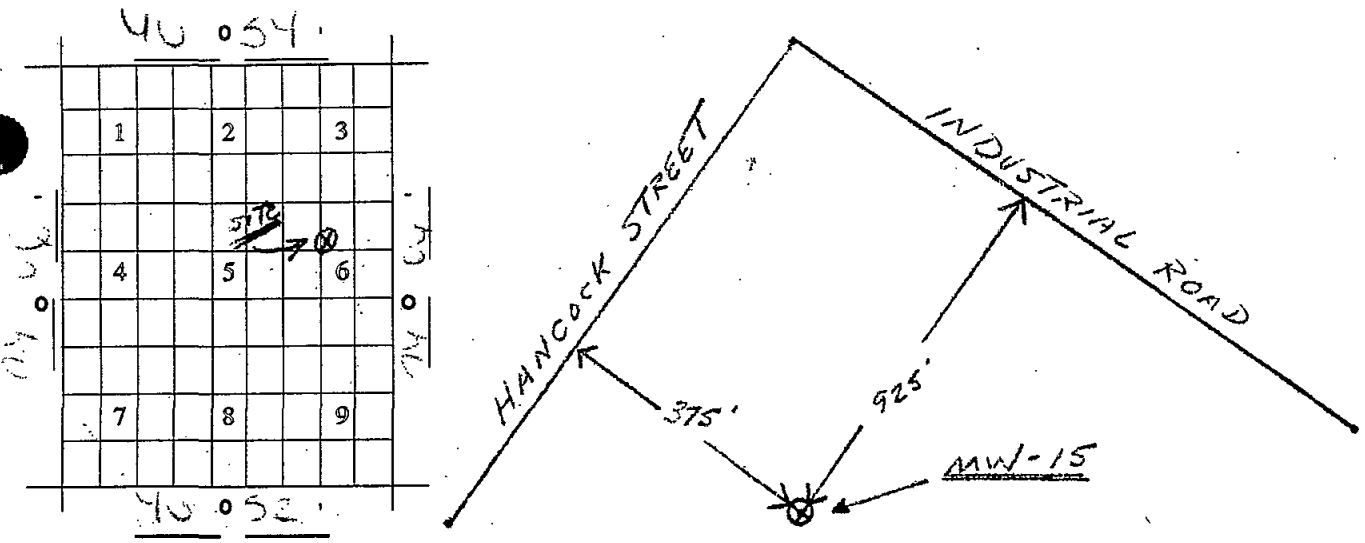
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1.05	205.02	0001	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta:
WELL PERMIT APPROVED
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALLOCA

R D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached (see next page)
☒ For monitoring purposes only
☐
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/26/00 Signature of Driller [signature] Registration No. J-1494

J-489

Signature of Property Owner

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59095

Atlas Sheet Coordinates 26 03 562.

OWNER IDENTIFICATION - Owner NJ DEPT. OF TRANSPORTATIO
Address 1035 PARKWAY AVE.
City TRENTON State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-15 S
County BERGEN Municipality LODI BORO Lot No. 1.05 Block No. 205.0
Address HANCOCK & INDUSTRIAL ROAD

DATE WELL STARTED 11 / 17 / 0
DATE WELL COMPLETED 11 / 17 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556 016

WELL CONSTRUCTION

Total depth drilled 24 ft.
Well finished to 19 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☑ flush mounted

inished above grade, casing height (stick-p) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 5.8 ft.

Water level was measured using Tape

Well was developed for 1 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	4	2	PVC	SCR
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	4	14	2	PVC	SCR 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	14	19	2	PVC	Sch 4
Gravel Pack	2	24	6	Morie 0	800 lb
Grout	0	2	6	Neat Cement Bentonite	94 6

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Black Top
Red Silty Clay
5
10 Red Brown Medium Fine Silty Sand + Gravel
15
20 Weathered Red Shale
24 EOH 24'

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
ell Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 23 / 01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

31

MONITORING WELL PERMIT

Permit No. 26 5[illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: [illegible]

Owner BARBRA SCHWARTZ
Address 476 BLOOMFIELD AVENUE
MONTCLAIR, NJ 07042

Driller AQUIFER DRILLING & TESTING, INC
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK N.Y 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE
Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07609

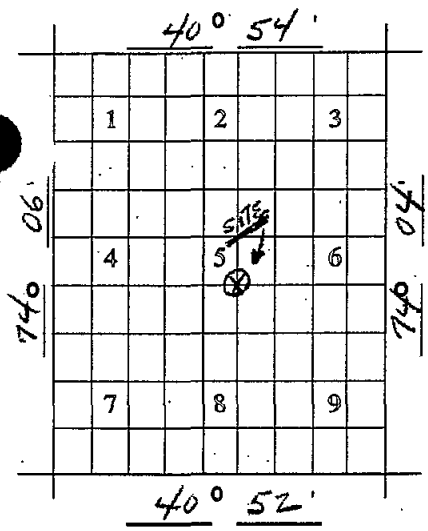
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

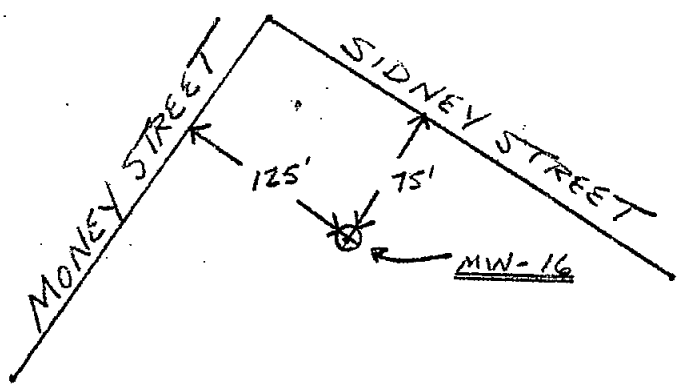
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
5	164	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





N

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPROVE
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALLOC

D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐

☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/26/00 Signature of Driller [signature] Registration No. [illegible]

Signature of Property Owner [signature]

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59097

Atlas Sheet Coordinates 26 03 556

OWNER IDENTIFICATION - Owner SCHWARTZ, BARBRA
Address 476 BLOOMFIELD AVE
City TRENTON State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-16 S
County BERGEN Municipality LODI BORO Lot No. 5 Block No. 164
Address MONEY ST. & SIDNEY ST.

DATE WELL STARTED 11 / 14 / 00
DATE WELL COMPLETED 11 / 14 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556 016

WELL CONSTRUCTION

Total depth drilled 16 ft.
Well finished to 14 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☒ above grade
☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 5 ft.

Water level was measured using Tape

Well was developed for 1 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 1 / 23 / 01

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	4	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	4	14	2	PVC	Sch 4(
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	14	6	Morie 0	50016
Grout	0	2	6	Neat Cement Bentonite	94 l 6 l

Grouting Method Tremmie
Drilling Method Drive and Wash Rotar

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Black Top
Red Med Fine Silty
5 Sand & Gravel
10
15
16 EOH 16'

J-192

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 31

Permit No. 2658

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 - 05 - 52

Owner DEBRA CANNIZZO - LODI BOROUGH CLERK

Address ONE MEMORIAL DRIVE
LODI, NJ 07644

Driller ADVANCED DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND S.F.

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07607

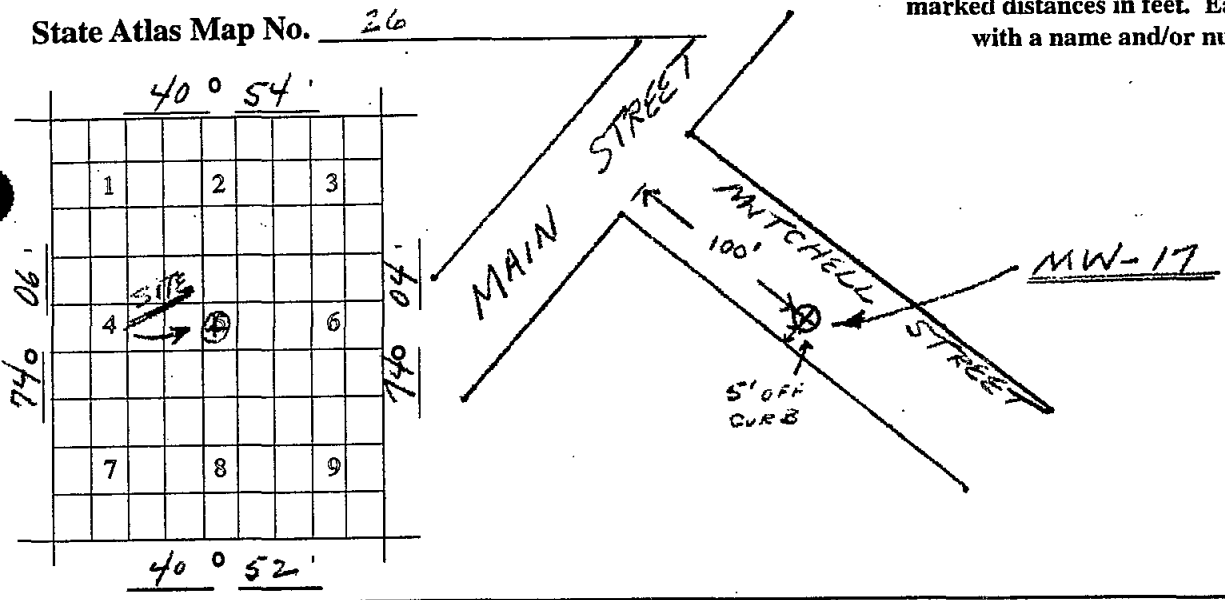
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W.	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labelec with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPROV
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALLO

OR D.E.P. USE

☐ Issuance of this permit is subject to the conditions attached. (see next page)

☑ For monitoring purposes only

☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR *IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.*
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/26/00 Signature of Driller [signature] Registration No. 5-1414

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59099

Atlas Sheet Coordinates 26 03 555

OWNER IDENTIFICATION - Owner LODI BOROUGH
Address ONE MEMORIAL DRIVE
City LODI State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 17 S
County BERGEN Municipality LODI BORO Lot No. ROW Block No. ROW
Address MITCHELL STREET

DATE WELL STARTED 11 / 21 / 00
DATE WELL COMPLETED 11 / 21 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 11.5 ft.
Well finished to 10 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 1 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch nc
Single/Inner Casing	0	4	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used, 0.010)	4	10	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	11.5	6	Morie 00	350 l
Grout	0	2	6	Neat Cement Bentonite	94 6

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Red Silty fine Sand w Clay
5
10
11.5 Red Shale Bedrock
EOH 11.5

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 23 / 01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 31

Permit No. 26 5911

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26.03553

Owner DEBRA CANNIZZO - LODI BOROUGH CLERK

Address ONE MENIORING DRIVE
LODI, NJ. 07644

Name of Facility MAYWOOD CHEMICAL Co. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07607

Driller AQUIFER DRILLING & TESTING, INC.

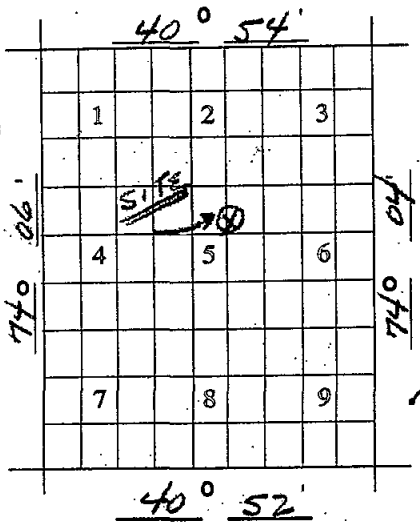
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

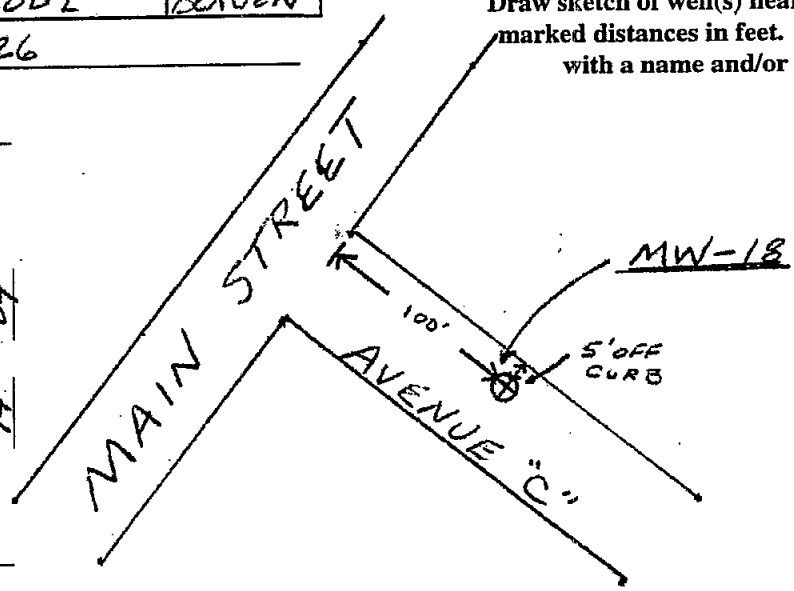
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W.	LODI	BERGEN

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPRC
N.J.D.E.P.

SEP 29 [redacted]

OF WATER ALLC

D.E.P. USE

☐ Issuance of this permit is subject to the conditions attached. (see next page)

☒ For monitoring purposes only

☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/27/00 Signature of Driller [signature] Registration No. J-1494

J-1494

Signature of Property Owner

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59102

Atlas Sheet Coordinates 26 - 03 - 553

OWNER IDENTIFICATION - Owner LODI BOROUGH
Address ONE MEMORIAL DRIVE
City LODI State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-18 S
County BERGEN Municipality LODI BORO Lot No. ROW Block No. ROW
Address AVENUE C

DATE WELL STARTED 11 / 20 / 0
DATE WELL COMPLETED 11 / 20 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556 01

WELL CONSTRUCTION

Total depth drilled 20.5 ft.
Well finished to 14 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 5 ft.

Water level was measured using Tape

Well was developed for 1 hours
at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	4	2	PVC	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	4	14	2	PVC	Sch 4
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	20.5	6	Morie 0	700 l
Grout	0	2	6	Neat Cement Bentonite	94 l 6 l

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0
5 Red Silty Clay + Sand w/ Cobbles
10
15
20
21 Red Shale
EOH 21'

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 22 / 01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health D

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26 5711

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 .03.5 32

Owner VIRGINIA DiMARIA - ROCHELLE PARK TWP CLERK
Address 194 - D ROUTE 17 NORTH
ROCHELLE PARK, NJ 07662

Driller AQUIFER DRILLING & TESTING, INC.
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

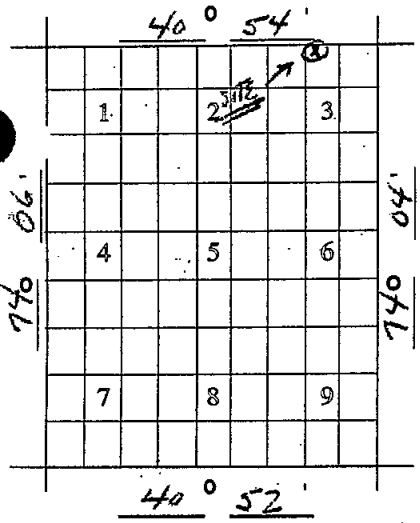
Name of Facility MAYWOOD CHEMICAL CO SUPERFUND SITE
Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07607

Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	N/A cumulative

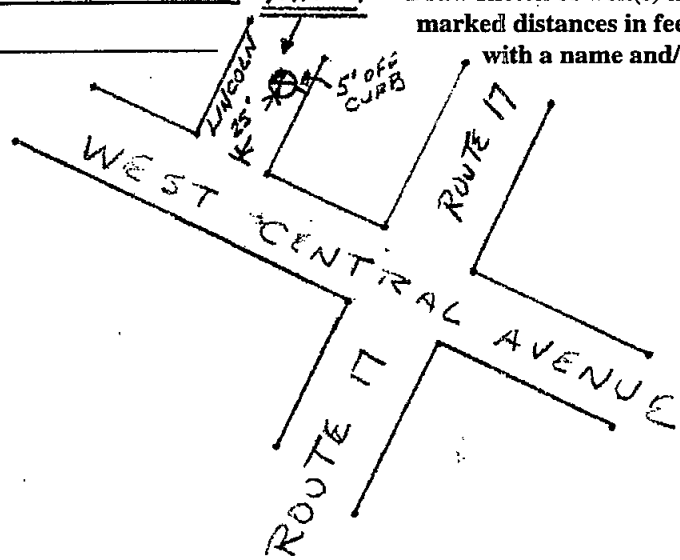
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W.	ROCHELLE PARK	BERGEN

State Atlas Map No. 26



Draw sketch of well(s) nearest roads,buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



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FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Star

WELL PERMIT APPROVE
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALLOC

D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/27/00 Signature of Driller N.D. Registration No. T-1494

Signature of Property Owner

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59104

Atlas Sheet Coordinates 26 03 532

OWNER IDENTIFICATION - Owner ROCHELLE PARK TOWNSHIP
Address 194 0 ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 19 S
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address WEST CENTRAL AVE. & LINCO

DATE WELL STARTED 11 / 1 / 0
DATE WELL COMPLETED 11 / 1 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556 01

WELL CONSTRUCTION

Total depth drilled 13 ft.
Well finished to 13 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 9.5 ft.

Water level was measured using Tape

Well was developed for 1 hours
at 1/2 gpm

Method of development Submersible

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch nc
Single/Inner Casing	0	8	2	PVC	Sch 40
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	8	13	2	PVC	Sch 4(
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	6	13	6	Morie O	250 l
Grout	0	6	6	Neat Cement Bentonite	200 lb 12 lb

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Medium fine Red Silty Sand w/ Gravel
5
10
EOH 13'
15

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 1 / 22 / 01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Hook

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34

Permit No. [illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.533

Owner NATHAN FENNO

Address 1 RAILROAD AVENUE
COOPERSTOWN, NY 13326

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07607

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

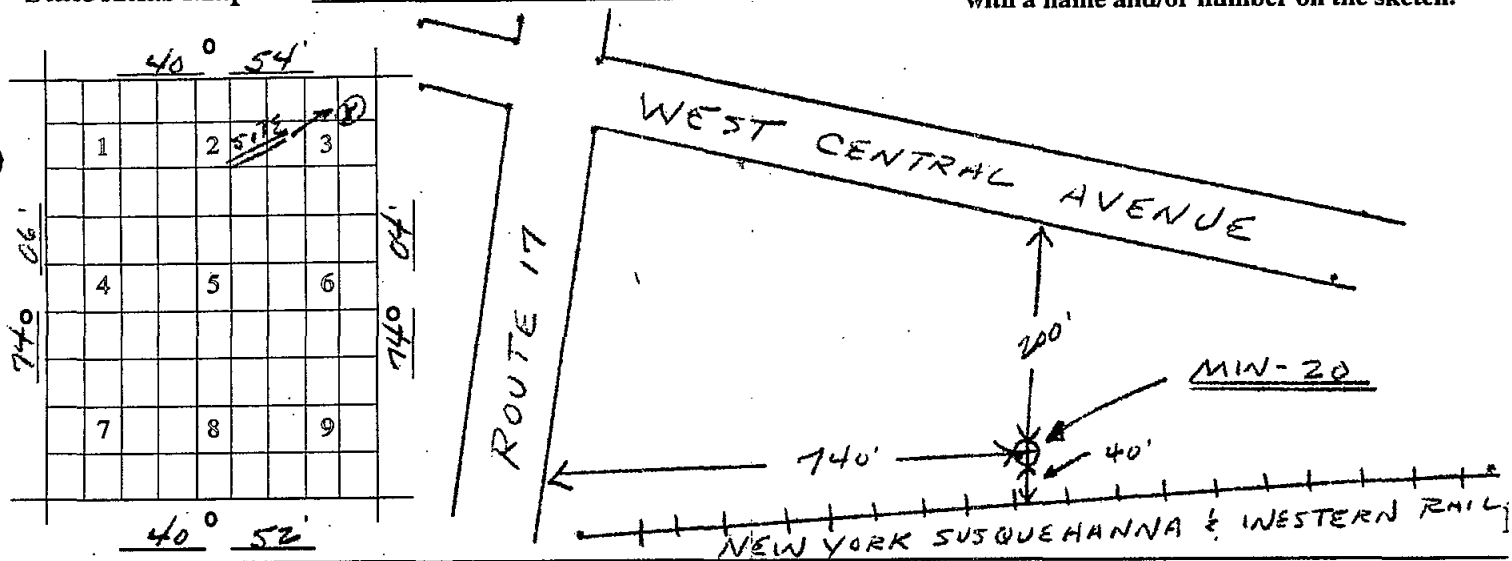
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulati

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
55	124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval S

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALLOCAT

D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☑ *For monitoring purposes only*
☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/27/00 Signature of Driller [signature] Registration No. J.1494

Signature of Property Owner

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59107

Atlas Sheet Coordinates 26 : 03 : 533

OWNER IDENTIFICATION - Owner FENNO, NATHAN

Address 1 RAILROAD AVENUE

City COOPERSTOWN State NY Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 20 S

County BERGEN Municipality MAYWOOD BORO Lot No. 55 Block No. 124

Address WEST CENTRAL AVE.

DATE WELL STARTED 11/27/0

DATE WELL COMPLETED 11/27/0

TYPE OF WELL (as per Well Permit Categories) MONITORING

Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556 01

WELL CONSTRUCTION

Total depth drilled 20 ft.

Well finished to 15 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 10 ft.

Water level was measured using Tape

Well was developed for 1 hours at 1 gpm

Method of development Submersible

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ra (lbs/sch
Single/Inner Casing	0	5	2	PVC	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	5	15	2	PVC	Sch
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	20	6	Morie 00	
Grout	0	3	6	Neat Cement Bentonite	94 4

Grouting Method Tremie

Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolida formations.

0 Medium fine Red Silty Sand w Clay

5 ↓

10 Med fine Sand and Gravel

15 ↓

20 Red Shale
EOH 20

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 1/22/01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

54
5

MONITORING WELL PERMIT

Permit No. 26 [illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 .035 34

Owner Rochelle Park Twp. Clerk
Address 190 [illegible] Rt. 17 North
Rochelle Park N. J.

Driller Aquifer Drilling & Testing Inc.
Address 150 Nassau Terminal Road
New Hyde Park N.Y. 11046

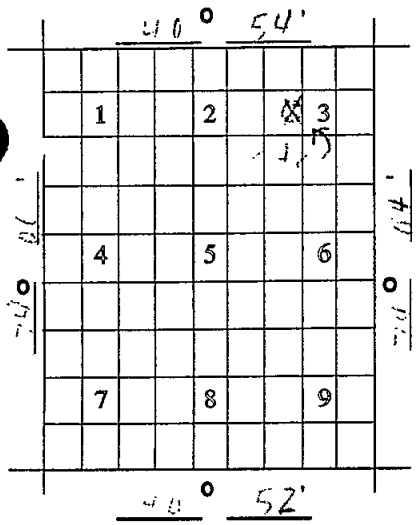
Name of Facility [illegible] Chemical Superfund Site
Address c/o Stone [illegible] 100 W. Hunter Ave
Maywood N.J. 07609

Diameter of Well(s)	6 Inches	Proposed Depth of Well(s)	
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ No
Type of Well (see reverse)	Recovery	If Yes, give pump capacity	10 — cumulative

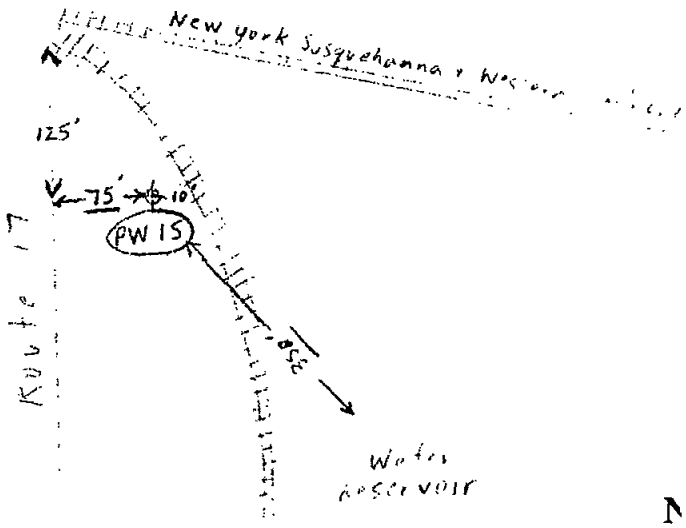
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	12B	Rochelle Pk	Bergen

State Atlas Map No. 26



Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta:

WELL PERMIT APPR
N.J.D.E.P.
MAR 28 20[illegible]
BUREAU OF WATER AL

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐

☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 3/15/01 Signature of Driller [signature] Registration No. 1579

Signature of Property Owner [signature]

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____:_____:_____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PW 1 S
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED 4 / 2 / 0
DATE WELL COMPLETED [illegible] / [illegible] / _____

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) [illegible] Tele. # [illegible]

WELL CONSTRUCTION

Total depth drilled 23.5 ft.
Well finished to 23.5 ft.

Borehole diameter:
Top 8 in.
Bottom 8 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 4 hours at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	3.5	4	[illegible]	[illegible]
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used [illegible])	3.5	23.5	4	[illegible]	[illegible]
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	23.5	8	Morie #0	900
Grout	0	3	8	Neat Cement Bentonite	188 12

Grouting Method Tremmie [illegible]
Drilling Method [illegible] + Wash Rotary

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Mobile B-61

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Wall

Driller's Signature Steve Wall

Registration No. 1573 Date 6 / 6 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Grass + Topsoil
[illegible] White silt
↓
10 Black/Gray Fine Medium Sand + Silt
↓
20 Red Brown Sand + Gravel
23.5 [illegible] 23.5 [illegible]

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: 24° 24' __.__" LONGITUDE: __° __' __

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. _____

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 29 • 03 • 39

Owner Rochelle Park Twp Clerk

Address 194 - D Rt 17 North
Rochelle Park N.J.

Name of Facility Maywood Chemical Superfund Site

Address c/o Stone & Webster 100 W. Hunter Ave.
Maywood N.J. 07609

Driller Aquifer Drilling & Testing

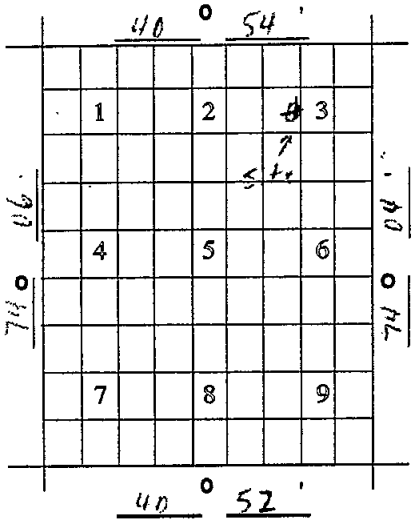
Address 150 Nassau Terminal Rd
New Hyde Park N.Y. 11040

Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	20
# of Wells Applied for (max. 10)	8	Will pumping equipment be utilized?	YES ☐
Type of Well (see reverse)	Piezometer	If Yes, give pump capacity	— cumulati

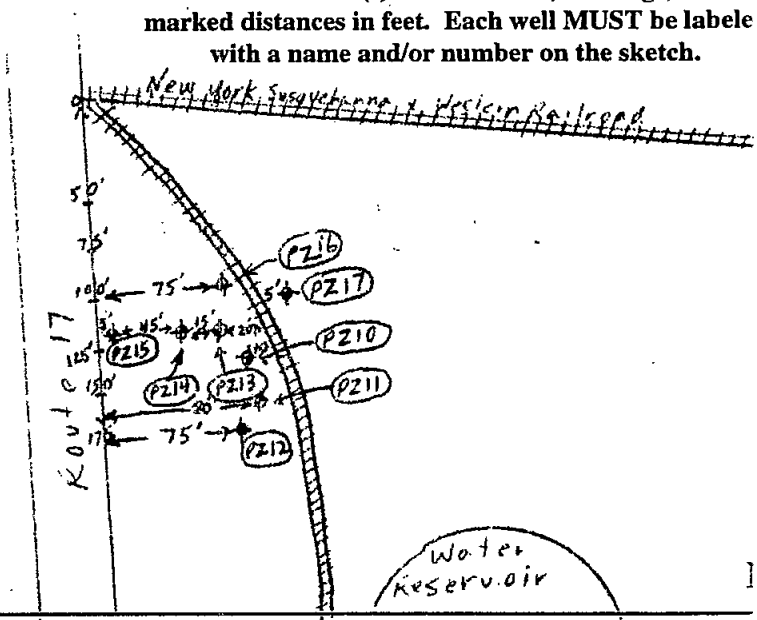
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	12 B	Rochelle Pk	Bergen

State Atlas Map No. 26



Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)_____

CASE I.D. Number _____

This Space for Approval St

WELL PERMIT APPROVED
N.J.D.E.P.
MAR 28 2001
BUREAU OF WATER ALLOCA

R ☐ Issuance of this permit is subject to the conditions attached. (see next page)
D.E.P. USE ☐ For monitoring purposes only
☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 3/15/01 Signature of Driller _____ Registration No. 1579

Signature of Property Owner _____

DWR-020
8/97

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: **Bureau of Water Allocation**
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-60-12 of well sealed

DATE WELL SEALED 8-7-01

PROPERTY OWNER Rochelle Pk. Twp. Clerk

ADDRESS 194-D Rt 17 North Rochelle Pk, NJ

WELL LOCATION Haywood Chemical Superfund site 100 W. Hunted Ave Haywood, BERGE
Street & No., Township, County

OBP2-9	1	12-B
Well No.	Lot No.	Block No.

USE OF WELL PRIOR TO ABANDONMENT: Water Level Testing

REASON FOR ABANDONMENT: Test Complete

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL

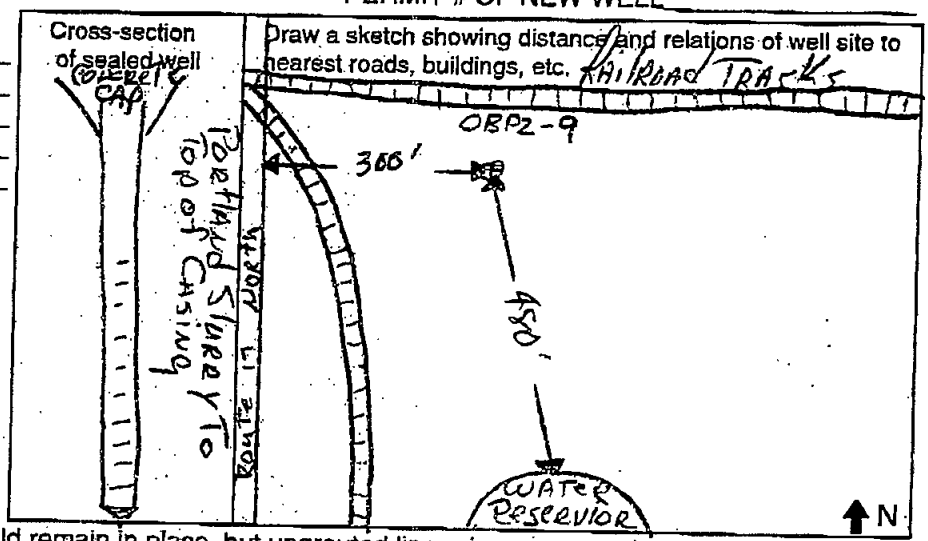
TOTAL DEPTH OF WELL	18'
DIAMETER	1"
CASING LENGTH	3'
SCREEN LENGTH	15'
NUMBER OF CASINGS	1

MATERIAL USED TO DECOMMISSION WELL:

6	Gallons of Water
94	Lbs. of Cement
6	Lbs. of Bentonite
-	Lbs. of Sand/Gravel (none if well is contaminated)

FORMATION: ___ Consolidated X Unconsolidated

Cross-section of sealed well



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS: ___

IF "YES", AUTHORIZATION GRANTED BY ___ (NJDEP Official) ON ___ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by ___ (NJDEP Official) ON ___ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Richard M. Tabor	2100 S. Wood Ave Linden, NJ	9-5-01
Performing Work (Print or Type) Name of NJ Certified Well Sealer	Address	Mailing Date
Richard M. Tabor		T-1598
Signature of NJ Certified Well Sealer Performing Work		Registration #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____:_____:____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PZ 10
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED 4/7/__
DATE WELL COMPLETED 4/7/01

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Clare Webster Tele. # (201) 221-611

WELL CONSTRUCTION

Total depth drilled 24 ft.
Well finished to 24 ft.

Borehole diameter:
Top 3 in.
Bottom 3 in.

Well was finished: ☐ above grade
☒ flush mounted

" finished above grade, casing height (stick) above land surface _____ ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 4 hours
at 1/2 gpm

Method of development Centrifugal pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity - gpm

Pump type: -

Drilling Fluid - Type of Rig Cooper

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	4	1	PVC	Sch 40
Middle Casing (for triple cased wells only)	-	-	-	-	-
Outer Casing (largest diameter)	-	-	-	-	-
Open Hole or Screen (No. Used .010)	4	24	1	PVC	Sch 40
Blank Casings (No. Used)	-	-	-	-	-
Tail Piece	-	-	-	-	-
Gravel Pack	3	24	3	Morie #0	200
Grout	0	3	3	Neat Cement Bentonite	20 lb 6 lb

Grouting Method Pumped
Drilling Method Mud rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 Fill
Wet to 5' Brown sand
5 Saturated Medium to fine
sand to 24'
24 ↓
24 Red brown Medium Sand
to Rock

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 379 Date 6/6/01

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 460116 EASTING: 740702

OR

LATITUDE: __° __' __.__" LONGITUDE: __° __' __"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____ : _____ : ____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PZ 11
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED 4 / 7 / __
DATE WELL COMPLETED 4 / 7 / __

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Hers + Waldeck Tele. # 201 327 ...

WELL CONSTRUCTION

Total depth drilled 24 ft.
Well finished to 24 ft.

Borehole diameter:
Top 3 in.
Bottom 3 in.

Well was finished: ☐ above grade
☒ flush mounted

" finished above grade, casing height (stick) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using tape

Well was developed for 4 hours
at .5 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch nc
Single/Inner Casing	0	4	1	PVC	.f
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .01( )	4	24	1	PVC	
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	24	3	Morie #0	200 l
Grout	0	2	3	Neat Cement Bentonite	90 lt 6 lt

Grouting Method Tremmie
Drilling Method Hand Auger

Method of development Peristaltic pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Geoprobe

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Welch

Driller's Signature _____

Registration No. 1079 Date 4 / 7 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0
fill white silt
5 process waste
10 yellow red fine sand
15 tan sand
20 red brown fine sand & gravel
24 red clay red shale
end 24

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 405916 EASTING: 748762
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____:_____:____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PZ12
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED __/__/__
DATE WELL COMPLETED __/__/__

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Steve Welsler Tele. # 21[illegible]

WELL CONSTRUCTION

Total depth drilled 18 ft.
Well finished to 18 ft.

Borehole diameter:
Top 3 in.
Bottom 3 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 4 hours
at .5 gpm

Method of development peristaltic pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Geoprobe

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	3	1	PVC	
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used PVC)	3	18	1	PVC	
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	15	3		
Grout	0	2	3	Neat Cement Bentonite	— 6

Grouting Method [illegible]
Drilling Method [illegible]

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Welsler

Driller's Signature Steve Welsler

Registration No. 1579 Date 1/1/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

[illegible]

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: [illegible] EASTING: [illegible]

OR

LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____:_____:____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PZ 13
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED ____/____/____
DATE WELL COMPLETED ____/____/____

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Jane T Webster Tele. # 201 226 (illegible)

WELL CONSTRUCTION

Total depth drilled 15 ft.
Well finished to 15 ft.

Borehole diameter:
Top 3 in.
Bottom 3 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using tape

Well was developed for 4 hours
at 5 gpm

Method of development portable pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Geoprobe

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratii (lbs/sch n
Single/Inner Casing	0	3	1	PVC	sch 40
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used slot)	3	5	1	PVC	sch 40
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	2	15	3	Silica	150
Grout	0	2	3	Neat Cement Bentonite	— 1

Grouting Method tremie
Drilling Method hollow stem auger

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1679 Date 1/1/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0
(illegible) Gravel
(illegible) Wash
10
(illegible) Sand
(illegible) Fine Grain Sandstone
15 18'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: (illegible) EASTING: (illegible)

OR

LATITUDE: ° ' . " LONGITUDE: ° '

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____:_____:_____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PZ 14
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED 4 / 12 / [illegible]
DATE WELL COMPLETED [illegible] / 12 / [illegible]

TYPE OF WELL (as per Well Permit Categories) [illegible]
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 226-[illegible]

WELL CONSTRUCTION

Total depth drilled 21 ft.
Well finished to 21 ft.

Borehole diameter:
Top 3 in.
Bottom 3 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 7 ft.

Water level was measured using Tape

Well was developed for [illegible] hours at .5 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch no
Single/Inner Casing	0	6	1	PVC	[illegible]
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used .010)	6	21	1	PVC	[illegible]
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	4	21	3	Morie #6	15[illegible]
Grout	6	4	3	Neat Cement Bentonite	[illegible] [illegible]

Grouting Method [illegible]
Drilling Method [illegible]

Method of development [illegible]

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Geoprobe

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 6 / 6 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
21 [illegible]

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: [illegible] EASTING: [illegible]
OR
LATITUDE: ___ ° ___ ' ___ . ___ " LONGITUDE: ___ ° ___ ' ___

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____:_____:_____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PZ 15
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED __/__/__
DATE WELL COMPLETED __/__/__

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 226 6615

WELL CONSTRUCTION

Total depth drilled 21 ft.
Well finished to 21 ft.

Borehole diameter:
Top 3 in.
Bottom 3 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface – ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 7 ft.

Water level was measured using Tape

Well was developed for 4 hours at .5 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch no
Single/Inner Casing	0	6	1	[illegible]	[illegible]
Middle Casing (for triple cased wells only)	–	–	–	–	–
Outer Casing (largest diameter)	–	–	–	–	–
Open Hole or Screen (No. Used)	6	21	1	[illegible]	[illegible]
Blank Casings (No. Used)	–	–	–	–	–
Tail Piece	–	–	–	–	–
Gravel Pack	3	21	3	Morie 0	[illegible]
Grout	0	3	3	Neat Cement Bentonite	[illegible] lb [illegible] lb

Grouting Method [illegible]
Drilling Method [illegible]

Method of development [illegible] pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity – gpm

Pump type: –

Drilling Fluid – Type of Rig Geoprobe

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Wold

Driller's Signature Steve Wold

Registration No. 1579 Date __/__/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0
[illegible]
[illegible]
[illegible]
10
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: [illegible] EASTING: [illegible]
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __

J-210

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____ : _____ : _____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PZ 16
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED _____
DATE WELL COMPLETED _____

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Steve Walker Tele. # _____

WELL CONSTRUCTION

Total depth drilled 20 ft.
Well finished to 20 ft.

Borehole diameter:
Top 3 in.
Bottom 3 in.

Well was finished: ☐ above grade
☑ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 7 ft.

Water level was measured using Tape

Well was developed for 4 hours
at .5 gpm

Method of development bailing pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Geoprobe

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	6	1	PVC	
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used 010)	6	20	1	PVC	Sch 40
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	3	20	3	Filter Pack	
Grout	0	3	3	Neat Cement Bentonite	— lb — lb

Grouting Method tremie
Drilling Method direct push

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

Well Driller (Print) Steve Walker

Driller's Signature Steve Walker

Registration No. 579 Date 5/16/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0
[illegible]
[illegible] brick [illegible]
[illegible] brick [illegible]
[illegible] [illegible] [illegible]
20
3

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: [illegible] EASTING: [illegible]

OR

LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____ : _____ : _____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. F 2 17
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED _ / _ / _
DATE WELL COMPLETED _ / _ / _

TYPE OF WELL (as per Well Permit Categories) _____
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 18 ft.
Well finished to 18 ft.

Borehole diameter:
Top 2 in.
Bottom 3 in.

Well was finished: ☐ above grade
☑ flush mounted

Finished above grade, casing height (stick up above land surface) _____ ft.

Was steel protective casing installed? ☐ Yes ☑ No

Static water level after drilling 7 ft.

Water level was measured using Tape

Well was developed for 4 hours
at ½ gpm

Method of development _____

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.
Single/Inner Casing	0	3	1	PVC	Sch 40
Middle Casing (for triple cased wells only)	–	–	–	–	–
Outer Casing (largest diameter)	–	–	–	–	–
Open Hole or Screen (No. Used .010)	3	18	1	PVC	Sch 40
Blank Casings (No. Used)	–	–	–	–	–
Tail Piece	–	–	–	–	–
Gravel Pack	2	18	3	Silica	–
Grout	0	2	3	Neat Cement Bentonite	_____ lbs 4 lbs

Grouting Method Tremied
Drilling Method Hollow Stem

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity – gpm

Pump type: –

Drilling Fluid – Type of Rig Geoprobe

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company _____

'I Driller (Print) _____

Driller's Signature _____

Registration No. _____ Date _ / _ / _

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0
Soil with some pebbles
5
Silty sand
18
Sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 0 _ _ _ 1 6 6 EASTING: 7 4 0 7 0 2

OR

LATITUDE: _ _ ° _ _ ' _ _ . _ " LONGITUDE: _ _ ° _ _ ' _ _ .

J-212

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-13
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34 **Permit No.** 2661750

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26 • 03 • 6 41

Owner Peter Scanel
Address 111 Essex St.
Maywood N.J. 07609

Driller Aquifer Drilling & Testing
Address 150 Nassau Terminal Rd.
New Hyde Park N.Y. 11040

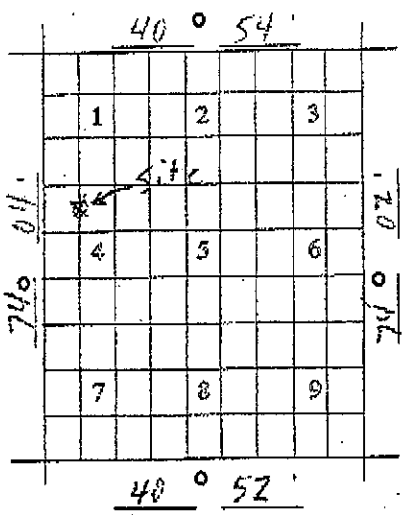
Name of Facility Maywood Chemical Co. Superfund Site
Address c/o Store & Webster 100 W. Hunter Ave.
Maywood, N.J. 07609

Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

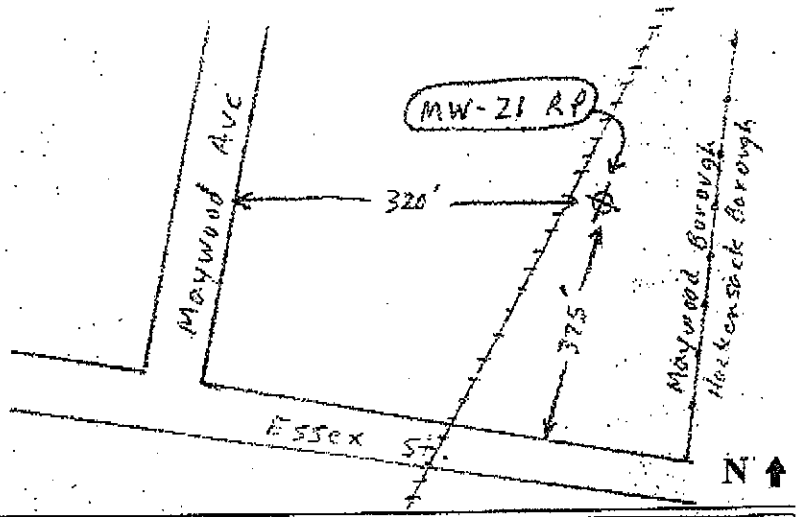
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	131	Maywood	Bergen

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JUN 25 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 6/18/01 Signature of Driller Steve Wolf Registration No. J-1579

Signature of Property Owner Steve Wolf for R. Dennett (Agent for owner)

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

FROM : AQUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 03:32AM P4

DWR-138 M
3/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 61750

Atlas Sheet Coordinates 26 : 03 : 641

OWNER IDENTIFICATION - Owner SCANEL, PETER
Address 111 ESSEX ST
City MAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-21RP
County BERGEN Municipality MAYWOOD BORO Lot No. 1 Block No. 131
Address 100 W HUNTER AVE

DATE WELL STARTED 6/26/01
DATE WELL COMPLETED 6/26/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-6618

WELL CONSTRUCTION

Total depth drilled 14 ft.
Well finished to 14 ft.

Borehole diameter:
Top 6" in.
Bottom 6" in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 9 ft.

Water level was measured using TAPE

Well was developed for 1 hours at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	4'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	4'	14'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	2'	14'		#1 Morie	600 Lbs
Grout	2"	2'		Neat Cement Bentonite	94 lbs. 6 lbs.

Grouting Method Tremmie
Drilling Method AIR ROTARY

Method of development Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type:

Drilling Fluid - Type of Rig DK-5

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. EDWARD REXRODE JR.

Well Driller (Print) Richard M Tabor

Driller's Signature Richard M Tabor

Registration No. J-1598 Date 9/15/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-14': Red/Brn f-M Sand & silt w/ Fx Shale
H_2O @ 9'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: ____ EASTING: ____
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

FROM : AQUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 03:32AM P3

WR-138 M
00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 61464

Atlas Sheet Coordinates 26 03 535

WNER IDENTIFICATION - Owner ROCHELLE PARK TWP. CLERK
ddress 194-D RT. 17 NORTH
ity ROCHELLE PARK State NJ Zip Code

/ELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-22
ounty BERGEN Municipality ROCHELLE PARK T. Lot No. ROW Block No. ROW
ddress 100 W. HUNTER AVE.

DATE WELL STARTED 6/20/01
DATE WELL COMPLETED 6/20/01

YPE OF WELL (as per Well Permit Categories) MONITORING
egulatory Program Requiring Well Case I.D.#

ONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-6618

WELL CONSTRUCTION

otal depth drilled 10 ft.
/ell finished to 10 ft.

orehole diameter:
Top 6" in.
Bottom 6" in.

/ell was finished: ☐ above grade ☒ flush mounted

fini above grade, casing height (stick p land surface — ft.

'as steel protective casing installed? ☐ Yes ☒ No

atic water level after drilling 4 1/2' ft.

'ater level was measured using Tape

ell was developed for 1 hours
2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	2'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2'	10'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1'	10'		#0 Morie	500 Lbs
Grout	Grade	1'		Neat Cement Bentonite	94 lbs. 6 lbs.

Grouting Method Tremmie
Drilling Method Air Rotary

lethod of development Pump

/as permanent pumping equipment installed? ☐ Yes ☒ No

ump capacity gpm

ump type:

rilling Fluid — Type of Rig DK-5

lealth and Safety Plan submitted? ☐ Yes ☒ No

evel of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

rilling Company H. LEONARD REXRODE, JR.

'e r (Print) Richard M Tabor

riller's Signature Richard M. Tabor

egistration No. J-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-10': Red/Brn, F-M Sand w/ Cobbles & Fx Shale

H_2O @ 4 1/2'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: EASTING:
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

D-1113

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

RECEIVED
NOV 29 2001

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34

Permit No. 2463145

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26 • 07 • 5 36

Owner US EPA c/o State Webster
Address 100 W. Hunter Avenue
Maywood NJ 07607

Driller B & B Drilling Inc
Address PO Box 80
Metuchen NJ 08840

Name of Facility Maywood Fisrap Superfund Site
Address Same
Same

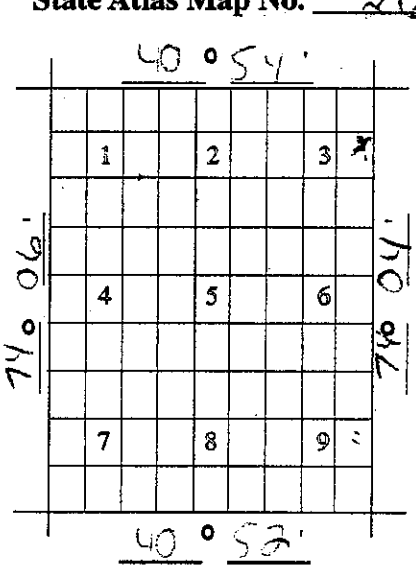
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	25 Feet
#of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	monitoring	If Yes, give pump capacity	— cumulative GPM

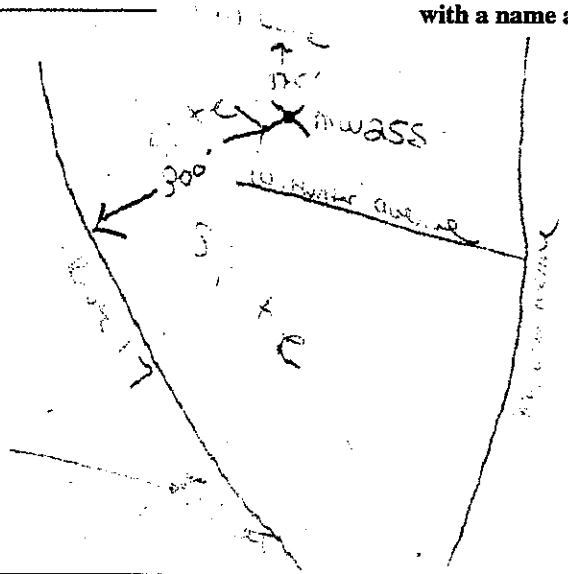
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
46	124	Maywood	Bergen

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





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FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
NOV 26 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 11/20/01 Signature of Driller [signature] Registration No. M1277

Signature of Property Owner [signature]

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63145

Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner USEPA C/O STONE & WEBSTER
Address 100 W HUNTER AVE
City MAYWOOD State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW25S
County BERGEN Municipality MAYWOOD BORO Lot No. 46 Block No. 124
Address 100 W HUNTER AVE
DATE WELL STARTED 12/7/01
DATE WELL COMPLETED 12/10/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 18 ft.
Well finished to 16 ft.

Borehole diameter:
Top 6 in.
Bottom 6 in.

Well was finished: ☑ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 2.5 ft.

Was steel protective casing installed? ☑ Yes ☐ No

Static water level after drilling 10 ft.

Water level was measured using probe

Well was developed for _____ hours at _____ gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+2.5	6	2	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	6	16	2	PVC 510	Sch 40
Blank Casings (No. Used)					
Tail Piece				PVC Cap	
Gravel Pack	3.9	18	ann	Morie	#1
Grout	0	3.9	ann	Neat Cement Bentonite	145 lbs. ___ lbs.

Grouting Method Lemer Grout
Drilling Method [illegible]

Method of development [illegible]

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid Water Type of Rig Mobile B61

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING.INC

Well Driller (Print) [illegible]

Driller's Signature [illegible]

Registration No. M1277 Date 1/18/02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-18' [illegible] Sandstone gravel

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

APPENDIX K
BEDROCK MONITORING WELLS

BORING LOGS

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-1D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	6

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Birch Manor Nursing Home
5. NAME OF DRILLER	6 MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing) Doug Wood (open hole)	DK-5 (casing), CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
	753,086.1 feet North 2,163,478.6 feet East
8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit,	9. SURFACE ELEVATION
3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing	53.0 feet MSL
advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID	10 DATE STARTED / 11 DATE COMPLETED
	1/8/01 / 1/11/01
12. OVERBURDEN THICKNESS	15. DEPTH GROUNDWATER ENCOUNTERED
10 feet	10 feet bgs
13. DEPTH DRILLED INTO ROCK	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
36 feet	
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
46.0 feet bgs	11.60 feet below top of riser, 7/26/01, 13:50

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-1D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1D

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing), Julie Lincoln (open hole)	2	OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
53.0	0	No overburden soil samples collected.					Date: 1/8/01 Time: 09:15 Completed advancement of 8-inch dia. temporary casing at rate of 0.2 ft/min. to 10 feet bgs.
52.0	1						
51.0	2						
50.0	3						
49.0	4						
48.0	5						
47.0	6						
46.0	7						
45.0	8						
44.0	9						
43.0	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-1D

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 3 OF 6 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
43.0	10	Red / brown Sandstone bedrock encountered at 10 feet bgs.					
42.0	11						
41.0	12						
40.0	13						
39.0	14						
38.0	15	No fractures observed from 10 to 21 feet bgs.					
37.0	16						
36.0	17						Date: 1/8/01 Time: 10:07 Completed advancement of 7-7/8-inch roller bit from 10 to 18 feet bgs at a rate of 0.5 ft/min.
35.0	18						
34.0	19						Date: 1/8/01 Time: 10:35 Completed advancement of 7-7/8-inch roller bit from 18 to 21 feet bgs at rate of 0.2 ft/min.
33.0	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Julie Lincoln (open hole)

SHEET 4 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
33.0	20	Red / brown Sandstone bedrock.					
							Date: 1/8/01
							Time: 10.35
32.0	21	4-inch diameter steel casing set at 21 feet bgs (11 feet into bedrock).					Complete setting 4-inch steel casing at 21 feet bgs
31.0	22						
30.0	23						
29.0	24						
28.0	25						
27.0	26						
26.0	27						
25.0	28						
24.0	29						
23.0	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 5 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
23.0	30	Red / brown Sandstone bedrock.					
22.0	31						
21.0	32						
20.0	33						
19.0	34						
18.0	35						
17.0	36						
16.0	37						Date: 1/11/01 Time: 10:30 Completed advancement of 3-7/8-inch roller bit from 21. to 38 feet bgs at rate of 0.17 ft/min.
15.0	38						Date: 1/11/01 Time: 10:43 Completed advancement of 3-7/8-inch roller bit from 38. to 41 feet bgs at rate of 0.10 ft/min.
14.0	39						
13.0	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 6 OF 6 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
13.0	40	No fractures observed from 21 to 46 feet bgs. Drill cuttings in mud tub appear fine and silty.					
12.0	41	Red / brown Sandstone bedrock.					
11.0	42						
10.0	43						
9.0	44						
8.0	45						
		Cuttings very fine and silty.					Completed advancement of 3-7/8-inch roller bit from 38 to 46 feet bgs at rate of 0 1 ft/min.
7.0	46						Total Water loss = 150 gallons.
		Bottom of 25-foot, 4-inch dia. open hole completed at 46 feet bgs (36 feet into bedrock)					
6.0	47						
5.0	48						
4.0	49						
3.0	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-2D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 6 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: 84 Becker Ave, Rochelle Park	
5. NAME OF DRILLER: Dennis Mayer (casing) Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,048.5 feet North 2.163.419.4 feet East	
	9. SURFACE ELEVATION: 47.2 feet MSL	
	10. DATE STARTED: 12/19/00	11. DATE COMPLETED: 12/22/00
12. OVERBURDEN THICKNESS: 12 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 8.5 feet bgs	
13. DEPTH DRILLED INTO ROCK: 36.5	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 48.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 6.90 feet below top of riser, 7/26/01, 14:20	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
YES	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-2D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), George Markt (open hole)

SHEET 2 OF 6 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
47.2	0	No overburden soil samples collected.					
46.2	1						
45.2	2						
44.2	3						
43.2	4						
42.2	5						
41.2	6						
40.2	7						
39.2	8						
38.2	9						
37.2	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), George Markt (open hole)

SHEET 3 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
37.2	10	Advanced roller bit through weathered bedrock at 10 feet bgs. Shale cobble encountered at 10 feet bgs.					
36.2	11						Date. 12/19/00 Time 10.25 Completed advancement of 8-inch diameter temporary steel casing to 12 feet bgs at rate of 0.2 ft/min
35.2	12	Red / brown Sandstone bedrock encountered at 12 feet bgs based on casing refusal.					
34.2	13						
33.2	14						
32.2	15						
31.2	16	No fractures observed from 12 to 23 feet bgs. Very hard rock encountered over interval.					
30.2	17						
29.2	18						
28.2	19						
27.2	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing). George Markt (open hole)

SHEET: 4 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
27.2	20	Red / brown Sandstone bedrock .					Date: 12/19/00 Time: 11:55 Completed advancement of 7-7/8-inch diameter tricone roller bit from 12 to 22 feet bgs at rate of 0.1 ft/min. Water loss = 40 gallons Date: 12/19/00 Time: 12:50 Completed setting 4-inch diameter steel casing at 22 feet bgs
26.2	21						
25.2	22	4-inch diameter steel casing set at 22 feet bgs (10 feet into bedrock).					
24.2	23						
23.2	24						
22.2	25						
21.2	26						
20.2	27						
19.2	28	No fractures observed from 22 to 46 feet bgs.					
18.2	29						Date: 12/22/00 Time: 09:35 Completed advancement of advancement of new 3-7/8-inch diameter roller bit from 23 to 30 feet bgs at rate of 0.17 ft/min
17.2	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), George Markt (open hole)

SHEET 5 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
17.2	30	Red / brown Sandstone bedrock.					
16.2	31						
15.2	32						
14.2	33						
13.2	34						Date: 12/22/00 Time: 10:08 Completed advancement of advancement of 3-7/8-inch diameter roller bit from 30 to 35 feet bgs at rate of 0.16 ft/min.
12.2	35						
11.2	36						
10.2	37						
9.2	38						
8.2	39						Date: 12/22/00 Time: 10:46 Completed advancement of advancement of 3-7/8-inch diameter roller bit from 35 to 40 feet bgs at rate of 0.14 ft/min.
7.2	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), George Markt (open hole)

SHEET 6 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
7.2	40	Red / brown Sandstone bedrock.					
6.2	41						
5.2	42						Date: 12/22/00 Completed advancement of advancement of 3-7/8-inch diameter roller bit from 38 to 43 feet bgs at rate of 0.14 ft/min.
4.2	43						
3.2	44						Date: 12/22/00 Time: 11:36 Completed advancement of advancement of 3-7/8-inch diameter roller bit from 40 to 45 feet bgs at rate of 0.14 ft/min.
2.2	45						
1.2	46						
0.2	47						
-0.8	48						Date: 12/22/00 Time: 11:56 Completed advancement of advancement of 3-7/8-inch diameter roller bit from 45 to 48.5 feet bgs at rate of 0.19 ft/min. Water loss = 40 gallons. Total water loss = 100 gallons.
-1.8	49	Bottom of 26.5-foot, 4-inch diameter open hole completed at 48.5 feet bgs (36 feet into bedrock).					
-2.8	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-3D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Dirt Road North of MISS	
5. NAME OF DRILLER: Dennis Mayer (casing) Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Luidlum 4410 meter, Multi RAE Plus PID	8. HOLE LOCATION: 752,924.8 feet North 2,164,441.1 feet East	
	9. SURFACE ELEVATION: 55.1 feet MSL	
	10. DATE STARTED: 2/21/01	11. DATE COMPLETED: 2/26/01
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED: bgs	
13. DEPTH DRILLED INTO ROCK: 37 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 2.25 feet below top of riser, 7/26/01, 15:10	
14. TOTAL DEPTH OF HOLE: 55.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

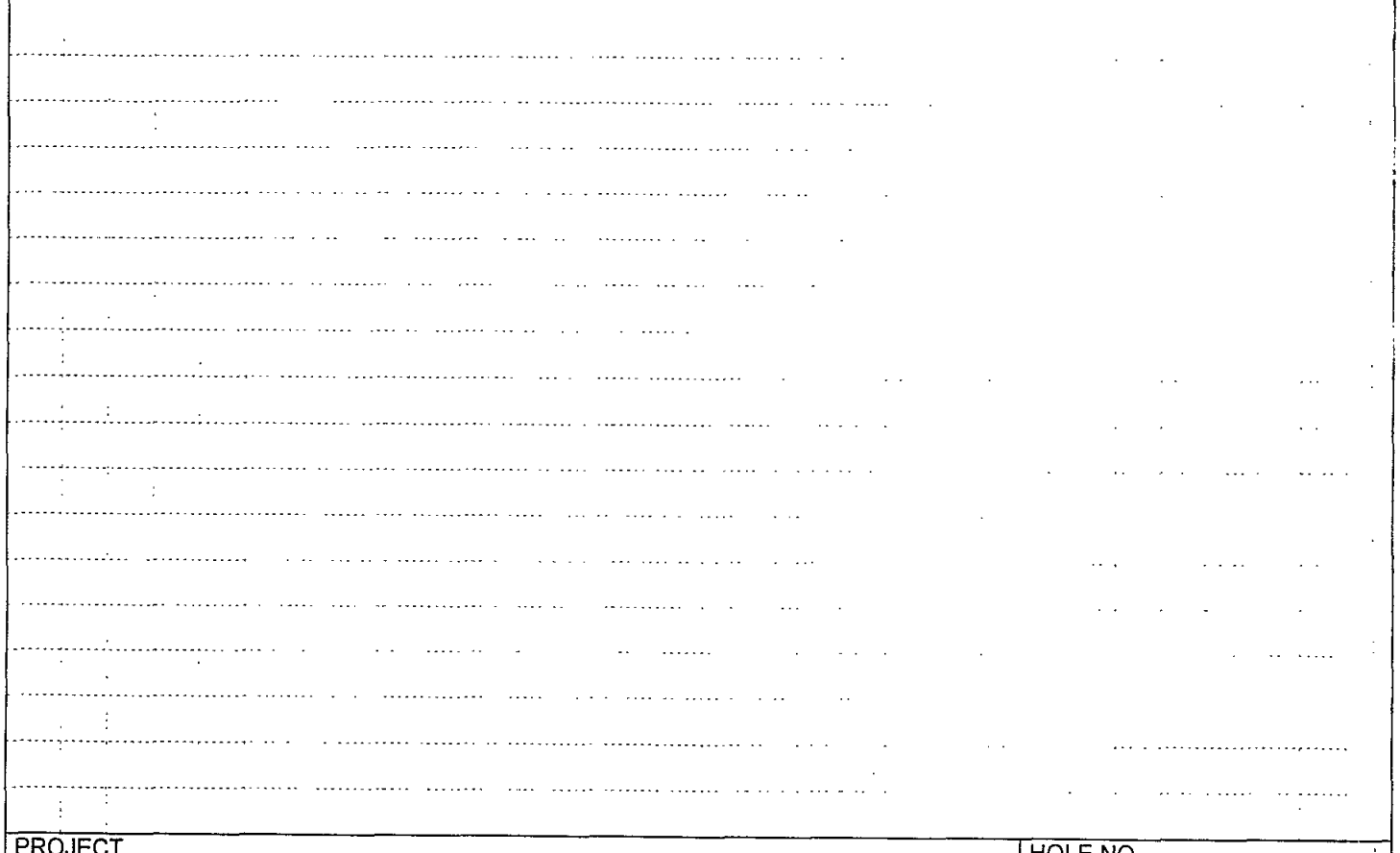
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-3D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt	2	OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
55.1	0	No overburden soil samples collected.					
54.1	1						
53.1	2						
52.1	3						
51.1	4						
50.1	5						
49.1	6						
48.1	7						
47.1	8						
46.1	9						
45.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.1	10						
44.1	11						
43.1	12						
42.1	13						
41.1	14						
40.1	15						
39.1	16						
38.1	17	Weathered bedrock encountered at 17 feet bgs					Date: 2/21/01 Time: 09:39 Completed advancement of 8-inch diameter temporary casing through overburden at rate of 0.1 ft/min. to 18 feet bgs.
37.1	18	Red / brown Sandstone bedrock encountered at 18 feet bgs based upon casing refusal.					Date: 2/21/01 Time: 11:42 Completed advancement of 7-7/8-inch diameter roller from 18 to 19 feet bgs at rate of 0.06 ft/min. Change from using rig pump to external water pump.
36.1	19	Granular black material (metal flakes?) appear on surface of water in mud tub from 19 to 22 feet bgs.					
35.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt	4	OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.1	20	Red / brown Sandstone bedrock.					
34.1	21						
33.1	22						
32.1	23						
31.1	24						
30.1	25	No fractures observed from 18 to 30 feet bgs.					
29.1	26						Date: 2/21/01 Time: 12:43 Completed advancement of 7-7/8-inch diameter roller bit from 19 to 27 feet bgs at rate of 1.14 ft/min.
28.1	27						
27.1	28						Date: 2/21/01 Time: 13:23 Completed advancement of 7-7/8-inch diameter roller bit from 27 to 30 feet bgs at rate of 0.10 ft/min. Water loss=600 gallons.
26.1	29						Date: 2/21/01 Time: 14:05 Completed setting 4-inch steel casing at 30 feet bgs.
25.1	30						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-3D

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 5 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.1	30	4-inch diameter steel casing set at 30 feet bgs (12 feet into bedrock)					
24.1	31	Red / brown Sandstone bedrock.					Date: 2/26/01 Time: 09:53 Completed advancement of 3-7/8-inch diameter roller bit from 30 to 32 feet bgs at rate of 0.11 ft/min.
23.1	32						
22.1	33						
21.1	34						
20.1	35						
19.1	36						
18.1	37						
17.1	38						
16.1	39						
15.1	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.1	40	Red / brown Sandstone bedrock.					
14.1	41						Date: 2/26/01 Time: 11:07 Completed advancement of 3-7/8-inch diameter roller bit from 32 to 42 feet bgs at rate of 0.14 ft/min.
13.1	42						
12.1	43						
11.1	44						
10.1	45						
9.1	46						Date: 2/22/01 Time: 11:17 Completed advancement of 3-7/8-inch diameter roller bit from 42 to 47 feet bgs at rate of 0.08 ft/min.
8.1	47						
7.1	48						
6.1	49						
5.1	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
5.1	50	No fractures observed from 30 to 55 feet bgs.					
4.1	51	Red / brown Sandstone bedrock.					Date: 2/22/01 Time: 12:03 Completed advancement of 3-7/8-inch diameter roller bit from 47 to 52 feet bgs at rate of 0.22 ft/min.
3.1	52						
2.1	53						
1.1	54						Date: 2/22/01 Completed advancement of 3-7/8-inch roller bit from 52 to 55 feet bgs at rate of 0.15 ft/min.
0.1	55	Bottom of 25-foot, 4-inch diameter open hole completed at 55 feet bgs (38 feet into bedrock).					Total water loss = 700 gallons.
-0.9	56						
-1.9	57						
-2.9	58						
-3.9	59						
-4.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-4D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2 DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 6 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: St. Ann Street, Rochelle Park	
5. NAME OF DRILLER: Dennis Mayer (casing) Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Multi RAE Plus PID	8. HOLE LOCATION: 752,897.4 feet North 2,162,939.6 feet East	
	9. SURFACE ELEVATION: 44.0 feet MSL	
	10. DATE STARTED: 12/20/00	11 DATE COMPLETED: 1/8/01
12. OVERBURDEN THICKNESS: 8 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 8 feet bgs	
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 43.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.51 feet below top of riser, 7/26/01, 13:42	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO.
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-4D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing). Julie Lincoln (open hole)

SHEET 2 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
44.0	0						
43.0	1						
42.0	2						
41.0	3	No overburden soil samples collected.					
40.0	4						
39.0	5						
38.0	6						
37.0	7						Date: 12/20/00 Time: 09:55 Completed advancement of 8-inch diameter temporary steel casing to 8 feet bgs through overburden at rate of 0.1 ft/min. Water loss = 15 gallons.
36.0	8	Red / brown Sandstone bedrock encountered at 8 feet bgs					
35.0	9	Apparent fracture encountered at 9 feet bgs.					
34.0	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 3 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.0	10	Red / brown Sandstone bedrock.					
33.0	11						
32.0	12						
31.0	13						
30.0	14	Apparent fracture (clay filled?)					
29.0	15						Date: 12/21/00 Time:09:55 Completed advancement of 7-7/8-inch diaroller from 8 to 18 feet bgs at rate of 0.17 ft/min. Water loss=20 gallons.
28.0	16						Date: 12/21/00 Time: 10:45 Completed setting 4-inch diameter steel casing at 18 feet bgs.
27.0	17						Date:12/21/00 Time: 10:45 Completed setting 4-inch diameter casing at 18 feet bgs
26.0	18	Bottom of 4-inch diameter steel casing set at 18 feet bgs (10 feet into bedrock)					
25.0	19						
24.0	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 4 OF 6 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
24.0	20	Red / brown Sandstone bedrock.					
23.0	21						
22.0	22						
21.0	23						Date: 1/8/01 Time: 09:13 Completed advancement of 3-7/8-inch diameter roller from 18 to 23 feet bgs at rate 0.4 ft/min.
20.0	24						
19.0	25						
18.0	26						
17.0	27						
16.0	28						
15.0	29						
14.0	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 5 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
14.0	30	No fractures observed from 18 to 43 feet bgs.					
13.0	31	Red / brown Sandstone bedrock.					
12.0	32						Date: 1/8/01 Time: 09:13 Completed advancement of 3-7/8-inch diameter roller from 23 to 33 feet bgs at rate 0.5 ft/min.
11.0	33						
10.0	34						
9.0	35						
8.0	36						
7.0	37						
6.0	38						
5.0	39						
4.0	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 6 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
4.0	40	Red / brown Sandstone bedrock.					
3.0	41	Bottom of 25 foot, 4-inch diameter open hole completed at 43 feet bgs (35 feet into bedrock).					
2.0	42						Date: 1/8/01 Time: 11:30 Completed advancement of 3-7/8-inch diameter roller from 33 to 43 feet bgs at rate 0.2 ft/min.
1.0	43						
0.0	44						Total water loss = 145 gallons.
-1.0	45						
-2.0	46						
-3.0	47						
-4.0	48						
-5.0	49						
-6.0	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-5D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Park Way Avenue	
5. NAME OF DRILLER: Dennis Mayer (casing) Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID	8. HOLE LOCATION: 753,031.6 feet North 2,162,621.7 feet East	
	9. SURFACE ELEVATION: 45.4 feet MSL	
	10. DATE STARTED: 11/8/00	11. DATE COMPLETED: 11/16/00
12. OVERBURDEN THICKNESS: 22 feet	15. DEPTH GROUNDWATER ENCOUNTERED: --- bgs	
13. DEPTH DRILLED INTO ROCK: 30 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 52.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 8.70 feet below top of riser, 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	YES	YES	RAD	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-5D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Julie Lincoln (open hole)

SHEET 2 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.4	0						
44.4	1						
43.4	2						
42.4	3	SC 5yr 4/6	RAD = 45 cpm PID = 0.5 ppmV		RAD, VOC & Metals Sample 23b - 020958	22	Date: 11/8/01 Time: 09:00 Recovery = 100% 3-inch split spoon 300-lb. hammer
41.4	4	SM 5yr 4/6, trace Gravel				6 8 10	
40.4	5						
39.4	6						
38.4	7						
37.4	8						
36.4	9						
35.4	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
35.4	10	SM 5yr 4/6, trace Gravel.					
34.4	11						
33.4	12						
32.4	13						
31.4	14						
30.4	15						
29.4	16						
28.4	17						
27.4	18						
26.4	19						Date: 11/8/00 Time: 11:45 Completed advancement of 8-inch temporary casing to 20 feet bgs at rate of 0.15 ft/min.
25.4	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.4	20	SM 5yr 4/6, trace Gravel.					
24.4	21						
23.4	22	Red / brown Sandstone bedrock encountered at 22 feet bgs					
22.4	23						
21.4	24						
20.4	25						
19.4	26						
18.4	27						
17.4	28						
16.4	29						
15.4	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET: 5 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.4	30	No fractures observed from 22 to 32 feet bgs.					Date: 11/8/00 Time: 1:15 Completed advancement of 7-7/8-inch roller bit from 22 to 32 feet bgs at rate of 0.06 ft/min. Water loss = 80 gallons. Date: 11/9/00 Time:10:20 Completed setting 4-inch steel casing at 32 feet bgs
14.4	31	Red / brown Sandstone bedrock.					
13.4	32	4-inch diameter steel casing set at 32 feet bgs (10 feet into bedrock).					
12.4	33						
11.4	34						
10.4	35						
9.4	36						
8.4	37						
7.4	38						
6.4	39						
5.4	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Julie Lincoln (open hole)

SHEET: 6 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
5.4	40	Red / brown Sandstone bedrock.					
4.4	41						
3.4	42						
2.4	43						
1.4	44						
0.4	45	No fractures observed from 32 to 52 feet bgs.					
-0.6	46						
-1.6	47						
-2.6	48						
-3.6	49						
-4.6	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
-4.6	50	Red / brown Sandstone bedrock.					
-5.6	51						Date: 11/16/00 Completed advancement of 3-7/8-inch roller bit from 32 to 52 feet bgs at rate of 0.17 ft/min.
-6.6	52	Bottom of 20-foot, 4-inch diameter open borehole completed at 52 feet bgs (30 feet into bedrock).					
-7.6	53						
-8.6	54						
-9.6	55						Total water loss = 120 gallons.
-10.6	56						
-11.6	57						
-12.6	58						
-13.6	59						
-14.6	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-5D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-6D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2 DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4 LOCATION: 14 Madison Avenue, Lodi	
5. NAME OF DRILLER: Doug Wood (open hole) Dennis Mayer (casing)	6 MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID	8 HOLE LOCATION: 752,350.0 feet North 2,162,589.0 feet East	
	9. SURFACE ELEVATION: 42.8 feet MSL	
	10. DATE STARTED: 1/4/01	11 DATE COMPLETED: 1/25/01
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED: bgs	
13. DEPTH DRILLED INTO ROCK: 36 feet	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 54.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 6.55 feet below top of riser, 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-6D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET: 2

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
42.8	0						
41.8	1						
40.8	2						
39.8	3	No overburden soil samples collected.					
38.8	4						
37.8	5						
36.8	6	Encountered resistance to 7-7/8-inch diameter roller bit advancement at 6 feet bgs.					
35.8	7						
34.8	8						
33.8	9						
32.8	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
32.8	10						
31.8	11						
30.8	12						
29.8	13						
28.8	14						
27.8	15	Weathered bedrock encountered at 15 feet bgs.					
26.8	16						
25.8	17						Date: 1/4/01 Time: 12:15 Completed advancement of 8-inch temporary casing to 18 feet bgs at rate of 0.2 ft/min.
24.8	18	Red / brown Sandstone bedrock encountered at 18 feet bgs.					
23.8	19						
22.8	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
22.8	20	Red / brown Sandstone bedrock.					
21.8	21						
20.8	22						
19.8	23						
18.8	24	Apparent clay filled fracture (1-foot thick) encountered at 24 feet bgs.					
17.8	25						Date: 1/4/01 Time:1:30pm Completed advancement of 7-7/8-inch diameter roller bit from 18 to 26 feet bgs at rate of 0.18 ft/min.
16.8	26						
15.8	27						
14.8	28						Date: 1/5/01 Time:09:30am Completed advancement of 7-7/8-inch diameter roller bit from 26 to 29 feet at rate on 0.15 ft/min. Date: 1/5/01 Time: 12:30 Completed setting 4-inch steel casing at 29 feet bgs.
13.8	29	4-inch diameter steel casing set at 29 feet bgs (11 feet into bedrock).					
12.8	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Julie Lincoln (open hole)

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
12.8	30	Red / brown Sandstone bedrock.					
11.8	31						
10.8	32						
9.8	33						
8.8	34						
7.8	35						
6.8	36						
5.8	37						
4.8	38						
3.8	39						
2.8	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
2.8	40	Red / brown Sandstone bedrock.					
1.8	41						
0.8	42						
-0.2	43						Date:1/25/01 Time:10:45am Completed advancement of 3-7/8-inch diamenter roller bit from 29 to 44 feet bgs at rate of 0.12 ft/min.
-1.2	44	Very hard rock from 44 to 46 feet bgs.					
-2.2	45						Date:1/25/01 Time:11:08am Completed advancement of 3-7/8-inch diameter roller bit from 44 to 46 feet bgs at rate of 0.18 ft/min.
-3.2	46	Very soft rock from 46 to 54 feet bgs.					
-4.2	47						
-5.2	48						
-6.2	49						
-7.2	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-7.2	50	Red/brown Sandstone bedrock.					
-8.2	51						
-9.2	52						
-10.2	53						Date:1/25/01 Time:12:05pm Completed advancement of 3-7/8-inch diameter roller bit from 46 to 54 feet bgs at rate of 0.14 ft/min.
-11.2	54	Bottom of 25 foot, 4-inch diameter open borehole completed at 54 feet bgs (36 feet into bedrock).					
-12.2	55						
-13.2	56						
-14.2	57						
-15.2	58						
-16.2	59						
-17.2	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-7D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 6 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: 141 West Central Avenue; Rochelle Park	
5. NAME OF DRILLER: Dennis Mayer (casing) Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash, casing advancement Multi RAE Plus PID	8. HOLE LOCATION: 753,178.2 feet North 2,163,836.2 feet East	
	9. SURFACE ELEVATION: 54.0 feet MSL	
	10. DATE STARTED: 12/18/00	11. DATE COMPLETED: 1/9/01
12. OVERBURDEN THICKNESS: 11 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 11 feet bgs	
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 46.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 9.90 feet below top of riser. 7/26/01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-7D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 2 OF 6

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
54.0	0	No overburden samples collected.					
53.0	1						
52.0	2						
51.0	3						
50.0	4						
49.0	5						
48.0	6						
47.0	7						
46.0	8						
45.0	9						
44.0	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-7D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 3 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
44.0	10						Date: 12/18/00 Time: 12.00pm Completed advancement of 8-inch casing diameter overburden to 11 feet bgs.
43.0	11	Red / brown Sandstone bedrock encountered at 11 feet bgs.					
42.0	12						
41.0	13						
40.0	14						
39.0	15	No fractures observed from 11 to 21 feet bgs.					
38.0	16						
37.0	17						
36.0	18						Date: 12/18/00 Time: 13:00 Completed advancement of 7-7/8-inch roller bit from 11 to 21 feet bgs.
35.0	19						Water loss = 15 gallons. Completed setting 4-inch casing to 21 feet bgs.
34.0	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-7D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 4 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.0	20	Red / brown Sandstone bedrock.					Date: 12/18/00 Time: 15:00 Completed setting 4-inch diameter stel casing to 21 feet bgs.
33.0	21	4-inch diameter steel casing set at 21 feet bgs (10 feet into bedrock)					
32.0	22						
31.0	23						
30.0	24						Date: 1/9/01 Time:09:11 Completed advancement of 3-7/8-inch diameter roller bit from 21 to 25 feet bgs at rate of 0.15 ft/min.
29.0	25						
28.0	26						Date: 1/9/01 Time: 09:26 Completed advancement of 3-7/8-inch diameter roller bit from 25 to 27 feet bgs at rate of 0.13 ft/min.
27.0	27	Angular cuttings observed at 27 feet bgs. Soft rock encountered from 27 to 32 feet bgs.					
26.0	28						
25.0	29						
24.0	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-7D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 5 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
24.0	30	No fractures observed from 21 to 46 feet bgs.					
23.0	31	Red / brown Sandstone bedrock.					Date: 1/9/01 Time: 09:55 Completed advancement of 3-7/8-inch diameter roller bit from 27 to 32 feet bgs at rate of 1.0 ft/min
22.0	32						
21.0	33						
20.0	34						
19.0	35						
18.0	36						Date: 1/9/01 Time: 10:30 Completed advancement of 3-7/8-inch diameter roller bit from 32 to 37 feet bgs at rate of 0.14 ft/min.
17.0	37						
16.0	38						
15.0	39						
14.0	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-7D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 6 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
14.0	40	Red / brown Sandstone bedrock.					
13.0	41						
12.0	42						
11.0	43						
10.0	44						
9.0	45						Date: 1/9/01 Time: 11:45 Completed advancement of 3-7/8-inch diameter roller bit from 37 to 46 feet bgs at rate of 0.56 ft/min.
8.0	46	Bottom of 25-foot, 4-inch diameter open borehole completed at 46 feet bgs (35 feet into bedrock).					Water loss =50 gallons.
7.0	47						Total water loss = 65 gallons.
6.0	48						
5.0	49						
4.0	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-7D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-8D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 7

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Central Ave. near Rt. 17 overpass, Maywood
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing & open hole)	DK-5
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone tricone roller bit, 3-7/8-inch tricone roller bit with stabilization bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID	753,342.7 feet North 2,164,130.4 feet East
	9. SURFACE ELEVATION: 54.3 feet MSL
	10. DATE STARTED: 12/15/00 / 11. DATE COMPLETED: 12/21/00
12. OVERBURDEN THICKNESS: 17 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 11 feet bgs
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 52.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 8.13 feet below top of riser, 7/26/01, 12:43

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-8D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 2 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
54.3	0	No overburden samples collected.					
53.3	1						
52.3	2						
51.3	3						
50.3	4						
49.3	5						
48.3	6						
47.3	7						
46.3	8						
45.3	9						
44.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
44.3	10						
43.3	11						
42.3	12						
41.3	13						
40.3	14						
39.3	15						
38.3	16						Date: 12/15/00 Time: 10:30 Completed advancement of 8-inch diameter steel casing to 17 feet bgs.
37.3	17	Red/brown Sandstone bedrock encountered at 17 feet bgs.					
36.3	18						
35.3	19						
34.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 4 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.3	20	Red/brown Sandstone bedrock.					
33.3	21						
32.3	22	No fractures observed from 17 to 27 feet bgs.					
31.3	23						
30.3	24						
29.3	25						Date: 12/15/00 Time: 12:30 Completed advancement of 7-7/8-inch diameter roller bit from 17 to 27 feet bgs at rate of 0.08 ft./min. Water loss = 20 gallons.
28.3	26						Date: 12/15/00 Time: 13:00 Completed setting 4-inch diameter steel casing at 27 feet bgs
27.3	27	4-inch diameter steel casing set at 27 feet bgs (10 feet into bedrock).					
26.3	28						
25.3	29						
24.3	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 5 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
24.3	30	Red/brown Sandstone bedrock.					
23.3	31						
22.3	32						
21.3	33						
20.3	34						
19.3	35						
18.3	36						
17.3	37						Date: 12/21/00 Time: 09:50 Completed advancement of 3-7/8-inch diameter roller bit from 27 to 38 feet bgs at rate of 0.17 ft./min.
16.3	38						
15.3	39						
14.3	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
14.3	40	Red/brown Sandstone bedrock.					
13.3	41						
12.3	42						Date: 12/21/00 Time: 10:30 Completed advancement of 3-7/8-inch diameter roller bit from 38 to 43 feet bgs at rate of 0.12 ft/min.
11.3	43						
10.3	44	Apparent fracture encountered at 44 feet bgs.					
9.3	45						
8.3	46	Apparent fracture encountered at 46 feet bgs.					Date: 12/21/00 Time: 11:08 Completed advancement of 3-7/8-inch diameter roller bit from 43 to 47 feet bgs at rate of 0.1 ft/min.
7.3	47						
6.3	48						
5.3	49						
4.3	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
4.3	50	Red/brown Sandstone bedrock.					
3.3	51						Date: 12/21/00 Time: 12:15 Completed advancement of 3-7/8-inch diameter roller bit from 47 to 52 feet bgs at rate of 0.1 ft/min. Water loss = 100 gallons.
2.3	52	Bottom of 25-foot, 4-inch diameter open borehole completed at 52 feet bgs (35 feet into bedrock).					
1.3	53						
0.3	54						Total water loss = 120 gallons.
-0.7	55						
-1.7	56						
-2.7	57						
-3.7	58						
-4.7	59						
-5.7	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-8D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-9D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 6

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Maywood Ave. Train Station
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing & overburden)	DK-5
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	752,001.9 feet North 2,165,984.9 feet East
	9. SURFACE ELEVATION: 69.8 feet MSL
	10. DATE STARTED: 12/4/00 / 11. DATE COMPLETED: 12/18/00
12. OVERBURDEN THICKNESS: 12 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 13 feet bgs
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 47.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.36 feet below top of riser, 7/26/01, 13:01

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-9D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 2 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
69.8	0	No overburden samples collected.					Date: 12/4/00 Time: 13:00 Completed advancement of 8-inch diameter steel casing to 10 feet bgs at rate of 0.17 ft/min.
68.8	1						
67.8	2						
66.8	3						
65.8	4						
64.8	5						
63.8	6						
62.8	7						
61.8	8						
60.8	9						
59.8	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 3 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
59.8	10						
58.8	11						Date: 12/11/00 Time: 09:45 Completed advancement of 8-inch diameter temporary steel casing to 12 feet bgs.
57.8	12	Red/brown Sandstone bedrock encountered at 12 feet bgs based on casing refusal.					
56.8	13						
55.8	14						
54.8	15						
53.8	16						
52.8	17						
51.8	18						
50.8	19						
49.8	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 4 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
49.8	20	Red/brown Sandstone bedrock.					Date: 12/11/00 Time: 10:45 Completed advancement of 7-7/8-inch diameter roller bit from 12 to 22 feet bgs at rate of 0.22 ft/min Water loss = 10 gallons.
48.8	21						
47.8	22	4-inch diameter steel casing set at 22 feet bgs (10 feet into bedrock).					Date: 12/11/00 Time: 13:30 Completed setting 4-inch diameter steel casing at 22 feet bgs.
46.8	23						
45.8	24						
44.8	25						
43.8	26						
42.8	27						
41.8	28						
40.8	29						
39.8	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 5 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
39.8	30	Red/brown Sandstone bedrock.					
38.8	31						
37.8	32						
36.8	33						
35.8	34						
34.8	35	Apparent fracture (1-inch thick) encountered at 35 feet bgs.					
33.8	36						Date: 12/18/00 Time: 10:30 Completed advancement of 3-7/8-inch diameter roller bit from 22 to 37 feet bgs at rate of 2 ft/min.
32.8	37						
31.8	38						
30.8	39						
29.8	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing and open hole)

SHEET 6 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
29.8	40	Red/brown Sandstone bedrock.					
28.8	41						
27.8	42						
26.8	43						
25.8	44						Date: 12/18/00 Time: 10.53 Completed advancement of 3-7/8-inch diameter roller bit from 37 to 45 feet bgs at rate of 0.38 ft/min.
24.8	45						
23.8	46						Date: 12/18/00 Time: 11:15 Completed advancement of 3-7/8-inch diameter roller bit from 45 to 47 feet bgs at rate of 0.11 ft/min.
22.8	47	Bottom of 25-foot, 4-inch diameter open borehole completed at 47 feet bgs (35 feet into bedrock).					
21.8	48						Total water loss = 85 gallons
20.8	49						
19.8	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-10D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 6 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4 LOCATION: West Hunter Ave, near Central Ave.	
5. NAME OF DRILLER: Dennis Mayer (casing) Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK - 5 (casing), CME-55 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	8 HOLE LOCATION: 751,700.3 feet North 2,165,930.3 feet East	
	9. SURFACE ELEVATION: 62.9 feet MSL	
	10. DATE STARTED: 12/22/00	11 DATE COMPLETED: 1/05/01
12. OVERBURDEN THICKNESS: 11 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 10 feet bgs	
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 46.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 9.66 feet below top of riser, 7/26/01, 09:13	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY
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22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-10D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing). Julie Lincoln (open hole)

SHEET 2 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
62.9	0	No overburden samples collected.					Water loss = 5 gallons
61.9	1						
60.9	2						
59.9	3						
58.9	4						
57.9	5						
56.9	6						
55.9	7						
54.9	8						
53.9	9						
52.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing). Julie Lincoln (open hole)

SHEET 3 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
52.9	10						Date: 12/22/00 Time: 09:00 Completed advancement of 8-inch casing to 10.5 feet bgs at rate of 0.3 ft/min.
		Weathered bedrock zone.					
51.9	11	Red/brown Sandstone bedrock encountered at 11 feet bgs.					
50.9	12						
49.9	13						
48.9	14	Apparent clay filled weathered fracture at 14 feet bgs. Water loss = 5 gallons.					
47.9	15						
46.9	16						
45.9	17						Date: 12/22/00 Time: 09:40 Completed advancement of 7-7/8-inch roller bit from 10 to 17.5 feet bgs at rate of 0.19 ft/min.
44.9	18						
43.9	19						
42.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 4 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
42.9	20	Red/brown Sandstone bedrock.					Date: 12/22/00 Time: 10:00 Completed advancement of 7-7/8-inch roller bit from 17.5 to 21 feet bgs.
41.9	21	4-inch diameter steel casing set at 21 feet bgs (10.5 feet into bedrock).					Date: 12/22/00 Time: 11:20 Completed setting 4-inch steel casing at 21 feet bgs.
40.9	22						
39.9	23						
38.9	24						
37.9	25						
36.9	26	No fractures observed from 21 to 46 feet bgs.					
35.9	27						
34.9	28						
33.9	29						
32.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 5 OF 6 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
32.9	30	Red/brown Sandstone bedrock.					
31.9	31						
30.9	32						
29.9	33						
28.9	34						
27.9	35						
26.9	36						
25.9	37						
24.9	38						
23.9	39						
22.9	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing). Julie Lincoln (open hole)

SHEET 6 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
22.9	40	Red/brown Sandstone bedrock.					
21.9	41						
20.9	42						
19.9	43						
18.9	44						
17.9	45						Date: 1/5/01 Time: 11:15 Completed advancement of 3-7/8-inch roller bit from 21 to 46 feet bgs at rate of 0.31 ft/min.
16.9	46	Bottom of 25-foot, 4-inch diameter open hole completed at 46 feet bgs (35 feet into bedrock).					
15.9	47						Total water loss = 120 gallons.
14.9	48						
13.9	49						
12.9	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-12D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Open field south of Sears building and north of SLS	
5. NAME OF DRILLER: Dennis Mayer (casing & open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	8. HOLE LOCATION: 750,749.2 feet North 2,164,983.0 feet East	
	9. SURFACE ELEVATION: 44.9 feet MSL	
	10. DATE STARTED: 2/13/01	11. DATE COMPLETED: 2/19/01
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED: bgs	
13. DEPTH DRILLED INTO ROCK: 37 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 55.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.20 feet below top of riser, 7/26/01, 09:43	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-12D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 2 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
44.9	0						
43.9	1						
42.9	2						
41.9	3	No overburden samples collected.					
40.9	4						
39.9	5						
38.9	6						
37.9	7						
36.9	8						
35.9	9						Date: 2/13/01 Time: 09:40 7-7/8-inch diameter roller bit stuck in casing at 10 feet due to metal object encountered at 10 feet bgs. Roller bit damaged.
34.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
34.9	10						
33.9	11						
32.9	12						
31.9	13						
30.9	14						
29.9	15						
28.9	16						
27.9	17						
26.9	18	Red/brown Sandstone bedrock encountered at 18 feet bgs.					Date: 2/13/01 Time: 13:40 Completed advancement of 8-inch diameter steel casing to 19 feet bgs (1-foot into bedrock).
25.9	19						
24.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 4 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
24.9	20	Red/brown Sandstone bedrock.					
23.9	21						
22.9	22						
21.9	23						
20.9	24						Date: 2/14/01 Time: 09:00 Completed advancement of damaged 7-7/8-inch diameter roller bit from 19 to 25 feet bgs at rate of 0.13 ft/min.
19.9	25						Date: 2/14/01 Time: 09:20 Completed advancement of damaged 7-7/8-inch diameter roller bit from 25 to 26 feet bgs at rate of 0.05 ft/min.
18.9	26						Date: 2/14/01 Time: 09:27 Completed advancement of damaged 7-7/8-inch diameter roller bit from 26 to 27 feet bgs at rate of 0.14 ft/min.
17.9	27						
		Apparent fracture encountered at 27.5 feet bgs.					Date: 2/14/01 Time: 11:05 Completed advancement of damaged 7-7/8-inch diameter roller bit from 27 to 30 feet bgs at rate of 0.04 ft/min.
16.9	28						
15.9	29						Date: 2/14/01 Time: 12:30 Completed setting 4-inch diameter steel casing at 30 feet bgs.
14.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 5 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
14.9	30	4-inch diameter steel casing set at 30 feet bgs (12-feet into bedrock).					
		Red/brown Sandstone bedrock.					
13.9	31						
12.9	32						
11.9	33						
10.9	34						
9.9	35						
8.9	36						
		Apparent fracture (clay filled) at 36.5 feet bgs.					
7.9	37						
6.9	38						Date: 2/19/01 Time. 08:59 Completed advancement of 3-7/8-inch diameter roller bit from 30 to 39 feet bgs at rate of 0.29 ft/min.
5.9	39						
4.9	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
4.9	40	Apparent fracture at 40 feet bgs.					
		Red/brown Sandstone bedrock.					
3.9	41						
2.9	42	Apparent fracture (1-2 ft. thick) at 42 feet bgs.					
1.9	43						
0.9	44						
-0.1	45						
-1.2	46	Apparent fracture (silt filled) at 46 feet bgs and 47 feet bgs.					
-2.2	47						Date: 2/19/01 Time: 09:3 Completed advancement of 3-7/8-inch diameter roller bit from 39 to 48 feet bgs at rate of 0.31 ft/min.
-3.2	48	Multiple fractures from 48 to 55 feet bgs.					
-4.2	49						
-5.2	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 7 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-5.2	50	Red/brown Sandstone bedrock.					
-6.2	51						
-7.2	52						
-8.2	53						
-9.2	54						
-10.2	55						Date: 2/19/01 Time: 10:03 Completed advancement of 3-7/8-inch diameter roller bit from 48 to 55 feet bgs at rate of 0.30 ft/min.
		Bottom of 25-foot, 4-inch diameter open hole completed at 55 feet bgs (37 feet into bedrock).					
-11.2	56						
-12.2	57						Date: 2/19/01 Time: 10:30 Completed flushing of well using rig mud pumps.
-13.2	58						
-14.2	59						
-15.2	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-12D (abandoned)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Open field south of Sears building & north of SLS	
5. NAME OF DRILLER: Dennis Mayer (casing) / Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	8. HOLE LOCATION	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 11/30/00	11. DATE COMPLETED: 2/15/01
12. OVERBURDEN THICKNESS: 19 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 9 feet bgs	
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 54.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-12D (abandoned)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 2 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	0	No overburden samples collected.					Date: 11/30/00 Time: 10:15 Completed advancement of 8-inch diameter temporary steel casing to 10-feet bgs at rate of 0.67 ft/min.
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO	BLOW COUNT	REMARKS
	10						
	11						
	12						
	13						
	14						
	15						
	16	Coarse red / brown Gravel at 16 feet bgs.					
	17						
	18						Date: 11/30/00 Time: 13:30 Competed advancement of 8-inch diameter temporary steel casing from 10 to 19 feet bgs at rate of 0 20 ft/min.
	19	Red/brown Sandstone bedrock at 19 feet bgs based on casing refusal.					Water loss = 80 gallons.
	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET: 4 OF --

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	20	Red/brown Sandstone bedrock.					
	21						
	22	No fractures observed from 19 to 29 feet bgs.					
	23						
	24						
	25						
	26						Date: 11/30/00 Time: 13:30 Completed advancement of 7-7/8-inch diameter roller bit from 19 to 29 feet bgs at rate of greater than 0.4 ft/min. Water loss = 80 gallons.
	27						Date: 12/4/00 Time: 09:30 Completed setting 4-inch diameter steel casing at 29 feet bgs.
	28						Date: 12/11/00 Time: 09:45 Drill rod became clogged with red / brown silt during advancement of 7-7/8-inch diameter roller bit from 29 feet bgs.
	29	4-inch diameter steel casing set at 29 feet bgs (10 feet into bedrock).					
	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Julie Lincoln (open hole)

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	30	Red/brown Sandstone bedrock.					
	31						
	32						
	33						
	34						
	35						
	36						
	37						
	38						
	39						
	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 6 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	40	Red/brown Sandstone bedrock.					
	41						
	42						
	43						
	44						
	45						
	46						
	47						
	48						
	49						
	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-12D (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 7 OF 7

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	50	Red/brown Sandstone bedrock.					
	51						
	52						
	53						Date: 12/11/00 Time: 12:30 Completed advancement of 3-7/8-inch diameter roller bit from 29 to 54 feet bgs at approximate rate of 0.15 ft/min.
	54	Bottom of 25-foot, 4-inch diameter open borehole completed at 54-feet bgs (35 feet into bedrock).					
	55						Date: 2/15/01 Time: 11:40 Completed abandonment of monitoring well.
	56						
	57						
	58						
	59						
	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-12D (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-13D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: 99 Essex Street	
5. NAME OF DRILLER: Doug Wood (casing & open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75 (casing & open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, Ludlum 4410 RAD meter, Multi RAE Plus PID.	8. HOLE LOCATION: 750,415.8 feet North 2,164,491.8 feet East	
	9. SURFACE ELEVATION: 46.3 feet MSL	
	10. DATE STARTED: 12/6/00	11. DATE COMPLETED: 1/22/01
12. OVERBURDEN THICKNESS: 13 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 6 feet bgs	
13. DEPTH DRILLED INTO ROCK: 37 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 50.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 6.20 feet below top of riser, 7/26/01, 09:54	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-13D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-13D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing). George Markt (casing and open hole)

SHEET 2 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.3	0	No overburden samples collected.					
45.3	1						
44.3	2						
43.3	3						
42.3	4						
41.3	5						
40.3	6						
39.3	7						
38.3	8						
37.3	9						
36.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-13D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-13D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (casing and open hole)

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.3	10						
35.3	11						
34.3	12						Date: 12/6/00 Time: 09:20 Completed advancement of 8-inch temporary casing to 13 feet bgs at rate of 0.16 ft/min. Advanced roller bit 1.75 feet ahead of casing
33.3	13	Red/brown Sandstone bedrock encountered at 13 feet bgs.					
32.3	14						
31.3	15						
30.3	16						
29.3	17						
28.3	18						
27.3	19						
26.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-13D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-13D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (casing and open hole)

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.3	20	No apparent fractures observed from 13 to 25 feet bgs.					
25.3	21	Red/brown Sandstone bedrock.					
24.3	22						
23.3	23						
22.3	24						Date: 12/6/00 Time: 10:30 Completed advancement of 7-7/8-inch roller bit from 14.75 to 25 feet bgs at rate of 0.20 ft/min
21.3	25	4-inch diameter steel casing set at 25 feet bgs (12 feet into bedrock)					Date: 12/6/00 Time: 11:30 Completed setting 4-inch steel casing at 25 feet bgs.
20.3	26						Date: 12/7/00 Time: 15:00 Completed pressure grouting of 4-inch stel casing at 25 feet bgs.
19.3	27						
18.3	28						Date: 12/7/00 Time 08:40 Completed advancement of 3 7/8-inch roller bit from 25 to 29 feet bgs at rate of 0.10 ft/min.
17.3	29						Date: 1/22/01 Time: 09:00 Completed advancement of 3-7/8-inch roller bit from 29 to 30 feet bgs at rate of 0.03 ft/min.
16.3	30						

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-13D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (casing and open hole)

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.3	30	Red/brown Sandstone bedrock.					
15.3	31						Date: 1/22/01 Time: 09:14 Completed advancement of 13-7/8-inch roller bit from 30 to 32 feet bgs at rate of 0.14 ft/min.
14.3	32						
13.3	33	Apparent fracture (1 foot thick) at 33 feet bgs.					
12.3	34						
11.3	35						
10.3	36						Date: 1/22/01 Time: 09:51 Completed advancement of 3-7/8-inch roller bit from 32 to 37 feet bgs at rate of 0.14 ft/min.
9.3	37						
8.3	38						
7.3	39						
6.3	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-13D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-13D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (casing and open hole)

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
6.3	40	Red/brown Sandstone bedrock.					
5.3	41						Date: 1/22/01 Time: 11:50 Completed advancement of 3-7/8-inch roller bit from 37 to 42 feet bgs at rate of 0.16 ft/min.
4.3	42						
3.3	43						
2.3	44						
1.3	45						
0.3	46						Date: 1/22/01 Time: 12:50 Completed advancement of 3-7/8-inch roller bit from 42 to 47 feet bgs at rate of 0.03 ft/min.
-0.7	47						
-1.7	48						
-2.7	49						Date: 1/22/01 Time: 13:08 Completed advancement of 3-7/8-inch roller bit from 47 to 50 feet bgs at rate of 0.19 ft/minute.
-3.7	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-13D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-13D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (casing and open hole)

SHEET 7 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-3.7	50	Bottom of 25-foot, 4-inch diameter open hole completed at 50 feet bgs.					
-4.7	51						Date: 1/22/01 Time: 13:20 Completed flushing of well using rig mud pump
-5.7	52						
-6.7	53						Total water loss = 60 gallons
-7.7	54						
-8.7	55						
-9.7	56						
-10.7	57						
-11.7	58						
-12.7	59						
-13.7	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-13D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-14D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	7

3 PROJECT	4 LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	100 Hancock Street Lodi, NJ
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing) / Doug Wood (open hole)	DK-5 (casing), CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
	748,465.1 feet North 2,163,270.6 feet East
8-inch casing, 4-inch casing, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone	9. SURFACE ELEVATION
roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410	39.6 feet MSL
RAD meter, Multi RAE Plus PID.	10. DATE STARTED: 11/29/00 — 11. DATE COMPLETED: 1/12/01
12. OVERBURDEN THICKNESS	15 DEPTH GROUNDWATER ENCOUNTERED
16 feet	
13. DEPTH DRILLED INTO ROCK	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
36 feet	
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
52.0 feet bgs	5.45 feet below top of riser, 7/26/01, 10:30

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-14D

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 2 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
39.6	0	No overburden samples collected.					
38.6	1						
37.6	2						
36.6	3						
35.6	4						
34.6	5						
33.6	6						
32.6	7						
31.6	8						
30.6	9						
29.6	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO	BLOW COUNT	REMARKS
29.6	10						
28.6	11						
27.6	12						
26.6	13						
25.6	14	Weathered bedrock encountered at 14 feet bgs.					11/29/00 Time: 11:15 Completed advancement of 8-inch diameter casing to from 10 to 16 feet bgs at rate of 0.33 ft/min..
24.6	15						Date: 11/29/00 Time: 11:00 Completed advancement of 7-7/8-inch diameter roller bit from 10 to 16 feet bgs at rate of 0.5 ft/mn.
23.6	16	Red/brown Sandstone bedrock encountered at 16 feet bgs.					
22.6	17						Date: 11/29/00 Time: 10:00 Completed advancement of 7-7/8-inch diameter roller bit to 10 feet bgs at rate of 0.17 ft/min.
21.6	18						
20.6	19						Date: 11/29/00 Time: 10:15 Completed advancement of 8-inch diameter steel casing to 10 feet bgs at rate of 0.67 ft/min.
19.6	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 4 OF -

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
19.6	20	Red/brown Sandstone bedrock.					
18.6	21						
17.6	22	No fractures observed from 16 to 27 feet bgs.					
16.6	23						
15.6	24						
14.6	25						
13.6	26						Date: 11/29/00 Time: 13:00 Completed advancement of 7-7/8-inch diameter roller bit from 16 to 27 feet bgs at rate of 0.10 ft/min.
12.6	27	4-inch diameter steel casing set at 27 feet bgs (11 feet into bedrock).					Date: 11/29/00 Time: 14:00 Completed setting 4-inch diameter steel casing at 27 feet bgs.
11.6	28						Water loss = 10 gallons.
10.6	29						
9.6	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 5 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
9.6	30	Red/brown Sandstone bedrock.					Date: 1/12/01 Time: 11:31 Complete advancement of 3-7/8-inch diameter roller bit from 27 to 31 feet bgs at rate of 0.25 ft/min
8.6	31						
7.6	32						
6.6	33	No apparent fractures observed from 27 to 52 feet bgs. Red brown, fine silt observed in wash fluid.					
5.6	34						
4.6	35						Date: 1/12/01 Time: 11:55 Complete advancement of 3-7/8-inch diameter roller bit from 31 to 36 feet bgs at rate of 0.08 ft/min.
3.6	36						
2.6	37						
1.6	38						
0.6	39						Date: 1/12/01 Time: 12:20 Complete advancement of 3-7/8-inch diameter roller bit from 36 to 40 feet bgs at rate of 0.14 ft/min.
-0.4	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 6 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-0.4	40	Red/brown Sandstone bedrock.					Date: 1/12/01 Time: 12:53 Complete advancement of 3-7/8-inch diameter roller bit from 40 to 41 feet bgs at rate of 0.08 ft/min. Water loss = 50 gallons
-1.4	41						
-2.4	42						Total water loss = 60 gallons
-3.4	43						
-4.4	44						
-5.4	45						
-6.4	46						
-7.4	47						
-8.4	48						
-9.4	49						
-10.4	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-14D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-10.4	50	Red/brown Sandstone bedrock.					
-11.4	51						
-12.4	52	Bottom of 25-foot, 4-inch diameter open hole completed at 52 feet bgs (36 feet into bedrock).					
-13.4	53						
-14.4	54						
-15.4	55						
-16.4	56						
-17.4	57						
-18.4	58						
-19.4	59						
-20.4	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-14D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-15D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	8

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Dept. of Motor Vehicles, Lodi
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing)/ Doug Wood (open hole)	DK-5 (casing), CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
	747,624.1 feet North 2,162,997.4 feet East
8-inch casing, 4-inch casing, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone	9. SURFACE ELEVATION
roller bit with stabilizer bar, Ludlum 4410 RAD meter, Multi RAE Plus PID.	34.6 feet MSL
	10. DATE STARTED: 11/21/00 — 11. DATE COMPLETED: 12/15/00
12. OVERBURDEN THICKNESS	15. DEPTH GROUNDWATER ENCOUNTERED
24 feet	
13. DEPTH DRILLED INTO ROCK	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
37 feet	
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
61.0 feet bgs	2.03 feet below top of riser, 7/26/01, 10:42

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-15D

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 2 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.6	0	No overburden soil samples collected.					
33.6	1						
32.6	2						
31.6	3						
30.6	4						
29.6	5						
28.6	6						
27.6	7						
26.6	8						
25.6	9						
24.6	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 3 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
24.6	10						
23.6	11						
22.6	12						
21.6	13						
20.6	14						
19.6	15						
18.6	16						
17.6	17						
16.6	18						
15.6	19						
14.6	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 4 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
14.6	20						
13.6	21						
12.6	22						
11.6	23						
10.6	24	Red/brown Sandstone bedrock encountered at 24 feet bgs.					Date: 11/21/00 Time: 15:00 Completed setting of 8-inch diameter temporary steel casing to 24 feet bgs. Water loss = 75 gallons.
9.6	25						
8.6	26						
7.6	27						
6.6	28						
5.6	29						
4.6	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 5 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
4.6	30	No apparent fractures observed from 24 to 36 feet bgs.					
3.6	31	Red/brown Sandstone bedrock.					
2.6	32						
1.6	33						
0.6	34						Date:11/21/00 Time: 13:00 Completed advancement of 7-7/8-inch diameter roller bit from 24 to 36 feet bgs at rate of 0.01 ft/min. Water loss = 125 gallons
-0.4	35						Date: 11/21/00 Time: 15:00 *Completed setting 4-inch* steel casing at 36 feet bgs
-1.4	36	4-inch diameter steel casing set at 36 feet bgs (12 feet into bedrock).					
-2.4	37						
-3.4	38						
-4.4	39						
-5.4	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 6 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-5.4	40	Red/brown Sandstone bedrock.					Date: 12/15/00 Time: 10:40 Completed advancement of 3-7/8-inch roller bit from 36 to 41 feet bgs at rate of 0.33 ft/min. Drilled through 6 feet of grout inside of 4-inch casing
-6.4	41						
-7.4	42						
-8.4	43						
-9.4	44						
-10.4	45						Date: 12/15/00 Time: 11:30 Completed advancement of 3-7/8-inch roller bit from 41 to 46 feet bgs at rate of 0.10 ft/min.
-11.4	46	Increase in drilling rate below 46 feet bgs.					
-12.4	47						
-13.4	48	No apparent fractures observed from 36 to 60 feet bgs.					
-14.4	49						
-15.4	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 7 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO	BLOW COUNT	REMARKS
-15.4	50	Red/brown Sandstone bedrock.					Date: 12/15/00 Time. 11:33 Completed advancement of 3-7/8-inch roller bit from 46 to 51 feet bgs at rate of 1.67 ft/min Water loss = 185 gallons
-16.4	51						
-17.4	52						
-18.4	53						
-19.4	54						
-20.4	55						
-21.4	56						
-22.4	57						
-23.4	58						
-24.4	59						
-25.4	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-15D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 8 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
-25.4	60	Red/brown Sandstone bedrock.					Date: 12/15/00 Time: 13:00 Completed advancement of 3-7/8-inch roller bit from 51 to 61 feet bgs at rate of 0.40 ft/min. Total water loss = 260 gallons
-26.4	61	Bottom of 24-foot, 4-inch diameter open hole completed at 61 feet bgs (37 feet into bedrock).					
-27.4	62						
-28.4	63						
-29.4	64						
-30.4	65						
-31.4	66						
-32.4	67						
-33.4	68						
-34.4	69						
-35.4	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-15D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-16D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	9

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Vacant lot at Intersection of Money & Sidney Streets
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing) Doug Wood (open hole)	DK5 (casing), CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
	746,558.7 feet North 2,161,867.9 feet East
8-inch casing, 4-inch casing, 300-lb. hammer, drive and wash casing	9. SURFACE ELEVATION
advancement, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with	29.4 feet MSL
stabilizer bar, Ludlum 4410 RAD meter, Multi RAE Plus PID.	10. DATE STARTED: 11/10/00 / 11. DATE COMPLETED: 11/15/00
12. OVERBURDEN THICKNESS	15. DEPTH GROUNDWATER ENCOUNTERED
36 feet	
13. DEPTH DRILLED INTO ROCK	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
37 feet	
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
73.0 feet bgs	3.56 feet below top of riser, 7/23/01, 11:04

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-16D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Julie Lincoln (open hole)

SHEET 2 OF 9 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
29.4	0	No overburden soil samples collected.					
28.4	1						
27.4	2						
26.4	3						
25.4	4						
24.4	5						
23.4	6						
22.4	7						
21.4	8						
20.4	9						
19.4	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-16D	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing), Julie Lincoln (open hole)	3 OF	9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
19.4	10						
18.4	11						
17.4	12						
16.4	13						
15.4	14						
14.4	15						
13.4	16						
12.4	17						
11.4	18						
10.4	19						Date: 11/10/00 Time: 13:45 Completed advancement of 8-inch diameter temporary casing to 20 feet bgs at rate of 0.13 ft/min.
9.4	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-16D

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 4 OF 9 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
9.4	20						
8.4	21						
7.4	22						
6.4	23						
5.4	24						
4.4	25						
3.4	26						
2.4	27						
1.4	28						
0.4	29						
-0.6	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 5 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-0.6	30						
-1.6	31						
-2.6	32						
-3.6	33						
-4.6	34						
-5.6	35						Date: 11/13/00 Time: 11:15 Completed advancement of 8-inch diameter temporary casing from 20 to 36 feet bgs at rate of 0.08 ft/min.
-6.6	36	Red brown Sandstone bedrock encountered at 36 feet bgs based upon casing refusal confirmed by roller bit.					
-7.6	37						
-8.6	38						
-9.6	39						
-10.6	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 6 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-10.6	40	Red/brown Sandstone bedrock.					
-11.6	41						
-12.6	42	No fractures observed from 36 to 48 feet bgs.					
-13.6	43						
-14.6	44						
-15.6	45						
-16.6	46						Date: 11/13/00 Time 13:45 Completed advancement of 7-7/8-inch roller bit from 36 to 48 feet bgs at rate of 0.57 ft/min.
-17.6	47						Date: 11/13/00 Time: 14:15 Completed setting 4-inch diameter steel casing at 48 feet bgs.
-18.6	48	4-inch diameter steel casing set at 48 feet bgs (12 feet into bedrock).					
-19.6	49						
-20.6	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Julie Lincoln (open hole)

SHEET 7 OF 9 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-20.6	50	Red/brown Sandstone bedrock.					
-21.6	51						
-22.6	52						Date: 11/14/01 Time: 13:00 Completed advancement of 3-7/8-inch diameter roller bit from 48 to 53 feet bgs at rate of 0.07 ft/min
-23.6	53						
-24.6	54						
-25.6	55						
-26.6	56						
-27.6	57						
-28.6	58						
-29.6	59						
-30.6	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 8 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-30.6	60	No apparent fractures observed from 48 to 73 feet bgs.					
-31.6	61	Red/brown Sandstone bedrock.					
-32.6	62						
-33.6	63						
-34.6	64						
-35.6	65						
-36.6	66						
-37.6	67						
-38.6	68						
-39.6	69						
-40.6	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Julie Lincoln (open hole)

SHEET 9 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-40.6	70	Red/brown Sandstone bedrock.					
-41.6	71						
-42.6	72						
-43.6	73						Date: 11/15/01 Completed advancement of 3-7/8-inch diameter roller bit from 53 to 73 feet bgs. Total water loss = 500 gallons.
		Bottom of 25-foot, 4-inch diameter open borehole completed at 73 feet bgs (37 feet into bedrock).					
-44.6	74						
-45.6	75						
-46.6	76						
-47.6	77						
-48.6	78						
-49.6	79						
-50.6	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-17D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	6

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Mitchell Street, Lodi
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood (open hole) / Dennis Mayer (casing)	DK-5 (casing), CME- 75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
8-inch temporary steel casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	747,286.6 feet North 2,161,403.1 feet East
	9. SURFACE ELEVATION: 28.2 feet MSL
	10. DATE STARTED: 11/22/00 — 11. DATE COMPLETED: 12/20/00
12. OVERBURDEN THICKNESS: 11 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 6 feet bgs
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 46.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.60 feet below top of riser, 7/26/01, 10:09

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-17D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-17D	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Julie Lincoln (casing), George Markt (open hole)	2 OF	6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
28.2	0	No overburden samples collected.					
27.2	1						
26.2	2						
25.2	3						
24.2	4						
23.2	5						
22.2	6						
21.2	7						
20.2	8						
19.2	9						
18.2	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-17D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-17D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing) George Markt (open hole)

SHEET 3 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
18.2	10						Date: 11/22/00 Time ~09.00 Competed advancement of 8-inch diameter temporary steel casing to 11 feet bgs Water loss = 100 gallons
17.2	11	Red/brown Sandstone bedrock encountered at 11 feet bgs based upon casing refusal.					
16.2	12						
15.2	13						
14.2	14						
13.2	15	No apparent fractures observed from 11 to 22 feet bgs.					
12.2	16						
11.2	17						
10.2	18						
9.2	19						
8.2	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-17D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-17D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing). George Markt (open hole)

SHEET: 4 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
8.2	20	Red/brown Sandstone bedrock.					Date:11/22/00 Time: 11:00 Completed advancement of 7-7/8-inch diameter roller bit from 11 to 22 feet bgs at rate of 0.12 ft/min Water loss = 50 gallons
7.2	21						
6.2	22	4-inch diameter steel casing set at 22 feet bgs (11 feet into bedrock).					Date: 11/22/00 Time: 12:40 Completed setting 4-inch steel casing at 22 feet bgs
5.2	23						
4.2	24						Date:12/20/00 Time:08:30 Completed advancement of 3-7/8-inch roller bit from 22 to 25 feet bgs at rate of 0.10 ft/min.
3.2	25						
2.2	26						
1.2	27						
0.2	28						
-0.8	29						Date: 12/20/00 Time: 08:55 Completed advancement of 3-7/8-inch roller bit from 25 to 30 feet at rate of 0.09 ft/min.
-1.8	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-17D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-17D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 5 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-1.8	30	Red/brown Sandstone bedrock.					
-2.8	31	Apparent fracture encountered at 31 feet bgs (1-foot thick). No loss of water over zone.					Date: 12/20/00 Time: 10:00 Completed advancement of 3-7/8-inch roller bit from 30 to 32 feet bgs at rate of 0.05 ft/min.
-3.8	32						
-4.8	33						
-5.8	34						
-6.8	35						
-7.8	36						
-8.8	37						
-9.8	38						
-10.8	39						
-11.8	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-17D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-17D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing), George Markt (open hole)

SHEET 6 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
-11.8	40	Red/brown Sandstone bedrock.					
-12.8	41						Date: 12/20/00 Time: 11:22 Completed advancement of 3-7/8-inch roller bit from 32 to 42 feet bgs at rate of 0 19 ft/min.
-13.8	42						Water loss = 60 gallons
-14.8	43						
-15.8	44						
-16.8	45						Date:12/20/00 Time: 12:15 Completed advancement of 3-7/8-inch roller bit from 42 to 46 feet bgs at rate of 0 16 ft/min.
-17.8	46	Bottom of 24-foot, 4-inch diameter open hole completed at 46 feet bgs (35 feet into bedrock).					
-18.8	47						Total water loss = 210 gallons
-19.8	48						
-20.8	49						
-21.8	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-17D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-18D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	7

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Avenue C, Lodi
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer	DK-5 (casing), CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8 HOLE LOCATION
8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	748,690.6 feet North 2,161,793.1 feet East
	9. SURFACE ELEVATION: 35.1 feet MSL
	10. DATE STARTED: 11/27/00 — 11. DATE COMPLETED: 12/1/00
12. OVERBURDEN THICKNESS: 22 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 5 feet bgs
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 2.85 feet below top of riser, 7/26/01, 10:20
14. TOTAL DEPTH OF HOLE: 57.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
None	None	None	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-18D

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing & open hole)

SHEET 2 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.1	0	No overburden soil samples collected.					
34.1	1						
33.1	2						
32.1	3						
31.1	4						
30.1	5						
29.1	6						
28.1	7						
27.1	8						
26.1	9						
25.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing & open hole)

SHEET 3 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.1	10						
24.1	11						
23.1	12						
22.1	13						
21.1	14						
20.1	15	Drive shoe on 8-inch diameter temporary casing bent at 15 feet bgs.					
19.1	16						
18.1	17						
17.1	18						
16.1	19						
15.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing & open hole)

SHEET 4 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.1	20						
14.1	21						Date: 11/27/00 Time: 13:00 Completed advancement of 8-inch diameter steel casing to 22 feet bgs at rate of 0.20 ft/min.
13.1	22	Red / brown Sandstone bedrock encountered at 22 feet bgs.					Water loss = 70 gallons.
12.1	23						
11.1	24						
10.1	25						
9.1	26	No apparent fractures observed from 22 to 32 feet bgs.					
8.1	27						
7.1	28						
6.1	29						
5.1	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing & open hole)

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
5.1	30	Red/brown Sandstone bedrock.					
4.1	31						Date: 11/28/00 Time: 10:15 Completed advancement of 7-7/8-inch diameter roller bit from 22 to 32 feet bgs at rate of 0.80 ft/min.
3.1	32	4-inch diameter steel casing set at 32 feet bgs (10 feet into bedrock).					Date: 1/28/00 Time: 11:00 Completed setting 4-inch diameter steel casing at 32 feet bgs.
2.1	33						
1.1	34						
0.0	35	No apparent fractures observed from 32 to 55 feet bgs.					
-1.0	36						
-2.0	37						
-3.0	38						
-4.0	39						
-5.0	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing & open hole)

SHEET 6 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-5.0	40	Red/brown Sandstone bedrock.					
-6.0	41						
-7.0	42	Very competent rock encountered at 42 feet bgs, no water loss below this depth.					
-8.0	43						
-8.9	44						
-9.9	45						
-11.0	46						
-12.0	47						
-13.0	48						
-14.0	49						
-15.0	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-18D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln (casing & open hole)

SHEET 7 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-15.0	50	Red/brown Sandstone bedrock.					
-16.0	51						
-17.0	52						
-18.0	53						
-19.0	54						
-20.0	55						
-21.0	56						
-22.0	57	Bottom of 25-foot, 4-inch diameter open hole completed at 57 feet bgs (35 feet into bedrock).					Date: 12/1/00 Time: 12:10 Completed advancement of 3-7/8-inch diameter roller bit from 32 to 57 feet bgs at rate of 0.10 ft/min. Water loss = 60 gallons.
-23.0	58						Total water loss = 130 gallons.
-24.0	59						
-25.0	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-18D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-19D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	6

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Lincoln Ave, Rochelle Park
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing) Doug Wood (open hole)	DK-5 (casing), CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
	753,683.0 feet North 2,163,868.0 feet East
8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	9. SURFACE ELEVATION: 56.2 feet MSL
	10. DATE STARTED: 12/5/00 — 11. DATE COMPLETED: 12/7/00
12. OVERBURDEN THICKNESS: 6 feet	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: 36 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 42.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.36 feet below top of riser, 7/26/01, 13:01

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-19D

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 2 OF 6 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.2	0						
55.2	1						
54.2	2						
53.2	3	No overburden soil samples collected.					
52.2	4						
51.2	5						Date: 12/5/00 Time: 10:48 Completed advancement of 8-inch casing to 6 feet bgs. Casing stuck in hole during advancement.
50.2	6	Red/brown Sandstone bedrock encountered at 6 feet bgs.					
49.2	7						
48.2	8						
47.2	9						
46.2	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET 3 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.2	10	Red/brown Sandstone bedrock.					
45.2	11						
44.2	12	No apparent fractures observed from 6 to 17 feet bgs.					
43.2	13						
42.2	14						
41.2	15						Date: 12/6/00 Time: 10:48 Completed advancement of 7-7/8-inch roller bit from 6 to 17 feet bgs at rate of 0.63 ft/min.
40.2	16						Date: 12/5/00 Time: 11:58 Completed setting 4-inch diameter steel casing at 17 feet bgs.
39.2	17	4-inch diameter steel casing set at 17 feet bgs (11 feet into bedrock)					
38.2	18						
37.2	19						
36.2	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing). Julie Lincoln (open hole)

SHEET 4 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.2	20	Red/brown Sandstone bedrock.					
35.2	21						
34.2	22						
33.2	23						
32.2	24						
31.2	25	No apparent fractures observed from 17 to 42 feet bgs.					
30.2	26						
29.2	27						
28.2	28						
27.2	29						
26.2	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing), Julie Lincoln (open hole)

SHEET: 5 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.2	30	Red/brown Sandstone bedrock.					
25.2	31						
24.2	32						
23.2	33						
22.2	34						
21.2	35						
20.2	36						Date: 12/6/00 Time: 10:15am Completed advancement of 3-7/8-inch roller bit from 17 to 37 feet bgs at rate of 0.33 ft/min.
19.2	37						
18.2	38						
17.2	39						
16.2	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-19DD
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 9 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Lincoln Ave, Rochelle Park	
5. NAME OF DRILLER: Dennis Mayer (casing) Doug Wood (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 (casing), CME-75 (open hole)	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8-inch casing, 4-inch casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	8. HOLE LOCATION: 753,677.5 feet North 2,163,866.0 feet East	
	9. SURFACE ELEVATION: 56.1 feet MSL	
	10. DATE STARTED: 12/7/00	11. DATE COMPLETED: 12/12/00
12. OVERBURDEN THICKNESS: 6 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 70 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 76.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.14 feet below top of riser, 7/26/01, 13:04	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-19DD

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie (casing). Julie Lincoln (open hole)

SHEET 6 OF 6

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.2	40	Red/brown Sandstone bedrock.					
15.2	41						Date: 12/6/00 Time: 11:00am Completed advancement of 3-7/8-inch roller bit from 37 to 42 feet bgs at rate of 0 11 ft/min
14.2	42	Bottom of 24-foot, 4-inch diameter open hole completed at 42 feet bgs (36 feet into bedrock).					Total water loss = 200 gallons.
13.2	43						
12.2	44						
11.2	45						
10.2	46						
9.2	47						
8.2	48						
7.2	49						
6.2	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 2 OF 9 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.1	0						
55.1	1						
54.1	2						
53.1	3						
52.1	4						
51.1	5						Date: 12/7/00 Time: 10:00 Completed advancement of 8-inch temporary casing to 6 feet bgs at rate of 0.2 ft/min.
50.1	6	Red / brown Sandstone bedrock encountered at 6 feet bgs.					
49.1	7						
48.1	8						
47.1	9	Softer rock encountered from 6 to 24 feet bgs.					
46.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 3 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.1	10	Red/brown Sandstone bedrock.					
45.1	11						
44.1	12						
43.1	13						
42.1	14						
41.1	15						
40.1	16						
39.1	17						
38.1	18						
37.1	19						
36.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET: 4 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.1	20	Red/brown Sandstone bedrock.					
35.1	21						
34.1	22						
33.1	23						Date: 12/7/00 Time: 11:15 Completed advancement of 7-7/8-inch roller bit from 6 to 24 feet bgs at rate of 0.23 ft/min.
32.1	24	No apparent fractures observed from 6 to 51 feet bgs.					
31.1	25						
30.1	26						
29.1	27						
28.1	28						
27.1	29						
26.1	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 5 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.1	30	Red/brown Sandstone bedrock.					
25.1	31						
24.1	32	Softer rock encountered below 32 feet bgs.					
23.1	33						
22.1	34						
21.1	35						
20.1	36						
19.1	37						Date: 12/7/00 Time: 13:35 Completed advancement of 7-7/8-inch roller bit from 24 to 38 feet bgs at rate of 0.11 ft/min. Water loss = 100-gallons.
18.1	38						
17.1	39						
16.1	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 6 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
16.1	40	Red/brown Sandstone bedrock.					
15.1	41						
14.1	42						
13.1	43						
12.1	44						
11.1	45						
10.1	46						
9.1	47						
8.1	48						
7.1	49						
6.1	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 7 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
6.1	50	Red/brown Sandstone bedrock.					Date 12/8/00 Time 10:15 Completed advancement of 7-7/8-inch diameter roller bit from 38 to 51 feet bgs at rate of 0.27 ft/min
5.1	51	4-inch diameter steel casing set at 51 feet bgs (45 feet into bedrock).					Date: 12/8/00 Time: 11:30 Completed setting 4-inch diameter steel casing at 51 feet bgs.
4.1	52						
3.1	53						
2.1	54						
1.1	55						
0.1	56						
-0.9	57						
-1.9	58						
-2.9	59						
-3.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 8 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-3.9	60	Red/brown Sandstone bedrock.					
-4.9	61						
-5.9	62						
-6.9	63						
-7.9	64						
-8.9	65						
-9.9	66						
-10.9	67						
-11.9	68						
-12.9	69						
-13.9	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-19DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 9 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-13.9	70	Red/brown Sandstone bedrock.					
-14.9	71						
-15.9	72						
-16.9	73						
-17.9	74						
-18.9	75						Date: 12/12/00 Time: 11:30 Completed advancement of 3-7/8-inch diameter roller bit from 51 to 76 feet bgs at rate of 0.14 ft/min. Water loss = 100 gallons.
-19.9	76	Bottom of 25-foot, 4-inch diameter open hole completed at 76 feet bgs (70 feet into bedrock).					
-20.9	77						
-21.9	78						Total water loss = 200 gallons
-22.9	79						
-23.9	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-19DD

ENG FORM 5056A-R, AUG 94

(Proponent. CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-20D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 7

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Dirt Road, North of MISS
5. NAME OF DRILLER	6 MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing and open-hole)	DK-5 (casing and open-hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
8-inch temporary steel casing, 4-inch steel casing, 300-lb. hammer, 7-7/8-inch tricone roller bit, 3-7/8-inch tricone roller bit with stabilizer bar, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID.	752,834.1 feet North 2,164,653.9 feet East
	9. SURFACE ELEVATION: 58.5 feet MSL
	10. DATE STARTED: 2/20/01 — 11. DATE COMPLETED: 2/22/01
12. OVERBURDEN THICKNESS: 20 feet	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: 35 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 55.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): No measurement, 7/26/01

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-20D

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-20D	

PROJECT	INSPECTOR	SHEET	OF	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing and open hole)	2	OF	7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
58.5	0	No overburden samples collected					
57.5	1						
56.5	2						
55.5	3						
54.5	4						
53.5	5						
52.5	6						
51.5	7						
50.5	8						
49.5	9						
48.5	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-20D

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 3 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
48.5	10						
47.5	11						
46.5	12						
45.5	13						
44.5	14						
43.5	15						
42.5	16	Encountered cobbles in overburden at 16 feet bgs.					
41.5	17						
40.5	18						
39.5	19						Date: 2/20/01 Time: 09:57 Completed advancement of 8-inch temporary casing to 20 feet bgs at rate of 0.22 ft/min.
38.5	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-20D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
38.5	20	Red/brown Sandstone bedrock encountered at 20 feet bgs. Casing refusal confirmed with 7-7/8-inch diameter roller bit.					
37.5	21	Apparent small fractures encountered at 21 feet bgs.					
36.5	22						
35.5	23						
34.5	24						
33.5	25	Silty clay material observed in mud tub at 25 feet bgs.					
32.5	26						
31.5	27						
30.5	28						Date: 2/20/01 Time: 10:24 Completed advancement of new 7 7/8-inch roller bit from 20 to 30 feet bgs at rate of 0.23 ft/min.
29.5	29						Date: 2/20/01 Time: 12:30 Completed the setting of 4-inch diameter black steel casing to 30 feet bgs.
28.5	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-20D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 5 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
28.5	30	4-inch diameter steel casing set at 30 feet bgs (14 feet into bedrock).					
27.5	31	Red/brown Sandstone bedrock.					Date: 2/22/01 Time: 10:00 Completed advancement of 3-7/8-inch roller bit from 30 to 32 feet bgs under at rate of 1.0 ft/min.
26.5	32						
25.5	33						
24.5	34						
23.5	35						
22.5	36						Date: 2/22/01 Time: 10:12 Completed advancement of 3-7/8-inch roller bit from 32 to 37 feet bgs under at rate of 0.71 ft/min.
21.5	37						
20.5	38						
19.5	39						
18.5	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-20D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20D

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing and open hole)	6	OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
18.5	40	Red/brown Sandstone bedrock.					
17.5	41						Date. 2/22/01 Time 10.23 Completed advancement of 3-7/8-inch roller bit from 37 to 42 feet bgs at rate of 0 5 ft/min.
16.5	42						
15.5	43						
14.5	44						
13.5	45						
12.5	46						Date: 2/22/01 Time: 11:17 Completed advancement of 3-7/8-inch roller bit from 42 to 47 feet bgs at rate of 0.36 ft/min.
11.5	47						
10.5	48						
9.5	49	Drilling becomes hard around 49 feet bgs.					
8.5	50						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-20D

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-20D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 7 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
8.5	50	Red/brown Sandstone bedrock.					
7.5	51						Date 2/22/01 Time 12.03 Completed advancement of 3-7/8-inch roller bit from 47 to 52 feet bgs at rate of 0 11 ft/min
6.5	52						
5.5	53						
4.5	54						Date: 2/22/01 Time: 12:20 Completed advancement of 3-7/8-inch roller bit from 52 to 55 feet bgs at rate of 0.19 ft/min.
3.5	55	Bottom of 25-foot, 4-inch diameter open hole completed at 55 feet bgs (35 feet into bedrock).					
2.5	56						
1.5	57						Date: 2/22/01 Time: 12:25 Completed flushing of well with drill rig.
0.5	58						Total water loss = 150 gallons.
-0.5	59						
-1.5	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-20D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-23D

1 COMPANY NAME	2 DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1	OF 9

3 PROJECT	4 LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Southeast of bedrock Pump Test on MISS
5. NAME OF DRILLER: Dennis Mayer (casing and open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 with Sullair air compressor
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-inch temporary steel casing, 6-inch steel casing, 9-7/8-inch air rotary tri-cone roller bit, 6-inch dia. air hammer, DiverTech pneumatic driver system, cyclone air cuttings separator.	8. HOLE LOCATION: 752,286.0 feet North 2,164,293.6 feet East
	9 SURFACE ELEVATION: 56.1 feet MSL
	10. DATE STARTED: 6/14/01 — 11. DATE COMPLETED: 6/21/01
12. OVERBURDEN THICKNESS: 22 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 24 feet bgs
13. DEPTH DRILLED INTO ROCK: 49 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 71.0 feet bgs	17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.22 feet below top of riser, 7/26/01, 15:00

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-23D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Alan Wood & Chuck Trione (open hole)

SHEET 2 OF 9

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.1	0	No overburden samples collected. Drill cuttings indicative of red/brown sand (SM, 5 yr 4/4). No water detected in overburden.	PID = 0 ppmV				Date: 6/14/01 Time: 10:48 Completed advancement of 10-1/4-inch diameter hollow stem auger to 10 feet bgs at rate of 1.43 ft/min.
55.1	1						
54.1	2						
53.1	3						
52.1	4						
51.1	5						
50.1	6						
49.1	7						
48.1	8						
47.1	9						
46.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood & Chuck Trione (open hole)

SHEET 3 OF 9

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.1	10	Red/brown sand (SM, 5 yr 4/4).					
45.1	11						
44.1	12						
43.1	13						
42.1	14						Date: 6/14/01 Time: 14:35 Completed cleaning of 10-inch casing hole with new 9-7/8-inch air rotary roller bit to 15 feet bgs.
41.1	15						
40.1	16						
39.1	17						
38.1	18						
37.1	19						Date: 6/14/01 Time: 11:40 Completed advancement of 10-inch diameter temporary steel casing with drive shoe, from 10 to 20 feet bgs via air hammer at rate of 0.4 ft/min.
36.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Alan Wood & Chuck Trione (open hole)

SHEET 4 OF 9 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.1	20	Red/brown sand (SM, 5 yr 4/4).					Date: 6/14/01 Time: 11:40 Completed advancement of 10-inch diameter temporary steel casing with drive shoe. from 20 to 22 feet bgs via air hammer.
35.1	21						
34.1	22	Red/brown Sandstone bedrock encountered at 22 feet bgs based upon casing refusal.					Date: 6/15/01 Time: 08:48 Completed cleaning out 10-inch casing with new 9-7/8-inch air rotary roller bit to 22 feet bgs.
33.1	23						
32.1	24	Groundwater encountered at 24 feet bgs (2 feet into bedrock).					
31.1	25						
30.1	26	Apparent fracture (small) encountered at 26 feet bgs.					Date: 6/15/01 Time: 11:00 Completed advancement of 9-7/8-inch air rotary bit from 22 to 27 feet bgs at rate of 0.14 ft/min.
29.1	27						
28.1	28						
27.1	29	Substantial increase in groundwater yield and harder rock encountered at 29 feet bgs. Color of cuttings change from red/brown to tannish red/brown.					
26.1	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood & Chuck Trione (open hole)

SHEET 5 OF 9

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.1	30	Apparent fracture (1-foot thick) encountered at 30 feet bgs.					
25.1	31	Cuttings change from tannish red/brown to red/brown at 31 feet bgs.					
		Apparent fracture encountered at 31.5 feet bgs.					
24.1	32	Red/brown Sandstone bedrock.					
23.1	33						Date: 6/15/01 Time: 12:15 Completed advancement of 9-7/8-inch air rotary bit from 27 to 35 feet bgs at rate of 0.26 ft/min.
22.1	34						Date: 6/15/01 Time: 14:00 Completed setting 6-inch permanent steel casing at 35 feet bgs.
21.1	35	6-inch diameter steel casing set at 35 feet bgs (13 feet into bedrock).					
20.1	36						
19.1	37						
18.1	38	Apparent fractures (small) encountered at 38 feet bgs.					
17.1	39						
16.1	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood & Chuck Trione (open hole)

SHEET 6 OF 9

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.1	40	Red/brown Sandstone bedrock.					
15.1	41						
14.1	42						
13.1	43						
12.1	44						Date: 6/20/01 Time: 08:45 Completed advancement of 6-inch air hammer from 35 to 45 feet bgs at rate of 1.67 ft/min.
11.1	45						
10.1	46						
9.1	47						
8.1	48						
7.1	49						Date: 6/20/01 Time: 08:50 Completed advancement of 6-inch air hammer from 45 to 50 feet bgs at rate of 2 ft/min.
6.1	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Alan Wood & Chuck Trione (open hole)

SHEET 7 OF 9 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
6.1	50	Red/brown Sandstone bedrock.					
5.1	51	2-inch diameter 0.010-slot PVC well screen set from 51 to 71 feet bgs.					
4.1	52						
3.1	53						
2.1	54						
1.1	55						
0.1	56						
-0.9	57						
-1.9	58						
-2.9	59						Date: 6/20/01 Time:08:55 Completed advancement of 6-inch air hammer from 50 to 60 feet bgs at rate of 1.67 ft/min.
-3.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood & Chuck Trione (open hole)

SHEET 8 OF 9 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
-3.9	60	Red/brown Sandstone bedrock.					
-4.9	61						
-5.9	62						
-6.9	63						
-7.9	64						
-8.9	65						
-9.9	66						
-10.9	67						
-11.9	68	Apparent fracture (small) encountered at 68 feet bgs.					
-12.9	69						
-13.9	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood & Chuck Trione (open hole)

SHEET 9 OF 9

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-13.9	70	Red/brown Sandstone bedrock.					Date: 6/20/01 Time: 15:30 Completed advancement of 6-inch air hammer from 60 to 71 feet bgs at rate of 0.67 ft/min.
-14.9	71	Bottom of 35-foot, 6-inch diameter open hole completed at 71 feet bgs (49 feet into bedrock).					Date: 6/21/01 Time: 12:00 Completed setting 2-inch dia., 0.010-slot PVC well screen from 51 to 71 feet bgs.
-15.9	72						
-16.9	73						
-17.9	74						
-18.9	75						
-19.9	76						
-20.9	77						
-21.9	78						
-22.9	79						
-23.9	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-23DD
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 12
3 PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: SE of bedrock Pump Test Array on MISS	
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 with Sullair air compressor	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-inch temporary steel casing, 6-inch steel casing, 9-7/8-inch air rotary tricone roller bit, 6-inch dia. air hammer, DiverTech pneumatic driver system, cyclone air cuttings separator, PVC well screened riser.	8. HOLE LOCATION: 752,302.2 feet North 2,164,297.4 feet East	
	9. SURFACE ELEVATION: 56.9 feet MSL	
	10. DATE STARTED: 6/18/01	11. DATE COMPLETED: 6/21/01
12. OVERBURDEN THICKNESS: 21 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 71 feet bgs	
13. DEPTH DRILLED INTO ROCK: 84 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 105.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 12.02 feet below top of riser, 7/26/01, 11:32	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-23DD

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 2 OF 12 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.9	0	No overburden soil samples collected. Drill cuttings indicative of red/brown sand (SM, 5 yr 4/4). No water detected in overburden.					
55.9	1						
54.9	2						
53.9	3						
52.9	4						
51.9	5						
50.9	6						
49.9	7						
48.9	8						
47.9	9						
46.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Chuck Trione (casing & open hole)	3	12

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.9	10						
45.9	11						
44.9	12						
43.9	13						Date: 6/18/01 Time: 14:00 Completed advancement of 10-1/4-inch dia. hollow stem auger to 14 feet bgs at rate of 0.52 ft/min.
42.9	14						
41.9	15						
40.9	16						
39.9	17						
38.9	18						
37.9	19						Date: 6/18/01 Time: 11:10 Completed advancement of 10-inch diameter temporary steel casing with drive shoe from 14 to 21 feet bgs via air hammer at rate of 0.12 ft/min.
36.9	20						

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 4 OF 12 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.9	20						Date: 6/19/01 Time: 09:00 Completed cleaning out 10-inch casing with 9-7/8-inch air rotary bit to 21 feet bgs.
35.9	21						
34.9	22	Red/brown Sandstone bedrock encountered at 22 feet bgs based upon casing refusal.					
33.9	23						
32.9	24						
31.9	25						
30.9	26	Apparent fracture (small) encountered at 26 feet bgs.					
29.9	27						
28.9	28						
27.9	29	Softer bedrock encountered from 29 to 31 feet bgs.					
26.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 5 OF 12 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.9	30	Red/brown Sandstone bedrock.					Date: 6/19/01 Time: 09:40 Completed advancement of 5-7/8-inch air rotary roller bit from 21 to 31 feet bgs at rate of 1.0 ft/min.
25.9	31						
24.9	32						
23.9	33						
22.9	34						
21.9	35	6-inch diameter steel casing set at 35 feet bgs (21 feet into bedrock).					Date: 6/19/01 Time: 13:00 Completed setting of 6-inch permanent steel casing at 35 feet bgs.
20.9	36						
19.9	37						Date: 6/19/01 Time: 10:35 Completed advancement of 5-7/8-inch air rotary roller bit from 31 to 37 feet bgs at rate of 0.15 ft/min.
18.9	38						
17.9	39						Date: 6/20/01 Time: 11:50 Completed advancement of 5-7/8-inch air rotary roller bit from 37 to 40 feet bgs at rate of 0.3 ft/min.
16.9	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 6 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.9	40	Red/brown Sandstone bedrock.					
15.9	41						
14.9	42						
13.9	43						
12.9	44						
11.9	45						
10.9	46						
9.9	47						
8.9	48						
7.9	49						
6.9	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 7 OF 12 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
6.8	50	Red/brown Sandstone bedrock.					
5.9	51						
4.9	52						
3.9	53						
2.9	54						
1.9	55						
0.8	56						
-0.2	57						
-1.2	58						
-2.2	59	Color of cuttings change from red/brown to tannish red/brown at 59 feet bgs.					
-3.2	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 8 OF SHEETS 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-3.2	60	Red/brown Sandstone bedrock.					
-4.2	61						
-5.2	62						
-6.2	63						
-7.2	64						
-8.2	65						
-9.2	66						
-10.2	67	Color of cuttings change from tannish red/brown to red/brown at 67 feet bgs.					
-11.2	68						
-12.2	69						
-13.2	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Chuck Trione (casing & open hole)	9	12

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-13.2	70	Red/brown Sandstone bedrock.					
-14.2	71	Apparent fracture (small) encountered at 71 feet bgs. Some groundwater in flux encountered at rate of about 0.5 gpm.					
-15.2	72						
-16.2	73						
-17.2	74	Apparent fracture encountered at 74 feet bgs.					
-18.2	75						
-19.2	76	Apparent fracture encountered at 76 feet bgs.					
-20.2	77						
-21.2	78						
-22.2	79						
-23.2	80						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-23DD

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 10 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-23.2	80	Red/brown Sandstone bedrock.					
-24.2	81						
-25.2	82						
-26.2	83	Apparent fracture (small) encountered at 83 feet bgs.					
		2-inch diameter 0.010-slot PVC well screen set from 83 to 103 feet bgs.					
-27.2	84						
-28.2	85						
-29.2	86						
-30.2	87						
-31.2	88	Apparent fracture (small) encountered at 88 feet bgs.					
-32.2	89						
-33.2	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 11 OF 12 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-33.2	90	Red/brown Sandstone bedrock.					
-34.2	91						
-35.2	92						
-36.2	93						
-37.2	94						
-38.2	95						
-39.2	96						
-40.2	97						
-41.2	98						
-42.2	99						
-43.2	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-23DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Chuck Trione (casing & open hole)

SHEET 12 OF 12

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-43.2	100	Red/brown Sandstone bedrock.					
-44.2	101						
-45.2	102						Date: 6/21/01 Time: 14:45 Completed setting well screen from 83 to 103 feet bgs in open hole.
-46.2	103	Apparent fractures (small) encountered from 103 to 105 feet bgs.					
-47.2	104						Date: 6/20/01 Time: 13:00 Completed advancement of 5-7/8-inch air rotary roller bit from 40 to 105 feet bgs at rate of 1.43 ft/min.
-48.2	105	Bottom of 70-foot, 6-inch diameter open hole completed at 105 feet bgs (84 feet into bedrock).					
-49.2	106						Date: 6/20/01 Time: 13:50 Unable to remove temporary 10-inch diameter temporary steel casing from borehole. Casing left in place from ground surface to 21 feet bgs.
-50.2	107						
-51.2	108						
-52.2	109						
-53.2	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-23DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-24D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	9

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Southeast of bedrock Pump Test Array
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Dennis Mayer (casing and open hole)	DK-5 with Sullair air compressor
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
10-inch temporary steel casing, 6-inch steel casing, 9-7/8-inch air rotary tricone roller bit, 6-inch dia. air hammer, DiverTech pneumatic driver system, cyclone air cuttings separator.	752,191.1 feet North 2,164,077.5 feet East
	9. SURFACE ELEVATION: 55.0 feet MSL
	10. DATE STARTED: 6/22/01 / 11. DATE COMPLETED: 8/21/01
12. OVERBURDEN THICKNESS: 24.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 31 feet bgs
13. DEPTH DRILLED INTO ROCK: 45.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 70.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 13.55 feet below top of riser, 7/26/01, 09:22

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-24D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF 9

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.0	0	No overburden soil samples collected.					
54.0	1						
53.0	2						
52.0	3						
51.0	4						
50.0	5						
49.0	6						
48.0	7						
47.0	8						
46.0	9						
45.0	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF 9 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.0	10						
44.0	11						
		White fill material encountered to 12 ft BGS.					
43.0	12						
42.0	13						
41.0	14						Date: 6/21/01 Time: 10:12 Completed the advancement of 10-1/4-inch diameter hollow stem auger to 15 feet bgs at rate of 0.24 ft/min.
40.0	15						
39.0	16						
38.0	17						
37.0	18						
36.0	19						
35.0	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 4 OF 9 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.0	20						
34.0	21						
33.0	22						
32.0	23						
31.0	24						Date: 7/12/01 Time: 08:10 Completed advancement of 10-inch diameter temporary steel casing with drive shoe from 15 to 24.5 feet bgs.
30.0	25	Red/brown Sandstone bedrock encountered at 24.5 feet bgs based upon casing refusal.					
29.0	26						
28.0	27						
27.0	28						Date: 7/13/01 Time: 09:55 Completed advancement of 9-7/8-iinch diameter air hammer from 24.5 to 28 feet bgs at rate of 0.8 ft/min.
26.0	29	Minor flow of water into borehole and very hard, slightly weathered fine sandstone encountered at 29 feet bgs.					
25.0	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 5 OF 9 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.0	30	Red/brown Sandstone bedrock.					Date: 7/13/01 Time: 09:59 Completed advancement of 9-7/8-inch diameter air hammer from 28 to 31 feet bgs at rate of 0.75 ft/min.
24.0	31	Flow of groundwater into borehole encountered from 31 to 35 feet bgs.					
23.0	32						
22.0	33						
21.0	34						Date: 7/13/01 Time: 10:16 Completed the advancement of 9-7/8-inch diameter air hammer from 31 to 35 feet bgs at rate of 0.8 ft/min.
20.0	35	6-inch diameter steel casing set at 35 feet bgs (10.5 feet into bedrock).					Date: 7/13/01 Time: 12:39 Complete setting of 6-inch permanent steel casing at 35 feet bgs.
19.0	36						
18.0	37						
17.0	38						
16.0	39						
15.0	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 6 OF 9 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.0	40	Red/brown Sandstone bedrock.					
14.0	41						
13.0	42						
12.0	43						
11.0	44						Date: 7/17/01 Time: 09:09 Completed the advancement of 6-inch diameter air hammer from 35 to 45 feet bgs at rate of 2 ft/min.
10.0	45						
9.0	46						
8.0	47	Roller bit advanced from 47 to 60 feet bgs through grout that entered well during the setting of steel casing at 80 feet bgs in MW 24DD on 8/8/01.					
7.0	48	2-inch diameter, 0.010 slot PVC well screen set from 47.7 to 67.7 feet bgs.					
6.0	49	Apparent fractures and increased flow of groundwater into borehole encountered from 49 to 51 feet bgs. Approximately 200 gallons of groundwater produced.					
5.0	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-24DD
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 12
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Southeast of bedrock Pump Test Array	
5. NAME OF DRILLER: Dennis Mayer (casing and open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: DK-5 with Sullair air compressor	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-inch temporary steel casing, 6-inch steel casing, 9-7/8-inch air rotary tricone roller bit, 6-inch dia. air hammer, DiverTech pneumatic driver system, cyclone air cuttings separator, mini RAE Plus PID.	8. HOLE LOCATION: 752,182.3 feet North 2,164,078.4 feet East	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 7/16/01	11. DATE COMPLETED: 8/13/01
12. OVERBURDEN THICKNESS: 24.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 51 feet bgs	
13. DEPTH DRILLED INTO ROCK: 80.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 105.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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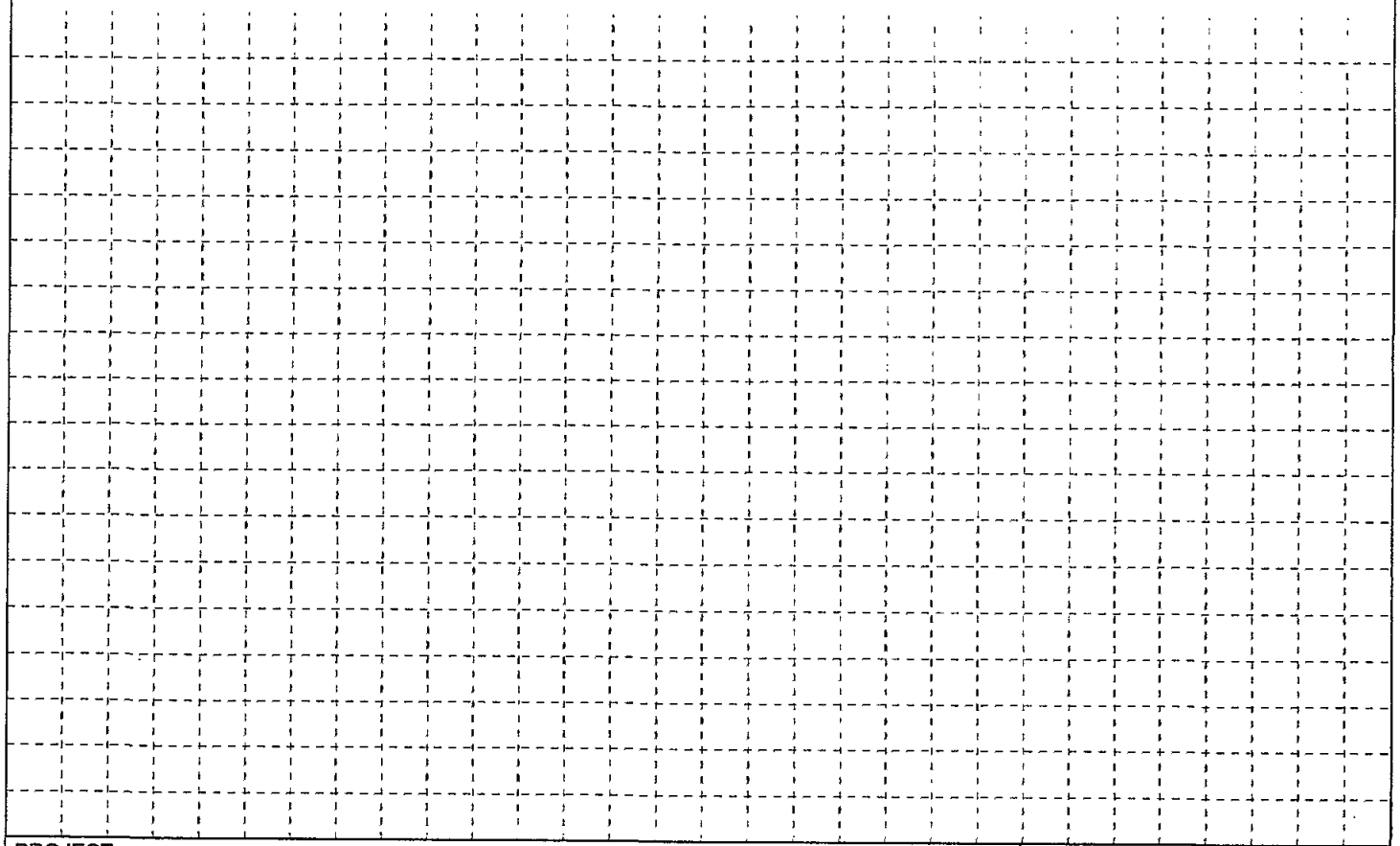
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-24DD

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-24DD	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing), Alan Wood (open hole)	2 OF	12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	0	No overburden soil samples collected.					
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Alan Wood (open hole)

SHEET 3 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	10						
	11						
	12						Date: 7/16/01 Time: 08:05 Completed advancement of 10-1/4-inch hollow stem auger to 13 feet bgs at rate of 2.6 ft/min.
	13						
	14						
	15						
	16						
	17						
	18	Casing advancement difficult from 18 to 24.5 feet bgs.					
	19						
	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood (open hole)

SHEET 4 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	20						
	21						
	22						
	23						Date: 7/16/01 Time: 09:00 Completed advancement of 10-inch diameter temporary steel casing with drive shoe to 24.5 feet bgs.
	24						Date: 7/16/01 Time: 13:30 Unable to extract 10-inch diameter temporary steel casing with drive shoe from borehole. Casing left in place from ground surface to 24.5 feet bgs.
	25	Red/brown Sandstone bedrock encountered at 24.5 feet bgs based on casing refusal.					
	26						
	27						
	28						
	29						
	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing), Alan Wood (open hole)	5	OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	30	Red/brown Sandstone bedrock.					
	31						
	32						
	33						
	34						Date: 7/16/01 Time: 10:00 Completed advancement of 9-7/8-inch roller bit from 24.5 to 35 feet bgs at rate of 0.21 ft/min.
	35	6-inch diameter steel casing set at 35 feet bgs (10.5 feet into bedrock).					Date: 7/16/01 Time 12:00 Completed setting 6-inch diameter permanent steel casing at 35 feet bgs.
	36						
	37						
	38						
	39						
	40						Date: 7/17/01 Time. 12:09 Completed advancement of 6-inch diameter air hammer from 35 to 40 feet bgs at rate of 2 ft/min.

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Alan Wood (open hole)

SHEET 6 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	40	Red/brown Sandstone bedrock.					
	41						
	42	Some erratic penetration encountered below 42 feet bgs.					
	43						
	44						Date: 7/17/01 Time: 12:12 *Completed advancement of* 6-inch diameter air hammer from 40 to 45 feet bgs at rate of 1.82 ft/min.
	45						
	46						
	47						
	48						
	49	Flow of groundwater into borehole encountered at 49 feet bgs.					Date: 7/17/01 Time: 12:15 Completed advancement of 6-inch diameter air hammer from 45 to 51 feet bgs at rate of 2.0 ft/min. at 51 feet bgs. Ceased drilling operations due to observation of hydraulic connection with MW 24D.
	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Alan Wood (open hole)

SHEET 7 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	50	Red/brown Sandstone bedrock.					Date: 7/27/01 Time: 08:40 Completed grouting of 6-inch diameter from 35 to 51 feet bgs.
	51	Observed hydraulic connection with MW 24D at 51 feet bgs. Ceased drilling operations at 51 feet bgs. Open hole grouted from 35 to 51 feet bgs and redrilled.					
	52						
	53						
	54						
	55						
	56						
	57						Date: 8/8/01 Time: 10:53 Completed advancement of 3-7/8-inch roller bit from 35 to 58 feet bgs at rate of 0.60 ft/min.
	58						
	59						
	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Alan Wood (open hole)

SHEET 8 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	60	Red/brown Sandstone bedrock.					
	61						
	62						Date: 8/8/01 Time: 11:36 Completed advancement of 3-7/8-inch roller bit from 58 to 63 feet bgs at rate of 0 11 ft/min.
	63						
	64						
	65						Date: 8/8/01 Time: 11:36 Completed advancement of 3-7/8-inch roller bit from 63 to 66 feet bgs at rate of 0.3 ft/min.
	66						
	67						
	68						
	69						
	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing) Alan Wood (open hole)

SHEET 9 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	70	Red/brown Sandstone bedrock.					
	71						
	72	Observed erratic chatter from roller bit at 72 feet bgs.					Date: 8/8/01 Time: 12:13 Completed advancement of 3-7/8-inch roller bit from 66 to 73 feet bgs at rate of 0.29 ft/min.
	73	Observed loss of recirculation water to formation from 73 to 80 feet bgs. Ceased drilling operations. Observed 4-foot rise in static water level in monitoring well MW 24D. Hydraulic connection between MW 24DD and MW 24D observed.					
	74						Date: 8/8/01 Time: 12:34 Completed advancement of 3-7/8-inch air hammer from 73 to 75 feet bgs at rate of 0.14 ft/min.
	75	Observed ground water emanating from MW 24D well head. 3-7/8-inch roller bit at 75 feet bgs in MW 24DD.					
	76						
	77						
	78						
	79						Date: 8/8/01 Time: 12:56 Completed advancement of 3-7/8-inch air hammer from 75 to 80 feet bgs at rate of 0.33 ft/min.
	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood (open hole)

SHEET 10 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	80	4-inch diameter permanent steel casing set at 80 feet bgs (55.5 feet into bedrock).					Date: 8/8/01 Time: 13:30 Completed setting 4-inch diameter permanent steel casing at 80 feet bgs.
	81	Red/brown Sandstone bedrock.					Date: 8/9/01 Time: 11:00 Completed addition of grout to 4-inch diameter permanent steel casing.
	82						
	83						
	84						Date: 8/10/01 Time: 12:14 Completed advancement of 3-7/8-inch air hammer from 80 to 85 feet bgs at rate of 0.60 ft/min.
	85						
	86						Date: 8/10/01 Time: 12:24 Completed advancement of 3-7/8-inch air hammer from 85 to 87 feet bgs at rate of 0.40 ft/min.
	87	Began injecting water for dust control at 87 feet bgs.					
	88						
	89						Date: 8/10/01 Time: 12:47 Completed advancement of 3-7/8-inch air hammer from 87 to 90 feet bgs at rate of 0.75 ft/min.
	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood (open hole)

SHEET 11 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	90	Discontinued addition of recirculation water due to large flow of ground water into borehole at 90 feet bgs.					
	91	Red/brown Sandstone bedrock.					
	92						
	93						
	94						
	95						Date: 8/13/01 Time: 08:34 Completed advancement of 3-7/8-inch air hammer from 90 to 96 feet bgs at rate of 0.32 ft/min.
	96	Strong odor of hydrocarbon observed at 96 feet bgs.					
	97						
	98						
	99						
	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-24DD

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Alan Wood (open hole)

SHEET 12 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	100	Red/brown Sandstone bedrock.					
	101						
	102						
	103						
	104						
	105	Bottom of 25-foot, 4-inch diameter open hole completed at 105 feet bgs (80.5 feet into bedrock).					Date: 8/13/01 Time: 09:06 Completed advancement of 3-7/8-inch air hammer from 96 to 105 feet bgs at rate of 0.35 ft/min.
	106						Date: 8/13/01 Time: 10:00 Completed air surging/development of monitoring well.
	107						
	108						
	109						
	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-24DD

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-25D
1. COMPANY NAME: Malcolm Pirnie, Inc.	2 DRILLING CONTRACTOR: B & B Drilling	SHEET 1 OF 7 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: MISS, East of Pump Test Area	
5. NAME OF DRILLER: Doug Myerchin	6. MANUFACTURER'S DESIGNATION OF DRILL: Ingersoll-Rand T3W Air Rotary	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch dia. Air Hammer, 10-inch dia. Air Hammer, 6-inch dia. Black Steel Casing, 10-inch dia. Temporary Steel Casing.	8 HOLE LOCATION: 752,405.1 feet North 2,164,312.6 feet East	
	9. SURFACE ELEVATION: 56.1 feet MSL	
	10. DATE STARTED: 12/11/01	11 DATE COMPLETED: 12/14/01
12. OVERBURDEN THICKNESS: 18 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 10 feet bgs	
13. DEPTH DRILLED INTO ROCK: 15 feet	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 33.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	No	NO	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	NO	NO	NO	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Drilling Not Completed to Date		YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-25D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 2 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.1	0	No Samples See log for MW-25S					Time 1400 Start advancement of hollow-end auger.
55.1	1						
54.1	2						
53.1	3						
52.1	4						
51.1	5						
50.1	6						
49.1	7						
48.1	8						
47.1	9						
46.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 3 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
46.1	10						
45.1	11						
44.1	12						
43.1	13						
42.1	14						
41.1	15						
40.1	16						
39.1	17						Time: 1413 Bit at 18-feet.
38.1	18						Time: 1451 Start 10-inch dia.
37.1	19						Time: 1502 10-inch dia. casing and drive shoe at 19-feet bgs. Time: 1506 Start 10-inch dia. hole for
36.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.1	20	Dark red / brown Sandstone					6-inch dia casing Time: 1517 Switch to another rod, 20-feet bgs. 0.0 PID
35.1	21						
34.1	22						
33.1	23						
32.1	24						
31.1	25						Time: 1528 0.0 PID
30.1	26						
29.1	27						
28.1	28						
27.1	29						
26.1	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.1	30						Time. 1534 0.0 PID
25.1	31						
24.1	32						
23.1	33	Install 6-inch dia. steel casing with *grout.*					Time: 1541 *Hole open to 33-feet* cleanout; Set 6-inch casing Time: 1250 Start bit at 33.5 feet 5-7/8 air hammer
22.1	34						
21.1	35	Red / brown Sandstone cuttings					Time: 1615 6-inch casing set to 33 feet bgs Start to mix grout 25-gallons water 3 bags Portland Cement 1/2 bag Bentonite Time: 1255
20.1	36						
19.1	37						
18.1	38						
17.1	39						
16.1	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.1	40	Red / brown Sandstone cuttings					Time: 1700 off site
15.1	41						Time 1300 40 feet Added another roc
14.1	42						
13.1	43						
12.1	44						
11.1	45	Red / brown Sandstone cuttings					Time: 1306
10.1	46						
9.1	47						
8.1	48						
7.1	49						
6.1	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-25D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
6.1	50	Red / brown Sandstone cuttings					
5.1	51						
4.1	52						
3.1	53						
2.1	54						
1.1	55	Red / brown Sandstone cuttings					Time: 1313
0.1	56						
-0.9	57						
-1.9	58						
-2.9	59	Bottom of Boring at 59 feet.					Time: 1319 Start air development. Good water production. Time: 1350 End air development
-3.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-25D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-26D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	B & B Drilling	1 OF	8

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MISS Restricted Area
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Doug Myerchin	Ingersoll-Rand T3W Air Rotary
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
6-inch dia. Air Hammer, 10-inch dia. Air Hammer, 6-inch dia. Black Steel Casing, 10-inch dia. Temporary Steel Casing.	752,645.9 feet North 2,164,344.9 feet East
	9. SURFACE ELEVATION: 58.0 feet MSL
	10. DATE STARTED: 12/12/01 / 11. DATE COMPLETED: 12/14/01
12. OVERBURDEN THICKNESS: 19 feet	15. DEPTH GROUNDWATER ENCOUNTERED: N/A bgs
13. DEPTH DRILLED INTO ROCK: 40 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 59.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

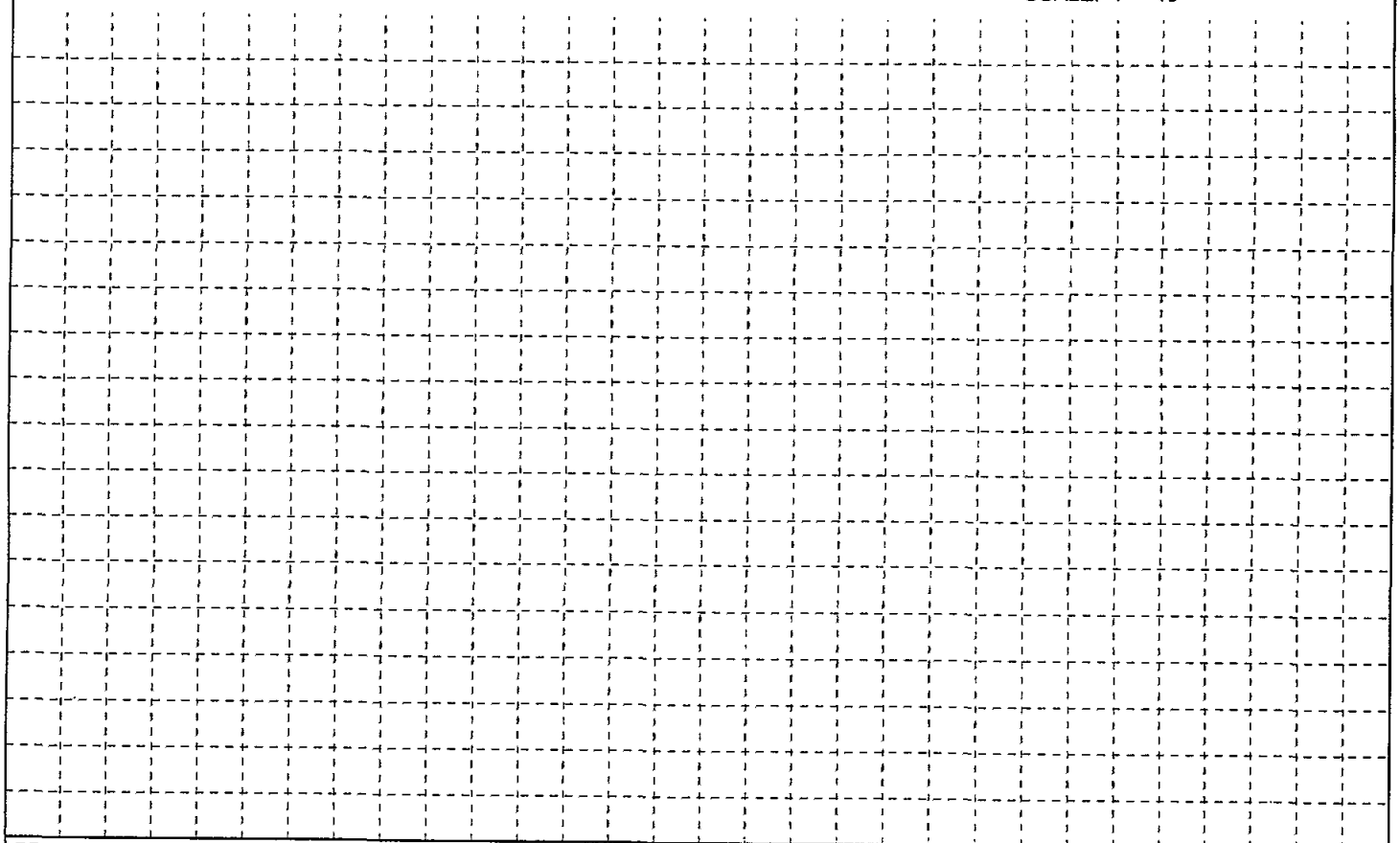
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NO	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	YES	YES	RAD	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed		YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-26D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-26D	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	2 OF	8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
58.0	0						Date: 12/12/01 Time: 1440 Start Boring
57.0	1						
56.0	2						
55.0	3	No overburden soil samples collected.					
54.0	4						
53.0	5						
52.0	6						
51.0	7						
50.0	8						
49.0	9						
48.0	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-26D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
MW-26D	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Jeff Dekoskie	3 OF	8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
48.0	10						
47.0	11						
46.0	12						
45.0	13						
44.0	14						
43.0	15						Date: 12/12/01 Time: 1445 15-feet bgs Bir Rate 3 ft/min.
42.0	16						
41.0	17						
40.0	18						
39.0	19	10-inch dia. hole for 6'inch dia. steel casing with grout.					Date: 12/12/01 Time: 1452 Bedrock at 19 feet bgs. Bit Rate 0.6 ft/min. Date: 12/12/01 Time: 1500 Start to drive 10-inch casing Date: 12/12/01 Time: 15:15
38.0	20						

PROJECT FUSRAP MAYWOOD SUPERFUND SITE GWRI | HOLE NO MW-26D

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-26D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 4 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
38.0	20						10 inch casing at 19-feet. Shovel out tub Date: 12/12/02 Time. 1528 Start 10 inch bit. Currently at 19 feet
37.0	21	Red / brown Sandstone chips	0.0 PID				Date: 12/12/01 Time: 1533 10 inch bit at 21 feet, sample cuttings. Bit Rate 0.6 ft/min.
36.0	22						Time: 1536 22 feet, water bearing fracture
35.0	23						
34.0	24						
33.0	25						
32.0	26						
31.0	27	Red / brown Sandstone chips	0.0 PID				Date: 12/12/01 Time: 1540 Bit at 27 ft Bit Rate: 1ft/min.
30.0	28						
29.0	29						
28.0	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-26D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-26D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 5 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
28.0	30						
27.0	31						
26.0	32	Red / brown Sandstone chips	0.0 PID				Date: 12/12/01 Time: 1547 Bit at 32 ft Rate 0.7 ft/min
25.0	33						Date: 12/12/01 Time: 1553 Advance drill bit to 34-feet
24.0	34	Grout: 3 Bags Portland cement, 25-gallons water, 25-lbs. bentonite					Date: 12/12/01 Time: 1612 6-inch casing st to 33.5 feet Date: 12/12/01 Time: 1600 1st section of 6-inch casing in hole. 33.5 ft Start making grout Date: 12/14/01 Time: 0822 Start air hammer Date: 12/12/01 Time: 1650 Pull 10-inch casing
23.0	35						
22.0	36						Date: 12/12/01 Time: 1700 Casing out of hole
21.0	37						
20.0	38						
19.0	39						
18.0	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-26D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-26D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 6 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
18.0	40	Red / brown Sandstone chips	0.0 PID				Date: 12/14/01 Time: 0825 Bit at 40 feet Rate 2 ft/min Sample cuttings
17.0	41						Date: 12/14/01 Time. 0832 Stop work due to air leak Repair problem Date: 12/14/01 Time: 0835 Re-start
16.0	42						
15.0	43						
14.0	44						
13.0	45	Red / brown Sandstone gravel.	0.0 PID				Date: 12/14/01 45 feet Sample cuttings
12.0	46						
11.0	47						
10.0	48						
9.0	49						
8.0	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-26D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-26D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 7 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
8.0	50	Red / brown Sandstone gravel.	0.0 PID				Date: 12/14/01 50 feet Sample cuttings
7.0	51						
6.0	52						
5.0	53						
4.0	54						
3.0	55	Red / brown Sandstone gravel.	0.0 PID				Date: 12/14/01 55 feet Sample cuttings
2.0	56						
1.0	57						
0.0	58						
-1.0	59	Bottom of Boring					Date: 12/14/01 Time:0840 59 feet end of boring Bit rate 1.3 ft/min. Begin Air Development.
-2.0	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-26D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-26D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Jeff Dekoskie

SHEET 8 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
-2.0	60						Date: 12/14/01 Time: 0910 End Air Development Poor water development
-3.0	61						
-4.0	62						
-5.0	63						
-6.0	64						
-7.0	65						
-8.0	66						
-9.0	67						
-10.0	68						
-11.0	69						
-12.0	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-26D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-13S

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	3

3 PROJECT	4 LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	99 Essex Street
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-inch steel casing, 5-7/8-inch tricone roller bit, drive and wash casing advancement, PVC well screen and riser, 2 and 3-inch split spoons, 140-lb. hammer, 300-lb. hammer, California Tube sampler, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	8. HOLE LOCATION: 750,417.0 feet North 2,164,497.7 feet East
	9. SURFACE ELEVATION: 46.3 feet MSL
	10. DATE STARTED: 12/5/00 — 11 DATE COMPLETED: 12/5/00
12. OVERBURDEN THICKNESS: 14.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 5.5 feet bgs
13. DEPTH DRILLED INTO ROCK: 0 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 14.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.51 feet below top of riser, 7/26/01, 09:53

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	YES	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
YES	3 - 5 feet	3 - 5 feet	1 - 2 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-13S

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-13S

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt, Julie Lincoln

SHEET 2 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
46.3	0	Asphalt.					Roller bit advancement through asphalt/road base
		Road base.					
45.3	1	SM 5yr 2.5/1, some fine Gravel.	RAD = 52 cpm PID = 0.8 ppmV		RAD Sample 05A - 021006	2	Date: 12/5/00 Time: 8:10 Recovery = 75% 3-inch split spoon 300-lb.hammer.
		SM 5yr4/1, trace Clay.				4	
44.3	2					4	
						5	
43.3	3		RAD = 41 cpm PID = 1.2 ppmV		VOC & metals Sample 05A - 020974	7	Date: 12/5/00 Time: 08:15 Recovery = 100% 3-inch split spoon 300-lb. hammer.
						17	
42.3	4	SM 5yr 4/3, trace fine Gravel, damp.				22	
		2-inch diameter, 0.010 slot PVC well screen set from 4 to 11 feet bgs.				19	
41.3	5		RAD = 44 cpm PID = 0.6 ppmV			19	Date: 12/5/00 Time: 08:20 Recovery = 79.2% 3-inch split spoon 300-lb. hammer.
		SM 5yr 4/3, trace fine Gravel, damp, cobble, wet.				18	
40.3	6					21	
		SM 5yr 4/4, trace fine Clay, dry.				25	
39.3	7	GC 5yr 4/4, damp. Collected from location 5 ft. north of borehole.	RAD = 51 cpm PID = 0.3ppmV	California Tube Sample 05a - 020975		20	Date: 12/5/00 Time: 08:25 Recovery = 50% 3-inch split spoon 300-lb. hammer.
						11	
38.3	8					12	
						17	
37.3	9	GC 5yr 4/4, damp.	RAD = 48 cpm			17	Date: 12/5/00 Time: 08:30 Recovery = 50% 2-inch split spoon 140-lb. hammer.
						22	
36.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-13S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

PROJECT	INSPECTOR	HOLE NUMBER	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt, Julie Lincoln	MW-13S	3	3

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.3	10					30	
		GM 5yr 4/4, weathered bedrock, wet.				25	
35.3	11	GM 5 yr 4/4, wet	RAD = 39 cpm			15	Date: 12/5/00 Time: 08:35 Recovery = 63% 2-inch split spoon 140-lb. hammer.
						15	
34.3	12					14	Date: 12/5/00 Time: 10:00 Completed advancement of
						13	6-inch diameter temporary steel casing to 13 feet bgs.
33.3	13		RAD = 47 cpm			13	Date: 12/5/00 Time: 08:40 2-inch split spoon 140-lb. hammer
						28	
32.3	14					50/2"	
		Bedrock at 14.5 ft. bgs based on split spoon refusal, confirmed via roller bit advancement to 14.75 ft. bgs.					
31.3	15						Total water loss = 50 gallons
30.3	16						
29.3	17						
28.3	18						
27.3	19						
26.3	20						

PROJECT FUSRAP MAYWOOD SUPERFUND SITE GWRI — HOLE NO MW-13S

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	BRPW-1D

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	13

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Bedrock Pump Test Array on MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Rick Tabor (overburden) Derrick Walker (casing & open hole)	Geoprobe (overburden), Schramm T450 WS Roto Drill (casing and open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
Geoprobe acetate sleeves, 10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary tricone roller bit, 6-inch steel casing, 6-inch diameter air hammer with 6.4-foot stabilizer bar, PVC well screen and riser, multi RAE Plus PID	752,417.6 feet North 2,164,183.1 feet East
	9. SURFACE ELEVATION: 56.4 feet MSL
	10. DATE STARTED: 04/09/01 — 11. DATE COMPLETED: 07/23/01
12. OVERBURDEN THICKNESS: 21.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 86 feet bgs
13. DEPTH DRILLED INTO ROCK: 88.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 110.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.30 feet below top of riser, 7/26/01, 08:55

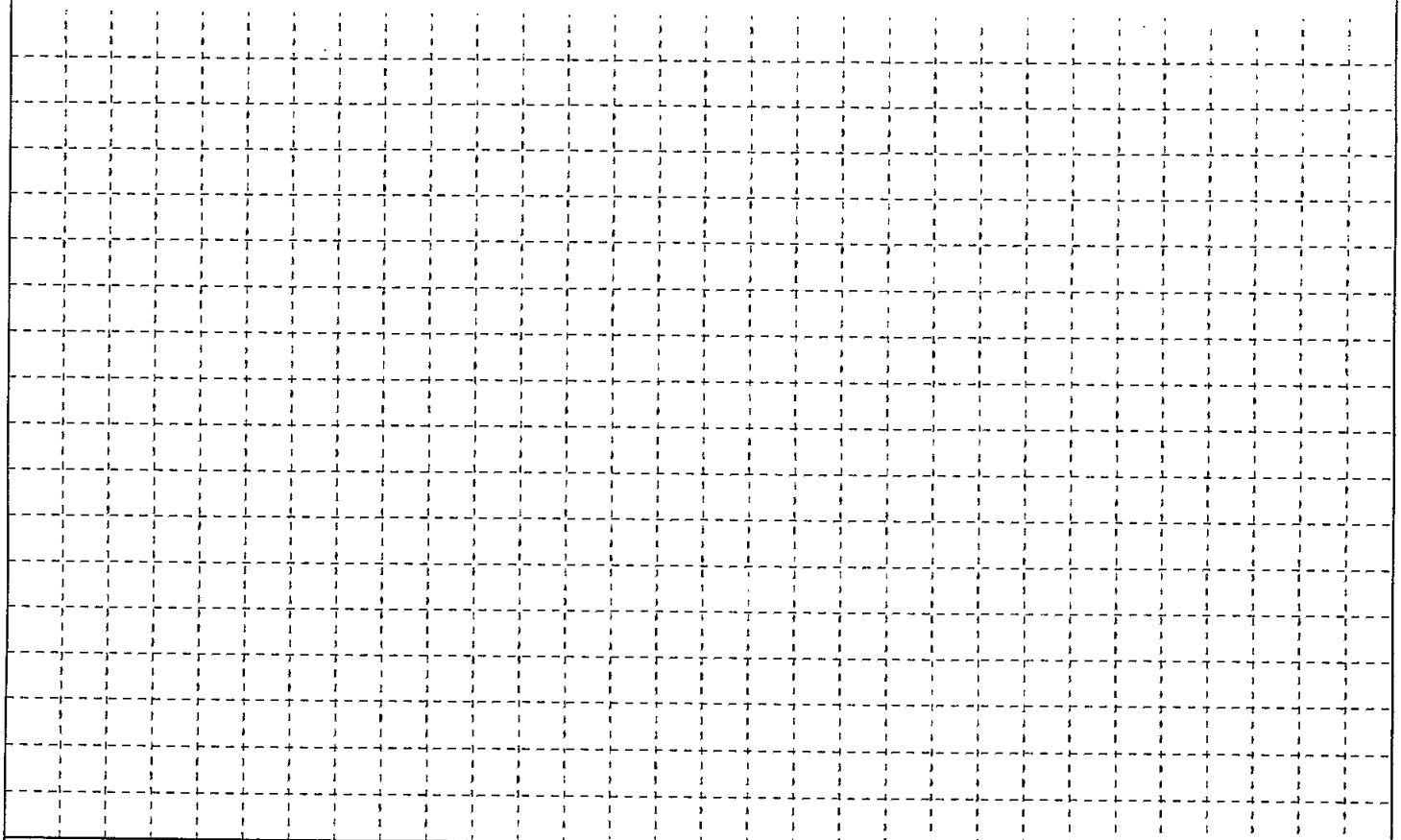
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPW-1D

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 2 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.4	0	SM 5yr 4/1, topsoil gray SILT trace to some organics				P	Date: 4/9/01 Time: 13:30 Recovery = 100%
		SM 5yr 8/1, FILL				U	
55.4	1					S	
						H	
54.4	2						
		Becomes moist to wet at 2.5 feet bgs.					
53.4	3						
		Punched through piece of wood at 3.75 feet bgs.					
52.4	4	FILL banded/laminated with SM 5yr 6/1				P	Date: 4/9/01 Time: 13:37 Recovery = 30%
						U	
51.4	5					S	
						H	
50.4	6						
49.4	7						
		SM 5yr 2.5/1, FILL, wet. Black fine Sand banded with white fine SAND trace Silt, wet.					
48.4	8						
		SM, 5yr 3/1, wet. Dark gray fine to medium SAND, trace Silt.				P	Date: 4/9/01 Time: 13:51 Recovery = 100%
						U	
47.4	9					S	
							Date: 4/16/01 Time:13:50
46.4	10					H	Completed advancement of hollow stem augers to 10

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 3 OF 13 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.4	10						feet bgs at rate of 2 ft/min.
45.4	11	SM, 5yr 2.5/1. Black, gray fine to medium SAND, poorly sorted.					
44.4	12	SM, 5yr 2.5/1. Black, gray fine to medium SAND, poorly sorted.				P U S H	Date: 4/9/01 Time: 14:08 Recovery = 100%
43.4	13	Hollow stem auger cuttings change from white to greenish gray at 13 feet bgs.					
42.4	14						Date: 4/16/01 Time: 13:59 Completed advance of hollow stem augers from 10 to 15 feet bgs at rate of 0.56 ft/min.
41.4	15	SM, 5yr 2.5/1. Black, gray medium SAND, poorly sorted. Difficult to remove sample from sleeve. Possible running sands.					Date: 4/11/01 Time: 08:48 MacroCore Sampler Recovery = 0%
40.4	16					P U S H	
39.4	17	No recovery from 16 to 18 feet bgs.					
38.4	18	Geoprobe refusal at 18 feet bgs. Hollow stem auger advance becomes difficult at 18 feet bgs.					
37.4	19						Date: 4/16/01 Time: 14:08 Completed advance of hollow stem augers from 15 to 20 feet bgs at rate of 0.28 ft/min.
36.4	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 4 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.4	20						Date: 4/16/01 Time 14:52 Completed advancement of 10-1/4-inch diameter hollow stem augers to 21.5 feet bgs (0.5 feet into bedrock) at rate of 0.32 ft/min Date: 4/18/01 Time: 11:55 Completed advancement of 10-inch diameter temporary steel casing to 21.5 feet bgs at a rate of 0.84 ft/min.
35.4	21	10-inch diameter steel casing left in place from ground surface to 21.5 feet bgs.					
34.4	22	Red / brown Sandstone bedrock encountered at 21.5 feet bgs based upon casing refusal confirmed by hollow stem augers.					
33.4	23						
32.4	24						
31.4	25						
30.4	26						
29.4	27						
28.4	28						
27.4	29						
26.4	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 5 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.4	30	Red / brown Sandstone bedrock.					
25.4	31						
24.4	32						
23.4	33						Date: 4/20/01 Time: 11:39 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 21.5 to 35 feet bgs at rate of 0.18 ft/min. Water loss = 800 gallons
22.4	34						
21.4	35	6-inch diameter steel casing set at 35 feet bgs (13.5 feet into bedrock).					Date: 4/20/01 Time: 14:00 Completed setting of 6-inch diameter steel casing at 35 feet bgs.
20.4	36						
19.4	37						
18.4	38						
17.4	39						
16.4	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 6 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.4	40	Red / brown Sandstone bedrock.					Date 4/23/01 Time 10:16 Completed advancement of new 6-inch diameter air hammer from 35 to 41 feet bgs at rate of 1.5 ft/min
15.4	41						
14.4	42						
13.4	43						
12.4	44						
11.4	45						
10.4	46						
9.4	47						
8.4	48						
7.4	49						
6.4	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 7 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
6.4	50	Red / brown Sandstone bedrock.					
5.4	51						
4.4	52						
3.4	53						
2.4	54						
1.4	55						
0.4	56						
-0.6	57						
-1.6	58						
-2.6	59						
-3.6	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 8 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-3.6	60	Red / brown Sandstone bedrock.					Date: 4/23/01 Time: 10.35 Completed advancement of 6-inch diameter air hammer from 41 to 61 feet bgs at rate of 1.25 ft/min.
-4.6	61	Drillers yield test conducted at 61 feet bgs indicated no flow of groundwater into borehole.					
-5.6	62						
-6.6	63						
-7.6	64						
-8.6	65						
-9.6	66						
-10.6	67						
-11.6	68						
-12.6	69						
-13.6	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 9 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-13.6	70	Red / brown Sandstone bedrock.					
-14.6	71						
-15.6	72						
-16.6	73						
-17.6	74						
-18.6	75						
-19.6	76						
-20.6	77						
-21.6	78						
-22.6	79						
-23.6	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 10 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-23.6	80	Red / brown Sandstone bedrock.					Date 4/23/01 Time. 11:02 Completed advancement of 6-inch diameter air hammer from 61 to 81 feet bgs at rate of 1.05 ft/min
-24.6	81						
-25.6	82						
		Apparent fracture encountered at 82.5 feet bgs.					
-26.6	83						
-27.6	84						
-28.6	85						Date: 4/23/01 Time. 11:09 Completed advancement of 6-inch diameter air hammer from 81 to 86 feet bgs at rate of 1.0 ft/min.
-29.6	86	Drillers yield test conducted at 86 feet bgs indicated 2.8 gpm rate of groundwater flow into borehole.					
-30.6	87						
-31.6	88						
-32.6	89						
-33.6	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 11 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-33.6	90	2-inch diameter 0.001-slot PVC well screen set from 90 to 110 feet bgs.					
-34.6	91	Red / brown Sandstone bedrock.					
-35.6	92						
-36.6	93						
-37.6	94						
-38.6	95						
-39.6	96	Apparent fracture encountered at 96 feet bgs.					
-40.6	97						
-41.6	98						
-42.6	99						
-43.6	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPW-1D

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 12 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-43.6	100	Red / brown Sandstone bedrock.					Date: 4/23/01 Time: 11:26 Completed advancement of 6-inch diameter air hammer from 86 to 101 feet bgs at rate of 1.5 ft/min
-44.6	101	Drillers yield test conducted at 101 feet bgs indicated 30 gpm rate of groundwater flow into borehole.					
-45.6	102						
-46.6	103						
-47.6	104						
-48.6	105						
-49.6	106						
-50.6	107						
-51.6	108						
-52.6	109						Date: 4/23/01 Time: 11:55 Completed advancement of 6-inch diameter air hammer from 101 to 110 feet bgs at rate of 0.60 ft/min.
-53.6	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPW-1D

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
BRPW-1	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing and open hole)	13	OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-53.6	110	Bottom of 75-foot, 6-inch diameter open borehole completed at 110 feet bgs (88.5 feet into bedrock).					Date: 4/23/01 Time: 15:00 Completed air development and air surging of well for 3 hours Date: 7/23/01 Time: 14:45 Completed setting of 2-inch diameter 0.010-slot PVC well screen from 90 to 110 feet bgs.
-54.6	111						
-55.6	112						
-56.6	113						
-57.6	114						
-58.6	115						
-59.6	116						
-60.6	117						
-61.6	118						
-62.6	119						
-63.6	120						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPW-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	BRPZ-1

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	13

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Bedrock Pump Test Array on MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Derrick Walker (casing) Dennis Mayer (open hole)	Schramm T450 WS Roto Drill (casing). DK-5 with Sullair air compressor (open hole
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary tri-cone roller bit, 6-inch steel casing, 6-inch air hammer with 6.4-foot stabilizer bar, multi RAE Plus PID	752,408.4 feet North 2,164,179.6 feet East
	9. SURFACE ELEVATION: 55.6 feet MSL
	10. DATE STARTED: 5/21/01 — 11. DATE COMPLETED: 8/7/01
12. OVERBURDEN THICKNESS: 22 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 80 feet bgs
13. DEPTH DRILLED INTO ROCK: 92 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 114.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.07 feet below top of riser, 7/26/01, 08:56

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed and Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-1

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 2 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.6	0						
54.6	1						
53.6	2						
52.6	3	No overburden soil samples collected.					
51.6	4						
50.6	5						
49.6	6						
48.6	7						
47.6	8	*Overburden material grades from* white to black in color at 8 feet bgs.					
46.6	9						
45.6	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 3 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.6	10						
44.6	11						
43.6	12						
42.6	13						
41.6	14						
40.6	15						
39.6	16						
38.6	17						
37.6	18						
36.6	19						
35.6	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 4 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.6	20	Began to observe hydrocarbon odor in breathing zone at 20 feet bgs.					
34.6	21						
33.6	22	Red / brown Sandstone bedrock encountered at 22 feet bgs based upon casing and roller bit refusal.					Date: 5/21/01 Time: 11:15 Completed advancement of 10-inch diameter temporary steel casing with drive shoe to 22.5 feet bgs at rate of 2.5 ft/min.
32.6	23						
31.6	24						
30.6	25						
29.6	26						
28.6	27						
27.6	28						
26.6	29						
25.6	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 5 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.6	30	Red / brown Sandstone bedrock.					
24.6	31						
23.6	32						
22.6	33						
21.6	34						Date: 5/21/01 Time: 13:09 Completed advancement of new 9-7/8-inch diameter air rotary roller bit from 22.5 to 35 feet bgs at rate of 0.27 ft/min.
20.6	35	Apparent fractures encountered at 35 feet bgs. Very soft rock with numerous fractures encountered from 35 to 40 feet bgs.					
19.6	36						
18.6	37						
17.6	38						Date: 5/21/01 Time: 13:15 Completed advancement of 9-7/8-inch diameter roller bit from 35 to 40 feet bgs at rate of 0.83 ft/min.
16.6	39						Date: 5/21/01 Time: 13:45 Completed setting 6-inch diameter steel casing at 40 feet bgs.
15.6	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 6 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.6	40	6-inch diameter steel casing set at 40 feet bgs (18 feet into bedrock).					
14.6	41	Red / brown Sandstone bedrock.					
13.6	42	2-inch diameter, 0.010-slot PVC well screen set from 42 to 62 feet bgs.					
12.6	43						
11.6	44						
10.6	45						
9.6	46						
8.6	47						
7.6	48						
6.6	49						
5.6	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 7 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
5.6	50	Red / brown Sandstone bedrock.					Date: 6/4/01 Time: 09:50 Completed advancement of 6-inch diameter air hammer from 42 to 51 feet bgs at rate of 0.82 ft/min.
4.6	51	Observed mild orange odor in breathing zone and red brown silt in cuttings.	PID = 0.0 ppmV				
3.6	52						
2.6	53						
1.6	54						Date: 6/4/01 Time: 09:57 Completed advancement of 6-inch diameter air hammer from 51 to 55 feet bgs at rate of 0.67 ft/min.
0.6	55						
-0.4	56						
-1.4	57						
-2.4	58						
-3.4	59						
-4.4	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 8 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-4.4	60	Red / brown Sandstone bedrock.					Date: 6/4/01 Time: 10:05 Completed advancement of 6-inch diameter air hammer from 55 to 61 feet bgs at rate of 0.75 ft/min
-5.4	61						
-6.4	62						
-7.4	63						
-8.4	64						
-9.4	65						Date: 6/4/01 Time: 10:11 Completed advancement of 6-inch diameter air hammer from 61 to 66 feet bgs at rate of 0.83 ft/min.
-10.4	66						
-11.4	67						
-12.4	68						
-13.4	69						
-14.4	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 9 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-14.4	70	Red / brown Sandstone bedrock.					Date: 6/4/01 Time: 10:20 Completed advancement of 6-inch diameter air hammer from 66 to 71 feet bgs at rate of 0.56 ft/min
-15.4	71	Observed stronger aromatic odor in breathing zone.	PID = 0.0 ppmV				
-16.4	72						
-17.4	73						
-18.4	74						
-19.4	75						Date: 6/4/01 Time: 10:25 Completed advancement of 6-inch diameter air hammer from 71 to 76 feet bgs at rate of 1.0 ft/min.
-20.4	76	Apparent fracture at 76 feet bgs.					
-21.4	77						
-22.4	78						
-23.4	79						
-24.4	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 10 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-24.4	80	Red / brown Sandstone bedrock.					Date: 6/4/01 Time: 10:30 Completed advancement of 6-inch diameter air hammer from 76 to 81 feet bgs at rate of 0.80 ft/min.
-25.4	81						
-26.4	82						
-27.4	83						
-28.4	84						
-29.4	85						Date: 6/4/01 Time: 10:35 Completed advancement of 6-inch diameter air hammer from 81 to 86 feet bgs at rate of 1.0 ft/min.
-30.4	86	Observed strong aromatic odor in breathing zone.	PID = 0.0 ppmV				
-31.4	87						
-32.4	88						
-33.4	89						
-34.4	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 11 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-34.4	90	Red / brown Sandstone bedrock.					Date: 6/4/01 Time: 10:40 Completed advancement of 6-inch diameter air hammer from 86 to 91 feet bgs at rate of 1.0 ft/min.
-35.4	91						
-36.4	92						
-37.4	93						
-38.4	94						
-39.4	95						Date: 6/4/01 Time: 10:43 Completed advancement of 6-inch diameter air hammer from 91 to 96 feet bgs at rate of 1.67 ft/min.
-40.4	96						
-41.4	97						
-42.4	98						
-43.4	99						
-44.4	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 12 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-44.4	100	Red / brown Sandstone bedrock.					Date: 6/4/01 Time: 10:47 Completed advancement of 6-inch diameter air hammer from 96 to 101 feet bgs at rate of 1.25 ft/min
-45.4	101						
-46.4	102						
-47.4	103						
-48.4	104						
-49.4	105						Date: 6/4/01 Time: 10:53 Completed advancement of 6-inch diameter air hammer from 101 to 106 feet bgs at rate of 0.83 ft/min.
-50.4	106						
-51.4	107						
-52.4	108						
-53.4	109						
-54.4	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-1

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 13 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-54.4	110	Red / brown Sandstone bedrock.					Date: 6/4/01 Time: 10:56 Completed advancement of 6-inch diameter air hammer from 106 to 111 feet bgs at rate of 1.67 ft/min.
-55.4	111						
-56.4	112						
-57.4	113						
-58.4	114						Date: 6/4/01 Time: 11:00 Completed advancement of 6-inch diameter air hammer from 111 to 115 feet bgs at rate of 1.0 ft/min.
-59.4	115	Bottom of 75-foot, 6-inch diameter open borehole completed at 115 feet bgs (93 feet into bedrock).					
-60.4	116						
-61.4	117						Date: 6/4/01 Time: 12:00 Completed driller's yield test of borehole.
-62.4	118	Drillers yield test indicates potential of 2.3 gpm.					Date: 6/4/01 Time: 13:00 Completed air surging / development of borehole.
-63.4	119						Date: 8/7/01 Completed abandonment of monitoring well.
-64.4	120						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: BRPZ-2
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 13
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Bedrock Pump Test Array on MISS	
5. NAME OF DRILLER: Derrick Walker (casing & open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: Schramm T450 WS Roto Drill	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 6-inch steel casing, 9-7/8-inch air rotary tri-cone roller bit, 6-inch air hammer with 6.4-foot stabilizer bar, multi RAE Plus PID	8. HOLE LOCATION: 752,389.3 feet North 2,164,172.4 feet East	
	9. SURFACE ELEVATION: 55.9 feet MSL	
	10. DATE STARTED: 5/23/01	11. DATE COMPLETED: 7/24/01
12. OVERBURDEN THICKNESS: 23 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 80 feet bgs	
13. DEPTH DRILLED INTO ROCK: 92 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 115.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.66 feet below top of riser, 7/26/01, 08:58	

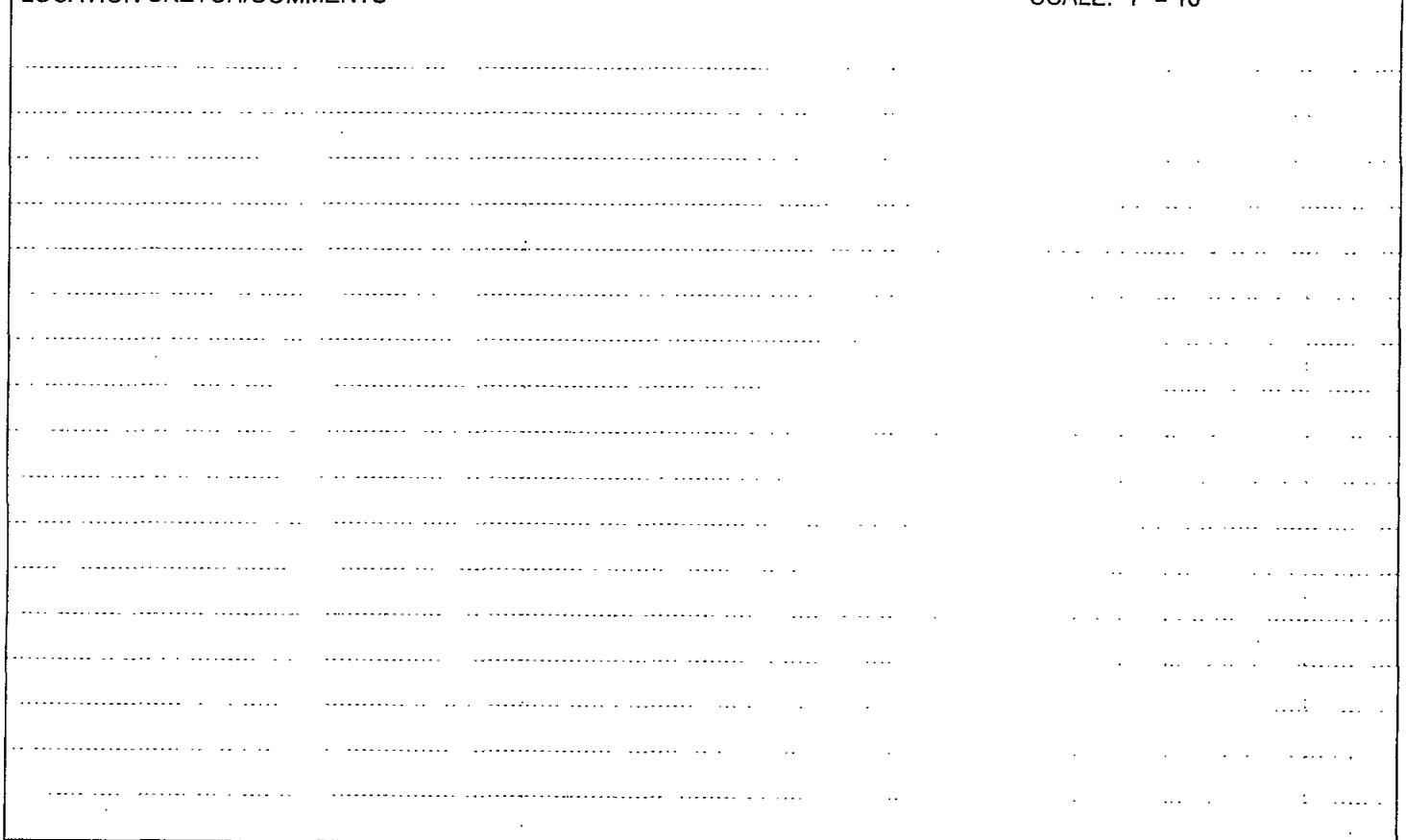
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-2

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 2 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.9	0						
54.9	1						
53.9	2						
52.9	3						
51.9	4						Date: 5/23/01 Time: 08:00 Completed advancement of *10-1/4-inch diameter hollow* stem auger to 5 feet bgs.
50.9	5	No soil samples collected within overburden.					
49.9	6						
48.9	7						
47.9	8	Overburden material grades from white to black in color at 8 feet bgs.					
46.9	9						
45.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 3 OF SHEETS 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.9	10						
44.9	11						
43.9	12						
42.9	13						
41.9	14						
40.9	15						
39.9	16						
38.9	17						
37.9	18						
36.9	19						
35.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 4 OF SHEETS 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.9	20						
34.9	21						
33.9	22						Date: 5/23/01 Time: 08:43 Completed advancement of 10-inch diameter temporary steel casing with drive shoe to 23 feet bgs at rate of 1.0 ft/min.
32.9	23	Red / brown Sandstone bedrock encountered at 23 feet bgs based on casing and roller bit refusal. Beginning to observe odor (hydrocarbons?) in breathing zone.					
31.9	24						
30.9	25						
29.9	26						
28.9	27						
27.9	28						
26.9	29						
25.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing & open hole)	5	OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.9	30	Red / brown Sandstone bedrock.					
24.9	31						
23.9	32						
22.9	33						
21.9	34						
20.9	35	Apparent fracture (small) encountered at 35 feet bgs.					
19.9	36						
18.9	37						
17.9	38	Apparent fracture zone (large) encountered from 38 to 40 feet bgs.					Date: 5/23/01 Time: 10:03 Completed setting 6-inch diameter steel casing at 40 feet bgs. Date: 5/23/01 Time: 09:08 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 23 to 40 feet bgs at rate of 0.2 ft/min..
16.9	39						
15.9	40						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-2

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 6 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.9	40	6-inch diameter steel casing set at 40 feet bgs (17 feet to bedrock).					
14.9	41	Red / brown Sandstone bedrock.					
13.9	42	2-inch diameter, 0.010-slot PVC well screen set from 42 to 62 feet bgs.					
12.9	43						
11.9	44						Date: 6/1/01 Time: 10:39 Completed advancement of 6-inch diameter air hammer from 40 to 45 feet bgs at rate of 5 ft/min.
10.9	45						Date: 6/1/01 Time: 10:52 Completed advancement of 6-inch diameter air hammer from 45 to 60 feet bgs at rate of 1.7 ft/min.
9.9	46						
8.9	47						
7.9	48						
6.9	49						
5.9	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 7 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
5.9	50	Red / brown Sandstone bedrock.					
4.9	51						
3.9	52						
2.9	53						
1.9	54						
0.9	55						
-0.1	56						
-1.1	57						
-2.1	58						
-3.1	59						
-4.1	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET: 8 of 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-4.1	60	Red / brown Sandstone bedrock.					
-5.1	61						Date: 9/24/01 Time: 10:10 Completed setting well screen from 42 to 62 feet bgs.
-6.1	62						
-7.1	63						
-8.1	64						Date: 6/1/01 Time: 11:01 Completed advancement of 6-inch diameter air hammer from 60 to 65 feet bgs at rate of 1.0 ft/min.
-9.1	65	Strong odor of hydrocarbons at 65 feet bgs. Black material observed in cuttings.					
-10.1	66						
-11.1	67						
-12.1	68						
-13.1	69						Date: 6/1/01 Time: 11:06 Completed advancement of 6-inch diameter air hammer from 65 to 70 feet bgs at rate of 0.8 ft/min.
-14.1	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 9 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-14.1	70	Red / brown Sandstone bedrock.					
-15.1	71						
-16.1	72						
-17.1	73						
-18.1	74						
-19.1	75						
-20.1	76						
-21.1	77						
-22.1	78						
-23.1	79						Date: 6/1/01 Time: 11:41 Completed advancement of 6-inch diameter air hammer from 70 to 80 feet bgs at rate of 1.7 ft/min.
-24.1	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 10 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-24.1	80	Large quantity of water begins to flow into borehole at 80 feet bgs.					
-25.1	81	Red / brown Sandstone bedrock.					
-26.1	82						
-27.1	83						
-28.1	84						Date: 6/1/01 Time: 11:51 Completed advancement of 6-inch diameter air hammer from 80 to 85 feet bgs at rate of 1.0 ft/min.
-29.1	85	Dark brown / black cuttings begins to appear in mud tub.					
-30.1	86						
-31.1	87						
-32.1	88						
-33.1	89						Date: 6/1/01 Time: 12:03 Completed advancement of 6-inch diameter air hammer from 85 to 90 feet bgs at rate of 0.7 ft/min.
-34.1	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 11 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-34.1	90	Red / brown Sandstone bedrock.					
-35.1	91						
-36.1	92						
-37.1	93						
-38.1	94						
-39.1	95						
-40.1	96						
-41.1	97						
-42.1	98						
-43.1	99						Date: 6/1/01 Time: 12:13 Completed advancement of 6-inch diameter air hammer from 90 to 100 feet bgs at rate of 0.83 ft/min.
-44.1	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 12 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-44.1	100	Red / brown Sandstone bedrock.					
-45.1	101						
-46.1	102						
-47.1	103						
-48.1	104						Date: 6/1/01 Time: 13:27 Completed air surging of borehole for 1/2-hour.
-49.1	105						
-50.1	106						
-51.1	107	Drillers yield test indicates potential well yield of 6 gpm.					Date: 6/1/01 Time: 13:38 Completed driller's yield test of borehole.
-52.1	108						
-53.1	109						Date: 6/1/01 Time: 13:45 Completed air surging of borehole for additional 1/2-hour.
-54.1	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-2

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 13 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-54.1	110	Red / brown Sandstone bedrock.					
-55.1	111						
-56.1	112						
-57.1	113						
-58.1	114						Date: 6/1/01 Time: 12:49 Completed advancement of 6-inch diameter air hammer from 100 to 115 feet bgs at rate of 1.0 ft/min.
-59.1	115	Bottom of 75-foot 6-inch diameter open borehole completed at 115 feet bgs (92 feet into bedrock).					
-60.1	116						
-61.1	117						
-62.1	118						
-63.1	119						
-64.1	120						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-2

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	BRPZ-3

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	14

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Bedrock Pump Test Array on MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Derrick Walker (casing) Dennis Mayer (open hole)	Schramm T450 WS Roto Drill, DK-5 with Sullair air compressor
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 6-inch steel casing, 9-7/8-inch air rotary tri-cone roller bit, 6-inch dia. air hammer with 6.4-foot stabilizer bar, DiverTech pneumatic driver system, cyclone air cuttings separator, multi RAE Plus PID	752,329.7 feet North 2,164,147.2 feet East
	9. SURFACE ELEVATION: 56.9 feet MSL
	10. DATE STARTED: 5/23/01 — 11 DATE COMPLETED: 7/24/01
12. OVERBURDEN THICKNESS: 23.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 86 feet bgs
13. DEPTH DRILLED INTO ROCK: 100.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED:
14. TOTAL DEPTH OF HOLE: 124.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.80 feet below top of riser, 7/26/01, 08:59

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-3

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 2 OF 14 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
56.9	0						
55.9	1						
54.9	2						
53.9	3	No overburden soil samples collected.					
52.9	4						Date: 5/23/01 Time: 14:52 Completed advancement of 10-1/4-inch diameter hollow stem auger to 5 feet bgs.
51.9	5						
50.9	6						
49.9	7						
48.9	8	Cuttings indicate that overburden material is black to dark brown in color to top of bedrock					
47.9	9						
46.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
BRPZ-3	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing), Allan Wood (open hole)	3 OF	14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.9	10						
45.9	11						
44.9	12						
43.9	13						
42.9	14						
41.9	15						
40.9	16						
39.9	17						
38.9	18						
37.9	19						
36.9	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 4 OF 14 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.9	20	Begin to observe hydrocarbon odor at 20 feet bgs in breathing zone.					
35.9	21						
34.9	22						
33.9	23						Date: 5/23/01 Time: 15:00 Completed advancement of 10-inch diameter temporary steel casing to 23.5 feet bgs at rate of 2.9 ft/min.
32.9	24	Red / brown Sandstone bedrock encountered at 23.5 feet bgs based on casing. Refusal confirmed by roller bit.					
31.9	25						
30.9	26						
29.9	27						
28.9	28						
27.9	29						
26.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 5 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.9	30	Red / brown Sandstone bedrock.					
25.9	31						
24.9	32						
23.9	33						Date: 5/23/01 Time: 16:42 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 23.5 to 35 feet *bgs at rate of* 0.2 *ft/min.* Water injected for dust control. Date: 5/24/01 Time: 08:00 Completed setting 6-inch diameter steel casing at 35 feet bgs.
22.9	34						
21.9	35	6-inch diameter steel casing set at 35 feet bgs (11.5 feet into bedrock)					
20.9	36						
19.9	37	2-inch diameter, 0.010 slot PVC well screen set from 37 to 57 feet bgs.					
18.9	38						
17.9	39						
16.9	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 6 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.9	40	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 08:44 Completed advancement of 6-inch diameter air hammer from 35 to 41 feet bgs at rate of 2.0 ft/min. Water injected for dust control.
15.9	41						
14.9	42						
13.9	43						
12.9	44						
11.9	45						Date: 5/30/01 Time: 08:57 Completed advancement of 6-inch diameter air hammer from 41 to 46 feet bgs at rate of 0.71 ft/min. Water injected for dust control.
10.9	46						
9.9	47						
8.9	48						
7.9	49						
6.9	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 7 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
6.9	50	Red / brown Sandstone bedrock.					
5.9	51						
4.9	52						
3.9	53						
2.9	54						
1.9	55						Date: 5/30/01 Time: 09:09 Completed advancement of 6-inch diameter air hammer from 46 to 56 feet bgs at rate of 0.56 ft/min. Water injected for dust control.
0.9	56						
-0.1	57						Date: 7/24/01 Completed setting of 2-inch diameter, 0.010 slot PVC well screen from 37 to 57 feet bgs.
-1.1	58						
-2.1	59						
-3.1	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 8 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-3.1	60	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 09:14 Completed advancement of 6-inch diameter air hammer from 56 to 61 feet bgs at rate of 1.0 ft/min. Water injected for dust control.
-4.1	61						
-5.1	62						
-6.1	63						
-7.1	64						
-8.1	65						Date: 5/30/01 Time: 09:23 Completed advancement of 6-inch diameter air hammer from 61 to 66 feet bgs at rate of 0.56 ft/min. Water injected for dust control.
-9.1	66	Soapy odor observed in drilling fluid at 66 feet bgs. Increase in rate of air hammer advancement at 66 feet bgs.					
-10.1	67						
-11.1	68						
-12.1	69						
-13.1	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 9 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-13.1	70	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 09:26 Completed advancement of 6-inch diameter air hammer from 66 to 71 feet bgs at rate of 1.67 ft/min. Water injected for dust control.
-14.1	71	Encountered minor groundwater flow into borehole at 71 feet bgs.					
-15.1	72						
-16.1	73						
-17.1	74						
-18.1	75						Date: 5/30/01 Time: 09:35 Completed advancement of 6-inch diameter air hammer from 71 to 76 feet bgs at rate of 0.56 ft/min. Water injected for dust control.
-19.1	76						
-20.1	77						
-21.1	78						
-22.1	79						
-23.1	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Allan Wood (open hole)

SHEET 10 OF 14 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-23.1	80	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 09:39 Completed advancement of 6-inch diameter air hammer from 76 to 81 feet bgs at rate of 0.80 ft/min. Water injected for dust control.
-24.1	81						
-25.1	82						
-26.1	83						
-27.1	84						
-28.1	85	Rate of air hammer advancement and groundwater flow into borehole observed to increase at 86 feet bgs.					Date: 5/30/01 Time: 09:46 Completed advancement of 6-inch diameter air hammer from 81 to 86 feet bgs at rate of 0.71 ft/min. Water injected for dust control.
-29.1	86						
-30.1	87						
-31.1	88						
-32.1	89						
-33.1	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 11 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-33.1	90	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 09:49 Completed advancement of 6-inch diameter air hammer from 86 to 91 feet bgs at rate of 1.67 ft/min. Stopped injecting water for dust control.
-34.1	91						
-35.1	92						
-36.1	93						
-37.1	94						
-38.1	95						Date: 5/30/01 Time: 09:55 Completed advancement of 6-inch diameter air hammer from 91 to 96 feet bgs at rate of 0.83 ft/min.
-39.1	96	Rate of air hammer advancement and groundwater flow into borehole observed to increase at 96 feet bgs.					
-40.1	97						
-41.1	98						
-42.1	99						
-43.1	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Allan Wood (open hole)

SHEET 12 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-43.1	100	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 09:58 Completed advancement of 6-inch diameter air hammer from 96 to 101 feet bgs at rate of 1.67 ft/min.
-44.1	101						
-45.1	102						
-46.1	103						
-47.1	104						
-48.1	105						Date: 5/30/01 Time: 10:06 Completed advancement of 6-inch diameter air hammer from 101 to 106 feet bgs at rate of 0.62 ft/min.
-49.1	106	Increase in rate of air hammer advancement at 106 feet bgs.					
-50.1	107						
-51.1	108						
-52.1	109						
-53.1	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 13 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-53.1	110	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 10:09 Completed advancement of 6-inch diameter air hammer from 106 to 111 feet bgs at *rate of 1.67 ft/min.*
-54.1	111	Minor odor of solvents and surfactants from 111 to 124 feet bgs.					
-55.1	112						
-56.1	113						
-57.1	114						
-58.1	115						Date: 5/30/01 Time: 10:15 Completed advancement of 6-inch diameter air hammer from 111 to 116 feet bgs at rate of 0.83 ft/min.
-59.1	116	Increase in rate of air hammer advancement at 116 feet bgs.					
-60.1	117						
-61.1	118						
-62.1	119						
-63.1	120						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 14 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-63.1	120	Red / brown Sandstone bedrock.					Date: 5/30/01 Time: 10:19 Completed advancement of 6-inch diameter air hammer from 116 to 121 feet bgs at rate of 1.25 ft/min
-64.1	121						
-65.1	122						
-66.1	123						Date: 5/30/01 Time: 10:27 Completed advancement of 6-inch diameter air hammer from 121 to 124 feet bgs at rate of 0.38 ft/min.
-67.1	124	Bottom of 89-foot, 6-inch diameter open borehole completed at 124 feet bgs (100.5 feet into bedrock).					
-68.1	125	Drillers yield test indicates potential well yield of 32 gpm.					Date: 5/30/01 Time: 11:30 Completed air surging/ development of borehole for 1-hour and drillers yield test of borehole.
-69.1	126						
-70.1	127						
-71.1	128						
-72.1	129						
-73.1	130						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: BRPZ-3 (abandoned)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 5 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Bedrock Pump Test Array on MISS	
5. NAME OF DRILLER: Derrick Walker (casing and open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: Schramm T450 WS Roto Drill	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-1/4-inch hollow stem augers, 10-inch steel casing, 9-7/8-inch air rotary tri-cone roller bit, 6-inch steel casing, 6-inch dia. air hammer with 6.4-foot stabilizer bar, multi RAE Plus PID.	8. HOLE LOCATION	
	9. SURFACE ELEVATION	
	10. DATE STARTED: 4/26/01	11. DATE COMPLETED: 4/27/01
12. OVERBURDEN THICKNESS: 22 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 22 feet bgs	
13. DEPTH DRILLED INTO ROCK: 16 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 38.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed and Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-3 (abandoned)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 2 OF 5 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	0						
	1						
	2						
	3	No overburden soil samples collected					
	4						Date: 4/26/01 Time: 08:30 Completed advancement of 10-1/4-inch diameter hollow stem augers to 5 feet bgs at rate of 1 ft/min.
	5						
	6						
	7						
	8	Overburden observed to consist of black sediment in cuttings.					
	9						
	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3 (abandoned)

PROJECT	INSPECTOR	SHEET	OF	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing and open hole)	3	OF	5

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	10						
	11						
	12						
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-3 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 4 OF 5

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	20						
	21						
	22	Red / brown, (5 yr 4/4) Sandstone bedrock encountered at 22 feet bgs.					Date: 4/26/01 Time: 09:11 Completed advancement of 10-inch diameter temporary steel casing from 5 to 23 feet bgs (1-foot into bedrock) at rate of 1.64 ft/min.
	23						
	24						
	25						
	26	Apparent fracture (approximately 8 inches thick) encountered at 26 feet bgs.					
	27	Running sands in bedrock fractures. Large amount of water emanating from fractures between 22 to 29 feet bgs.					
	28						Date: 4/26/01 Time: 10:08 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 22 to 29 feet bgs at rate of 0.88 ft/min.
	29						
	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-3 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 5 OF 5

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
	30	Red / brown, (5 yr 4/4) Sandstone bedrock.					
	31						
	32	Apparent fracture encountered at 32 feet bgs.					
	33						
	34						
	35	Apparent fracture encountered at 35 feet bgs.					
	36						
	37	Apparent fracture encountered at 37 feet bgs.					Date: 4/26/01 Time: 13:48 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 29 to 38 feet bgs at rate of 0.32 ft/min.
	38	Bottom of 6-inch diameter open borehole completed at 38 feet bgs (16 feet into bedrock).					
	39						Date: 4/27/01 Time: 13:30 Completed abandonment of borehole with cement bentonite grout.
	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-3 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: BRPZ-4
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 8
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Bedrock Pump Test Array on MISS	
5. NAME OF DRILLER: Derrick Walker (casing), Dennis Mayer (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: Schramm T450 WS Roto Drill (casing), DK-5 with Sullair air compressor (open hole	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary tricone roller bit, 6-inch steel casing, 6-inch dia. air hammer with 6.4-foot stabilizer bar, DiverTech pneumatic driver system, cyclone air cuttings separator, Multi RAE Plus PID.	8. HOLE LOCATION: 752,421.3 feet North 2,164,174.1 feet East	
	9. SURFACE ELEVATION: 55.3 feet MSL	
	10. DATE STARTED: 5/14/01	11 DATE COMPLETED: 5/17/01
12. OVERBURDEN THICKNESS: 23.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: 37.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 61.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.18 feet below top of riser, 7/26/01, 08:53	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-4

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-4

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 2 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.3	0						
54.3	1						
53.3	2						
52.3	3	No overburden soil samples collected.					
51.3	4						Date: 5/14/01 Time: 12:20 Completed advancement of 10-1/4-inch diameter hollow stem augers to 5 feet bgs at rate of 1 ft/min.
50.3	5						
49.3	6						
48.3	7						
47.3	8	Overburden material remains dry to 8 feet bgs and grades from white to black in color at 8 feet bgs. Hydrocarbon odor noted in breathing zone.					
46.3	9						
45.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-4

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-4

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 3 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.3	10						
44.3	11						
43.3	12						
42.3	13						
41.3	14						
40.3	15						
39.3	16						
38.3	17						
37.3	18						
36.3	19						
35.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-4

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-4

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 4 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.3	20						
34.3	21						
33.3	22						
32.3	23						Date: 5/14/01 Time: 12:50 Completed advancement of 10-inch diameter temporary steel casing to 23.5 feet bgs at rate of 2.3 ft/min.
31.3	24	Red / Brown, (5 yr 4/4) Sandstone bedrock encountered at 23.5 feet bgs based on casing refusal confirmed by roller bit.					
30.3	25						
29.3	26	Apparent fracture (1-foot thick) encountered at 26 feet bgs. Odor evident and soap bubbles observed in recirculation water.					
28.3	27						
27.3	28	Apparent fracture zone encountered from 28 to 30 feet bgs. Cuttings becoming fine-grained.					
26.3	29						
25.3	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-4

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-4

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 5 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.3	30	Red / Brown, (5 yr 4/4) Sandstone bedrock.					
24.3	31						
23.3	32						
22.3	33						
21.3	34						Date: 5/14/01 Time: 15:39 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 23.5 to 35 feet bgs at rate of 0.32 ft/min.
20.3	35						
19.3	36						
18.3	37						
17.3	38	Rock becomes harder at 38 feet bgs.					Date: 5/14/01 Time: 15:55 Completed advancement of 9-7/8-inch diameter air roller bit from 35 to 40 feet bgs at rate of 0.32 ft/min. Date: 5/15/01 Time: 10:00 Competed setting 6-inch diameter permanent steel casing at 40 feet bgs.
16.3	39						
15.3	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-4

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-4

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 6 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.3	40	6-inch diameter steel casing set at 40 feet bgs (16.5 feet into bedrock).					
14.3	41	Red / Brown, (5 yr 4/4) Sandstone bedrock.					
13.3	42						
12.3	43						
11.3	44						
10.3	45						
9.3	46						
8.3	47						
7.3	48						
6.3	49						
5.3	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-4

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-4

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 7 OF 8 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
5.3	50	Apparent fracture zone encountered from 50 to 52 feet bgs. Black fluid with acrid odor begins to appear in recirculation water at 52 feet bgs. Sheen apparent on reciurculation water in mud-tub.	PID = 0.0 ppmV		Ground water Sample 12b-02550		Date: 5/17/01 Time: 16:30 Completed analytical sampling of recirculation water in mud tub.
4.3	51						
		Red / Brown, (5 yr 4/4) Sandstone bedrock.					
3.3	52						
2.3	53						
1.3	54						
0.3	55						
-0.7	56						
-1.7	57						
-2.7	58						
-3.7	59						
-4.7	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-4

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-4

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open hole)

SHEET 8 OF 8

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
-4.7	60	Red / Brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/17/01 Time: 13:58 Completed advancement of 6-inch diameter air hammer from 40 to 61 feet bgs at rate of 1.5 ft/min.
-5.7	61	Bottom of 21-foot, 6-inch diameter open borehole completed at 61 feet bgs (37.5 feet into bedrock).					
-6.7	62						
-7.7	63						
-8.7	64						
-9.7	65						
-10.7	66						
-11.7	67						
-12.7	68						
-13.7	69						
-14.7	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-4

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: BRPZ-5
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 13
3 PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Bedrock Pump Test Array on MISS	
5 NAME OF DRILLER: Derrick Walker (casing), Dennis Mayer (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: Schramm T450 WS Roto Drill (casing), DK-5 with Sullair air compressor (open hole	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary, tricone roller bit, 6-inch steel casing, 6-inch dia. air hammer with 6.4-foot stabilizer bar, DiverTech pneumatic driver system, cyclone air cuttings separator, Multi RAE Plus PID.	8. HOLE LOCATION: 752,428.2 feet North 2,164,154.6 feet East	
	9. SURFACE ELEVATION: 55.3 feet MSL	
	10. DATE STARTED: 5/15/01	11 DATE COMPLETED: 5/18/01
12. OVERBURDEN THICKNESS: 24.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 70 feet bgs	
13. DEPTH DRILLED INTO ROCK: 88.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 113.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-5

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF SHEETS 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.3	0						
54.3	1						
53.3	2						
52.3	3	No overburden soil samples collected.					
51.3	4						Date: 5/15/01 Time: 14:48 Completed advancement of 10-1/4-inch diameter hollow stem auger to 5 feet bgs at rate of 0.28 ft/min.
50.3	5						
49.3	6						
48.3	7						
47.3	8	Overburden grades from white to gray in color at 8 feet bgs.					
46.3	9						
45.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF SHEETS 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.3	10						
44.3	11						
43.3	12						
42.3	13						
41.3	14						
40.3	15						
39.3	16						
38.3	17						
37.3	18						
36.3	19						
35.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 4 OF 13

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.3	20						
34.3	21						
33.3	22						
32.3	23						
31.3	24						Date: 5/15/01 Time: 16:10 Completed advancement of 10-inch diameter temporary steel casing to 24.5 feet bgs at rate of 3.06 ft/min.
30.3	25	Red / brown, (5 yr 4/4) Sandstone bedrock encountered at 24.5 feet bgs based upon casing refusal confirmed by roller bit.					
29.3	26						
28.3	27						
27.3	28						
26.3	29						
25.3	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 5 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.3	30	Red / brown, (5 yr 4/4) Sandstone bedrock.					
24.3	31						
23.3	32						
22.3	33						
21.3	34						
20.3	35						
19.3	36						
18.3	37						
17.3	38						Date: 5/15/01 Time: 17:15 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 24.5 to 40 feet bgs at rate of 1.03 ft/min. Date: 5/16/01 Time: 09:00 Completed setting 6-inch diameter permanent casing at 40 feet bgs.
16.3	39						
15.3	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 6 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.3	40	6-inch diameter steel casing set at 40 feet bgs (15.5 feet into bedrock).					
14.3	41	Minor flow of groundwater into borehole noted from 40 to 61 feet bgs.					
13.3	42	2-inch diameter, 0.010-slot PVC well screen set from 42 to 62 feet bgs.					
12.3	43	Red / brown, (5 yr 4/4) Sandstone bedrock.					
11.3	44						
10.3	45						
9.3	46						
8.3	47						
7.3	48						
6.3	49						
5.3	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 7 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
5.3	50	Red / brown, (5 yr 4/4) Sandstone bedrock.					
4.3	51						
3.3	52						
2.3	53						
1.3	54						
0.3	55						
-0.8	56						
-1.8	57						
-2.8	58						
-3.8	59						
-4.8	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 8 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-4.8	60	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/18/01 Time: 11 13 Completed advancement of 6-inch diameter air hammer from 40 to 61 feet bgs at rate of 1.31 ft/min
-5.8	61						
-6.8	62						Date: 8/8/01 Time: 11:00 Completed setting 2-inch diameter PVC well screen from 42 to 62 feet bgs.
-7.8	63						
-8.8	64						
-9.8	65						
-10.8	66						
-11.8	67						
-12.8	68						
-13.8	69	Minor flow of groundwater into borehole at 69 feet bgs.					
-14.8	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 9 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-14.8	70	Red / brown, (5 yr 4/4) Sandstone bedrock.					
-15.8	71						
-16.8	72						
-17.8	73						
-18.8	74						
-19.8	75						
-20.8	76						
-21.8	77						
-22.8	78						
-23.8	79						
-24.8	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 10 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
-24.8	80	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/18/01 Time: 11:33 Completed advancement of 6-inch diameter air hammer from 61 to 81 feet bgs at rate of 1.25 ft/min.
-25.8	81						
-26.8	82						
-27.8	83						
-28.8	84						
-29.8	85						
-30.8	86						
-31.8	87						
-32.8	88						
-33.8	89						
-34.8	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 11 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-34.8	90	Red / brown, (5 yr 4/4) Sandstone bedrock.					
-35.8	91						
-36.8	92						
-37.8	93						
-38.8	94						
-39.8	95						
-40.8	96						
-41.8	97						
-42.8	98						
-43.8	99						
-44.8	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET: 12 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-44.8	100	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/18/01 Time: 11:53 Completed advancement of 6-inch diameter air hammer from 81 to 101 feet bgs at rate of 1.25 ft/min.
-45.8	101						
-46.8	102						
-47.8	103						
-48.8	104						
-49.8	105						
-50.8	106	Apparent fractures (small) from 106 to 109 feet bgs.					
-51.8	107						
-52.8	108						
-53.8	109						
-54.8	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-5

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 13 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-54.8	110	Red / brown, (5 yr 4/4) Sandstone bedrock.					
-55.8	111						
-56.8	112						Date: 5/18/01 Time: 12:07 Completed advancement of 6-inch diameter air hammer from 101 to 113 feet bgs at rate of 0.85 ft/min.
-57.8	113	Bottom of 73-foot, 6-inch diameter open borehole completed at 113 feet bgs (88.5 feet into bedrock).					
-58.8	114						
-59.8	115	Drillers yield test indicates potential yield of 7 gpm.					Date: 5/18/01 Time: 12:43 Completed driller's yield test of monitoring well.
-60.8	116						
-61.8	117						Date: 5/18/01 Time: 13:10 Completed air surging / development of monitoring well.
-62.8	118						
-63.8	119						
-64.8	120						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-5

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	BRPZ-6

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 14

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Bedrock Pump Test Array on MISS
5. NAME OF DRILLER	6. MANUFACTURER'S DESIGNATION OF DRILL
Derrick Walker (casing) Dennis Mayer (open hole)	Schramm T450 WS Roto Drill (casing), DK-5 with Sullair air compressor (open hole
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary tricone roller bit, 6-inch steel casing, 6-inch dia. air hammer with 6.4-foot stabilizer bar, DiverTech pneumatic driver system, cyclone air cuttings separator, multi RAE Plus PID.	752,454.3 feet North 2,164,089.1 feet East
	9. SURFACE ELEVATION: 56.8 feet MSL
	10. DATE STARTED: 5/24/01 — 11. DATE COMPLETED: 8/9/01
12. OVERBURDEN THICKNESS: 21 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 96 feet bgs
13. DEPTH DRILLED INTO ROCK: 99 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 120.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 12.56 feet below top of riser, 7/26/01, 09:48

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed and Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-6

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
	BRPZ-6

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing), Allan Wood (open hole)	2 OF	14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.8	0						
55.8	1						
54.8	2						
53.8	3	No overburden soil samples collected.					
52.8	4						Date: 5/24/01 Time: 17:04 Completed advancement of 10-1/4-inch diameter hollow stem auger to 5-feet bgs.
51.8	5	10-inch diameter temporary steel casing left in place from 5 to 21 feet bgs upon completion of borehole.					
50.8	6						
49.8	7						
48.8	8	Overburden material grades from white to black in color at 8 feet bgs.					
47.8	9						
46.8	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
BRPZ-6	

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing). Allan Wood (open hole)	3 OF	14

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.8	10						
45.8	11						
44.8	12						
43.8	13						
42.8	14						
41.8	15						
40.8	16						
39.8	17						
38.8	18						
37.8	19						
36.8	20						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 4 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.8	20						Date: 5/24/01 Time: 17:30 Completed advancement of 10-inch diameter temporary steel casing to 21 feet bgs at rate of 1.9 ft/min
35.8	21	Red / brown, (5 yr 4/4) Sandstone bedrock encountered at 21 feet bgs based upon casing refusal confirmed by roller bit.					
34.8	22						
33.8	23						Date: 5/24/01 Time: 18:04 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 21 to 24 feet bgs at rate of 1.25 ft/min.
32.8	24						
31.8	25						
30.8	26						
29.8	27						Date: 5/24/01 Time: 18:13 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 24 to 28 feet bgs at rate of 0.44 ft/min
28.8	28						
27.8	29						
26.8	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 5 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.8	30	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/24/01 Time: 18.20 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 28 to 31 feet bgs at rate of 0 43 ft/min
25.8	31	6-inch diameter steel casing set at 31 feet bgs (10 feet into bedrock).					Date: 5/25/01 Time: 09:10 Completed setting 6-inch diameter steel casing at 3' feet bgs.
24.8	32						
23.8	33						
22.8	34						
21.8	35						
20.8	36						
19.8	37						
18.8	38						
17.8	39						
16.8	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 6 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.8	40	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date 5/30/01 Time 10.51 Completed advancement of 6-inch diameter air hammer from 31 to 41 feet bgs at a rate of 1.25 ft/min
15.8	41						
14.8	42						
13.8	43						
12.8	44						
11.8	45						
10.8	46						
9.8	47						
8.8	48						
7.8	49						
6.8	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 7 OF 14 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
6.8	50	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/30/01 Time: 11:05 Completed advancement of 6-inch diameter air hammer from 41 to 51 feet bgs at rate of 1.67 ft/min.
5.8	51						
4.8	52						
3.8	53						
2.8	54						
1.8	55						
0.8	56						
-0.2	57						
-1.2	58						
-2.2	59						
-3.2	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Allan Wood (open hole)

SHEET 8 OF 14 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-3.2	60	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/30/01 Time: 11:15 Completed advancement of 6-inch diameter air hammer from 51 to 61 feet bgs at rate of 1.74 ft/min.
-4.2	61						
-5.2	62						
-6.2	63						
-7.2	64						
-8.2	65						
-9.2	66						
-10.2	67						
-11.2	68						
-12.2	69						
-13.2	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 9 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-13.2	70	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/30/01 Time: 11.25 Completed advancement of 6-inch diameter air hammer from 61 to 71 feet bgs at rate of 2.0 ft/min.
-14.2	71						
-15.2	72						
-16.2	73						
-17.2	74						
-18.2	75						
-19.2	76						
-20.2	77						
-21.2	78						
-22.2	79						
-23.2	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing), Allan Wood (open hole)	10	14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-23.2	80	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/30/01 Time: 11:54 Completed advancement of 6-inch diameter air hammer from 71 to 81 feet bgs at rate of 1.67 ft/min.
-24.2	81						
-25.2	82						
-26.2	83						
-27.2	84						
-28.2	85						
-29.2	86						
-30.2	87						
-31.2	88						
-32.2	89						
-33.2	90						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-6

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Allan Wood (open hole)

SHEET 11 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-33.2	90	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date 5/30/01 Time 12.08 Completed advancement of 6-inch diameter air hammer from 81 to 91 feet bgs at rate of 1.11 ft/min.
-34.2	91	Observed minor groundwater flow into borehole at 91 feet bgs.					
-35.2	92						
-36.2	93						
-37.2	94						
-38.2	95						
-39.2	96	Observed greater rate of groundwater flow into bedrock at 96 feet bgs.					
-40.2	97						
-41.2	98						
-42.2	99						
-43.2	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 12 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-43.2	100	Red / brown, (5 yr 4/4) Sandstone bedrock.					
-44.2	101						
-45.2	102						
-46.2	103						
-47.2	104						
-48.2	105						Date: 5/30/01 Time: 12:28 Completed advancement of 6-inch diameter air hammer from 91 to 106 feet at rate of 1.67 ft/min.
-49.2	106						
-50.2	107						
-51.2	108						Date: 5/30/01 Time: 12:30 Completed advancement of 6-inch diameter air hammer from 106 to 109 feet at rate of 1.71 ft/min.
-52.2	109						
-53.2	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing). Allan Wood (open hole)

SHEET 13 OF 14

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-53.2	110	Observed greater rate of groundwater flow into borehole at 110 feet bgs.					Date: 5/30/01 Time: 12:36 Completed advancement of 6-inch diameter air hammer from 109 to 111 feet at rate of 2.0 ft/min.
-54.2	111	Red / brown, (5 yr 4/4) Sandstone bedrock.					
-55.2	112						
-56.2	113						
-57.2	114						
-58.2	115	Encountered moderate rate of groundwater flow into borehole at 115 feet bgs.					Date: 5/30/01 Time: 12:39 Completed advancement of 6-inch diameter air hammer from 111 to 116 feet at rate of 1.81 ft/min.
-59.2	116						
-60.2	117						
-61.2	118						
-62.2	119						Date: 5/30/01 Time 12:43 Completed advancement of 6-inch diameter air hammer from 116 to 120 feet at rate of 1.07 ft/min.
-63.2	120						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-6

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing), Allan Wood (open hole)

SHEET 14 OF 14 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-63.2	120	Bottom of 89 foot, 6-inch diameter open borehole completed at 120 feet bgs (99 feet into bedrock).					
-64.2	121						Date: 5/30/01 Time: 13:47 Completed air surging of borehole for 1-hour.
-65.2	122						Date: 5/30/01 Time: 13:49 Completed driller's yield test of borehole.
-66.2	123	Driller's yield test indicates potential yield of 13 gpm.					
-67.2	124						
-68.2	125						Date: 8/9/01 Completed abandonment of monitoring well.
-69.2	126						
-70.2	127						
-71.2	128						
-72.2	129						
-73.2	130						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-6

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: BRPZ-7 (abandoned)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 13
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Bedrock Pump Test Array on MISS	
5. NAME OF DRILLER: Derrick Walker (casing and open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: Schramm T450 WS Roto Drill	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary tri-cone roller bit, 6-inch steel casing, 6-inch dia. air hammer with 6.4-foot stabilizer bar, multi RAE Plus PID.	8. HOLE LOCATION: 752,407.4 feet North 2,164,211.3 feet East	
	9. SURFACE ELEVATION: 56.4 feet MSL	
	10. DATE STARTED: 5/10/01	11. DATE COMPLETED: 8/9/01
12. OVERBURDEN THICKNESS: 20 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 90 feet bgs	
13. DEPTH DRILLED INTO ROCK: 89 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 109.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 12.21 feet below top of riser, 7/26/01, 09:01	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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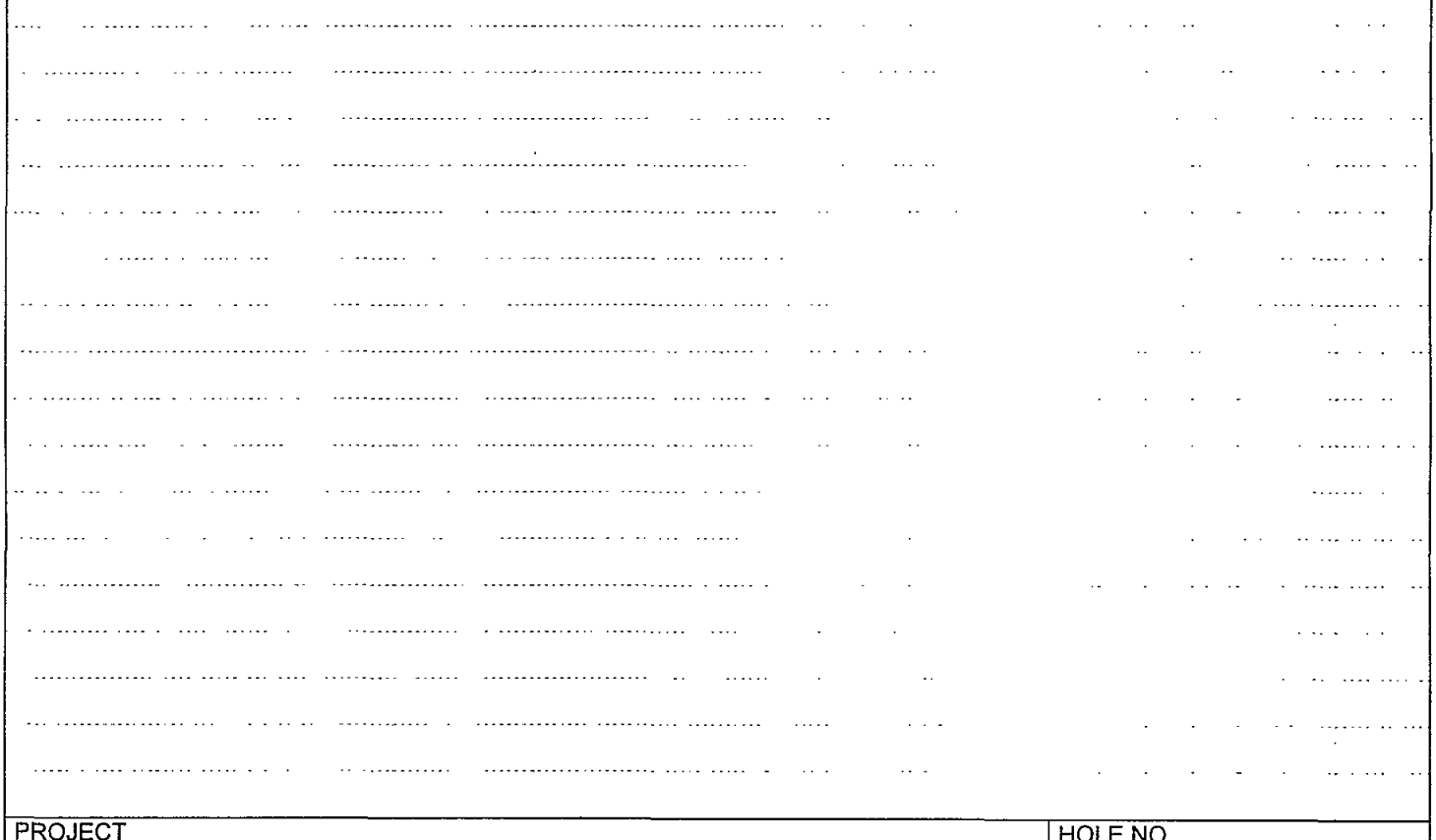
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed and Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-7 (abandoned)

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 2 OF SHEETS 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.4	0						
55.4	1						
54.4	2						
53.4	3	No overburden soil samples collected.					
52.4	4		PID = 1.6 ppmV				Date: 5/10/01 Time: 12:10 Completed advancement of 10-1/4-inch diameter hollow stem augers to 5 feet bgs at rate of 0.25 ft/min.
51.4	5						
50.4	6						
49.4	7						
48.4	8	Black SM overburden material encountered to top of bedrock. Hydrocarbon odor.					
47.4	9						
46.4	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 3 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.4	10						
45.4	11						
44.4	12						
43.4	13						
42.4	14						
41.4	15						
40.4	16						
39.4	17						
38.4	18						
37.4	19						Date: 5/10/01 Time: 12:36 Completed advancement of 10-inch diameter temporary steel casing from 5 to 20 feet bgs at rate of 2 ft/min.
36.4	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 4 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
36.4	20	Fractured red / brown, (5 yr 4/4) Sandstone bedrock encountered at 20 feet bgs based on casing refusal confirmed by roller bit.					
35.4	21						
34.4	22						
33.4	23						
32.4	24						
31.4	25						Date: 5/10/01 Time: 14:30 Completed advancement of 9-7/8-inch diameter roller bit from 20 to 26 feet bgs at rate of 0.15 ft/min.
30.4	26	Strong odor of hydrocarbon or pesticide emanating from recirculation water at 26 feet bgs.					
29.4	27						
28.4	28						
27.4	29						
26.4	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 5 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.4	30	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					
25.4	31						
24.4	32						
23.4	33						
22.4	34	Weathered zone encountered at 34 to 35 feet bgs.					
21.4	35						
20.4	36						
19.4	37						
18.4	38						
17.4	39						Date: 5/10/01 Time: 16:20 Completed advancement of 9-7/8-inch diameter roller bit from 26 to 40 feet bgs at rate of 0.38 ft/min.
16.4	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 6 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.4	40	6-inch diameter steel casing set at 40 feet bgs (20 feet into bedrock).					Date: 5/11/01 Time. 13:00 Completed setting 6-inch diameter steel casing at 40 feet bgs.
15.4	41	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					
14.4	42						
13.4	43						
12.4	44						
11.4	45						
10.4	46						
9.4	47						
8.4	48						
7.4	49						
6.4	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 7 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
6.4	50	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					
5.4	51						
4.4	52						
3.4	53						
2.4	54						
1.4	55						
0.4	56						
-0.6	57						
-1.6	58						
-2.6	59						
-3.6	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 8 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-3.6	60	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/16/01 Time 11.20 Completed advancement of 6-inch diameter air hammer from 40 to 61 feet bgs at rate of 1 ft/min.
-4.6	61						
-5.6	62						
-6.6	63						
-7.6	64						
-8.6	65						
-9.6	66						
-10.6	67						
-11.6	68						
-12.6	69						
-13.6	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 9 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-13.6	70	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					
-14.6	71						
-15.6	72						
-16.6	73						
-17.6	74						
-18.6	75						
-19.6	76						
-20.6	77						
-21.6	78						
-22.6	79						
-23.6	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing and open-hole)	10	13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-23.6	80	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/16/01 Time: 11:40 Completed advancement of 6-inch diameter air hammer from 61 to 81 feet bgs at rate of 1 ft/min.
-24.6	81						
-25.6	82						
-26.6	83						
-27.6	84						
-28.6	85						
-29.6	86						
-30.6	87						
-31.6	88						
-32.6	89						
-33.6	90						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT	INSPECTOR	SHEET	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing and open-hole)	11	OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-33.6	90	Apparent fracture encountered at 90 feet bgs. Water filled.					
-34.6	91	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					
-35.6	92						
-36.6	93						
-37.6	94						
-38.6	95						
-39.6	96						
-40.6	97						
-41.6	98						
-42.6	99						
-43.6	100						

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 12 OF 13

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
-43.6	100	Fractured red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 5/16/01 Time: 12:03 Competed advancement of 6-inch diameter air hammer from 81 to 101 feet bgs at rate of 1 ft/min.
-44.6	101						
-45.6	102						
-46.6	103						
-47.6	104						
-48.6	105						
-49.6	106						
-50.6	107						
-51.6	108						Date: 5/16/01 Time: 12:11 Completed advancement of 6-inch diameter air hammer from 101 to 109 feet bgs at rate of 1.6 ft/min.
-52.6	109	Bottom of 69-foot, 6-inch diameter open borehole completed at 109 feet bgs.					
-53.6	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-7 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing and open-hole)

SHEET 13 OF 13 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-53.6	110						
-54.6	111						
-55.6	112						
-56.6	113	Drillers yield test indicated potential yield of 61 gpm.					Date: 5/16/01 Time 12:45 Completed driller's yield test of monitoring well
-57.6	114						
-58.6	115						Date: 5/16/01 Time: 13:15 Completed air surging/development of monitoring well
-59.6	116						
-60.6	117						Date: 8/9/01 Time: 09:05 Completed abandonment of monitoring well.
-61.6	118						
-62.6	119						
-63.6	120						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-7 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: BRPZ-8 (abandoned)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF SHEETS 12
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Bedrock Pump Test Array on MISS	
5. NAME OF DRILLER: Derrick Walker (casing), Dennis Mayer (open hole)	6. MANUFACTURER'S DESIGNATION OF DRILL: Schramm T450 WS Roto Drill. DK-5 with Sullair air compressor	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary tricone roller bit, 6-inch steel casing, 6-inch dia. air hammer, DiverTech pneumatic driver system, cyclone air cuttings separator, with 6.4-foot stabilizer bar, multi RAE Plus PID.	8. HOLE LOCATION: 752,405.3 feet North 2,164,155.3 feet East	
	9. SURFACE ELEVATION: 54.7 feet MSL	
	10. DATE STARTED: 5/22/01	11. DATE COMPLETED: 8/6/01
12. OVERBURDEN THICKNESS: 24 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 81 feet bgs	
13. DEPTH DRILLED INTO ROCK: 82 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 106.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 10.00 feet below top of riser. 7/26/01, 08:51	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
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20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
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22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed and Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-8 (abandoned)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 2 OF SHEETS 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
54.7	0						
53.7	1						
52.7	2						
51.7	3	No overburden soil samples collected					
50.7	4						Date: 5/22/01 Time: 08:47 Completed advancement of 10-1/4-inch diameter hollow stem auger to 5 feet bgs at rate of 0.17 ft/min.
49.7	5	Overburden material becomes wet at 5 feet bgs.					
48.7	6						
47.7	7						
46.7	8	Overburden material grades from white to black in color at 8 feet bgs.					
45.7	9						
44.7	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 3 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
44.7	10						
43.7	11						
42.7	12						
41.7	13						
40.7	14						
39.7	15						
38.7	16						
37.7	17						
36.7	18						
35.7	19						
34.7	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 4 OF 12

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.7	20	Odor of hydrocarbons at 20 feet bgs.					
33.7	21						
32.7	22						
31.7	23						Date: 5/22/01 Time: 08:55 Completed advancement of 10-inch diameter casing from 5 to 24 feet bgs at rate of 2 4 ft/min.
30.7	24	Red / brown, (5 yr 4/4) Sandstone bedrock encountered at 24 feet bgs based on casing refusal confirmed by roller bit.					
29.7	25						
28.7	26						
27.7	27						
26.7	28						
25.7	29						
24.7	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 5 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
24.7	30	Red / brown, (5 yr 4/4) Sandstone bedrock.					
23.7	31						
22.7	32						
21.7	33						
20.7	34						
19.7	35						
18.7	36						
17.7	37						Date: 5/22/01 Time: 14:50 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 24 to 38 feet bgs at rate of 0.30 ft/min.
16.7	38	Apparent fracture encountered from 38 to 40 feet bgs.					Date: 5/22/01 Time: 14:55 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 38 to 40 feet bgs at rate of 0.4 ft/min.
15.7	39						Date: 5/22/01 Time: 15:45 Completed setting 6-inch diameter casing at 40 feet bgs.
14.7	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 6 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
14.7	40	6-inch diameter steel casing set at 40 feet bgs (16 feet into bedrock).					
13.7	41	Red / brown, (5 yr 4/4) Sandstone bedrock.					
12.7	42						
11.7	43						
10.7	44						
9.7	45						Date: 6/4/01 Time: 14:01 Completed advancement of 6-inch diameter air hammer from 41 to 46 feet bgs at 1.67 ft/min.
8.7	46						
7.7	47						
6.7	48						
5.7	49						
4.7	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 7 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
4.7	50	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 6/4/01 Time 14:07 Completed advancement of 6-inch diameter air hammer from 46 to 51 feet bgs at rate of 0.83 ft/min.
3.7	51						
2.7	52						
1.7	53						
0.7	54						
-0.3	55						
-1.3	56						
-2.3	57						
-3.3	58						
-4.3	59						
-5.3	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 8 OF 12

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-5.3	60	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 6/4/01 Time: 14:19 Completed advancement of 6-inch diameter air hammer from 51 to 61 feet bgs at rate of 1.43 ft/min
-6.3	61						
-7.3	62						
-8.3	63						
-9.3	64						
-10.3	65						
-11.3	66						
-12.3	67						
-13.3	68						
-14.3	69						
-15.3	70						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 9 OF SHEETS 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-15.3	70	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 6/4/01 Time: 14:30 Completed advancement of 6-inch diameter air hammer from 61 to 71 feet bgs at rate of 1.11 ft/min.
-16.3	71	Began to observe hydrocarbon odor at 71 feet bgs.					
-17.3	72						
-18.3	73						
-19.3	74						
-20.3	75						
-21.3	76						
-22.3	77						
-23.3	78						
-24.3	79						
-25.3	80						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 10 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-25.3	80	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 6/4/01 Time: 14:42 Completed advancement of 6-inch diameter air hammer from 71 to 81 feet bgs at rate of 1.25 ft/min
-26.3	81	Began to observe large amounts of groundwater flow into borehole at 81 feet bgs.					
-27.3	82						
-28.3	83						
-29.3	84						
-30.3	85						
-31.3	86						
-32.3	87						
-33.3	88	Very soft rock encountered from 88 to 91 feet bgs.					
-34.3	89						
-35.3	90						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 11 OF 12

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-35.3	90	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date: 6/4/01 Time: 14:52 Completed advancement of 6-inch diameter air hammer from 81 to 91 feet bgs. at rate of 1.67 ft/min.
-36.3	91						
-37.3	92						
-38.3	93						
-39.3	94						
-40.3	95						Date: 6/4/01 Time: 15:02 Completed advancement of 6-inch diameter air hammer from 91 to 96 feet bgs at rate of 1.25 ft/min.
-41.3	96						
-42.3	97						
-43.3	98						
-44.3	99						
-45.3	100						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-8 (abandoned)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt

SHEET 12 OF 12 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-45.3	100	Red / brown, (5 yr 4/4) Sandstone bedrock.					Date. 6/4/01 Time: 15:03 Completed advancement of 6-inch diameter air hammer from 96 to 101 feet bgs at rate of 5.0 ft/min
-46.3	101	Large amount of water entering borehole. Driller stopped adding water because well making its own water at 101 feet bgs.					
-47.3	102						
-48.3	103						
-49.3	104						
-50.3	105						Date: 6/4/01 Time: 15:10 Completed advancement of 6-inch diameter air hammer from 101 to 106 feet bgs at rate of 2.5 ft/min.
-51.3	106	Bottom of 66-foot, 6-inch diameter open borehole completed at 106 feet bgs (82 feet into bedrock).					Date: 6/4/01 Time: 17:00 Completed driller's yield test of monitoring well
-52.3	107	Drillers yield test indicated potential yield of 32 gpm.					
-53.3	108						
-54.3	109						Date: 6/4/01 Time: 17:05 Completed air surging/development of monitoring well. Date: 8/6/01 Completed abandonment of borehole.
-55.3	110						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-8 (abandoned)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	BRPZ-9

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	7

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Bedrock Pump Test Array on MISS
5. NAME OF DRILLER	**6. MANUFACTURER'S DESIGNATION OF DRILL**
Derrick Walker (casing), Dennis Mayer (open hole)	Schramm T450 WS Roto Drill. DK-5 with Sullair air compressor
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	**8. HOLE LOCATION**
10-1/4-inch hollow stem augers, 10-inch temporary steel casing, 9-7/8-inch air rotary, 6-inch steel casing, tricone roller bit, 6-inch dia. air hammer with 6.4-foot stabilizer bar, DiverTech pneumatic driver system, cyclone air cuttings separator, Multi RAE Plus PID	752,545.0 feet North 2,164,157.4 feet East
	9. SURFACE ELEVATION 56.1 feet MSL
	10. DATE STARTED 5/24/01 / **11. DATE COMPLETED** 5/29/01
12. OVERBURDEN THICKNESS 22 feet	**15. DEPTH GROUNDWATER ENCOUNTERED** 51 feet bgs
13. DEPTH DRILLED INTO ROCK 34 feet	**16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED**
14. TOTAL DEPTH OF HOLE 56.0 feet bgs	**17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)** 10.00 feet below top of riser, 7/26/01, 08:51

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	---

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Completed	---	YES	---	

LOCATION SKETCH/COMMENTS SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-9

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	
BRPZ-9	

PROJECT	INSPECTOR	SHEET	OF	SHEETS
FUSRAP MAYWOOD SUPERFUND SITE GWRI	George Markt (casing & open hole)	2	OF	7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
56.1	0						
55.1	1						
54.1	2						
53.1	3	No overburden samples collected.					
52.1	4						Date: 5/24/01 Time: 11:30 Completed advancement of 10-1/4-inch diameter hollow stem auger to 5 feet bgs at rate of 0.71 ft/min.
51.1	5						
50.1	6						
49.1	7						
48.1	8	Overburden material grades from white to black in color at about 8 feet bgs. Strong hydrocarbon odor.					
47.1	9						
46.1	10						

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	BRPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 3 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
46.1	10						
45.1	11						
44.1	12						
43.1	13						
42.1	14						
41.1	15						
40.1	16						
39.1	17						
38.1	18						
37.1	19	1/2-inch angular gravel appears in mud tub at 19 feet bgs.					
36.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 4 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
36.1	20						
35.1	21						Date: 5/24/01 Time: 11:37 Competed advancement of 10-inch diameter temporary steel casing from 5 to 22 feet bgs at rate of 2.43 ft/min.
34.1	22	Red / brown, (5 yr 4/4) Sandstone bedrock encountered at 22 feet bgs based upon casing refusal confirmed by roller bit.					
33.1	23						Date: 5/24/01 Time: 12:05 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 22 to 24 feet bgs at rate of 2 ft/min.
32.1	24						
31.1	25						Date: 5/24/01 Time: 12:18 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 24 to 26 feet bgs at rate of 0.67 ft/min.
		Apparent fracture at 25.5 feet bgs.					
30.1	26						
29.1	27	Apparent fracture at 27 feet bgs.					Date: 5/24/01 Time: 12:30 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 26 to 28 feet bgs at rate of 0.17 ft/min
28.1	28						
27.1	29	Apparent fracture at 29 feet bgs. Rock becomes very soft at 29 feet bgs.					Date: 5/24/01 Time: 12:31 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 28 to 30 feet bgs at rate of 2 ft/min.
26.1	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
26.1	30	Red / brown, (5 yr 4/4) Sandstone bedrock.					
25.1	31						Date: 5/24/01 Time. 12:35 Completed advancement of 9-7/8-inch diameter air rotary roller bit from 30 to 32 feet bgs at rate of 0 5 ft/min
24.1	32	6-inch diameter steel casing set at 32 feet bgs (13 feet into bedrock).					Date. 5/24/01 Time: 13:45 Completed setting of 6-inch diameter steel casing at 32 feet below ground surface
23.1	33						
22.1	34						
21.1	35						
20.1	36						
19.1	37						
18.1	38						
17.1	39						
16.1	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET: 6 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
16.1	40	Red / brown, (5 yr 4/4) Sandstone bedrock.					
15.1	41						
14.1	42						
13.1	43						
12.1	44						
11.1	45						
10.1	46						
9.1	47						
8.1	48						
7.1	49						
6.1	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: BRPZ-9

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: George Markt (casing & open hole)

SHEET 7 OF --

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
6.1	50	Red / brown, (5 yr 4/4) Sandstone bedrock.					
5.1	51	Apparent water bearing fracture at 51 feet bgs. Odor of hydrocarbon noted in breathing zone.	PID = 0.0ppmV				
4.1	52						
3.1	53						
2.1	54						
1.1	55						Date: 5/29/01 Time: 12:21 Completed advancement of 6-inch diameter air hammer from 32 to 56 feet bgs at rate of 2 ft/min
0.1	56	Bottom of 24-foot 6-inch diameter open borehole completed at 56 feet bgs (34 feet into bedrock).					Date: 5/29/01 Time: 14:43 Completed air surging / development of monitoring well.
-0.9	57	Driller yield indicated potential yield of 1 gpm.					Date: 5/29/01 Time: 14:56 Completed drillers yield testing of monitoring well.
-1.9	58						
-2.9	59						
-3.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: BRPZ-9

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

PILOT BORING LOGS

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-2D (pilot)

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 7

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	84 Becker Ave. Rochelle Park
5. NAME OF DRILLER	6 MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75 (open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8. HOLE LOCATION
4-inch steel casing, 3-7/8-inch tricone roller bit, 2 and 3-inch split spoons, NQ wire line core barrel, 140-lb. hammer, 300-lb. hammer, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	752,051.7 feet North 2,163,415.1 feet East
	9. SURFACE ELEVATION: 47.1 feet MSL
	10. DATE STARTED: 10/23/00 — 11. DATE COMPLETED: 10/24/00
12. OVERBURDEN THICKNESS: 13 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 8 feet bgs
13. DEPTH DRILLED INTO ROCK: 36 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 50.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	11- 13 feet	4

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
5 - 7 feet	5 - 7 feet	5 - 7 feet	RAD 5 - 7 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-2D (pilot)

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 2 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
47.1	0	Asphalt					
46.1	1	Road Base Material					
		SM 5yr, trace fine Gravel, dry	PID = 17 ppmV RAD = 55 cpm			9 11 10 12	Date: 10/23/00 Time: 10:25 Recovery = 50% 3-inch split spoon 300-lb. hammer
45.1	2						
44.1	3	No recovery				3 5 3 5	Date: 10/23/00 Recovery = 0 inches Time 10:30 3-inch split spoon 300-lb. hammer
43.1	4						
42.1	5	SM, 5 yr, trace fine Gravel, dry	PID = 4.9ppm RAD = 70 cpm		RAD VOC and Metals sample 23b - 020952	5 6 14 35	Date: 10/23/00 Time: 10:37 Recovery = 0% 3-inch split spoon 300-lb. hammer
41.1	6						
40.1	7		PID = 4.0 ppm RAD = 50 cpm			36 8 10 9	Date: 10/23/00 Time: 10:45 Recovery = 75% 2-inch split spoon 140-lb. hammer
39.1	8	Wet from 8 to 8.5 feet					
38.1	9	SM, medium to fine Gravel, saturated				9 50	Date: 10/23/00 Time: 10:50 Recovery = 75% 2-inch split spoon 140-lb. hammer
37.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 3 OF –

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
37.1	10					42 37	Date: 10/23/00 Time: 11:20 Completed advancement of 8-inch diameter temporary steel casing to 11 feet bgs
36.1	11	No sample description from 11 to 13 feet bgs		California Tube Sample 23b - 020953		11 15	Date: 10/23/00 Time: 11:35 Recovery = 50% 2-inch split spoon 140-lb. hammer
35.1	12					21	
34.1	13					6	
		Red brown, (5 yr 4/4) Sandstone bedrock encountered at 13 feet bgs based upon split spoon refusal confirmed by roller bit.	PID = 0.4 ppmV RAD = 15 cpm			100	Date: 10/23/00 Time: 11:40 2-inch split spoon 140-lb. hammer
33.1	14	Calcite filled fractures from 14 to 16 feet bgs.		Core Box # 1. Core Run from 14 to 24 feet bgs RQD = 25%			Date: 10/23/00 Time: 12:05 Completed advancement of 8-inch diameter temporary steel casing to 14 feet bgs
32.1	15			Average Apparent Fracture Dip = 16 deg.			
31.1	16	Slightly weathered red brown (5 yr 4/4) Sandstone.		Fracture Density=19			
30.1	17	Red brown (5 yr 4/4) Sandstone					
29.1	18						
28.1	19						
27.1	20						



PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
27.1	20						
26.1	21						
25.1	22						
24.1	23						Date: 10/23/00 Time: 13:50 Completed advancement of NQ core barrel from 14 to 24 feet bgs at rate of 0.18 ft/min.
23.1	24			Core Box # 2. Core Run from 24 to 34 feet bgs RQD = 91% Average Apparent Fracture Dip = 9 deg. Fracture Density=13			
22.1	25						
21.1	26						
20.1	27						Date: 10/23/00 Time: 14:50 Completed advancement of NQ core barrel from 24 to 27.5 feet bgs at rate of 0.12 ft/min.
19.1	28						
		Calcite filled fracture.					
18.1	29						
17.1	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
17.1	30						
16.1	31	Red brown, (5 yr 4/4) Siltstone.					
15.1	32						Date: 10/25/00 Time: 13:05 Completed Packer Test #2 from 28 to 32.5 feet bgs
		Calcite filled fracture					
14.1	33						Date: 10/24/00 Time: 09:35 Completed advancement of NQ core barrel from 24 to 34 feet at rate of 0.2 ft/min.
13.1	34			Core Box # 3. Core Run from 34 to 44 feet bgs RQD = 25% Average Apparent Fracture Dip = 7 deg. Fracture Density=15			
12.1	35	Red brown, (5yr 4/4) calcareous Siltstone. Large water bearing fracture.					
11.1	36	Red brown, (5 yr 4/4) Siltstone.					
10.1	37						Date: 10/25/00 Time: 09:10 Completed Packer Test # 1 from 33 to 37.5 feet bgs
9.1	38	Calcite filled fracture					
8.1	39						
7.1	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET: 6 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
7.1	40	Calcite filled fracture					
6.1	41						
5.1	42						
4.1	43	Red brown, (5 yr 4/4) calcareous Siltstone.					Date: 10/24/00 Time: 13:15 Completed advancement of NQ core barrel from 34 to 44 feet bgs at rate of 2.2 ft/min.
3.1	44			Core Box # 4. Core Run from 44 to 50 feet bgs RQD = 89% Average Apparent Fracture Dip = 10 deg. Fracture Density=7			
2.1	45						
		Calcite filled fracture					
1.1	46						
0.1	47	Red brown, (5 yr 4/4) calcareous Sandstone.					
-0.9	48						
-1.9	49						Date: 10/24/00 Time: 14:15 Completed advancement of NQ core barrel from 44 to 50 feet bgs at rate of 0.2 ft/min.
-2.9	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 7 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-2.9	50	Bottom of 2-inch diameter open hole at 50 feet bgs (37 feet into bedrock)					
-3.9	51						
-4.9	52						Total water loss = 170 gallons. Date: 10/25/00 Time: 13:35 Completed abandonment of pilot boring
-5.9	53						
-6.9	54						
-7.9	55						
-8.9	56						
-9.9	57						
-10.9	58						
-11.9	59						
-12.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-2D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-3D (pilot)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4 LOCATION: Dirt Road North of MISS	
5. NAME OF DRILLER: Doug Wood	6 MANUFACTURER'S DESIGNATION OF DRILL: CME-75	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 4-inch steel casing, 3-7/8-inch tricone roller bit, 2 and 3- inch split spoons core barrels, NQ wire line core barrel, 140-lb hammer, 300-lb hammer, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowls.	8 HOLE LOCATION: 752,923.4 feet North 2,164,446.7 feet East 9 SURFACE ELEVATION: 55.1 feet MSL 10. DATE STARTED: 11/3/00 11 DATE COMPLETED: 11/7/00	
12. OVERBURDEN THICKNESS: 22 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 8 feet bgs	
13. DEPTH DRILLED INTO ROCK: 28 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 50.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.51 feet below top of riser, 7/26/01, 13:42	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	14 - 16 feet	3

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	6 - 8 feet	6 - 8 feet	RAD 2 - 4 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-3D (pilot)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 2 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
55.1	0	SM, 5 yr 2.2/1, black organic matter, wood chips (FILL)	PID = 0.2 ppmV RAD = 48cpm			2 2 3 2	Date: 11/3/00 Time: 08:40 Recovery = 50% 3-inch split spoon 300-lb. hammer
54.1	1	SC, 5 yr 8/1, white (gypsum wall board) (FILL)					
53.1	2	SC, 5 yr 8/1, white (gypsum wall board, trace organic material) (FILL)	PID = 0.0 ppmV RAD = 54 cpm		RAD Sample 12a - 021013	3 2 1 2.5	Date: 11/3/00 Time: 08:45 Recovery = 88% 3-inch spilt spoon 300-lb. hammer
52.1	3						
51.1	4	SC, 5 yr 2.5/1, black material mixed with white material (FILL)	PID = 0.2 ppmV RAD = 29cpm			2 2 3 2	Date: 11/3/00 Time: 08:50 Recovery = 12% 3-inch split spoon 300-lb. hammer
50.1	5						
49.1	6	*Coal stuck in tip of spoon.* SM, 5 yr 2.5/1, black coal bearing material, trace black wood (FILL)	PID = 0.2 ppmV RAD = 48cpm		VOC, Metals, and RAD Sample 12a - 0210954	4 5 5 6	Date: 11/3/00 Time: 08:55 Recovery = 67% 2-inch split spoon 300-lb. hammer
48.1	7						
47.1	8		PID = 0.4 ppmV RAD = 42cpm			5 4 4 5	Date: 11/3/00 Time: 09:00 Recovery = 92% 2-inch split spoon 140-lb. hammer
46.1	9	SC, 5 yr 3/2, with chunks of brownish black angular cobbles throughout					
45.1	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 3 OF --

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
45.1	10		PID = 0.1 ppmV RAD = 53 cpm			8	Date: 11/3/00 Time: 09:05 Recovery = 100% 2-inch split spoon 140-lb. hammer
		GC, 5 yr 4/4, angular cobbles throughout				8	
44.1	11					8	
		SW, 5 yr 2.5/1, black				14	
43.1	12		PID = 0.0 ppmV RAD = 36 cpm			12	Date: 11/3/00 Time: 09:10 Recovery = 67% 2-inch split spoon 140-lb. hammer
						6	
42.1	13					7	
						6	
41.1	14	No description. California Tube sample.		California Tube Sample 12-020955		6	Date: 11/3/00 Time: 09:15 Recovery = 100% 2-inch split spoon 140-lb. hammer
						7	
40.1	15					6	Date: 11/30/00 Time: 10:20 Completed advancement of 4-inch temporary steel casing to 16 feet bgs at rate of 0.8 ft/min.
						5	
39.1	16	GC, 5 yr 4/4	No reading			7	Date: 11/3/00 Time: 10:30 Recovery = 33% 2-inch split spoon 140-lb. hammer
						18	
38.1	17	Sample washed out from 17 to 18 feet bgs				12	
						22	
37.1	18	Cobble in tip of spoon	No reading			19	Date: 11/3/00 Time: 13:35 Recovery = 50% 2-inch split spoon 140-lb. hammer
						22	
36.1	19					26	Date: 11/3/00 Time: 10:40 Completed advancement of 4-inch diameter temporary steel casing from 16 to 20 feet bgs at rate of 0.8 ft/min.
		Weathered bedrock (?)				17	
35.1	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
35.1	20	GC, 5 yr 4/4				17	Date: 11/3/00 Time: 11:10 Recovery = 50% 2-inch split spoon 140-lb. hammer
						23	
34.1	21					50/3"	Date: 11/3/00 Time: 11:15 Completed advancement of 4-inch diameter temporary steel casing from 20 to 22 feet bgs at rate of 0.7 ft/min
33.1	22	Bedrock encountered at 22 feet bgs based upon split spoon refusal and roller bit. Dark red brown, (5 yr 4/4) fine grained calcareous Sandstone				50/1"	Date:11/3/00 Time: 11:35 Recovery = 10% 2-inch split spoon 140-lb.hammer
32.1	23			Core Box # 1. Core Run from 23 to 33 feet bgs RQD = 35%			
31.1	24	Medium red brown, (5 yr 4/4) calcareous Sandstone (banded)		Average Apparent Fracture Dip = 34 deg.			
30.1	25	Very eroded, potentially water bearing fracture. Red brown, (5 yr 4/4) fine grained, calcareous Sandstone, becoming coarser with depth.		Fracture Density=36			
29.1	26						
28.1	27						
		Light red brown, (5 yr 4/4) lithic calcareous Sandstone					
27.1	28						
26.1	29						
25.1	30						



PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 5 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
25.1	30	Highly fractured Red brown, (5 yr 4/4) fine grained Siltstone.					
		Red brown, (5 yr 4/4) fine grained calcerous Siltstone.					
24.1	31	Red brown, (5 yr 4/4) fine grained Siltstone.					
		Red brown, (5 yr 4/4) fine grained, calcareous Sandstone (lightly banded).					
23.1	32	Light red brown, (5 yr 4/4) lithic Sandstone					
		Red brown to dark red brown, (5 yr 4/4) fine grained calcareous Sandstone.					Date: 11/6/00 Completed advancement of NQ core barrel from 23 to 33 feet bgs
22.1	33			Core Box # 2. Core Run from 33 to 43 feet bgs RQD = 94%			Date: 11/7/00 Time: 11:27 Completed Packer Test # 2 from 29.5 to 34 feet bgs.
21.1	34			Average Apparent Fracture Dip = 6 deg.			
		Red brown to dark red brown, (5 yr 4/4) fine grained Sandstone.		Fracture Density=5			
20.1	35	Red brown to dark red brown, (5 yr 4/4) fine grained calcareous Sandstone, (banded)					
		Red brown, (5 yr 4/4) fine grained calcareous Sandstone.					
19.1	36						
18.1	37						
17.1	38						
		Red brown, (5 yr 4/4) fine grained calcareous Siltstone to coarse grained Siltstone.					
16.1	39						
15.1	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 6 OF 7

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
15.1	40	Non calcareous zone.					
		Red brown, (5 yr 4/4) fine grained calcareous Siltstone to coarse grained Siltstone.					
14.1	41						Date: 11/7/00 Time: 10:50 Completed Packer Test # 1 from 37 to 41.5 feet bgs
13.1	42						Date: 11/6/00 Time: 14:30 Completed advancement of NQ core barrel from 33 to 43 feet bgs.
12.1	43	Red brown, (5 yr 4/4) fine grained calcareous Siltstone to coarse grained Siltstone (banded).		Core Box # 3. Core Run from 43 to 50 feet bgs RQD = 93% Average Apparent Fracture Dip = 1 deg. Fracture Density=4			
		Red brown, (5 yr 4/4) fine grained calcareous Sandstone.					
11.1	44						
10.1	45						
		Red brown, (5 yr 4/4) calcareous Siltstone.					
9.1	46						
8.1	47	Red brown, (5 yr 4/4) fine grained calcareous Sandstone.					
7.1	48						
6.1	49						Date: 11/7/00 Time: 09:50 Completed advancement of NQ core barrel from 43 to 50 feet bgs at rate of 0.13 ft/min.
5.1	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
5.1	50	Bottom of 2-inch diameter open hole at 50 feet bgs (28 feet into bedrock).					Date: 11/7/00 Time: 12:30 Completed abandonment of pilot boring.
4.1	51						
3.1	52						
2.1	53						
1.1	54						
0.1	55						
-0.9	56						
-1.9	57						
-2.9	58						
-3.9	59						
-4.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-3D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-4D (pilot)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: St. Ann Street, Rochelle Park	
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 4-inch steel casing, 3-7/8-inch tricone roller bit, 2 and 3-inch split spoons, NQ wire line core barrel, 140-lb. hammer, 300-lb. hammer, drive and wash casing advancement, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	8. HOLE LOCATION: 752,912.5 feet North 2,162,940.5 feet East	
	9. SURFACE ELEVATION: 44.2 feet MSL	
	10. DATE STARTED: 10/26/00	11. DATE COMPLETED: 10/27/00
12. OVERBURDEN THICKNESS: 8.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 7 feet bgs	
13. DEPTH DRILLED INTO ROCK: 42 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 50.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	---	4

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	1 - 3 feet	1 - 3 feet	RAD 1 - 3 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-4D (pilot)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 2 OF 7 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
44.2	0	Asphalt					
		Road base material					
43.2	1	5 yr, 5/4 SM trace fine Gravel (FILL)	PID = 10.4 ppmV RAD = 48 cpm		RAD VOC & Metals Sample 23b-020956	4 13	Date: 10/26/00 Time: 10:30 Recovery = 75% 3-inch split spoon 300-lb. hammer
42.2	2	SP, 5 yr 2.5/1 trace medium to coarse Gravel (FILL). Punched through cobble.				23 14	
41.2	3	SM 5 yr, 5/6, trace fine Gravel SM 5 yr 3/6, trace medium to fine Gravel (water washed).	PID = 8.2 ppmV RAD = 38 cpm			23 23	Date: 10/26/00 Time: 10:40 Recovery = 100% 3-inch split spoon 300-lb.hammer.
40.2	4	CL, 5 yr 6/1 (interbedded with SM 5 yr 4/4, trace fine gravel) SM, 5 yr 4/4 trace medium to fine Gravel (water washed Damp).				17 17	
39.2	5	SM, 5 yr, 4/4.	PID = 0.8 ppmV RAD = 39 cpm			9 8	Date: 10/26/00 Time: 10:50 Recovery = 50% 3-inch split spoon 300-lb. hammer.
38.2	6	SM, 5 yr 4/4, trace fine Gravel.				8 6	
37.2	7	SM 5 yr 4/4, trace medium to fine Gravel, wet.				7 20	Date: 10/26/00 Time: 10:55 Recovery = 50% 3-inch split spoon 300-lb. hammer.
36.2	8					50/6"	
35.2	9	Bedrock encountered at 8.5 feet bgs based upon split spoon refusal confirmed by roller bit.					Date: 10/26/00 Time: 12:15 Completed advancement of 8-inch temporary steel casing to 10.5 feet bgs, 1-foot into bedrock.
34.2	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 3 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
34.2	10						
		Red brown (5 yr 4/4) calcareous Siltstone.		Core Box # 1. Core Run from 10.5 to 20.5 feet bgs RQD = 47%			
33.2	11	Red brown (5 yr 4/4) Siltstone.		Average Apparent Fracture Dip = 19 deg.			
32.2	12			Fracture Density=36			
31.2	13						
30.2	14	Red brown (5 yr 4/4) calcareous Siltstone severely fractured zone potentially water bearing					
		Red brown (5 yr 4/4) Siltstone					
29.2	15	Potential fracture.					
		Red brown (5 yr 4/4) calcareous Siltstone.					
28.2	16						
		5 yr 4/4 calcareous Sandstone					
27.2	17	Red brown (5 yr 4/4) Sandstone, becoming coarser with depth.					
26.2	18						
25.2	19						Date: 10/26/00 Time: 13:40 Completed advancement of NQ core barrel from 10.5 to 20.5 feet bgs at rate of 0.12 ft/min.
24.2	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln. Jeff Dekoskie and George Markt

SHEET 4 OF -

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
24.2	20						Water loss of 200 gallons over run
		Red brown (5 yr 4/4) calcareous Sandstone.		Core Box # 2. Core Run from 20.5 to 30.5 feet bgs RQD = 55%			
23.2	21						Date: 10/27/00 Time: 15:10 Completed Packer Test # 2 from 16.5 to 21 feet bgs
22.2	22	Red brown (5 yr 4/4) Sandstone		Average Apparent Fracture Dip = 13 deg. Fracture Density=23			
21.2	23						
20.2	24	Red brown (5 yr 4/4) Siltstone.					
19.2	25	Red brown (5 yr 4/4) coarse grained, calcareous Sandstone interbedded with small quartz.					
18.2	26						
17.2	27	Red brown (5 yr 4/4) fine grained Siltstone. Fractures become tighter with depth.					
16.2	28	Red brown (5 yr 4/4) fine grained, calcareous Siltstone.					
15.2	29	Lost all recirculation water to formation. Kept losing recirculation water to end of run.					Date: 10/26/00 Time: 15:00 Completed advancement of NQ core barrel from 20.5 to 30.5 feet bgs at rate of 0.15 ft/min.
14.2	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 5 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
14.2	30	Red brown (5 yr 4/4) fine grained Siltstone.					Water loss 500 gallons over run.
				Core Box # 3. Core Run from 30.5 to 40.5 feet bgs RQD = 58%			
13.2	31	Continued losing large amount of water to formation over core run.		Average Apparent Fracture Dip = 14 deg.			
12.2	32			Fracture Density=20			
11.2	33						
10.2	34						
9.2	35	Apparent potentially water bearing fracture					
							Date: 10/27/00 Time: 13:55 Completed Packer Test #1 from 31.5 to 36 feet bgs.
8.2	36						
7.2	37						
6.2	38						
5.2	39						Date: 10/27/00 Time: 10:30 Completed advancement of NQ core barrel from 30.5 to 40.5 feet bgs at rate of 0.11 ft/min.
4.2	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
4.2	40	Continued losing large amount of water to formation over core run.		Core Box # 4. Core Run from 40.5 to 50 feet bgs RQD = 71% Average Apparent Fracture Dip = 3 deg. Fracture Density=12			Water loss 700 gallons over run.
3.2	41						
2.2	42						
1.2	43						
0.1	44						
-0.9	45	No longer losing water to the formation					
-1.9	46						
-2.9	47						
-3.9	48						
-4.9	49						Date: 10/27/00 Time 11:45 Completed advancement of NQ core barrel from 40.5 to 50 feet bgs at rate of 0.16 ft/min.
-5.9	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie and George Markt

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-5.9	50	Bottom of 2-inch diameter open hole at 50 feet bgs (41.5 feet into bedrock)					Water loss 100 gallons over run.
-6.9	51						Total water loss = 1500 gallons.
-7.9	52						Date: 10/22/00 Time: Completed abandonment of pilot boring
-8.9	53						
-9.9	54						
-10.9	55						
-11.9	56						
-12.9	57						
-13.9	58						
-14.9	59						
-15.9	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-4D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-6D (pilot)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4 LOCATION: Intersection of Madison and Rochelle Avenue	
5. NAME OF DRILLER: Doug Wood	6 MANUFACTURER'S DESIGNATION OF DRILL: CME-75	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6-1/4-inch hollow stem auger, 4-inch steel casing, 300-lb. hammer, 3-7/8-inch tricone roller bit, NQ wire line core barrel, drive and wash casing advancement, Ludlum 4410 RAD meter, multi RAE Plus PID	8. HOLE LOCATION: 752,351.3 feet North 2,162,596.6 feet East	
	9 SURFACE ELEVATION: 42.9 feet MSL	
	10. DATE STARTED: 11/7/00	11 DATE COMPLETED: 11/7/00
12. OVERBURDEN THICKNESS: 21 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 6 feet bgs	
13. DEPTH DRILLED INTO ROCK: 31.4 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 52.4 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

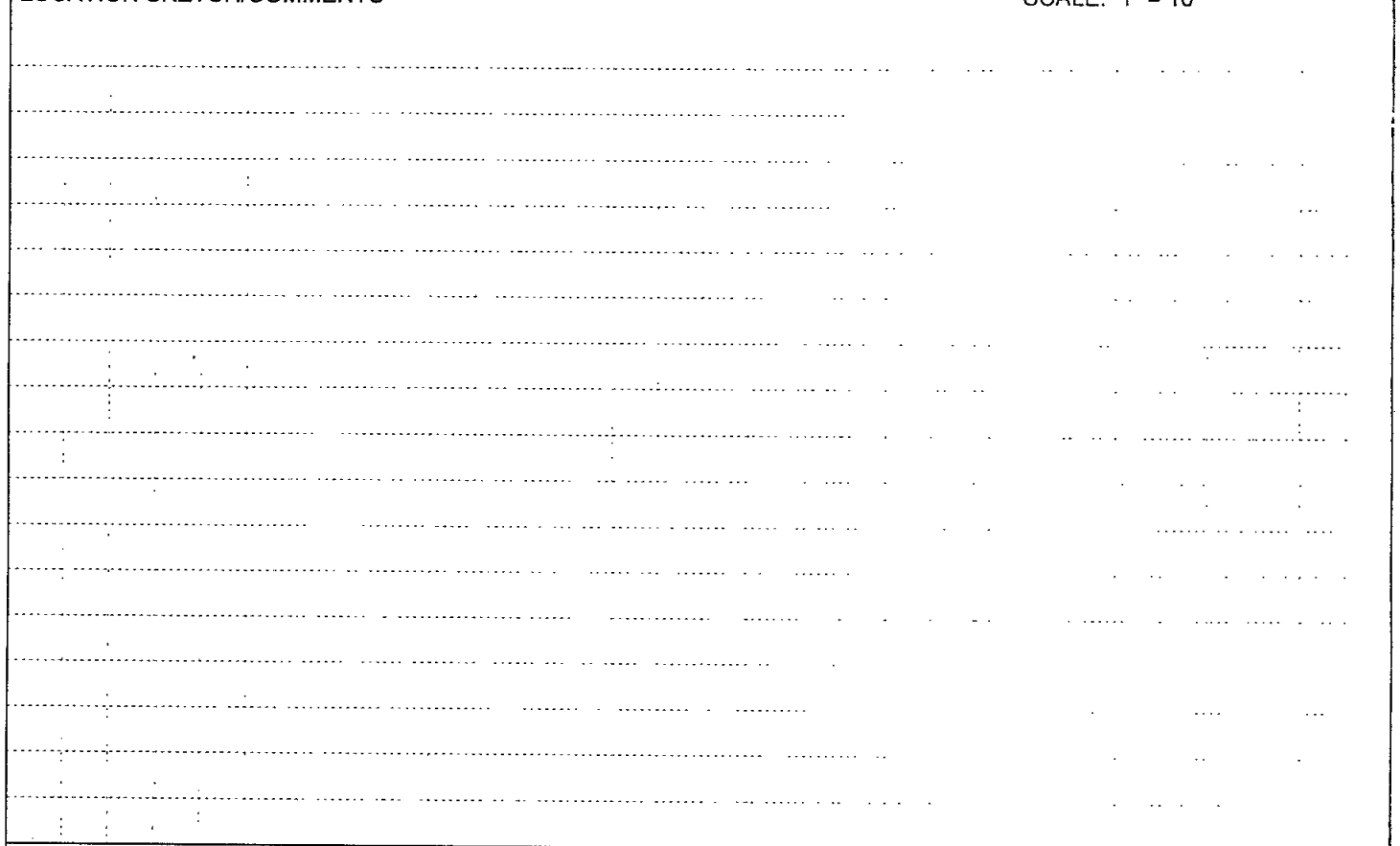
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	---	3

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	---	---	---	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
Abandoned	---	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'



PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-6D (pilot)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln and George Markt

SHEET 2 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
42.9	0						
41.9	1						
40.9	2						
39.9	3	No overburden soil samples collected					
38.9	4						
37.9	5						
36.9	6	Groundwater flow into borehole encountered at 6 feet bgs.					
35.9	7						
34.9	8						
33.9	9						
32.9	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln and George Markt

SHEET 3 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
32.9	10						
31.9	11						
30.9	12						
29.9	13						
28.9	14						
27.9	15						
26.9	16						
25.9	17						
24.9	18						
23.9	19						
22.9	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln and George Markt

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
22.9	20	No recovery from 20 to 21.5 feet bgs.		Core Box # 1. Core run from 20 to 30 feet bgs RQD = 65%			Date: 11/7/00 Time: 09:25 Completed advancement of 4-inch diameter temporary steel casing to 21 feet bgs
21.9	21			Average Apparent Fracture Dip = 10 deg.			
		Red brown, (5 yr 4/4) fine grained, calcareous Sandstone.		Fracture Density=15			
20.9	22						
19.9	23	Red brown, (5 yr 4/4) calcareous Siltstone (banded).					
18.9	24						
		Red brown, (5 yr 4/4) highly fractured and potentially water bearing calcareous Sandstone.					
17.9	25						
		Light red brown, (5 yr 4/4) Siltstone.					
16.9	26						
		Dark red brown, (5 yr 4/4) Sandstone.					
15.9	27	Red brown, (5 yr 4/4) Siltstone (some lithic zones).					
14.9	28						
13.9	29						Date: 11/7/00 Time: 10:05 Completed advancement of NQ core barrel from 20 to 30 feet bgs at rate of 0.25 ft/min.
12.9	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln and George Markt

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS
12.9	30	Dark red brown, (5 yr 4/4) Sandstone.		Core Box # 2. Core run from 30 to 40 feet bgs RQD = 75% Average Apparent Fracture Dip = 5 deg. Fracture Density=18			
		Light red brown, (5 yr 4/4) calcareous Siltstone.					
11.9	31						
10.9	32						
		Dark red brown, (5 yr 4/4) calcareous Sandstone.					
9.9	33						
		Light red brown, (5 yr 4/4) calcareous Siltstone.					
		Light red brown, (5 yr 4/4) Siltstone.					
8.9	34						
7.9	35						
6.9	36						
5.9	37						
		Red brown, (5 yr 4/4) Sandstone (some banding).					
4.9	38						
		Red brown, (5 yr 4/4) calcareous Sandstone (some banding).					
3.9	39						
		Red brown, (5 yr 4/4) Sandstone (some banding).					Date: 11/7/00 Time: 11:00 Completed advancement of NQ core barrel from 30 to 40 fet bgs at rate of 0.67 ft/min.
2.9	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln and George Markt

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
2.9	40			Core Box # 3. Core run from 40 to 50 feet bgs RQD = 88%			
1.9	41	Red brown, (5 yr 4/4) calcareous Sandstone (some banding).		Average Apparent Fracture Dip = 3 deg.			
0.9	42	Red brown, (5 yr 4/4) Siltstone. Potential water bearing fracture at 41.5 feet bgs		Fracture Density=10			
-0.1	43						
-1.1	44						
-2.1	45	Red brown, (5 yr 4/4) coarse grained Siltstone.					
-3.1	46	Red brown, (5 yr 4/4) coarse grained calcareous Sandstone.					
-4.1	47						
-5.1	48	Red brown, (5 yr 4/4) fine grained Sandstone.					
-6.1	49						Date: 11/7/00 Completed advancment of NQ core barrel from 40 to 50 feet bgs.
-7.1	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln and George Markt

SHEET 7 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-7.1	50						
-8.1	51						
-9.1	52						
-10.1	53	Bottom of 2-inch diameter open hole at 52.3 feet bgs (31.4 feet into bedrock)					Date: 11/7/00 Time: 15:00 Completed abandonment of pilot boring
-11.1	54						
-12.1	55						
-13.1	56						
-14.1	57						
-15.1	58						
-16.1	59						
-17.1	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-6D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT		HOLE NUMBER: MW-9D (pilot)
1. COMPANY NAME: Malcolm Pirnie, Inc.	2. DRILLING CONTRACTOR: Aquifer Drilling and Testing	SHEET 1 OF 7 SHEETS
3. PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI	4. LOCATION: Maywood Ave. Train Station	
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 4-inch steel casing, 3-7/8-inch tricone roller bit, 2 and 3-inch split spoons, NQ wire line core barrel, 140-lb. hammer, 300-lb. hammer, drive and wash casing advancement, Ludlum 4410 RAD meter, multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl	8. HOLE LOCATION: 751,978.9 feet North 2,166,006.7 feet East	
	9. SURFACE ELEVATION: 69.5 feet MSL	
	10. DATE STARTED: 11/1/00	11. DATE COMPLETED: 11/2/00
12. OVERBURDEN THICKNESS: 13 feet	15. DEPTH GROUNDWATER ENCOUNTERED: bgs	
13. DEPTH DRILLED INTO ROCK: 37.5 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 50.5 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
---	---	---	4

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
---	0 - 2 feet	0 - 2 feet	RAD 6 - 8 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS

SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-9D (pilot)

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET 2 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
69.5	0	Coal fragments/ash (FILL).	PID = 0.0 ppmV RAD = 62cpm		VOC and Metals Sample 22b - 020999	4 5 10 4	Date: 11/1/00 Time: 09:45 3-inch split spoon 300-lb. hammer
68.5	1	GC 5 yr 3/1, (FILL) Dry.					
67.5	2		PID = 0.2 ppmV RAD = 41cpm			8 4 4 4	Date: 11/1/00 Time: 09:50 Recovery = 4% 3-inch split spoon 300-lb. hammer
66.5	3						
65.5	4	Rock in tip of spoon. Ash/cinders from above (FILL). SW 5 yr 5/6 fine SAND.	PID = 0.0 ppmV RAD = 47cpm			8 4 6 4	Date: 11/1/00 Time: 09:55 Recovery = 100% 3-inch split spoon 300-lb. hammer
64.5	5						
63.5	6	SM 5 yr 4/4, trace medium to coarse Gravel. GC 5 yr 3/1 Coal fragments.	PID = 0.3 ppmV RAD = 52 cpm		RAD Sample 22b - 020966	13 23 29 21	Date: 11/1/00 Time: 10:00 Recovery = 100% 3-inch split spoon 300-lb. hammer
62.5	7	SM 5 yr 4/4, some coarse to fine Gravel (angular cobbles) (FILL).					
61.5	8	5 yr 3/7 coal fragments throughout (FILL).	PID = 0.3 ppmV RAD = 46 cpm			12 18 11 9	Date: 11/1/00 Time: 10:05 Recovery = 92% 2-inch split spoon 140-lb. hammer
60.5	9	encountered cobble (FILL). SM 5 yr 4/4					
59.5	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET 3 OF

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
59.5	10	SM 5 yr 4/4 (FILL).				8	Date: 11/1/00 Time: 10:25 Recovery = 100% 2-inch split spoon 140-lb. hammer
		coal fragments SM 5 yr 2.5/2				8	
58.5	11	SM 5 yr 4/4.				8	
						14	
57.5	12	SM 5 yr 4/4.	PID = 0.2 ppmV RAD = 42 cpm			24	Date: 11/1/00 Time: 10:35 Recovery = 50% 2-inch split spoon 140-lb. hammer
		GC 5 yr 4/4 (weathered bedrock).				50/6"	
56.5	13	Red brown, (5 yr 4/4) Sandstone bedrock encountered at 13 feet bgs based on split spoon and casing refusal confirmed by roller bit.					Date: 11/1/00 Time: 11:25 Completed advancement of 7-7/8-inch roller bit to 14 feet bgs
55.5	14			Core Box # 1. Core Run from 14 to 24 feet bgs. RQD = 35% Average Apparent Fracture Dip = 12 deg. Fracture Density=63			
54.5	15						
53.5	16	Red brown (5 yr 4/4) fine grained calcareous Sandstone.					
52.5	17	Eroded fracture 16.75 to 17.25 feet bgs Red brown (5 yr 4/4) fine grained Sandstone.					
51.5	18	Small fracture (calcite healed) Red brown (5 yr 4/4) fine grained, calcareous Sandstone.					
50.5	19						
49.5	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET: 4 OF –

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
49.5	20	Red brown, (5 yr 4/4) fine grained, calcareous Sandstone. Eroded and potentially water bearing fractures from 20 to 23 feet bgs.					
48.5	21						
		Non calcareous zone.					
		Red brown, (5 yr 4/4) fine grained, calcareous Sandstone.					
47.5	22						Date: 11/2/00 Time: 11:25 Completed Packer Test # 2 from 19.5 to 24 feet bgs.
46.5	23						Date: 11/1/00 Time: 12:30 Completed advancement of NQ core barrel from 14 to 24 feet bgs at rate of 0.15 ft/min.
45.5	24	Red brown, (5 yr 4/4) fine grained Sandstone.		Core Box # 2. Core Run from 24 to 34 feet bgs. RQD = 80% Average Apparent Fracture Dip = 28 deg. Fracture Density=27			
44.5	25	Red brown, (5 yr 4/4) fine grained calcareous Sandstone.					
		Red brown, (5 yr 4/4) fine grained Sandstone.					
43.5	26	Potential water bearing fracture.					
		Red brown, (5 yr 4/4) fine grained, calcareous Sandstone.					
42.5	27						
41.5	28						
40.5	29						
39.5	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET 5 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
39.5	30						
38.5	31						Date: 11/2/00 Time: 10:30 Completed Packer Test # 1 from 28 to 32.5 feet bgs.
37.5	32	Red brown, (5 yr 4/4) calcareous Siltstone					
36.5	33						Date: 11/1/00 Time: 13:45 Completed advancement if NQ core barrel from 24 to 34 feet bgs at rate of 0.14 ft/min.
		Red brown (5 yr 4/4) Siltstone.					
35.5	34			Core Box # 3. Core Run from 34 to 44 feet bgs. RQD = 85% Average Apparent Fracture Dip = 23 deg. Fracture Density=20			
34.5	35						
33.5	36						
		Red brown, (5 yr 4/4) fine grained, calcareous Sandstone.					
32.5	37						
31.5	38						
30.5	39	Calcite healed fracture					
		Light red brown, (5 yr 4/4) course grained, calcareous, lithic Sandstone.					
29.5	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
29.5	40	Light red brown, (5 yr 4/4) coarse grained, calcareous, lithic, Sandstone.					
28.5	41	Red brown, (5 yr 4/4) fine grained, calcareous Sandstone.					
27.5	42						
26.5	43	Light red brown, (5 yr 4/4) coarse grained, calcareous, lithic Sandstone.					Date: 11/1/00 Time: 15:00 Completed advancement or NQ core barrel from 34 to 44 feet bgs at rate of 0.14 ft/min. Water loss = 700 gallons.
25.5	44	Red brown, (5 yr 4/4) fine grained, calcareous Sandstone.		Core Box # 4. Core Run from 44 to 50.5 feet bgs. RQD = 77% Average Apparent Fracture Dip = 15 deg. Fracture Density=18			
24.5	45	Light red brown, (5 yr 4/4) coarse grained, calcareous, lithic Sandstone.					
23.5	46						
22.5	47	Red brown, (5 yr 4/4) fine grained, calcareous Siltstone.					
21.5	48						
20.5	49						
19.5	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln

SHEET 7 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
19.5	50						Date: 11/2/00 Time: 09:15 Completed advancement of NQ core barrel from 44 to 50.5 feet bgs at rate of 0 09 ft/min Water loss = 60 gallons.
		Bottom of 2-inch diameter open hole at 50.5 feet bgs (37.5 feet into bedrock).					
18.5	51						
17.5	52						
16.5	53						Date: 11/2/00 Time: 13:30 Completed abandonment of pilot boring. Total water loss = 1300 gallons.
15.5	54						
14.5	55						
13.5	56						
12.5	57						
11.5	58						
10.5	59						
9.5	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-9D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-10D (pilot)

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET / SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF 7

3. PROJECT	4. LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	West Hunter Ave, near Central Ave.
5. NAME OF DRILLER: Doug Wood	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 4-inch steel casing, 3-7/8-inch tricone roller bit, 2 and 3-inch split spoons, NQ wire line core barrel, 140-lb and 300-lb.hammer, drive and wash casing advancement, Ludium 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowls.	8. HOLE LOCATION: 751,717.7 feet North 2,165,902.8 feet East
	9. SURFACE ELEVATION: 62.5 feet MSL
	10. DATE STARTED: 10/30/00 — 11. DATE COMPLETED: 10/31/00
12. OVERBURDEN THICKNESS: 10.5 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 9.5 feet bgs
13. DEPTH DRILLED INTO ROCK: 39.5	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 50.0 feet bgs	17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
---	---	---	4

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY
---	5 - 7 feet	5 - 7 feet	RAD 7 - 9 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-10D (pilot)

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 2 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
62.5	0	Asphalt at 0.25 ft bgs Road base at 0.75 ft bgs.					
61.5	1	SM. 5 yr, 4/4 trace organics (damp).	RAD = 60 cpm PID = 0.0 ppmV			4 2 2 4	Date: 10/30/00 Time: 09:40 Recovery= 50% 3-inch split spoon 300-lb. hammer
60.5	2						
59.5	3		RAD = 47 cpm PID = 0.0 ppmV			3 4 7 6	Date: 10/30/00 Time: 09:40 Recovery = 50% 3-inch split spoon 300-lb. hammer
58.5	4	Encountered cobble.					
57.5	5	SM 5 yr, 4/4 damp. SM 5 yr 4/4 little medium to fine Gravel with trace flakes pyrite, damp.	RAD = 51 cpm PID = 4.1 ppmV		VOC and Metals Sample 22b 020968	6 7 8 7	Date: 10/30/00 Time: 09:50 Recovery = 81% 3-inch split spoon 300-lb. hammer
56.5	6						
55.5	7		RAD = 66 cpm PID = 1.5 ppmV		RAD Sample 22b 020998	12 15 10 10	Date: 10/30/00 Time: 09:55 Recovery = 58% 3-inch split spoon 300-lb. hammer
54.5	8	SM 5 yr 4/4 and medium to fine Gravel (weathered bedrock), dry.					
53.5	9	GC 5 yr 4/4 (weathered bedrock), wet.				8 31	Date: 10/30/00 Time: 10:00 Recovery = 58% 2-inch split spoon 140-lb. hammer
52.5	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 3 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
52.5	10			Core Box # 1. Core Run from 11 to 21 feet bgs RQD = 39%		50/5"	Date: 10/30/00 Time: 10:10 Completed advancement of 7-7/-inch roller bit to 11 feet bgs
51.5	11	Bedrock encountered at 10.5 ft. bgs based upon split spoon refusal confirmed by roller bit. Red brown (5 yr 4/4) Siltstone		Average Apparent Fracture Dip = 20 deg.			Date: 10/30/00 Time: 11:40 Completed advancement of 8-inch casing to 11 feet bgs. 0.5 feet into bedrock
50.5	12	Red brown (5 yr 4/4) lithic Sandstone		Fracture Density=39			
49.5	13	Red brown (5 yr 4/4), calcareous Siltstone					
48.5	14	Red brown (5 yr 4/4) Siltstone					
47.5	15	Red brown (5 yr 4/4) Sandstone					
46.5	16	Red brown (5 yr 4/4) calcareous Sandstone					
45.5	17						
44.5	18	Red brown (5 yr 4/4) Sandstone					
43.5	19	Red brown (5 yr 4/4) Siltstone					
42.5	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D (pilot)

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
42.5	20						Date: 10/30/00 Time: 13:05 Completed advancement of NQ core barrel from 11 to 21 feet bgs at rate of 0.12 ft/min.
41.5	21	Red brown (5 yr 4/4) calcareous Siltstone		Core Box # 2. Core Run from 21 to 31 feet bgs RQD = 73% Average Apparent Fracture Dip = 20 deg. Fracture Density=25			
40.5	22						
39.5	23						Date: 10/31/00 Time: 13:05 Completed Packer Test # 2 from 18.5 to 23 feet bgs
38.5	24						
37.5	25						
36.5	26						
35.5	27						
34.5	28						
33.5	29						
32.5	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 5 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
32.5	30	Potential water bearing fracture					Date: 10/31/00 Time: 15:00 Completed advancement of NQ core barrel from 21 to 31 feet bgs at rate of 0.09 ft/min.
31.5	31	Red brown (5 yr 4/4) Siltstone Healed vertical fracture at 31.25 feet bgs.		Core Box # 3. Core Run from 31 to 41 feet bgs RQD = ??% Average Apparent Fracture Dip = 23 deg. Fracture Density=14			
30.5	32						
		Red brown (5 yr 4/4) Sandstone					Date: 10/31/00 Time: 12:55 Completed Packer Test # 1 from 28.5 to 33 feet bgs
29.5	33						
28.5	34						
27.5	35						
26.5	36						
25.5	37						
24.5	38						
23.5	39						
22.5	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 6 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
22.5	40	Red brown (5 yr 4/4) Siltstone					Date: 10/31/00 Time: 09:30 Completed advancement of NQ core barrel from 31 to 41 feet bgs at rate of 0.10 ft/min.
21.5	41	Coarse red brown (5 yr 4/4) Sandstone		Core Box # 4. Core Run from 41 to 50 feet bgs RQD = ??% Average Apparent Fracture Dip = 34 deg. Fracture Density=28			
		Coarse red brown (5 yr 4/4) Sandstone, some quartz pebbles.					
20.5	42						
19.5	43						
		Red brown (5 yr 4/4) Siltstone, laminated					
18.5	44	Healed fracture at 44.5 feet bgs.					
17.5	45	Red brown (5 yr 4/4) Siltstone.					
16.5	46						
15.5	47						
14.5	48	Possible harder rock encountered at 48 feet bgs.					
13.5	49	Laminated					Date: 10/31/00 Time: 11:30 Completed advancement of NQ core barrel from 41 to 50 feet bgs at rate of 0.13 ft/min.
12.5	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-10D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, George Markt

SHEET 7 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
12.5	50	Bottom of 2- inch diameter open hole at 50 feet bgs (39.5 feet into bedrock).					Date: 10/31/00 Time: 14:25 Completed abandonment of Pilot boring
11.5	51						
10.5	52						Total water loss = 1500 gallons.
9.5	53						
8.5	54						
7.5	55						
6.5	56						
5.5	57						
4.5	58						
3.5	59						
2.5	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-10D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT	HOLE NUMBER
	MW-16D (pilot)

1. COMPANY NAME	2. DRILLING CONTRACTOR	SHEET	SHEETS
Malcolm Pirnie, Inc.	Aquifer Drilling and Testing	1 OF	7

3. PROJECT	4 LOCATION
FUSRAP MAYWOOD SUPERFUND SITE GWRI	Vacant lot at Intersection of Money & Sidney Streets
5. NAME OF DRILLER	6 MANUFACTURER'S DESIGNATION OF DRILL
Doug Wood	CME-75 (casing and open hole)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8 HOLE LOCATION
4-inch steel casing, 3-7/8-inch tricone roller bit, 140-lb. hammer, 300-lb. hammer, NQ wire line core barrel, 2 and 3-inch split spoons, drive and wash casing advance, Ludlum 4410 RAD meter, Multi RAE Plus PID, Encore sampler, stainless steel trowel and bowl.	746,549.0 feet North 2,161,858.7 feet East
	9. SURFACE ELEVATION: 29.3 feet MSL
	10 DATE STARTED: 11/8/00 — 11 DATE COMPLETED: 11/9/00
12. OVERBURDEN THICKNESS: 38 feet	15. DEPTH GROUNDWATER ENCOUNTERED: 5 feet bgs
13. DEPTH DRILLED INTO ROCK: 12 feet	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 50.0 feet bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
YES	---	14 - 16 feet	2

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY %
---	0 - 2 feet	0 - 2 feet	RAD 4 - 6 feet	---	---	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Abandoned	YES	---	---	

LOCATION SKETCH/COMMENTS — SCALE: 1" = 10'

PROJECT	HOLE NO
FUSRAP MAYWOOD SUPERFUND SITE GWRI	MW-16D (pilot)

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 2 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
29.3	0	SM 5yr 4/1, some medium angular GRAVEL, some brick, trace organics, dry. (FILL)	PID = 0.5 ppmV RAD = 60 cpm		VOA and Metals Sample 01a - 020980	5 10 10 7	Date: 11/8/00 Time: 09:15 Recovery = 41.7% 3-inch split spoon 300-lb. hammer
28.3	1						
27.3	2	SM 5yr 4/3, mottling at 3', coarse GRAVEL, white chips- possibly paint, mottling at 3 feet bgs.	PID = 0.5 ppmV RAD = 120 cpm			9 5 4 5	Date: 11/8/00 Time: 09:20 Recovery = 75% 3-inch split spoon 300-lb.hammer
26.3	3						
25.3	4		PID = 0.4 ppmV RAD = 290 cpm		RAD sample 01a - 02100	6 2 2 2	Date: 11/8/00 Time: 09:25 Recovery = 58.3% 3-inch split spoon 300-lb. hammer
24.3	5	SP 5yr 2.5/1 5 - 5.1 SM 5yr 4/4 5.1 - 5.5 SM 5yr 4/1 5.5 - 5.8					
23.3	6	Silt and organics 5yr 3/1. SM trace SC 5yr 4/1 trace organics.	RAD = 71cpm			2 2 2 2	Date: 11/8/00 Time: 09:30 Recovery = 29.2% 3-inch split spoon 300-lb. hammer
22.3	7						
21.3	8		No reading			6 6 7 6	Date: 11/8/00 Time: 09:35 Recovery = 50% 2-inch split spoon 140-lb. hammer
20.3	9	SM 5yr 5/4 SM with SP some coarse and sub rounded grains.					
19.3	10						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 3 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
19.3	10					5 5 6 6	Date: 11/8/00 Time: 09:40 Recovery = 33.3% 2-inch split spoon 140-lb. hammer
18.3	11						Date: 11/18/00 Time: 10:30 Completed advancement of 8-inch temporary casing to 12 feet bgs.
17.3	12	SW 5yr 4/6, little Silt.				3 3 4 3	Date: 11/8/00 Time: 09:45 Recovery = 50% 2-inch split spoon 140-lb. hammer
16.3	13						
15.3	14	SW 5yr 5/8, fine well graded SAND.		California Tube Sample 01a-020980		3 6	Date: 11/8/00 Time: 09:50 2-inch split spoon 140-lb. hammer
		Coarse SAND 5 yr 5/8					
14.3	15	SW 5yr 5/8.				3 4	Date: 11/8/00 Time: 10:40 Completed advancement of 8-inch temporary casing from 12 to 16 feet bgs.
13.3	16	SW 5yr 5/8.				2 2 3 4	Date: 11/8/00 Time: 09:55 Recovery = 58.3% 2-inch split spoon 140-lb. hammer
12.3	17						
11.3	18					6 4 4 3	Date: 11/8/00 Time: 10:00 Recovery = 75% 2-inch split spoon 140-lb. hammer Date: 11/8/00 Time: 11:06 Completed advancement of 8-inch temporary casing from 16 to 20 feet bgs.
10.3	19						
9.3	20						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 4 OF 7

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
9.3	20	SC SILTY CLAY 5yr 4/4, trace fine Sand.				7 7 5 6	Date: 11/8/00 Time: 10:05 Recovery = 58.3% 2-inch split spoon 140-lb. hammer
8.3	21						
7.3	22	SM 5yr 3/3 with coarse Sand, little weathered bedrock.				6 11 6 9	Date: 11/8/00 Time: 10:20 Recovery = 50% 2-inch split spoon 140-lb. hammer Date: 11/8/00 Time: 11:30 Completed advancement of 4-inch temporary steel casing from 20 to 24 feet bgs.
6.3	23						
5.3	24	GM 5yr 4/4, (fine gravel) some SM weathered bedrock.				10 11 23 24	Date: 11/8/00 Time: 10:50 Recovery = 41.7% 2-inch split spoon 140-lb. hammer Date: 11/8/00 Time: 12:10 Completed advancement of 4-inch temporary steel casing from 24 to 27 feet bgs
4.3	25	Fine GRAVEL, some SM Some Weathered bedrock					
3.3	26	5 yr 4/4 SM, some Silt, weathered bedrock.					Date: 11/8/00 Time: 11:30 Recovery = 75% 2-inch split spoon 140-lb. hammer Date: 11/8/00 Time: 12:25 Completed advancement of 8-inch temporary steel casing from 27 to 28 feet bgs
2.3	27	SM 5 yr 4/4 some weathered bedrock.					
1.3	28	Boulder				22 28 48 50/5"	Date: 11/8/00 Time: 12:35 Completed advancement of 3-7/8-inch roller bit from 28 to 29 feet bgs.
0.3	29	SM 5 yr 4/4 some weathered bedrock.					
-0.7	30						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 5 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-0.7	30	SM 5yr 3/3, with weathered bedrock, medium to fine quartz gravel.				8 27 40 40	Date: 11/8/00 Recovery = 50% 2-inch split spoon 140-lb. hammer Date: 11/8/00 Time: 13:30 Completed advancement of 8-inch temporary steel casing from 28 to 32 feet bgs
-1.7	31						
-2.7	32					48 46 43 50/5"	Date: 11/8/00 2-inch split spoon 140-lb. hammer
-3.7	33						
-4.7	34	SM 5yr 4/4, weathered bedrock.				50/6" 44 44 50/4"	Date: 11/8/00 Recovery = 58.3% 2-inch split spoon 140-lb. hammer
-5.7	35						
-6.7	36	Bedrock encountered at 36 feet bgs based upon split spoon refusal confirmed by roller bit.					
-7.7	37						Date: 11/9/00 Time: 08:30 Completed advancement of 8-inch temporary casing from 32 to 38 feet bgs.
-8.7	38	No core recovery from 38 to 39 feet bgs.		Core Box # 1. Core Run from 38 to 48 feet bgs RQD = 45%			
-9.7	39	Red-brown Sandstone banded.		Average Apparent Fracture Dip = 40 deg.			
-10.7	40						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 6 OF 7 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-10.7	40			Fracture Density=9			
-11.7	41	Calcite deposits observed on fractures from 41.5 to 49 feet.					
-12.7	42	Red-brown Sandstone.					
-13.7	43	Mineral deposits on fractures.					
-14.7	44						
-15.7	45						
-16.7	46						
-17.7	47						Date: 11/9/00 Time: 11:40 Completed Packer Test 2 from 43 to 47.5 feet bgs.
-18.7	48	Red-brown Siltstone.		Core Box # 2. Core Run from 48 to 50 feet bgs RQD = 67%			Date: 11/9/00 Time: 10:00 Completed advancement of NQ core barrel from 38 to 48 feet bgs at rate of 0.5 ft/min.
-19.7	49	Calcite filled fracture from 49 to 50 feet.		Average Apparent Fracture Dip = 10 deg.			Date: 11/9/00 Time: 10:57 Completed Packer Test 1 from 48 feet to 50 feet bgs.
-20.7	50						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-16D (pilot)

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

INSPECTOR: Julie Lincoln, Jeff Dekoskie

SHEET 7 OF 7

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
-20.7	50	Bottom of 2-inch diameter open hole at 50 feet bgs (24 feet into bedrock).		Fracture Density=4			Date: 11/9/01 Time: 10:30 Completed advancement of NQ core barrel from 48 to 50 feet bgs at rate of 0.07 ft/min. Date: 11/9/00 Time: 12:20 Completed abandonment of pilot borings.
-21.7	51						
-22.7	52						
-23.7	53						
-24.7	54						
-25.7	55						
-26.7	56						
-27.7	57						
-28.7	58						
-29.7	59						
-30.7	60						

PROJECT: FUSRAP MAYWOOD SUPERFUND SITE GWRI

HOLE NO: MW-16D (pilot)

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

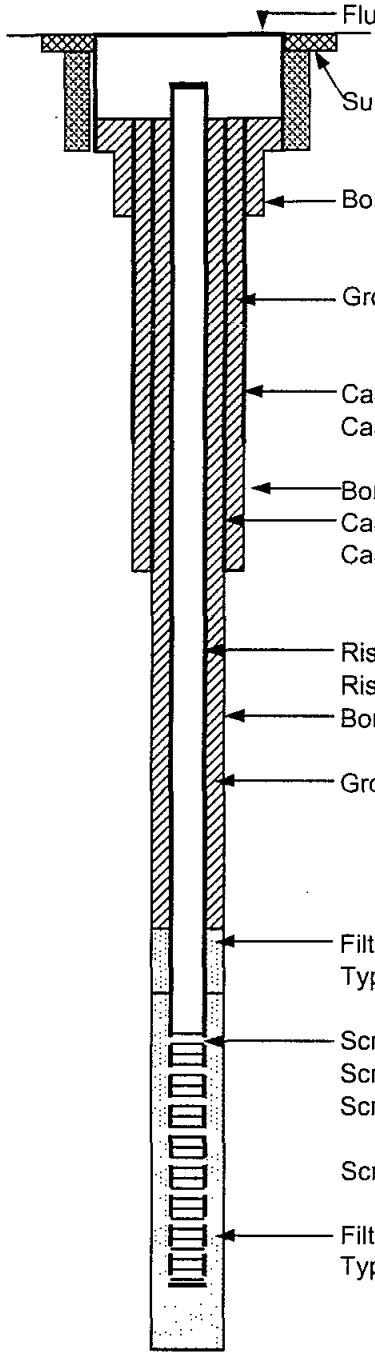
AS-BUILT DIAGRAMS

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPW-1D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/20/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	04/09/2001 to 04/26/2001			**Elevation (ft):** 56.42

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	56.42
Riser Pipe	0.12	56.30
Top of Casings	0.25	56.17
Base of HSA Hole	5.00	51.42
Top of Bedrock	20.00	36.42
Base of 10-in. Casing	21.00	35.42
		56.42
Base of 6-in. Casing	40.00	16.42
Top of Filter Pack	86.30	-29.88
Top of Filter Pack	87.00	-30.58
Top of Screen	90.00	-33.58
Base of Screen	110.00	-53.58
Total Depth	112.30	-55.88

Description

Converted to 2-inch well, 7/24/2001.

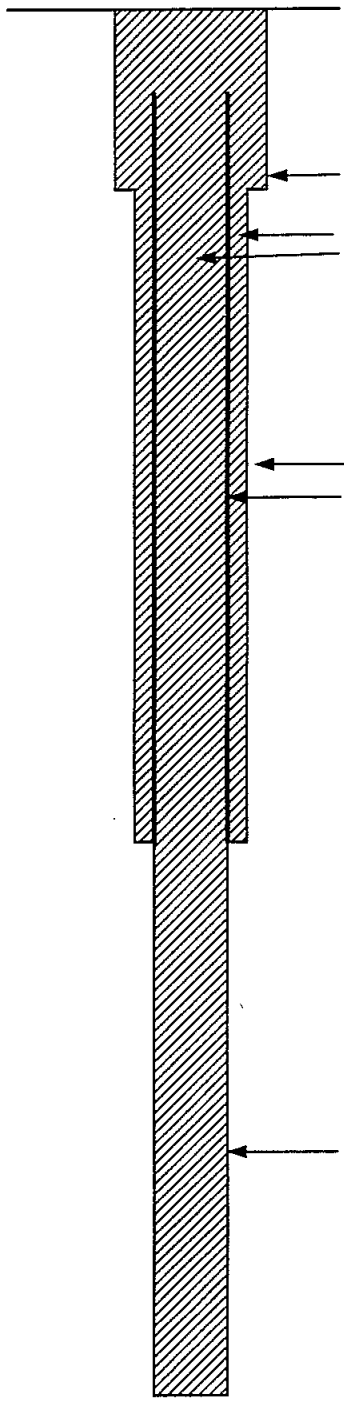


Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Borehole Diameter:	14 (in.)
Grout Type:	Cement-bentonite
Casing Type:	Black Steel
Casing ID:	12 (in.)
Borehole Diameter:	(in.)
Casing Type:	Black Steel
Casing ID:	6 (in.)
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 (in.)
Borehole Diameter:	6 (in.)
Grout Type:	Cement-bentonite
Filter/Sand Pack Type:	# 0 'Morie Sand'
Screen Type:	Schedule 40 PVC
Screen ID:	2 (in.)
Screen Slot Size:	10 (0.01-inch)
Screen Length (ft):	20.0
Filter/Sand Pack Type:	# 1 'Morie Sand'

Notes: Developed by airlifting, surge, and pumping.
Well converted from original open bedrock well, to 2-inch screened construction, 07/24/2001.

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPZ-1
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/21/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	05/23/2001 to 06/01/2001			**Elevation (ft):** 55.61

Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
			Abandoned, 08/07/2001.
Grade	0.00	55.61	
Top of Casing	0.25	55.36	
Base of HSA Hole	5.00	50.61	Borehole Diameter: 14 (in.)
			Grout Type: Cement-bentonite
Top of Bedrock	22.00	33.61	
			Borehole Diameter: 10 (in.)
			Casing Type: Black Steel
			Casing ID: 6 (in.)
Base of 6-in. Casing	40.00	15.61	
			Borehole Diameter: 6 (in.)
Total Depth	115.00	-59.39	



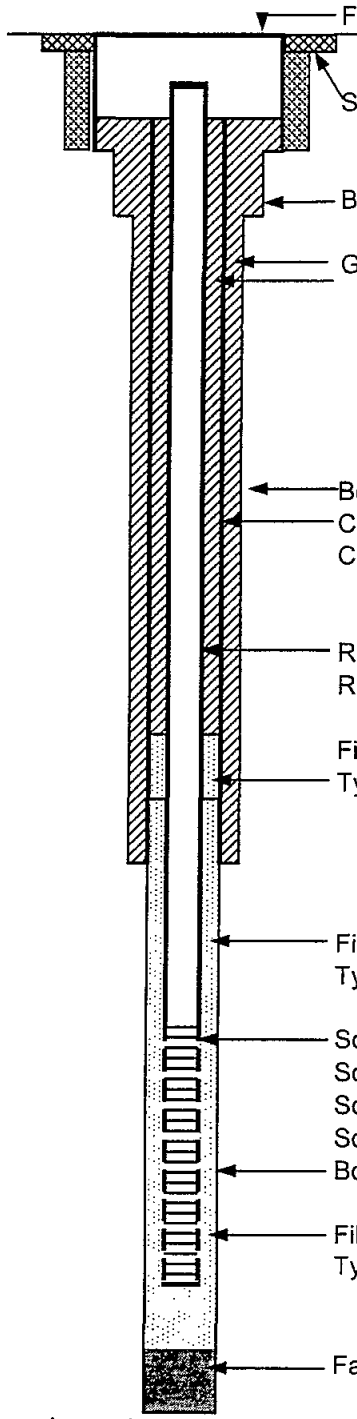
Notes: Developed by airlifting, surge, and pumping.
Well abandoned, 08/07/2001.

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPZ-2
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/21/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	05/23/2001 to 06/01/2001			**Elevation (ft):** 55.89

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	55.89
Riser Pipe	0.15	55.74
Top of Casings	0.25	55.64
Base of HSA Hole	5.00	50.89
Top of Bedrock	23.00	32.89
Top of Filter Pack	39.00	16.89
Top of Filter Pack	39.50	16.39
Base of 6-in. Casing	40.00	15.89
Top of Screen	42.00	13.89
Base of Screen	62.00	-6.11
Top of Bentonite.	63.00	-7.11
Total Depth	115.00	-59.11

Description

Converted to 2-inch well, 7/24/2001.



Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Borehole Diameter:	14 (in.)
Grout Type:	Cement-bentonite
Borehole Diameter:	10 (in.)
Casing Type:	Black Steel
Casing ID:	6 (in.)
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 (in.)
Filter/Sand Pack Type:	# 0 'Morie Sand'
Filter/Sand Pack Type:	# 1 'Morie Sand'
Screen Type:	Schedule 40 PVC
Screen ID:	2 (in.)
Screen Slot Size:	10 (0.01-inch)
Screen Length (ft):	20.0
Borehole Diameter:	6 (in.)
Filter/Sand Pack Type:	# 1 'Morie Sand'
Fallback/Backfill:	Bentonite Slurry

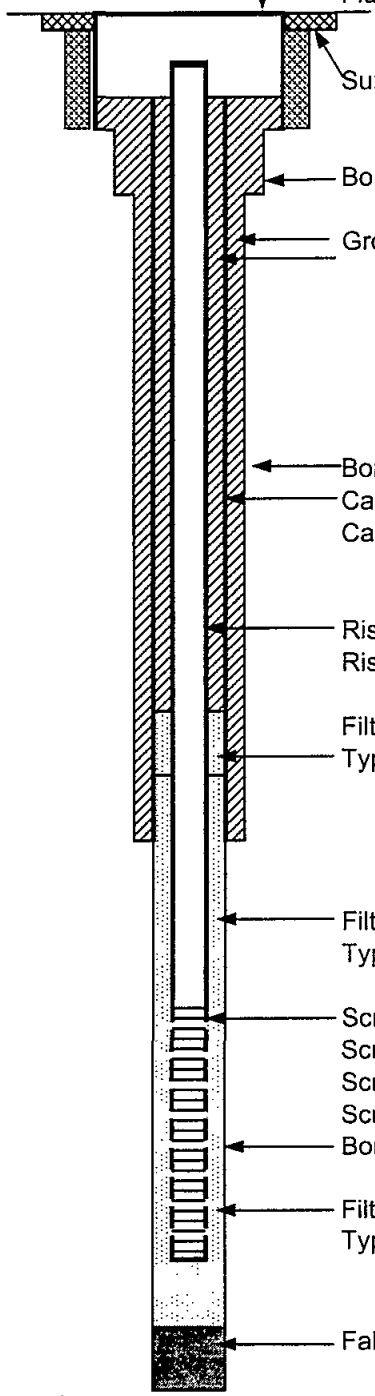
Notes: Developed by airlifting, surge, and pumping.
Well converted from original open bedrock well, to 2-inch screened construction, 07/24/2001.

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPZ-3
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/21/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	05/23/2001 to 06/01/2001			**Elevation (ft):** 56.92

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	56.92
Riser Pipe	0.02	56.90
Top of Casings	0.25	56.67
Base of HSA Hole	5.00	51.92
Top of Bedrock	23.50	33.42
Top of Filter Pack	34.00	22.92
Top of Filter Pack	34.50	22.42
Base of 6-in. Casing	35.00	21.92
Top of Screen	37.00	19.92
Base of Screen	57.00	-0.08
Top of Bentonite.	60.00	-3.08
Total Depth	124.00	-67.08

Description

Converted to 2-inch well, 7/24/2001.

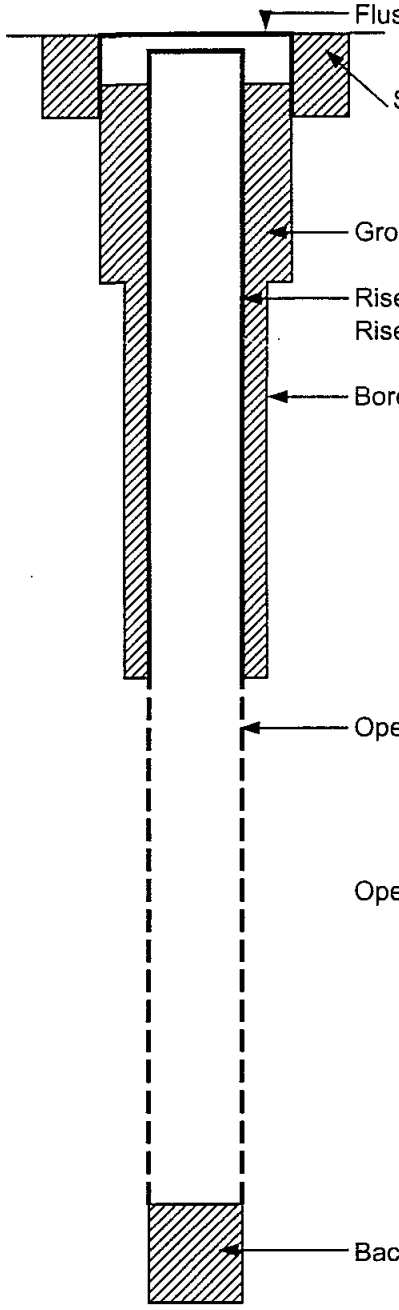


Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Borehole Diameter:	14 (in.)
Grout Type:	Cement-bentonite
Borehole Diameter:	10 (in.)
Casing Type:	Black Steel
Casing ID:	6 (in.)
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 (in.)
Filter/Sand Pack Type:	# 0 'Morie Sand'
Filter/Sand Pack Type:	# 1 'Morie Sand'
Screen Type:	Schedule 40 PVC
Screen ID:	2 (in.)
Screen Slot Size:	10 (0.01-inch)
Screen Length (ft):	20.0
Borehole Diameter:	6 (in.)
Filter/Sand Pack Type:	# 1 'Morie Sand'
Fallback/Backfill:	Bentonite Slurry

Notes: Developed by airlifting, surge, and pumping.
Well converted from original open bedrock well, to 2-inch screened construction, 07/24/2001.

MALCOLM PIRNIE, INC.			BEDROCK WELL BRPZ-4
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:** 3674013	
Client:	Stone & Webster Engineering Corp.	**Date:** 08/21/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	Wash rotary		**Measuring Point**
Development Method:	Surge & electrosubmersible pump.		**Type:** GROUND SURFACE
Construction Dates:	05/14/2001 to 05/17/2001		**Elevation (ft):** 55.30

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	55.30
Riser Pipe	-0.28	55.58
Base of HSA Hole	5.00	50.30
Top of Bedrock	24.00	31.30
Top of Open Hole	40.00	15.30
Base of Open Hole	61.00	-5.70
Total Depth	61.00	-5.70

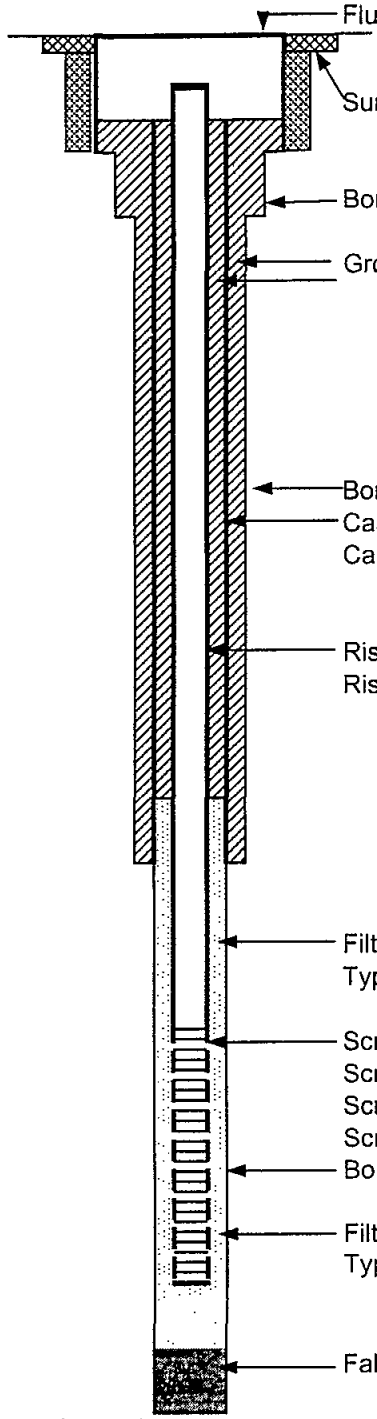


Description	
Flushmount Diameter:	6 (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	6 (in.)
Borehole Diameter:	10 (in.)
Open Hole Diameter:	6 (in.)
Open Hole Length (ft):	21.0
Backfill/Grout:	NA

Notes: Developed by airlifting, surge, and pumping.

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPZ-5
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/21/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	05/15/2001 to 05/18/2001			**Elevation (ft):** 55.25

Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
			Converted to 2-inch well, 08/06/2001 to 08/07/200
Grade	0.00	55.25	Flushmount Diameter: (in.)
Riser Pipe	-0.12	55.37	
Top of Casings	0.25	55.00	Surface Seal Type: Concrete
Base of HSA Hole	5.00	50.25	Borehole Diameter: 14 (in.)
			Grout Type: Cement-bentonite
Top of Bedrock	24.50	30.75	
			Borehole Diameter: 10 (in.)
			Casing Type: Black Steel
			Casing ID: 6 (in.)
			Riser Pipe Type: Schedule 40 PVC
			Riser Pipe ID: 2 (in.)
Top of Filter Pack	40.00	15.25	
Base of 6-in. Casing	40.00	15.25	
			Filter/Sand Pack Type: # 1 'Morie Sand'
Top of Screen	42.00	13.25	
			Screen Type: Schedule 40 PVC
			Screen ID: 2 (in.)
			Screen Slot Size: 10 (0.01-inch)
			Screen Length (ft): 20.0
			Borehole Diameter: 6 (in.)
Base of Screen	62.00	-6.75	Filter/Sand Pack Type: # 1 'Morie Sand'
Top of Grout.	65.00	-9.75	
			Fallback/Backfill: Cement-bentonite
Total Depth	113.00	-57.75	



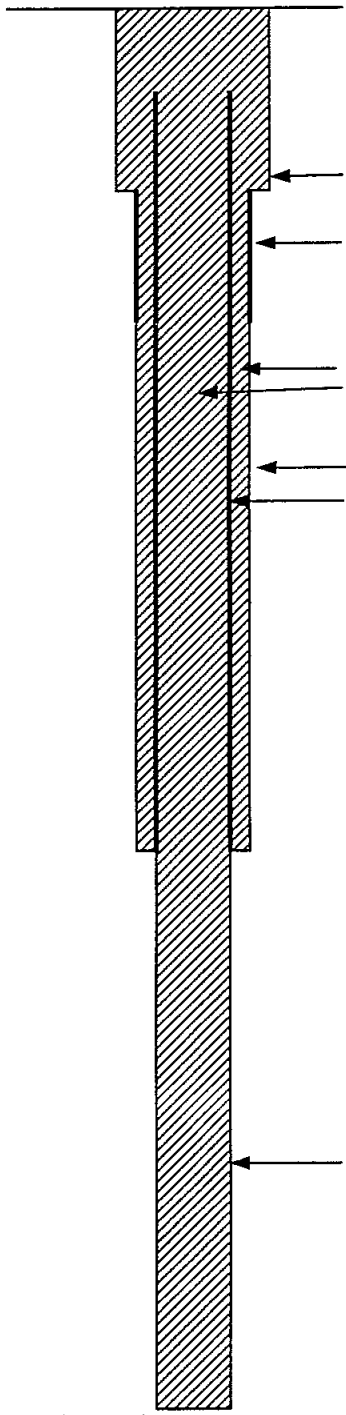
Notes: Developed by airlifting, surge, and pumping.
Well converted from open bedrock well to 2-inch screened construction, 08/06/2001 to 08/07/2001.

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPZ-6
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/21/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	05/23/2001 to 06/01/2001			**Elevation (ft):** 56.83

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	56.83
Top of Casing	-0.01	56.84
Base of HSA Hole	5.00	51.83
Top of Bedrock	21.00	35.83
Base of 6-in. Casing	31.00	25.83
Total Depth	120.00	-63.17

Description

Abandoned, 08/09/2001.



Borehole Diameter: 14 (in.)

Casing Type: Black Steel
Casing ID: 10 (in.)

Grout Type: Cement-bentonite

Borehole Diameter: 10 (in.)
Casing Type: Black Steel
Casing ID: 6 (in.)

Borehole Diameter: 6 (in.)

Notes: Developed by airlifting, surge, and pumping.
Well abandoned, 08/09/2001.

MALCOLM PIRNIE, INC.

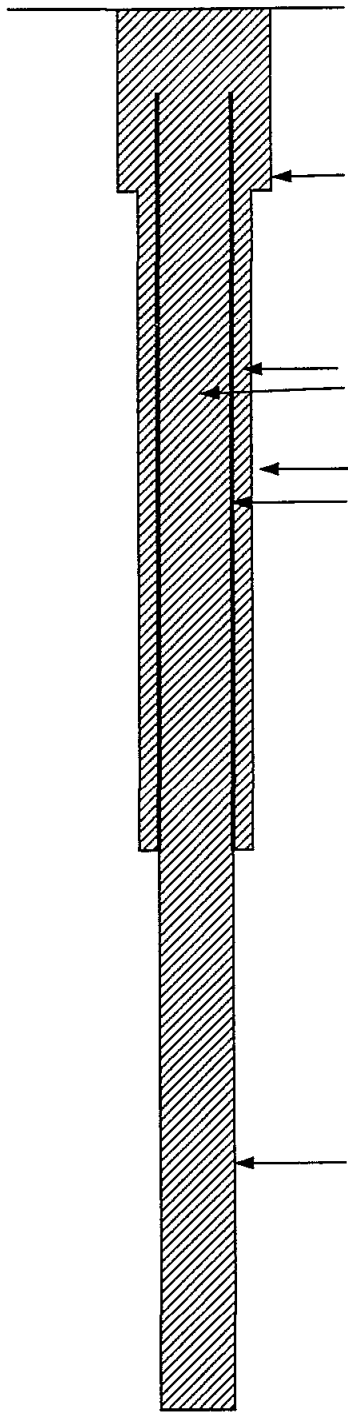
BEDROCK WELL BRPZ-7

Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013		
Client:	*Stone & Webster Engineering Corp.*	**Date:**	08/22/2001	**Subcontractor:**	Aquifer Drilling & Testin
Drilling Method:	Wash rotary			**Measuring Point**	
Development Method:	Surge & electrosubmersible pump.			**Type:**	GROUND SURFACE
Construction Dates:	05/10/2001 to 05/17/2001			**Elevation (ft):**	56.42

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	56.42
Top of Casing	-0.28	56.70
Base of HSA Hole	5.00	51.42
Top of Bedrock	20.00	36.42
Base of 6-in. Casing	40.00	16.42
Total Depth	109.00	-52.58

Description

Abandoned, 08/09/2001.



Borehole Diameter: 14 (in.)

Grout Type: Cement-bentonite

Borehole Diameter: 10 (in.)

Casing Type: Black Steel

Casing ID: 6 (in.)

Borehole Diameter: 6 (in.)

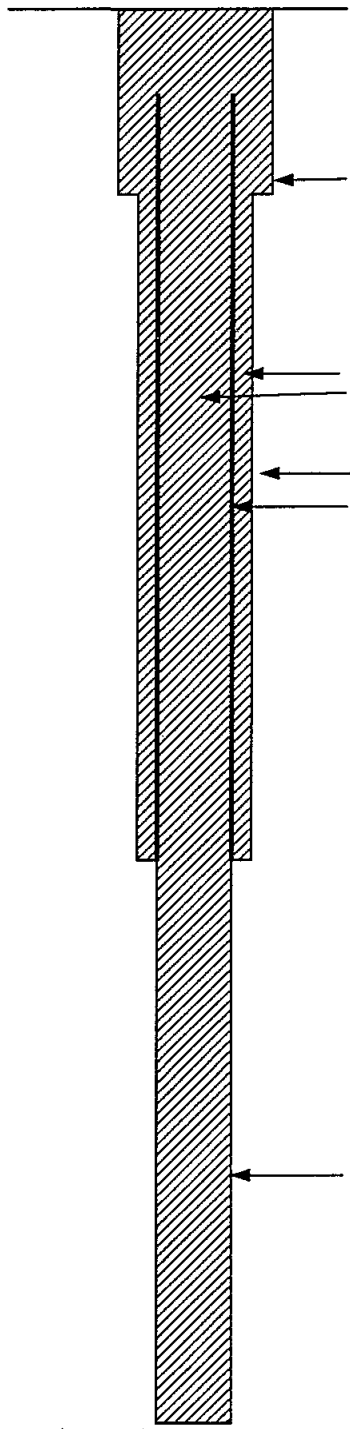
Notes: Developed by airlifting, surge, and pumping.
Well abandoned, 08/09/2001.

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPZ-8
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/22/2001	**Subcontractor:** Aquifer Drilling & Testir
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	05/22/2001 to 06/05/2001			**Elevation (ft):** 54.67

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	54.67
Top of Casing	0.17	54.50
Base of HSA Hole	5.00	49.67
Top of Bedrock	24.00	30.67
Base of 6-in. Casing	40.00	14.67
Total Depth	115.00	-60.33

Description

Abandoned, 08/06/2001.



Borehole Diameter: 14 (in.)

Grout Type: Cement-bentonite

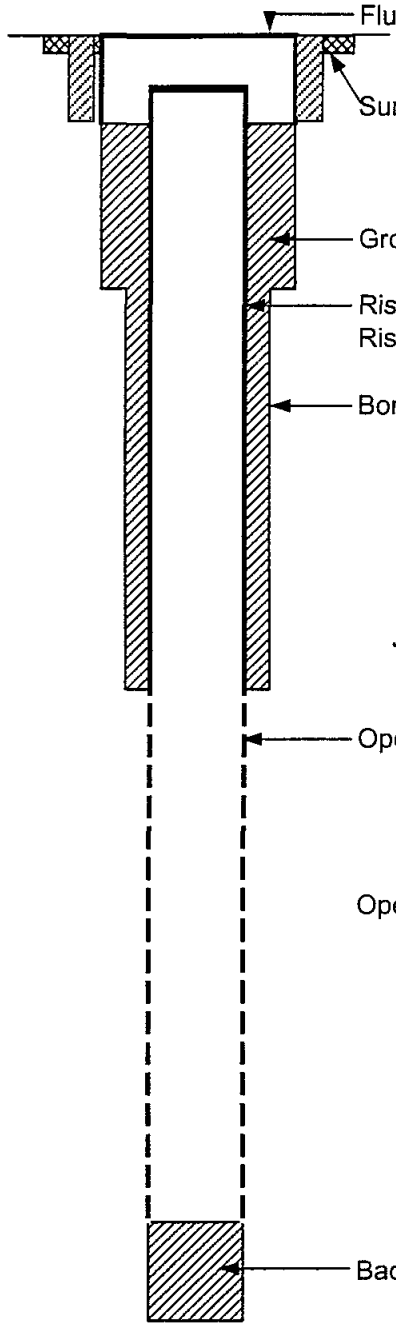
Borehole Diameter: 10 (in.)
Casing Type: Black Steel
Casing ID: 6 (in.)

Borehole Diameter: 6 (in.)

Notes: Developed by airlifting, surge, and pumping.
Well abandoned, 08/06/2001.

MALCOLM PIRNIE, INC.				BEDROCK WELL BRPZ-9
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/21/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash rotary			**Measuring Point Type:** GROUND SURFACE
Development Method:	Surge & electrosubmersible pump.			
Construction Dates:	05/24/2001 to 05/24/2001			**Elevation (ft):** 56.07

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	56.07
Riser Pipe	0.10	55.97
Base of HSA Hole	5.00	
Top of Bedrock	22.00	34.07
Top of Open Hole	32.00	24.07
Base of Open Hole	56.00	0.07
Total Depth	56.00	0.07

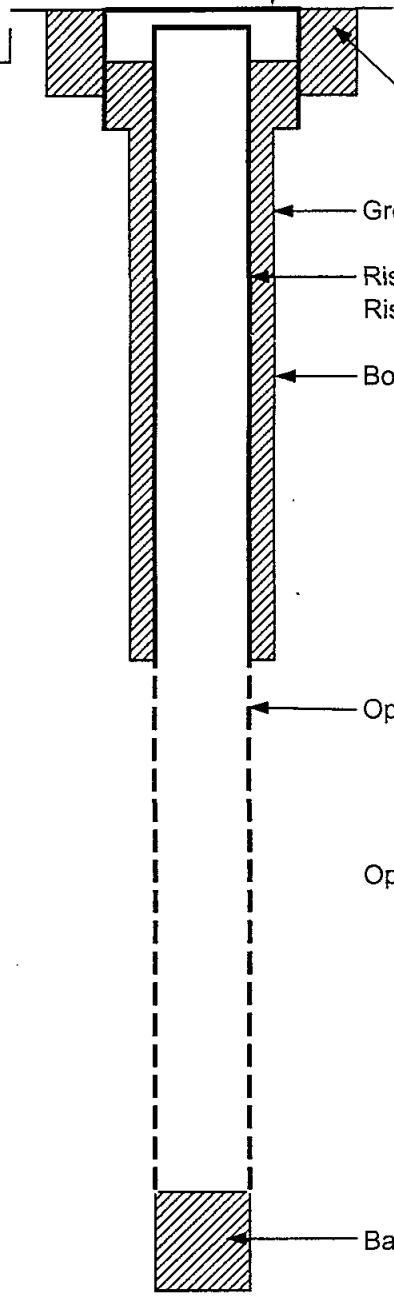


Description	
Flushmount Diameter:	x (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	*Black Steel*
Riser Pipe ID:	6 (in.)
Borehole Diameter:	10 (in.)
Open Hole Diameter:	6 (in.)
Open Hole Length (ft):	24.0
Backfill/Grout:	NA

Notes: Developed by airlifting, surge, and pumping.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-1D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/22/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	01/08/2001 to 01/22/2001			**Elevation (ft):** 52.98

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	52.98
Riser Pipe	0.00	52.98
Top of Bedrock	10.00	42.98
Top of Open Hole	21.00	31.98
Base of Open Hole	46.00	6.98
Total Depth	46.00	6.98

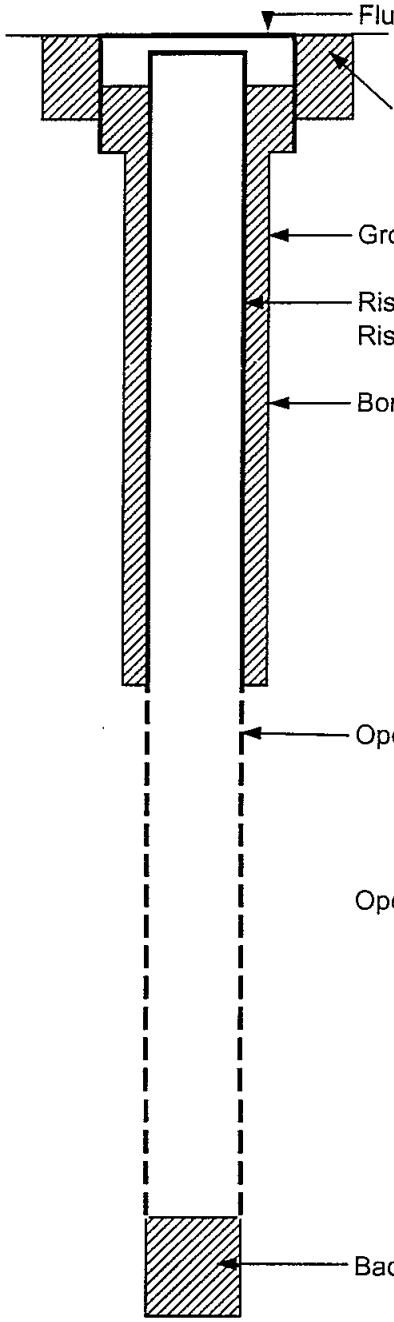


Description	
Flushmount Diameter:	(in:)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by drill rig pump, surge, and 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-2D	
Project:	FUSRAP MAYWOOD SUPERFUND SITE	Job Number:	3674013		
Client:	Stone & Webster Engineering Corp.	Date:	08/22/2001	Subcontractor:	Aquifer Drilling & Testing
Drilling Method:	Wash rotary			Measuring Point Type:	GROUND SURFACE
Development Method:	Surge & electrosubmersible pump.			Elevation (ft):	47.16
Construction Dates:	12/19/2000 to 01/14/2001				

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	47.16
Riser Pipe	0.34	46.91
Top of Bedrock	12.00	35.16
Top of Open Hole	21.50	25.66
Base of Open Hole	48.50	-1.34
Total Depth	48.50	-1.34



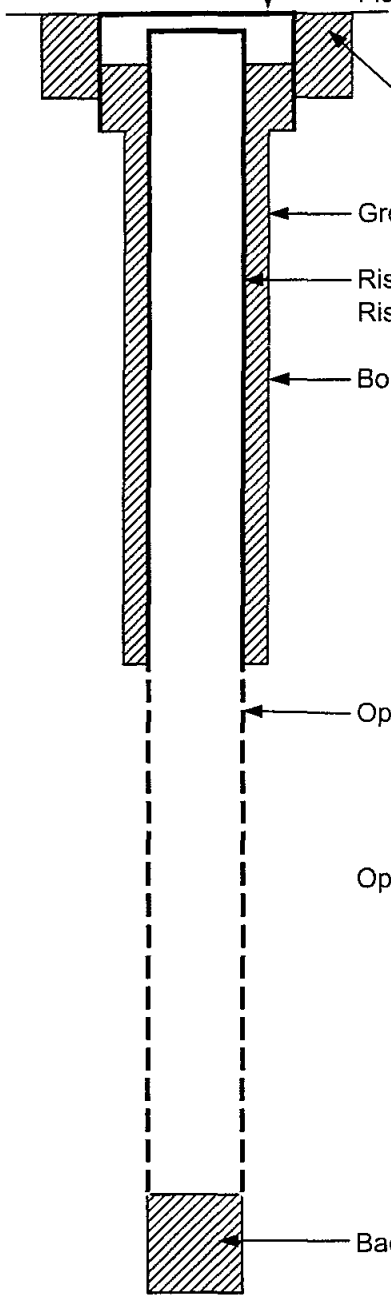
Description

Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	27.0
Backfill/Grout:	NA

Notes: Developed by drill rig pump, surge, and 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-3D	
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013		
Client:	Stone & Webster Engineering Corp.	**Date:**	08/22/2001	**Subcontractor:**	Aquifer Drilling & Testin
Drilling Method:	Wash rotary			**Measuring Point**	
Development Method:	Surge & electrosubmersible pump.			**Type:**	GROUND SURFACE
Construction Dates:	02/21/2001 to 02/22/2001			**Elevation (ft):**	55.06

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	55.06
Riser Pipe	0.29	54.77
Top of Bedrock	17.00	38.06
Top of Open Hole	30.00	25.06
Base of Open Hole	55.00	0.06
Total Depth	55.00	0.06

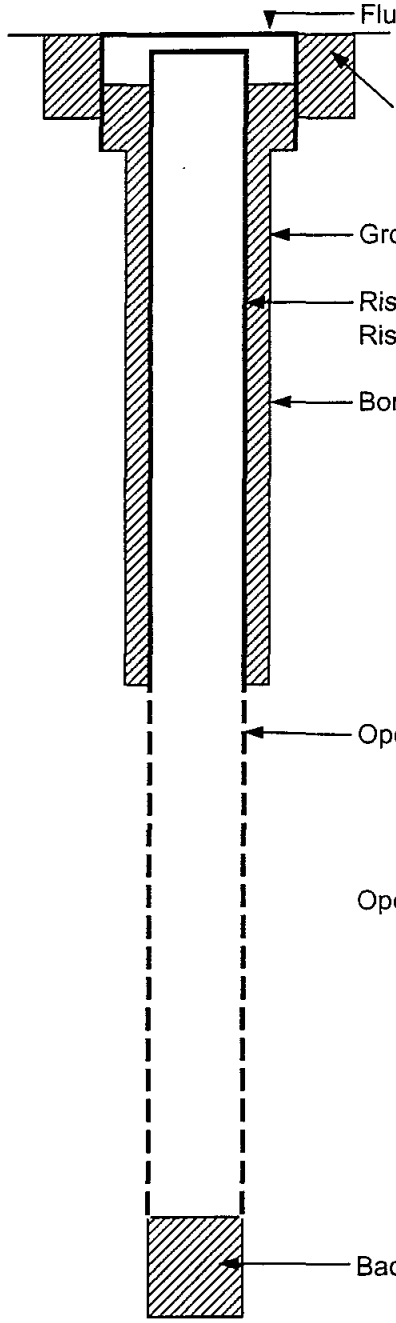


Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by drill rig pump, surge, and 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-4D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/22/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	12/20/2000 to 01/08/2001			**Elevation (ft):** 44.04

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	44.04
Riser Pipe	0.22	43.82
Top of Bedrock	8.00	36.04
Top of Open Hole	18.00	26.04
Base of Open Hole	43.00	1.04
Total Depth	43.00	1.04

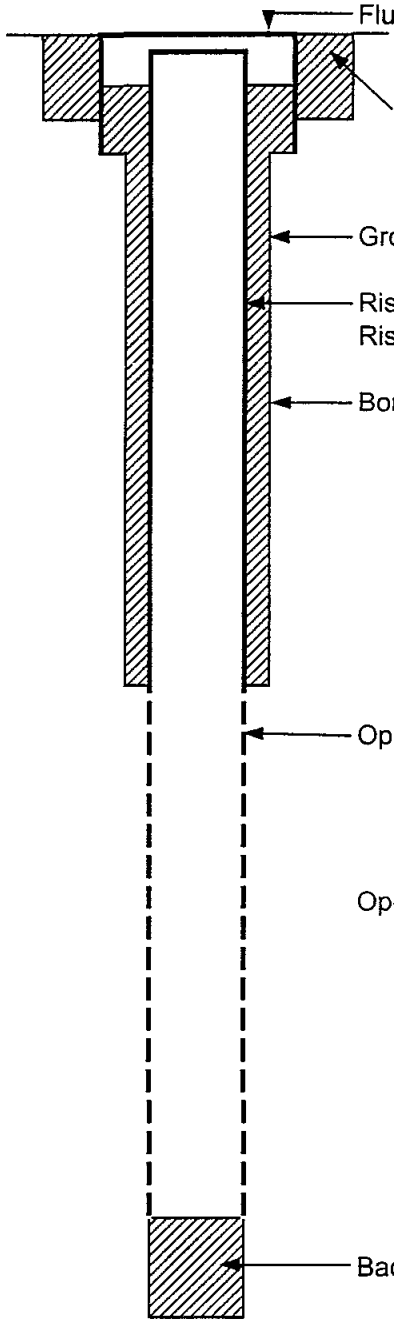


Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by drill rig pump, surge, and 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.			BEDROCK WELL/PIEZOMETER MW-5D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:** 3674013	
Client:	Stone & Webster Engineering Corp.	**Date:** 08/22/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash rotary		**Measuring Point Type:** GROUND SURFACE
Development Method:	Surge & electrosubmersible pump.		**Elevation (ft):** 45.43
Construction Dates:	11/15/2000 to 01/17/2001		

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	45.43
Riser Pipe	0.28	45.15
Top of Bedrock	22.00	23.43
Top of Open Hole	32.00	13.43
Base of Open Hole	52.00	-6.57
Total Depth	52.00	-6.57



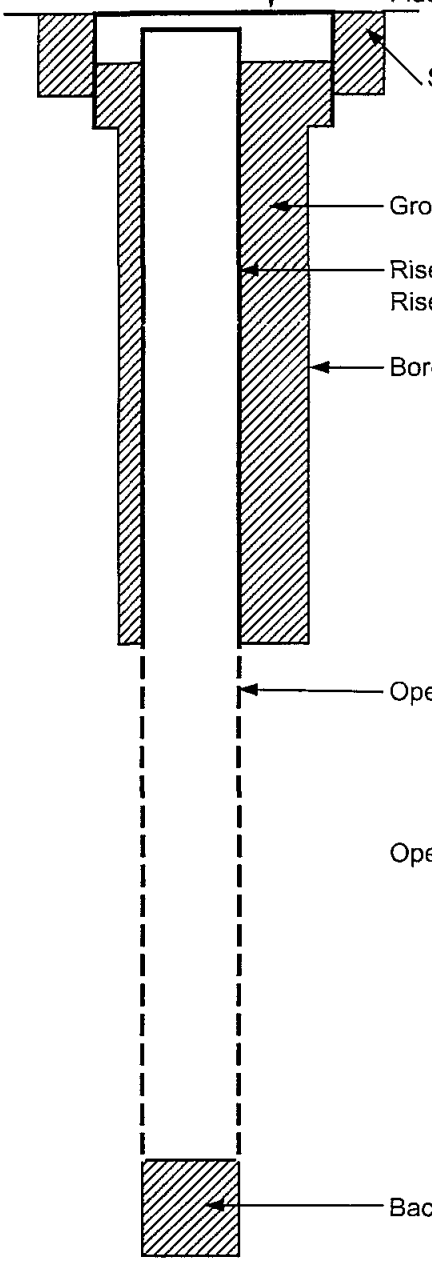
Description

Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	20.0
Backfill/Grout:	NA

Notes: Developed by drill rig pump, surge, and 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.			BEDROCK WELL/PIEZOMETER MW-6D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:** 3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**########	**Subcontractor:** Aquifer Drilling & Testir
Drilling Method:	Wash rotary		**Measuring Point**
Development Method:	Surge & electrosubmersible pump.		**Type:** GROUND SURFACE
Construction Dates:	01/04/2000 to 01/05/2000		**Elevation (ft):** 42.84

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	42.84
Riser Pipe	0.50	42.34
Top of Bedrock	18.00	24.84
Top of Open Hole	29.00	13.84
Base of Open Hole	54.00	-11.16
Total Depth	54.00	-11.16



Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.			
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013
Client:	Stone & Webster Engineering Corp.	**Date:**	01/09/2001
Drilling Method:	Wash rotary		
Development Method:	Surge & electrosubmersible pump.		
Construction Dates:	12/18/2000 to 01/09/2001		

BEDROCK WELL/PIEZOMETER MW-7D

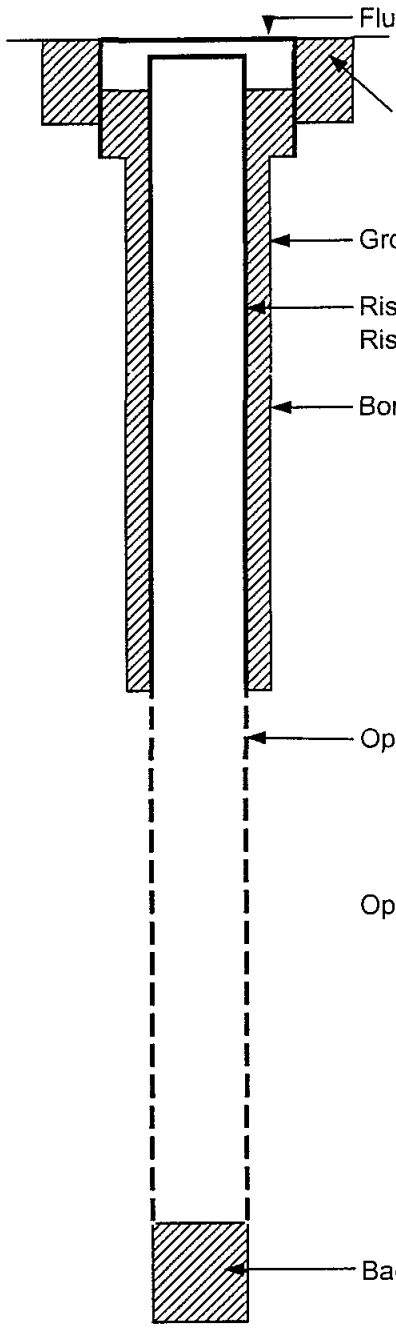
Subcontractor: Aquifer Drilling & Testir

Measuring Point

Type: GROUND SURFACE

Elevation (ft): 53.99

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	53.99
Riser Pipe	0.26	53.73
Top of Bedrock	11.00	42.99
Top of Open Hole	21.00	32.99
Base of Open Hole	46.00	7.99
Total Depth	46.00	7.99

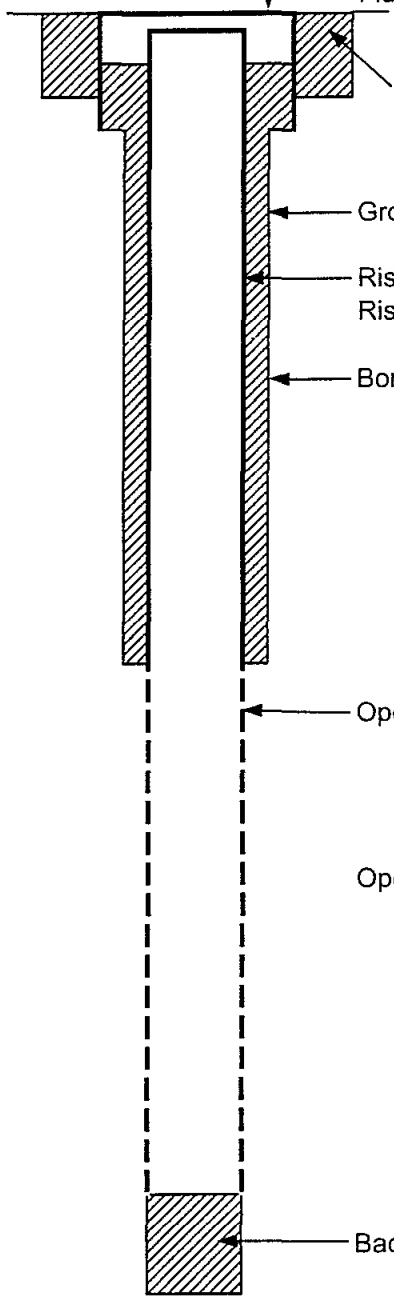


Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.			BEDROCK WELL/PIEZOMETER MW-8D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:** 3674013	
Client:	Stone & Webster Engineering Corp.	**Date:** 12/21/2000	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash rotary		**Measuring Point**
Development Method:	Surge & electrosubmersible pump.		**Type:** GROUND SURFACE
Construction Dates:	12/15/2000 to 12/21/2000		**Elevation (ft):** 54.34

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	54.34
Riser Pipe	0.19	54.15
Top of Bedrock	17.00	37.34
Top of Open Hole	27.00	27.34
Base of Open Hole	52.00	2.34
Total Depth	52.00	2.34

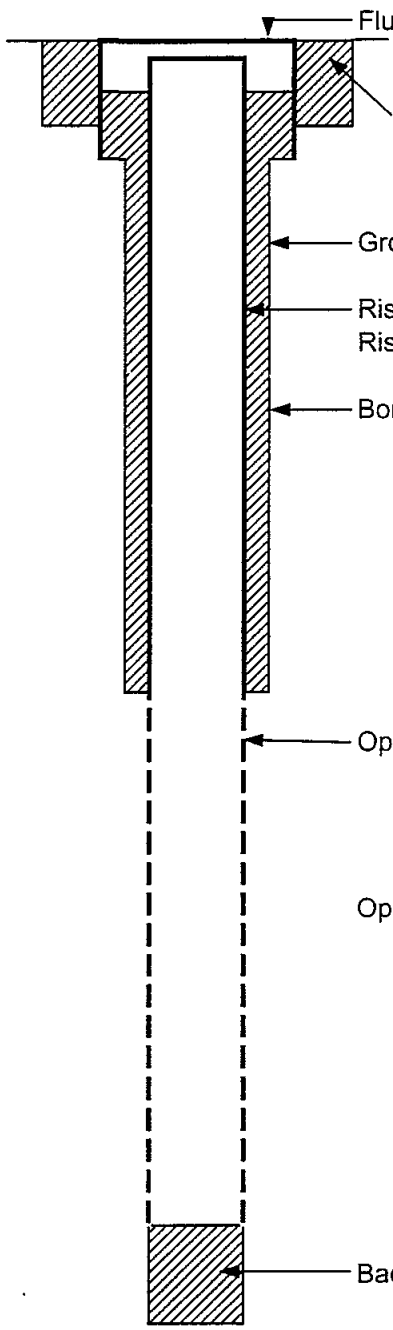


Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by drill rig pump, surge, and 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-9D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/22/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	12/04/2000 to 12/18/2000			**Elevation (ft):** 69.79

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	69.79
Riser Pipe	0.14	69.65
Top of Bedrock	12.00	57.79
Top of Open Hole	22.00	47.79
Base of Open Hole	47.00	22.79
Total Depth	47.00	22.79

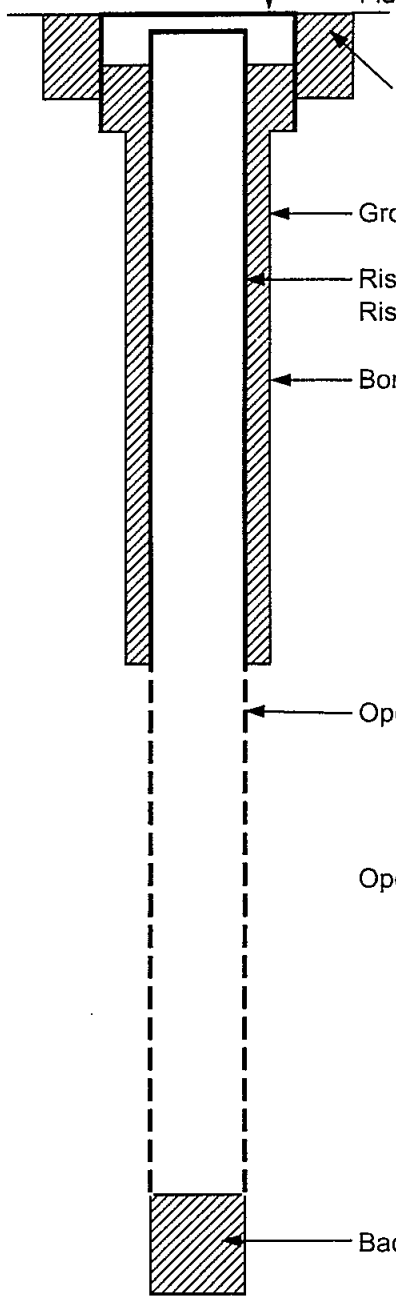


Description	
Flushmount Diameter:	6 (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-10D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	01/05/2001	**Subcontractor:** Aquifer Drilling & Testin.
Drilling Method:	Wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	12/22/2000 to 01/05/2001			**Elevation (ft):** 62.90

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	62.90
Riser Pipe	0.34	62.56
Top of Bedrock	10.50	52.40
Top of Open Hole	21.00	41.90
Base of Open Hole	46.00	16.90
Total Depth	46.00	16.90



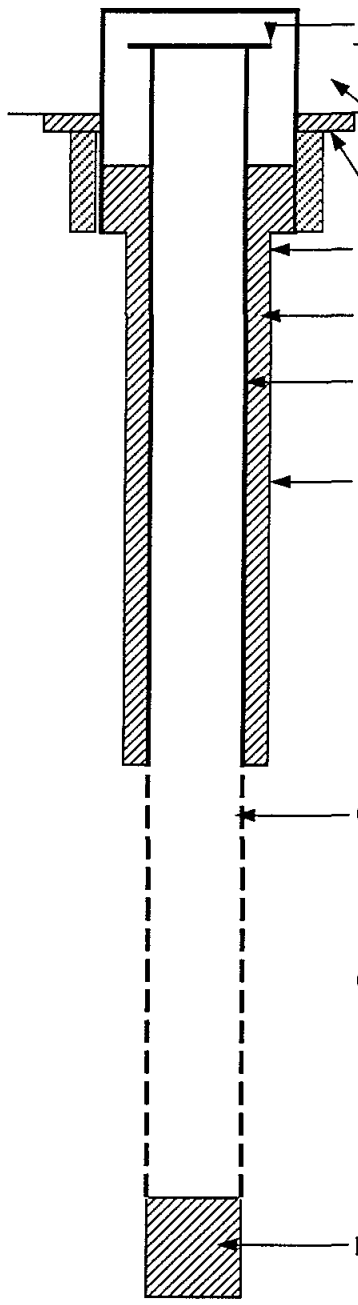
Description

Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-12D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	09/04/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash Rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	02/13/2001 to 02/19/2001			**Elevation (ft):** 44.85

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	-1.97	46.82
Riser Pipe	-1.47	46.32
Grade	0.00	44.85
Top of Bedrock	18.00	26.85
Top of Hard Bedrock	18.00	26.85
Top of Open Hole	28.00	16.85
Base of Open Hole	53.00	-8.15
Total Depth	53.00	-8.15



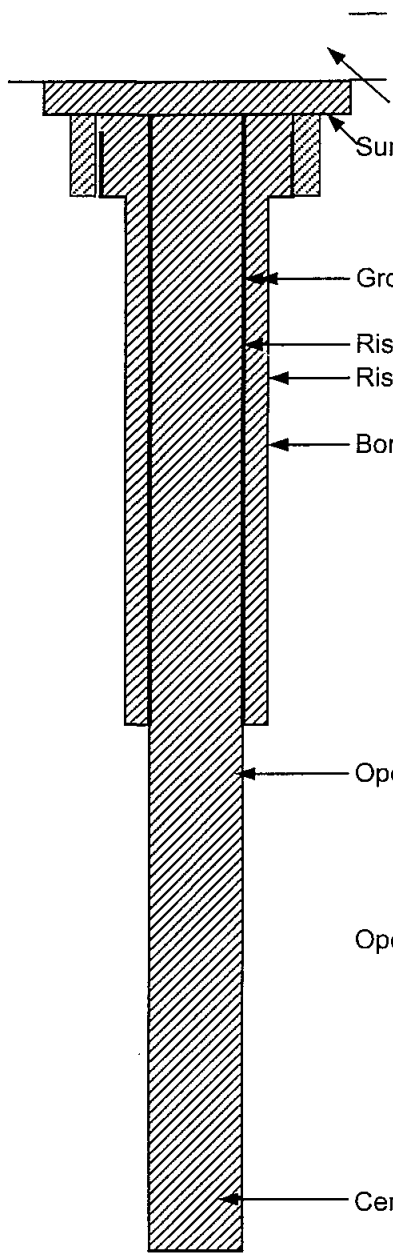
Description

Stickup Type:	Steel
Stickup Diameter:	4 (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: MW-12 D has an estimated 2 foot stickup. Current total depth is from ground surface. Developed by two inch electrosubmersible pump

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-12D (abandoned)
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	09/04/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Wash Rotary			**Measuring Point**
Development Method:				**Type:** GROUND SURFACE
Construction Dates:	11/30/2000 to 02/15/2001			**Elevation (ft):** NA

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	
Top of Bedrock	19.00	
Top of Hard Bedrock	19.00	
Top of Open Hole	29.00	
Total Depth	54.00	

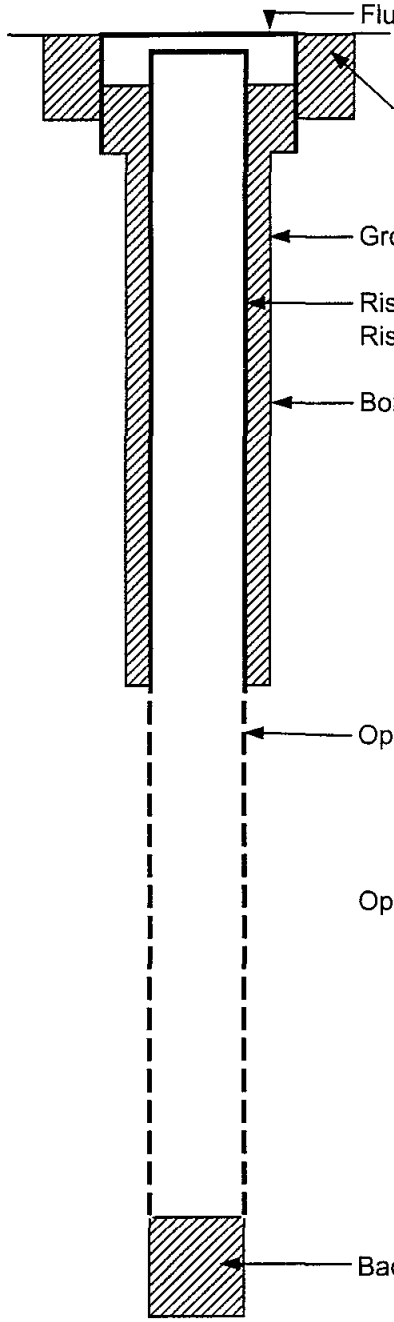


Description	
Surface Seal Type:	Concrete (to 5 ft.)
Grout Type:	Cement-bentonite
Riser Pipe Type:	
Riser Pipe ID:	4 (in.)
Borehole Diameter:	4 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	-29.0
Cement/Bentonite/Grout	10%

Notes: Well was not surveyed since it was abandoned before survey was performed.

MALCOLM PIRNIE, INC.			BEDROCK WELL/PIEZOMETER MW-13D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:** 3674013	
Client:	Stone & Webster Engineering Corp.	**Date:** 08/22/2001	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	wash rotary		**Measuring Point**
Development Method:	Surge & electrosubmersible pump.		**Type:** GROUND SURFACE
Construction Dates:	12/06/2000 to 01/22/2001		**Elevation (ft):** 46.30

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	46.30
Riser Pipe	0.18	46.12
Top of Bedrock	13.00	33.30
Top of Open Hole	25.00	21.30
Base of Open Hole	50.00	-3.70
Total Depth	50.00	-3.70

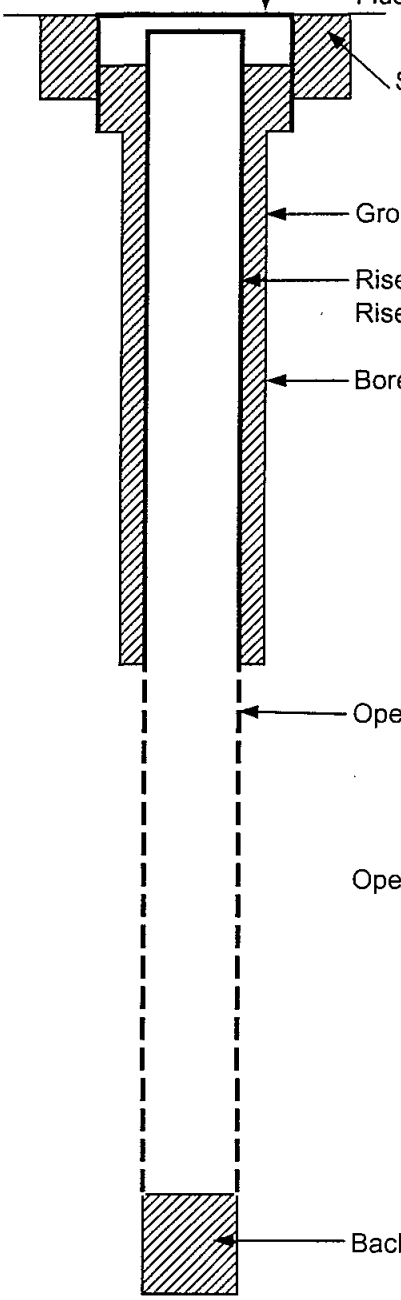


Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by rig pump and two inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-14D	
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013		
Client:	Stone & Webster Engineering Corp.	**Date:**	01/12/2001	**Subcontractor:**	Aquifer Drilling & Testing
Drilling Method:	wash rotary			**Measuring Point**	
Development Method:	Surge & electrosubmersible pump.			**Type:**	**GROUND SURFACE**
Construction Dates:	11/29/2000 to 01/12/2001			**Elevation (ft):**	39.60

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	39.60
Riser Pipe	0.02	39.58
Top of Bedrock	16.00	23.60
Top of Open Hole	27.00	12.60
Base of Open Hole	52.00	-12.40
Total Depth	52.00	-12.40

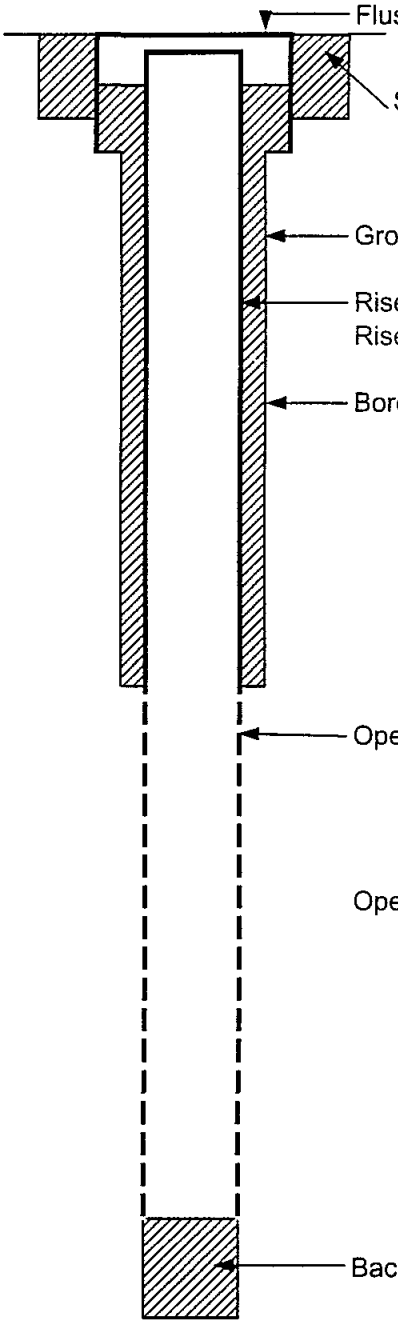


Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-15D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	12/15/2000	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	12/01/2000 to 12/15/2000			**Elevation (ft):** 34.56

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	34.56
Riser Pipe	0.12	34.44
Top of Bedrock	26.00	8.56
Top of Open Hole	36.00	-1.44
Base of Open Hole	61.00	-26.44
Total Depth	61.00	-26.44



Description

Flushmount Diameter: (in.)

Surface Seal Type: Concrete

Grout Type: Cement-bentonite

Riser Pipe Type: Black Steel

Riser Pipe ID: 4 (in.)

Borehole Diameter: 8 (in.)

Open Hole Diameter: 4 (in.)

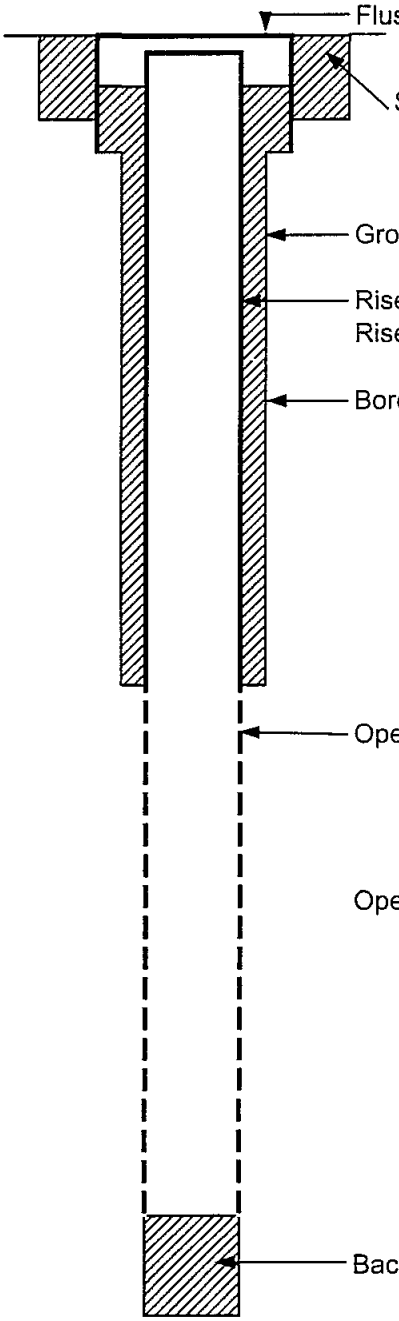
Open Hole Length (ft): 25.0

Backfill/Grout: NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-16D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	11/15/2000	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	drive & wash / wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	11/10/2000 to 11/15/2000			**Elevation (ft):** 29.36

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	29.36
Riser Pipe	0.12	29.24
Top of Bedrock	36.00	-6.64
Top of Open Hole	48.00	-18.64
Base of Open Hole	73.00	-43.64
Total Depth	73.00	-43.64



Description

Flushmount Diameter: (in.)

Surface Seal Type: Concrete

Grout Type: Cement-bentonite

Riser Pipe Type: Black Steel

Riser Pipe ID: 4 (in.)

Borehole Diameter: 8 (in.)

Open Hole Diameter: 4 (in.)

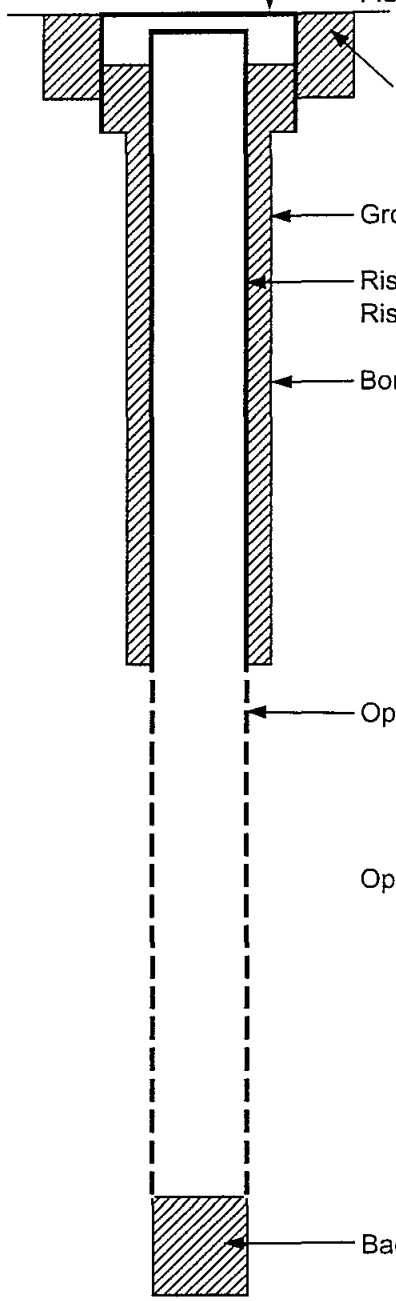
Open Hole Length (ft): 25.0

Backfill/Grout: NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-17D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	12/20/2000	**Subcontractor:** Aquifer Drilling & Testing
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	11/21/2000 to 12/20/2000			**Elevation (ft):** 28.16

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	28.16
Riser Pipe	0.11	28.05
Top of Bedrock	11.00	17.16
Top of Open Hole	21.00	7.16
Base of Open Hole	46.00	-17.84
Total Depth	46.00	-17.84



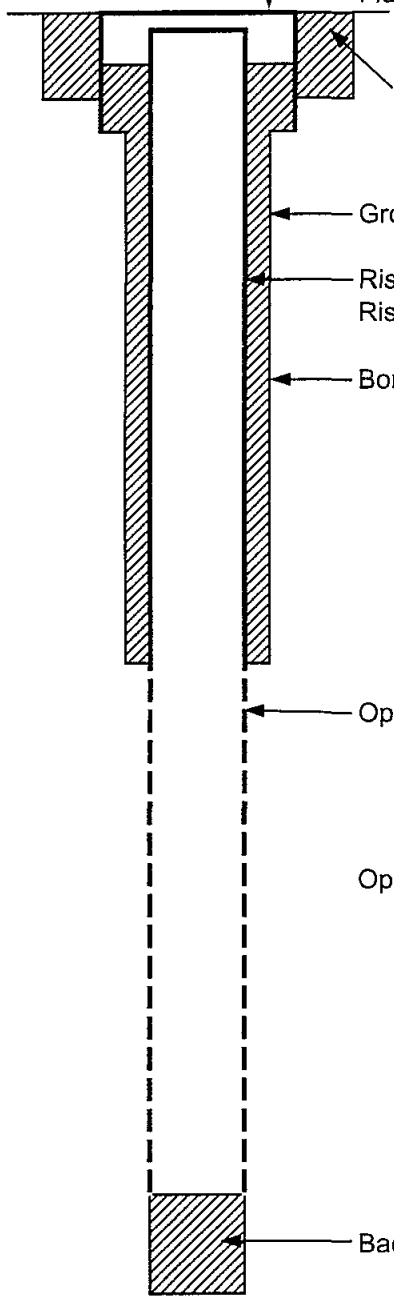
Description

Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-18D	
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013		
Client:	Stone & Webster Engineering Corp.	**Date:**	11/27/2000	**Subcontractor:**	Aquifer Drilling & Testing
Drilling Method:	wash rotary			***Measuring Point***	
Development Method:	Surge & electrosubmersible pump.			**Type:**	**GROUND SURFACE**
Construction Dates:	11/27/2000 to 12/01/2000			**Elevation (ft):**	35.05

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	35.05
Riser Pipe	0.32	34.73
Top of Bedrock	22.00	13.05
Top of Open Hole	35.00	0.05
Base of Open Hole	57.00	-21.95
Total Depth	57.00	-21.95



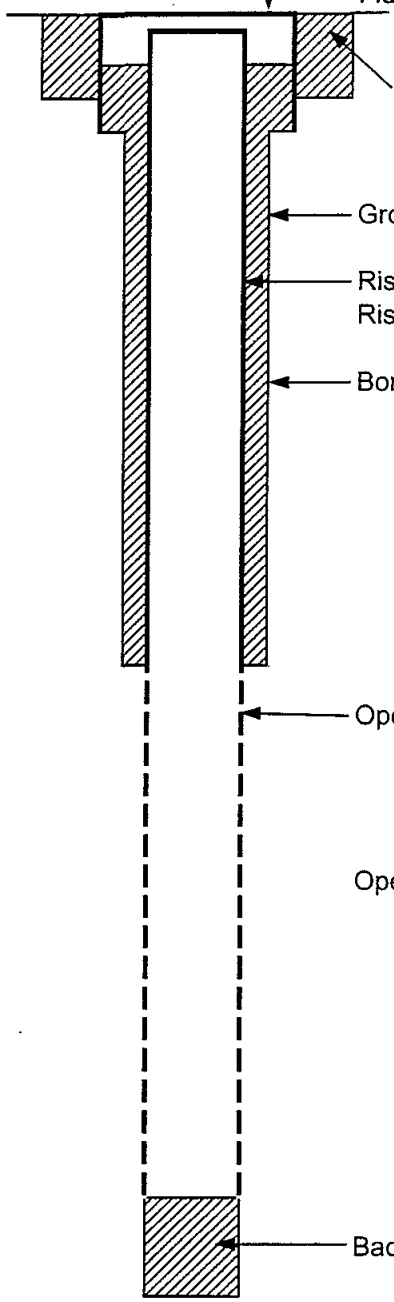
Description

Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	22.0
Backfill/Grout:	NA

Notes: Developed by drill rig pump, surge, and 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-19D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	12/06/2000	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	wash rotary			**Measuring Point Type:** GROUND SURFACE
Development Method:	Surge & electrosubmersible pump.			
Construction Dates:	12/05/2000 to 12/06/2000			**Elevation (ft):** 56.17

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	56.17
Riser Pipe	0.21	55.96
Top of Bedrock	6.00	50.17
Top of Open Hole	17.00	39.17
Base of Open Hole	42.00	14.17
Total Depth	42.00	14.17



Description

Flushmount Diameter: (in.)

Surface Seal Type: Concrete

Grout Type: Cement-bentonite

Riser Pipe Type: Black Steel

Riser Pipe ID: 4 (in.)

Borehole Diameter: 8 (in.)

Open Hole Diameter: 4 (in.)

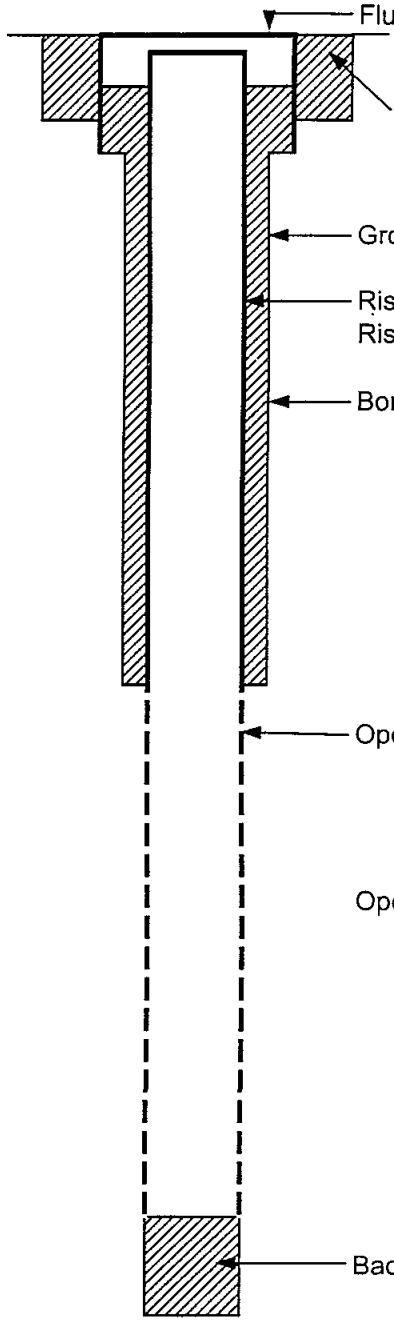
Open Hole Length (ft): 25.0

Backfill/Grout: NA

Notes: Developed by electrosubmersible pump

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-19DD
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	12/12/2000	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	12/07/2000 to 12/12/2000			**Elevation (ft):** 56.14

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	56.14
Riser Pipe	0.33	55.81
Top of Bedrock	6.00	50.14
Top of Open Hole	51.50	4.64
Base of Open Hole	76.00	-19.86
Total Depth	76.00	-19.86



Description

Flushmount Diameter: (in.)

Surface Seal Type: Concrete

Grout Type: Cement-bentonite

Riser Pipe Type: Black Steel

Riser Pipe ID: 4 (in.)

Borehole Diameter: 8 (in.)

Open Hole Diameter: 4 (in.)

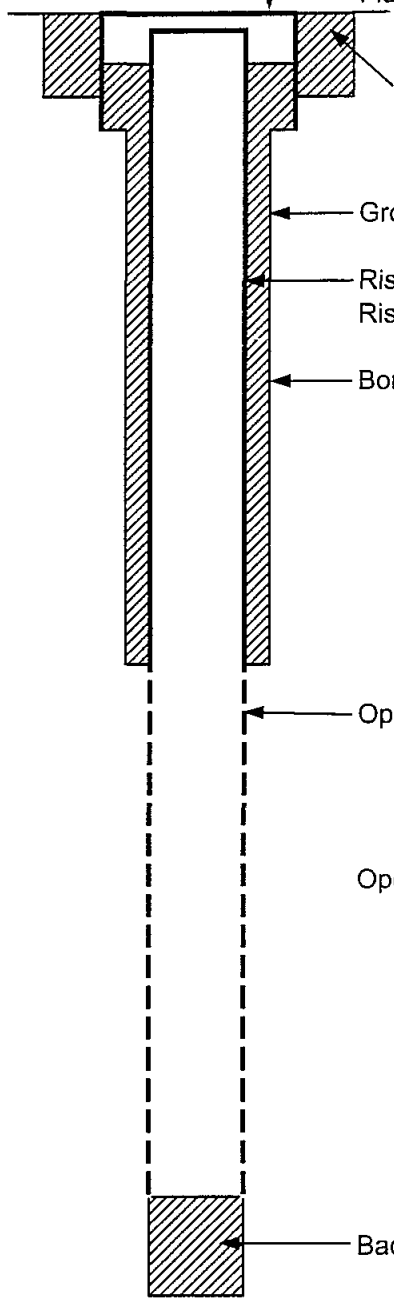
Open Hole Length (ft): 24.5

Backfill/Grout: NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-20D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/21/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	02/20/2001 to 02/23/2001			**Elevation (ft):** 58.46

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade	0.00	58.46
Riser Pipe	-0.42	58.88
Top of Bedrock	20.00	38.46
Top of Open Hole	30.00	28.46
Base of Open Hole	55.00	3.46
Total Depth	55.00	3.46

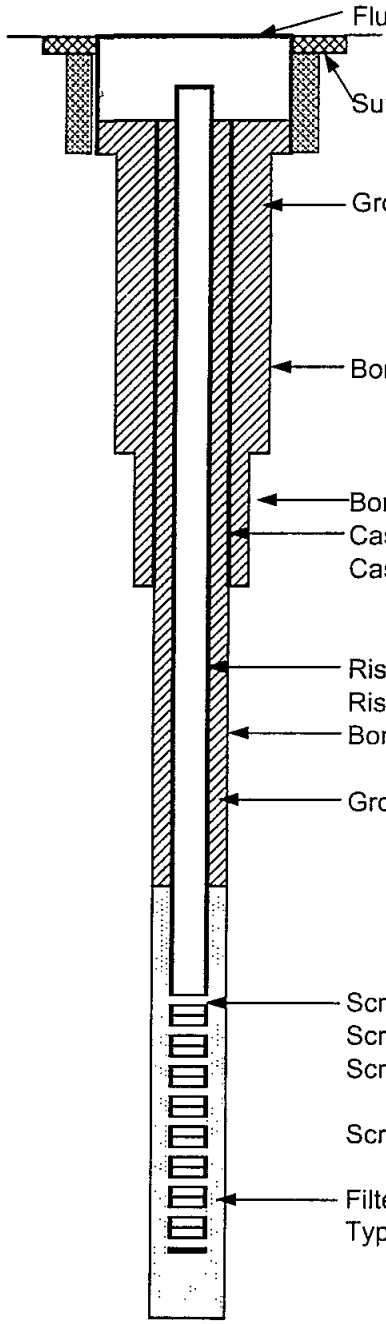


Description	
Flushmount Diameter:	(in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	8 (in.)
Open Hole Diameter:	4 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by 2-inch electrosubmersible pump.

MALCOLM PIRNIE, INC.				BEDROCK WELL MW-23D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/20/2001	**Subcontractor:** Aquifer Drilling & Testir
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	6/14/01 to 6/21/01			**Elevation (ft):** 56.11

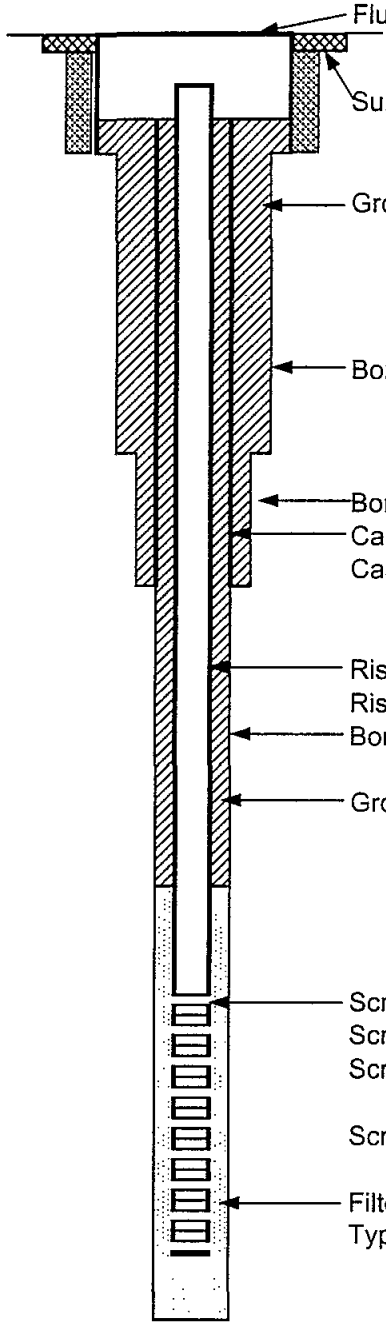
Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
Grade	0.00	56.11	Flushmount Diameter: 6 in
Riser Pipe	-0.08	56.19	
Top of Casings	0.25	55.86	Surface Seal Type: Concrete
			Grout Type: Cement-bentonite
			Borehole Diameter: 14 (in.) ('Hollow Stem Auger)
Base of HSA Hole	5.00	51.11	
Bedrock	22.00	34.11	
			Borehole Diameter: 11 (in.)
		56.11	Casing Type: Black Steel
Base of 6-in. Casing	35.00	21.11	Casing ID: 6 (in.)
			Riser Pipe Type: Schedule 40 PVC
			Riser Pipe ID: 2 (in.)
		56.11	Borehole Diameter: 6 (in.)
			Grout Type: Cement-bentonite
Top of Filter Pack	48.00	8.11	
Top of Screen	51.00	5.11	
			Screen Type: Schedule 40 PVC
			Screen ID: 2 (in.)
			Screen Slot Size: 10 (0.01-inch)
			Screen Length (ft): 20.0
Base of Screen	71.00	-14.89	Filter/Sand Pack Type: # 1 'Morie Sand'
Total Depth	71.00	-14.89	



Notes: Developed by airlifting, surge, and pumping.

MALCOLM PIRNIE, INC.				BEDROCK WELL MW-23DD
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/20/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	6/14/01 to 6/21/01			**Elevation (ft):** 56.85

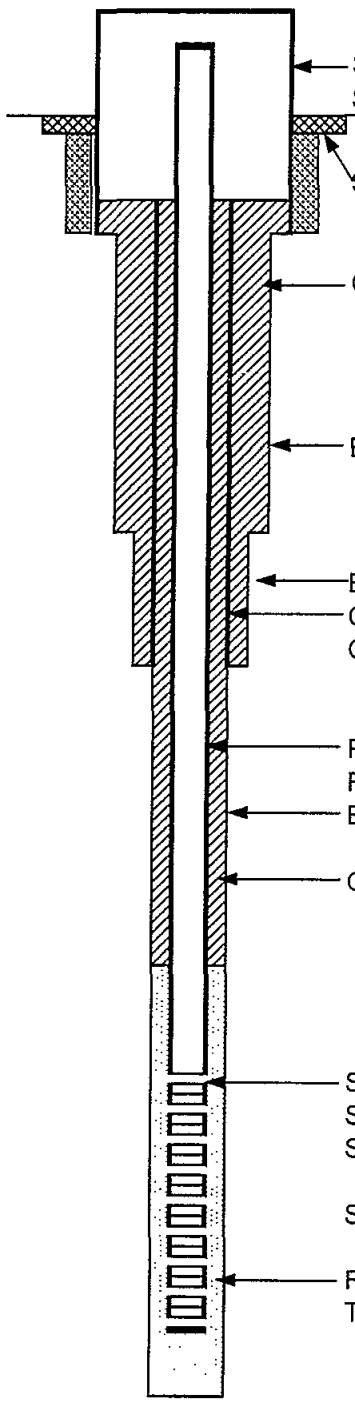
Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
Grade	0.00	56.85	Flushmount Diameter: 6 in
Riser Pipe	-0.13	56.98	
Top of Casings	0.25	56.60	Surface Seal Type: Concrete
			Grout Type: Cement-bentonite
			Borehole Diameter: 14 (in.) ('Hollow Stem Auger)
Base of HSA Hole		56.85	
Bedrock	22.00	34.85	
			Borehole Diameter: 11 (in.)
		56.85	Casing Type: Black Steel
Base of 6-in. Casing	35.00	21.85	Casing ID: 6 (in.)
			Riser Pipe Type: Schedule 40 PVC
			Riser Pipe ID: 2 (in.)
		56.85	Borehole Diameter: 6 (in.)
			Grout Type: Cement-bentonite
Top of Filter Pack	79.00	-22.15	
Top of Screen	82.00	-25.15	
			Screen Type: Schedule 40 PVC
			Screen ID: 2 (in.)
			Screen Slot Size: 10 (0.01-inch)
			Screen Length (ft): 20.0
			Filter/Sand Pack Type: # 1 'Morie Sand'
Base of Screen	102.00	-45.15	
Total Depth	105.00	-48.15	



Notes: Developed by airlifting, surge, and pumping.

MALCOLM PIRNIE, INC.				BEDROCK WELL MW-24D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/20/2001	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	07/13/2001 to 08/21/2001			**Elevation (ft):** 55.03

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	-2.95	57.98
Riser Pipe	-2.25	57.28
Grade	0.00	55.03
Top of Casings	0.25	54.71
Base of HSA Hole	13.00	42.03
Bedrock	24.50	30.53
Hard ROCK	31.00	24.03
Base of 6-in. Casing	35.00	20.03
		55.03
Top of Filter Pack	44.00	11.03
Top of Screen	47.70	7.33
Base of Screen	67.70	-12.67
Total Depth	69.70	-14.67

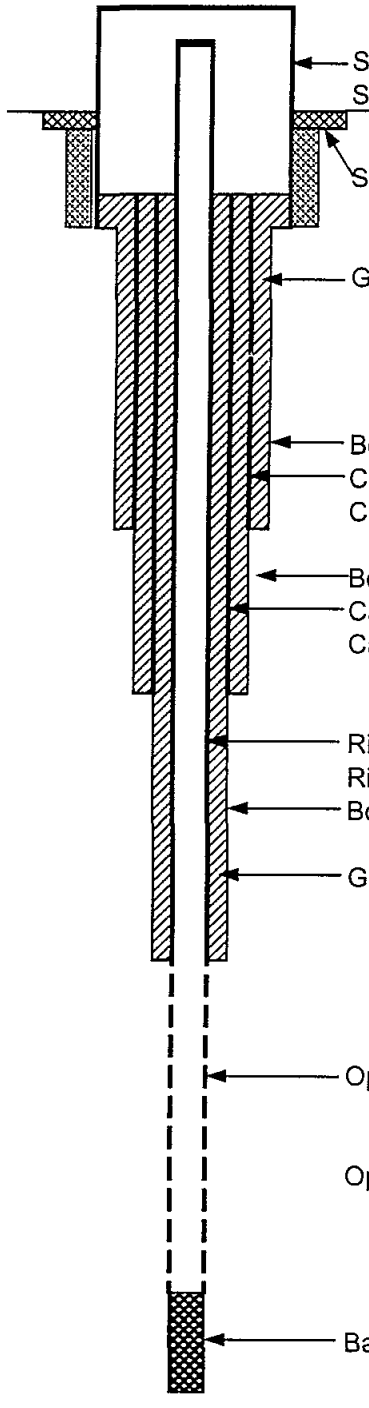


Description	
Stickup Type:	Steel
Stickup Diameter:	8.5 (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Borehole Diameter:	14 (in.) ('Hollow Stem Auger)
Borehole Diameter:	11 (in.)
Casing Type:	Black Steel
Casing ID:	6 (in.)
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 (in.)
Borehole Diameter:	6 (in.)
Grout Type:	Cement-bentonite
Screen Type:	Schedule 40 PVC
Screen ID:	2 (in.)
Screen Slot Size:	10 (0.01-inch)
Screen Length (ft):	20.0
Filter/Sand Pack Type:	# 1 'Morie Sand'

Notes: Developed by airlifting, surge, and pumping.

MALCOLM PIRNIE, INC.				BEDROCK WELL MW-24DD
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	08/20/2001	**Subcontractor:** Aquifer Drilling & Testir
Drilling Method:	wash rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	07/16/2001 to 08/13/2001			**Elevation (ft):** 55.07

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup		
Riser Pipe	-2.01	57.08
Grade	0.0	55.07
Top of Casings	0.3	54.82
Base of 10-in. Casing	13.0	42.1
Bedrock	24.5	30.6
Hard ROCK	31.0	24.1
Base of 6-in. Casing	35.0	20.1
		55.1
Top of Open Hole	80.0	-24.9
Base of Open Hole	105.0	-49.9
Total Depth	105.0	-49.9

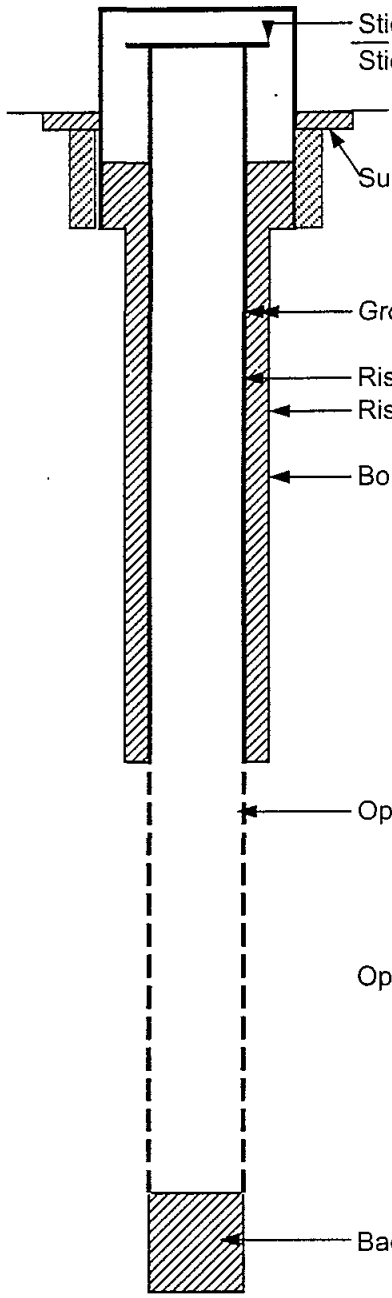


Description	
Stickup Type:	Steel
Stickup Diameter:	8.5 (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Borehole Diameter:	14 (in.)
Casing Type:	Black Steel
Casing ID:	10 (in.)
Borehole Diameter:	10 (in.)
Casing Type:	Black Steel
Casing ID:	6 (in.)
Riser Pipe Type:	Black Steel
Riser Pipe ID:	4 (in.)
Borehole Diameter:	6 (in.)
Grout Type:	Cement-bentonite
Open Hole Diameter:	3.9 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: Developed by airlifting, surge, and pumping.

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-25D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	3674013	
Client:	Stone & Webster Engineering Corp.	**Date:**	01/17/02	**Subcontractor:** Aquifer Drilling & Testin
Drilling Method:	Air Rotary			**Measuring Point**
Development Method:	Surge & electrosubmersible pump.			**Type:** GROUND SURFACE
Construction Dates:	12/11/01 to 12/14/01			**Elevation (ft):** 56.11

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	-2.72	58.83
Riser Pipe	-2.02	58.13
Grade	0.00	56.11
Top of Bedrock	18.00	38.11
Top of Hard Bedrock	18.00	38.11
Top of Open Hole	33.00	23.11
Base of Open Hole	59.00	-2.89
Total Depth	59.00	-2.89



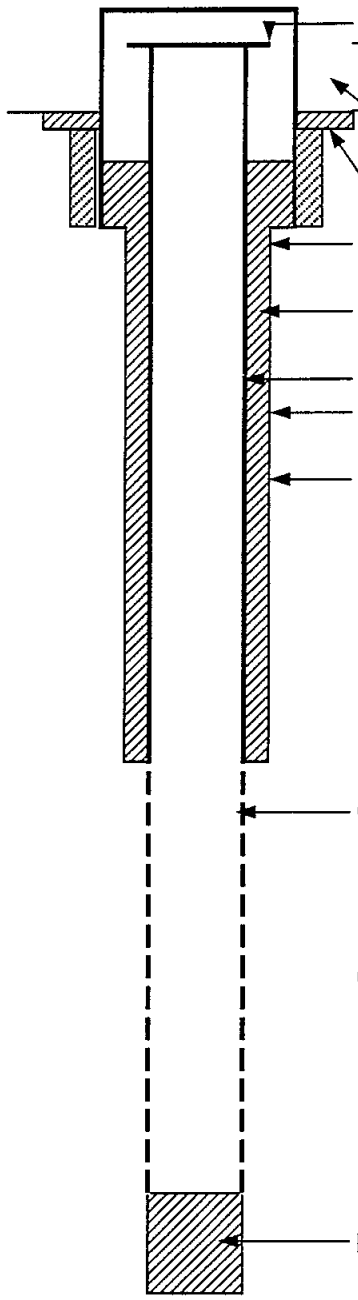
Description

Stickup Type:	Steel
Stickup Diameter:	6 (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	
Riser Pipe ID:	6 (in.)
Borehole Diameter:	10 (in.)
Open Hole Diameter:	6 (in.)
Open Hole Length (ft):	26.0
Backfill/Grout:	NA

Notes: MW-25 D has an estimated 2 foot stickup. Current total depth is from ground surface. Developed by four inch electrosubmersible pump

MALCOLM PIRNIE, INC.				BEDROCK WELL/PIEZOMETER MW-26D
Project:	FUSRAP MAYWOOD SUPERFUND SITE	Job Number:	3674013	
Client:	Stone & Webster Engineering Corp.	Date:	01/17/02	Subcontractor: B & B Drilling
Drilling Method:	Air Rotary			Measuring Point
Development Method:	Surge & electrosubmersible pump.			Type: GROUND SURFACE
Construction Dates:	12/12/2001 to 12/14/01			Elevation (ft): 56.83

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	-3.63	60.46
Riser Pipe	-3.29	60.12
Grade	0.00	56.83
Top of Bedrock	19.00	37.83
Top of Hard Bedrock	19.00	37.83
Top of Open Hole	34.00	22.83
Base of Open Hole	59.00	-2.17
Total Depth	59.00	-2.17



Description	
Stickup Type:	Steel
Stickup Diameter:	6 (in.)
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Riser Pipe Type:	
Riser Pipe ID:	6 (in.)
Borehole Diameter:	10 (in.)
Open Hole Diameter:	6 (in.)
Open Hole Length (ft):	25.0
Backfill/Grout:	NA

Notes: MW-26 D has an estimated 2 foot stickup. Current total depth is from ground surface. Developed by four inch electrosubmersible pump

MONITORING WELL PERMITS AND RECORDS

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. _____

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: _____

Owner Connie Tucker - Omni Assets

Address 21 Journal Square 12th Floor

Jersey City N.J. 07306

Driller _____

Address _____

Name of Facility Maywood Chemical Co. Superfund Site

Address c/o Stone & Webster 100 W. Hunter Ave

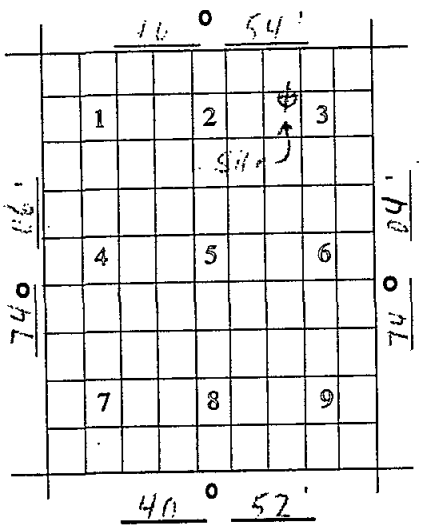
Maywood, N.J. 07607

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	NA cumulativ

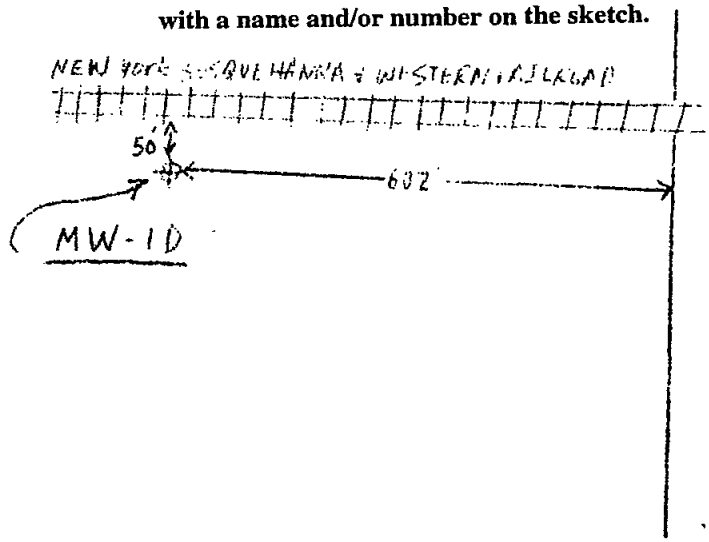
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	19.02	Rochelle Pk.	Bergen

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval St

WELL PERMIT APPRO
N.J.D.E.P.
OCT 12 200
BUREAU OF WATER AL

FOR D.E.P. USE

☐ Issuance of this permit is subject to the conditions attached. (see next page)

☐ For monitoring purposes only

☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 10/11/00 Signature of Driller _____ Registration No. 1579

K-421

Signature of Property Owner

DWR-138 M
11/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59181

Atlas Sheet Coordinates 26 .03 534

OWNER IDENTIFICATION - Owner OMNI ASSETS/TAUBER, CONNI
Address 26 JOURNAL SQUARE 16TH FLOOR
City JERSEY CITY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-1D
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 19.02
Address ROUTE 17

DATE WELL STARTED / /
DATE WELL COMPETED / /

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556-6166

WELL CONSTRUCTION

Total depth drilled 46 ft.
Well finished to 46 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 16 ft.

Water level was measured using Tape

Well was developed for 4 hours at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	21	4	Steel	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	21	46	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	21	8	Neat Cement Bentonite	456 75

Grouting Method [illegible]
Drilling Method [illegible]

Method of development Submersible pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H LEONARD REXRODE, JR.

Well Driller (Print) [illegible]

Driller's Signature [illegible]

Registration No. [illegible] Date 2 / 5 / [illegible]

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 [illegible]
[illegible]
[illegible]
10 [illegible]
10.5 [illegible]
[illegible]
20 [illegible]
30
40
[illegible]
[illegible] 46

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

54

MONITORING WELL PERMIT

Permit No. [illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: [illegible]

Owner VIRGINIA DINIARIA - ROCHELLE PARK TWP CLERK

Address 194 - D ROUTE 17 NORTH
ROCHELLE PARK, N.J.

Driller AQUIFER DRILLING & TESTING, I

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

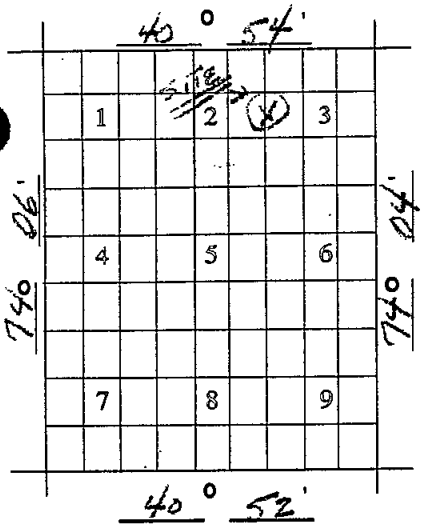
Address C/O STONE & WEBSTER, 100 W. HUNTER AVE,
MAYWOOD N.J 07609

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

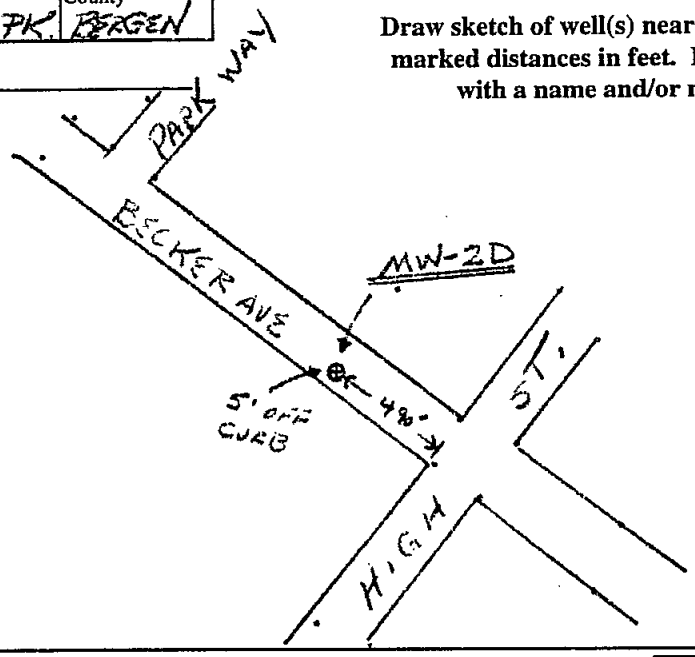
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W.	ROCHELLE PK.	BERGEN

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. wit marked distances in feet. Each well MUST be labelec with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPROVE
N.J.D.E.P.
SEP 22 2000
BUREAU OF WATER ALLOC

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/18/00 Signature of Driller [illegible] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 58959

Atlas Sheet Coordinates 26 03 526

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT. 17 NORTH Zip Code
City ROCHELLE PARK State NJ

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-2D
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address MAYWOOD CHEMICAL/BECKER A

DATE WELL STARTED 12/20/
DATE WELL COMPLETED 12/22/

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 48.5 ft.
Well finished to 48.5 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 8.5 ft.

Water level was measured using Tape

Well was developed for 3 hours at 1.5 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ra (lbs/sch
Single/Inner Casing	0	23.5	4	Steel	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	23.5	48.5	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	23.5	8	Neat Cement Bentonite	60 30

Grouting Method Tremie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolid formations.

0 Black Top
Medium Fine Reddish Brown
10 Silt & Sand, w/ Clay
12
20 Red Shale Bedrock
30
46
50 EOH 48.5

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2/5/01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 34

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 35.33

Owner R. GZESNIEWSKI

Address 80 PARK PLAZA, T-5
NEWARK NJ. 07101

Driller AQUIFER DRILLING & TESTING

Address 120 MINEOLA BLVD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVE.
MAYWOOD N.J. 07607

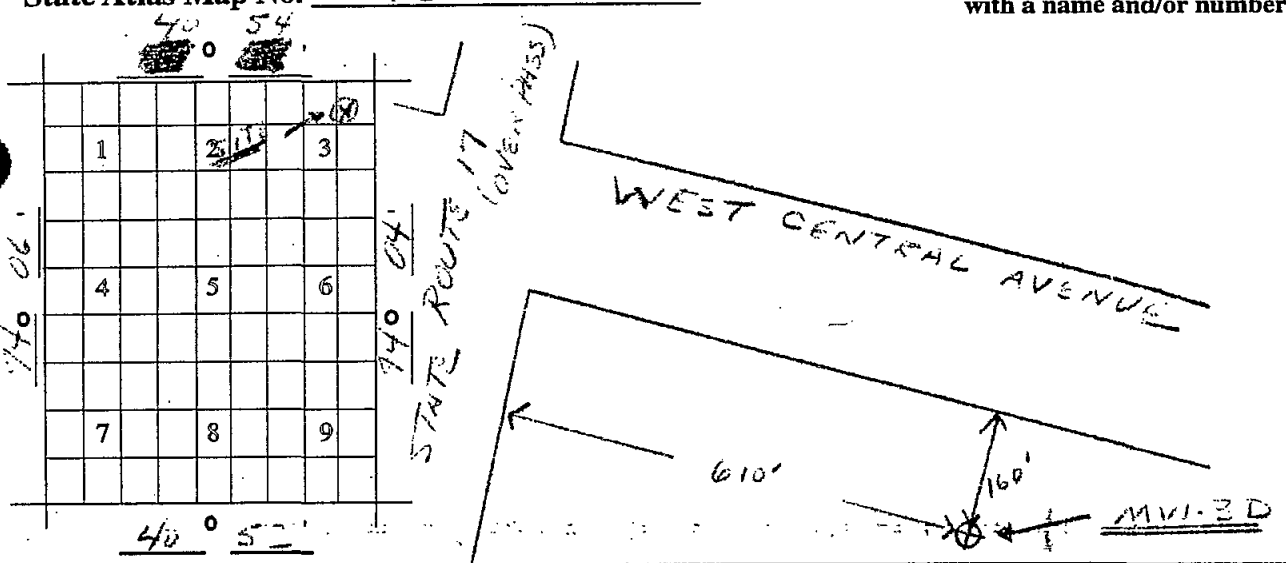
Diameter of Well(s)	2 Inches	Proposed Depth of Well(s)	21
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
91	124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta:
WELL PERMIT APPRO
N.J.D.E.P.
SEP 25 200
BUREAU OF WATER ALL

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☐ For monitoring purposes only
☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/20/00 Signature of Driller [signature] Registration No. T-1414

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59009

Atlas Sheet Coordinates 26 - 03 - 533

OWNER IDENTIFICATION - Owner GZESNIEWSKI, R
Address 80 PARK PLAZA T-25
City NEWARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-30
County BERGEN Municipality HAYWOOD BORO Lot No. 91 Block No. 124
Address 100 W HUNTER AVE

DATE WELL STARTED 2 / 21 / 01
DATE WELL COMPLETED 2 / 23 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556-0160

WELL CONSTRUCTION

Total depth drilled 55 ft.
Well finished to 55 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 12 ft.

Water level was measured using Tape

Well was developed for 16 hours at .5 gpm

Method of development Submersible

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	30	4	Steel	Sch. 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	30	55	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	30	8	Neat Cement Bentonite	750 l 35 l

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Brown Silty Sand + Gravel
2 Red Brown Fine Silty Sand
10 w Clay Water
20 Red Sandstone / Shale Bedrock
30
40
50
55 EOH 55'

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 3 / 5 / 01

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 54

Permit No. 26-

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.5

Owner VIRGINIA DIMARIA - ROCHELLE PARK TWP. CLERK

Address 194-D ROUTE 17 NORTH
ROCHELLE PARK, N.J. 07662

Driller AQUIFER DRILLING & TESTING INC.

Address 50 NASSAU TERMINAL ROAD
NEW HYDE PARK, N.Y. 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND S.T.

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD N.J. 07609

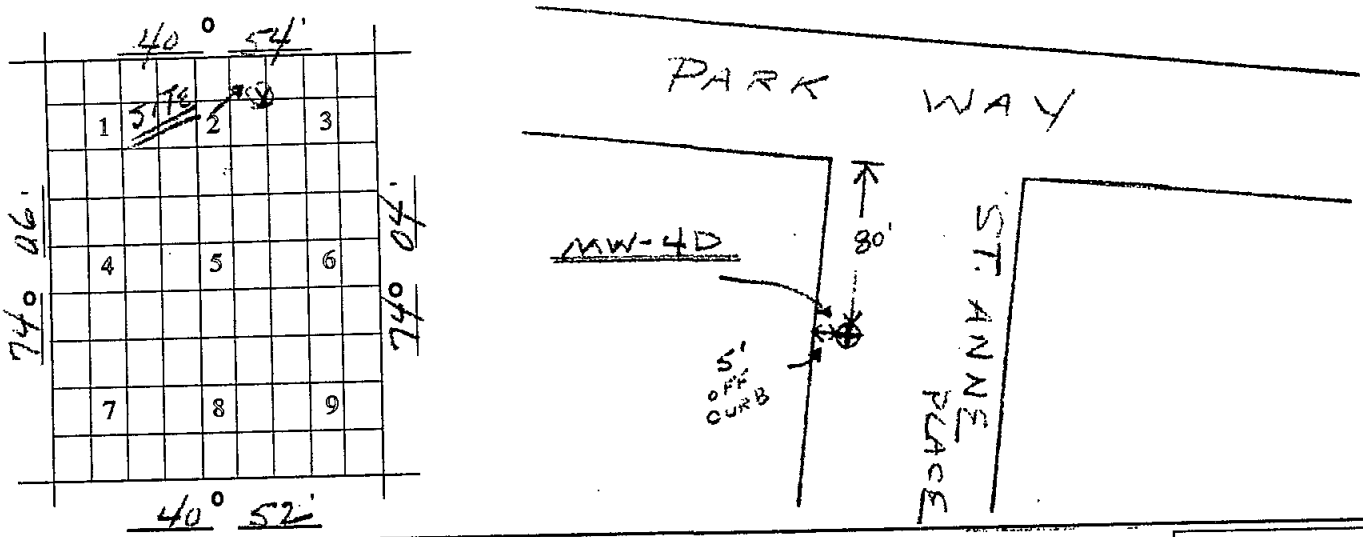
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulat:

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
ROW	ROW	ROCHELLE PK.	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. w marked distances in feet. Each well MUST be label with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval

WELL PERMIT APPROV
N.J.D.E.P.
SEP 25 2000
BUREAU OF WATER ALLC

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐
☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/19/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59011

Atlas Sheet Coordinates 26 03 523

OWNER IDENTIFICATION - Owner DIMHRIA, VIRGINA-ROCHELLE
Address 194-D ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-4D
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address 100 W HUNTER AVE

DATE WELL STARTED 1/4/0
DATE WELL COMPLETED 1/8/0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 43 ft.
Well finished to 43 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

nished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 8 ft.

Water level was measured using Tape

Well was developed for 3 hours
at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch n
Single/Inner Casing	0	18	4	Steel	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	18	43	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	18	8	Neat Cement Bentonite	400 20

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

ell Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 2/5/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Black Top
10 Medium fine Silty Red Sand & Gravel — Water
20 Red Shale Bedrock
30
40
43 EOH 43'

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 54

Permit No. 26 [illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.523

Owner VIRGINIA DI MARIA - ROCHELLE PARK TWP. CLERK
Address 194-D ROUTE 17 NORTH
ROCHELLE PARK N.J. 07662

Driller AQUIFER DRILLING & TESTING, INC.
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE
Address C/O STONE & WEBSTER, 100 WEST HUNTER AVE.
MAYWOOD NJ 07609

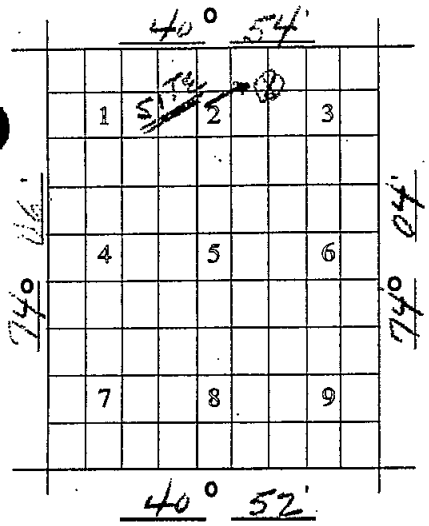
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	N/A cumulativ

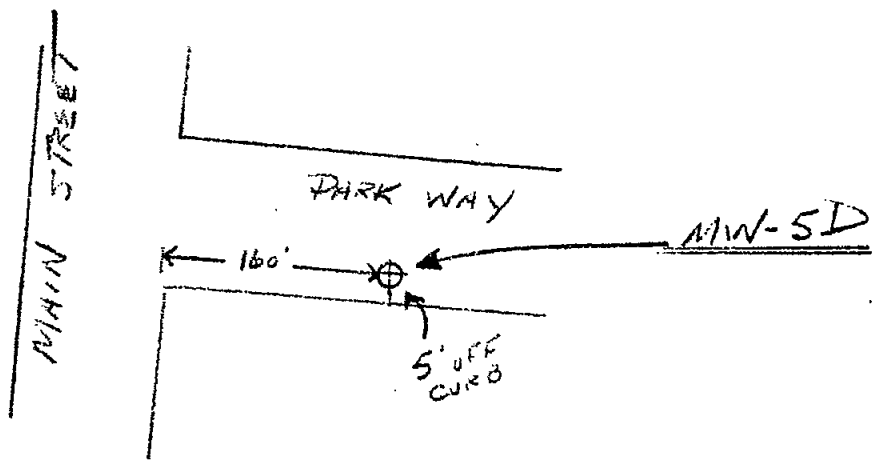
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
ROW	ROW	ROCHELLE PK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta
WELL PERMIT APPROVED
N.J.D.E.P.
SEP 22 2000
BUREAU OF WATER ALLOCA

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/19/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. ~~26~~ ~~58961~~

Atlas Sheet Coordinates 26 03 523

OWNER IDENTIFICATION - Owner ~~ROCHELLE PARK TWP CLERK~~
Address ~~194-D RT 17 NORTH~~
City ~~ROCHELLE PARK~~ State ~~NJ~~ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-5D
County BERGEN Municipality ~~ROCHELLE PARK T~~ Lot No. ~~ROW~~ Block No. ~~ROW~~
Address MAYWOOD CHEMICAL/100 W. H

DATE WELL STARTED 11 / 14 / 0
DATE WELL COMPLETED 11 / 16 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 52 ft.
Well finished to 52 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 9 ft.

Water level was measured using Tape

Well was developed for 3 hours
at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rat (lbs/sch r
Single/Inner Casing	0	32	4	Steel	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	32	52	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	32	8	Neat Cement Bentonite	5.00 40

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2 / 5 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Black Top
Red Fine Silty Sand
10 Wate
13
Red Silt & Clay
20
22
Red Sandstone & Shale Bedrock
30
40
50 EOH 52'

COPIES White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

54

MONITORING WELL PERMIT

Permit No. 26.5

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 . 03 . 523

Owner VIRGINIA DIMARIA - ROCHELLE PARK TWP CLERK

Address 194-D ROUTE 17 NORTH
ROCHELLE PARK, N.J. 07662

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVE.
MAYWOOD, N.J. 07609

Driller AQUIFER DRILLING & TESTING, IN.

Address 140 NASSAU TERMINAL RD.
NEW HYDE PARK, NY 11040

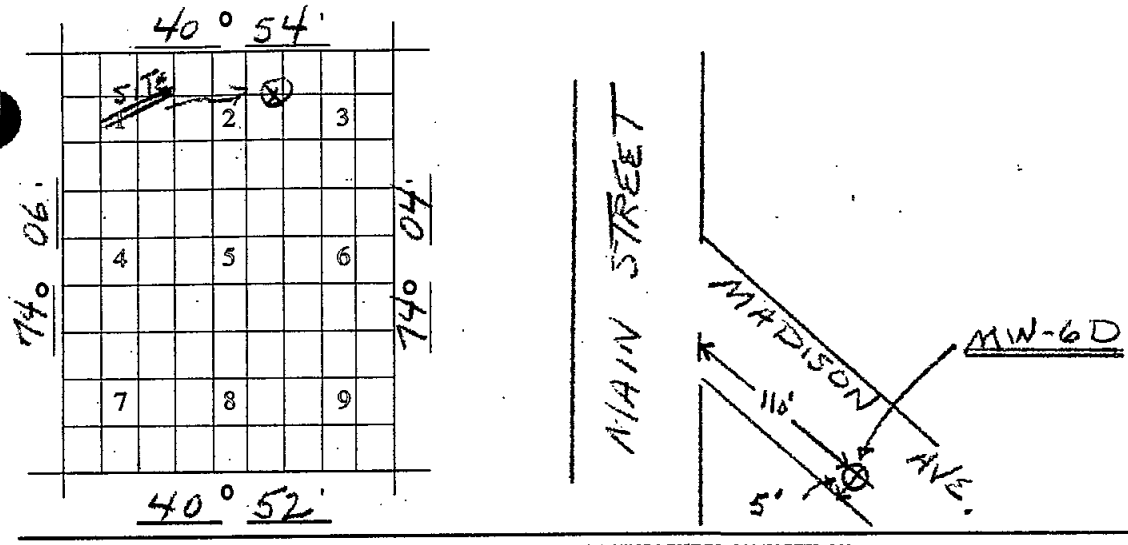
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W	R.O.W	ROCHELLE PK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 22 2000
BUREAU OF WATER ALLOC

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/18/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 58962

Atlas Sheet Coordinates 26 03 523

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT. 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address: Owner's Well No. MW-6D
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address MAYWOOD CHEMICAL/100 W. H

DATE WELL STARTED 1 / 8 / 0
DATE WELL COMPLETED 1 / 11 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele # 201 556-01(

WELL CONSTRUCTION

Total depth drilled 54 ft.
Well finished to 54 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 2.5 hours at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rat (lbs/sch r
Single/Inner Casing	0	29	4	Steel	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	29	54	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	29	8	Neat Cement Bentonite	500 40

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolida formations.

0 Medium Fine Silty Red Sand & Gravel Wa
10 ↓
29 Red Shale
30 —
40
50
E O H 54'

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2/5/01

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

57

Permit No. 2C[illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 76.03.523

Owner FRANK MACCHIONE

Address 141 WEST CENTRAL AVENUE
ROCHELLE PARK, NJ 07662

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL Co. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVE.
MAYWOOD, NJ 07609

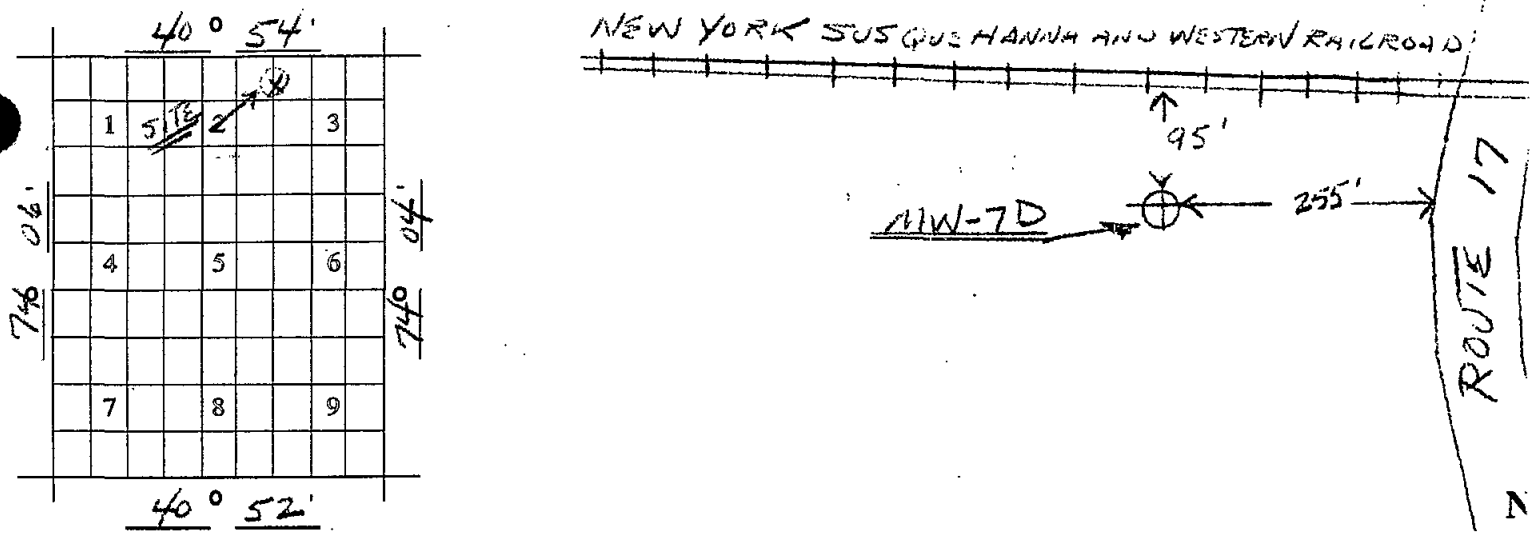
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
32	24.01	ROCHELLE PK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Star

WELL PERMIT APPROVI
N.J.D.E.P.
SEP 22 2000
BUREAU OF WATER ALLO

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐

☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/18/00 Signature of Driller [signature] Registration No. 5-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 58964

Atlas Sheet Coordinates 26 03 523

OWNER IDENTIFICATION - Owner MACCHIONE, FRANK
Address 141 W. CENTRAL AVENUE
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-7D
County BERGEN Municipality ROCHELLE PARK T Lot No. 32 Block No. 24.01
Address 100 W. HUNTER AVE./MAYWOO

DATE WELL STARTED 1/5/0
DATE WELL COMPLETED 1/10/0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 556-016

WELL CONSTRUCTION

Total depth drilled 46 ft.
Well finished to 46 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 11 ft.

Water level was measured using Tape

Well was developed for 3 hours
at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 2/5/01

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rat (lbs/sch r
Single/Inner Casing	0	21	4	Steel	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	21	46	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	21	8	Neat Cement Bentonite	#50 22

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolida formations.

0 Fine Red Silty Sand + Clay
10 ↓ Water
11 Red Shale Bedrock
20 ↓
30
40
46 EOH 46

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 21-574

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26 • 035 32

Owner GUSSIE AND THOMAS STAVOLA

Address P. O. Box 1058

MAYWOOD N. J. 07607

Name of Facility MAYWOOD CHEMICAL Co. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE

MAYWOOD, N.J. 07609

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD

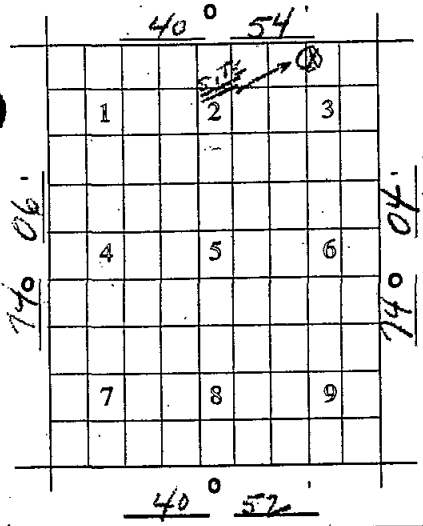
NEW HYDE PARK, N.Y 11040

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

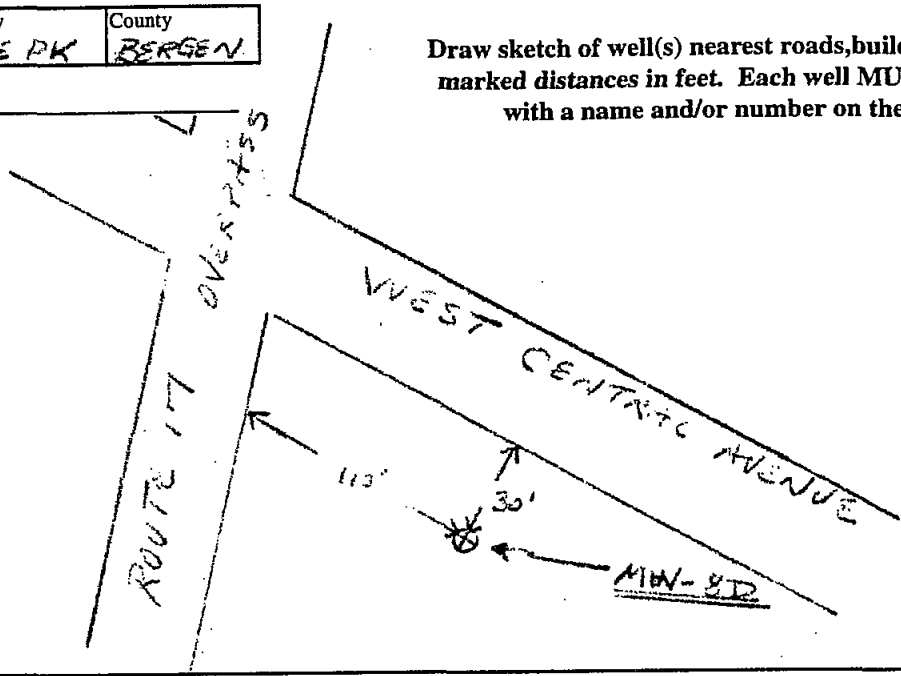
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
35	24.02	ROCHELE PK	BERGEN

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval St

WELL PERMIT APPRC
N.J.D.E.P.
SEP 25 2000
BUREAU OF WATER ALLC

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☐

☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/19/00 Signature of Driller [signature] Registration No. T-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59013

Atlas Sheet Coordinates 26 03 532

OWNER IDENTIFICATION - Owner STAVOLA, GUSSIE & THOMAS
Address PO BOX 1058
City HAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-8D
County BERGEN Municipality ROCHELLE PARK T Lot No. 35 Block No. 24.02
Address 100 W HUNTER AVE

DATE WELL STARTED 12 / 19 / 0
DATE WELL COMPLETED 12 / 21 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 52 ft.
Well finished to 52 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 11 ft.

Water level was measured using Tape

Well was developed for 3 hours at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	27	4	Steel	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	27	52	4	—	—
Blank Casings (No. Used)	—	1	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	27	8	Neat Cement Bentonite	500 25

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2 / 5 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Black Top
Medium Fine Silty Red
10 Sand & Gravel Wa
17 ↓
20 Red Shale Bedrock
30
40
52 EOH 52'

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

24

Permit No. 26590

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 21-02-614

Owner NATHAN FENNO

Address 1 RAILROAD AVENUE
COOPERSTOWN, N.Y 13326

Driller AQUIFER DRILLING & TESTING

Address 150 NASSAU TERMINAL ROAD
NEW HYD

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND S.I.

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, NJ 07609

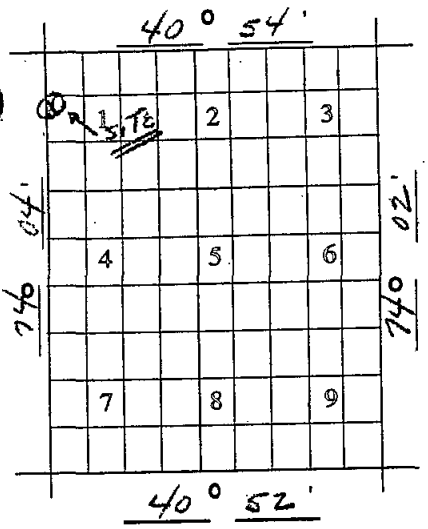
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

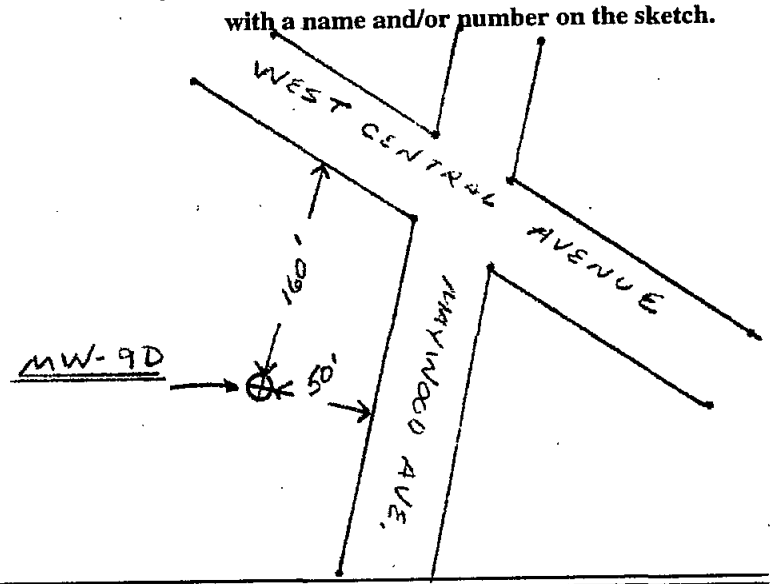
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
55	124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval St

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 26 2000
BUREAU OF WATER ALLOCATIO

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/21/00 Signature of Driller [illegible] Registration No. [illegible]

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59043

Atlas Sheet Coordinates 26 03 6:4

OWNER IDENTIFICATION - Owner FENNO, NATHAN
Address 1 RAILROAD AVE.
City COOPERSTOWN State NY Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-9D
County BERGEN Municipality HAYWOOD BORO Lot No. 55 Block No. 124
Address 100 W. HUNTER AVE.

DATE WELL STARTED 12/12/00
DATE WELL COMPLETED 12/18/00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-0160

WELL CONSTRUCTION

Total depth drilled 47 ft.
Well finished to 47 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 13 ft.

Water level was measured using Tape

Well was developed for 4 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	22	4	Steel	Sch V
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	22	47	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	22	8	Neat Cement Bentonite	750 35

Grouting Method Tremmied
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0 Medium Fine Red Silty Sand and Gravel Some Cobbles
10 ↓
12 Red Shale Bedrock
20
30
40
47 EOH 47

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2/5/01

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26590C

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.536

Owner MARY ANN RAMPOLLA - MAYWOOD BOROUGH CLERK

Address 495 MAYWOOD AVENUE
MAYWOOD, NJ 07607

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07609

Driller AQUIFER DRILLING & TESTING INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

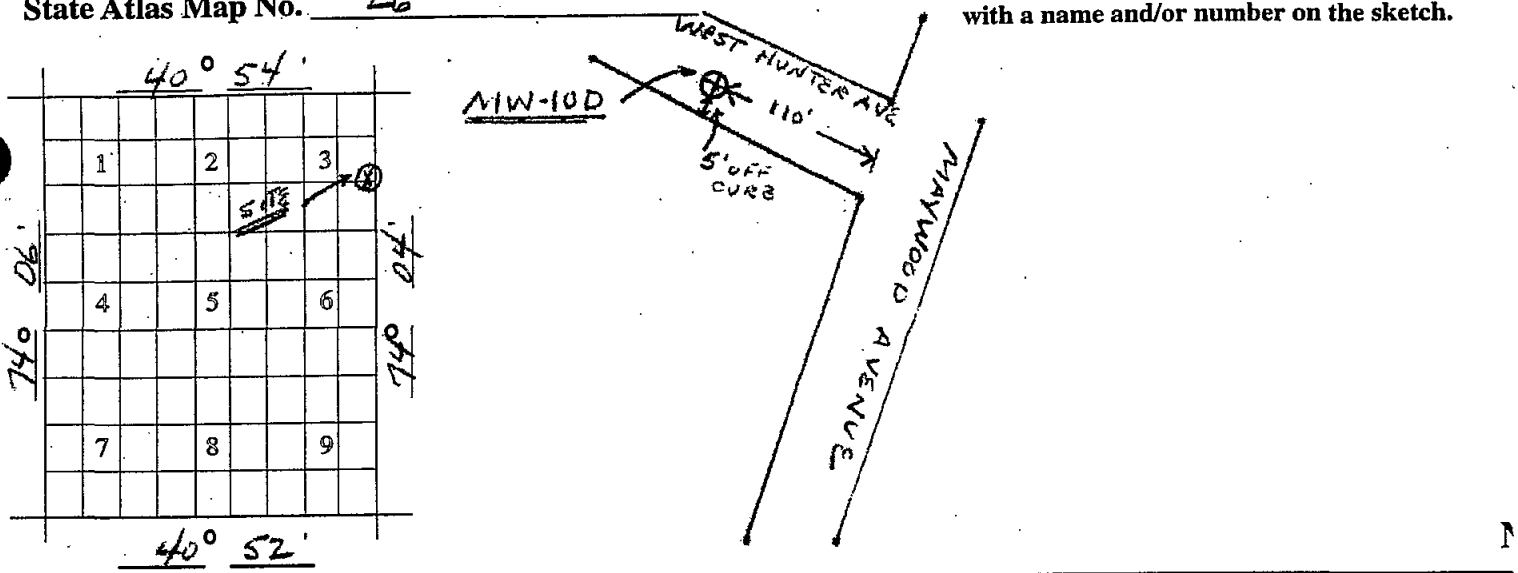
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
ROW	ROW	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. wit marked distances in feet. Each well MUST be labelec with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval Sta

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 26 2000
BUREAU OF WATER ALLOC

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐ _____
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/21/00 Signature of Driller _____ Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59045

Atlas Sheet Coordinates 26 :03 : 536

OWNER IDENTIFICATION - Owner HAYWOOD BOROUGH CLERK
Address 459 HAYWOOD AVE.
City HAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-10D
County BERGEN Municipality HAYWOOD BORO Lot No. ROW Block No. ROW
Address WEST HUNTER AVE & HAYWOOD

DATE WELL STARTED 1 / 2 / 01
DATE WELL COMPLETED 1 / 5 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele.# 201 556-0160

WELL CONSTRUCTION

Total depth drilled 46 ft.
Well finished to 46 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 10 ft.

Water level was measured using Tape

Well was developed for 3 hours at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch nc
Single/Inner Casing	0	21	4	Steel	Sch 4(
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	21	46	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	21	8	Neat Cement Bentonite	500 l 25 l

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Medium fine Red Silty Sand + Gravel
10 ↓ Water 10
Red Shale
20 Bedrock
30
40
46 EOH 46

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2 / 5 / 01

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34

Permit No. [illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.39

Owner WILLIAM DE SAUSSAVRE

Address 23 WEST HOWCROFT ROAD
MAYWOOD, NJ 07607

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD NJ 07609

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD,
NEW HYDE PARK, NY 11040

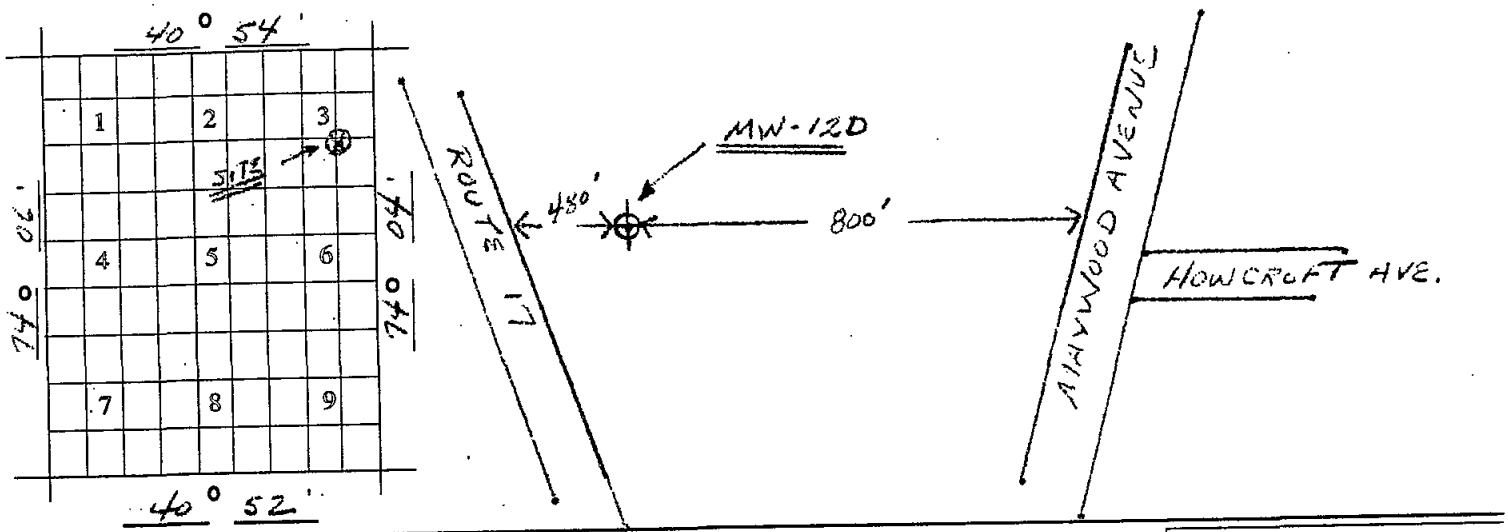
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
17	124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval S

WELL PERMIT APPRC
N.J.D.E.P.
SEP 27 200(
BUREAU OF WATER ALL

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☐ For monitoring purposes only
☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/25/00 Signature of Driller [illegible] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 -59050

Atlas Sheet Coordinates 26 03 539

OWNER IDENTIFICATION - Owner DeSAUSSAVRE, WILLIAM
Address 23 W. HOWCROFT ROAD
City MAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-12D
County BERGEN Municipality MAYWOOD BORO Lot No. 17 Block No. 124
Address ROUTE 17 & MAYWOOD AVENUE
DATE WELL STARTED 12 / 4 / 0
DATE WELL COMPLETED 12 / 11 / 0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 556-01

WELL CONSTRUCTION

Total depth drilled 54 ft.
Well finished to 54 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 7 ft.

Water level was measured using Tape

Well was developed for 6 hours at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch r
Single/Inner Casing	0	29	4	Steel	Sch
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	29	54	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	29	8	Neat Cement / Bentonite 94	800 / 50

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2 / 6 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolida formations.

0 Block Top
Medium Fine Silty Red
10 Sand & Gravel
↓
19
20 Red Shale
Bedrock
30 Highly Fractured
40
↓
50
54 EOH 54'

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

34

MONITORING WELL PERMIT

Permit No. 266035

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 03.536

Owner WILLIAM DE SAUSSAVRE

Address 22 WEST HOWCROFT ROAD
MAYWOOD, N.J. 07607

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVE.
MAYWOOD, N.J. 07609

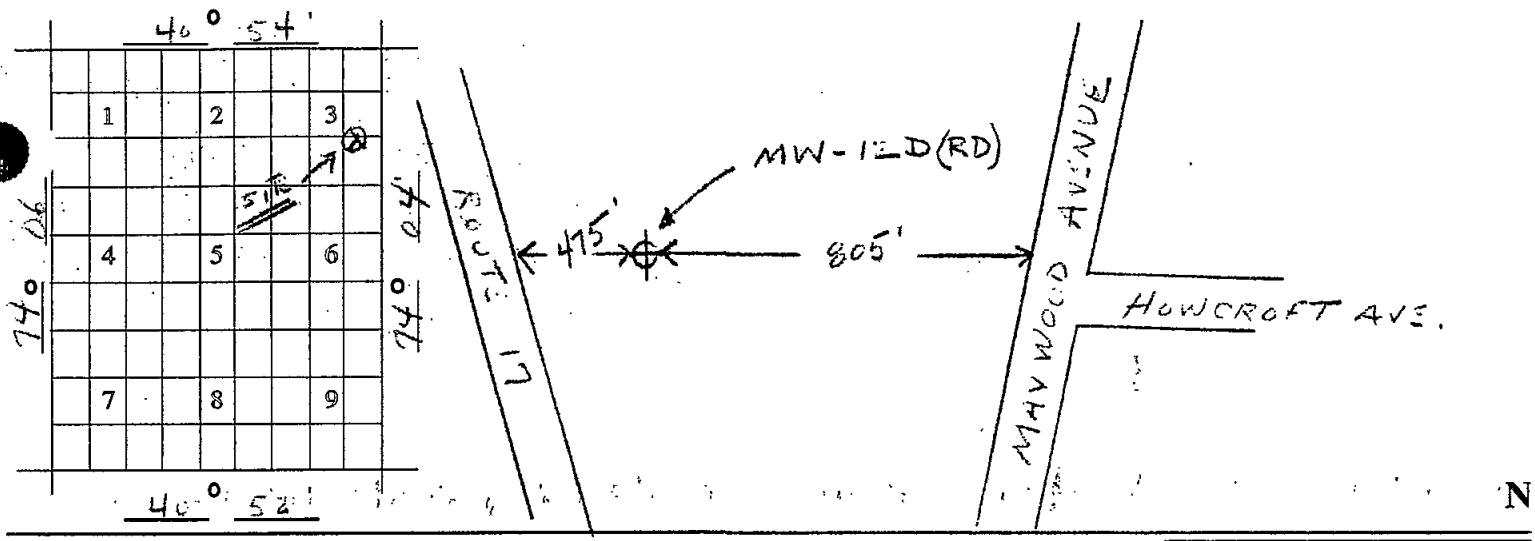
Diameter of Well(s) 4 Inches	Proposed Depth of Well(s) 50
# of Wells Applied for (max. 10) 1	Will pumping equipment be utilized? YES ☐ NO
Type of Well (see reverse) MONITORING	If Yes, give pump capacity NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
17	-124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stan

WELL PERMIT APPROVED
N.J.D.E.P.
FEB - 9 2001
BUREAU OF WATER ALLOCATIC

D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 2/8/01 Signature of Driller [signature] Registration No. J-1474

K-443

Signature of Property Owner [signature] For Michael Kolbrosh Agent for ...

DWR-138 M
11/98

New Jersey Department of E[illegible]mental Protection
Bureau of Wat[illegible]cation
MONITORING W[illegible] RECORD

Well Permit No. 26 60358

Atlas Sheet Coordinates 26 03 536

OWNER IDENTIFICATION - Owner DESAUSSAURE, WI[illegible]
Address 23 WEST HOWCROFT ROAD NJ Zip Code
City MAYWOOD State

WELL LOCATION - If not the same as owner please give a[illegible]ss. Owner's Well No. MW-12 D (RD)
County BERGEN Municipality [illegible]AYWOOD BORO Lot No. 17 Block No. 124
Address ROUTE 17 & MAYWOOD AVE.

DATE WELL STARTED 2 / 14 / 01
DATE WELL COMPLETED 2 / 16 / 01

TYPE OF WELL (as per Well Permit Categories) [illegible]ITORING Case I.D.#
Regulatory Program Requiring Well

CONSULTING FIRM/FIELD SUPERVISOR (if applica[illegible]) Stone + Webster Tele. # 201 556-0160

WELL CONSTRUCTION

Total depth drilled 54 ft.
Well finished to 54 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 7 ft.

Water level was measured using Tape

Well was developed for — hours at — gpm

Method of development —

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 3 / 5 / 01

Note: Me[illegible]e all depths from [illegible]d surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/[illegible]er Casing	0	29	4	Steel	Sch 40
Middle [illegible]asing (for [illegible]e cased wells only)	—	—	—	—	—
Out[illegible] Casing (lar[illegible]st diameter)	—	—	—	—	—
Op[illegible] Hole or Screen (N[illegible] Used)	29	54	4	—	—
Bl[illegible]k Casings (N[illegible] Used)	—	—	—	—	—
Ta[illegible] Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	29	8	Neat Cement Bentonite	700 32

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolida[illegible] formations.

0 Red Medium Fine Silty Sand
10 W/ Clay + Gravel
Water
20 19'
Red Shale
Bedrock
30
40
50
54 EOH 54'

K-444

[illegible] White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-020
8/97

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

WELL PERMIT # 26-59050 of well sealed

MAIL TO: **Bureau of Water Allocation**
PO Box 426
Trenton, NJ 08625-0426

DATE WELL SEALED 2/14/01

PROPERTY OWNER De Saussaure, William

ADDRESS 23 W. Howcraft Rd. Maywood N.J.

WELL LOCATION Route 17 + Maywood Ave, Bergen Co.
Street & No., Township, County

MW-12D (Well No.) 17 (Lot No.) 124 (Block No.)

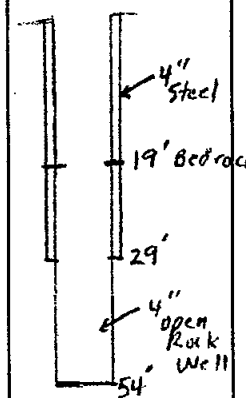
USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: Unable to maintain open hole rock well.

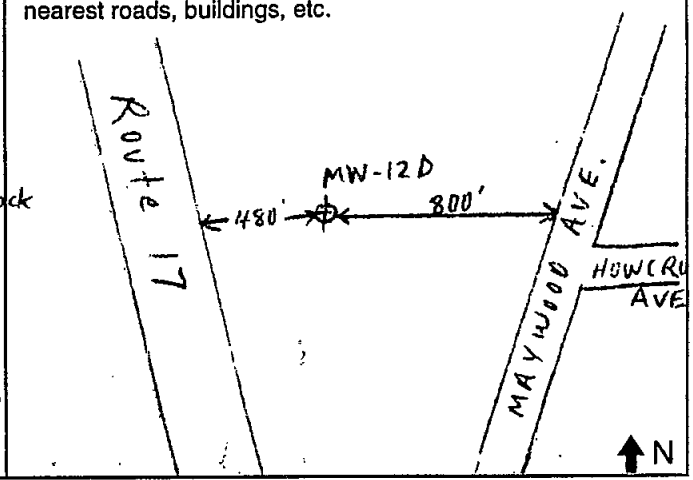
WAS A NEW WELL DRILLED? ☒ YES ☐ NO PERMIT # OF NEW WELL 26-60358

TOTAL DEPTH OF WELL 54
DIAMETER 4
CASING LENGTH 29
SCREEN LENGTH —
NUMBER OF CASINGS 1

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



MATERIAL USED TO DECOMMISSION WELL:

64 Gallons of Water
752 Lbs. of Cement
40 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: X Consolidated
_____ Unconsolidated

To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Performing Work (Print or Type) Name of NJ Certified Well Sealer	Address	Mailing Date
A.L. Rexroth, Inc.	21-09 45th Ave, LIC, N.Y. 11101	3/5/01
Signature of NJ Certified Well Sealer Performing Work		Registration #
		J-1494

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34

Permit No. 265

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03538

Owner JOSEPH MUSCARELLE, JR.
Address 99 ESSEX STREET
MAYWOOD N.J. 07607

Driller AQUIFER DRILLING & TESTING, INC.
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE
Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, NJ 07609

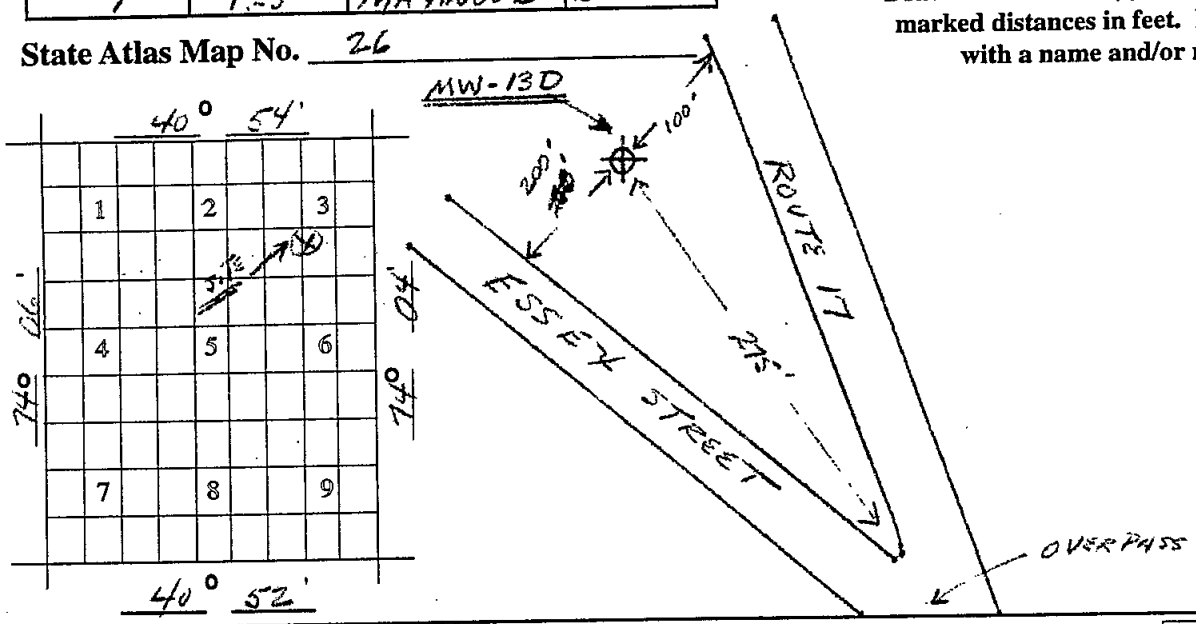
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	125	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval S

WELL PERMIT APPROVE
N.J.D.E.P.
SEP 27 2000
BUREAU OF WATER ALLOC

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/25/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59048

Atlas Sheet Coordinates 26 : 03 538

OWNER IDENTIFICATION - Owner MUSCARELLE, JOSEPH JR
Address 99 ESSEX STREET
City MAYWOOD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-13D
County BERGEN Municipality MAYWOOD BORO Lot No. 1 Block No. 125
Address 100 W. HUNTER AVENUE

DATE WELL STARTED 12/4/00
DATE WELL COMPLETED 12/6/0

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 226 661

WELL CONSTRUCTION

Total depth drilled 50 ft.
Well finished to 50 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 3 hours at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch n
Single/Inner Casing	0	25	4	Steel	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	25	50	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	25	8	Neat Cement Bentonite	750 35

Grouting Method Tremmie pipe.
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2/6/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Black Top
5 Fine Brown Silt
Fine Medium Red Silty
10 Sand + Gravel
13 ↓
20 Red Sandstone
Red Shale
30 Bedrock
40
50 EOH 50'

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 31

Permit No. 26 5 10

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.562

Owner ROBERT WELLINS

Address 411 ROUTE 17
HASBROUCK HEIGHTS, N.J 07604

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVENUE
MAYWOOD, N.J. 07609

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

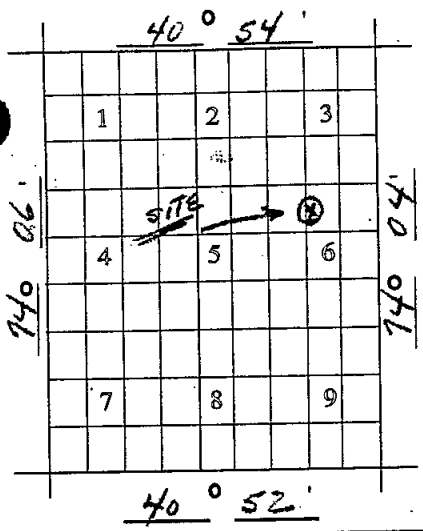
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

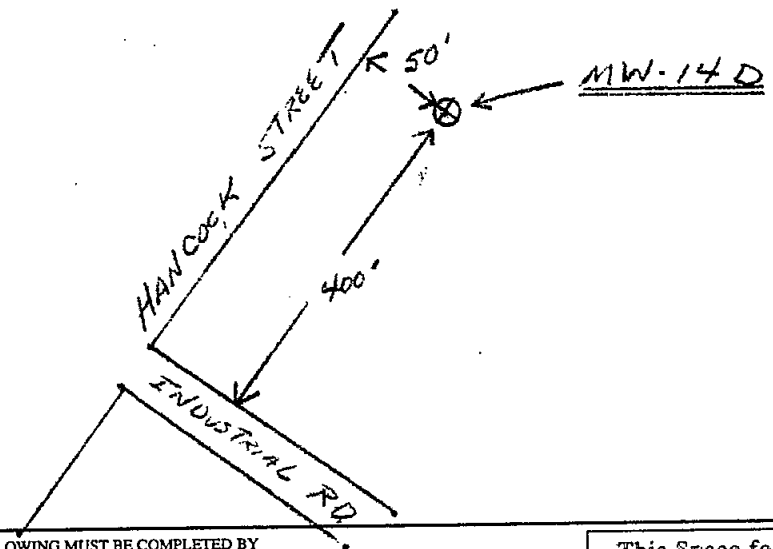
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
2.04	205.03	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval St

WELL PERMIT APPROV
N.J.D.E.P.
SEP 27 2000
BUREAU OF WATER ALLO

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☑ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/25/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59049

Atlas Sheet Coordinates 26 :03 562

OWNER IDENTIFICATION - Owner WELLINS, ROBERT
Address 411 ROUTE 17
City HASBROUCK HEIGHTS State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 14 D
County BERGEN Municipality LODI BORO Lot No. 2.04 Block No. 205.0
Address 100 W. HUNTER AVENUE

DATE WELL STARTED 11 / 27 / 00
DATE WELL COMPLETED 11 / 29 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 236 6618

WELL CONSTRUCTION

Total depth drilled 52 ft.
Well finished to 52 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 5 ft.

Water level was measured using Tape

Well was developed for 3 hours
at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch n
Single/Inner Casing	0	27	4	Steel	Sch V
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	27	52	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	27	8	Neat Cement Bentonite	650 35

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Well Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 2 / 6 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Medium Fine Red Silty Sand & Gravel
20 Red Shale Bedrock
50 EOH 52'

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 2 6 59

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 . 00 . 7 6

Owner NJ DEPT. OF TRANSPORTATION ATTN: DONALD CHIACCHIO

Address 1035 PARKWAY AVENUE
TRENTON, NJ 08625

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07609

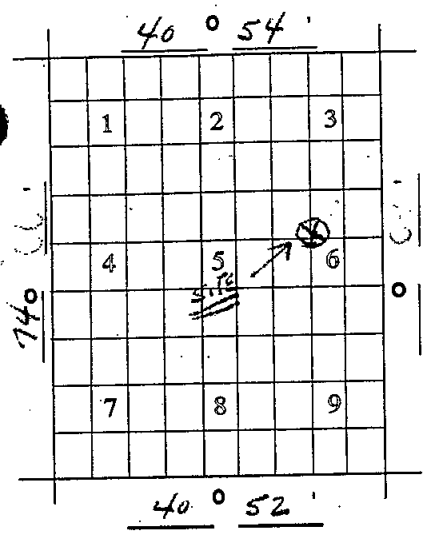
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

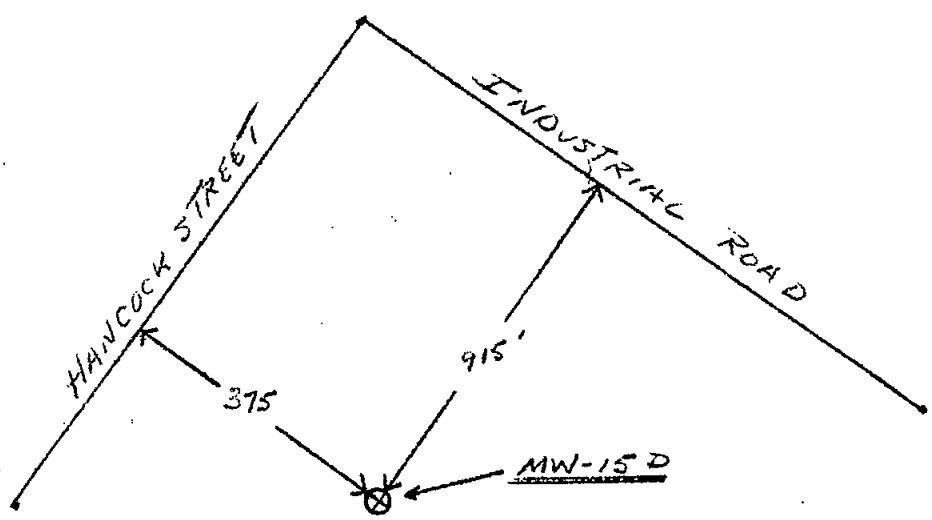
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1.05	205.02	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval St

WELL PERMIT APPRO
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALL

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐

☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/26/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59096

Atlas Sheet Coordinates 26 03 562

OWNER IDENTIFICATION - Owner NJ DEPT. OF TRANSPORTATIO
Address 1035 PARKWAY AVE.
City TRENTON State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-15D
County BERGEN Municipality LODI BORO Lot No. 1.05 Block No. 205.0
Address HANCOCK & INDUSTRIAL ROAD

DATE WELL STARTED 11 / 17 / 00
DATE WELL COMPLETED 11 / 21 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 226 661

WELL CONSTRUCTION

Total depth drilled 61 ft.
Well finished to 61 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

inished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 5 ft.

Water level was measured using Tape

Well was developed for 6 hours
at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch n
Single/Inner Casing	0	36	4	Steel	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	36	61	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	36	8	Neat Cement Bentonite	900 45

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Block Top — Wate
Medium Red Brown — S
10 Silt, Clay, Sand & Gravel
w/ Cobbles
20
26
30 Weathered Bedrock
36
40 Competent Red Shale
50
60
61 EOH 61

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2 / 6 / 01

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

31

MONITORING WELL PERMIT

Permit No. 265

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 [illegible]

Owner BARBRA SCHWARTZ

Address 476 BLOOMFIELD AVENUE
MONTCLAIR, NJ 07042

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07609

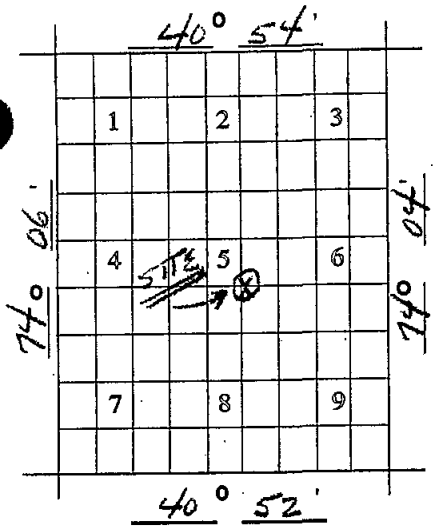
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

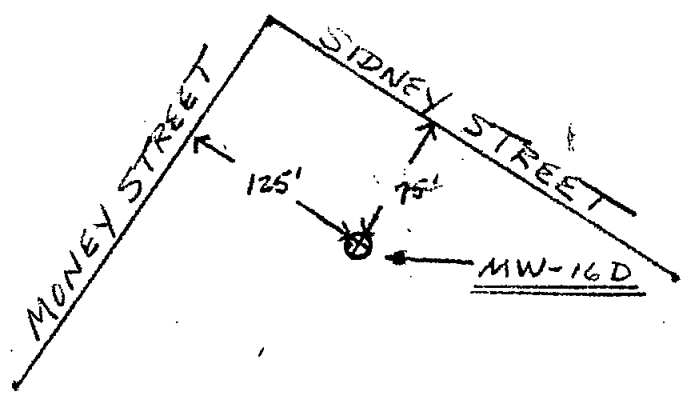
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
5	164	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval St

WELL PERMIT APPROV
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALL

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/26/00 Signature of Driller [signature] Registration No.

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59098

Atlas Sheet Coordinates 26 03 556

OWNER IDENTIFICATION - Owner SCHWARTZ, BARBRA
Address 476 BLOOMFIELD AVE.
City TRENTON State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-16D
County BERGEN Municipality LODI BORO Lot No. 5 Block No. 164
Address MONEY ST. & SIDNEY ST.

DATE WELL STARTED 11 / 9 / 00
DATE WELL COMPLETED 11 / 13 / 00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 226 6618

WELL CONSTRUCTION

Total depth drilled 73 ft.
Well finished to 73 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade ☒ flush mounted

nished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 5 ft.

Water level was measured using Tape

Well was developed for 2.5 hours at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	48	4	Steel	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	48	73	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	48	8	Neat Cement Bentonite	1250 70

Grouting Method Tremmie Pipe
Drilling Method Drive + Wash Rotary

Method of development Submersible Pump.

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

ell Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 2 / 6 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidat formations.

0
5 Dark Brown Fine Brown Sand Wa
10 Medium fine Red Silty
Sand w/ Clay
20 + Cobbles
30
38
40 Red Shale / Sandstone
Bedrock
50
60
70
73 EOH 73'

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 31

Permit No. 26 5 ...

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 .03.0 5...

Owner DEBRA CANNIZZO - LODI BOROUGH CLERK

Address ONE MEMORIAL DRIVE
LODI, NJ 07644

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address c/o STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD NJ, 07609

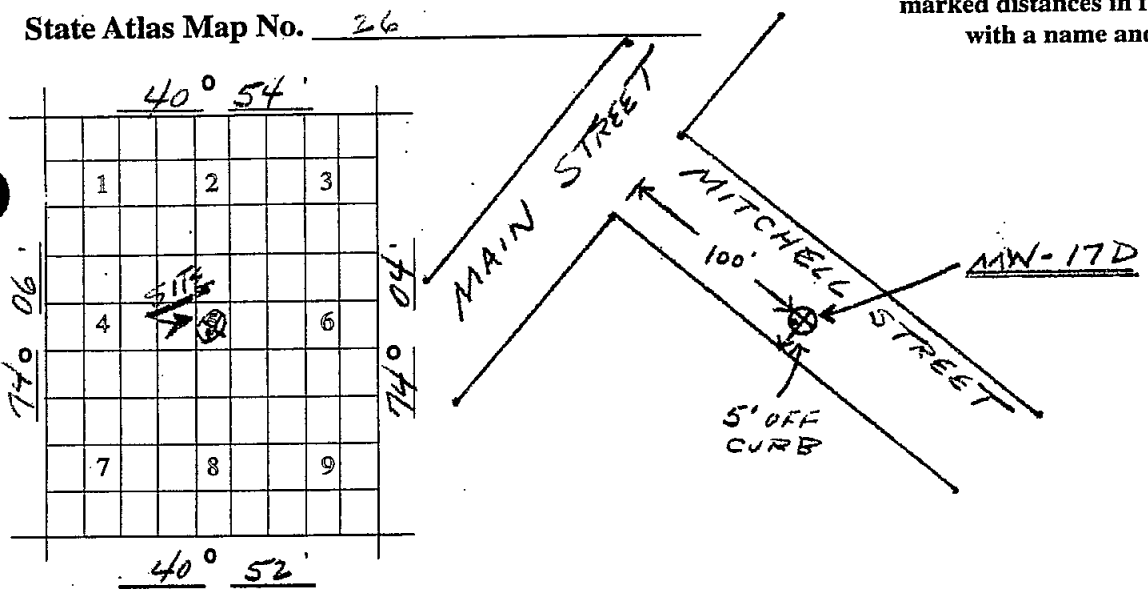
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NH cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
ROW	ROW	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labelec with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Sta

WELL PERMIT APPRC
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALL

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/26/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 -59100

Atlas Sheet Coordinates 26 03 555

OWNER IDENTIFICATION - Owner LODI BOROUGH
Address ONE MEMORIAL DRIVE
City LODI State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-17D
County BERGEN Municipality LODI BORO Lot No. RON Block No. RON
Address MITCHELL STREET

DATE WELL STARTED 12/18/00
DATE WELL COMPLETED 12/20/00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 226 661

WELL CONSTRUCTION

Total depth drilled 46 ft.
Well finished to 46 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.

Water level was measured using Tape

Well was developed for 2.5 hours at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Drill Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 2/6/01

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratir (lbs/sch n
Single/Inner Casing	0	22	4	Steel	SCH 40
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	22	46	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	22	8	Neat Cement Bentonite	550 25

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Black Top
Medium Fine Red Brown
Silty Sand & Gravel
10 ↓
11
Red Shale w/ Sandstone
20 Bedrock
30
40
46 EOH 46'

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26 31

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26 03552

Owner DEBRA CANNIZZO - LODI BOROUGH CLERK
Address ONE MEMORIAL DRIVE
LODI, N.J 07644

Driller AQUIFER DRILLING & TESTING, INC
Address 150 NASSAU TERMINAL RD.
NEW HYDE PARK, NY 11040

Name of Facility (MAYWOOD) CHEMICAL CO. SUPERFUND SITE
Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07607

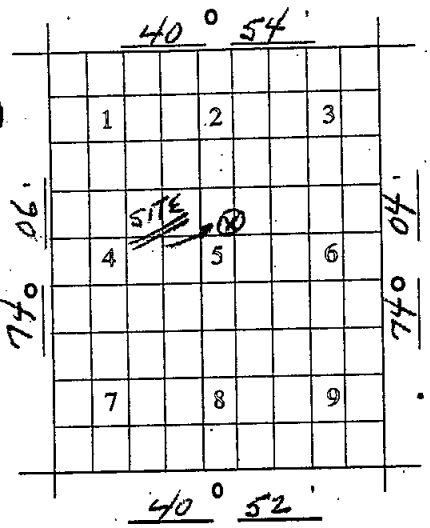
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ N
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulativ

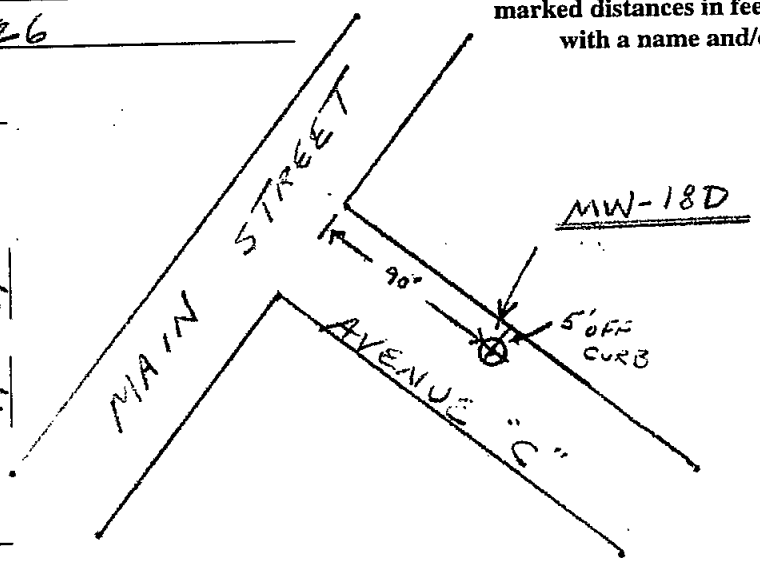
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W.	LODI	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval S
WELL PERMIT APP
N.J.D.E.P.
SEP 29 20
BUREAU OF WATER A

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☑ For monitoring purposes only
☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/27/01 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59103

Atlas Sheet Coordinates 26 03 552

OWNER IDENTIFICATION - Owner LODI BOROUGH
Address ONE MEMORIAL DRIVE
City LODI State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-18D
County BERGEN Municipality LODI BORO Lot No. ROW Block No. ROW
Address AVENUE C

DATE WELL STARTED 11/30/01
DATE WELL COMPLETED 12/1/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # 201 226-66

WELL CONSTRUCTION

Total depth drilled 57 ft.
Well finished to 57 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

nished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 5 ft.

Water level was measured using Tape

Well was developed for 3 hours
at 1 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one): None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2/6/01

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rati (lbs/sch n
Single/Inner Casing	0	32	4	Steel	Sch 4
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	32	57	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	32	8	Neat Cement Bentonite	800 35

Grouting Method Tremmie
Drilling Method Drive & Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0	Brown fine Sand
3	
10	Medium Fine Red Silty Sand + Gr
20	↓
22	
30	Red Sandstone Bedrock
40	↓
50	
57	EOH 57'
60	

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 54

Permit No. 2[illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.532

Owner VIRGINIA DIMARIA-ROCHELLE PARK TWP CLERK
Address 194-D ROUTE 17 NORTH
ROCHELLE PARK, NJ 07662

Driller AQUIFER DRILLING & TESTING, INC.
Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPER FUND SITE
Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, NJ 07607

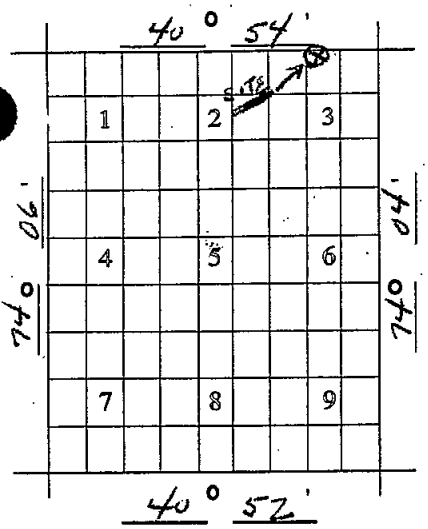
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

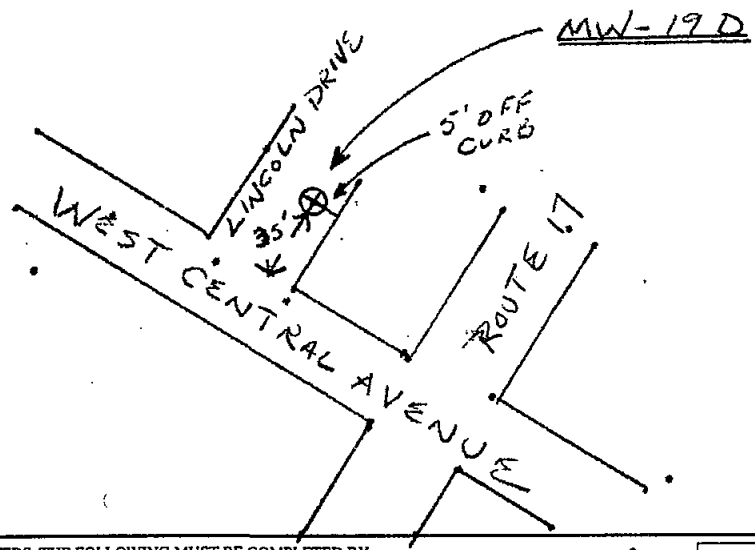
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W	ROCHELLE PARK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. wit marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





N

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Star

WELL PERMIT APPROVE
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALLOCA

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/27/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59105

Atlas Sheet Coordinates 26 - 03 - 532

OWNER IDENTIFICATION - Owner ROCHELLE PARK TOWNSHIP
Address 194 D ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW - 19 D
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address WEST CENTRAL AVE. & LINCO

DATE WELL STARTED 12 / 4 / 0
DATE WELL COMPLETED 12 / 6 / 01

TYRE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 226 66

WELL CONSTRUCTION

Total depth drilled 42 ft.
Well finished to 42 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

Finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 9.5 ft.

Water level was measured using Tape

Well was developed for 5 hours
at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch n
Single/Inner Casing	0	17	4	Steel	Sch 40
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	17	42	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	17	8	Neat Cement Bentonite	450 lbs 20

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 12 / 6 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidate formations.

0 Blacktop
Fine Brown Sand + Gravel
10 Red Shale + Sandstone
Bedrock
42 E.O.H. 42'

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26 5[illegible]

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.532

Owner VIRGINIA DIMARIA - ROCHELLE PARK TWP CLERK

Address 194D ROUTE 17 NORTH
ROCHELLE PARK, NJ 07662

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD NJ 07607

Driller AQUIFER DRILLING & TESTING, INC

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

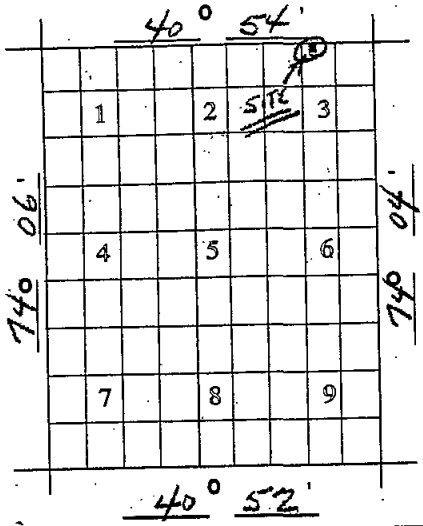
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	75
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulati

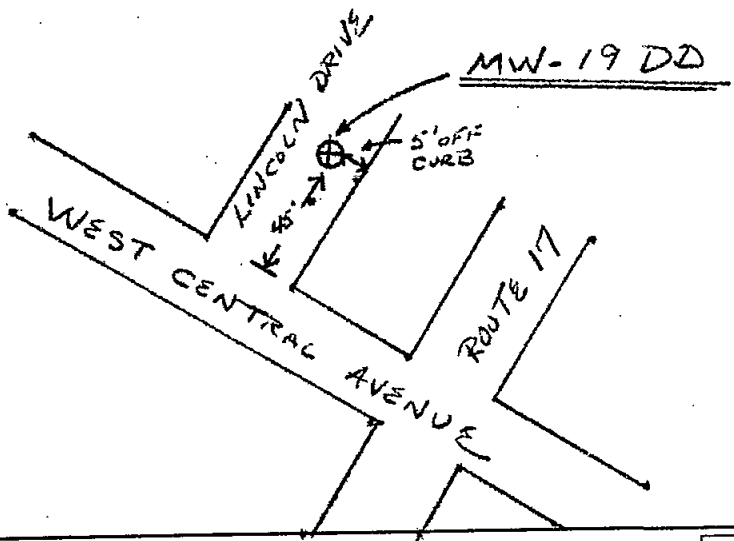
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
R.O.W.	R.O.W	ROCHELLE PARK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. wi marked distances in feet. Each well MUST be labele with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval S

WELL PERMIT APPR
N.J.D.E.P.
SEP 29 200(
BUREAU OF WATER ALL

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/27/00 Signature of Driller [signature] Registration No. J-1494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 59106

Atlas Sheet Coordinates 26 03 532

OWNER IDENTIFICATION - Owner ROCHELLE PARK TOWNSHIP
Address 194 D ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-19 DD
County BERGEN Municipality ROCHELLE PARK T Lot No. ROW Block No. ROW
Address WEST CENTRAL AVE. & LINCO

DATE WELL STARTED 12/5/00
DATE WELL COMPLETED 12/7/00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # 201 226-6618

WELL CONSTRUCTION

Total depth drilled 76 ft.
Well finished to 76 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

ished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 9.5 ft.

Water level was measured using Tape

Well was developed for 2.5 hours at 2 gpm

Method of development Submersible Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME-75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Ratin (lbs/sch no
Single/Inner Casing	0	51	4	Steel	Sch 40
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	51	76	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	51	8	Neat Cement Bentonite	1550 lb 120 lb

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 Rock Top
Med. fine Dark Brown/Red Silty Sand
Wat 9.
Red Shale + Sandstone
20 Bedrock
40
60
80
100
120
140
160 TD @ 76'

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Driller (Print) Steve Wolf
Driller's Signature Steve Wolf
Registration No. 1579 Date 2/6/01

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 134

Permit No. 26511

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.533

Owner NATHAN FENNO

Address 1 RAILROAD AVENUE
COOPERSTOWN, NY 13326

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL CO. SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 WEST HUNTER AVENUE
MAYWOOD, N.J. 07607

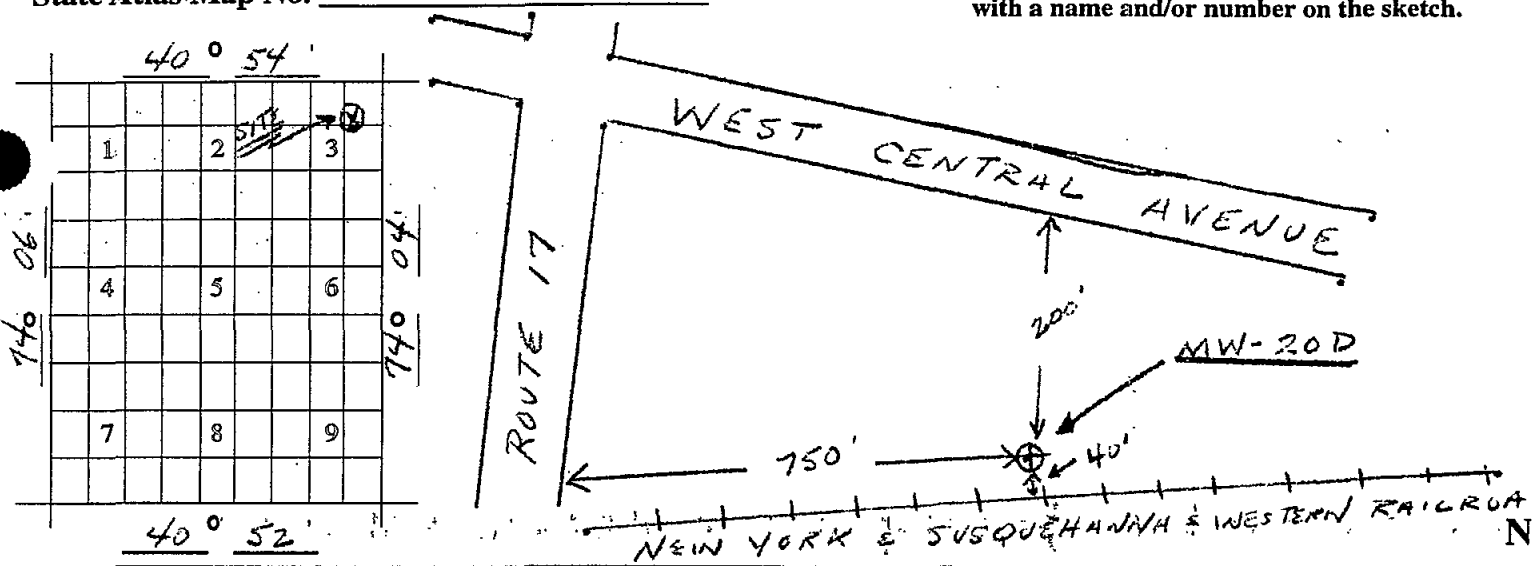
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO
Type of Well (see reverse)	MONITORING	If Yes, give pump capacity	NA cumulative

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
55	124	MAYWOOD	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stam

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 29 2000
BUREAU OF WATER ALLO

FOR D.E.P. USE

- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 9/27/00 Signature of Driller [signature] Registration No. 494

DWR-138 M
11/98

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 59108

Atlas Sheet Coordinates 26 03 533

OWNER IDENTIFICATION - Owner FENNO, NATHAN
Address 1 RAILROAD AVENUE
City COOPERSTOWN State NY Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-20D
County BERGEN Municipality HAYWOOD BORO Lot No. 55 Block No. 124
Address WEST CENTRAL AVE.

DATE WELL STARTED 2 / 23 / 01
DATE WELL COMPLETED 2 / 27 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele # 201 556-0160

WELL CONSTRUCTION

Total depth drilled 55 ft.
Well finished to 55 ft.

Borehole diameter:
Top 8 in.
Bottom 4 in.

Well was finished: ☐ above grade
☒ flush mounted

ished above grade, casing height (stick
above land surface — ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 15 ft.

Water level was measured using Tape

Well was developed for 4 hours
at 2 gpm

Method of development Submersible

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Water Type of Rig CME 75

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Driller (Print) Steve Wolf

Driller's Signature Steve Wolf

Registration No. 1579 Date 3 / 5 / 01

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.
Single/Inner Casing	0	30	4	Steel	Sch 40
Middle Casing (for triple cased wells only)	—	—	—	—	—
Outer Casing (largest diameter)	—	—	—	—	—
Open Hole or Screen (No. Used)	30	55	4	—	—
Blank Casings (No. Used)	—	—	—	—	—
Tail Piece	—	—	—	—	—
Gravel Pack	—	—	—	—	—
Grout	0	30	8	Neat Cement Bentonite	800 lbs 40 lbs

Grouting Method Tremmie
Drilling Method Drive + Wash Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 Red Brown Silty Fine Sand + Gravel
20 water 15'
Red Shale Bedrock
30
40
50
55 EOH 55

K-463

-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 34

266156
266156

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. _____

COORD #: 2603534

Owner Rochelle Park Twp Clerk
Address 194 - D Rt 17 N.
Rochelle Park N.J.

Driller Aquifer Drilling + Testing Inc
Address 150 Nassau Terminal Rd.
New Hyde Park, N.Y. 11040

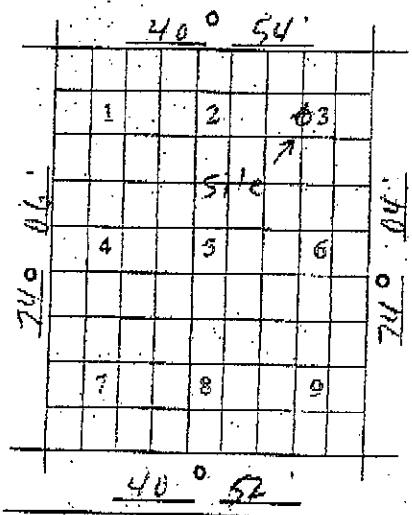
Name of Facility Maywood Chemical Superfund Site
Address c/o Stone + Webster 100 W. Hunter Ave
Maywood N.J. 07609

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	100 Feet
# of Wells Applied for (max. 10)	2	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

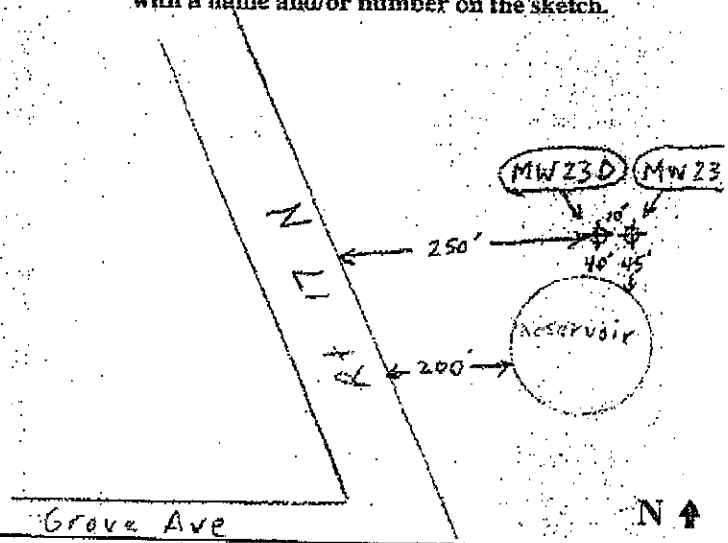
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
46	124	Maywood	Bergen

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JUN 11 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☐ For monitoring purposes only.
☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 6/8/01 Signature of Driller Steve Ward Registration No. 1579

Signature of Property Owner Steve Ward for Bob Dumont (Agent for Owner)

COPIES: Water Allocation ...

FROM : AQUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 03:44AM P21

-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 61567

Atlas Sheet Coordinates 26 : 03 : 534

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT 17 N
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-23 D
County BERGEN Municipality MAYWOOD BORO Lot No. 46 Block No. 124
Address 100 W HUNTER AVE

DATE WELL STARTED 6/25/01
DATE WELL COMPLETED 6/26/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-66

WELL CONSTRUCTION

Total depth drilled 71' ft.
Well finished to 71' ft.

Borehole diameter:
Top 10" To 35' in.
Bottom 6" To 71' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 12' ft.

Water level was measured using Tape

Well was developed for 4 hours at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	51'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	35'	6"	Steel	19lb/Sch
Open Hole or Screen (No. Used .010)	51'	71'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	49'	71'		#1 Morie	800 Lbs
Grout Outer Casing				Neat Cement	584/152 lbs.
Grout Inner Casing				Bentonite	36/48 lbs.

Method of development Pump

Grouting Method Tremmie
Drilling Method air Rotary

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type:

Drilling Fluid - Type of Rig DK-5

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR
Well Driller (Print) Richard M. Tabor
Driller's Signature Richard M. Tabor
Registration No. T-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill material white to Black f-M Sand & silt
25'-33': Red/Brn M Sand & silt w/ fx Shale
33'-71': fx Shale Thin Bed
fx @ 42, 60' approx

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: ____ EASTING: ____
OR
LATITUDE: ___° ___' ___.___" LONGITUDE: ___° ___' ___.___"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

FROM : AQUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 03:43AM P20

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 61566

Atlas Sheet Coordinates 26 : 03 : 534

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT 17 N
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 23 DD
County BERGEN Municipality MAYWOOD BORO Lot No. 46 Block No. 124
Address 100 W HUNTER AVE

DATE WELL STARTED 6/28/01
DATE WELL COMPLETED 6/29/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) [illegible] Tele. # [illegible]

WELL CONSTRUCTION

Total depth drilled 112 ft.
Well finished to [illegible] ft.

Borehole diameter:
Top 10 [illegible] in.
Bottom [illegible] in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 15 ft.

Water level was measured using [illegible]

Well was developed for 3 hours at 2 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	82'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	35'	6"	Steel	[illegible]
Open Hole or Screen (No. Used .010)	82'	112'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	80	112		[illegible]	[illegible]
Grout	Grade/6"	35/80'		Neat Cement 584/[illegible] lbs. Bentonite 36/[illegible] lbs.	

Method of development [illegible]

Grouting Method [illegible]
Drilling Method [illegible]

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid _____ Type of Rig [illegible]

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXPORT, JR.

Well Driller (Print) Richard M Tabor

Driller's Signature Richard M. Tabor

Registration No. T-1598 Date 9/15/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

[illegible]

FX @ 50', 78'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

26615G
26615G

MONITORING WELL PERMIT 54

Permit No. _____

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03534

Owner Rochelle Park Twp Clerk
Address 194-0 Rt 17 N
Rochelle Park, N.J.

Driller Aquifer Drilling and Testing
Address 150 Nassau Terminal Rd
New Hyde Park N.Y. 11040

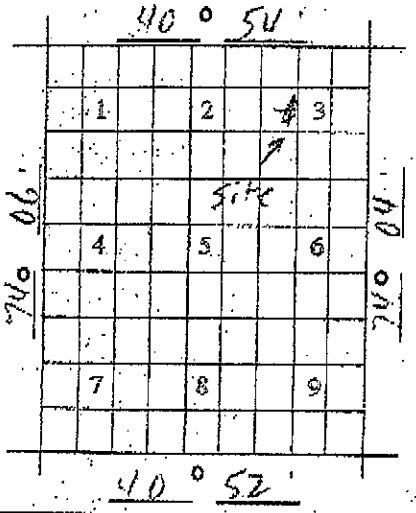
Name of Facility Maywood Chemical Superfund Site
Address c/o Stone + Webster 100 W. Hunter Ave
Maywood, N.J 07609

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	100 Feet
# of Wells Applied for (max. 10)	2	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	____ cumulative GPM

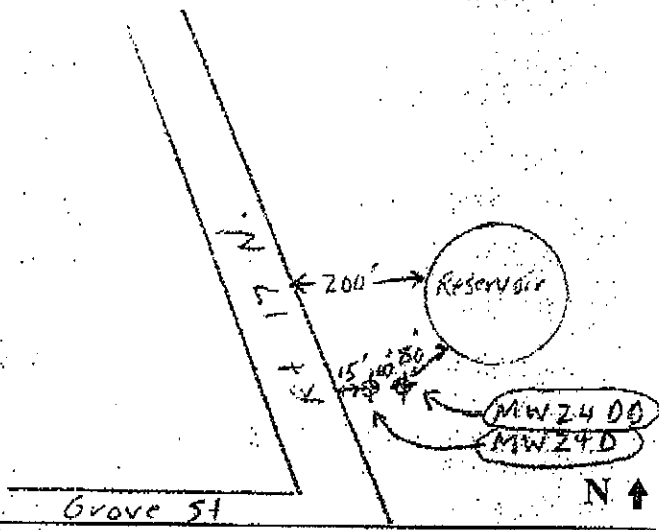
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	20.01	Rochelle Pk	Bergen

State Atlas Map No. _____



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JUN 11 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE

☐ Issuance of this permit is subject to the conditions attached. (see next page)
☑ For monitoring purposes only.
☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 6/8/01 Signature of Driller _____ Registration No. 1579

Signature of Property Owner _____ for Bob Dumont Agent for Owner

FROM : AQUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 03:43AM P19

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 61564

Atlas Sheet Coordinates 26 : 03 : 534

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT 17 N
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-24D
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 20.01
Address 100 W HUNTER AVE

DATE WELL STARTED 8/20/01
DATE WELL COMPLETED 8/21/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone + Webster Tele. # (201) 226-66

WELL CONSTRUCTION

Total depth drilled 68' ft.
Well finished to 68' ft.

Borehole diameter:
Top 10" To 35' in.
Bottom 6" To 68' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface 3 ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 25' ft.

Water level was measured using Tape

Well was developed for 4 hours at 12 gpm

Method of development Surge, Airlift, Pump.

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity gpm

Pump type:

Drilling Fluid - Type of Rig T-450

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	48'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	35'	6"	Steel	19#/Sch 40
Open Hole or Screen (No. Used .010)	48'	68'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	47'	68'		#1 Morie	700 lbs.
Grout - OUTER CASING	Grade	35'		Neat Cement	584 lbs.
Grout - INNER CASING	Grade	48'		Bentonite	136 lbs.

Grouting Method Tremmie
Drilling Method Air Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Material w/ Gravel To Black f-m Sand & Silt
25'-28': Red/Brn f-m Sand & Silt w/ f-x Shale
28'-35': f-x Shale Then Bedrock
35'-68': Bedrock
Ex 28' 48' approx

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR
Well Driller (Print) Richard M. Tabor
Driller's Signature Richard M. Tabor
Registration No. T-1598 Date 9/17/01

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: EASTING:
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

FROM : ROUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 03:41AM P16

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 61565

Atlas Sheet Coordinates 26 : 03 : 534

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-0 RT 17 N
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-24 DD
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 20.01
Address 100 W HUNTER AVE

DATE WELL STARTED 8/12/01
DATE WELL COMPLETED 8/13/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. #(201) 226-661

WELL CONSTRUCTION

Total depth drilled 105 ft.
Well finished to 105 ft.

Borehole diameter:
Top 10" To 35' in.
Bottom 6" To 105' in.

Well was finished: ☒ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 3 ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 25 ft.

Water level was measured using Tape

Well was developed for 4 hours at 18 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	80'	4"	Steel	19lb/Sch 4
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	35'	6"	Steel	19lb/Sch 4
Open Hole or Screen (No. Used)					
Blank Casings (No. Used)	80'	105'	4"		
Tail Piece					
Gravel Pack					
Grout Outer Casing	Grade	35'		Neat Cement	58/84 lbs.
Grout Inner Casing	Grade	80'		Bentonite	36/56 lbs.

Grouting Method Tremmie
Drilling Method Air Rotary

Method of development Surge, Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity gpm

Pump type:

Drilling Fluid — Type of Rig T-150

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company N. LEONARD PEXRODE JR

Well Driller (Print) Richard M. Tabor

Driller's Signature Richard M. Tabor

Registration No. J-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Material - White To Black f-M Sand & silt

25'-33': Red/Brn f-M Sand w/ fx Shale

33'-105': Fx Shale Clean Bedrock

Fx @ 50' & 80' approx

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: EASTING:
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

FROM : AQUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 03:42AM P18

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

RECEIVED
NOV 29 2001

MONITORING WELL PERMIT J4

Permit No. 2663146

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 21 · 17 · 5 · 36

Owner US EPA/Region II
Address 290 Broadway 20th Floor
New York, NY 10007

Driller B&B Drilling Co.
Address P.O. Box 0
Spotswood, NJ 08884

Name of Facility Raymond Fisher Sportman's Club
Address Same
Same

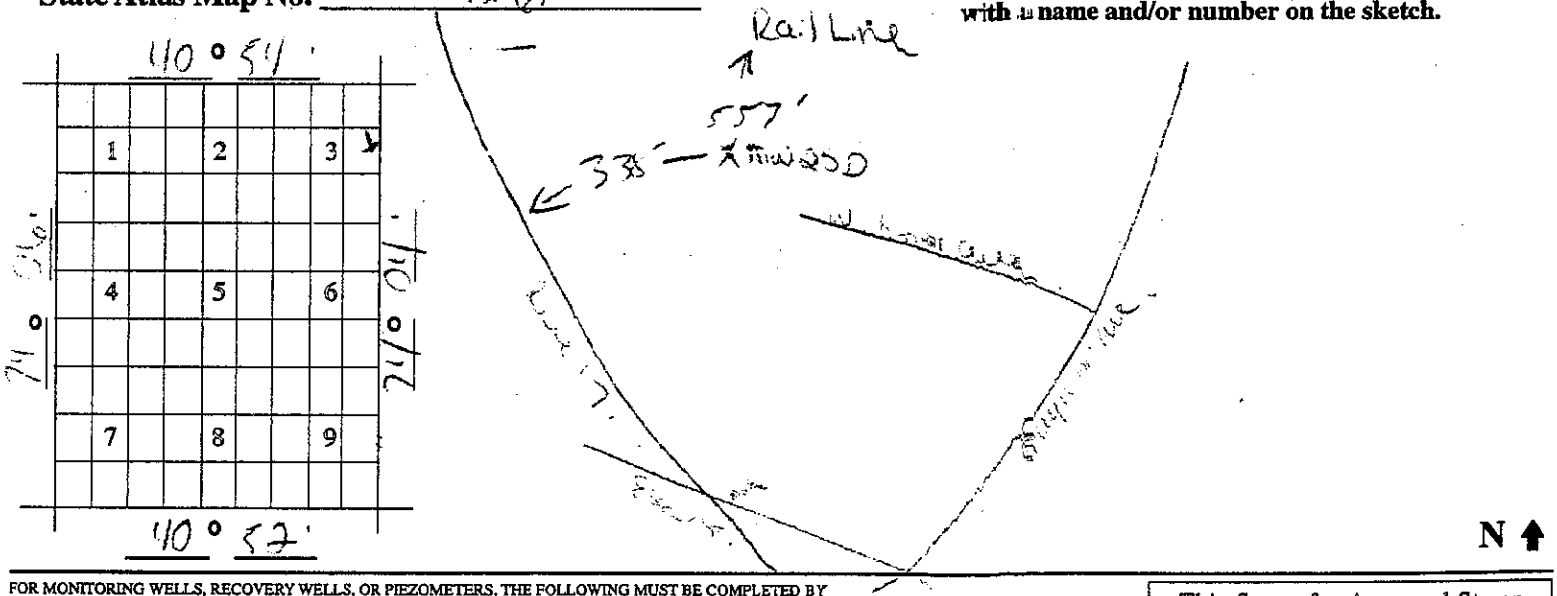
Diameter of Well(s)	6 Inches	Proposed Depth of Well(s)	100 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	——— cumulative GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
4	124	Raymond	Gloucester

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
NOV 26 2001
BUREAU OF WATER ALLOCAT

FOR D.E.P. USE

- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 11/20/01 Signature of Driller [signature] Registration No. 11277

Signature of Property Owner [signature]

COPIES: White - Bureau of Water Allocation · Yellow - Well Driller · Pink - Property Owner · Blue - Driller · Gold - Bureau of Water Allocation

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63146

Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner USEPA C/O STONE & WEBSTER
Address 100 W HUNTER AVE
City MAYWOOD State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW25.0
County BERGEN Municipality MAYWOOD BORO Lot No. 46 Block No. 124
Address 100 W HUNTER AVE
DATE WELL STARTED 12/11/01
DATE WELL COMPLETED 12/11/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 58.5 ft.
Well finished to 58.5 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: ☑ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 2.5 ft.

Was steel protective casing installed? ☑ Yes ☐ No

Static water level after drilling 13.7 ft.

Water level was measured using probe

Well was developed for _____ hours at _____ gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+2.5	33.5	6	Steel	19±
Middle Casing (For triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	33.5	58.5	6	Bentonite	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	0	33.5	6 in	Neat Cement Bentonite	1200 lbs. ____ lbs.

Grouting Method Tremie Grout
Drilling Method [illegible]

Method of development [illegible]

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid _____ Type of Rig [illegible]

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING, INC

Well Driller (Print) [illegible]

Driller's Signature [illegible]

Registration No. _____ Date [illegible]

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 - 58.5' [illegible]

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

RECEIVED
NOV 29 2001

MONITORING WELL PERMIT 54

Permit No. 2663144

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 21.03.298

Owner US EPA c/o Stone & Webster
Address 100 W. Hunter Avenue
Maywood NJ 07607

Driller B&B Drilling Inc
Address P.O. Box 80
Netcong NJ 07857

Name of Facility Maywood Fusrap Superfund Site
Address Route 17
Rochelle Park NJ

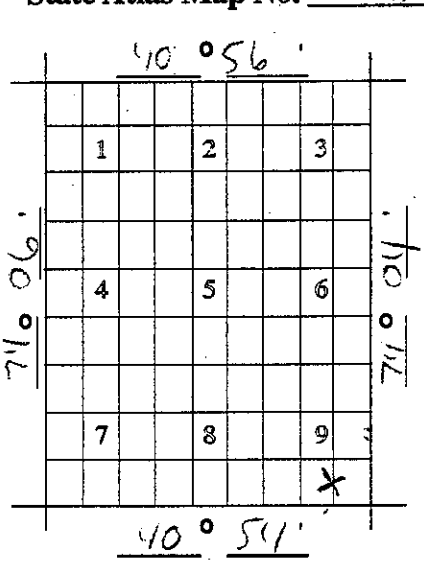
Diameter of Well(s)	6 Inches	Proposed Depth of Well(s)	60 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Non Pump	If Yes, give pump capacity	cumulative GPM

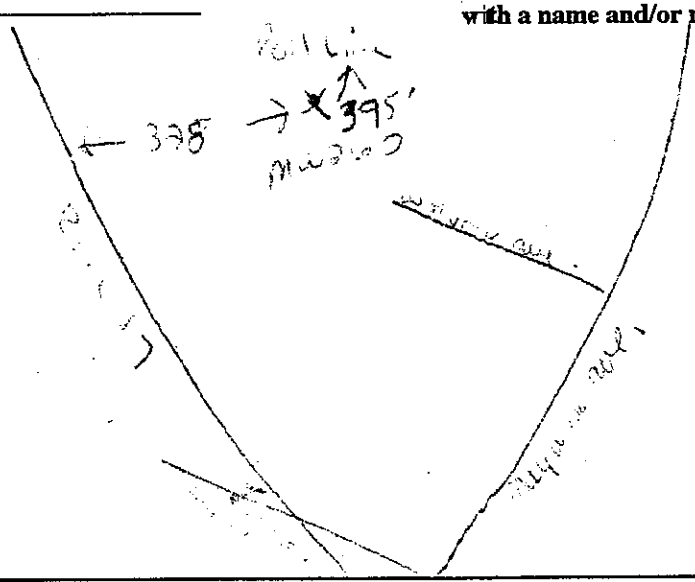
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	20.01	Rochelle Park	Bergen

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





N ↑

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
NOV 26 2001
BUREAU OF WATER ALLOCAT

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 11/20/01 Signature of Driller [signature] Registration No. M1277

Signature of Property Owner [signature]

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63144

Atlas Sheet Coordinates 26 : 03 : 298

OWNER IDENTIFICATION - Owner USEPA C/O STONE & WEBSTER
Address 100 W HUNTER AVE
City MAYWOOD State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW26D
County BERGEN Municipality ROCHELLE PARK Lot No. 1 Block No. 20.01
Address ROUTE 17

DATE WELL STARTED 12/12/01
DATE WELL COMPLETED 12/14/01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 59 ft.
Well finished to 59 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: ☑ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 25 ft.

Was steel protective casing installed? ☑ Yes ☐ No

Static water level after drilling 25 ft.

Water level was measured using probe

Well was developed for _____ hours at _____ gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	-2.5	34	6	Steel	19#
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	34	59	6	open hole	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	0	34	8 mm	Neat Cement Bentonite	1200 lbs. ___ lbs.

Grouting Method Tremie Grout
Drilling Method air rotary

Method of development Submersible

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid _____ Type of Rig IR TSW

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING.INC

Well Driller (Print) Douglas [illegible]

Driller's Signature [illegible]

Registration No. M1277 Date 1/15/02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-59' red/brn. sandstone, gravel

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. 26 61465 - THRU - 26 61469

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.535

Owner ROCHELLE PARK TWP. CLERK

Address 194-D ROUTE 17 NORTH
ROCHELLE PARK NJ

Driller AQUIFER DRILLING & TESTING, INC.

Address 150 NASSAU TERMINAL ROAD
NEW HYDE PARK, NY 11040

Name of Facility MAYWOOD CHEMICAL SUPERFUND SITE

Address C/O STONE & WEBSTER, 100 W. HUNTER AVE.
MAYWOOD, N.J. 07609

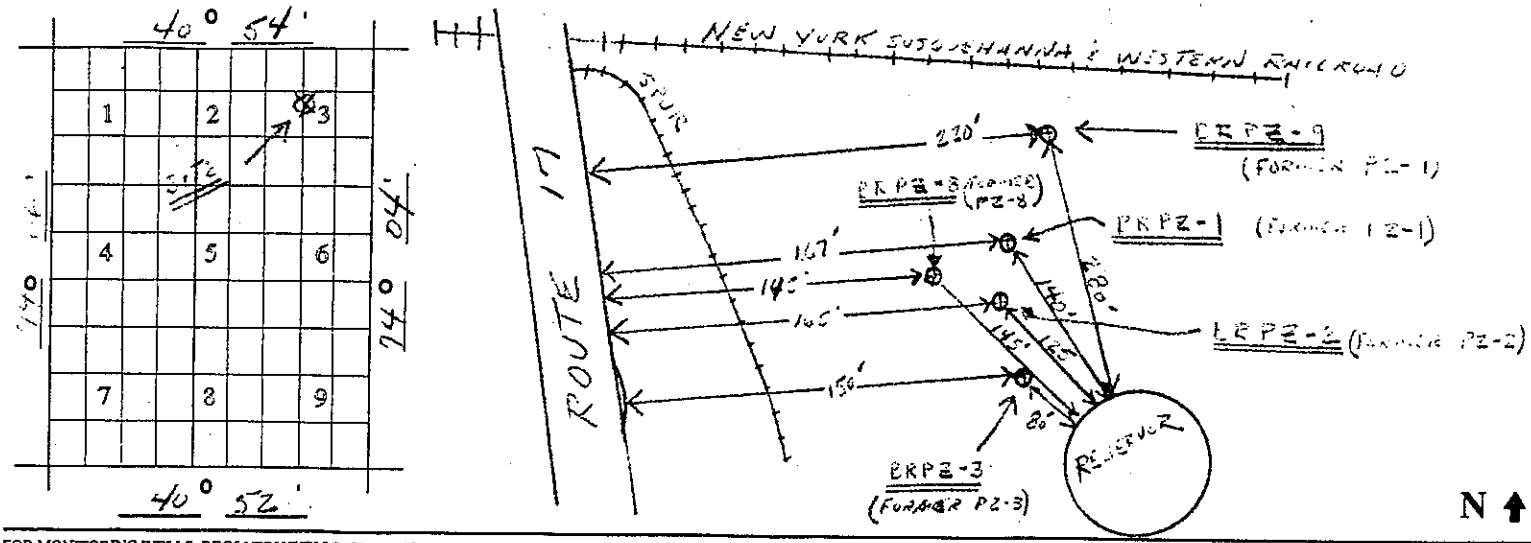
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50 Feet
# of Wells Applied for (max. 10)	5	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	PIEZOMETERS	If Yes, give pump capacity	N/A cumulative GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	128	ROCHELLE PK	BERGEN

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JUN 4 2001
BUREAU OF WATER ALLOCAT

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 5/23/01

Signature of Driller [signature] Registration No. T-1444

Signature of Property Owner [signature] FOR R. DUNOTT AGENT FOR OWNER

COPIES: Water Allocation - White, Health Dept. - Yellow, Owner - Blue, Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 60704

Atlas Sheet Coordinates 26 - 03

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194 D RT 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. PW 1 D
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 128
Address 100 W HUNTER AVE

DATE WELL STARTED 7/23/01
DATE WELL COMPLETED 7/27/01

TYPE OF WELL (as per Well Permit Categories) RECOVERY
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (701) 276-6615

WELL CONSTRUCTION

Total depth drilled 110 ft.
Well finished to 110 ft.

Borehole diameter:
Top 10" to 40' in.
Bottom 6" to 110 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling approx 25 ft.

Water level was measured using Tape

Well was developed for 4 hours at 25 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	90'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	40'	6"	Steel	19lb/Sch 40
Open Hole or Screen (No. Used .010)	90'	110'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	86'	110'		#2 Morie	900 lbs
Grout Outer Casing	Grade	40'		Neat Cement	750/846 lbs.
Grout Inner Casing	6"	86'		Bentonite	48/54 lbs.

Method of development Surge Airlift, pump

Grouting Method Tremie
Drilling Method Air Rotary

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid — Type of Rig T-150

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. EDWARD REXRODE JR

Well Driller (Print) Richard M. Tabor

Driller's Signature Richard M. Tabor

Registration No. T-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Material White to Black f Sand & Silt
25'-38': Red/Brn f-m Sand & silt w/ f x Shale
38'-40': f x Shale — Bedrock
40'-110': Bedrock
Fx @ approx 50 - 85

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 . 61465

Atlas Sheet Coordinates 26 . 03 535

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP. CLERK
Address 194-D ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BR PZ-1
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 128
Address 100 W. HUNTER AVE

DATE WELL STARTED 5/23/01
DATE WELL COMPLETED 6/01/01

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-6618

WELL CONSTRUCTION

Total depth drilled 115 ft.
Well finished to 115 ft.

Borehole diameter:
Top 10" To 40' in.
Bottom 6" To 115 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling approx 20 ft.

Water level was measured using Tape

Well was developed for 4 hours at 25 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	40'	6"	Steel	19 Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	40'	115'	6"		
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	Grade	40'		Neat Cement Bentonite	252 lbs. 48 lbs.

Method of development Airlift, Surge, Pump

Grouting Method Tremmie
Drilling Method Air Rotary

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type:

Drilling Fluid ____ Type of Rig T450

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Well Driller (Print) Richard M. Tabor

Driller's Signature Richard M. Tabor

Registration No. J-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0'-25' : Overburden white to black f Sand & silt (Fill)

25'-40' : Bedrock Fx H2O Fx @ 35' & 40'

40'-115' : Competent Bedrock Fx @ 75'

End @ 115'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: ____ EASTING: ____
OR
LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

D-1293

DWR-188 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 61466

Atlas Sheet Coordinates 26 03 535

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP. CLERK
Address 194 P ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BR PZ-2
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 128
Address 100 W HUNTER AVE

DATE WELL STARTED 7/23/01
DATE WELL COMPLETED 7/29/01

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 271-6618

WELL CONSTRUCTION

Total depth drilled 62' ft.
Well finished to 62' ft.

Borehole diameter:
Top 10" To 40' in.
Bottom 6" To 62' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 25' ft.

Water level was measured using Tape

Well was developed for 4 hours at 17 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	42'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	40'	6"	Steel	19 lb/Sch 40
Open Hole or Screen (No. Used .010)	42'	62'	2"	PVC	Sch 40
Blank Casings (No. Used ~~.010~~)					
Tail Piece					
Gravel Pack	40'	62'		#1 Horie	700 lbs
Grout OUTER CASING	Grade	40'		Neat Cement	638/589 lbs.
Grout INNER CASING	Grade	42'		Bentonite	42/36 lbs.

Grouting Method _____
Drilling Method _____

Method of development Surge & Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid — Type of Rig DK-5

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Well Driller (Print) Richard M Tabor

Driller's Signature Richard M. Tabor

Registration No. J-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Material White - Black Sand & Silt
25'-38': Rd/Brn F-M Sand & Silt w/fx Shale
38'-62': fx Shale To 40' Then Bedrock.
Fx @ 52' approx

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DIV. OF WATER RESOURCES
MAR 2001

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 26 61467

Atlas Sheet Coordinates 26 03 535

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP. CLERK
Address 191 B ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BR PZ-3
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 128
Address 100 W. HUNTER AVE.

DATE WELL STARTED 7/23/01
DATE WELL COMPLETED 7/24/01

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 796-661

WELL CONSTRUCTION

Total depth drilled 57 ft.
Well finished to 57 ft.

Borehole diameter:
Top 10" To 35' in.
Bottom 6" To 57' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling approx 20 ft.

Water level was measured using Tape

Well was developed for 1 hours at 12 gpm

Method of development Surge & pump.

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type: ____

Drilling Fluid ____ Type of Rig T-150

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	37'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	35'	6"	Steel	
Open Hole or Screen (No. Used .010)	37'	57'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	35'	57'		#1 Morie	700 lbs
Grout OUTER CASING				Neat Cement	45/50 lbs.
INNER CASING				Bentonite	42/30 lbs.

Grouting Method Tremmie
Drilling Method AIR ROTARY

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Natural White To Black f-M Sand & Silt
25-33': Red/Brn Fine Sand & Silt w/ Trace Shale
33'-57': f x Shale To 35' ft. on Bedrock.
Ex. approx 40'

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Richard M. Talbot
Driller's Signature Richard M. Talbot
Registration No. T-1598 Date 9/17/01

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET
NORTHING: ____ EASTING: ____
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 00716

Atlas Sheet Coordinates 26 08 [illegible]

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194 D RT 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRPZ-4
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 12B
Address 100 W HUNTER AVE

DATE WELL STARTED 5/14/01
DATE WELL COMPLETED 6/17/01

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-661

WELL CONSTRUCTION

Total depth drilled 61 ft.
Well finished to 61 ft.

Borehole diameter:
Top 10" to 40' in.
Bottom 6" to 61 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling approx. 25 ft.

Water level was measured using TAPE

Well was developed for 4 hours at 25 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	40'	6"	Steel	19 lb/Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	40'	61'	6"		
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	Grade	40'		Neat Cement Bentonite	752 lbs. 48 lbs.

Grouting Method Tremmie
Drilling Method AIR ROTARY

Method of development air lift, surge pump.

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid _____ Type of Rig T-450

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company LEONARD REXROSE, JR.

Well Driller (Print) Richard M. Tabor

Driller's Signature Richard M. Tabor

Registration No. T-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill material white & black silty sand
25'-37': Red/Brn M Sand & FS Shale
37-40': Bedrock Competent
40'-61': Bedrock Competent FS @ 50'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 60717

Atlas Sheet Coordinates 26 - 03

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRPZ-5
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 100
Address 100 W HUNTER AVE

DATE WELL STARTED 8/6/01
DATE WELL COMPLETED 8/7/01

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-661

WELL CONSTRUCTION

Total depth drilled 62' ft.
Well finished to 62' ft.

Borehole diameter:
Top 10" to 40' in.
Bottom 6" to 62' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 43 ft.

Water level was measured using TAPE

Well was developed for 4 hours at 17 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	42'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	Grade	40'	6"	Steel	19lb/Sch40
Open Hole or Screen (No. Used .010)	42'	62'	2"	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	40	62		#1 Morie	700lbs
Grout	6" Grade	40' 42'		Neat Cement 58/132 lbs. Bentonite 36/48 lbs.	

Method of development Surge, airlift, pumping

Grouting Method Trimmie
Drilling Method AIR ROTARY

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid _____ Type of Rig T-450

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company W. LEONARD REXROSE, JR

Well Driller (Print) Richard M. Tabor

Driller's Signature Richard M. Tabor

Registration No. T-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Material White to Black + Sand & Silt
25'-37': Red/Brn Sand & Silt & Ex Shale
37'-40': Ex Shale — Bedrock
40'-62': Competent Shale

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 60718

Atlas Sheet Coordinates 26 - 03 534

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRPZ-6
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 12B
Address 100 W HUNTER AVE

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well Case I.D.#

DATE WELL STARTED 5/23/01
DATE WELL COMPLETED 6/01/01

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-6618

WELL CONSTRUCTION

Total depth drilled 120 ft.
Well finished to 120 ft.

Borehole diameter:
Top 10" TO 31' in.
Bottom 6" TO 120 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling APPROX 25 ft.

Water level was measured using TAPE

Well was developed for 4 hours at 25 gpm

Method of development Surge, AIRLIFT, Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type: ____

Drilling Fluid ____ Type of Rig T-460

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	31'	6"	Steel	19#/Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	31'	120'	6"		
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	Grade	31'		Neat Cement	152 lbs.
				Bentonite	48 lbs.

Grouting Method Tremmie
Drilling Method AIR Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Material White-Black + Sand & Silt.
25'-29': Red/Brn Sand & Silt w/Fx Shale
29-31': Fx Shale Thin Bedrock
31'-120': Bedrock Fx @ 50 & 75'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: ____ EASTING: ____

OR

LATITUDE: ° ' . " LONGITUDE: ° ' . "

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Well Driller (Print) Richard M. TABOR
Driller's Signature Richard M. Tabor
Registration No. T-1598 Date 9/17/01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

DWR-138 M
3/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 60719

Atlas Sheet Coordinates 26 03 - 534

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP CLERK
Address 194-D RT 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRPZ-7
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 12B
Address 100 W HUNTER AVE

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
DATE WELL STARTED 5/10/01
DATE WELL COMPLETED 5/17/01
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-6618

WELL CONSTRUCTION

Total depth drilled 109 ft.
Well finished to 109 ft.

Borehole diameter:
Top 10" To 40' in.
Bottom 6" To 109' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☐ Yes ☒ No Approx

Static water level after drilling 25' ft.

Water level was measured using TAPE

Well was developed for 4 hours at 25 gpm

Method of development Surge, Pump, Airlift

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type: ____

Drilling Fluid — Type of Rig T-450

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	40'	6"	Steel	19#/Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	40'	109'	6"		
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	Grade	40'		Neat Cement / Bentonite	150 lbs. / 75 lbs.

Grouting Method TREMMIE
Drilling Method AIR ROTARY

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': fill Material white to Black f Sand + Silt
25'-29': Red Brn f-M Sand + silt
29-38': Same as above w/ Fx Shale
38'-109': Competent Shale
Fx @ 52' & 79'

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.
Name of Driller (Print) Richard M. Tabor
Driller's Signature Richard M. Tabor
Registration No. 1598 Date 9/17/01

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: ____ EASTING: ____
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
1/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 61468

Atlas Sheet Coordinates 26 03 535

OWNER IDENTIFICATION - Owner ROCHELLE PARK TWP. CLERK
Address 194-D ROUTE 17 NORTH
City ROCHELLE PARK State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BR PZ-8
County BERGEN Municipality ROCHELLE PARK T Lot No. 1 Block No. 128
Address 100 W. HUNTER AVE.

DATE WELL STARTED 5/22/01
DATE WELL COMPLETED 6/05/01

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 226-661

WELL CONSTRUCTION

Total depth drilled 115' ft.
Well finished to 115' ft.

Borehole diameter:
Top 10" To 40' in.
Bottom 6" To 115' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ~~25~~ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 25' ft.

Water level was measured using Tape

Well was developed for 4 hours at 25 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	40	6"	Steel	19Lbs/Sch
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	40'	115'	6"		
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	Grade	40'		Neat Cement Bentonite	752 lbs. 48 lbs.

Method of development Airlift, Surge, Pump

Grouting Method Tremmie
Drilling Method Air Rotary

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity gpm

Pump type:

Drilling Fluid — Type of Rig T-450

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company H. LEONARD REXRODE, JR.

Well Driller (Print) Richard M. Tabor

Driller's Signature Richard M. Tabor

Registration No. J-1598 Date 9/17/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-25': Fill Material White To Black f Sand & Silt
25-38': Red/Brown f-M Sand & Fx Shale
38'-109': Bedrock
Fx approx 57' & 81'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

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COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

26-61469
Well Permit No. 26 61469
Atlas Sheet Coordinates 26 03 535

OWNER IDENTIFICATION - Owner ~~ROCHELLE PARK TWP. CLERK~~
Address ~~184-D ROUTE 17 NORTH~~ Zip Code
City ~~ROCHELLE PARK~~ State ~~NJ~~

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRPZ-9
County BERGEN Municipality ~~ROCHELLE PARK T~~ Lot No. 1 Block No. ~~128~~
Address 100 N. HUNTER AVE
DATE WELL STARTED 6/23/01
DATE WELL COMPLETED 6/24/01

TYPE OF WELL (as per Well Permit Categories) PIEZOMETER
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Stone & Webster Tele. # (201) 276-6618

WELL CONSTRUCTION
Total depth drilled 56 ft.
Well finished to 56 ft.

Borehole diameter:
Top 10" To 32' in.
Bottom 6" To 56' in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☐ Yes ☒ No

Static water level after drilling 25 ft.

Water level was measured using Tape

Well was developed for 4 hours at 12 gpm

Method of development Surge, Airlift, Pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type: ____

Drilling Fluid ____ Type of Rig T-450

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	Grade	32'	6"	Steel	19#s/Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	32'	56'	6"		
Blank Casings (No. Used .)					
Tail Piece					
Gravel Pack					
Grout	Grade	32'		Neat Cement	252 lbs.
				Bentonite	18 lbs.

Grouting Method Tremmie
Drilling Method Air Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company LEONARD DEVRODE, INC.
Well Driller (Print) Richard M. Tabor
Driller's Signature Richard M. Tabor
Registration No. T-1598 Date 9/17/01

GEOLOGIC LOG
Note each depth where water was encountered in consolidated formations.
0-25': Fill Material White To Black f Sand & Silt
25'-28': Red/Brn f-M Sand & Fx Shale
28-32': Fx Shale Then Redrock
32'-56': Redrock
Fx @ 24', @ 38'

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET
NORTHING: ____ EASTING: ____
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

FROM : ROUIFER DRILLING PHONE NO. : 9084749855 Dec. 15 2001 04:24AM P4

APPENDIX L
DEVELOPMENT LOGS

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-1S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bristol Manor	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 0800	Completion Date/Time: 01/12/01 0810	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): Dry	Protection Level: D
Pre-development DTW (bgs) (ft): Dry	DTB (bgs) (ft): 8	
Post-development DTW (bgs) (ft): Dry		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 300 gallons for water loss during installation.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0	Specific Capacity (gpm/ft):	
Total Quantity Purged: 0		
Disposition of Purge Water:		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bristol Manor	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 0800	Completion Date/Time: 01/12/01 1500	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 11.2	Protection Level: D
Pre-development DTW (bgs) (ft): 11.2 DTB (bgs) (ft): 46.7		
Post-development DTW (bgs) (ft): 12.08		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.17 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 69.52 + 450 gallons for water loss = 519.52 gallons		
Development Purge/Discharge Rate (gpm): ranged from 0.25 to 0.5 gpm		
Maximum Drawdown During Purging (ft): 1.4	Specific Capacity (gpm/ft):	
Total Quantity Purged: 108.55 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 8 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0853	-	11.2	Turbid rd/ brown	9.9	7.60	0.668	> 999	
0850	-	12.45	-	-	-	-	-	
0905	-	12.60	-	-	-	-	-	
0910			-	-	-	-	-	Well dewatered
0928	Reduced pump rate from 0.5 to 0.25 gpm and resumed pumping							
0929	-	11.2	-	-	-	-	-	
0946	-	11.6	-	-	-	-	-	
1000	-	11.6	-	-	-	-	-	
1015	-	11.6	-	-	-	-	-	
1040	Pump stopped pumping							
1053	Replaced pump and resumed pumping @ 0.5 gpm						-	
1100	23.38	11.6	Turbid rd/ brn	7.6	-	-	-	
1108	-	12.5	-	-	-	-	-	
1110	Lowered flow rate to 0.33 gpm					-	-	
1139	-	12.0	-	-	-	-	-	
1200	46.76	11.85	Clear, yellow brn	7.6	7.60	0.683	500	
1325	70.14	12.00	Clear	7.65	7.65	0.687	51	
1423	93.52	12.05	Clear	7.88	7.88	0.683	11	
1445	108.55	12.08	Clear	7.22	7.22	0.675	5	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bristol Manor	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/22/01 0815	Completion Date/Time: 01/22/01 1435	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pumps, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 10.3	Protection Level: D
Pre-development DTW (bgs) (ft): 10.3 DTB (bgs) (ft): 46.6		
Post-development DTW (bgs) (ft): 13		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 *need to remove 560 gallons*		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.17 gallons (from first day of development)		
Minimum Purge Volume (gal) (3 well volumes) = 519.52 gallons –108.55 gallons =410.97 gallons left to purge		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.9	Specific Capacity (gpm/ft):	
Total Quantity Purged: 330 gallons in addition to 108.55 gallons (01/12/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 7.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0920	Int	10.6	Cloudy	8.8	6.09	.637	118	
1055	100	13.2	Clear	12.2	6.56	.671	31	
1230	200	13.2	Clear	12.0	7.24	.667	6	
1405	300	13.05	Clear	12.0	7.09	.663	1	
1435	330	13.05	Clear	12.0	7.15	.665	1	Need to remove 230 gallons more.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bristol Manor	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/23/01 0800	Completion Date/Time: 01/23/01 1115	Well Diameter: 4" SS
Development Method/Equipment: Groundwater withdrawal via whale pumps, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 10.4	Protection Level: D
Pre-development DTW (bgs) (ft): 10.4 DTB (bgs) (ft): 46		
Post-development DTW (bgs) (ft): 10.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.17 gallons (from first day of development)		
Minimum Purge Volume (gal) (3 well volumes) = 410.97 gallons – 330 gallons = 80.97 gallons left to purge		
Development Purge/Discharge Rate (gpm): 400 ml/min		
Maximum Drawdown During Purging (ft): 2.4	Specific Capacity (gpm/ft):	
Total Quantity Purged: 170 gallons in addition to 439 gallons removed previously	COMPLETED: 609 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0820	1	10.4	Clear	10.6	6.38	.709	33	
0925	70	12.8	Clear	11.4	6.77	.677	1	
1100	170	12.8	Clear	11.8	6.98	.664	1	Finished

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-2S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Becker Street	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/14/01 1300	Completion Date/Time: 01/14/01 1530	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 7.36	Protection Level: D
Pre-development DTW (PVC) (ft): 7.36	DTB (PVC) (ft): 13.0	
Post-development DTW (PVC) (ft): 7.36		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.925		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.78 gallons + 45 gallons (for recovery) = 47.78 gallons		
Development Purge/Discharge Rate (gpm): 0.13 to 0.45 gpm		
Maximum Drawdown During Purging (ft): 1.69		
Total Quantity Purged: 15 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1331	-	8.00	Turbid red/brown	10.6	7.68	1.5	999	
1333	0.92	8.80	Turbid red/brown	-	-	-	-	
1335	1.84	9.05	-	11.4	7.49	1.46	999	
1345	2.76	8.20	Translucent red/brown	11.7	7.95	1.49	177	
1346	Slowed pump rate							
1349	Well dewatered. Lowered pump rate and restarted.							
1357	3.68	8.30	Translucent red/brown	11.6	7.67	1.50	257	
1404	4.70	8.30	Translucent red/brown	11.6	7.66	1.47	86	
1411	5.62	8.30	Cloudy	11.7	7.66	1.45	35	
1418	6.54	8.30	Cloudy	11.6	7.66	1.44	21	
1424	7.46	8.30	Clear	11.7	7.66	1.44	19	
1430	15.00	7.36	Clear	-	-	-	-	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-2S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Becker Street	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/19/01 0730	Completion Date/Time: 01/19/01 1530	Well Diameter: 2"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.8	Protection Level: D
Pre-development DTW (PVC) (ft): 6.8	DTB (PVC) (ft): 13.0	
Post-development DTW (PVC) (ft): 8.35		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.925 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 47.78 gallons – 15 gallons = 32.78 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 0.35 to 1.25 gpm		
Maximum Drawdown During Purging (ft): 5.4		
Total Quantity Purged: 48 gallons in addition to 15 gallons (01/14/01)	COMPLETED: 63 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1220	-	6.8	Turbid red/brown	9.5	7.96	1.29	999	
1224	-	7.7	Turbid red/brown	-	-	-	-	
1232	5	9.4	Turbid red/brown	11.8	7.85	1.42	999	
1238	7	8.5	Translucent	11.8	7.80	1.48	272	
1245	10	8.3	Translucent	11.9	7.90	1.43	59	
1255	Pump cut out; had to replace.							
1258	15	8.3	Turbid red/brown	11.3	8.03	1.44	999	
	Increased flow							
1305	20	9.6	Turbid red/brown	11.7	8.10	1.49	999	
1312	25	8.2	Turbid red/brown	11.6	8.20	1.50	999	
1322	30	8.2	Turbid red/brown	11.6	8.20	1.50	999	
1327	35	11.3	Turbid red/brown	11.2	8.06	1.48	999	
1333	40	12.2	Turbid red/brown	11.3	8.05	1.46	999	
	Lowered rate of pump.							
1339	49	8.0	Clear	11.3	8.07	1.39	26	
1353	45	8.21	Clear	11.1	7.97	1.36	28	
1400	48	8.35	Clear	11.5	8.01	1.43	16	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-2D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Becker Street	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/14/01 0730	Completion Date/Time: 01/14/01 1530	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via DK550 rig pump and 2'' submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.75	Protection Level: D
Pre-development DTW (PVC) (ft): 6.75	DTB (PVC) (ft): 48.5	
Post-development DTW (PVC) (ft): 7.25		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 27.25 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 81.75 gallons + 300 gallons (for recovery) = 381.75 gallons		
Development Purge/Discharge Rate (gpm): 1.36 to 3.89 gpm		
Maximum Drawdown During Purging (ft): 1.65		
Total Quantity Purged: 300 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 7		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1140	-	6.5	Turbid red/brown	11.2	8.95	0.615	>999	
1148	27.25	7.1	Turbid red/brown	11.3	10.28	0.704	>999	
1205	54.50	7.2	Yellowish red/brown	11.4	8.62	0.981	528	
1220	81.75	7.2	Translucent red/brown	11.1	8.00	1.30	237	
1221	Pump over load. Had to restart at lower rate and pull off bottom of well by 1 foot.							
1224	-	8.4	Translucent red/brown	Lowered pump rate.				
1238	109	7.8	Translucent red/brown	11.7	7.90	1.38	132	
1257	136.25	7.8	Translucent red/brown	11.8	7.78	1.43	67	
1317	163.50	7.82	Translucent red/brown	12.0	7.95	1.45	42	
1337	190.75	7.8	Translucent red/brown	12.4	7.61	1.46	51	
1353	218.00	7.8	Translucent red/brown	12.6	7.83	1.46	29	
1414	245.25	7.8	Translucent red/brown	12.6	7.71	1.45	16	
1430	272.50	7.8	Clear	12.6	7.83	1.45	17	
1450	300	7.8	Clear	13.0	7.97	1.45	13	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-2D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Becker Street	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/19/01 0730	Completion Date/Time: 01/19/01 1530	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.0	Protection Level: D
Pre-development DTW (PVC) (ft): 6.0 DTB (PVC) (ft): 48.5		
Post-development DTW (PVC) (ft): 7.8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 27.25 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 381.75 gallons – 300 gallons = 81.75 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 1.36 to 3.89 gpm		
Maximum Drawdown During Purging (ft): 1.8		
Total Quantity Purged: 300 gallons in addition to 300 gallons (01/14/01) COMPLETED: 600 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0845	-	6.0	Smokey clear	11.5	8.26	1.46	53	
	Whale pump malfunctioned, replaced.							
0925	Restart pumping.							
0930	-	6.5	-	-	-	-	-	
0950	27.25	6.5	Clear	13.1	-	1.67	37	
1014	54.50	6.9	Clear	11.0	-	1.64	12	
1040	109	7.8	Clear	12.8	-	1.58	7	
1105	136.25	7.8	Clear	12.6	-	1.58	4	
1130	163.50	7.82	Clear	12.8	-	1.58	3	
1155	190.75	7.8	Clear	12.6	-	1.60	2	
1220	218.00	7.8	Clear	12.3	-	1.49	4	
1245	245.25	7.8	Clear	12.9	-	1.48	5	
1318	272.50	7.8	Clear	12.5	-	1.46	7	
1338	300	7.8	Clear	12.5	-	1.46	5	
1350			Clear	12.3	-	1.44	3	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-3S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Dirt Road	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/27/01 0800	Completion Date/Time: 02/27/01 1600	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 5.8	Protection Level: D
Pre-development DTW (PVC) (ft): 5.8	DTB (PVC) (ft): 14	
Post-development DTW (PVC) (ft): 7.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.35 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.03 gallons + 0 gallons (for recovery) = 4.03 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 3.85		
Total Quantity Purged: 50 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0930		5.8	Turbid red brown	12.1	1.34	2.36	> 999	
0938	3	9.65	Cloudy red brown	11.6	5.09	2.29	538	
0952	5	9.58	Cloudy red brown	11.7	6.01	2.32	151	
1014	8	9.60	Cloudy red brown	12.5	6.69	2.39	77	
1030	12	9.55	Cloudy red brown	12.3	6.84	2.41	90	
1048	16	9.58	Cloudy red brown	12.3	6.55	2.42	63	
1100	20	9.56	Cloudy red brown	12.4	6.31	2.40	55	Development not complete
1135	25	9.55	Cloudy	12.6	6.46	2.44	85*	Used Lamotte turb meter
1215	30	9.50	Cloudy	12.3	6.65	2.42	200*	Used Lamotte turb meter
1241	35	9.51	Cloudy	12.8	7.12	2.38	120*	Used Lamotte turb meter
1315	40	9.00	Cloudy	12.2	6.94	2.44	55*	Used Lamotte turb meter
1346	45	8.50	Cloudy	11.6	6.98	2.38	3**	Used Horiba U-10
1415	50	7.50	Turbid red brown	11.8	6.33	2.24	176**	Used Horiba U-10

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-3S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Dirt Road	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/28/01 0700	Completion Date/Time: 02/28/01 1500	Well Diameter: 2"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 5.8	Protection Level: D

Pre-development DTW (PVC) (ft): 5.8 DTB (PVC) (ft): 17

Post-development DTW (PVC) (ft): 12.5

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.35 gallons

(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A

Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous development day.

Development Purge/Discharge Rate (gpm):

Maximum Drawdown During Purging (ft): 7.4

Total Quantity Purged: 138 gallons in addition to 50 gallons (02/27/01) COMPLETED: 188 gallons total

Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS

Hours of Development: 8

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0800		5.8	Cloudy					
0830	15	9.6	Dark brown turbid					
0833			Dark brown turbid					Increased pump rate
0845			Dark brown turbid					Well dewatered
0858			Dark brown turbid					Began pumping again
0920	28	9.1	Clear	12.5	7.48	2.61	36	
0935	34	9.2	Clear	11.9	6.76	2.59	22	
0940			Clear					Lowered pump rate
1017	39	7.7	Dark brown turbid					
1038	55	10.6	Clear					
1228			Clear					Increased pump rate to 1 gpm
1244	90	12.7	Clear	12.6	5.81	2.69	120	
1254	100	13.2	Clear	12.3	6.51	2.62	210	Lowered pump rate
1307	108	13.12	Clear	12.7	6.20	2.61	140	
1315	113	9.60	Clear	12.6	6.48	2.57	65	
1324	118	10.85	Clear	12.4	6.24	2.56	11	
1332	123	12.10	Clear	12.7	6.96	2.57	23	Lowered pump rate
1345	128	12.50	Clear	12.6	6.36	2.64	26	
1406	138	11.90	Clear	12.5	6.42	2.62	0.30	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-3D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Dirt Road	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/27/01 0800	Completion Date/Time: 02/27/01 1600	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.0	Protection Level: D
Pre-development DTW (PVC) (ft): 6.0	DTB (PVC) (ft): 55	
Post-development DTW (PVC) (ft): 45.00		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 * Waiver granted allowing for less development than was required.*		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 32 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 96 gallons + 2100 gallons (for water loss) = 2196 gallons		
Development Purge/Discharge Rate (gpm): 0.5 gpm		
Maximum Drawdown During Purging (ft): 40.8		
Total Quantity Purged: 148 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0950		6.0	Clear yellow	13.2	6.16	5.47	124	
0957		27	Clear yellow					Slowed pump rate
1000		37	Clear yellow					Slowed pump rate
1016	32	44	Clear yellow	12.8	6.57	5.56	39	
1046		45.3	Clear yellow					
1055	64	46.8	Clear yellow	13.0	6.68	6.15	-10	
1130	96	44.6	Clear yellow	12.8	6.63	5.85	9.8 *	
1300	128	45.2	Clear yellow	12.7	6.69	5.45	6.7 *	* Note turbidity reading taken
1351	148	45.0	Clear yellow					
								Development not complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-3D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Dirt Road	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/28/01 0700	Completion Date/Time: 02/28/01 1500	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.0	Protection Level: D
Pre-development DTW (PVC) (ft): 6.0	DTB (PVC) (ft): 55	
Post-development DTW (PVC) (ft): 30.69		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 *Waiver granted allowing for less development than is required.*		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 32 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 96 gallons + 2100 gallons (water loss) = 2196 gallons		
Development Purge/Discharge Rate (gpm): 0.5 gpm		
Maximum Drawdown During Purging (ft): 24.69		
Total Quantity Purged: 125 gallons in addition to 148 gallons (02/27/01)	COMPLETED: 273 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0800		6.0	Cloudy					
0908	36	28.2	Cloudy	12.8	7.71	5.06	50	
0941	42	28.1	Cloudy	11.06	6.83	5.27	19	
1018	55	27.90	Cloudy	11.70	7.16	5.18	9.4	
1055	70	28.0	Cloudy	11.90	7.33	5.16	5.6	
1200	85	27.90	Cloudy	13.0	7.02	4.87	3.1	
1237	95	27.90	Cloudy	12.7	6.72	5.01	9.1	
1336	115	30.40	Cloudy	13.1	6.63	4.91	10	
1400	120	30.51	Clear	12.8	6.68	4.68	12	
1415	125	30.69	Cloudy	12.5	6.72	4.72	14	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-4S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: St. Ann Place	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/09/01 0940	Completion Date/Time: 01/09/01 1415	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 6	Protection Level: D
Pre-development DTW (bgs) (ft): 6	DTB (bgs) (ft): 9	
Post-development DTW (bgs) (ft): 9’		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.49 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) =1.47 gal. + 30 gallons (for recovery) = 31.47 gallons		
Development Purge/Discharge Rate (gpm): 1.5 gal/hr.		
Maximum Drawdown During Purging (ft): 0	Specific Capacity (gpm/ft):	
Total Quantity Purged: 8 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1400	8	6	Very cloudy	14.0	6.5		999	Very poor producing well ~ 1.5 gal/hr.
								Need to purge 23.47 gal.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-4S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: St. Ann Place	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/19/01 0745	Completion Date/Time: 01/19/01 1130	Well Diameter: 2" PVC
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K S. Hayes	Water Level (ft bgs): 4.8	Protection Level: D
Pre-development DTW (bgs) (ft): 4.8	DTB (bgs) (ft): 9	
Post-development DTW (bgs) (ft): 5.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.49 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 31.47gallons – 8 gallons = 23.47 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 0.25 gpm1		
Maximum Drawdown During Purging (ft): 2.6	Specific Capacity (gpm/ft):	
Total Quantity Purged: 26.5 gal. In addition to 8 gallons (01/09/01)	COMPLETED: 34.5 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 3		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0818	Int.		Brown	8.1	6.25	.940	>999	Run Dry
0855	5		Brown	9.3	7.43	.585	>999	Run Dry
0913	10	7.4	Brown	10.0	7.61	.543	>999	0925 pumping at 700 ml/min.
0948	15	7.2	Cloudy	9.7	7.72	.540	87	
1020	20	7.2	Cloudy	9.9	7.66	.538	270	
1053	25	7.2	Clear	9.8	7.64	.528	2	
1103	26.5	6.3	Clear	10.1	7.58	.529	6	Development complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-4D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: St. Ann Place	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/09/01 0950	Completion Date/Time: 01/09/01 1400	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via submersible pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 6.4	Protection Level: D
Pre-development DTW (bgs) (ft): 6.4	DTB (bgs) (ft): 43	
Post-development DTW (bgs) (ft): 6.3		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.9 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 72 gal + 435 (for water loss) = 507 gallons		
Development Purge/Discharge Rate (gpm): 1.25 gal/min		
Maximum Drawdown During Purging (ft): 0.0	Specific Capacity (gpm/ft):	
Total Quantity Purged: 300 gal. Still need to purge 207 gal.		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1024	55	6.4	Clear	14.0	6.12	0.580	70	
1105	55 (110)	6.4	Clear	13.6	6.94	0.517	14	
1200	200	6.4	Clear	14.6	6.93	0.518	3	
1345	300	6.3	Clear	14.6	7.17	0.521	33	
								Need to purge 207 gal.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-4D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: St. Ann Place	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/19/01 0745	Completion Date/Time: 01/19/01 1130	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. Hayes	Water Level (ft bgs): 4.65	Protection Level: D
Pre-development DTW (bgs) (ft): 4.65	DTB (bgs) (ft): 43	
Post-development DTW (bgs) (ft): 4.7		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.9 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 507 gallons – 300 gallons = 207 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 1.25 gal/min		
Maximum Drawdown During Purging (ft): 0.4’	Specific Capacity (gpm/ft):	
Total Quantity Purged: 210 gal in addition to 300 gallons (01/09/01)	COMPLETED: 510 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 3		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0823	Int	5.05	Brown	13.0	6.78	0.555	>999	
0900	50	5.05	Clear	13.3	7.21	0.531	44	
0935	100	5.05	Clear	13.3	7.44	0.540	27	
1015	150	5.05	Clear	13.3	7.50	0.520	8	
1050	200	5.05	Clear	13.3	7.50	0.522	3	
1100	210	5.05	Clear	13.3	7.49	0.521	1	Development complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-5S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Parkway Ave.	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/17/01 0800	Completion Date/Time: 01/17/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via DK-550 and whale pump, parameters measured with Horiba U-10		
Logged by: G.Markt	Water Level (ft bgs): 10.68	Protection Level: D
Pre-development DTW (PVC) (ft): 10.68 DTB (PVC) (ft): 21		
Post-development DTW (PVC) (ft): 13.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.7		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 5.1 gallons + 825 gallons (for recovery) = 830.1 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 6.82	Specific Capacity (gpm/ft):	
Total Quantity Purged: 12 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 7		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0945		10.68	Turbid	13.2	8.55	0.630	999	
0948						Well dewatered, stop pumping to let recharge		
1030	4	10.66	Cloudy	10	8.27	0.849	370	Begin pumping
1100	5.5	14.2	Clear	12.3	8.23	0.874	30	
1143	7	14.5	Clear	13.7	7.96	0.899	16	
1247		16.5					Lower pumping rate	
1305		17.5	Clear				Stop pumping to let well recharge	
1330	10	13	Clear	10.4	8.21	0.741	40	
1412	12	13	Clear	12.9	8.23	0.723	8	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-5S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Parkway Ave.	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/19/01 1010	Completion Date/Time: 01/19/01 1150	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 11.5	Protection Level: D
Pre-development DTW (PVC) (ft): 11.5 DTB (PVC) (ft): 21		
Post-development DTW (PVC) (ft): 15.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.56		
(4-inch well = 0.255 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 830.1 gallons – 12 gallons = 818.1 gallons left to develop.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 4.95	Specific Capacity (gpm/ft):	
Total Quantity Purged: 42 gallons in addition to 12 gallons (01/17/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 5		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1010	0		Brown	10.6	7.61	0.888	>999	
1020	2	15	Lt. Brown	10.7	7.6	0.881	730	
1106	15	11.05	Clear	13.2	7.66	0.819	15	Well dry at 1200
1215	40	16.45	Gray/Brown	13.2	7.56	0.826	111	Begin pumping
1300	42	15	Brown	13.6	7.49	0.840	>999	Stop pumping at 1315

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-5S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Parkway Ave.	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/26/0 1340	Completion Date/Time : 01/26/01 1414	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal viaDK-550 and whale pump, parameters measured with Horiba U-10		
Logged by: T. Robinson	Water Level (ft bgs): 11.98	Protection Level: D
Pre-development DTW (PVC) (ft): 11.98 DTB (PVC) (ft): 21		
Post-development DTW (PVC) (ft): 13.85		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.44		
(4-inch well = 0.255 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 818.1 gallons – 42 gallons = 776.1 gallons left to develop.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 1.87	Specific Capacity (gpm/ft):	
Total Quantity Purged: 2 gallons in addition to 54 gallons previously removed COMPLETED: 56 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1358	1	13.85	Brown	11.8	7.54	0.603	484	1343: well ran dry. Recharging
1400	2	-	-	-	-	-	-	1400: Well ran dry. Recharging

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-5D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Parkway Ave.	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/17/01 0800	Completion Date/Time: 01/17/01 1450	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via DK-550 and whale pump, parameters measured with Horiba U-10		
Logged by: G.Markt	Water Level (ft bgs): 7.15	Protection Level: D
Pre-development DTW (PVC) (ft): 7.15 DTB (PVC) (ft): 52		
Post-development DTW (PVC) (ft): 8.90		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 29.3 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 88 gallons + 360 gallons (for recovery) = 448 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 6.55	Specific Capacity (gpm/ft):	
Total Quantity Purged: 60.90		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 7		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0935	-	9.20	Cloudy red/brown	10.6	0.05	0.472	270	
1152					Pump stopped due to electrical problem. Pulled and restarted			
1215	30.45	8.90						
1330	47.45	8.90	Cloudy	11.6	8.81	0.484	180	Increased rate of flow to full rate
1352	-	9.30	-	-	-	-	-	
1410	52.45	9.40	Cloudy	13.6	8.47	0.486	30	
1418	-	12.00	-	-	-	-	-	Increased rate of flow to full rate.
1425	60.90	13.70	Cloudy	14.3	8.25	0.488	64	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-5D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Parkway Ave.	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/9/01 1000	Completion Date/Time: 01/19/01 1315	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 5.50	Protection Level: D
Pre-development DTW (PVC) (ft): 5.50 DTB (PVC) (ft): 52		
Post-development DTW (PVC) (ft): 23.25		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.255 x (DTB-DTW)(ft)) = 30.4		
Minimum Purge Volume (gal) (3 well volumes) = 448 gallons – 60.90 gallons = 387.1 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 1 gal/min.		
Maximum Drawdown During Purging (ft): 17.75 ft.	Specific Capacity (gpm/ft):	
Total Quantity Purged: 299 gallon in addition to 60.9 gallons (01/17/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 6		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1020	26	18.5	Clear	14.1	7.73	.530	79	
1110	110	19.25	Clear	13.7	7.63	.544	28	
1200	190	22.21	Clear	13.7	7.52	.552	15	
1300	275	23.25	Clear	13.8	7.58	.576	10	
1315	299							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-5D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Parkway Ave.	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time 01/24/01 1230	Completion Date/Time 01/24/01 1451	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: T. Robinson	Water Level (ft bgs): 8.11	Protection Level: D
Pre-development DTW (PVC) (ft): 8.11	DTB (PVC) (ft): 52	
Post-development DTW (PVC) (ft): 16.79		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.255 x (DTB-DTW)(ft)) = 28.7		
Minimum Purge Volume (gal) (3 well volumes) = 387.1 gallons – 299 gallons = 88.1 gallons left to develop.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 8.7	Specific Capacity (gpm/ft):	
Total Quantity Purged: 88 gal in addition to 360 gallons previously removed	COMPLETED: 448 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1242	Int.	11.29	Brown	13.4	8.73	.533	>1000	
1305	18	11.87	Cloudy	12.8	8.06	.522	229	
1318	34	15.41	Clear	12.6	7.85	.529	234	
1336	42	16.72	Clear	13.4	7.68	.534	168	
1358	50	15.08	Clear	11.1	7.80	.541	232	
1405	60	16.25	Clear	13.7	7.47	.556	1	
1418	70	16.35	Clear	13.9	7.44	.550	26	
1427	80	16.81	Clear	14.1	7.52	.551	1	
1433	88	16.79	Clear	14.0	7.51	.553	1	Development complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-6S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Madison Avenue	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/18/01 0938	Completion Date/Time: 01/18/01 1410	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 6.20	Protection Level: D
Pre-development DTW (PVC) (ft): 6.20 DTB (PVC) (ft): 14.0		
Post-development DTW (PVC) (ft): Dry		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		11.5% 0_2 when opened
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.28		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.84 gallons + 60 gallons (for water loss) = 63.84 gallons		
Development Purge/Discharge Rate (gpm): 1gal/8min.		
Maximum Drawdown During Purging (ft): 6.5	Specific Capacity (gpm/ft):	
Total Quantity Purged: 26 gal.		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 6		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0938	1						>1000	Well dry @ 0940 ↓ Q restart 0959
0959	1	14.0	Brown	10.0	6.76	1.00	>1000	Q =300ml/min.
1021	4	12.40	Brown	11.6	7.28	0.97	>1000	Well dry at 1030
1118		Dry						
1128	10	12.70	Lt. Brown	11.4	7.21	1.04	>1000	
1212	18	10.70	Clear	11.3	7.64	1.05	46	
1255	22	10.61	Clear	11.7	7.39	1.07	10	
1340	25	10.6	Clear	11.6	7.2	1.03	>1000	
1410	26	Dry						Well dry at 1410

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-6S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Madison Avenue	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/19/01 08230	Completion Date/Time: 01/19/01 0930	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 6.06	Protection Level: D
Pre-development DTW (PVC) (ft): 6.06 DTB (PVC) (ft): 14.40		
Post-development DTW (PVC) (ft): 12.10		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.37		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 63.84 gallons – 26 gallons = 37.84 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 200 ml/min.		
Maximum Drawdown During Purging (ft): 6.04	Specific Capacity (gpm/ft):	
Total Quantity Purged: 18 gal. in addition to 26 gallons (01/18/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0803	1	6.50	Brown	11.0	6.95	1.16	>1000	
0930	18	12.10	Clear	12.8	7.08	1.05	46	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-6S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Madison Avenue	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/125/01 0900	Completion Date/Time: 01/25/01 1145	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 7.61	Protection Level: D
Pre-development DTW (PVC) (ft): 7.61 DTB (PVC) (ft): 14		
Post-development DTW (PVC) (ft): 7.82		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.05		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 37.84 gallons –18 gallons = 19.84 gallons left to develop.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.49	Specific Capacity (gpm/ft):	
Total Quantity Purged: 20.5 in addition to 44 gallons previously removed COMPLETED: 64.5 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0905	0	7.61	Brown	12.8	6.61	1.41	>1000	
0935	4	10.10	Brown	9.7	6.84	1.26	887	
1010	10	10.05	Lt. Brown	8.9	7.47	1.21	85	
1104	15	9.57	Clear	10.6	6.99	1.11	0	
1140	20.5	9.62	Clear	10.9	6.86	1.12	6	
							1145: End of Development	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-6D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Madison Avenue	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/18/01 0930	Completion Date/Time: 01/18/01 1430	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 5.90	Protection Level: D
Pre-development DTW (bgs) (ft): 5.90	DTB (bgs) (ft): 53.30	
Post-development DTW (bgs) (ft): 9.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.75		
Minimum Purge Volume (gal) (3 well volumes) = 92 gallons + 300 (for water loss) = 392 gallons		
Development Purge/Discharge Rate (gpm): 1 gal/min		
Maximum Drawdown During Purging (ft): 5.6	Specific Capacity (gpm/ft):	
Total Quantity Purged: 157 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 6		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0950	1	8.32	Brn	12.7	6.44	.763	>1000	
1020	18	8.68	Lt Brn	12.8	7.38	.717	>1000	
1118	55	9.32	Clear	13.1	7.59	.703	190	Q = 0.75 gpm
1214	40	9.02	Clear	12.8	7.78	.700	114	
1259	118	8.82	Clear	13.1	7.64	.701	58	
1335	122	8.15	Clear	12.6	7.89	.691	87	
1400	157	11.50	Clear	13.0	7.79	.690	76	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-6D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Madison Avenue	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/25/01 0820	Completion Date/Time: 01/25/01 1300	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 7.42	Protection Level: D
Pre-development DTW (bgs) (ft): 7.42	DTB (bgs) (ft): 53.40	
Post-development DTW (bgs) (ft): 13.35		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.02 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 392 gallons – 157 gallons = 235 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 1 gpm		
Maximum Drawdown During Purging (ft): 6.03	Specific Capacity (gpm/ft):	
Total Quantity Purged: 236 gallons in addition to 157 gallons (01/18/01)	COMPLETED: 393 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0820	0		Brown	12.8	5.88	.820	>1000	
0920	50	13.31	Clear	12.6	6.21	.762	54	
1016	100	13.45	Clear	12.2	7.64	.715	54	
1100		13.43	Clear	12.8	7.37	.706	0	
1148	200	13.40	Clear	13.2	7.27	.715	0	
1300	236	13.35	Clear	13.2	7.38	.706	0	End @ 1300

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-7S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maccionne Property	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/17/00 0830	Completion Date/Time: 01/17/01 1150	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 9.20	Protection Level: D
Pre-development DTW (PVC) (ft): 9.20	DTB (PVC) (ft): 15	
Post-development DTW (PVC) (ft): 11.90 (rising)		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.95		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.85 + 150 gallons = 152.85 gallons		
Development Purge/Discharge Rate (gpm): 1 gpm		
Maximum Drawdown During Purging (ft): 4.3		
Total Quantity Purged: 153 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0830	1	N/A	Brown	11.7	6.50	1.14	>1000	Water loss=50 gal
0847	8	10.50	Brown	11.1	5.49	1.32	>1000	Dry at 0840
0900	12	N/A		11.6	5.91	1.27	>1000	Q to 800 ml/min-
0930			Lt. Brown	11.7	6.04	1.29	342	stop at 0850 - start at 0858
1000	50		Clear	11.8	6.17	1.35	49	Dry at 0950
1020	65	12.4	Lt. Brown	11.9	6.16	1.27	881	Lower pumping rate -> 1 gpm
1103	110	*>13.5	Brown	11.7	6.20	1.38	>1000	*Can’t get well below 13.5*
1140	146	12.1	Lt. Brown	12.1	6.32	1.31	392	Q=1 gal/to SEL
1150	153	11.90	Clear	12.4	6.19	1.42	44	Q=0.75 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-7D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maccionne Property	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/17/00 0950	Completion Date/Time: 01/17/01 1242	Well Diameter: 4
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 9.90	Protection Level: D
Pre-development DTW (bgs) (ft): 9.90	DTB (bgs) (ft): 46.0	
Post-development DTW (bgs) (ft): 17.26		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.1632 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.57		
Minimum Purge Volume (gal) (3 well volumes) = 70.7 + 195 from water loss during installation = 265.7 gallons		
Development Purge/Discharge Rate (gpm): 0.025 gallons/sec		
Maximum Drawdown During Purging (ft): 7.44	Specific Capacity (gpm/ft):	
Total Quantity Purged: 266 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 3.0		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0950	2	15.45	Lt. Brn	11.0	6.41	.920	460	Q= 1 gal/40 sec.
1020	55	17.05	Lt brn	12.1	6.52	1.10	221	
1040	75	17.20	Lt brn	12.1	6.53	1.15	146	
1110	115	17.30	Clear	12.1	6.50	1.12	87	
1135	160	17.34	Clear	12.1	6.62	1.14	41	
1157	193	17.20	Clear	12.2	6.76	1.18	0	
1242	266	17.26	Clear	12.0	6.57	1.16	0	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Avenue	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/16/01 0800	Completion Date/Time: 01/16/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 7.12	Protection Level: D
Pre-development DTW (bgs) (ft): 7.12	DTB (bgs) (ft): 14.40	
Post-development DTW (bgs) (ft): 7.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.19		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Development Purge/Discharge Rate (gpm): 0.1		
Minimum Purge Volume (gal) (3 well volumes) = 3.6 gallons + 60 gallons (water loss) = 63.6 gallons		
Maximum Drawdown During Purging (ft): 0.48	Specific Capacity (gpm/ft):	
Total Quantity Purged: 28 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 7	NOT YET COMPLETE	
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0858	4.00	7.5	Turbid red brn	12.4	9.27	1.12	999	Battery on Horiba died, no readings
0909	5.20	7.5	Turbid red brn					Withdrew 4 gallons prior to initial volume
0933	6.40	7.4	Cloudy red brn	10.8	*	1.18	160	
0945	7.60	7.6	Cloudy red brn	13.5	*	1.15	96	
0958	8.80	7.5	Clear	13.5	*	1.17	24	
1005	9.00	7.5	Cloudy red	13.6	*	1.17	33	
1130	14.00	7.5	Clear	14.2	*	1.17	7	
1220	19.00	7.5	Clear	13.9	*	1.17	3	
1313	24.00	7.5	Clear	14.1	*	1.18	2	
1407	28.00	7.5	Clear	14.2	*	1.18	3	Increased flow rate
				*Note: Horiba meter behaving erratically for pH. Not valid measurements. *				

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Avenue	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/18/01 0900	Completion Date/Time: 01/18/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.95	Protection Level: D
Pre-development DTW (bgs) (ft): 6.95	DTB (bgs) (ft): 14.40	
Post-development DTW (bgs) (ft): 8.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.19 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 63.6 gallons – 28 gallons = 35.6 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 1.65	Specific Capacity (gpm/ft):	
Total Quantity Purged: 20 gallons in addition to 28 gallons (01/16/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 6		
Hours of Decon: 4		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0916		7.3	Turbid red brown	10.5	7.54	0.902	999	
1130	5	7.05	Cloudy red brown	9.2	7.70	1.11	20	Increased rate of flow
1310	10	7.2	Clear	11.2	7.63	1.16	5	
1357		7.2						Increased rate of flow
1415	15	7.6	Clear	11.9	7.64	1.13	5	
1430	20	8.6	Cloudy red brown	11.7	7.70	1.11	95.3	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Avenue	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/31/01 0800	Completion Date/Time: 01/31/01 0930	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 5.9	Protection Level: D
Pre-development DTW (bgs) (ft): 5.9	DTB (bgs) (ft): 14.9	
Post-development DTW (bgs) (ft): 7.65		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.19 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 35.6 gallons – 20 gallons = 15.6 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 4.7	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 52 gallons in addition to 48 gallons previously removed	COMPLETED: 100 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0825	Int	5.9	Brown	10.0	6.10	1.37	>999	
0900	35	10.6	Cloudy	12.1	6.85	1.05	83	
0910	44.5	10.6	Cloudy	12.5	6.95	1.05	57	
0918	51.68	10.6	Clear	12.4	6.98	1.03	32	Completed

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Avenue	Page 1 of 5
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/16/01 0800	Completion Date/Time: 01/16/01 1500	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via DK-550 and whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 3.00	Protection Level: D
Pre-development DTW (PVC) (ft): 3.00 DTB (PVC) (ft): 52		
Post-development DTW (PVC) (ft): 14.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 32 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 96 gallons + 360 gallons= 456 gallons		
Development Purge/Discharge Rate (gpm): ~ 0.25 gpm		
Maximum Drawdown During Purging (ft): 11.9’	Specific Capacity (gpm/ft):	
Total Quantity Purged: 74 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 7		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0928	-	11.0	Cloudy brn	11.4	10.11	0.509	270	
1127	32	13.0	Translucent red brown	13.0	10.37	0.804	99	
1319	64	14.9	Cloudy tan	13.4	10.26	0.816	44	
1407	74	14.9	Cloudy tan	13.2	10.24	0.818	32	Not complete yet

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Avenue	Page 2 of 5
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/18/01 0900	Completion Date/Time: 01/18/01 1500	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via DK-550 and whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.2	Protection Level: D
Pre-development DTW (bgs) (ft): 6.2	DTB (bgs) (ft): 52	
Post-development DTW (bgs) (ft): 14.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 32 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 456 gallons – 74 gallons = 382 gallons left to purge.		
Development Purge/Discharge Rate (gpm): .		
Maximum Drawdown During Purging (ft): 8	Specific Capacity (gpm/ft):	
Total Quantity Purged: 107.69 in addition to 74 gallons (01/16/01)		
Disposition of Purge Water: drummed and transferred to FRAC tank on MISS		
Hours of Development: 6		
Hours of Decon: 4		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0910	-	6.2	Cloudy rd, brn	11.8	7.83	0.859	60	
1130	32	9.0	Cloudy rd, brn	11.3	7.92	0.910	49	Increased rate of flow slightly
1250	64	11.6	-	11.6	7.82	0.789	14	Increased rate of flow further
1253	-	12.9	-	-	-	-	-	Decreased rate of flow
1415	96	13.8	Clear	13.2	7.85	0.920	10	Increased rate of flow to 1 gpm
1430	107.69	14.2	Clear	-	-	--	-	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Avenue	Page 3 of 5
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/31/01 0800	Completion Date/Time: 01/31/01 1500	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 6.43	Protection Level: D
Pre-development DTW (bgs) (ft): 6.43	DTB (bgs) (ft): 52	
Post-development DTW (bgs) (ft): 8.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 32 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 382 gallons – 107.69 gallons = 274.31 gallons left to purge.		
Development Purge/Discharge Rate (gpm): .		
Maximum Drawdown During Purging (ft): 10.67	Specific Capacity (gpm/ft):	
Total Quantity Purged: 250 gallons in addition to 181.69 gallons previously removed		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0830	Int	6.45	Cloudy	12.4	6.92	0.97	240	
0905	22.20	13.65	Cloudy	13.6	7.29	0.91	336	
0940	45.85	15.00	Brown	13.6	7.27	0.94	959	
1100	100.80	15.00	Clear	14.1	7.25	0.974	91	Stirred up well to remove mud
1200	142.00	14.70	Clear	13.5	7.27	0.991	35	
1300	119.25	12.0	Clear	14.4	7.22	1.01	27	
1400	225.61	17.1	Clear	14.4	7.22	0.998	33	
1425	245.42	17.1	Cloudy	12.8	7.33	0.94	221	
1440	248.00	8.2	Cloudy	13.6	7.25	0.927	210	Stored down flow rate to 500ml/min
1450	250.00	8.4	Clear	14.1	7.23	0.95	36	
								Still need 17.55 gallons

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Ave	Page 4 of 5
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/01/01 0800	Completion Date/Time: 02/01/01 1245	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 7.3	Protection Level: D
Pre-development DTW (bgs) (ft): 7.3	DTB (bgs) (ft): 51.7	
Post-development DTW (bgs) (ft): 9.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 32 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 274.31 gallons – 250 gallons = 24.31 gallons left to purge.		
Development Purge/Discharge Rate (gpm): .		
Maximum Drawdown During Purging (ft): 23.4	Specific Capacity (gpm/ft):	
Total Quantity Purged: 210 gallons in addition to 431.69 gallons previously removed		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0820	25	21.8	Cloudy	14.6	6.45	1.05	365	
0840	40	20.8	Cloudy	14.1	6.94	1.02	550	
0853	55	23.9	Cloudy	14.0	7.05	0.99	321	
0907	75	24.0	Cloudy	13.7	7.10	0.97	305	
0925	85	24.5	Cloudy	12.4	7.17	0.920	682	
0940	90	14.7	Cloudy	12.3	7.32	0.830	400	
1000	100	15.7	Cloudy	13.8	7.46	0.792	490	
1011	115	24.6	Cloudy	13.9	7.38	0.969	200	
1020	125	27.4	Cloudy	13.7	7.20	0.96	162	
1025	130	28.5	Cloudy	13.8	7.22	0.94	151	
1030	135	29.2	Cloudy	14.0	7.24	0.94	150	
1035	140	29.5	Cloudy	14.0	7.25	0.95	150	
1045	150	29.5	Cloudy	14.0	7.35	0.93	280	
1055	160	29.7	Cloudy	14.5	7.33	0.94	385	
1100	165	29.7	Cloudy	14.4	7.28	0.93	318	
1115	180	29.7	Cloudy	14.4	7.36	0.942	276	
1125	185	19.8	Cloudy	14.6	7.47	0.874	194	
1130	190	25.9	Cloudy	14.8	7.59	0.961	228	
1140	200	30.7	Cloudy	14.7	7.51	1.01	215	
1145	202	28.3	Cloudy	14.4	7.35	0.925	125	
1230	210	9.0	Cloudy	13.5	7.55	0.846	75	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-8D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Central Avenue	Page 5 of 5
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/02/01 0800	Completion Date/Time: 02/02/01 0830	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 6.7	Protection Level: D
Pre-development DTW (bgs) (ft): 6.7	DTB (bgs) (ft): 51.7	
Post-development DTW (bgs) (ft): 6.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 32 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume reached on previous development day.		
Development Purge/Discharge Rate (gpm): 0.800 ml/min		
Maximum Drawdown During Purging (ft): 0	Specific Capacity (gpm/ft):	
Total Quantity Purged: 3 gallons in addition to 641.69 gallons previously removed	COMPLETED: 644.69 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0800	Int	6.5	Clear	11.9	6.59	1.05	4	
0805	1	6.5	Clear	13.2	6.87	1.03	6	
0810	2	6.5	Clear	12.8	6.94	1.02	8	
0815	3	6.5	Clear	13.1	7.02	1.04	11	Completed

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-9S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood Train Station	Page 1 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/16/01 0945	Completion Date/Time: 02/16/01 1430	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via DK-550, whale pump, and peristaltic pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.3	Protection Level: D
Pre-development DTW (bgs) (ft): 10.3	DTB (bgs) (ft): 13	
Post-development DTW (bgs) (ft): 12.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.44		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.33 gallons + 45 for installation water loss= 46.33 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 4.18 gallons	Still need to remove 43 gallons from MW-9S	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0948		10.3	Turbid red/brn	9.80	6.78	0.881	>999	High turbidity, well went dry
1025	0.38	12.5		9.10	6.77	1.10	343	
1058	0.76	12.5		9.50	6.66	0.770	492	Began Pumping with Peristaltic Pump
1120	-	11.6		-	-	-	-	Well went dry, stopped pump to let well recharge
1150	-	11.8		-	-	-	-	
1155	1.14	11.8	Cloudy red/brn	7.90	6.71	0.718	21	Switched pumps temporarily
1300	1.52	12.15	Turbid red/brn	8.50	6.70	0.727	>999	High turbidity
1316	1.90	12.5	Turbid red/brn	8.62	6.60	0.760	452	High turbidity
1323	2.28	12.5	Turbid red/brn	10.60	6.56	0.676	>999	High turbidity
1334	2.66	12.5	Cloudy red/brn	10.10	6.57	0.627	168	
1349	3.04	12.5	Cloudy red/brn	10.30	6.77	0.625	60	
1359	3.42	12.5	Cloudy red/brn	10.80	6.78	0.629	58	
1407	3.80	12.5	Clear	10.40	6.76	0.628	42	
1412	4.18	12.5	Clear	10.70	6.77	0.627	40	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-9S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood Train Station	Page 2 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/22/01 0730	Completion Date/Time: 02/22/01 1430	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 10.56	Protection Level: D
Pre-development DTW (bgs) (ft): 10.56 DTB (bgs) (ft): 13		
Post-development DTW (bgs) (ft): 12.8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.44 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 46.33 – 4.18 gallons = 42.15 gallons left to purge.		
Development Purge/Discharge Rate (gpm): ~ 1.5 gal/hr.		
Maximum Drawdown During Purging (ft): 2.24 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 12 gallons in addition to 4.18 gallons (02/16/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 7.5 hr		
Hours of Decon: 0.5 hr.		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0920	2.0	12.8	Clear	6.34	5.96	0.827	9.5	
0950	3.5	12.8	Clear	6.83	7.01	0.767	0	
1025	4.5	12.5	Clear	6.84	6.84	0.745	0	
1105	6.0	12.5	Clear	8.18	7.03	0.760	0	
1205	8.0	12.5	Clear	7.95	7.13	0.759	0	
1300	9.0	12.7	Clear	7.9	7.15	0.758	0	
1410	12	12.8	Clear	7.9	7.16	0.759	0	
								Total purged 12.0 gal ---- 30.15 gallons to purge

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-9S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood Train Station	Page 3 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/23/01 1000	Completion Date/Time: 02/23/01 1400	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 10.34	Protection Level: D
Pre-development DTW (bgs) (ft): 10.34 DTB (bgs) (ft): 13		
Post-development DTW (bgs) (ft): 12.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.44 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 42.15 gallons - 12 gallons = 30.15 gallons left to purge.		
Development Purge/Discharge Rate (gpm): 0.05 gal/min.		
Maximum Drawdown During Purging (ft): 2.16 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 8 gallon in addition to 16.18 gallons previously removed		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 5.0		
Hours of Decon: 0.5		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1040	0.5	12.5	Cloudy/brown	9.02	6.61	0.762	13.2	
1105	1.5	12.5	Clear	9.47	6.65	0.747	18.2	
1140	2.5	12.5	Clear	9.53	6.81	0.763	15.1	
1255	6.0	12.5	Clear	8.84	7.21	0.763	1.1	
1310	6.3	12.5	Clear	8.47	7.88	0.733	0	
1325	7.0	12.5	Clear	8.5	7.03	0.735	0	
1355	8.0	12.5	Clear	8.49	7.1	0.734	0	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-9S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood Train Station	Page 4 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/27/01 0900	Completion Date/Time: 02/27/01 1640	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 10.5	Protection Level: D
Pre-development DTW (bgs) (ft): 10.5	DTB (bgs) (ft): 13	
Post-development DTW (bgs) (ft): 11.45		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.44 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 30.15 gallons – 8 gallons = 22.15 gallons left to purge.		
Development Purge/Discharge Rate (gpm): 133 ml/min		
Maximum Drawdown During Purging (ft): 0.95	Specific Capacity (gpm/ft):	
Total Quantity Purged: 21 gallons in addition to 24.18 gallons previously removed	COMPLETED: 45. 18 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0940	Int.	11.0	Brown	8.84	5.67	.99	>1000	Dry
1000	1	11.5	Brown	9.50	6.25	.778	>1000	Dry
1105	3.1	11.0	Cloudy	9.12	6.60	.746	141	Dry
1150	5.5	11.0	Cloudy	11.12	6.67	.696	745	Dry
1235	8.0	11.0	Cloudy	10.90	6.88	.678	147	Dry
1315	10.5	11.2	Cloudy/Brn	12.29	6.89	.705	377	Dry
1400	13.0	11.2	Clear	11.87	6.86	.693	5	Running at 200 ml/min
1445	15.5	11.2	Clear	12.70	6.88	.705	5	Running at 200 ml/min
1530	18.0	11.35	Clear	11.45	6.78	.699	0	Running at 200 ml/min
1615	20.5	11.45	Clear	10.78	6.80	.738	0	Running at 200 ml/min
1620	21	11.45	Clear	11.27	6.79	.725	0	Running at 200 ml/min

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-9D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood Train Station	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/16/01 0945	Completion Date/Time: 02/16/01 1430	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.55	Protection Level: D
Pre-development DTW (bgs) (ft): 10.55	DTB (bgs) (ft): 47	
Post-development DTW (bgs) (ft): 12.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.8		
Minimum Purge Volume (gal) (3 well volumes) = 71.4 + 255 for installation water loss = 326.4 gallons		
Development Purge/Discharge Rate (gpm): 1		
Maximum Drawdown During Purging (ft): 2.05	Specific Capacity (gpm/ft):	
Total Quantity Purged: 300 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0942	-	10.55	Clear, smokey	10.80	8.63	0.611	630	
1007	25	12.55	Clear, smokey	12.10	7.39	0.743	115	
1032	75	12.60	Clear, smokey	13.00	7.10	0.779	40	
1057	100	12.60	Clear	13.00	7.04	0.787	11	
1122	125	12.60	Clear	13.40	7.12	0.792	9	
1147	150	12.60	Clear	13.50	7.12	0.792	7	
1212	175	12.60	Clear	12.80	6.94	0.788	3	
1237	200	12.60	Clear	13.40	7.08	0.800	3	
1302	225	12.60	Clear	13.40	7.03	0.810	7	
1327	250	12.60	Clear	12.90	7.04	0.801	2	
1352	275	12.60	Clear	13.00	7.01	0.792	1	
1417	300	12.60	Clear	13.10	7.03	0.796	2	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-9D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood Train Station	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/22/01 0730	Completion Date/Time: 02/22/01 1200	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.8	Protection Level: D
Pre-development DTW (bgs) (ft): 10.8	DTB (bgs) (ft): 47	
Post-development DTW (bgs) (ft): 10.8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 23.8		
Minimum Purge Volume (gal) (3 well volumes) = 326.4 gallons – 300 gallons = 26.4 gallons left to purge.		
Development Purge/Discharge Rate (gpm): 16.7 gal/hr		
Maximum Drawdown During Purging (ft): 2.9	Specific Capacity (gpm/ft):	
Total Quantity Purged: 75 gallons in addition to 300 gallons (02/16/01)	COMPLETED: 375 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 4.5		
Hours of Decon: 0.5		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0925	20	13.7	Cloudy Brown	9.91	6.48	0.97	57.8	
1100	60	13.7	Cloudy Brown	11.05	7.08	0.94	103	
1120	65	13.7	Cloudy Brown	10.76	6.06	0.0	55	
1200	75	13.7	Clear	11.13	7.05	0.935	8.5	
	Parameters not stabilized. Well not complete							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 1 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/11/01 1200	Completion Date/Time: 01/11/01 1400	Well Diameter: 2
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 8.6	Protection Level: D
Pre-development DTW (PVC) (ft): 8.6 DTB (PVC) (ft): 10.8		
Post-development DTW (PVC) (ft): 8.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.37 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.10 gallons + 45 gal (water loss) = 46.1 gallons total		
Development Purge/Discharge Rate (gpm): 0.18 gpm		
Maximum Drawdown During Purging (ft): 0.3		
Total Quantity Purged: 0.72 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1247			Turbid red/brown	10.4	6.84	0.94	>999	
1250	Stopped pumping; well went dry							
1302	Started pumping							
1304	0.36	Went dry	Turbid red/ brown	10.3	6.45	0.825	965	
1325	0.72	8.9	Turbid red/ brown	10.3	6.67	0.814	>999	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 2 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/29/01 1000	Completion Date/Time: 01/29/01 1500	Well Diameter: 2" PVC
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes 0945	Water Level (ft bgs): 7.3	Protection Level: D
Pre-development DTW (PVC) (ft): 7.3 DTB (PVC) (ft): 9.9		
Post-development DTW (PVC) (ft): 8.50		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.37 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) =46.1 – 0.72 = 45.38 gallons left to develop. | 1025=> flow rate 500 ml/min		
Development Purge/Discharge Rate (gpm): 1045=> flow rate 300 ml/min		
Maximum Drawdown During Purging (ft): 2.5 1330=> flow rate 300ml/min		
Total Quantity Purged: 22 gal in addition to 0.72 gal (01-11-01) 1430=> flow rate 300 ml/min		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1015	2	9.8	Brown	8.8	7.11	.813	322	
1140	8.5	8.9	Clear	8.9	7.01	.827	1	
1235	12.5	8.95	Clear	9.2	7.22	.805	1	
1330	16.5	9.00	Clear	9.4	7.24	.790	1	
1430	20.5	9.05	Clear	10.0	7.34	.792	1	
1455	22.0	9.15	Clear	10.0	7.35	.786	1	
								Still need 22.25 gal removed

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 3 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/30/01 0720	Completion Date/Time: 01/30/01 0920	Well Diameter: 2" PVC
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 7.05	Protection Level: D
Pre-development DTW (PVC) (ft): 7.05 DTB (PVC) (ft): 9.9		
Post-development DTW (PVC) (ft): 8.90		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.37 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 45.38 – 22 gallons = 23.38 left to develop. | 0740=>flow rate 250 ml/min		
Development Purge/Discharge Rate (gpm): 0805=>flow rate 300 ml/min		
Maximum Drawdown During Purging (ft): 1.85 0840=>flow rate 300 ml/min		
Total Quantity Purged: 5 gal in addition to 22.72 gal (01-29-01) 0900=>stopped pumping ; RAIN		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 2		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0740	Init	7.4	Cloudy/ brown	7.5	5.73	1.07	167	
0835	4	8.90	Clear	7.1	6.50	1.11	12	
0900	5							
								Stopped heavy rain
								17.25 gal still need to be removed.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 4 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/31/01 0745	Completion Date/Time: 01/31/01 1245	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 7.07	Protection Level: D
Pre-development DTW (PVC) (ft): 7.07 DTB (PVC) (ft): 10.0		
Post-development DTW (PVC) (ft): 8.55		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.37 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 23.38 gallons – 5 gallons = 18.38 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 300 ml/min		
Maximum Drawdown During Purging (ft): 1.48		
Total Quantity Purged: 19.25 gallons in addition to 27.72 gal (01-30-01) = ~ 47 gal total. COMPLETED		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 4.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0805	1	7.40	Clear	9.8	6.24	1.23	6	
0900	4	8.55	Clear	8.8	6.74	1.22	5	
0950	8	8.42	Clear	8.8	6.86	1.22	6	
1100	12	8.50	Clear	9.3	6.70	1.23	9	
1200	15	8.55	Clear	9.2	6.72	1.23	7	
1245	19.25	8.55	Clear	9.0	6.61	1.23	11	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 1 of 8
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/11/01 0930	Completion Date/Time: 01/11/01 1430	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.22	Protection Level: D
Pre-development DTW (PVC) (ft): 9.22	DTB (PVC) (ft): 46.10	
Post-development DTW (PVC) (ft): 45.75		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 24.08		
Minimum Purge Volume (gal) (3 well volumes) = 72.23 gallons + 244 (from well installation) = 316.23 gallons total		
Development Purge/Discharge Rate (gpm): 0.33 to 1gpm		
Maximum Drawdown During Purging (ft): 36.78	Specific Capacity (gpm/ft):	
Total Quantity Purged: 112 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 6		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0944		9.22	Translucent/brown	13.3	7.66	0.607	674	Flow rate = 1 gpm
1000	16	31.70						Flow rate = 1 gpm
1004	16	34.76		13.1	10.21	0.802	522	Flow rate = 1 gpm
1008	32	35.40						Flow rate = 1 gpm
1020		35.50						Flow rate = 1 gpm
1032		35.70						Flow rate = 0.33 gpm
1046		35.70						Flow rate = 0.33 gpm
1055	48	35.70		12.9	9.05	0.861	242	Flow rate = 0.33 gpm
1130	64	35.70		12.7	9.55	0.855	111	Flow rate = 0.66 gpm
1150	80	35.70		13.5	7.52	0.876	789	Flow rate = 0.66 gpm
1214		46.00						Flow rate = 0.66 gpm
1221								Flow rate = 0.66 gpm
1255		29.5						Flow rate = 0.66 gpm
1311	96	40.3		17.4	6.64	0.884	47	Flow rate = 0.66 gpm
1325								Flow rate = 0.66 gpm
1355								Flow rate = 0.66 gpm
1431	112	45.75	Clear	17.2	6.60	0.882	32	Flow rate = 0.66 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 2 of 8
Project No: 03674013	Client: Stone & Webster	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 1300	Completion Date/Time: 01/12/01 1410	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 9.22	Protection Level: D
Pre-development DTW (PVC) (ft): 9.22 DTB (PVC) (ft): 46.10		
Post-development DTW (PVC) (ft): 25.50		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 24.08 (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 360 gallons –112 gallons = 248 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 0.33 to 1gpm		
Maximum Drawdown During Purging (ft): 16.28	Specific Capacity (gpm/ft):	
Total Quantity Purged: 45 gallons, in addition to 112 gal (01/11/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1420	45	25.5	Clear	13.5	6.64	.881	30	Removed 45 gallons

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 3 of 8
Project No: 03674013	Client: Stone & Webster	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/15/01 1400	Completion Date/Time: 01/15/01 1445	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. Hayes	Water Level (ft bgs): 9.3	Protection Level: D
Pre-development DTW (PVC) (ft): 9.3 DTB (PVC) (ft): 48.2		
Post-development DTW (PVC) (ft): 23.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 24.08 (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 248 gallons – 45 gallons = 203 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 2200 ml/min		
Maximum Drawdown During Purging (ft): 14.6	Specific Capacity (gpm/ft):	
Total Quantity Purged: 35 gallons, in addition to 157 gal (01-12-01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1405	Int	9.3	Clear	14.1	6.90	0.814	18	
1428	35	23.9	Clear	14.0	7.65	0.774	124	
								Turned off at 1445 ;35 gal. Removed.
								168 gal still need to be removed

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 4 of 8
Project No: 03674013	Client: Stone & Webster	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/17/01 1320	Completion Date/Time: 01/17/01 1350	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 9.72	Protection Level: D
Pre-development DTW (PVC) (ft): 9.72 DTB (PVC) (ft): 46.0		
Post-development DTW (PVC) (ft): Dry		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 24.08 (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 203 gallons – 35 gallons = 168 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 1 gpm --- 2 gpm		
Maximum Drawdown During Purging (ft): 14.78		
Total Quantity Purged: 30 gallons, in addition to 192 Gal (1-15-01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1320	1	13.0	Clear	13.7	6.73	.930	33	
1340	15	24.5	Lt Grey	14.4	6.96	.813	77	
1350	30	Dry	Lt Grey					End Development

Notes: = below

BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 5 of 8
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/19/01 1200	Completion Date/Time: 01/19/01 1400	Well Diameter: 4
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 9.0	Protection Level: D
Pre-development DTW (bgs) (ft): 9.0 DTB (bgs) (ft): 46.2		
Post-development DTW (bgs) (ft): 22.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 24.08 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 168 gallons – 30 gallons = 138 gallons left to develop.		
Development Purge/Discharge Rate (gpm): ~ 1100 ml/min		
Maximum Drawdown During Purging (ft): 13.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 33 gallons, in addition to 222 gal (01-17-01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1225	Int	10.5	Brown	12.8	7.46	0.829	>999	Rain
1340	30.5	22.2	Cloudy	13.6	7.68	0.827	136	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 6 of 8
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/22/01 1115	Completion Date/Time: 01/22/01 1415	Well Diameter: 4
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 18.60	Protection Level: D
Pre-development DTW (bgs) (ft): 18.60 DTB (bgs) (ft): 47.00		
Post-development DTW (bgs) (ft): 46		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 24.08 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) =138 gallons – 33 gallons = 105 gallons left to develop.		
Development Purge/Discharge Rate : 1000 ml/min		
Maximum Drawdown During Purging (ft): 27.5	Specific Capacity (gpm/ft):	
Total Quantity Purged: 56 gallons, in addition to 255 gal (01-19-01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4.0		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1120	1	18.80	Clear	12.8	5.90	0.93	53	Pressure under expans plug O_2 = 18.6%
1150	9	23.20	Clear	13.1	6.97	.886	118	
1220	18	23.30	Grey	13.1	7.15	.808	192	
1250	27	24.40	Grey	13.6	7.23	.825	232	
1330	36	26.71	Grey	14.6	7.17	.847	152	
1410	56	46.10	Brn/Grey	14.6	7.16	.845	202	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 7 of 8
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/23/01 0810	Completion Date/Time: 01/23/01 1331	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: T. Robinson	Water Level (ft bgs): 9.20	Protection Level: D
Pre-development DTW (bgs) (ft): 9.20 DTB (bgs) (ft): 47.00		
Post-development DTW (bgs) (ft): 15.62		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 24.08 gal (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 105 gallons – 56 gallons = 49 gallons left to develop.		
Development Purge/Discharge Rate :		
Maximum Drawdown During Purging (ft): 7.14	Specific Capacity (gpm/ft):	
Total Quantity Purged: 75 gallons, in addition to 311 gal (01-22-01) COMPLETED: 386 gallons total.		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 5.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0810		9.20	Brn	10.6	6.20	0.95	250	
0820	2	13.69	Clear	12.3	6.39	0.923	245	
0852	17	15.92	Clear	8.6	6.99	0.886	552	Changed battery in Horiba @ 0855.
0920	22	16.09	Clear	10.9	7.19	0.885	468	
1010	25	16.20	Clear	11.6	7.25	0.888	509	
1100	31	16.20	Clear	11.9	7.31	0.889	418	
1140	42	16.28	Clear	12.7	7.23	0.886	467	
1230	55	16.34	Clear	13.2	7.19	0.889	281	
1310	75	16.27	Clear	13.8	7.29	0.877	488	Complete @ 1331 Removed 75 gallons

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-10D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: West Hunter Avenue	Page 8 of 8
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/09/01 1400	Completion Date/Time: 02/09/01 1500	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 7.10	Protection Level: D
Pre-development DTW (bgs) (ft): 7.10 DTB (bgs) (ft): 47.00		
Post-development DTW (bgs) (ft): 7.90		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = N/A, Test-purged to see if turbidity could get below 50 NTU using peristaltic pump.		
Development Purge/Discharge Rate :		
Maximum Drawdown During Purging (ft): 0.80	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 36 gallons Development completed on previous development date.		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1435	0	7.10		11.9	10.98	.484	29	
1440	~ 36	7.66		12.1	11.09	.488	32	
1445		7.90						End Purge

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-11S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/09/01 1245	Completion Date/Time: 01/09/01 1445	Well Diameter: 2
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.22	Protection Level: D
Pre-development DTW (PVC) (ft): 4.22	DTB (PVC) (ft): 8.4	
Post-development DTW (PVC) (ft): >7		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.164 * (4.18) = 0.7 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.1 gallons	*No water loss to formation during installation.*	
Development Purge/Discharge Rate (gpm): ~0.5 gpm		
Maximum Drawdown During Purging (ft): >2.78	Specific Capacity (gpm/ft):	
Total Quantity Purged: 6.3 gallons		
Disposition of Purge Water: Drummed and stored on MISS		
Hours of Development: 2		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1253		4.3	Turbid/Rd Brn	7.3	5.94	0.99	>999	
1256	0.7	>7.0	Turbid/Rd Brn	8.1	6.22	0.877	>999	
1302	1.4	>7.0	Turbid/Rd Brn	7.1	6.24	1.01	>999	
1306	2.1	>7.0	Turbid/Rd Brn	8.4	6.27	0.92	>999	
1312	2.8	>7.0	Turbid/Rd Brn	9.1	6.34	1.02	>999	
1315	Well went dry							
1329	3.5	>7.0	Turbid/Rd Brn	9.1	6.19	1.09	>999	
1335	4.2	>7.0	Turbid/Rd Brn	8.3	6.23	1.06	>999	
1340	4.9	>7.0	Turbid/Rd Brn	9.2	6.29	1.11	>999	
1342	Well went dry							
1418	5.6	<7.0	Clear/brn	9.0	6.17	1.22	666	
1420	6.3	<7.0	Turbid/rd brn	9.2	6.21	1.20	>999	
1421	Well went dry							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-11S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 2 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 1155	Completion Date/Time: 01/12/01 1230	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 2.90	Protection Level: D
Pre-development DTW (PVC) (ft): 2.90	DTB (PVC) (ft): 8.50	
Post-development DTW (PVC) (ft): 4.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.7 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A	*No water loss to formation during installation.*	
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous development day.		
Development Purge/Discharge Rate (gpm): 250 ml/min		
Maximum Drawdown During Purging (ft): 1.3	Specific Capacity (gpm/ft):	
Total Quantity Purged: 3 gallons, in addition to 6.3 gal (01-09-01)	COMPLETED: 9.3 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1155	0	3.40	Clear	7.7	7.04	1.04	186	
1205	1	4.01	Clear	9.0	7.09	1.05	119	
1215	2	4.10	Clear	9.8	6.98	1.05	80	
1225	3	4.20	Clear	9.6	6.99	1.06	36	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-12S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/10/01 1145	Completion Date/Time: 01/10/01 1315	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.9	Protection Level: D
Pre-development DTW (PVC) (ft): 4.9	DTB (PVC) (ft): 17.5	
Post-development DTW (PVC) (ft): 7.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 2.10 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 6.31 gallons + 90 gallons from installation water loss = 96.31 gallons		
Development Purge/Discharge Rate (gpm): 0.13 gpm		
Maximum Drawdown During Purging (ft): 2.3		
Total Quantity Purged: 10 gallons		
Disposition of Purge Water: Drummed and transformed to FRAC tank on MISS		
Hours of Development: 1.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1231		6.1	Cloudy/rd/brn	10.3	6.76	1.30	>999	
1238	2	6.2	Cloudy/rd/brn	10.9	6.91	1.30	>999	
1243	4	6.35	Clear yellow	11.0	6.88	1.31	571	
1251	6	6.45	Clear	10.2	6.85	1.31	141	
1258	8	6.35	Clear	10.2	6.83	1.32	51	
1306	10	7.20	Clear	10.3	6.89	1.28	22	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-12S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/11/01 0920	Completion Date/Time: 01/11/01 1430	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): NA	Protection Level: D
Pre-development DTW (PVC) (ft): N/A	DTB (PVC) (ft): 17.50	
Post-development DTW (PVC) (ft): Not completed		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 2.10 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 96.31 gallons – 10 gallons = 86.31 gallons left to purge.		
Development Purge/Discharge Rate (gpm): 750 – 1000 ml/min		
Maximum Drawdown During Purging (ft): N/A		
Total Quantity Purged: 200 gallons, in addition to 10 gal (01-10-01)		
Disposition of Purge Water: Drummed and transformed to FRAC tank on MISS		
Hours of Development: 5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0920	5	N/A	Brown	10.1	7.24	1.29	>1000	
0955	35	14.51	Clear	12.2	7.15	1.32	46	
1050	60	12.43	Yellowish Clear	10.9	6.83	1.32	12	
1230	135	15.7		12.2	6.91	1.31	2	Yellow tint Q, WL = 13.70
1430	200							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-12S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 0730	Completion Date/Time: 01/12/01 0750	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 4.83	Protection Level: D
Pre-development DTW (PVC) (ft): 4.83 DTB (PVC) (ft): 17.50		
Post-development DTW (PVC) (ft): 10		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 2.10 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous development day.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 5.72		
Total Quantity Purged: 10 gallons, in addition to 210 gal (1-11-01) total 220 gallons, development complete.		
Disposition of Purge Water: Drummed and transformed to FRAC tank on MISS		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0750	10	10.55	Grey	10.7	6.96	1.61	138	Need to recover 10 gallons.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-12D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/28/00 1100	Completion Date/Time: 12/28/00 1145	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via CME-75 rig pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 7	Protection Level: D
Pre-development DTW (PVC) (ft): 7	DTB (PVC) (ft): 54	
Post-development DTW (PVC) (ft): N/A		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.68 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 92 gallons + 240 gallons (for recovery) = 332 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: 20 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: : 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1130	-	-	Brown	13.5	9.2	0.734	999	
	Pump stopped. Could not restart pump due to high silt content. Re-flushed an additional 170 gallons of fresh water into hole.							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-12D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 2 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/22/01 0730	Completion Date/Time: 02/22/01 1240	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 3.63	Protection Level: D
Pre-development DTW (PVC) (ft): 3.63	DTB (PVC) (ft): 47.0	
Post-development DTW (PVC) (ft): 8.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.68 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 332 gallons –20 gallons = 312 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 0.4 gpm to 0.5 gpm		
Maximum Drawdown During Purging (ft): 5.55	Specific Capacity (gpm/ft):	
Total Quantity Purged: 88 gallons, in addition to 20 gal (12-28-01)	COMPLETED: 108 gal total.	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: : 3.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0850	1						>1000	
0855	1	6.75	Brown	11.3	6.81	0.729	281	
0900	5	9.18	Clear	11.8	7.56	0.733	19	
1000	28	8.34	Clear	12.1	7.61	0.770	16	
1110	56	8.27	Clear	12.1	7.69	0.761	18	
1230	88	8.20	Clear	12.2	7.67	0.767	17	
								Development Complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-13S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Muscarelle	Page 1 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 03/28/01 0940	Completion Date/Time: 03/28/01 1700	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 3.70	Protection Level: D
Pre-development DTW (PVC) (ft): 3.70	DTB (PVC) (ft): 10.20	
Post-development DTW (PVC) (ft): 8.3		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.1 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.3 gal + 150 gal for installation water loss = 153.3 gallons		
Development Purge/Discharge Rate (gpm): ~ 600 ml/min		
Maximum Drawdown During Purging (ft): 4.57		
Total Quantity Purged: 85 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0850	0	5.85	Brn	13.1	8.45	1.38	>1000	
0917	-	5.37	Lt. Brn	-	-	--	-	
0945	11	5.60	Clear	10.2	4.60	3.44	135	
1030	15	5.10	Clear	11.9	5.77	3.27	141	Q dropped off; reset valve
1054	-	5.71	Clear	11.4	5.23	3.19	15	Q=600 ml/min
1200	25	6.42	Clear	11.0	5.05	3.02	12	Q=600 ml/min
1300	45	6.95	Clear	11.9	7.19	2.73	4	
1400	~55	6.77	Clear	11.4	7.01	2.77	6	
1500	65	5.75	Clear	12.5	6.71	2.77	4	
1600	75	5.97	Clear	12.4	6.70	2.66	3	
1645	85	8.27	Clear	12.4	6.70	2.68	3	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-13S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Muscarelle	Page 2 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 03/29/01 0735	Completion Date/Time: 03/29/01 1245	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 3.73	Protection Level: D
Pre-development DTW (PVC) (ft): 3.73	DTB (PVC) (ft): 10.20	
Post-development DTW (PVC) (ft): 6.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.1 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 153.3 gallons – 85 gallons = 68.3 gallons left to purge.		
Development Purge/Discharge Rate (gpm): See remarks		
Maximum Drawdown During Purging (ft): 6.47		
Total Quantity Purged: 69 gallons in addition to 85 gallons (03/28/01).	COMPLETED: 154 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0735	1		Brn	9.6	-	2.71	>1000	Q = 1.6 Lpm well dry
0742	~5	10.2	Brn	-	-	--	-	Q = 400 ml/min
0745	~5	7.57	Lt. Brn	-	-	--	-	
0750	5.5	7.65	Brn	10.2	5.06	2.48	>1000	
0815	~18	9.58	Clear	10.1	4.58	2.39	742	Q = 900 ml/min
0825	~19	7.53	Clear	10.0	4.55	2.51	N/A	Q = 850 ml/min
0900	~27	6.35	Clear	9.9	N/A	2.61	1	
0930	~33	6.10	Clear	10.7	6.13	2.73	8	Q = 600 ml/min (0930)
1051	55	6.67	Clear	10.2	6.16	2.72	1	
1120	57	6.71	Clear	10.0	6.27	2.70	75	Move pump/surge, Q = 800 ml/min
1145	65	6.61	Clear	10.4	6.33	2.56	1	Q = 800 ml/min
1205	67	6.62	Clear	10.4	6.31	2.61	1	
1230	69	6.60	Clear	10.1	6.37	2.68	1	End of development

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-13D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Muscarelle	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 03/28/01 0840	Completion Date/Time: 03/28/01 1640	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via 2 whale pumps (in series), parameters measured with Horiba U-10.		
Logged by: J. Dekoskie	Water Level (ft bgs): 4.73	Protection Level: D
Pre-development DTW (bgs) (ft): 4.73	DTB (bgs) (ft): 50.20 soft	
Post-development DTW (bgs) (ft): 35		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4inch well = 0.6528 x (DTB-DTW)(ft)) = 29.5		
Minimum Purge Volume (gal) (3 well volumes) = 180 + 89 for installation water loss = 269 gallons		
Development Purge/Discharge Rate (gpm): varied		
Maximum Drawdown During Purging (ft): 44.07 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 275 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0840	0		Brown	10.4	6.89	3.95	402	
0900	25	33.20	Brown	13.1	6.88	3.21	235	
0945	55	-	-	-	-	-	-	
1030	75	42.25	Clear	13.5	4.74	1.33	15	Q =1.4 l/m
1200	125	48.80	Clear	14.6	7.33	1.33	4	Q =2 l/m
1300		25.05	Clear	15.4	7.62	1.32	1	Q =600ml/m
1400	165	19.55	Clear	15.5	6.95	1.32	1	Q =800ml/m
1500	180	19.61	Clear	15.3	6.88	1.38	2	
1600	220		Clear	15.0	6.86	1.38	1	1320: Q =1.6 l/m
1630	275	35.50	Clear	15.1	6.87	1.38	1	End development

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-14S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: 100 Hancock	Page 1 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/23/01 0800	Completion Date/Time: 01/23/01 1600	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.0	Protection Level: D
Pre-development DTW (PVC) (ft): 4.0	DTB (PVC) (ft): 18.95	
Post-development DTW (PVC) (ft): 4.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.164 (18.95-4) = 2.45		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 7.35 gallons + 300 gal for installation water loss = 307.35 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 4.7		
Total Quantity Purged: 285 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: : 8		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0923	-	4.8	Turbid red brown	10.6	7.74	0.782	>999	
0933	10	5.2		13.5	7.64	0.734	11	
0937	15	6.8	Cloudy red brown	13.2	7.80	0.747	881	
0940	17.5	5.1	Cloudy red brown	13.0	7.82	0.747	874	
0942	20	5.8	Cloudy red brown	13.3	7.86	0.747	867	
0956	25	5.8	Cloudy red brown	13.4	7.84	0.740	76	Lowered pump rate
1003	27.5	4.5	Cloudy red brown	13.1	7.88	0.732	155	
1015	30	5.2	Cloudy red brown	13.7	7.78	0.727	429	
1110	65	6.8	Cloudy red brown	13.6	7.65	0.724	222	
1115	70	7..2	Cloudy red brown	13.5	763	0.724	221	
1118	75	7.3	Cloudy red brown	13.9	7.61	0.724	220	
1125	80	7.4	Cloudy red brown	13.9	762	0.724	108	
1135	85	7.4	Clear	13.6	7.80	0.728	53	
1149	95	5.7	Clear	13.5	7.82	0.723	16	
1156	105	5.5	Clear	14.0	7.71	0.727	11	
1230	135	8.7	Clear	14.1	7.59	0.719	4	Lowered pump rate
1314	175	6.25	Clear	13.5	7.72	0.718	6	Increased pump rate
1324	185	6.5	Clear	13.5	7.68	0.711	6	
1404	235	6.9	Clear	13.2	7.75	0.714	5	
1433	285	7.2	Clear	13.4	7.69	0.712	7	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-14S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: 100 Hancock	Page 2 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/25/01 0700	Completion Date/Time: 01/25/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.05	Protection Level: D
Pre-development DTW (PVC) (ft): 4.05	DTB (PVC) (ft): 18.6	
Post-development DTW (PVC) (ft): 7.20		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.164 (18.95-4) = 2.45 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 307.35 gallons – 285 gallons = 22.35 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 3.15		
Total Quantity Purged: 100 gallons, in addition to 285 gal (01-23-01).	COMPLETED: 385 gallons total.	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0845	-	4.05	Clear	13.3	6.99	0.715	3	
0855	20	7.0	Clear	13.7	7.09	0.709	3	
0912	50	7.2	Clear	13.1	7.10	0.710	2	
0940	100	7.2	Clear	13.0	7.21	0.696	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-14D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: 100 Hancock	Page 1 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/23/01 0800	Completion Date/Time: 01/23/01 1600	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.2	Protection Level: D
Pre-development DTW (PVC) (ft): 4.2 DTB (PVC) (ft): 52.8		
Post-development DTW (PVC) (ft): 4.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.653 x (DTB-DTW)(ft)) = 0.65275 (52.8-4.2) = 31.7		
Minimum Purge Volume (gal) (3 well volumes) = 95.2 gal + 180 gal for installation water loss = 275.2 gal		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.5	Specific Capacity (gpm/ft):	
Total Quantity Purged: 253.6 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 8		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0845	-	4.4	Turbid red brown	9.8	9.94	0.356	>999	
0905	-	5.5	-	-	-	-	-	
0910	-	5.0	-	-	-	-	-	
0950	31.7	6.1	Translucent	14.6	8.02	1.01	138	
1101	63.4	4.8	Cloudy	14.7	7.87	1.01	40	
1145	95.1	5.45	Clear	15.2	7.86	0.92	34	
1221	126.8	5.40	Clear	14.7	7.92	0.93	13	
1300	158.5	6.65	Slightly Cloudy	15.5	7.92	1.08	27	
1327	190.2	6.70	Slightly Cloudy	15.5	7.80	1.07	26	
1411	221.6	6.55	Clear	15.0	7.99	0.937	4	
1425	253.6	6.60	Clear	14.5	7.95	0.950	4	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-14D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: 100 Hancock	Page 2 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/25/01 0700	Completion Date/Time: 01/25/01 1500	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.5	Protection Level: D
Pre-development DTW (PVC) (ft): 4.5 DTB (PVC) (ft): 52		
Post-development DTW (PVC) (ft): 6.8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 31.7 (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 275.2 gallons – 253.6 gallons = 21.6 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.3	Specific Capacity (gpm/ft):	
Total Quantity Purged: 177 gallons , in addition to 253 gal (01-23-01). COMPLETED: 424 gal total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0845	-	4.5	Clear	13.9	7.41	0.882	4	
0855	20	6.7	Clear	13.8	7.42	0.845	2	
0921	50	6.7	Clear	13.6	7.36	0.887	3	
0953	100	6.8	Clear	14.2	7.37	1.03	2	
1032	150	6.8	Clear	14.8	7.41	1.04	2	
1053	175	6.8	Clear	14.6	7.4	1.03	2	
1055	177	6.8	Clear	14.3	7.42	1.06	2	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-15S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: DMV	Page 1 of 2
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/15/01 0955	Completion Date/Time: 01/15/01 1310	Well Diameter: 2”
Development Method/Equipment: whale pumps in series, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 5	Protection Level: D
Pre-development DTW (PVC) (ft): 5 DTB (PVC) (ft): 24		
Post-development DTW (PVC) (ft): 8.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 3.2 gallons		
(4-inch well = 0.255 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 9.6 gallons *No water loss to formation during installation.*		
Development Purge/Discharge Rate (gpm): 2 gal/min.		
Maximum Drawdown During Purging (ft): 3.8		
Total Quantity Purged: 350 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: Begin 0955 (3.25 hrs)		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1015	50	8.8	Brown/cloudy	11.5	5.68	0.619	999	
1045	100	8.6	Brown/slightly cloudy	10.5	6.23	0.577	376	
1110	150	8.6	Brown/slightly cloudy	10.5	6.27	0.558	74	
1140	200	8.6	Brown/slightly cloudy	10.5	6.31	0.562	132	
1205	250	8.6	-	-	-	-	-	
1230	300	8.6	Cloudy/brown	10.2	6.38	0.541	452	
1310	350	8.6	Clear	10.8	6.41	0.555	68	(Well sat for 20 min with no pumping)

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-15D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: DMV	Page 1 of 4
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/15/01 1120	Completion Date/Time: 01/15/01 1415	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 5.0	Protection Level: D
Pre-development DTW (PVC) (ft): 5 DTB (PVC) (ft): 61		
Post-development DTW (PVC) (ft): 8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.255 x (DTB-DTW)(ft)) =0.6526 x (61-5) = 36.6		
Minimum Purge Volume (gal) (3 well volumes) = 109.8 + 525 for installation water loss = 634.8 gallons		
Development Purge/Discharge Rate (gpm): 0.73 gal/min.		
Maximum Drawdown During Purging (ft): 25’ when 2 whale pumps installed	Specific Capacity (gpm/ft):	
Total Quantity Purged: 200 gallons today, 434.64 gallons left to pump		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 2.75		
Hours of Decon: 1 today		
Hours of Standby: 0		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1210	50	8.0	Clear	12.7	6.77	1.13	50	Note: Well collapsed – had to redrill 50’-61’
1318	100		-	-				
1340	150	-	-	-				
1405	200	-	Clear	13.1	6.83	1.13	2.0	Still need to pump 434.64 gal.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-15D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: DMV	Page 2 of 4
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/16/01 1345	Completion Date/Time: 01/16/01 1500	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: K. Hayes	Water Level (ft bgs): 3.0	Protection Level: D
Pre-development DTW (PVC) (ft): 3.0 DTB (PVC) (ft): 60.9		
Post-development DTW (PVC) (ft): 7.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.255 x (DTB-DTW)(ft)) =0.6526 x (61-5) = 36.6 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 634.8 gallons –200 gallons = 434.8 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 4.0	Specific Capacity (gpm/ft):	
Total Quantity Purged: 40 gallons, in addition to 200 gal (01-15-01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1400	Int.	3.0	Clear	13.8	7.33	1.05	55	
1435	40	7.0	Clear	13.5	7.57	1.10	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-15D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: DMV	Page 3 of 4
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation:
Start Date/Time: 01/17/01 1130	Completion Date/Time: 01/17/01 1500	Well Diameter: 4”
Development Method/Equipment: 2” grunfos pump and whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 3	Protection Level: D
Pre-development DTW (PVC) (ft):. 3 DTB (PVC) (ft): 60.9		
Post-development DTW (PVC) (ft): 3.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.255 x (DTB-DTW)(ft)) =0.6526 x (61-5) = 36.6 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 434.8 gallons – 40 gallons = 394.8 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 13.4	Specific Capacity (gpm/ft):	
Total Quantity Purged: 275 gallons, in addition to 240 gal (1-16-01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1300	100	15	Clear	14.6	7.45	1.05	4	
1350	200	16.4	Clear	14.6	7.59	1.08	4	
1440	275	16.2	Clear	14.9	7.60	1.08	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-15D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: DMV	Page 4 of 4
Project No: 3674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie		Ground Elevation: D
Start Date/Time: 01/18/01 0730	Completion Date/Time: 01/18/01 0845	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via 2” grunfos and whale pumps in series, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 3	Protection Level: D
Pre-development DTW (PVC) (ft): 3 DTB (PVC) (ft): 60.9		
Post-development DTW (PVC) (ft): 7.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.255 x (DTB-DTW)(ft)) =0.6526 x (61-5) = 36.6 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 394.8 gallons – 275 gallons = 119.8 gallons left to purge		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 7.9		
Total Quantity Purged: 55 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0745	5	7.2	Clear	13.8	6.48	1.13	21	
0805	25	9.0	Clear	14.3	6.94	1.15	34	
0827	55	15.1	Clear	14.4	7.01	1.10	4	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-16S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Money Street	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/26/00 1025	Completion Date/Time: 12/26/00 1130	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: John Ifkovits	Water Level (ft bgs): 3.85	Protection Level: D
Pre-development DTW (bgs) (ft): 3.85 DTB (bgs) (ft): 13.8		
Post-development DTW (bgs) (ft): 4.03		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.63		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.89 gallon + 54 gallons (water loss) = 58.89 gallons		
Development Purge/Discharge Rate (gpm): 2 gpm		
Maximum Drawdown During Purging (ft): 0.73	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~100 gallon COMPLETED: 100 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: ~ 1 hour		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1025	Int	3.85	Turbid brown	11.41	7.49	238	1563	-Good Recharge-
1040	~ 20	4.00	-	12.57	6.74	581	202	
1100	~ 50	4.20	Turbid	13.18	7.12	622	82.1	
1115	~ 75	4.38	Clear	13.67	6.88	632	44.7	
1130	~ 100	4.58	Clear	13.98	6.92	638	18.5	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-16D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Money Street	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/26/00 0845	Completion Date/Time: 12/26/00 1430	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: T. Robinson	Water Level (ft bgs): 3.23	Protection Level: D
Pre-development DTW (bgs) (ft): 3.23	DTB (bgs) (ft): ~ 50.0	
Post-development DTW (bgs) (ft): 35.72		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.53		
Minimum Purge Volume (gal) (3 well volumes) = 92 + 300 gallons (water loss) = 392 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 35. 72	Specific Capacity (gpm/ft):	
Total Quantity Purged: 300 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 5 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0908	Int.	3.23	Turbid green	11.31	9.42	266	119.6	
1135	150	26.78	Slightly turbid	12.87	8.76	365	34	1020: Pump clogged
1310	240	36.80	Clear	13.73	8.61	341	16.7	shut down, restart pump
1400	300	38.95	Clear	13.81	8.59	347	10.7	1058: Pump clogged

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-16D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Money Street	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/26/00 0830	Completion Date/Time: 01/26/00 1310	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: T. Robinson	Water Level (ft bgs): 4.02	Protection Level: D
Pre-development DTW (bgs) (ft): 4.02	DTB (bgs) (ft): 75.0	
Post-development DTW (bgs) (ft): 25.43		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.53 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 392 gallons – 300 gallons = 92 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 29.41	Specific Capacity (gpm/ft):	
Total Quantity Purged: 140 gallons in addition to 300 gallons (12/26/00)	COMPLETED: 440 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0948	20	18.4	Cloudy	12.3	6.56	.588	>1000	
1015	50	24.27	Clear	12.8	7.47	.507	192	1020: Pump clogged
1038	60	31.0	Clear	13.3	7.67	.518	82	shut down, restart pump
1130	100	33.43	Clear	13.4	7.93	.521	147	1058: Pump clogged
1218	125	29.45	Clear	13.4	7.85	.520	61	shut down, restart pump
1229	130	27.89	Clear	13.6	7.89	.520	20	
1245	135	25.56	Clear	13.1	7.95	.519	2	
1255	140	25.43	Clear	13.2	7.88	.518	10	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-17S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Mitchell St. in Lodi	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/16/01 0900	Completion Date/Time: 01/16/01 1400	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 6.0	Protection Level: D
Pre-development DTW (bgs) (ft): 6.0	DTB (bgs) (ft): 10.0	
Post-development DTW (bgs) (ft): 5.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.66 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.98 gallons	*No water loss to formation during installation.*	
Development Purge/Discharge Rate (gpm): 0.6 gal/min		
Maximum Drawdown During Purging (ft): 3.0	Specific Capacity (gpm/ft):	
Total Quantity Purged: 310 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 5 hour		
Hours of Decon: 1 hour		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0954	45	7.6	Clear	14.5	5.92	0.666	87	
1009	55	-	-	-	-	-	-	
1045	90	-	-	-	-	-	-	
1230	205	9.0	Slightly Cloudy	12.5	7.11	0.608	584	
1350	310	9.0	Slightly Cloudy	13.1	7.17	0.592	468	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-17S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Mitchell St. in Lodi	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/09/01 1045	Completion Date/Time: 02/09/01 1100	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): not measured	Protection Level: D
Pre-development DTW (bgs) (ft): not measured	DTB (bgs) (ft): 10.0	
Post-development DTW (bgs) (ft): not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.66 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A	*No water loss to formation during installation.*	
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous development day.		
Development Purge/Discharge Rate (gpm): 500 ml/min		
Maximum Drawdown During Purging (ft): not measured	Specific Capacity (gpm/ft):	
Total Quantity Purged: 9.5 gallons in addition to 310 gallons (01/16/01)	COMPLETED: 319.5 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon: 1 hour		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1045	2		Clear	11.4	7.30	.679	214	
1050	4.5		Clear	11.4	7.24	.527	139	
1055	7.0		Clear	11.5	7.19	.525	46	
1100	9.5		Clear	11.6	7.15	.525	2	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-17D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Mitchell St. in Lodi	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/16/01 1000	Completion Date/Time: 01/16/01 1400	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 6.0	Protection Level: D
Pre-development DTW (bgs) (ft): 6.0	DTB (bgs) (ft): 46.0	
Post-development DTW (bgs) (ft): 5.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 26.11 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 78.34 gallons + 330 gallons (water loss) = 408.34 gallons		
Development Purge/Discharge Rate (gpm): 1 gal/min		
Maximum Drawdown During Purging (ft): 9	Specific Capacity (gpm/ft):	
Total Quantity Purged: 210 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4 hour		
Hours of Decon: 1 hour		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1045	30	-	Brown/cloudy	13.8	6.92	1.74	999	Could not get DTW; too much hose down well.
1230	110	15	Clear	15.1	7.11	0.833	91	
1340	210	15	Clear	15.1	7.40	0.729	93	

Notes: = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-17D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Mitchell St. in Lodi	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/25/01 1115	Completion Date/Time: 01/25/01 1400	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 5.1	Protection Level: D
Pre-development DTW (bgs) (ft): 5.1	DTB (bgs) (ft): 46.05	
Post-development DTW (bgs) (ft): 19.3		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 26.11 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 408.34 gallons – 210 gallons = 198.34 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 14.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 205 gallons in addition to 210 gallons (01/16/01)	COMPLETED: 415 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 3		
Hours of Decon: 2		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1142	Int	5.2	Cloudy	16.4	7.85	.844	367	
1212	50	18.0	Cloudy	16.4	7.25	.559	57	
1242	100	18.2	Cloudy	16.5	7.26	.559	11	Lower pumping rate
1317	150	18.5	Cloudy	15.7	7.35	.551	6	
1355	205	19.3	Cloudy Red Brown	15.6	7.54	.557	29	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-18S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Avenue C in Lodi	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/10/01 1200	Completion Date/Time: 01/10/01 1430	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 6.12	Protection Level: D
Pre-development DTW (bgs) (ft): 6.12	DTB (bgs) (ft): 13.00	
Post-development DTW (bgs) (ft): 7.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.13 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.38 gallons	*No water loss to formation during installation.*	
Development Purge/Discharge Rate (gpm): 300 to 500 ml/min		
Maximum Drawdown During Purging (ft): 4.68	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~9 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hour		
Hours of Decon: 1 hour		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1235	0	6.12	Brown	13.5	6.23	19.3	>1000	
1249	1.1	Dry	Brown	13.5	6.90	7.09	>1000	
1257	2.2	Dry	Brown	14.2	6.70	4.61	>1000	1257: Q=300 ml/min
1301	3.3	8.61	Lt. Brown	13.7	6.61	3.41	627	
1315	4.4	8.45	Lt. Brown	14.1	6.55	3.36	402	
1330	5.5	7.94	Clear	13.9	6.65	2.79	162	
1345	6.6	7.65	Clear	14.4	6.64	2.68	79	1345: Q=500 ml/min
1400	7.7	7.61	Clear	13.9	6.48	2.56	41	
1415	~ 9	10.80	Lt Brown	14.1	6.75	1.59	150	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-18S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Avenue C in Lodi	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/23/01 1125	Completion Date/Time: 01/23/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 5.8	Protection Level: D
Pre-development DTW (bgs) (ft): 5.8	DTB (bgs) (ft): 16.4	
Post-development DTW (bgs) (ft): 7.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.13 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A	*No water loss to formation during installation.*	
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous day.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.3	Specific Capacity (gpm/ft):	
Total Quantity Purged: 41 gallons in addition to 9 gallons (01/10/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 5		
Hours of Decon:		
Hours of Standby:	*Battery died between 1400 and 1430; no recharge*	

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1155	Int	5.8	Pea Green	12.9	7.06	1.40	176	
1240	17.8	8.1	Clear	13.7	7.20	.702	16	
1400	41	7.5	Clear	13.8	6.97	.670	2	
1430	-	-	-	-	-	-	-	
						Still need 135.25 gallons removed		

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-18S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Avenue C in Lodi	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/24/01 0800	Completion Date/Time: 01/24/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 5.6	Protection Level: D
Pre-development DTW (bgs) (ft): 5.6	DTB (bgs) (ft): 16.1	
Post-development DTW (bgs) (ft): 7.3		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.13 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A	*No water loss to formation during installation.*	
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous day.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 3.5	Specific Capacity (gpm/ft):	
Total Quantity Purged: 137.25 gallons in addition to 50 gallons previously removed	COMPLETED: 187.25 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0825	Int	5.8	Clear	13.0	7.05	.688	70	
0845	5.95	8.6	Clear	13.8	7.22	.718	2	
1025	42.93	8.9	Clear	13.4	7.14	.643	1	
1130	66.97	9.0	Clear	13.7	7.20	.642	1	
1230	89.16	8.9	Clear	14.4	7.23	.631	1	
1330	111.35	9.0	Clear	14.4	7.08	.635	1	
1440	137.24	9.1	Clear	14.1	7.17	.629	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-18D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Avenue C in Lodi	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/10/01 1220	Completion Date/Time: 01/10/01 1415	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal and development via surge Block/Drill Rods and 2” Grundfos submersible, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 5.00	Protection Level: D
Pre-development DTW (bgs) (ft): 5.00	DTB (bgs) (ft): 58 ft	
Post-development DTW (bgs) (ft): N/A		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 34.45 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 103.35 gallons + 180 for installation water loss = 283.35 gallons		
Development Purge/Discharge Rate (gpm): variable, well running dry		
Maximum Drawdown During Purging (ft): 49.1 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 105 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1220	0	11.95	Lt brown	11.7	6.62	.534	610	
1246	35	54.0	Brown	13.2	7.73	0.96	>1000	Dry @ 1255
1315	70	46.2		14.7	7.22	.724	225	Dry @ 1342
1415	105	54.1		14.9	7.41	.697	116	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-18D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Avenue C in Lodi	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/23/01 1125	Completion Date/Time: 01/23/01 1500	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 1.9	Protection Level: D
Pre-development DTW (bgs) (ft): 1.9	DTB (bgs) (ft): 57.1	
Post-development DTW (bgs) (ft): 25.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 34.45 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 283.35 gallons – 105 gallons = 178.35 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 24.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 124 gallons in addition to 105 gallons (01/10/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1145	Int	1.9	Cloudy	11.5	7.79	.705	83	
1245	52.3	23.8	Cloudy	15.3	7.52	.683	190	
1400	106.3	25.6	Clear	15.4	7.38	.658	20	
1430	124	26.1	Clear	15.3	7.55	.678	14	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-18D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Avenue C in Lodi	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/24/01 0800	Completion Date/Time: 01/24/01 0930	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 8.4	Protection Level: D
Pre-development DTW (bgs) (ft): 8.4	DTB (bgs) (ft): 57.1	
Post-development DTW (bgs) (ft): 20.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 34.45 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 178.35 gallons – 124 gallons = 54.35 gallons left to purge.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 17.1	Specific Capacity (gpm/ft):	
Total Quantity Purged: 35.6 gallons in addition to 229 gallons previously removed	COMPLETED: 264.6 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 45 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0820	Int	8.4	Cloudy Green	13.8	6.87	.674	302	
0840	18.5	22.1	Cloudy Green	15.0	7.10	.675	111	
0845	22.3	22.6	Cloudy	15.0	7.33	.663	94	
0855	29.3	24.8	Cloudy	15.0	7.27	.668	66	
0905	35.6	25.5	Cloudy	15.0	7.50	.659	40	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-19D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Lincoln Street	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/27/00 0830	Completion Date/Time: 12/27/00 1445	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: Z. Main	Water Level (ft bgs): 7.97	Protection Level: D
Pre-development DTW (bgs) (ft): 7.97	DTB (bgs) (ft): 42	
Post-development DTW (bgs) (ft): 30		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 22.21 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 66.64 gallons + 600 gallons for installation water loss= 666.64 gallons		
Development Purge/Discharge Rate (gpm): 0.8 to 1.5 gpm		
Maximum Drawdown During Purging (ft): 29.48	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 225 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: ~ 6 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0935	5	-	Red/brown	12.7	8.22	.571	175	Initial readings
1200	~ 100	30.45	Clear	12.9	7.41	.990	31	Q between 1.0 and 0.8 gpm
1345	~ 200	29.82	Clear	12.6	7.35	1.02	18	Q= ~0.9 gpm
1430	~ 225	29.95	Clear	13.7	7.12	1.01	22	End purge for day.
	Incomplete-> need to purge additional 441 gallons							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-19D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Lincoln Street	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/28/00 0900	Completion Date/Time: 12/28/00 1430	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: Julie Lincoln	Water Level (ft bgs): 8.00	Protection Level: D
Pre-development DTW (bgs) (ft): 8.00	DTB (bgs) (ft): 42	
Post-development DTW (bgs) (ft): 20		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 22.21 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 666.64 gallons – 225 gallons = 441.64 gallons left to purge.		
Development Purge/Discharge Rate (gpm): 0.6 gpm		
Maximum Drawdown During Purging (ft): 14.95	Specific Capacity (gpm/ft):	
Total Quantity Purged: 180 gallons in addition to 225 gallons (12/27/00)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: ~ 5.5 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0900	0	8.01	Cloudy	12.72	6.98	1108	83.6	Sounded well-hard bottom
1100	60	18.1	Clear	13.82	7.04	989	14.4	
1300	125	22.95	Clear	14.15	7.17	984	14.5	
1530	180	21.60	Clear	14.00	7.43	987	7.8	
	NOTE: Total 405 gallons							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-19D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Lincoln Street	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/04/01 0730	Completion Date/Time: 01/04/01 1500	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: Julie Lincoln	Water Level (ft bgs): 9.84	Protection Level: D
Pre-development DTW (bgs) (ft): 9.84	DTB (bgs) (ft): 42	
Post-development DTW (bgs) (ft): 26		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 22.21 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 441.64 gallons – 180 gallons = 261.64 gallons left to purge.		
Development Purge/Discharge Rate (gpm): 1.7 gpm		
Maximum Drawdown During Purging (ft): 16.16	Specific Capacity (gpm/ft):	
Total Quantity Purged: 265 gallons in addition to 405 gallons previously removed	COMPLETED: 670 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 8 hr development, 1 hour water handing		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1035	50	25.5	Clear	13.3	6.26	1.12	9	
1137	100	26.0	Clear	13.2	7.25	1.2	20	
1220	130	-	-	-	-	-	-	
1315	180	26.0	Clear	13.2	6.93	1.11	14	
1415	230	26.0	Clear	13.2	7.16	1.14	9	
1455	265	26.0	Clear	13.1	7.14	1.14	13	
								End Development

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-19DD**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Lincoln Street	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/04/01 0730	Completion Date/Time: 01/04/01 1600	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via Grunfos submersible pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 12.2	Protection Level: D
Pre-development DTW (bgs) (ft): 12.2	DTB (bgs) (ft): 76	
Post-development DTW (bgs) (ft): 13.97		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 41.65 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 125 gallon + 300 gallons (water loss) = 425 gallons		
Development Purge/Discharge Rate (gpm): 0.6 gpm		
Maximum Drawdown During Purging (ft): 16.8	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 525 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 9 hr development, 1 hour water handing		
Hours of Decon: will be completed 01/05/01 am		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1115	30	18.38	Very cloudy/brown	10.2	10.93	1.74	999	15 ft of silt on bottom ;
1205	150	20.5	Very cloudy/brown	12.9	7.11	1.41	999	flushed well with drill rig
1220	170	-	-	-	-	-	-	prior to purging
1311	230	26	Cloudy/brown	14.1	6.74	1.36	999	
1345	280	-	-	-	-	-	-	Initial purging consisted of
1415	330	27	Cloudy/brown	13.9	6.91	1.36	780	very thick, silty water
1440	380	26.8	Slightly cloudy/brown	12.7	7.56	1.35	509	
1455	430	26.85	Slightly cloudy/brown	13.7	6.75	1.35	326	Water began to clear after
1500	460	29	Slightly cloudy/brown	13.0	6.94	1.39	162	pumping ~280 gal
1520	480	-	-	-	-	-	-	
1545	525	29	Slightly cloudy/brown	13.0	6.9	1.31	182	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-19DD**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Lincoln Street	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/09/01 1230	Completion Date/Time: 02/09/01 1320	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 8.35	Protection Level: D
Pre-development DTW (bgs) (ft): 8.35	DTB (bgs) (ft): 76	
Post-development DTW (bgs) (ft): 8.20		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 41.65 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous development day.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.13	Specific Capacity (gpm/ft):	
Total Quantity Purged: 525 gallons on 01/04/01	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1255		8.35						
1300		8.45		13.2	9.27	.698	12	
1305		8.48		13.3	9.30	.706	14	
1308		8.20						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-20S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/22/01 1240	Completion Date/Time: 02/22/01 1440	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: M. Barone	Water Level (ft bgs): 8.65	Protection Level: D
Pre-development DTW (bgs) (ft): 8.65 DTB (bgs) (ft): 15		
Post-development DTW (bgs) (ft): 14.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.04		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.12 gallons + 0 gallons (for water loss) = 3.12 gallons		
Development Purge/Discharge Rate (gpm): ~ 0.75 gpm		
Maximum Drawdown During Purging (ft): 5.95	Specific Capacity (gpm/ft):	
Total Quantity Purged: 26.11 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1335	0.10							
1340	0.10	10.2	Brown	5.9	7.00	3.21	>1000	0.18 gpm
1346	1.0	10.6	Brown	6.1	7.05	3.31	>1000	0.09 gpm
1356	2.0	11.3	Brown	7.1	7.22	4.17	908	0.79 gpm
1405	7.11	14.0	Lt. Brown	8.9	7.21	4.41	691	0.79 gpm
1415	7.90	14.5	Clear	9.4	7.22	4.49	136	0.79 gpm
1420	8.95	14.5	Clear	9.6	7.23	4.50	63	0.79 gpm
1425	26.11	14.6	Clear	9.7	7.26	4.50	65	0.79 gpm
								Not Completed

Notes: BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-20S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/23/01 1315	Completion Date/Time: 02/23/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 8.65	Protection Level: D
Pre-development DTW (bgs) (ft): 8.65	DTB (bgs) (ft): 14	
Post-development DTW (bgs) (ft): 9.45		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.04 (from first development day)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = Minimum purge volume achieved on previous development day.		
Development Purge/Discharge Rate (gpm): 0.38 gpm		
Maximum Drawdown During Purging (ft): 1.42	Specific Capacity (gpm/ft):	
Total Quantity Purged: 27.42 gallons in addition to 26.11 gallons (02/22/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.5 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1320	-	9.41	Turbid/brown	9.70	5.35	4.52	628	
1333	5	10.07	-	-	-	-	-	
1339	7.28	10.05	Transparent yellow	10.40	6.38	4.48	77	Achieved constant flow
1400	7.66	9.75	Cloudy yellow/ Green	10.30	6.54	4.63	20	Rate of 0.38 gpm
1412	12.22	-	Cloudy yellow/ Green	10.10	6.76	4.53	13	“
1422	16.02	-	Cloudy yellow/ Green	9.40	6.64	4.56	11	“
1443	24.00	-	Cloudy yellow/ Green	9.60	6.76	4.56	11	“
1451	27.04	9.45	-	-	-	-	-	
1452	27.42	9.45						Shut pump off,

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-20S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/27/01 1200	Completion Date/Time: 02/27/01 1330	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: Z. Main	Water Level (ft bgs): 8.5	Protection Level: D
Pre-development DTW (bgs) (ft): 8.5	DTB (bgs) (ft): 17	
Post-development DTW (bgs) (ft): 11.57		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.04 gallons (from first day of development)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = N/A, As per R. De Mott: purge to verify turbidity		
Development Purge/Discharge Rate (gpm): 0.25 to 0.5 gpm		
Maximum Drawdown During Purging (ft): 3.07	Specific Capacity (gpm/ft):	
Total Quantity Purged: 30 gallons in addition to 53.53 gallons previously removed	COMPLETED: 83.53 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.5 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1200	0	8.5	Brown	8.2	6.47	4.06	Over range	0.5 gpm
1227	5	10.57	Lime tint	9.7	6.94	4.21	18	Suds, 0.5 gpm
125	15	11.00		10.2	6.52	4.32	22	Suds, 0.5 gpm
1305	22.5	11.10		9.9	6.84	4.32	40	Suds, 0.5 gpm
1320	30	11.57		10.5	6.82	4.26	45	Suds, 0.5 gpm
1325								End pumping

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-20D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/23/01 1030	Completion Date/Time: 02/23/01 1430	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pumps, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 7.97	Protection Level: D
Pre-development DTW (bgs) (ft): 7.97	DTB (bgs) (ft): 55	
Post-development DTW (bgs) (ft): 15.50 (did not measure recovery)		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.7 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 92.1 gallons + 450 gallons (water loss) = 542.1 gallons		
Development Purge/Discharge Rate (gpm): 1.25 to 2 gpm		
Maximum Drawdown During Purging (ft): 7.53	Specific Capacity (gpm/ft):	
Total Quantity Purged: 171 gallons		
Disposition of Purge Water: Drummed and transferred into FRAC tank on MISS		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1038		7.97						
1100		9.95	Turbid red/brn	9.90	3.96	1.17	85	Pumping at rate of 1.25 gpm
1102		10.70						
1105		11.00						
1110		11.75						
1115		12.05						
1120		12.35						
1125	31	12.70	Cloudy yellow	9.82	3.81	1.16	56	
1130		12.75						
1135		12.80						
1140		12.81						
1145		12.85						
1210		12.85				Pulled pump up 15 ft in attempt to increase flow rate		
1215		12.85						
1220		12.90						
1230		12.90						
1240		12.35						
1245		12.70						
1250	62	12.90	Cloudy yellow	11.2	3.35	4.86	6.0	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-20D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/23/01 1030	Completion Date/Time: 02/23/01 1430	Well Diameter: 4”
Development Method/Equipment: Groundwater withdrawal via whale pumps, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 7.97	Protection Level: D
Pre-development DTW (bgs) (ft): 7.97	DTB (bgs) (ft): 55	
Post-development DTW (bgs) (ft): 15.50 (did not measure recovery)		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.7 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 92.1 gallons + 450 gallons (water loss) = 542.1 gallons		
Development Purge/Discharge Rate (gpm): 1.25 to 2 gpm		
Maximum Drawdown During Purging (ft): 7.53	Specific Capacity (gpm/ft):	
Total Quantity Purged: 171 gallons		
Disposition of Purge Water: Drummed and transferred into FRAC tank on MISS		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1315	93	12.90	Yellow foamy	11.5	5.07	5.51	5.0	Foam on surface
1330	Increased pumping rate at 2 gpm							
1350	133	13.40	Cloudy yellow	11.60	6.97	6.43	16.0	
1406		15.50						
1409	171		Stopped pumping					

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-20D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 02/27/01 0840	Completion Date/Time: 02/27/01 1200	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via whale pumps, parameters measured with Horiba U-10		
Logged by: Z. Main	Water Level (ft bgs): 5.95	Protection Level: D
Pre-development DTW (bgs) (ft): 5.95	DTB (bgs) (ft): 55.77	
Post-development DTW (bgs) (ft): 14.2		
Standing Well Volume (gal) = D^2(ft)/4 x □ x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 30.7 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 542.1 gallons – 171 gallons = 371.1 gallons left to purge		
Development Purge/Discharge Rate (gpm): 1 gpm to 2.5 gpm		
Maximum Drawdown During Purging (ft): 13.65	Specific Capacity (gpm/ft):	
Total Quantity Purged: 380.5 gallons in addition to 171 gallons (02/23/01)	COMPLETED: 551.5 gallons total	
Disposition of Purge Water: Drummed and transferred into FRAC tank on MISS		
Hours of Development: 3 hrs		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (□C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0845	8		Cloudy/ brn tint	12.2	6.6	6.24	30	1 gpm
0853	63							2.5 gpm
0915	73							1 gpm
0925	135.5		Lime tint					2.5 gpm
0950	210.5							2.5 gpm
1020	260.5	19.4	Clear, green tint	12.8	6.8	5.84	20	2.5 gpm
1040	300.5							2.0 gpm
1110	360.5	19.6	Clear, green tint	12.6	6.54	5.69	0	2.0 gpm
1120	378.5							1.8 gpm
1122	379.5	15.2	Clear, green tint	12.2	6.58	5.79	0	.5 gpm
1130	380.5	14.2	Clear, green tint	12.6	6.7	5.62	0	.5 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW21S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Scanel	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/29/01 0859	Completion Date/Time: 06/29/01 1015	Well Diameter: 2
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with a Horiba U-10		
Logged by: K. Cote	Water Level (ft bgs): 4.74	Protection Level: D
Pre-development DTW (bgs) (ft): 4.74	DTB (bgs) (ft): 13.75	
Post-development DTW (bgs) (ft): 7.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.48		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) =		
Minimum Purge Volume (gal) (3 well volumes) = 4.43 gallons	*No water loss to formation during installation.*	
Development Purge/Discharge Rate (gpm): steady		
Maximum Drawdown During Purging (ft): 3.16	Specific Capacity (gpm/ft):	
Total Quantity Purged: 40 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 1.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0859			Very silty					Began pumping
0908	~10			16.0	8.91	1.61	999	
0912	~12		Dark red	15.4	8.43	1.74	508	
0917	~15		Dark red	15.0	8.61	1.71	999	
0921		7.20						Start pump
0925			Dark red	14.5	8.67	1.73	999	Dewater
0930				14.5	8.16	1.85	999	Start pump
0933		7.50						Dewatered
0940		7.9		14.7	7.97	1.87	999	
0945								Slowed pump
0946	~25			14.8	7.57	1.89	233	
0948	~27			15.1	7.44	1.89	96	
0952	~30			15.0	7.39	1.90	89	
0959	~31			15.0	7.38	1.91	11	
1005	~34			15.1	7.32	1.91	10	
1012	~40			14.9	7.30	1.91	10	
1015								Development complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-22S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Madison Avenue	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/12/01 1130	Completion Date/Time: 06/12/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale and peristaltic pumps, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 3.7	Protection Level: D
Pre-development DTW (bgs) (ft): 3.7	DTB (bgs) (ft): 10	
Post-development DTW (bgs) (ft): 4.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.03 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.1 gallons	*No water loss to formation during installation.*	
Development Purge/Discharge Rate (gpm): 0.2 gpm		
Maximum Drawdown During Purging (ft): 6.3	Specific Capacity (gpm/ft):	
Total Quantity Purged: 24 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 3 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1245	2	10	Brown	20.0	6.43	1.17	>999	Start pumping with whale pump
1255	7	10	Brown	17.6	5.30	1.22	>999	
1310	10	10	Brown	17.2	6.66	1.25	668	
1320	15	10	Brown	16.8	6.49	1.28	>999	
1335	16	10	Brown	16.7	6.58	1.30	>999	
1345	20	10	Brown	16.7	6.57	1.30	>999	Went dry at 1348
1430	21	10	Brown/cloudy	19.5	6.13	1.75	250	Let well recharge
1440	22	10	Clear	19.0	6.14	1.34	48	Switch to peristaltic pump
1445	23	4.4	Clear	18.3	6.07	1.34	29	
1450	24	4.4	Clear	18.5	5.98	1.34	16	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-23D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/21/01 1400	Completion Date/Time: 06/21/01 1600	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series and peristaltic pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 12.05	Protection Level: D
Pre-development DTW (bgs) (ft): 12.05	DTB (bgs) (ft): 71 ft	
Post-development DTW (bgs) (ft): 38.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 9.7		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 29 gallons		
Development Purge/Discharge Rate (gpm): 0.25 gal/min.		
Maximum Drawdown During Purging (ft): 26.45	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 8 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 2 hours – not complete		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1410	< 1	25	Brown	16.9	6.87	2.75	211	
1415	~ 3	38.5	Brown	19.2	7.39	2.79	41	
1600	~ 8	38.0	Brown	19.2	8.57	2.36	187	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-23D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/22/01 0800	Completion Date/Time: 06/22/01 1530	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series and peristaltic pump, parameters measured with Horiba U-10		
Logged by: J.Lincoln/A. Wood	Water Level (ft bgs): 12.05	Protection Level: D
Pre-development DTW (bgs) (ft): 12.05 DTB (bgs) (ft): 71 ft		
Post-development DTW (bgs) (ft): 38.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 need to purge 40 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 9.7		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 29 gallons – 8 gallons = 21 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 0.25 gal/min.		
Maximum Drawdown During Purging (ft): 57.45	Specific Capacity (gpm/ft):	
Total Quantity Purged: 47 gallons in addition to 8 gallons (06/21/01) COMPLETED: 55 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 7.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0800	No measurements taken too silty							
1230	26	67.15		19.4	5.65	2.44	262	
1235	28	66.5		20.7	5.12	2.31	145	
1240	30	67.3		20.7	4.79	2.30	202	
1245	32	67.9		21.6	4.59	2.35	200	
1250	34	68.1		20.3	6.24	2.41	300	
1300	38			17.5	6.23	2.26	325	
1305	40	69.5		19.4	5.24	2.45	398	
1450	47	38		19.0	6.61	2.69	110	Only need to get to 50 Ntu
1520				20.1	6.59	2.68	32	Development complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-23DD**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/21/01 1230	Completion Date/Time: 06/21/01 1400	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Lincoln	Water Level (ft bgs): 15.0	Protection Level: D
Pre-development DTW (bgs) (ft): 15.0 DTB (bgs) (ft): 102		
Post-development DTW (bgs) (ft): 25.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 14.27		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 42.8 gallons		
Development Purge/Discharge Rate (gpm): 0.9 gal/min		
Maximum Drawdown During Purging (ft): 12.95 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 51 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.5 hr		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1245	10	27.5	Clear	19.1	11.33	3.61	12	
1305	16	27.5	Clear	16.1	7.29	3.76	23	
1310	20	27.15	Clear	15.8	7.03	3.85	18	
1318	25	26.25	Clear	15.3	7.02	3.85	9	
1325	32	26.4	Clear	15.0	7.01	3.80	7	
1330	38	26.15	Clear	14.9	6.96	3.87	8	
1335	43	27.45	Clear	14.7	7.01	3.87	20	
1340	47	27.95	Clear	14.6	7.06	3.85	9	
1345	51	25.2	Clear	14.7	7.06	3.83	11	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-24D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bristol Manor	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 07/19/01 0830	Completion Date/Time: 07/19/01 1230	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 14.25	Protection Level: D
Pre-development DTW (bgs) (ft): 14.25 DTB (bgs) (ft): 60		
Post-development DTW (bgs) (ft): 14.30		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 67.2 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 202 gallons		
Development Purge/Discharge Rate (gpm): 1.5		
Maximum Drawdown During Purging (ft): 0.10 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 220 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0910		14.25	Turbid	15.6	7.24	2.76	>999	No samples taken
0915	4	14.25	Red brown	15.6	7.24	2.76		due to driller surging well
0920	7	14.30		15.8	7.22	2.72		
0930	21	14.31		15.9	7.26	2.58		
0935	29	14.32		16.0	7.27	2.32		
0940	36	14.33	Cloudy	16.0	7.28	2.29	150	
0950	51	14.34		16.0	7.24	2.35	142	
1000	66	14.35	Clear/yellow	16.0	7.20	2.38	105	Slight hydrocarbon odor
1010	81	14.35	Clear/yellow	16.0	7.08	2.40	84	Slight hydrocarbon odor
1020	96	14.35	Clear/yellow	16.0	6.88	2.40	42	Slight hydrocarbon odor
1030	111	14.35	Clear/yellow	16.2	6.78	2.55	15	Slight hydrocarbon odor
1040	122	14.35	Clear/yellow	16.2	6.71	2.64	5	Slight hydrocarbon odor
1050	141	14.35	Clear/yellow	16.3	6.75	2.63	5	Slight hydrocarbon odor
1100	156	14.35	Clear/yellow	16.5	6.84	2.63	4	Slight hydrocarbon odor
1110	171	14.35	Clear/Yellow	18.5	6.89	2.63	5	Slight hydrocarbon odor
1120	106	14.33	Clear/Yellow	21.8	6.99	2.66	1	
1130	201	14.33	Clear/Yellow	14.8	6.83	2.81	<0	
1140	216	14.33	Clear/Yellow	14.2	6.75	2.85	<0	
1150	220	14.33	Clear/Yellow	14.0	6.72	2.86	<0	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-24D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bristol Manor	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 08/23/01 0815	Completion Date/Time: 08/23/01 1230	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 13.04	Protection Level: D
Pre-development DTW (bgs) (ft): 13.04 DTB (bgs) (ft): 70		
Post-development DTW (bgs) (ft): 68.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 9.34 gallons (previous development involved a larger diameter well.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 28 gallons		
Development Purge/Discharge Rate (gpm): 1.5		
Maximum Drawdown During Purging (ft): 22.96	Specific Capacity (gpm/ft):	
Total Quantity Purged: 73 gallons in addition to 220 gallons (07/19/01) COMPLETED: 293 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0815	0		Red/ brown	15.2	5.64	4.15	482	
0825		25.95	Lt. brown	14.0	5.69	3.71	197	Q=1.5 gpm
0835	15	35.0	Gray	15.1	5.55	3.94	82	Surge well
0905	18	29.8	Red	16.2	5.78	4.03	>1000	
0925	22	36.0	Clear	15.2	5.66	3.97	32	Surge well
0925	31	32.0	Red	14.9	5.60	3.98	>1000	Surge well
1025	40	32.0	Gray	14.9	5.61	3.98	61	Surge well
1130	64	32.0	Clear	15.1	5.61	3.98	23	Surge well
1220	73	31.8	Clear	15.1	5.61	3.98	21	End Development

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-24DD**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 08/21/01 0930	Completion Date/Time: 08/21/01 1330	Well Diameter: 4"
Development Method/Equipment: Groundwater withdrawal via 4'' submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.40	Protection Level: D
Pre-development DTW (bgs) (ft): 10.40 DTB (bgs) (ft): 105		
Post-development DTW (bgs) (ft): 30.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 62 gallons		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 185.3 gallons		
Development Purge/Discharge Rate (gpm): 0.85		
Maximum Drawdown During Purging (ft): 44.6	Specific Capacity (gpm/ft):	
Total Quantity Purged: 190 gallons COMPLETED		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: ~ 3.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0945	Int.	10.40	Brown	15.8	6.09	3.59	212	
0950	25	55	Brown	16.4	5.98	3.57	306	Surfactant odor
0955	30	48	Brown	17.2	5.95	3.50	159	Surfactant odor
1005	35	39.8	Clear	17.3	6.17	3.58	30	
1015	40	37.8	Clear	17.4	6.13	3.51	12	Surfactant odor
1040	63	38.4	Clear	18.6	6.38	3.49	17	Surfactant odor
1200	126	32.8	Clear	19.0	6.75	3.53	20	Surfactant odor
1250	165	32.8	Clear	19.0	6.71	3.41	25	Surfactant odor
1310	180	32.8	Clear	18.8	6.68	3.42	14	Surfactant odor
1320	190	32.8	Clear	18.4	6.65	3.38	7	Surfactant odor

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-25S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/07/01 1050	Completion Date/Time: 12/07/01 1335	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via peristaltic pumps, parameters measured with Horiba U-10		
Logged by: J. Dekoski	Water Level (ft bgs): 13.00	Protection Level: D
Pre-development DTW (bgs) (ft): 13.00	DTB (bgs) (ft): 19.00	
Post-development DTW (bgs) (ft): 15.68		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.984 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3 gallons		
Development Purge/Discharge Rate (gpm): 300 ml/min		
Maximum Drawdown During Purging (ft): 5.6	Specific Capacity (gpm/ft):	
Total Quantity Purged: 8 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1050	0	13	--	--	--	--	--	
1125	0	--	Brown	11.5	7.00	0.910	>1000	Start pumping with perist. pump
1138	1	14.87	Brown	13.1	6.85	0.627	>1000	Q=300ml/min
1145	1.5	15.25	Brown	13.2	6.81	0.631	>1000	
1155	2	15.80	Brown	13.5	6.71	0.638	>1000	
1210	3	16.17	Brown	13.5	6.54	0.657	>1000	Lowered pump intake
1213	--	--	--	--	--	--	--	Q=800ml/min
1220	--	--	--	--	--	--	--	Went dry wait for recharge
1245	5	15.31	--	13.9	6.03	1.06	>1000	Restart @ Q=800ml/min
1255	5.1	15.54	Light Brown	13.4	6.16	1.41	348	
1310	6	15.65	Light Brown	13.4	6.19	1.44	110	
1320	7	15.68	Light Brown	13.4	6.18	1.43	48	End development

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-25D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/17/01 1300	Completion Date/Time: Not Complete	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 4” Grundfos submersible pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 13.40	Protection Level: D
Pre-development DTW (bgs) (ft): 13.30	DTB (bgs) (ft): 60.90	
Post-development DTW (bgs) (ft): 58.90		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 71.34 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 214 gallons		
Development Purge/Discharge Rate (gpm): 10 gpm		
Maximum Drawdown During Purging (ft):	Specific Capacity (gpm/ft):	
Total Quantity Purged: 160 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1300	0	15.00	Gray	12.3	7.07	2.68	54	
1310	55	--	Gray	12.5	7.10	2.66	48	Mix cement for pad.
1325	Stop Pump. Wait for Recharge.							
1415	120	33.16	Gray	12.6	7.12	2.57	25	
1415	Stop Pump. Wait for Recharge.							
1455	--	--	Gray	12.4	7.04	2.46	7	
1500	Stop Pump							160 gallons total

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-25D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/18/01 0730	Completion Date/Time: 12/18/01 0740	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 4” Grundfos submersible pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 13.30	Protection Level: D
Pre-development DTW (bgs) (ft): 13.30	DTB (bgs) (ft): 60.90	
Post-development DTW (bgs) (ft): 58.90		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 71.34 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 214 gallons – 160 gallons = 54 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 10 gpm		
Maximum Drawdown During Purging (ft): 45.60	Specific Capacity (gpm/ft):	
Total Quantity Purged: 70 gallons today	COMPLETED: 242 gallons total.	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0730	0	13.30	--	--	--	--	--	
0735	5	--	Clear	12.3	7.09	2.61	60	Start
0738	65	51.24	Clear	12.5	7.11	2.58	44	Q= 0.5 gpm
0740	70	58.90	Clear					Stop Development
								COMPLETED

Notes: = below ground surface; D = well diameter; D (1-inch well) = 0.041 feet; D (8-inch well) = 2.611 feet
PVC = below top of PVC; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (12-inch well) = 5.875 feet
DTW = depth to water; GPM = gallons per minute; D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-26D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/17/01 0950	Completion Date/Time: not yet complete	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via Grunfos submersible pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 25.30	Protection Level: D
Pre-development DTW (bgs) (ft): 13.04 DTB (bgs) (ft): 62		
Post-development DTW (bgs) (ft): 59.54		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 54 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 162 gallons		
Development Purge/Discharge Rate (gpm): (see remarks)		
Maximum Drawdown During Purging (ft): 34.20	Specific Capacity (gpm/ft):	
Total Quantity Purged: 80 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 1.75		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0950	0		Red/ brown	15.2	5.64	4.15	482	
1015	55	25.95	Lt. brown	14.0	5.69	3.71	197	Q=1.5 gpm
1020	--	--	--	--	--	--	--	Stopped pump, recharge
1045	18	29.8	Red	16.2	5.78	4.03	>1000	Re-started pump
1050	22	36.0	Clear	15.2	5.66	3.97	32	Q = 1 gpm
1100	31	32.0	Red	14.9	5.60	3.98	>1000	
1115	40	32.0	Gray	14.9	5.61	3.98	61	Surge well
1125	64	32.0	Clear	15.1	5.61	3.98	23	Surge well
1130	73	31.8	Clear	15.1	5.61	3.98	21	End Development
								Product sheen noted
								on development water

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. MW-26D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/17/01 0950	Completion Date/Time: 12/18/01 1255	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 4-in submersible pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 12.3	Protection Level: D
Pre-development DTW (bgs) (ft): 14.30 DTB (bgs) (ft): 62		
Post-development DTW (bgs) (ft): 60		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 54 gallons (from first development day.)		
Minimum Purge Volume (gal) (3 well volumes) = 162 gallons –80 gallons = 82 gallons left to develop.		
Development Purge/Discharge Rate (gpm): (see remarks)		
Maximum Drawdown During Purging (ft): 45.7	Specific Capacity (gpm/ft):	
Total Quantity Purged: 110 gallons in addition to 80 gallons (07/17/01) COMPLETED: 190 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 1.75		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0900	0	14.30	--	--	--	--	--	
0905	10	31.50	gray	12.3	5.69	3.71	79	Started pumping
0910	70	60.00	gray	12.3	--	--	62	Stopped pump, recharge
1047	70	44.70	--	--	--	--	--	
1240	70	34.50	--	--	--	--	--	Re-started pump
1242	75	35.61	Red	13.2	6.68	7.91	54	Q = 0.5 gpm
1253	85	44.10	gray / clear	13.3	6.73	7.94	48	Q = 0.5 gpm
1255	110	--						End Development
								Complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-1**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/08/01 1200	Completion Date/Time: 01/08/01 1300	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 5.4	Protection Level: D
Pre-development DTW (bgs) (ft): 5.4	DTB (bgs) (ft): 9.2	
Post-development DTW (bgs) (ft): 7.80		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.623		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.87 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.5	Specific Capacity (gpm/ft):	
Total Quantity Purged: 4.5 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1215	Int.	6.7	Brown	12.0	6.09	2.10	>999	
1223	0.65	7.1	Brown	13.7	6.07	1.99	>999	
1227	1.30	7.9	Cloudy	14.4	6.07	1.92	96	
1231	2.00	7.9	Cloudy	14.4	6.15	1.89	472	
1235	2.65		Cloudy	14.9	6.10	1.87	135	
1240	3.30		Cloudy	14.5	6.12	1.85	29	
1243	4.00		Clear	14.6	6.17	1.85	11	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-2B**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/22/00 1130	Completion Date/Time: 12/22/00 1230	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via purge pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 9.4	Protection Level: D
Pre-development DTW (bgs) (ft): 9.4	DTB (bgs) (ft): 39	
Post-development DTW (bgs) (ft): 9.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 4.85		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 14.6 gallons		
Development Purge/Discharge Rate (gpm): ~ 3500 ml/min		
Maximum Drawdown During Purging (ft): 0.55	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 21 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.0		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1138	Int	9.8	Milky	12.7	7.26	.925	109	
1143	5	9.85	Clear	15.0	7.00	1.33	23	
1148	10	9.95	Clear	15.6	7.11	1.48	2	
1155	15	9.95	Clear	15.6	7.15	1.60	1	
1202	20	9.95	Clear	15.6	7.18	1.60	3	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-3**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Gulf Gas Station	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/17/01 0845	Completion Date/Time: 01/17/01 1115	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 4.65	Protection Level: D
Pre-development DTW (bgs) (ft): 4.65	DTB (bgs) (ft): 12.05	
Post-development DTW (bgs) (ft): 10.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.21		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.64		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 7.05	Specific Capacity (gpm/ft):	
Total Quantity Purged: 20 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0847	Int	4.6	Brown	12.5	7.25	.610	>999	
0849	2.2	9.1	Brown	12.1	7.22	.634	>999	
0853	4.0	11.7	Brown	12.7	7.11	.608	>999	Ran Dry
0905	5.2	11.7	Brown	11.6	7.04	.707	>999	Ran Dry
0927	6.0	8.1	Clear	11.2	7.26	.775	206	
0938	7.0	9.2	Cloudy	11.7	7.28	.735	263	
0948	8.0	9.2	Cloudy	11.9	7.37	.717	150	
0952	9.0	10.15	Brown	12.2	7.39	.707	>999	Ran Dry
1030	11.0	7.1	Brown	12.2	7.44	.720	>999	
1036	12.0	7.9	Cloudy	11.6	7.11	.814	100	
1040	13.0	8.6	Cloudy	11.9	7.13	.804	57	
1045	14.0	9.0	Cloudy	12.1	7.28	.800	101	
1051	15.0	9.2	Cloudy	12.1	7.27	.758	85	
1057	16.0	10.0	Brown	12.6	7.29	.707	>999	Dry

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-6**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/09/01 0930	Completion Date/Time: 01/09/01 1100	Well Diameter: 2" stainless
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 3.75	Protection Level: D
Pre-development DTW (bgs) (ft): 3.75 DTB (bgs) (ft): 8.05		
Post-development DTW (bgs) (ft): 6.00		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.71		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.12 gallons		
Development Purge/Discharge Rate (gpm): ~ 0.5 gpm		
Maximum Drawdown During Purging (ft): 2.95	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 10 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0949	-	5.60	Turbid/rd brn	8.7	5.50	1.17	>999	
0952	0.7	5.95	Turbid/rd brn	7.6	5.90	1.17	>999	
0955	1.4	6.65	Turbid/rd brn	7.7	5.97	1.16	>999	
0956	Well went dry		Turbid/rd brn					
1005	2.1	6.4	Cloudy/brn	8.2	6.16	1.12	>999	
1011	2.8	6.7	Cloudy/brn	8.5	6.09	1.10	494	
1014	Well went dry							
1031	3.5	4.7	Cloudy/brn	7.8	6.49	1.10	733	
1037	4.2	5.2	Cloudy/brn	7.8	6.37	1.05	204	
1039	Well went dry							
1046	5.5	5.5	Cloudy/brn	7.8	6.33	1.03	133	
1047	Well went dry							
1050	6.2	6.5	Cloudy/brn	7.8	6.20	1.04	174	
1100	Well went dry							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-6**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/11/01 1340	Completion Date/Time: 01/11/01 1430	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 3.75	Protection Level: D
Pre-development DTW (bgs) (ft): 3.75 DTB (bgs) (ft): 8.85		
Post-development DTW (bgs) (ft): Dry		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.71 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.12 gallons; already recovered on first development day.		
Development Purge/Discharge Rate (gpm): 200 ml/min		
Maximum Drawdown During Purging (ft): 4.35	Specific Capacity (gpm/ft):	
Total Quantity Purged: 3 gallons in addition to 10 gallons (1/09/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1345	0	4.12	Lt brown	9.1	7.13	0.97	240	
1348	1	4.80	Lt brown/clear	8.9	6.89	0.98	64	
1420	3	8.10	Lt brown/ clear	8.0	7.03	0.92	339	Dry @ 1405

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-6**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 1130	Completion Date/Time: 01/12/01 1145	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 3.85	Protection Level: D
Pre-development DTW (bgs) (ft): 3.85	DTB (bgs) (ft): 7.80	
Post-development DTW (bgs) (ft): 4.28		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.71 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = Already purged minimum vol.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.43	Specific Capacity (gpm/ft):	
Total Quantity Purged: 4.5 gallons in addition to 13 gallons previously	COMPLETED: ~ 17.5 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1133	0	4.02	Clear	8.3	7.29	.608	149	
1141	4.21	4.28	Clear	8.4	6.90	.995	36	Development complete

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-7**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Architectural Windows	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/18/01 0900	Completion Date/Time: 01/18/01 1245	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 2.3	Protection Level: D
Pre-development DTW (bgs) (ft): 2.3	DTB (bgs) (ft): 10.35	
Post-development DTW (bgs) (ft): 2.7		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.32		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 65.0 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 3		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0923	Int	2.3	Brown	8.0	6.83	1.19	>999	
0926	3.5	4.5	Brown	8.2	6.83	1.17	>999	
0930	5.0	4.5	Brown	9.1	6.78	1.11	>999	
0934	7.0	4.35	Brown	9.6	6.78	1.10	>999	
0936	8.5	4.35	Brown	9.8	6.83	1.10	>999	
0938	10.0	4.35	Brown	10.0	6.82	1.10	>999	
0940	11.5	4.35	Brown	10.1	6.88	1.10	957	
0944	13.0	4.40	Brown	10.2	6.87	1.10	970	
0946	14.5	4.40	Brown	10.1	6.95	1.08	616	
0949	16.0	4.3	Brown	10.3	6.84	1.10	467	
0953	17.5	4.2	Brown	10.3	7.04	1.08	341	
0957	19.0	4.2	Brown	10.3	6.95	1.08	355	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-7**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Architectural Windows	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/18/01 0900	Completion Date/Time: 01/18/01 1245	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 2.3	Protection Level: D
Pre-development DTW (bgs) (ft): 2.3	DTB (bgs) (ft): 10.35	
Post-development DTW (bgs) (ft): 2.7		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.32		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 65.0 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 3		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1020	45	4.2	Cloudy	10.2	7.38	1.09	634	
1025	46.5	4.0	Cloudy	10.4	6.94	1.10	571	
1030	48.0	3.8	Cloudy	10.2	7.03	1.09	472	
1036	49.5	3.8	Cloudy	10.2	7.11	1.09	508	
1047	51.0	3.5	Cloudy	10.0	7.04	1.08	290	
1055	52.5	3.5	Cloudy	10.1	7.09	1.09	349	
1103	54.0	3.3	Cloudy	10.0	6.99	1.08	237	
1115	55.5	3.3	Cloudy	9.9	6.96	1.08	140	
1125	57.0	3.1	Cloudy	9.8	6.99	1.09	114	
1136	58.5	3.1	Cloudy	9.8	7.01	1.08	88	
1145	60.0	3.1	Pt. Cloudy	9.9	7.03	1.08	75	
1157	61.5	3.1	Clear	10.0	7.06	1.09	61	
1204	63.0	3.1	Clear	10.0	7.11	1.09	63	
1218	64.5	3.1	Clear	10.2	6.91	1.09	56	
1225	65.0	3.1	Clear	10.1	6.95	1.08	46	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Architectural Windows	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/16/01 0745	Completion Date/Time: 01/16/01 1325	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 5.3	Protection Level: D
Pre-development DTW (bgs) (ft): 5.3	DTB (bgs) (ft): 12.1	
Post-development DTW (bgs) (ft): 11.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.12		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.35 gallons		
Development Purge/Discharge Rate (gpm): various		
Maximum Drawdown During Purging (ft): 6.3	Specific Capacity (gpm/ft):	
Total Quantity Purged: 12 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 5.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0800	Int	4.6	Brown	10.2	5.75	.473	450	
0803	1.1	10.6	Brown	11.0	6.06	.440	>999	Ran dry
0910	2.2	8.35	Cloudy	11.3	7.03	.487	357	
0922	3.3	9.70	Cloudy	11.1	6.75	.471	258	Ran dry
0940	4.4	10.70	Cloudy	11.3	6.94	.513	201	Ran dry
1005	5.5	9.7	Cloudy	11.2	6.95	.511	188	Ran dry
1022	6.6	10.0	Cloudy	11.3	6.89	.527	195	Ran dry
1037	7.7	8.0	Cloudy	11.1	6.85	.504	123	Ran dry
1055	8.8	8.0	Cloudy	11.0	6.86	.518	115	Ran dry
1130	9.9	8.0	Cloudy	11.2	6.88	.592	93	Ran dry
1238	11.0	6.2	Cloudy	11.4	6.87	.595	77	
1245	11.2	7.8	Cloudy	11.4	6.88	.593	63	
1248	11.3	8.6	Cloudy	11.5	6.88	.581	70	
1249	11.4	10.0	Cloudy	11.4	6.87	.581	213	Ran dry
1310	11.7	9.3	Cloudy	11.6	6.88	.585	106	
1315	11.8	10.4	Cloudy	11.4	6.73	.514	268	
1318	11.9	11.6	Cloudy	11.5	6.73	.574	167	Ran dry

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-10**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/25/01 1405	Completion Date/Time: 01/25/01 1420	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 0.6	Protection Level: D
Pre-development DTW (bgs) (ft): 0.6	DTB (bgs) (ft): 9.70/ hard bottom	
Post-development DTW (bgs) (ft): Dry		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.49		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.48 gallons		
Development Purge/Discharge Rate (gpm): 1 gpm, lowered to 250 ml/min.		
Maximum Drawdown During Purging (ft): Dry	Specific Capacity (gpm/ft):	
Total Quantity Purged: 2 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1410	1	Dry	Gray	6.6	6.19	> 100.0	274	Sheen (product) on water surface, stop pump at @ 1420
1420	2	Dry	Gray	6.7	6.11	> 100.0	241	Well under water and under salt pile with no well pile.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-10**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/26/01 0700	Completion Date/Time: 01/26/01 1000	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 0.7	Protection Level: D
Pre-development DTW (bgs) (ft): 0.7	DTB (bgs) (ft): 7	
Post-development DTW (bgs) (ft): 6.8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.49 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.48 gallons –2 gallons = 2.48 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 1 gpm, lowered to 250 ml/min.		
Maximum Drawdown During Purging (ft): 6.1	Specific Capacity (gpm/ft):	
Total Quantity Purged: 3.5 gallons in addition to 2 gallons (01/25/01)	COMPLETE: 5.5 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0815	-	0.7	Cloudy	5.9	37	100	37	
0830	1.0	6.5	Cloudy	5.5	30	100	30	Pump went dry
0900	1.5	6.8	Cloudy	5.2	21	100	21	Pump went dry
0930				Attempted to remove more volume, but were told to leave so fuel truck could load UST.				

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-11**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 0944	Completion Date/Time: 01/12/01 1030	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 2.83	Protection Level: D
Pre-development DTW (bgs) (ft): 2.83	DTB (bgs) (ft): 12.85	
Post-development DTW (bgs) (ft): 5.02		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.64		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.93 gallons		
Development Purge/Discharge Rate (gpm): 250 ml/min.		
Maximum Drawdown During Purging (ft): 2.19	Specific Capacity (gpm/ft):	
Total Quantity Purged: 6.5 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0944	0	4.85	Brown	8.5	7.41	.821	>1000	
0951	1.6	5.25	Lt Brown	7.6	7.24	.834	800	
0957	3.2	4.96	Lt Brown	7.7	7.03	.840	465	
1010	4.8	5.00	Lt Brown	8.2	6.97	.833	120	
1025	6.4	5.02	Clear	8.3	7.07	.826	49	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-12**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Fed-Ex	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/15/01 1020	Completion Date/Time: 01/15/01 1100	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 6.5	Protection Level: D
Pre-development DTW (bgs) (ft): 6.5	DTB (bgs) (ft): 15.15	
Post-development DTW (bgs) (ft): 10.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.42		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.26 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 3.9	Specific Capacity (gpm/ft):	
Total Quantity Purged: 8 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1025	Int.	6.45	Brown	8.9	6.57	.881	>999	
1029	1.5	7.70	Brown	10.1	6.46	.818	335	
1032	3.0	8.30	Clear	10.0	6.48	.858	63	
1036	4.5	9.0	Clear	10.1	6.49	.843	33	
1041	6.0	10.0	Clear	9.9	6.55	.861	65	
1051	7.5	10.40	Clear	10.6	6.58	.858	22	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-13**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/08/01 0900	Completion Date/Time: 01/08/01 1000	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 4.5	Protection Level: D
Pre-development DTW (bgs) (ft): 4.5	DTB (bgs) (ft): 13.85	
Post-development DTW (bgs) (ft): 5.25		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.53		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.60 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 3.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 19 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0900	Int	5.5	Brown	13.4	6.69	2.24	>999	
0903	1.5	6.5	Brown	14.7	6.64	2.28	>999	
0906	3.0	7.1	Brown	14.7	6.58	2.36	>999	
0910	4.5	7.5	Cloudy	15.1	6.55	2.28	640	
0913	6.0	7.65	Cloudy	15.2	6.51	2.23	300	
0918	7.5	7.70	Cloudy	15.4	6.51	2.19	173	
0922	9.0	7.70	Cloudy	15.2	6.43	2.14	108	
0926	10.5	7.70	Cloudy	16.0	6.49	2.14	68	
0930	12.0	7.60	Cloudy	15.7	6.49	2.10	67	
0934	13.5	7.65	Cloudy	16.0	6.48	2.11	60	
0938	15.0	7.5	Cloudy	16.1	6.51	2.08	52	
0941	16.5	7.7	Cloudy	16.2	6.52	2.05	38	
0946	18.0	7.7	Cloudy	16.0	6.56	2.09	35	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-14**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Fed Ex	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 1/08/01 0800	Completion Date/Time: 01/08/01 0900	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 3.4	Protection Level: D
Pre-development DTW (bgs) (ft): 3.4	DTB (bgs) (ft): 13.9	
Post-development DTW (bgs) (ft): 7.1		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.72		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 5.17 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 4.0	Specific Capacity (gpm/ft):	
Total Quantity Purged: 10 gallon	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0820	Int	3.4	Brown	14.2	6.22	3.9	>999	
0825	1.75		Brown	15.5	6.44	3.34	>999	
0830	3.5	6.6	Clear	15.5	6.51	3.65	51	
0835	5.25	7.4	Clear	16.1	6.52	4	22	
0840	7.0	7.1	Clear	15.9	6.53	4.17	35	
0845	8.25	7.1	Clear	16.5	6.54	4.2	30	
0850	10.0	7.1	Clear	16.6	6.55	4.23	30	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-15**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/20/00 0900	Completion Date/Time: 12/20/00 1015	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via purge pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 14.1	Protection Level: D
Pre-development DTW (bgs) (ft): 14.1	DTB (bgs) (ft): 19.85	
Post-development DTW (bgs) (ft): 15.85		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.943		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.8 gallons		
Development Purge/Discharge Rate (gpm): 800 ml/min		
Maximum Drawdown During Purging (ft): 0.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 4 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0930	Int	14.3	Brown	10.2	6.36	.638	542	
0940	1		Clear	12.2	6.53	.572	90	
0945	2		Clear	11.8	6.72	.589	124	
0950	3		Clear	10.8	6.76	.590	107	
1005	4		Clear	9.1	6.80	.588	98	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-15**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/22/00 0845	Completion Date/Time: 12/22/00 1015	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via purge pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 14.1	Protection Level: D
Pre-development DTW (bgs) (ft): 14.1	DTB (bgs) (ft): 19.85	
Post-development DTW (bgs) (ft): 16.3		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.943 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = Already purged minimum volume.		
Development Purge/Discharge Rate (gpm): 800 ml/min		
Maximum Drawdown During Purging (ft): Dry	Specific Capacity (gpm/ft):	
Total Quantity Purged: 6 gallons in addition to 4 gallons (12/20/01)	COMPLETED: 10 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0855	Int	14.1	Brown	12.4	5.63	1.76	999	
0858	1		Brown	13.1	6.45	.667	622	Dry
0920	3		Murky	11.6	6.83	.567	434	
0930	4		Clear	12.6	6.85	.543	26	Dry
0950	5		Clear	11.6	6.93	.542	16	
0955	6		Clear	13.2	6.84	.539	5	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-17**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/26/00 1238	Completion Date/Time: 12/26/00 1410	Well Diameter: 2''
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 10.15	Protection Level: D
Pre-development DTW (bgs) (ft): 10.15 DTB (bgs) (ft): 17.10		
Post-development DTW (bgs) (ft): 10.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.14		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.42		
Development Purge/Discharge Rate (gpm): ~ 2 gal/min.		
Maximum Drawdown During Purging (ft): 0.8	Specific Capacity (gpm/ft):	
Total Quantity Purged: 32 gallons COMPLETED		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1240	0		Brown	11.2	7.24	.515	>1000	
1250	4	10.15	Brown	12.7	6.54	.505	920	Ran dry, let recharge
1300	8	11.50	Brown	12.7	6.43	.504	765	Slow flow down
1310	20	10.95	Lt brown	12.7	6.48	.601	205	
1320	21	10.61	Lt brown	12.7	6.68	.582	457	
1330	23	10.2	Lt brown	12.7	6.65	.542	145	
1340	25	10.11	Lt brown	12.6	6.36	.538	84	
1350	28	10.63	Gray	12.7	6.51	.553	61	
1400	30	10.86	Clear	12.7	6.42	.565	46	
1410	32	10.90	Clear	12.6	6.28	.554	41	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-18**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/26/00 1130	Completion Date/Time: 12/26/00 1210	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 9.24	Protection Level: D
Pre-development DTW (bgs) (ft): 9.24	DTB (bgs) (ft): 12.90	
Post-development DTW (bgs) (ft): 10.92		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.6		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.8 gallons		
Development Purge/Discharge Rate (gpm): 0.5 gpm		
Maximum Drawdown During Purging (ft): 1.68	Specific Capacity (gpm/ft):	
Total Quantity Purged: 13 gallon	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1130	0	9.24	Dark gray	10.7	7.16	0.97	355	No well plug; strong odor
1140	5	10.60	Clear	11.3	7.12	1.03	24	Sheen on surface
1150	8	10.30	Clear	11.2	7.15	1.04	29	
1200	10	10.75	Clear	11.8	7.14	1.04	47	
1210	13	10.92	Clear	12.2	6.90	1.04	41	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OBMW-19**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/26/00 0925	Completion Date/Time: 12/26/00 1050	Well Diameter: 2
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 11.03	Protection Level: D
Pre-development DTW (bgs) (ft): 11.03	DTB (bgs) (ft): 17.40	
Post-development DTW (bgs) (ft): dry		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.05 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.13 gallons		
Development Purge/Discharge Rate (gpm): 1.3 gpm		
Maximum Drawdown During Purging (ft): Dry	Specific Capacity (gpm/ft):	
Total Quantity Purged: 30 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0925	Initial	11.03	Gray	10.6	6.56	.722	72	Tubing in well removed
0955	4	10.88	Gray	10.8	6.45	.683	207	prior to development
1009	10	10.89	Gray	14.3	6.31	.682	80	
1025	15	10.89	Clear	11.9	6.40	.678	38	Strong hydrocarbon odor
1035	25	N/A	Clear	13.9	6.40	.672	25	Soapy/suds in water
1050	30	N/A	Clear	13.4	6.44	.670	24	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPW-1S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: FMSS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/09/01 0847	Completion Date/Time: 04/09/01 1558	Well Diameter: 4 inch
Development Method/Equipment: Four Inch Grundfos submersible pump		
Logged by: J. DeKoskie	Water Level (ft bgs): 6.15	Protection Level: D
Pre-development DTW (bgs) (ft): 6.15	DTB (bgs) (ft): 23.90	
Post-development DTW (bgs) (ft): 14.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 11.6 Gallons		
Minimum Purge Volume (gal) (3 well volumes) = 34.8 gallons		
Development Purge/Discharge Rate (gpm): 3 to 10 gpm		
Maximum Drawdown During Purging (ft): 8.8 ft.	Specific Capacity (gpm/ft): 1.32 gpm/ft	
Total Quantity Purged: 1,425 gallons		
Disposition of Purge Water: FRAC tank on MISS.		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0847	0	6.15						Flow rate too high
0900	30	8.20						Q = 3.00 GPM
0905	-	9.47						Q = 4.25 GPM
0915	-	falling						Q = 6.0 GPM
0920	-	-						Pump Stopped
0930		11.44						Q = 7 GPM
0932		12.04						Q = 7 GPM
0940		12.84						Q = 7 GPM
0948		13.65						Q = 7 GPM
0955		14.10						Q = 7 GPM
0958		14.95						Q = 10 GPM
1005	475	-						Tank full, surge well.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPW-1S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: FMSS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/09/01 0847	Completion Date/Time: 04/09/01 1558	Well Diameter: 4 inch
Development Method/Equipment: Four Inch Grundfos submersible pump		
Logged by: J. DeKoskie	Water Level (ft bgs): 6.15	Protection Level: D
Pre-development DTW (bgs) (ft): 6.15	DTB (bgs) (ft): 23.90	
Post-development DTW (bgs) (ft):		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 11.6 Gallons		
Minimum Purge Volume (gal) (3 well volumes) = 34.8 gallons		
Development Purge/Discharge Rate (gpm): 3 to 10 gpm		
Maximum Drawdown During Purging (ft): 8.8 ft.	Specific Capacity (gpm/ft):	
Total Quantity Purged: 1,425 gallons		
Disposition of Purge Water: FRAC tank on MISS.		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1020	475	6.35						Pump is off
1025		-						Start pump, Q is too high
1027		12.31						Decreasing Q
1030		13.33						Still Decreasing Q
1034		13.27						Q = 8.5 GPM
1040		12.70						Q = 8 GPM
1200		13.20					4.3	Q = 10 GPM
1215	950	-						Stop pump, empty tank
1322	950	-						Start pump, adjust Q
1326		12.80						Q = 10 GPM
1330		12.76						Q = 10 GPM
1340		13.30						Q = 10 GPM
1402		-						Stop pump 475 gal/43 min

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPW-1S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: FMSS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/09/01 0847	Completion Date/Time: 04/09/01 1558	Well Diameter: 4 inch
Development Method/Equipment: Four Inch Grundfos submersible pump		
Logged by: J. DeKoskie	Water Level (ft bgs): 6.15	Protection Level: D
Pre-development DTW (bgs) (ft): 6.15	DTB (bgs) (ft): 23.90	
Post-development DTW (bgs) (ft):		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = 11.6 Gallons		
Minimum Purge Volume (gal) (3 well volumes) = 34.8 gallons		
Development Purge/Discharge Rate (gpm): 3-10 gpm		
Maximum Drawdown During Purging (ft): 8.8 ft.	Specific Capacity (gpm/ft): 1.32 gpm/ft	
Total Quantity Purged: 1,425 gallons	COMPLETED	
Disposition of Purge Water: FRAC tank on MISS.		
Hours of Development: 8		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1456								Tank emptied, surged well
1515								Start pump Q = 10 gpm
1523		11.41						Q= 10 gpm
1541		13.45						Q= 10.5 gpm
1557		14.10						Q= 10.5 gpm
1558	1425	-						Stop pump, 475 gal/43 min

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-9**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Overburden array on MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/17/01 0815	Completion Date/Time: 04/17/01 1130	Well Diameter: 1"
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 5.95	Protection Level: D
Pre-development DTW (bgs) (ft): 5.95	DTB (bgs) (ft): 18.91 (predevelopment) / 21 (post development)	
Post-development DTW (bgs) (ft): 6.10		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.62 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.85		
Development Purge/Discharge Rate (gpm) 0.25		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: 35 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 2.5 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0815			Dark gray silt			Began pumping silt off bottom of well (surged well)		
0820	5		Dark gray silt				>1000	
0850							>1000	Well went dry
0855						Began pumping again		
0915	10		Clear				13	
0935	15		Clear				10	
0955	20		Clear				20	
1015	25		Clear				15	
1050	35		Clear				7.70	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-10**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Overburden array on MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/17/01 1145	Completion Date/Time: 04/17/01 1440	Well Diameter: 1"
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.4	Protection Level: D
Pre-development DTW (bgs) (ft): 6.4	DTB (bgs) (ft): 18.5' (predevelopment) / 24' (post development	
Post-development DTW (bgs) (ft): 6.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.72 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.16 gallons		
Development Purge/Discharge Rate (gpm): 0.25 gpm		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: 50 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transfer to FRAC tank on MISS		
Hours of Development: 2.5 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1145	5		Gray white				>1000	
1205	10		Gray white				910	
1225	15		Gray white				747	
1245	20		Cloudy				631	
1305	25		Clear				580	
1325	30		Clear					
1345	35		Clear				220	
1405	40		Clear				110	
1425	45		Clear				50	
1440	50		Clear				25	

Notes: B= be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-11**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Overburden Array on MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/17/01 1145	Completion Date/Time: 04/17/01 1440	Well Diameter: 1”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 5.28	Protection Level: D
Pre-development DTW (bgs) (ft): 5.28	DTB (bgs) (ft): 17.7’ (predevelopment) / 24.5’ (post development)	
Post-development DTW (bgs) (ft): 6.55		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.79 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.36 gallons		
Development Purge/Discharge Rate (gpm): 0 .25 gpm		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: 50 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 2.5 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1145	5		Gray/white				>1000	
1205	10		Gray/white				>1000	
1225	15		Gray/white				>1000	
1245	20		Gray/white				>1000	
1305	25		Gray/white	Pumped stopped due to dead battery. Restarted with new battery				
1325	30		Gray/white				>1000	
1345	35		Cloudy				980	
1405	40		Cloudy				720	
1425	45		Cloudy				480	
1440	50		Cloudy				420	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-12**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/16/01 1300	Completion Date/Time: 04/16/01 1500	Well Diameter: 1"
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 5.83	Protection Level: D
Pre-development DTW (bgs) (ft): 5.83	DTB (bgs) (ft): 17.50	
Post-development DTW (bgs) (ft): 5.83		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.48 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.44 gallons		
Development Purge/Discharge Rate (gpm): N/A		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: Not measured; Collect turbidity readings only.	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1300			Gray				>1000	
1340			Cloudy				490	
1400			Cloudy				95	
1500			Cloudy				80	End Development

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-13**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/04/01 0900	Completion Date/Time: 01/04/01 1100	Well Diameter: 1”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 5.75	Protection Level:
Pre-development DTW (bgs) (ft): 5.75	DTB (bgs) (ft): 18.0	
Post-development DTW (bgs) (ft): 5.75		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.50		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.5 gallons		
Development Purge/Discharge Rate (gpm): N/A		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: Not measured; Collected turbidity readings only. COMPLETED		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0900			Gray				975	
0930			Gray				922	
1000			Gray				857	
1100			Gray				401	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-14**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Overburden array on MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/20/01 1200	Completion Date/Time: 04/20/01 1400	Well Diameter: 1"
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 11	Protection Level: D
Pre-development DTW (bgs) (ft): 11 DTB (bgs) (ft): 13		
Post-development DTW (bgs) (ft): 13 ft (dry)		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.082 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 0.25 gallons		
Development Purge/Discharge Rate (gpm): N/A – well dry, pump on & off		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 4.5 gallons COMPLETED		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1200	0	N/A	Black			>1000		1218: Dry
1230	~1	-	Black			906		
1300	~2	-	Gray			852		
1330	~3.5	-	Gray			541		
1400	~4.5	-	Lt. Gray			390		End purge at 1400

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-15**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/16/01 1230	Completion Date/Time: 04/16/01 1430	Well Diameter: 1”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.21	Protection Level: D
Pre-development DTW (bgs) (ft): 6.21	DTB (bgs) (ft): 14.45	
Post-development DTW (bgs) (ft): 6.70		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.34 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.014		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.49	Specific Capacity (gpm/ft):	
Total Quantity Purged: 25 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 4.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1230	-	6.21	Gray/ turbid				>1000	
1250	-							
1310	5	-					891	
1330	10	-					465	
1350	15	-					175	
1410	20	-					129	
1430	25	6.70					98	
1435	Recovery	6.65						Stopped pumping @ 1430
			5’ of silt pumped off bottom of well prior to development					

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-16**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/17/01 0815	Completion Date/Time: 04/17/01 1130	Well Diameter: 1”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 6.7	Protection Level: D
Pre-development DTW (bgs) (ft): 6.7	DTB (bgs) (ft): 21.9	
Post-development DTW (bgs) (ft): 7.5		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.62 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.87 gallons		
Development Purge/Discharge Rate (gpm): 0.25 gpm		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: 25 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS		
Hours of Development: 2.5 Hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0815	Began pumping silt off bottom of well (surged well)							
0820	5						>1000	
0850	Stopped pumping, battery died						-	
0930	Began pumping again using and battery						-	
0950	10						210	
1010	15						5	
1030	20						.90	
1050	25						2.53	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-17**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/16/01 1000	Completion Date/Time: 04/16/01 1230	Well Diameter: 1”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 5.9	Protection Level: D
Pre-development DTW (bgs) (ft): 5.9	DTB (bgs) (ft): 14.6	
Post-development DTW (bgs) (ft): 6.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.36 gallons		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.07 gallons		
Development Purge/Discharge Rate (gpm): 0.7 gpm		
Maximum Drawdown During Purging (ft): 0.5	Specific Capacity (gpm/ft):	
Total Quantity Purged: 30 gallons		
Disposition of Purge Water: Drummed and transfer to FRAC tank on MISS.		
Hours of Development: 2		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1000	-	5.9	White, turbid				>1000	
1020	5	-	White, turbid				983	
1040	10	-	White, cloudy				820	
1100	15	-	White, cloudy				744	
1120	20	-	Clear				360	
1140	25	-	Clear				244	
1200	30	6.4	Clear				180	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. OVPZ-17**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 08/07/01 1020	Completion Date/Time: 08/07/01 1420	Well Diameter: 1”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 11.15	Protection Level: D
Pre-development DTW (bgs) (ft): 11.15	DTB (bgs) (ft): 14.6	
Post-development DTW (bgs) (ft): not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(1-inch well = 0.041 x (DTB-DTW)(ft)) = 0.36 gallons (from first development day.)		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = N/A, water loss recovery test.		
Development Purge/Discharge Rate (gpm): 0.7 gpm		
Maximum Drawdown During Purging (ft): N/A	Specific Capacity (gpm/ft):	
Total Quantity Purged: 75 gallons in addition to 30 gallons (04/16/01)	COMPLETED: 105 gallons total	
Disposition of Purge Water: Drummed and transfer to FRAC tank on MISS. Also note: Cloudy and sandy during surging using discharge hose. Each surge produces move fine – fine sand in form of a slurry, which slows peristaltic, pump and may clog discharge hose. Reading taken when discharge cleared up.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1037	0		Cloudy					
1057	7		Cloudy					
1110	16			17.7	5.12	2.74	373	Water dirty with each surge
1140	37		Clear	16.9	5.27	2.85	53	
1220	60		Cloudy	17.6	5.66	2.78	128	Well did not clear up
1250	75		Sandy	17.3	5.06	2.77	127	
1320			Clear	17.3	5.11	2.77	110	Surge & bailer
1330	Restart pump at 0.4 gpm. Slurry encountered.							
1405				19	5.92	2.08	720	Well did not clear up. Stopped.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. PT-2S**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/26/01 1000	Completion Date/Time: 01/26/01 1400	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.6	Protection Level: Modified D
Pre-development DTW (bgs) (ft): 4.6	DTB (bgs) (ft): 14.6	
Post-development DTW (bgs) (ft): 9.2		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.64		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.92		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 9.4	Specific Capacity (gpm/ft):	
Total Quantity Purged: 20 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1155		4.0	Turbid/gray	11.9	9.68	3.61	497	
1157	2	8.2	Cloudy, less gray	11.7	9.60	3.51	320	
1200	4		Cloudy, less gray					Well dewatered- let recharge
1218		6.8	Cloudy, less gray					
1222	6	9.0	Cloudy, less gray	11.8	8.11	2.11	187	
1226	8	14.0						Well dewatered- let recharge
1243	10	8.5	Smokey gray	12.6	7.85	2.09	358	
1251	12.5	10.5	Smokey gray	10.10	6.64	1.71	156	
1253			Smokey gray					Well dewatered- let recharge
1308	15	8.0	Clear	9.5	7.07	1.99	43	
1335	20	9.2	Yellowish clear	13.5	6.54	1.70	3	
	Note= Strong odor of PAH’s during development.							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. Well 1**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/03/01 1130	Completion Date/Time: 01/03/01 1335	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with YSI Water Quality Meter		
Logged by: J. Dekoskie	Water Level (ft bgs): 9.46	Protection Level: Modified D
Pre-development DTW (bgs) (ft): 9.46	DTB (bgs) (ft): 14.40	
Post-development DTW (bgs) (ft): 9.81		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.81 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.43 gallons		
Development Purge/Discharge Rate (gpm): 2 gal/min		
Maximum Drawdown During Purging (ft): 0.64	Specific Capacity (gpm/ft):	
Total Quantity Purged: 12.5 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 2 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1130	0		Brown	11.12	5.20	750	434.1	Dry @ 2 gal – let recharge
1145	2	9.60	Brown	13.38	6.80	724	520.1	Dry @ 3.5 gal @ 1148 hrs
1155	3.5	10.01	Brown	12.58	7.09	759	220	Dry @ 4.5 gal @ 1156 hrs
1205	4.5	9.95	Lt brown	13.71	7.18	783	178.5	Dry @ 6 gal @ 1207 hrs
1230	6.0	9.61	Cloudy	13.61	7.31	761	56.4	
1300	11	9.92	Cloudy	13.65	7.60	757	52.9	Dry @ 11 gal @ 1248 hrs
1320	12	9.74	Cloudy	12.47	7.86	752	48.2	
1335	12.5		Clear	11.98	7.51	763	45.5	Well pumped for 1 minute, then dry

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. Well 2**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/04/01 0845	Completion Date/Time: 01/04/01 1100	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 11.0	Protection Level: D
Pre-development DTW (bgs) (ft): 11.0	DTB (bgs) (ft): 18.1	
Post-development DTW (bgs) (ft): 12.05		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.164		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 3.50		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 1.05	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 6.5 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 45 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0950	Int		Gray Mud	12.8	6.30	1.91	616	
1005	1.1		Gray/tan	14.1	6.77	1.81	614	
1013	2.4		Gray/tan	14.7	6.71	1.75	167	
1020	3.6		Cloudy	15.0	6.73	1.78	64	
1028	5		Cloudy	15.3	6.72	1.71	48	
1035	6.2		Cloudy	15.2	6.75	1.69	38	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. Well 5**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/04/01 1300	Completion Date/Time: 01/04/01 1400	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pumps in series, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 6.25	Protection Level: D
Pre-development DTW (bgs) (ft): 6.25	DTB (bgs) (ft): 10.2	
Post-development DTW (bgs) (ft): 6.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.65		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 1.943 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.95	Specific Capacity (gpm/ft):	
Total Quantity Purged: 3.25 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 20 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1315	Int	6.20	Gray/cloudy	10.5	7.23	1.07	625	
1322	.65	7.20	Clear	12.5	7.19	1.07	78	
1326	1.3	6.85	Clear	12.9	7.17	1.10	37	
1330	2	6.80	Clear	13.3	7.16	1.10	17	
1333	3	6.80	Clear	13.5	7.08	1.10	14	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. Well 8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/20/00 0940	Completion Date/Time: 12/20/00 1400	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 13.9	Protection Level: D
Pre-development DTW (bgs) (ft): 13.9	DTB (bgs) (ft): 19.1	
Post-development DTW (bgs) (ft): 18.6/ ran dry		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.853		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.56 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 4.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 700 ml		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4 hours		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1000	Int	13.9	Cloudy	10.1	5.48	.594	210	
1103	0.85		Cloudy	12.7	5.94	.563	36	Ran dry at 1.2 gal
1400	700 ml	18.1	Cloudy	9.1	6.78	.617	134	Ran dry

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. Well 8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/21/00 1130	Completion Date/Time: 12/21/00 1310	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via purge pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 12.8	Protection Level: D
Pre-development DTW (bgs) (ft): 12.8	DTB (bgs) (ft): 19.1	
Post-development DTW (bgs) (ft): 15		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.853 (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.56 gallons – 0.15 gallons = 2.41 gallons left to develop.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 2.1 gallons in addition to 700 ml (12/10/00)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 2		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1140	Int	12.1	Brown	11.7	7.02	1.14	460	
1145	1	>15	Murky	13.5	6.68	0.96	59	
1245	2		Clear	11.8	6.88	.688	85	
1310	2.1		Clear	12.2	6.63	.544	60	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. Well 8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/15/01 1330	Completion Date/Time: 01/15/01 1355	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 14.15	Protection Level: D
Pre-development DTW (bgs) (ft): 14.15	DTB (bgs) (ft): 19.1	
Post-development DTW (bgs) (ft): 18.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 0.853		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 2.41 gallons – 2.1 gallons = 0.41 gallons left to develop.		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 2.15	Specific Capacity (gpm/ft):	
Total Quantity Purged: 0.85 gallons in addition to 2.25 previously removed	COMPLETED: 3.10 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on Miss.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1345	Int	16.3	Cloudy	10.8	7.02	.729	36	
1350	0.85		Cloudy	13.2	6.58	.737	24	Dry

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-1**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/05/01 1030	Completion Date/Time: 06/05/01 1230	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.95	Protection Level: D
Pre-development DTW (PVC) (ft): 9.95	DTB (PVC) (ft): 115	
Post-development DTW (PVC) (ft): 9.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 154.32		
Minimum Purge Volume (gal) (3 well volumes) = 463 gallons		
Development Purge/Discharge Rate (gpm): 20 gpm		
Maximum Drawdown During Purging (ft): 69.85	Specific Capacity (gpm/ft): 0.3 gpm/ft	
Total Quantity Purged: 2100 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1030	0	Started pumping						@ 20 gpm
1030.5		16.9	Cloudy	16	6.02	5.61	300	@ 20 gpm
1031	20	20.3						@ 20 gpm
1031.5	30	23.0						@ 20 gpm
1032	40	25.50						@ 20 gpm
1032.5	50	28.05						@ 20 gpm
1033	60	30.20						@ 20 gpm
1033.5	70	32.10						@ 20 gpm
1034	80	34.00						@ 20 gpm
1034.5	90	35.80						@ 20 gpm
1035	100	35.60	Cloudy	16	6.80	5.60	250	@ 20 gpm
1035.5	110	39.10						@ 20 gpm
1036	120	40.50						@ 20 gpm
1036.5	130	41.80						@ 20 gpm
1037	140	43.20						@ 20 gpm
1037.5	150	44.60						
1038	160	45.50						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-1**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/05/01 1030	Completion Date/Time: 06/05/01 1230	Well Diameter: 6"
Development Method/Equipment: Groundwater withdrawal via 3" submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.95	Protection Level: D
Pre-development DTW (PVC) (ft): 9.95	DTB (PVC) (ft): 115	
Post-development DTW (PVC) (ft): 9.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 154.32		
Minimum Purge Volume (gal) (3 well volumes) = 463 gallons		
Development Purge/Discharge Rate (gpm): 20 gpm		
Maximum Drawdown During Purging (ft): 69.85	Specific Capacity (gpm/ft): 0.3 gpm/ft	
Total Quantity Purged: 2100 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1039	180	47.90						@ 20 gpm
1040	200	50.00						@ 20 gpm
1041	220	52.30	Cloudy	15	6.80	5.50	160	@ 20 gpm
1042	240	54.50						@ 20 gpm
1043	260							@ 20 gpm
1044.30	280	59.40						@ 20 gpm
1045	300	59.80						@ 20 gpm
1046	320	61.10						@ 20 gpm
1047	340	62.00						@ 20 gpm
1048	360	63.20						@ 20 gpm
1049	380	64.00						@ 20 gpm
1050	400	64.80	Cloudy	15	6.81	5.48	80	@ 20 gpm
1051	420	66.00						@ 20 gpm
1052	440							@ 20 gpm
1053	460	67.90						@ 20 gpm
1054	480							@ 20 gpm
1055	500	69.00						@ 20 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-1**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/05/01 1030	Completion Date/Time: 06/05/01 1230	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.95	Protection Level: D
Pre-development DTW (PVC) (ft): 9.95	DTB (PVC) (ft): 115	
Post-development DTW (PVC) (ft): 9.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 154.32		
Minimum Purge Volume (gal) (3 well volumes) = 463 gallons		
Development Purge/Discharge Rate (gpm): 20 gpm		
Maximum Drawdown During Purging (ft): 69.85	Specific Capacity (gpm/ft): 0.3 gpm/ft	
Total Quantity Purged: 2100 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks	
1100	600	71.10	Cloudy	14	6.5	4.5	28	DO = 6.1	20 gpm
1105	700	72.60	Cloudy						20 gpm
1110	800	73.00	Cloudy	15	6.6	4.7	28	DO = 7.0	20 gpm
1115	900	74.00	Cloudy						20 gpm
1120	1000	75.00	Cloudy	15	6.5	4.7	38	DO = 6.7	20 gpm
1125	1100	76.10	Cloudy						20 gpm
1130	1200	76.50	Clear	14	6.6	4.6	24	DO = 7.2	20 gpm
1135	1300		Clear						20 gpm
1140	1400	77.00	Clear	15	6.6	4.6	16	DO = 6.9	20 gpm
1145	1500	77.40	Clear						20 gpm
1150	1600	77.70	Clear	15	6.6	4.6	14	DO = 6.9	20 gpm
1155	1700	77.80	Clear						20 gpm
1200	1800	77.80	Clear	15	6.7	4.6	14	DO = 6.8	20 gpm
1205	1900	78.80	Clear						20 gpm
1210	2000	79.35	Clear	15	6.7	4.5	12	DO = 6.8	20 gpm
1215	2100	79.50	Clear						
1230								Shut off Pump	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-2**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 07/26/01 1110	Completion Date/Time: 07/26/01 1322	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 8.58	Protection Level: D
Pre-development DTW (PVC) (ft): 8.58 DTB (PVC) (ft): 62		
Post-development DTW (PVC) (ft): 13.8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 8.76 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 26.28 gallons		
Development Purge/Discharge Rate (gpm): 1.25 gpm		
Maximum Drawdown During Purging (ft): 5.22 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 130 mins @ 1.25 gpm = 162.5 gallons COMPLETED		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 130 mins.		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks	
1140	37.5	13.8	Cloudy	15.0	6.32	7.12	220		
1200	62.5	13.8	Clear	14.6	6.3	7.44	4		
1245	118.75	13.8	Clear	14.9	6.34	6.94	4		
1320	162.5	13.8	Clear	14.9	6.34	6.92	4		

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-3 (reconst.)**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/01/01 0740	Completion Date/Time: 06/01/01 0900	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 13.2	Protection Level: D
Pre-development DTW (PVC) (ft): 13.2	DTB (PVC) (ft): 115	
Post-development DTW (PVC) (ft): Not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 \		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.4687 x (DTB-DTW)(ft)) = 150		
Minimum Purge Volume (gal) (3 well volumes) = 450 gallons + 1992 gallons (water loss) = 2442 gallons		
Development Purge/Discharge Rate (gpm): 42 gpm		
Maximum Drawdown During Purging (ft): 33.7	Specific Capacity (gpm/ft): 1.25 gpm/ft	
Total Quantity Purged: 2540 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks	
0740	0							Commence	Flow rate (gpm)
0740.5		24	Clear						50
0741	50	24.3	Clear						
0741.5		33.3	Clear						
0742	100	36	Clear						45
0743		39.1	Clear						
0744	190	40	Clear						42
0745	232	40	Meter Malfunctioned						42
0750	442	40		12	7.1	3.8	8.5		42
0755	652	40.3	Meter OK	12	6.8	3.5	6.0		42
0800	862	45.8		12	6.8	3.5	6.0		42
0805	1072	45.85		12	6.9	3.5	6.0		42

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-3 (reconst.)**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/01/01 0740	Completion Date/Time: 06/01/01 0900	Well Diameter: 6
Development Method/Equipment: Groundwater withdrawal via 3" submersible pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 13.2	Protection Level: D
Pre-development DTW (PVC) (ft): 13.2	DTB (PVC) (ft): 115	
Post-development DTW (PVC) (ft): Not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.4687 x (DTB-DTW)(ft)) = 150		
Minimum Purge Volume (gal) (3 well volumes) = 450 gallons + 1992 gallons (water loss) = 2442 gallons		
Development Purge/Discharge Rate (gpm): 42 gpm		
Maximum Drawdown During Purging (ft): 33.7	Specific Capacity (gpm/ft): 1.25 gpm/ft	
Total Quantity Purged: 2540 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks	
0810	1282	46.1		12	6.8	3.5	6.0		42
0815	1440	46.28		12	6.8	3.5	5.4		42
0820	1700	46.50		12	6.8	3.5	5.0		42
0825	1910	46.70		12	6.8	3.5	5.0		42
830	2120	46.70	Clear	12	6.8	3.5	5.0		42 gpm
835	2330	46.80	Clear	12	6.8	3.5	5.0		42 gpm
840	2540	46.90	Clear	12	6.8	3.5	5.0		42 gpm
843	Stopped pumping								

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-3 (reconst.)**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 07/26/01 0930	Completion Date/Time: 07/26/01 1101	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 8.59	Protection Level: D
Pre-development DTW (PVC) (ft): 8.59	DTB (PVC) (ft): 115	
Post-development DTW (PVC) (ft): 9.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 0.6528 x (DTB-DTW)(ft)) = 150		
Minimum Purge Volume (gal) (3 well volumes) = 450 gallons + 1992 gallons (water loss) = 2442 gallons		
Development Purge/Discharge Rate (gpm): 1.25 gpm		
Maximum Drawdown During Purging (ft): 11.71 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 113.75 gallons in addition to 2540 gallons (06/01/01)	COMPLETED: 2653.75 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 90 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks	
0935		20.3	Cloudy	16.7	9.01	5.17	200		
1004			Clear	15.0	6.39	5.76	30		
1030		19.1	Clear	15.0	6.38	5.95	5		
1045		19.1	Clear	15.0	6.38	6.04	5		
1100	113.75	19.1	Clear	15.0	6.38	6.01	5		

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-4**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 5/24/01 1450	Completion Date/Time: 05/24/01 1630	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump/bailer, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 10.08	Protection Level: D
Pre-development DTW (PVC) (ft): 10.08	DTB (PVC) (ft): 61	
Post-development DTW (PVC) (ft): 10.46		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3	Note: Sample # 12b-21551	
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 75		
(8-inch well = 2.611 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 225 gallons		
Development Purge/Discharge Rate (gpm): ~ 750 ml/min		
Maximum Drawdown During Purging (ft): 0.38 ft		
Total Quantity Purged: ~ 17 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1 hr purge		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks DO	ORP	Q
1450	0	10.08								
1505	~2	10.29	Yellow	14.8	6.64	8.11	114	2.77	-79	750 ml/min
1510	~5	10.30	Bubbles	14.3	6.72	7.98	206	12.80	-86	0.5 ppm pid in drum
1520	~8	10.40	In # t.c.	13.8	6.79	8.05	47.0	>20.0	-88	
1535	~12	10.45	Air bubbles	14.1	6.82	8.16	211.0	10.91	-80	
1545	~15	10.45	Air bubbles	14.1	6.83	7.82		4.78	-80	
1550	~16	10.46	Air bubbles	13.7	6.87	7.44	311.0	2.94	-80	
1555	~17	10.46	Air bubbles	13.9	6.88	7.45	321	2.96	-80	
1600	Collect samples 126-021551									
	NOTE: Air Bubbles in VOA Vials – Water is effervescent.									

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-4**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood MISS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 05/31/01 1130	Completion Date/Time: 05/31/01 1400	Well Diameter: 6"
Development Method/Equipment: Groundwater withdrawal via submersible pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 13.00	Protection Level: D
Pre-development DTW (PVC) (ft): 13.20 – prior to install pump	DTB (PVC) (ft): 61	
Post-development DTW (PVC) (ft): 31.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3	Note: DTW (TOC) prior to install pump = 13.2 ft Set pump inlet at 55 ft (TOC) depth to water after vital pump = 13.2 ft	
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 75 (from first development day.)		
(8-inch well = 2.611 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 225 gallons – 17 gallons = 208 gallons left to develop.		
Development Purge/Discharge Rate (gpm): 12		
Maximum Drawdown During Purging (ft): 18.7 ft		
Total Quantity Purged: 1380 gallons in addition to 17 gallons (05/24/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1130	Started pumping @ 5 gal/2 sec = 12 gpm							
1135	60	22.1		13.7	6.11	7.17	95	12 gpm
1140	120	24.02		13.7	6.11	7.17	95	
1145	180	25.5		13.8	6.16	7.16	130	Steady flow at 12 gpm
1150	240	26.65	Clear	13.3	6.14	7.42	100	Steady flow at 12 gpm
1155	300	27.32	Clear	13.5	6.11	7.38	110	Steady flow at 12 gpm
1200	360	28.00	Clear	13.3	6.13	7.31	85	Steady flow at 12 gpm
1205	420	28.75	Clear	13.5	6.15	7.24	65	Steady flow at 12 gpm
1210	480	29.20	Clear	13.5	6.14	7.18	60	Steady flow at 12 gpm
1215	540	29.65	Clear	13.5	6.14	7.18	45	Steady flow at 12 gpm
1220	600	29.9	Clear	13.6	6.14	7.04	40	Steady flow at 12 gpm
1225	660	30.1	Clear	13.6	6.15	6.92	40	
1230	720	30.3	Brown	13.6	6.16	6.92	110	
1235	780	30.55	Brown	13.7	6.16	6.85	110	
1240	840	30.80	Brown	13.9	6.16	6.85	45	Hose heating by sun
1245	900	30.92	Clear	13.8	6.16	6.85	40	Sun heating discharge

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-4**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 05/31/01 1130	Completion Date/Time: 05/31/01 1400	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via submersible pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 13.00	Protection Level: D
Pre-development DTW (PVC) (ft): 13.20 – prior to install pump	DTB (PVC) (ft): 61	
Post-development DTW (PVC) (ft): 31.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3	Note: DTW (TOC) prior to install pump = 13.2 ft Set pump inlet at 55 ft (TOC) depth to water after vital pump = 13.2 ft	
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 75		
(8-inch well = 2.611 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 208 gallons		
Development Purge/Discharge Rate (gpm): 12		
Maximum Drawdown During Purging (ft): 18.7 ft	Specific Capacity (gpm/ft):	
Total Quantity Purged: 1380 gallons in addition to 17 gallons (05/24/01)	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1250	960	31.00	Clear	14.1	6.22	6.76	65	
1255	1020	31.15	Clear	14.3	6.17	6.72	50	Steady flow at 12 gpm
1300	1080	31.35	Clear	14.0	6.18	6.64	36	Steady flow at 12 gpm
1305	1140	31.40	Clear	13.7	6.18	6.60	50	Steady flow at 12 gpm
1310	1200	31.50	Clear	13.6	6.17	6.55	40	Steady flow at 12 gpm
1315	1260	31.60	Clear	13.6	6.16	6.54	40	Steady flow at 12 gpm
1325	1380	31.70	Clear	13.7	6.17	6.54	10	Steady flow at 12 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-5**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/06/01 0930	Completion Date/Time: 06/06/01 1240	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.1	Protection Level: D
Pre-development DTW (PVC) (ft): 9.1	DTB (PVC) (ft): 113	
Post-development DTW (PVC) (ft): 9.1		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 154.32		
Minimum Purge Volume (gal) (3 well volumes) = 1830 gallons		
Development Purge/Discharge Rate (gpm): 12 GPM		
Maximum Drawdown During Purging (ft): 75.8	Specific Yield(gpm): 12/(82.3-9.1) = 0.16 gpm/ft	
Total Quantity Purged: 2076 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0915	0	-						0.2 ppm VOC PID reading.
0916	-	33.3						
0917	-	-						High drawdown, stop, recover.
0937	0	9.1						Start pumping.
0938	12	18.6						
0938.5	18	22.6						
0939	24	24						
0939.5	30	26.2						
0940	36	28.5						
0940.5	42	30.6						
0941	48	33						
0941.5	54	34.3						
0942	60	36						
0942.5	66	-						
0943	72	39.3						
0943.5	78	40.7						
0944	84	42.15						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-5**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/06/01 0930	Completion Date/Time: 06/06/01 1240	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.1	Protection Level: D
Pre-development DTW (PVC) (ft): 9.1	DTB (PVC) (ft): 113	
Post-development DTW (PVC) (ft): 9.1		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 154.32		
Minimum Purge Volume (gal) (3 well volumes) = 1830 gallons		
Development Purge/Discharge Rate (gpm): 12 GPM		
Maximum Drawdown During Purging (ft): 75.8	Specific Yield(gpm): 12/(82.3-9.1) = 0.16 gpm/ft	
Total Quantity Purged: 2076 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0944.5	90	43.65						
0945	96	45						
0945.5	102	46.35	cloudy	15.4	6.75	6.08	222	
0946	108	47.45						
0946.5	114	48.85						
0947	120	49.9						
0947.5	126	50.95						
0948	132	51.8						
0948.5	138	53						
0949	144	53.9						
0949.5	150	54.8						
0950	156	55.6	Cloudy	15.2	6.28	6.06	168	DO=7.25 mg/l. Q=12 GPM.
0951	168	57						
0952	180	58.6						
0953	192	59.95						
0954	204	61.2						
0955	214	62.3						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-5**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/06/01 0930	Completion Date/Time: 06/06/01 1240	Well Diameter: 6"
Development Method/Equipment: Groundwater withdrawal via 3" submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.1	Protection Level: D
Pre-development DTW (PVC) (ft): 9.1	DTB (PVC) (ft): 113	
Post-development DTW (PVC) (ft): 9.1		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 154.32		
Minimum Purge Volume (gal) (3 well volumes) = 1830 gallons		
Development Purge/Discharge Rate (gpm): 12 GPM		
Maximum Drawdown During Purging (ft): 75.8	Specific Yield(gpm): 12/(82.3-9.1) = 0.16 gpm/ft	
Total Quantity Purged: 2076 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0956	228	63.4	Cloudy	15.1	6.5	6.07	153	
0957	240	64.18						
0958	252	65.05	Cloudy	15.2	6.7	6.08	142	
0959	264	65.8						
1000	276	66.6	Cloudy	15.1	6.71	6.05	120	DO=5.91 mg/l. Q=12 GPM.
1005	336	70.6						
1010	396	73.3	Cloudy	14.5	7.42	5.01	25	DO=8.66 mg/l. Q=12 GPM.
1015	456	75						
1020	516	76.2	Cloudy	14	7.25	4.81	8	DO=10.65 mg/l. Q=12 GPM.
1025	576	77.8						3 ppm VOC on PID.
1030	636	78.25	Clear	14.43	7.21	4.71	<10	DO=8.21 mg/l.
1035	696	79.7						
1040	756	80.1	Clear	13.8	7.12	4.66	<10	DO=11.48 mg/l.
1050	876	82	Clear	13.8	7.11	4.68	<10	DO=11.21 mg/l.
1100	996	82	Clear	14.1	6.92	4.59	<10	DO=8.85 mg/l.
1105	1056	82.05						
1110	1116	82.3	Clear	14.7	7.02	4.57	<10	DO=9.76 mg/l. Q=13.9 GPM.

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-5**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 4 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/06/01 0930	Completion Date/Time: 06/06/01 1240	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.1	Protection Level: D
Pre-development DTW (PVC) (ft): 9.1	DTB (PVC) (ft): 113	
Post-development DTW (PVC) (ft): 9.1		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 154.32		
Minimum Purge Volume (gal) (3 well volumes) = 1830 gallons		
Development Purge/Discharge Rate (gpm): 12 GPM		
Maximum Drawdown During Purging (ft): 75.8	Specific Yield(gpm): 12/(82.3-9.1) = 0.16 gpm/ft	
Total Quantity Purged: 2076 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1115	1176	82.7						
1120	1236	82.9						
1135	1416	83.8	Clear	14.9	6.88	4.53	<10	DO=5.77 mg/l. Q=17 GPM.
1140	1476	84.1						5% LEL, 3 ppm VOC on PID.
1150	1596	84.1	Clear	14.9	7.00	4.50	<10	
1155	1656	84.1						
1200	1716	84.15	Clear					Q=10 GPM.
1210	1836	84.2	Clean/sheen	15.5	6.66	4.48	<10	
1220	1956	84.9		15.9	6.73	4.49		DO=6.53 mg/l.
1230	2076	-						Recovery starts.
1231		-						26.8 ppm VOC, PID @ wellhead
1233		51.6						
1236		37.15						
1237		33.6						
1238		30.7						
1239		26						
1240		25.6						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-5 (reconstruct)**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 08/08/01 1030	Completion Date/Time: 08/08/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 5.15	Protection Level: D

Pre-development DTW (PVC) (ft): 5.15 DTB (PVC) (ft): 62.3

Post-development DTW (PVC) (ft): not measured

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) = 9.37

(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A

Minimum Purge Volume (gal) (3 well volumes) = 28 gallons

Development Purge/Discharge Rate (gpm): 0.5 gpm

Maximum Drawdown During Purging (ft): Dry

Total Quantity Purged: ~ 34 gallons

Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.

Hours of Development:

Hours of Decon:

Hours of Standby: Surge with silty discharge 10:20 to 10:35 hr. Timed flow from 1045 hr.

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1045	0	-	Cloudy	17.2	8.46	10.0	490	Cannot get meter down well.
1050	Surge and recovery pumps dry after a few intents.							
1200	15							
1235	18						200	Started recovery.
1255	20		Clear	18.0	5.02	17.4	232	Q=0.5 gpm
1300	22.5			17.2	5.55	17.4	146	Q=0.5 gpm
1304	24		Dry	17.5	5.60	17.4	247	
1315	24.5						Lowered rate-> Q=0.15 gpm	
1322	Start at Q=0.15 gpm							
1324	24.8	Dry						Strong surfactants like odors
1326		Dry						
1331	-	-	-	17.3	5.6	17.4	210	
1333	25.5	Dry						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-5 (reconstruct)**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 08/08/01 1030	Completion Date/Time: 08/08/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 5.15	Protection Level: D
Pre-development DTW (PVC) (ft): 5.15	DTB (PVC) (ft): 62.3	
Post-development DTW (PVC) (ft): not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 9.37		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 28 gallons		
Development Purge/Discharge Rate (gpm): 0.5 gpm		
Maximum Drawdown During Purging (ft): Dry		
Total Quantity Purged: ~ 34 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby: Surge with silty discharge 10:20 to 10:35 hr. Timed flow from 1045 hr.		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1356			Pale Brown	18.5	5.44	18.8	34	Surfactant like odor
1403	29		Pale Brown	16.9	5.3	18.7	90	
1406	30.5	Dry						Initial discharge is white
1430	Pump at 0.5 gpm							
1432				16.7	5.6	18.3	100	
1434				16.6	5.6	18.3	101	
1436	33.5			16.5	5.64	16.6	97	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-5 (reconstruct)**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 08/09/01 0851	Completion Date/Time: 08/09/01 1140	Well Diameter: was 6", now 2"
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: A. Wood	Water Level (ft bgs): 11.1	Protection Level: D
Pre-development DTW (bgs) (ft): 11.1	DTB (bgs) (ft): 62.3	
Post-development DTW (bgs) (ft): 41		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 9.37 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 28 gallons		
Development Purge/Discharge Rate (gpm): 0.5		
Maximum Drawdown During Purging (ft): 29.9 ft	Specific Yield(gpm):	
Total Quantity Purged: 30 gallons + 34 gallons (from 08/08/01) = 64 gallons	COMPLETED	
Disposition of Purge Water: drummed and transferred to FRAC tank on MISS		
Hours of Development: 3		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0851	0	11.1						Initial discharge milky white
0855	2		Clear	16.9	7.16	18.3	12	
0905	2		Clear	17.0	6.27	18.5	10	
0910	9.5							Dry- Recovery
0945	9.5					16.9	9	Initial discharge is clear
0947	10.5			16.1	6.20	16.9	9	
0950	12.0			16.3	6.20	16.4	8	
0955	14.5							Dry-Recovery
1026	14.5							
1028	15.5			16.8	6.40	16.8	15	Initial discharge clear
1036	19.0			16.9	6.40	16.9	12	
1041	21.5			17.0	6.38		7	
1046	23			17.0	6.38	16.9	8	
1047	23.5							Dry-Recovery
1125	23.5	24.5	Clear					Initial discharge clear, restart pump at 0.5 gallons/min
1130	26			16	6.25	16.6	22	
1135	28.5	40	Clear	16.0	6.28	16.6	25	
1140	30.	41	Clear	16.0	6.27	16.6	10	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-7**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bedrock Array on MISS	Page 1 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 05/17/01 1100	Completion Date/Time: 05/17/01 1400	Well Diameter: 6"
Development Method/Equipment: Groundwater withdrawal via 4" submersible grunfos pump and drill rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 12.82	Protection Level: D
Pre-development DTW (bgs) (ft): 12.82	DTB (bgs) (ft): 109	
Post-development DTW (bgs) (ft): not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6inch well = 1.469 x (DTB-DTW)(ft)) = 141.3		
Minimum Purge Volume (gal) (3 well volumes) = 423.9 gallons		
Development Purge/Discharge Rate (gpm): ~ 30 gpm		
Maximum Drawdown During Purging (ft): 7.03	Specific Capacity (gpm/ft): 4.3 gpm/ft	
Total Quantity Purged: 3165 gallons		
Disposition of Purge Water: Pumped from well into 55 gallon drum and pumped to FRAC tank.		
Hours of Development: 3		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1106	0							Q= 25 gpm
1108	30	15.2		16.4	5.87	3.55	224	Q= 25 gpm
1110	Increased pump flow rate to coincide with pump rate to FRAC tank -> Q=30 gpm							
1117	45	18.1	Cloudy	15.3	5.80	3.76	70	
1122	225	18.6	Cloudy	14.5	5.80	3.77	22	
1125	315	18.75	Cloudy	-	-	-	-	
1130	465	18.95	Clear	14.7	5.74	3.77	23.3	
1135	615	19.13	Clear	-	-	-	-	
1140	765	19.25	Clear	14.8	5.69	3.77	16.1	
1150	915	19.50	Clear	-	-	-	-	
1155	1065	19.50	Clear	14.6	5.68	3.76	16.4	
1200	1215	19.55	Clear	-	-	-	-	
1205	1365	19.58	Clear	13.5	5.78	3.81	12.8	
1210	1515	19.60	Clear	-	-	-	-	
1215	1665	19.68	Clear	13.3	5.77	3.79	4.03	
1220	1815	19.70	Clear	-	-	-	-	
1225	1965	19.75	Clear	13.4	5.76	3.80	3.15	
1230	2115	19.75	Clear	-	-	-	-	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-7**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bedrock Array on MISS	Page 2 of 2
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 05/17/01 1100	Completion Date/Time: 05/17/01 1400	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 4” submersible grunfos pump and drill rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 12.82	Protection Level: D
Pre-development DTW (bgs) (ft): 12.82 DTB (bgs) (ft): 109		
Post-development DTW (bgs) (ft): not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6inch well = 1.469 x (DTB-DTW)(ft)) = 141.3		
Minimum Purge Volume (gal) (3 well volumes) = 423.9 gallons		
Development Purge/Discharge Rate (gpm): ~ 30 gpm		
Maximum Drawdown During Purging (ft): 7.03	Specific Capacity (gpm/ft): 4.3 gpm/ft	
Total Quantity Purged: 3165 gallons		
Disposition of Purge Water: Pumped from well into 55 gallon drum and pumped to FRAC tank.		
Hours of Development: 3		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1255	2265	19.80	Clear	13.8	5.78	3.83	3.10	
1300	2415	19.80	Clear					
1305	2565	19.80	Clear	13.3	5.86	3.96	2.84	
1310	2715	19.85	Clear					
1315	2865	19.85	Clear	13.3	5.87	3.95	2.28	
1320	3015	19.85	Clear					
1325	3165	19.85	Clear	13.2	5.86	3.95	2.27	
1330	Stopped pumping and began pulling pump from borehole.							
1400	Completed withdrawal of pumping equipment from well.							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-7**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Bedrock array on MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/04/01 1300	Completion Date/Time: 06/04/01 1600	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via peristaltic pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 11.30	Protection Level: D
Pre-development DTW (bgs) (ft): 11.30	DTB (bgs) (ft): 109	
Post-development DTW (bgs) (ft): 11.30		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4 inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6 inch well = 1.469 x (DTB-DTW)(ft)) = 141.3 (no samples from packed off interval 84’ to 109’)		
Minimum Purge Volume (gal) (3 well volumes) = 423.9 gallons; already achieved on previous development day.		
Development Purge/Discharge Rate (gpm): 1		
Maximum Drawdown During Purging (ft): 0.11	Specific Yield(gpm):	
Total Quantity Purged: 141 gallons in addition to 3165 gallons (05/17/01)	COMPLETED: 3306 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1310	0	11.39	Cloudy	17	6.6	2.60	33	
1318	5	11.41	Clear	17	6.7	2.63	20	
1326	13	11.38	Clear	16	6.7	2.66	16	
1339	20	11.32	Clear	16	6.8	2.60	14	
1350	31	11.30	Clear	16	6.8	2.60	14	
1414	55	11.30	Clear	15	6.7	2.70	8	
1424	65	11.30	Clear	15	6.6	2.71	6	
1434	75	11.30	Clear	16	6.6	2.70	6	
1445	86	11.30	Clear	15	6.7	2.73	5	
1450	91	11.30	Clear	15	6.7	2.71	6	
1505					6.7	2.74	8	Pump shut off, battery dead
1510				16	6.6	2.73	6	Resume pumping
1530	110	11.30	Clear	15	6.6	2.72	5	
1540	120	11.30	Clear	15	6.6	2.71	5	
1550	131	11.30	Clear	15	6.7	2.70	4	
1600	141	11.30	Clear	15	6.6	2.70	5	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood FUSRAP	Page 1 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/05/01 1350	Completion Date/Time: 06/05/01 1630	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible Grundfos pump and drill rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.15	Protection Level: D
Pre-development DTW (bgs) (ft): 9.15	DTB (bgs) (ft): 106	
Post-development DTW (bgs) (ft): 11.10		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 142.3		
Minimum Purge Volume (gal) (3 well volumes) = 427 gallons		
Development Purge/Discharge Rate (gpm): 43		
Maximum Drawdown During Purging (ft): 18.6	Specific Capacity (gpm/ft): 2.42 gpm/ft	
Total Quantity Purged: 2580		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1354	0	9.15		18	7.2	3.4	203	Q=43 gpm
1354.5	0	18.10						Q=43 gpm
1355	0	19.80						Q=43 gpm
1355.5	0	21.00						Q=43 gpm
1356	0	21.60						Q=43 gpm
1356.5	0	22.30						Q=43 gpm
1357	0	22.60						Q=43 gpm
1357.5	0	22.90						Q=43 gpm
1358	0	23.15						Q=43 gpm
1358.5	0							Q=43 gpm
1359	0	23.50						Q=43 gpm
1359.5	0	23.15						Q=43 gpm
1400	258	24.80		18	7.0	3.3	108	Q=43 gpm
1400.5	258	24.00						Q=43 gpm
1401	258	24.00						Q=43 gpm
1401.5	258	24.15						Q=43 gpm
1402	258	24.25						Q=43 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood Fusrap	Page 2 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/05/01 1350	Completion Date/Time: 06/05/01 1630	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible Grundfos pump and drill rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.15	Protection Level: D
Pre-development DTW (bgs) (ft): 9.15	DTB (bgs) (ft): 106	
Post-development DTW (bgs) (ft): 11.10		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 142.3		
Minimum Purge Volume (gal) (3 well volumes) = 427 gallons		
Development Purge/Discharge Rate (gpm): 43		
Maximum Drawdown During Purging (ft): 18.6	Specific Capacity (gpm/ft): 2.42 gpm/ft	
Total Quantity Purged: 2580		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1404		24.60		16	7.1	3.0	70	Q=43 gpm
1405		25.00						
1406		25.00						
1407		25.20		16	7.1	3.0	50	Q=43 gpm
1408		25.25						Q=43 gpm
1409		25.35						Q=43 gpm
1410	430	25.40						Q=43 gpm
1411		25.45						Q=43 gpm
1412								Q=43 gpm
1413		25.60						Q=43 gpm
1414		25.65						Q=43 gpm
1415				16	7.0	3.0	33	Q=43 gpm
1416		27.75						Q=43 gpm
1417		25.80						Q=43 gpm
1418		25.85						Q=43 gpm
1419		25.87						Q=43 gpm
1420	860	25.90		16	6.9	3.0	22.2	Q=43 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood FUSRAP	Page 3 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/05/01 1350	Completion Date/Time: 06/05/01 1630	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible Grundfos pump and drill rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.15	Protection Level: D
Pre-development DTW (bgs) (ft): 9.15	DTB (bgs) (ft): 106	
Post-development DTW (bgs) (ft): 11.10		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 142.3		
Minimum Purge Volume (gal) (3 well volumes) = 427 gallons		
Development Purge/Discharge Rate (gpm): 43		
Maximum Drawdown During Purging (ft): 18.6	Specific Capacity (gpm/ft): 2.42 gpm/ft	
Total Quantity Purged: 2580		
Disposition of Purge Water: Transferred to FRAC tank on MISS		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1421	1161	26.00						Q=43 gpm
1422	1161	26.05						
1423	1161	26.10						
1424	1161	26.11						
1425	1161	26.15						
1430	1161	26.30						
1435	1161	26.40		16	6.9	3.0	10	Q=43 gpm
1440	1161	26.50						
1445	1161	26.60						
1450	1161	26.70		16	6.9	3.0	10	Q=43 gpm
1455	1161	26.80						
1500	2580	26.90		16	6.9	3.0	10	
1500								Stopped pumping began recovery test
1501		12.90						
1502		12.60						
1503		12.25						
1504		1215						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Maywood FUSRAP	Page 4 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/05/01 1350	Completion Date/Time: 06/05/01 1630	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible Grundfos pump and drill rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 9.15	Protection Level: D
Pre-development DTW (bgs) (ft): 9.15	DTB (bgs) (ft): 106	
Post-development DTW (bgs) (ft): 11.10		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 142.7		
Minimum Purge Volume (gal) (3 well volumes) = 427 gallons		
Development Purge/Discharge Rate (gpm): 43		
Maximum Drawdown During Purging (ft): 18.6	Specific Capacity (gpm/ft): 2.42 gpm/ft	
Total Quantity Purged: 2580	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
1605		11.90						
1606		11.70						
1607		11.50						
1608		11.40						
1609		11.25						
1610		11.10						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-9**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/06/01 1400	Completion Date/Time: 06/06/01 1600	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.45	Protection Level: D
Pre-development DTW (PVC) (ft): 10.45 DTB (PVC) (ft): 56		
Post-development DTW (PVC) (ft): 37		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 66.91		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 201 gallons		
Development Purge/Discharge Rate (gpm): 2.5 to 7 gpm		
Maximum Drawdown During Purging (ft): 33.75 ft	Specific Capacity (gpm/ft): 0.25 gpm/ft@7 gpm ; 0.07 gpm/ft @2.5 gpm	
Total Quantity Purged: 324 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hrs		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1400		10.45	Start of pumping.					Q=7 gpm
1403		26.6						
1404		29.5						
1405		32.3						
1406		35.7						
1407		38.6						Q= 7 gpm
1408	56							
1409	Lowered pump rate to 2.2 gpm.							
1415	68.5	43.0	Cloudy	20.6	5.25	17.6	202	Q=2.5 gpm
1422		39.15						
1425	89.0	38.4						
1430	101.5	-						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-9**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/06/01 1400	Completion Date/Time: 06/06/01 1600	Well Diameter: 6"
Development Method/Equipment: Groundwater withdrawal via 3" submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.45	Protection Level: D
Pre-development DTW (PVC) (ft): 10.45	DTB (PVC) (ft): 56	
Post-development DTW (PVC) (ft): 37		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 66.91		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 201 gallons		
Development Purge/Discharge Rate (gpm): 2.5 to 7 gpm		
Maximum Drawdown During Purging (ft): 33.75 ft	Specific Capacity (gpm/ft): 0.25 gpm/ft@7 gpm ; 0.07 gpm/ft @2.5 gpm	
Total Quantity Purged: 324 gallons		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hrs		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1435	114.0	36.95	Clear	20.1	6.60	21.2	153	Q=2.5 gpm
1440	136.5	36.45						
1445	149.0	37.60						
1450	161.5	-						
1455	174	-						
1500	186.5	42.5	Clear	17.7	6.35	19.7	88	
1505	199.0	43.6						
1510	211.5	44.15						
1515	224.0	44.10	Cloudy	17.6	6.45	19.4	80	
1520	236.5	44.10						
1525	249.0	44.10	Clear	17.8	6.25	19.7	41	
1530	261.5	44.10						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPZ-9**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 3
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 06/06/01 1400	Completion Date/Time: 06/06/01 1600	Well Diameter: 6”
Development Method/Equipment: Groundwater withdrawal via 3” submersible pump, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.45	Protection Level: D
Pre-development DTW (PVC) (ft): 10.45	DTB (PVC) (ft): 56	
Post-development DTW (PVC) (ft): 37		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 66.91		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 201 gallons		
Development Purge/Discharge Rate (gpm): 2.5 to 7 gpm		
Maximum Drawdown During Purging (ft): 33.75 ft	Specific Capacity (gpm/ft): 0.25 gpm/ft@7 gpm ; 0.07 gpm/ft @2.5 gpm	
Total Quantity Purged: 324 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 hrs		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1540	274.0	44.20	Clear	17.3	6.68	18.70	26	
1545	286.5	44.20						
1550	299.0	44.20	Clear	17.3	6.17	18.80	15	
1555	311.5	44.20						
1600	324.0	44.20	Clear	17.4	6.14	18.85	10	Stopped pumping
1700	Observed recovery of well. Total of 324 gallons removed.							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 1 of 6
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/24/01 1000	Completion Date/Time: 04/24/01 1400	Well Diameter: 6”
Development Method/Equipment:Groundwater withdrawal via 4” submersible pump and rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.9	Protection Level: D
Pre-development DTW (PVC) (ft): 10.9 @ 10:22	DTB (PVC) (ft): 110	
Post-development DTW (PVC) (ft): 25.4		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 145.6		
Minimum Purge Volume (gal) (3 well volumes) = 437 gallons		
Development Purge/Discharge Rate (gpm): 30		
Maximum Drawdown During Purging (ft): 15.1 @ 60 gpm or 14.5 @ 30 gpm	Specific Capacity (gpm/ft): 2.07 gpm/ft	
Total Quantity Purged: 1980 gallons for this time interval		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 - Note: Drillers surged well using rig/pump for 1 hour prior to development via pump withdrawal.		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1228								Began pumping at 60 gpm
1229	60							60 gpm
1233	180	26.0						30 gpm
1237	300		Clear	18.8	6.23	3.77	34	30 gpm
1238	330	24.3						30 gpm
1243	480	24.5						30 gpm
1255	840	24.9						30 gpm
1300	990		Clear	18.4	6.32	3.79	10	30 gpm
1307	1050	25.0						30 gpm
1316	1470	25.3	Clear	16.5	6.35	3.78	6	30 gpm
1325	1740	25.3						30 gpm
1333	1980	25.4	Clear	16.8	6.69	3.79	4	30 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 2 of 6
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/24/01 1000	Completion Date/Time: 04/24/01 1400	Well Diameter: 6”
Development Method/Equipment:Groundwater withdrawal via 4” submersible pump and rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 10.9	Protection Level: D

Pre-development DTW (PVC) (ft): 10.9 @ 10:22 DTB (PVC) (ft): 110

Post-development DTW (PVC) (ft): 13.1

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 (RECOVERY from CYCLE 1 DEVELOPMENT)

(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A

(6-inch well = 1.469 x (DTB-DTW)(ft)) = 145.6

Minimum Purge Volume (gal) (3 well volumes) = recovery test/ no water purged

Development Purge/Discharge Rate (gpm): recovery test/ no water purged.

Maximum Drawdown During Purging (ft): 15.1

Total Quantity Purged: recovery test no water purged.

Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.

Hours of Development: 2

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW(ft)(PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1335.0	----	25.4						
1335.5	---	18.80						
1336.0	---	16.10						
1336.5	---	15.10						
1337.0	---	14.50						
1337.5	---	14.30						
1338.0	---	14.00						
1338.5	---	13.80						
1339.0	---	13.70						
1339.5	---	13.55						
1340.0	---	13.45						
1340.5	---	13.28						
1341.0	---	13.15						
1341.5	---	13.10						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 3 of 6
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time:04/24/01 1400	Completion Date/Time: 04/24/01 1700	Well Diameter: 6”
Development Method/Equipment:Groundwater withdrawal via 4” submersible pump and rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 11.5	Protection Level: D
Pre-development DTW (PVC) (ft): 11.5 DTB (PVC) (ft): 110		
Post-development DTW (PVC) (ft):		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 145		
Minimum Purge Volume (gal) (3 well volumes) = 435 gallons		
Development Purge/Discharge Rate (gpm): 30		
Maximum Drawdown During Purging (ft): 14’ @ 30 gpm	Specific Capacity (gpm/ft): 2.14 gpm/ft	
Total Quantity Purged: 3780 gallons total for today		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2 - (Note): Drillers surged well using rig/pump for 1 hour prior to development via pump withdrawal.		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW(ft)(PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1530	1980	22.50		19.9	6.41	3.87	97	Pumped @ 30 gpm
1535	2130	23.60						Pumped @ 30 gpm
1540	2280	24.10		17.5	6.48	3.77	10	Pumped @ 30 gpm
1545	2430	24.48						Pumped @ 30 gpm
1551	2580	24.80		19.8	6.62	3.80	6	Pumped @ 30 gpm
1555	2730							Pumped @ 30 gpm
1600	2880	25.00						Pumped @ 30 gpm
1607	3030	25.15		17.0	6.62	3.82	2	Pumped @ 30 gpm
1610	3180	25.23						Pumped @ 30 gpm
1615	3330	25.30						Pumped @ 30 gpm
1620	3480	25.30						Pumped @ 30 gpm
1625	3630	25.40		17.7	6.87	3.82	3	Pumped @ 30 gpm
1632	3780	25.50						Pumped @ 30 gpm

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 4 of 6
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/24/01 1400	Completion Date/Time: 04/24/01 1700	Well Diameter: 6”
Development Method/Equipment:Groundwater withdrawal via 4” submersible pump and rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 11.5	Protection Level: D
Pre-development DTW (PVC) (ft): 11.5 DTB (PVC) (ft): 110		
Post-development DTW (PVC) (ft): 11.75 after ½ hour recovery.		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 (Recovery from Cycle 2 Development)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 145		
Minimum Purge Volume (gal) (3 well volumes) = recovery test no water purged.		
Development Purge/Discharge Rate (gpm): recovery test no water purged.		
Maximum Drawdown During Purging (ft): N/A		
Total Quantity Purged: recovery test/ no water purged.		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW(ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1634	Stopped pumping DTW = 25.5							
1635		15.10						
1640		13.15						
1645		12.50						
1650		12.15						
1655		11.90						
1700		11.75						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 5 of 6
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/25/01 0700	Completion Date/Time: 04/25/01 1100	Well Diameter: 6"
Development Method/Equipment: Groundwater withdrawal via 4"submersible pump and rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 11.1	Protection Level: D
Pre-development DTW (PVC) (ft): 11.1 DTB (PVC) (ft): 110		
Post-development DTW (PVC) (ft): 26.59		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 145.6		
Minimum Purge Volume (gal) (3 well volumes) = 437 gallons, but well already developed sufficiently on previous development day.		
Development Purge/Discharge Rate (gpm): 30		
Maximum Drawdown During Purging (ft): 15.49 @ 30 gpm	Specific Capacity (gpm/ft): 1.94 gpm/ft	
Total Quantity Purged : 1500 gallons in addition to 3780 gallons (04/24/01) COMPLETED: 5280 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4 (Note: Drillers surged well using rig/pump for 1 hour prior to development in pump withdrawal)		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW(ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0840	0	Started pumping @ 30 gpm						Pumped @ 30 gpm
0845	150	24.15			6.15	3.92	-10	Pumped @ 30 gpm
0850	300	25.00						Pumped @ 30 gpm
085	450	25.60			6.52	3.67	-10	Pumped @ 30 gpm
0900	600	25.85						Pumped @ 30 gpm
0905	750	26.10			6.59	3.65	-10	Pumped @ 30 gpm
0910	900	26.25						Pumped @ 30 gpm
0915	1050	26.37			6.63	3.63	-10	Pumped @ 30 gpm
0920	1200	26.42						Pumped @ 30 gpm
0925	1350	26.50			6.64	3.61	-10	Pumped @ 30 gpm
0930	1500	26.59						Pumped @ 30 gpm
0931	Ran out of gas in generator – stopped development.							

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRPW-1D**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: MISS	Page 6 of 6
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 04/25/01 0700	Completion Date/Time: 04/25/01 1100	Well Diameter: 6”
Development Method/Equipment:Groundwater withdrawal via 4” submersible pump and rig, parameters measured with Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 11.1	Protection Level: D
Pre-development DTW (PVC) (ft): 11.1 DTB (PVC) (ft): 110		
Post-development DTW (PVC) (ft): 11.40		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3 (Recovery from Cycle 3 Development)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
(6-inch well = 1.469 x (DTB-DTW)(ft)) = 145.6		
Minimum Purge Volume (gal) (3 well volumes) = recovery test, no water purged.		
Development Purge/Discharge Rate (gpm): recovery test, no water purged.		
Maximum Drawdown During Purging (ft):		
Total Quantity Purged: recovery test, no water purged. COMPLETED: 5280 gallons total		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 4		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW(ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0931	Stopped pumping, generator ran out of gas.							
0935		11.80						
0940		11.65						
0945		10.15						
0950		9.80						
0955		10.00						
1001		11.30					Shut off control value to sampling port.	
1005		11.40						
1010		11.40						
1015		11.40						

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRTW2**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/10/01 0830	Completion Date/Time: 01/10/01 1430	Well Diameter: 8”
Development Method/Equipment: groundwater withdrawal via whale pump, parameters measured with a Horiba U-10		
Logged by: G. Markt	Water Level (ft bgs): 4.6	Protection Level: D
Pre-development DTW (bgs) (ft): 4.6	DTB (bgs) (ft): 62.55	
Post-development DTW (bgs) (ft): 6.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(6inch well = 1.469. x (DTB-DTW)(ft)) = N/A		
(8-inch well = 2.611 x (DTB-DTW)(ft)) = 151.3 gallons		
Minimum Purge Volume (gal) (3 well volumes) = 433.92 gallons		
Development Purge/Discharge Rate (gpm): 1.5 gpm		
Maximum Drawdown During Purging (ft): 1.4	Specific Capacity (gpm/ft):	
Total Quantity Purged: 450 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 5		
Hours of Decon: 1.5		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0928		4.6	Clear Yellow	9.8	6.37	2.59	83	
0935			Yellow Brown					Surged well
0950			Clear					
1000		5.7	Clear					Surge well
1005		5.7	Clear		Note: water displayed soapy appearance with strong odor of surfactant.			
1015		5.7	Clear					
1035		5.7	Clear					
1043	151	5.7	Clear					
1158		5.7	Clear					
1318	350	6.0	Clear	15.5	6.67	2.35	5	
1415	450	6.0	Clear	15.2	*6.60	2.37	2	* Erratic reading for pH.*

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-1**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/08/01 1300	Completion Date/Time: 01/08/01 1500	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 5.4	Protection Level: D
Pre-development DTW (bgs) (ft): 5.4	DTB (bgs) (ft): 47.5	
Post-development DTW (bgs) (ft): 41.6		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 6.9		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 20.7 gallons		
Development Purge/Discharge Rate (gpm): 0.26 gpm		
Maximum Drawdown During Purging (ft): 36.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 29 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 2.0		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1300	Int.	5.5	Black	14.8	6.87	0.99	190	
1314	7	34.5	Clear	15.2	6.93	0.687	38	
1350	14	35.0	Clear	13.9	6.56	1.98	2	
1425	21	35.2	Clear	14.5	6.56	2.28	1	
1445	28	41.6	Clear	14.3	6.54	2.19	10	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-2A**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/22/00 1015	Completion Date/Time: 12/22/00 1130	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via purge pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 9.55	Protection Level: D
Pre-development DTW (bgs) (ft): 9.55	DTB (bgs) (ft): 62	
Post-development DTW (bgs) (ft): 9.57		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 8.6		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 25.8 gallon		
Development Purge/Discharge Rate (gpm): ~ 3500 ml/min		
Maximum Drawdown During Purging (ft): 0.45	Specific Capacity (gpm/ft):	
Total Quantity Purged: 28 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 45 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1040	Int	10	Clear	13.4	7.13	1.17	3	
1052	9	10	Clear	14.2	7.35	1.14	8	
1107	18	10	Clear	13.8	7.46	1.08	3	
1120	28	10	Clear	13.8	7.43	1.04	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-3**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Gulf Gas Station	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/17/01 0800	Completion Date/Time: 01/17/01 0845	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K.S. Hayes	Water Level (ft bgs): 3.8	Protection Level: D
Pre-development DTW (bgs) (ft): 3.8	DTB (bgs) (ft): 30.2	
Post-development DTW (bgs) (ft): 3.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 4.33		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 13 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.1	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 27 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0813	Int	3.8	Cloudy	14.2	5.97	.777	>999	
0817	4.5	3.9	Clear	16.0	6.47	.694	21	
0821	9.0	3.9	Clear	16.0	6.74	.747	4	
0825	13.5	3.9	Clear	16.1	6.90	.784	2	
0829	18.0	3.9	Clear	16.0	7.00	.825	1	
0833	22.5	3.9	Clear	16.1	7.01	.833	1	
0836	27.0	3.9	Clear	16.0	7.03	.837	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-6**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/09/01 1100	Completion Date/Time: 01/09/01 1135	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 4.0	Protection Level: D
Pre-development DTW (bgs) (ft): 4.0	DTB (bgs) (ft): 26.9	
Post-development DTW (bgs) (ft): 5.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 3.76		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 11.27 gallons		
Development Purge/Discharge Rate (gpm): ~ 1 gpm		
Maximum Drawdown During Purging (ft): 1	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 12 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1113	-	4.0	Turbid red brn	10.3	5.38	1.59	>999	
1119	3.76	5.0	Clear	12.1	5.76	1.17	-	
1124	7.52	5.0	Clear	12.1	6.03	1.16	15	
1131	11.28	5.0	Clear	12.5	6.10	1.15	5	

Notes: = below

BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-8**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Architectural Windows	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/16/01 0815	Completion Date/Time: 01/16/01 0910	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 4.75	Protection Level: D
Pre-development DTW (bgs) (ft): 4.75	DTB (bgs) (ft): 42.4	
Post-development DTW (bgs) (ft): 4.80		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 6.17		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 18.52 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 1	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 20 gallon	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0830	Int	5.2	Brown	14.7	6.75	1.17	>999	
0840	6.2	5.7	Clear	16.1	6.91	1.14	2	
0847	12.4	5.75	Clear	16.2	6.94	1.10	1	
0855	18.6	5.70	Clear	16.2	6.90	1.10	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-9**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Fed Ex	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/15/01 1100	Completion Date/Time: 01/15/01 1240	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 15.95	Protection Level: D
Pre-development DTW (bgs) (ft): 15.95	DTB (bgs) (ft): 24.6	
Post-development DTW (bgs) (ft): 16.0		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 1.42		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 4.26 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 1.05	Specific Capacity (gpm/ft):	
Total Quantity Purged: 25.5 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1123	Int.	-	Brown	11.2	7.11	1.53	>999	
1128	1.5	16.5	Brown	13.3	7.08	2.00	444	
1131	3.0	16.6	Brown	13.8	7.19	1.24	>999	
1135	4.5	16.6	Brown	13.8	7.20	.940	>999	
1140	6.0	16.6	Brown	13.9	7.17	.970	>999	
1143	7.5	16.6	Brown	14.1	7.21	.910	>999	
1148	9.0	16.6	Brown	13.8	7.19	.950	>999	
1153	10.5	16.65	Brown	13.8	7.19	.903	>999	
1156	12.0	16.65	Brown	13.8	7.22	.855	>999	
1202	13.5	16.7	Brown	14.0	7.25	.892	>999	
1204	15.0	16.7	Brown	13.7	7.23	.940	>999	
1208	16.5	16.9	Brown	13.9	7.22	.873	980	
1210	18.0	16.95	Cloudy	14.2	7.22	.858	365	
1213	19.5	16.95	Cloudy	14.2	7.22	.873	265	
1217	21.0	16.95	Cloudy	14.3	7.23	.870	237	
1220	22.5	17.0	Cloudy	14.2	7.20	.874	108	
1224	24.0	17.0	Clear	14.2	7.25	.865	30	
1227	25.5	17.0	Clear	14.2	7.26	.870	21	Finished

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-10**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/04/01 1105	Completion Date/Time: 01/04/01 1200	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 9.1	Protection Level: D
Pre-development DTW (bgs) (ft): 9.1	DTB (bgs) (ft): 39.5	
Post-development DTW (bgs) (ft): 18.1		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 4.99		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 15 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 14.8	Specific Capacity (gpm/ft):	
Total Quantity Purged: 25 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 30 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1125	Int	9.0	Milky	12.9	7.90	.771	>999	
1133	5	19.0	Clear	13.8	7.13	.767	1	
1140	10	23.0	Cloudy	15.8	7.16	.737	280	
1145	15	23.5	Clear	15.8	7.25	.774	94	
1150	20	23.8	Clear	16.0	7.27	.784	13	
1155	25	23.9	Clear	16.0	7.20	.787	4	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-11**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/12/01 0845	Completion Date/Time: 01/12/01 0930	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: J. Dekoskie	Water Level (ft bgs): 3.12	Protection Level: D
Pre-development DTW (bgs) (ft): 3.12	DTB (bgs) (ft): 34.80	
Post-development DTW (bgs) (ft): 3.78		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 5.2		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 15.6 gallons		
Development Purge/Discharge Rate (gpm): 500 ml/min.		
Maximum Drawdown During Purging (ft): 1.43	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 21 gallon	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 1		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0849	0	4.50	Clear	14.3	7.22	.673	5	
0854	5	4.55	Gray	14.6	7.01	.678	137	
0903	10	3.86	Clear	13.0	7.26	.685	139	
0908	15	3.88	Clear	14.0	7.56	.681	75	
0920	20	3.78	Clear	13.3	7.21	.669	2	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-12**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Fed-Ex	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/15/01 0845	Completion Date/Time: 01/15/01 1020	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 4.9	Protection Level: D
Pre-development DTW (bgs) (ft): 4.9	DTB (bgs) (ft): 47.7	
Post-development DTW (bgs) (ft): 4.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 7.02 gallons		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 21.06 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.15	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 29 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0915	Int	4.8	Clear	8.0	6.40	.613	30	
0933	7	5.0	Cloudy	12.8	6.78	.777	201	
0945	14	5.05	Clear	12.8	7.06	.787	1	
0958	21	5.05	Clear	13.2	7.16	.778	2	
1010	28	5.05	Clear	13.2	7.22	.774	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-13**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/08/01 1000	Completion Date/Time: 01/08/01 1100	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 4.3	Protection Level: D
Pre-development DTW (bgs) (ft): 4.3	DTB (bgs) (ft): 33.4	
Post-development DTW (bgs) (ft): 4.35		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 4.77		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 14.32 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.75	Specific Capacity (gpm/ft):	
Total Quantity Purged: ~ 21 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1010	Int	4.7	Brown	11.9	7.50	.742	462	
1017	5	4.95	Clear	16.1	7.15	.644	6	
1025	10	5.0	Clear	16.3	7.16	.639	1	
1032	15	5.05	Clear	16.3	7.10	.649	1	
1040	20	5.0	Clear	16.6	6.95	.652	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-14**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 1 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/24/01 0830	Completion Date/Time: 01/24/01 1140	Well Diameter: 2”
Development Method/Equipment: groundwater withdrawal via whale pump, parameters measured with a Horiba U-10		
Logged by: T. Robinson	Water Level (ft bgs): 12.87	Protection Level: D
Pre-development DTW (bgs) (ft): 12.87	DTB (bgs) (ft): 37.05	
Post-development DTW (bgs) (ft): not measured		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 3.97 gallons		
(4inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 11.9 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): Dry	Specific Capacity (gpm/ft):	
Total Quantity Purged: 4.5 gallons		
Disposition of Purge Water: drummed and transferred to FRAC tank on MISS		
Hours of Development: 2.5	Development not complete, 4.5 gallons removed	
Hours of Decon: 1		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	PH	Conductivity (mS/cm)	Turbidity	Remarks
0904		12.87	Cloudy	15.6	6.27	0.92	51	
0908	Dry		-	-	-	-	-	
1118			Cloudy	11.9	7.11	.914	230	
			Well ran dry after second purge. Letting well recharge for a while. Will attempt later.					

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-14**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 2 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/25/01 0800	Completion Date/Time: 01/25/01 0930	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 28.5	Protection Level: D
Pre-development DTW (bgs) (ft): 28.5	DTB (bgs) (ft): 37.05	
Post-development DTW (bgs) (ft): 29		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 3.97 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 11.9 gallons – 4.5 gallons = 7.4 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 0.5	Specific Capacity (gpm/ft):	
Total Quantity Purged: 1 gallon in addition to 4.5 gallons (01/24/01)		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.45		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0835	Int	29.0	Cloudy Gray	8.1	6.13	.900	482	
0900	1	29.0	Cloudy Gray	16.1	7.15	.772	299	Ran dry

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-14**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 3 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/26/01 0800	Completion Date/Time: 01/26/01 0900	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 22.35	Protection Level: D
Pre-development DTW (bgs) (ft): 22.35	DTB (bgs) (ft): 37.05	
Post-development DTW (bgs) (ft): 35		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 3.97 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 7.4 gallons – 1 gallon = 6.4 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 12.65	Specific Capacity (gpm/ft):	
Total Quantity Purged: 4 gallons in addition to 5.5 gallons previously removed		
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 0.5		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0835	Int	22.4	Cloudy	11.4	6.27	.822	79	
0834	1.5	30.0	Cloudy	15.7	6.61	.794	150	
0838	3.0	32.10	Cloudy	16.0	7.03	.790	208	Ran dry
0845	4.0	35.0	Cloudy	13.9	7.42	.756	357	Ran dry

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-14**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Sears	Page 4 of 4
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/29/01 0800	Completion Date/Time: 01/29/01 0930	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 23.35	Protection Level: D
Pre-development DTW (bgs) (ft): 23.35	DTB (bgs) (ft): 37.05	
Post-development DTW (bgs) (ft): 28.95		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 3.97 gallons (from first development day.)		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 6.4 gallons – 4 gallons = 2.4 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 6.25	Specific Capacity (gpm/ft):	
Total Quantity Purged: 2 gallons in addition to 9.5 gallons previously removed	COMPLETED: 11.5 gallons total	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
0830	Int	23.8	Cloudy	10.7	6.84	.619	763	
0848	1	27.85	Cloudy	11.6	7.04	.577	18	
0918	2	29.60	Cloudy	9.2	7.25	.592	2	Completed well

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-15**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/20/00 1015	Completion Date/Time: 12/20/00 1130	Well Diameter: 2
Development Method/Equipment: Groundwater withdrawal via purge pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 14.1	Protection Level: D
Pre-development DTW (bgs) (ft): 14.1	DTB (bgs) (ft): 31.7	
Post-development DTW (bgs) (ft): 14.1		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 2.89		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 8.7 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): Dry	Specific Capacity (gpm/ft):	
Total Quantity Purged: 12 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 45 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1035	Int	13.5	Brown Murky	10.4	6.99	.532	215	
1040	1	13.6	Brown Murky	12.4	6.98	.540	114	
1045	2	13.6	Clear	12.4	7.07	.535	20	
1048	3	13.5	Clear	12.8	6.95	.533	26	
1055	6	13.5	Clear	12.2	7.03	.518	2	
1105	9	13.5	Clear	12.2	7.06	.524	1	
1115	12	13.5	Clear	12.2	7.06	.521	1	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-16**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 01/03/01 1020	Completion Date/Time: 01/03/01 1130	Well Diameter: 2
Development Method/Equipment: Groundwater withdrawal via whale pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 11.7	Protection Level: D
Pre-development DTW (bgs) (ft): 11.7	DTB (bgs) (ft): 31.4	
Post-development DTW (bgs) (ft): 11.9		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 3.23		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 10 gallons		
Development Purge/Discharge Rate (gpm):		
Maximum Drawdown During Purging (ft): 5.2	Specific Capacity (gpm/ft):	
Total Quantity Purged: 13 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development:		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1053	Int	11.8	Brown	10.5	6.25	1.10	244	
1100	3.25	16.1	Brown	13.7	6.57	1.04	181	
1106	6.50	16.7	Clear	13.8	6.63	0.97	13	
1110	9.75	16.8	Clear	13.9	6.63	0.97	6	
1115	13.00	16.9	Clear	14.4	6.64	0.97	2	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

WELL DEVELOPMENT LOG STONE & WEBSTER ENGINEERING CORP.		**WELL NO. BRMW-17**
PROJECT: Maywood FUSRAP Superfund Site GWRI	SITE: Stepan	Page 1 of 1
Project No: 03674-013	Client: Stone & Webster Engineering Corporation	
Contractor: Malcolm Pirnie, Inc.		Ground Elevation:
Start Date/Time: 12/20/00 1315	Completion Date/Time: 12/20/00 1435	Well Diameter: 2”
Development Method/Equipment: Groundwater withdrawal via purge pump, parameters measured with Horiba U-10		
Logged by: K. S. Hayes	Water Level (ft bgs): 7.7	Protection Level: D
Pre-development DTW (bgs) (ft): 7.7	DTB (bgs) (ft): 37.1	
Post-development DTW (bgs) (ft): 10.8		
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3		
(2-inch well = 0.164 x (DTB-DTW)(ft)) = 4.82		
(4-inch well = 0.6528 x (DTB-DTW)(ft)) = N/A		
Minimum Purge Volume (gal) (3 well volumes) = 14.50 gallons		
Development Purge/Discharge Rate (gpm): 6.0		
Maximum Drawdown During Purging (ft): 3.3	Specific Capacity (gpm/ft):	
Total Quantity Purged: 20 gallons	COMPLETED	
Disposition of Purge Water: Drummed and transferred to FRAC tank on MISS.		
Hours of Development: 35 minutes		
Hours of Decon:		
Hours of Standby:		

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1345	Int	7.7	Brown	14.1	6.69	.575	999	
1348	5	11.0	Murky	14.5	6.84	.576	330	
1355	10	10.8	Clear	15.2	6.79	.575	50	
1400	15	10.8	Clear	14.8	6.87	.574	25	
1405	20	10.8	Clear	15.2	6.86	.579	17	

Notes: = be
BGS = below ground surface D = well diameter D (1-inch well) = 0.041 feet D (8-inch well) = 2.611 feet
PVC = below top of PVC DTB = depth to bottom of well D (2-inch well) = 0.167 feet D (12-inch well) = 5.875 feet
DTW = depth to water GPM = gallons per minute D (4-inch well) = 0.653 feet

FUSRAP
Maywood Superfund Site



Groundwater Remedial Investigation Report

Volume 8
Appendices M through S

Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:

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Prepared for:

US Army Corps
of Engineers®

Contract No. DACW41-99-D-9001

July 2005, Revision 4

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APPENDIX M
WELL INTEGRITY SURVEY

Monitoring Well Integrity Survey

FUSRAP Maywood Superfund Site

Prepared by:
Malcolm Pirnie, Inc.

For:
Stone & Webster Environmental Technology & Services

April 2000

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1.0 INTRODUCTION

The monitoring well integrity survey was conducted to verify the integrity of 41 existing monitoring wells located in figures 8-1A, 8-1B, and 8-1C of the Ground Water Remedial Investigation Work Plan (GWRIWP) (Stone and Webster, 1999). This process involved several tasks as described below:

- Photo of each well was taken for documentation,
- The protective casings (i.e., stickup or flushmounts) were inspected for signs of damage;
- The condition of the monitoring well locks were verified;
- The condition of the monitoring well caps were inspected;
- The monitoring wells were sounded with the water level meter probe to determine the total depth of each well and if there was a buildup of silt and sediment or other obstruction(s). The depth measured was compared to the well construction information to determine how much sediment had deposited in the well.
- In-situ permeability tests (slug tests) were performed on 10 wells to determine the hydraulic connection between the monitoring wells and the formation. The results were then compared to historical results to assess if the monitoring well(s) needed to be redeveloped.
- Damaged monitoring wells were identified and the type of repair necessary to re-establish integrity has been provided in this report.

2.0 METHODOLOGY

The monitoring well integrity check consisted of two parts. The first part involved a site visit to the well to take a picture of the well and observe the general condition of the well (Appendix A). The condition of the outer casing, outer cap and padlock, cement pad, inner cap and padlock was documented on monitoring well integrity forms (Appendix B). In addition, water level measurements were obtained and the total depth of each well was determined by allowing the probe to go down the well to the greatest depth possible and taking a measurement.

Observations such as damaged protective outer casings and discrepancies in construction (i.e., log of the initial depth compared to the actual measured total depth) were used to evaluate which wells would be slug tested. The monitoring well construction logs are provided in Appendix C.

The second part of the monitoring well integrity survey consisted of the performance of slug tests on 10 selected wells. Both rising head and falling head tests were performed since the water level was above the well screen at each location. A pressure transducer and data logger were used to record the water level inside the well. A slug, consisting of a sand-filled PVC pipe, was lowered into the water column causing the water level to rise. The subsequent fall back to the equilibrium level was measured (falling head test). Once the equilibrium water level was re-established, the slug was removed from the water column causing the water level to drop. The subsequent rise of the water level back to equilibrium was measured (rising head test). The raw data and graphs of time versus displacement are provided in Appendix D.

3.0 RESULTS

Of the 41 monitoring wells documented in the GWRIWP, only 35 were located. The six wells that were not located are: MISS-1A, MISS-6B, MISS-5A-1, B38W3B1, B38W3A, and B38W17. The first part of the integrity survey has been completed on 30 of the 35 located monitoring wells. Access has not yet been granted to inspect the remaining five monitoring wells. The monitoring well integrity is summarized in Table 1.

Table 1. Monitoring Well Integrity Summary Table

Well ID	Integrity Sheet Complete	Observations	Photo Identification Log
MISS-1AA	YES	No inner well cap present, concrete pad contains some cracks	Figure 1
MISS-1B	YES	No inner well cap present, construction log indicates a total depth of 21.15 feet and the well was actually measured at 54.8 feet	Figure 1
MISS-2A	YES	No inner well cap present	Figure 2
MISS-2B	YES	No inner well cap present, very sticky bottom	Figure 3
MISS-3A	YES	No inner well cap, PVC loose	Figure 4
MISS-3B	YES	No inner well cap present, outer casing bent near outer cap and padlock, very sticky bottom	Figure 4
MISS-4A	YES	No inner well cap present	Figure 5
MISS-4B	YES	Inner well cap present, poor seal and no in lock was present	Figure 5
MISS-5A	YES	No inner cap present	Figure 6
MISS-5B	YES	No inner cap present	Figure 6
MISS-6A	YES	Stick up and entire outer casing removable. Outer casing and inner PVC are broken near concrete pad	Figure 7
MISS-7A	YES	No inner well cap present	Figure 8
MISS-7B	YES	No inner well cap present	Figure 8
B38W01S	YES	No inner well cap, padlock is rusty/poor condition	Figure 9
B38W02D	YES	Well was in good condition	Figure 9
B38W03B	YES	Concrete pad is cracked and separated from steel casing	Figure 10
B38W04B	YES	Well was in good condition	Figure 10
B38W05B	YES	Well was in good condition	Figure 11
B38W06B	NO	In a hazardous waste area	No picture taken

B38W07B	YES	Well was in good condition	Figure 11

Table 1. Monitoring Well Integrity Summary Table

Well ID	Integrity Sheet Complete	Observations	Photo Identification Log
B38W12A	YES	Well was in good condition	Figure 12
B38W12B	YES	Concrete pad has several large cracks radiating from protective steel	Figure 12
B38W14S	NO	No access	No picture taken
B38W14D	NO	No access	No picture taken
B38W15S	NO	No access	No picture taken
B38W15D	NO	No access	No picture taken
B38W17A	YES	Well was in good condition	Figure 13
B38W17B	YES	Bottom feels very sticky	Figure 13
B38W18D	YES	Construction log identifies this well as a stick up however it is a flushmont, no inner cap or padlock	Figure 14
B38W19S	YES	Well was in good condition	Figure 15
B38W19D	YES	No inner well cap present	Figure 15
B38W24S	YES	Poor seal on inner well cap	Figure 16
B38W24D	YES	Well was in good condition	Figure 17
B38W25S	YES	Inner cap present but has poor seal and no lock	Figure 18
B38W25D	YES	No inner cap present	Figure 19

Ten of the thirty wells upon which integrity sheets were completed, were chosen for slug testing to further evaluate the integrity of the wells. The wells and the reasoning for testing each well are summarized in Table 2. The raw slug test data and graphed data can be viewed in Appendix D.

Table 2. Slug Test Summary Table

Well ID	Slug Test Completed	Reason for slug test
MISS-1B	YES	construction log indicates a total depth of 21.15 feet and the well was actually measured at 54.8 feet

MISS-2B	YES	Bottom felt very sticky, and the construction log indicates a total depth of 56.7 feet and the well was actually measured at 53.82 feet
MISS-3B	YES	Possible sediment buildup and the construction log indicates a depth of 51.5 feet and the well was measured at 40.62 feet
MISS-6A	YES	Because the steel outer casing and inner PVC were broken off at the base of the concrete pad
MISS-7B	YES	MISS-7A was originally chosen, however it did not contain enough water to make the test valid
B38W02D	YES	geographic spread
B38W07B	YES	geographic spread
B38W12A	YES	geographic spread
B38W17A	YES	This well was also done because the results from B38W17B were not conclusive
B38W17B	YES	construction log indicates a depth of 47.1 feet and the well was actually measured at 21.36 feet

4.0 CONCLUSIONS

Of the 41 well thought to exist, ONLY 35 were located. The monitoring well check was complete on 30 of the 35 located wells. Five wells were not checked due to lack of access to the site. There are 3 wells that potentially require redevelopment, one well that needs a new stickup or to be made into a flushmount, 19 wells need new well caps, three wells need new well cap locks, and two wells need new concrete pads.

5.0 RECOMMENDATIONS

Upon completion of the monitoring well integrity study several recommendations are provided. These recommendations are summarized in Table 3.

Table 3. Recommended Action

Well ID	Recommendations
MISS-1AA	Replace well cap
MISS-1B	Replace well cap, redevelop well
MISS-2A	Replace well cap
MISS-2b	Replace well cap, redevelop well
MISS-3A	Replace well cap
MISS-3b	Replace well cap, redevelop well
MISS-4A	Replace well cap
MISS-4B	Replace well cap
MISS-5A	Replace well cap
MISS-5B	Replace well cap
MISS-6A	Replace stick up or make into a flushmout, replace well cap
MISS-7A	Replace well cap
MISS-7B	Replace well cap
B38W01S	Replace well cap and padlock
B38W02D	No action required
B38W03B	Replace concrete pad
B38W04B	No action required
B38W05B	No action required
B38W06B	No action required
B38W07B	No action required
B38W12A	No action required
B38W12B	Replace concrete pad
B38W14S	No action required
B38W14D	No action required
B38W15S	No action required
B38W15D	No action required
B38W17A	No action required
B38W17B	No action required
B38W18D	Replace well cap and lock
B38W19S	No action required
B38W19D	Replace well cap
B38W24S	Replace well cap
B38W24D	No action required
B38W25S	Replace well cap and lock
B38W25D	Replace well cap

APPENDIX A

MONITORING WELL PHOTOGRAPHS



PHOTO NO. 1 - MONITORING WELL NO. MISS-1AA



PHOTO NO. 2 - MONITORING WELL NO. MISS-1B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 1



PHOTO NO. 3 - MONITORING WELL NO. MISS-2A



PHOTO NO. 4 - MONITORING WELL NO. MISS-2A

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 2



PHOTO NO. 5 - MONITORING WELL NO. MISS-2B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 3



PHOTO NO. 6 - MONITORING WELL NO. MISS - 3A



PHOTO NO. 7 - MONITORING WELL NO. MISS - 3B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 4



PHOTO NO. 8 - MONITORING WELL NO. MISS - 4A



PHOTO NO. 9 - MONITORING WELL NO. MISS - 4B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 5



PHOTO NO. 10 - MONITORING WELL NO. MISS-5A



PHOTO NO. 11 - MONITORING WELL NO. MISS-5B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 6



PHOTO NO. 12 - MONITORING WELL NO. MISS-6A



PHOTO NO. 13 - MONITORING WELL NO. MISS-6A

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 7



PHOTO NO. 14 - MONITORING WELL NO. MISS-7A



PHOTO NO. 15 - MONITORING WELL NO. MISS-7B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 8



PHOTO NO. 16 - MONITORING WELL NO. B38W01S



PHOTO NO. 17 - MONITORING WELL NO. B38W02D



PHOTO NO. 18 - MONITORING WELL NO. B38W03B



PHOTO NO. 19 - MONITORING WELL NO. B38W04B



PJHOTO NO. 20 - MONITORING WELL NO.B38W05B



PHOTO NO. 21 - MONITORING WELL NO. B38W07B



PHOTO NO. 22 - MONITORING WELL NO. B38W12A



PHOTO NO. 23 - MONITORING WELL NO. B38W12B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 12



PHOTO NO. 24 - MONITORING WELL NO. B38W17A



PHOTO NO. 25 - MONITORING WELL NO. B38W17B

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 13



PHOTO NO. 26 - MONITORING WELL NO. B38W18D



PHOTO NO. 27 - MONITORING WELL NO. B38W18D



PHOTO NO. 28 - MONITORING WELL NO. B38W19D



PHOTO NO. 29 - MONITORING WELL NO. B38W119S



PHOTO NO. 30 - MONITORING WELL NO. B38W24S



PHOTO NO. 31 - MONITORING WELL NO. B38W24S



PHOTO NO. 32 - MONITORING WELL NO. B38W24D



PHOTO NO. 33 - MONITORING WELL NO. B38W24D

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 17



PHOTO NO. 34 - MONITORING WELL NO. B38W25D



PHOTO NO. 35 - MONITORING WELL NO. B38W25D



PHOTO NO. 35 - MONITORING WELL NO. B38W25S

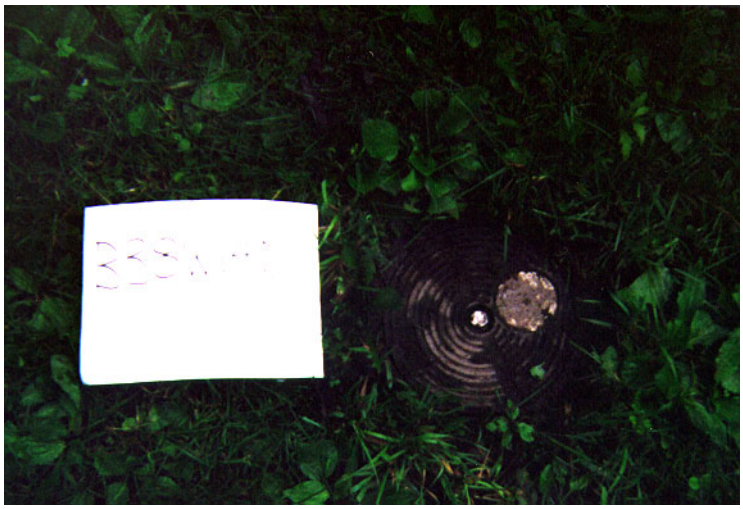


PHOTO NO. 36 - MONITORING WELL NO. B38W14D



PHOTO NO. 37 - MONITORING WELL NO. B38W14D

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 19



PHOTO NO. 38 - MONITORING WELL NO. B38W14S



PHOTO NO. 39 - MONITORING WELL NO. B38W14S



PHOTO NO. 40 - MONITORING WELL NO. B38W15D



PHOTO NO. 41 - MONITORING WELL NO. B38W15D



PHOTO NO. 42 - MONITORING WELL NO. B38W15S



PHOTO NO. 43 - MONITORING WELL NO. B38W15S

APPENDIX B

MONITORING WELL INTEGRITY FORMS

MONITORING WELL INTEGRITY CHECKLIST

WELL ID Miss-1AA

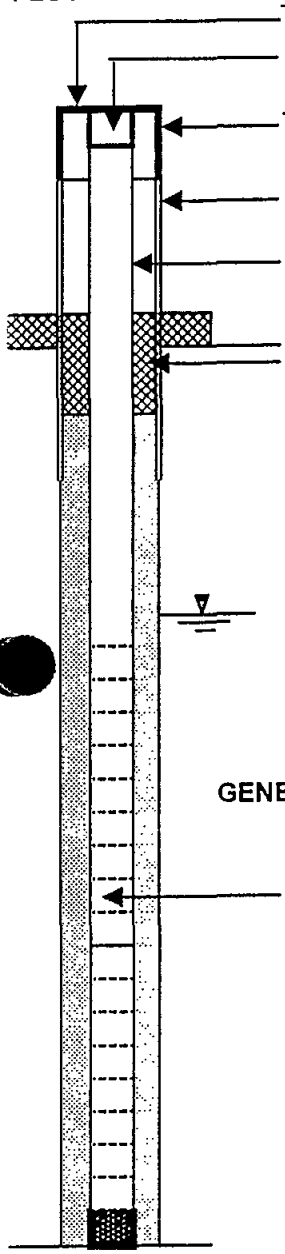
PROJECT Maywood GW

DATE 2-23-00

INSPECTOR Julie Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 2.4 624' ftmsl

INTERIOR COMPRESSION CAP - no well cap.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 2.4'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2 in / stainless steel

SURFACE EL. (if known) - 60 FTMSL

CONCRETE PAD - some cracks.
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 15.47' 2/24/00 2:25

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 7/30/92

DRILLING METHOD :

SCREEN SIZE : 0.02"

SCREEN LENGTH : 5.0'

SAND PACK HEIGHT: 11.5'

BENTONITE SEAL: 4.5'

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) : OVB, UNCF

TOTAL DEPTH OF WELL - 21.2'
(bottom of sump) 21.3

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Plastic tubing removed, allowed to attenuate before sampling.

bottom hard.

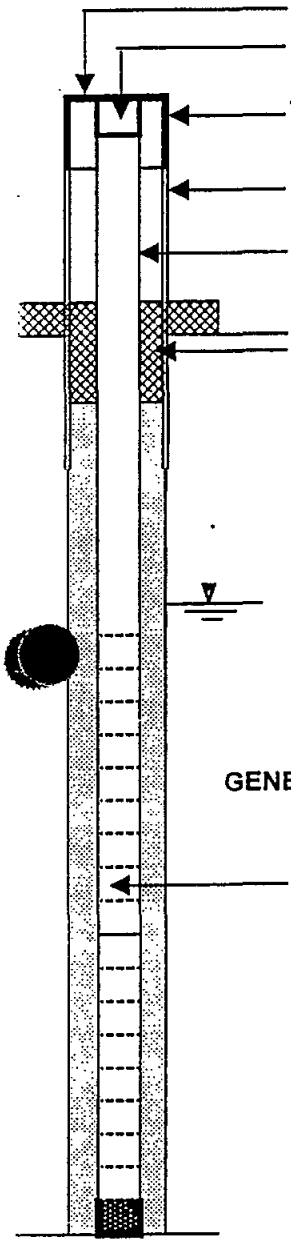
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL
[illegible]EGRITY CHECKLIST
[illegible]ELL ID Miss 1B

PROJECT Maywood GW
DATE 2-23-00
INSPECTOR Julie Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) 62.3'
INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) no cap - bladder pump
EXTERIOR CAP &PAD LOCK - good condition
PROTECTIVE CASING - (stick-up height) 2.1'
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 4in/steel
SURFACE EL. (if known) - 60.1'
CONCRETE PAD - (cracks, separation from casing, erosion etc.) good condition
GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 14.2' 2/24/00 2:15
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 11/6/84
DRILLING METHOD :
SCREEN SIZE : None open hole in bedrock
SCREEN LENGTH : 30.5'
SAND PACK HEIGHT: 37.1' El (?)
BENTONITE SEAL: not noted
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock.

TOTAL DEPTH OF WELL - (bottom of sump) 21.15' 54.8

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

- bladder Pump removed, well allowed to [illegible]
before [illegible]

- hard bottom.

- based on construction log + monitoring well as builts measured well total depth should be deeper.

drock, not deep enough.

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID Miss-2A

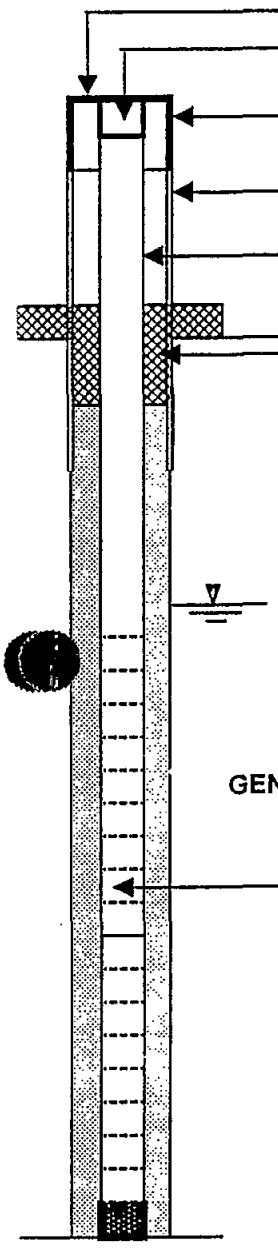
PROJECT Maywood GW

DATE 2-23-00

INSPECTOR Duke Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** x



TOP OF CASING EL. (if known) - 61.9 Ftmsl

INTERIOR COMPRESSION CAP - no cap - bladder pump.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 61.8 ftmsl
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in. PVC

SURFACE EL. (if known) - 59.7 ftmsl

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 6.52'

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10-29-84

DRILLING METHOD :

SCREEN SIZE : Slotted schedule 40 PVC

SCREEN LENGTH : 10'

SAND PACK HEIGHT: 54.7'

BENTONITE SEAL: 55.7'

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) : overburden

TOTAL DEPTH OF WELL - 20.19'
(bottom of sump) 21.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

bladder Pump removed, allowed to acclimate before water level taken.

hard bottom

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID Miss-2B

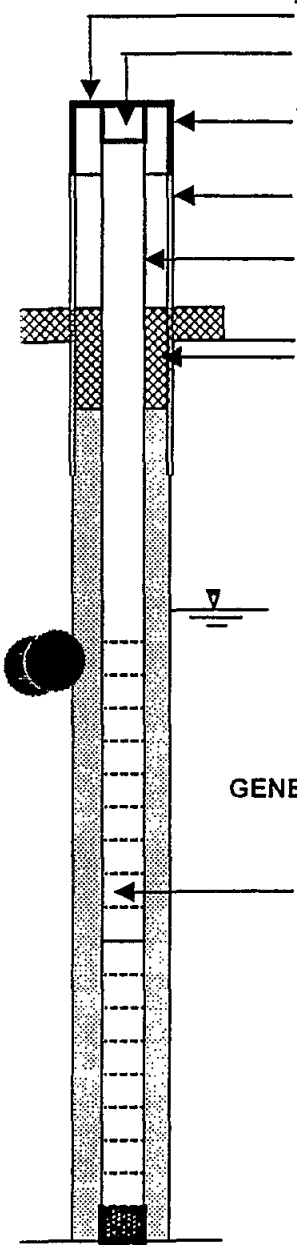
PROJECT Maywood GW

DATE 2-23-00

INSPECTOR Julie Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



- TOP OF CASING EL. (if known) - 61.8'
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) - no cap - bladder pump.
- EXTERIOR CAP &PAD LOCK - good condition
- PROTECTIVE CASING - (stick-up height) - 1.6'
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 4" / Steel conductor casing rusted.
- SURFACE EL. (if known) - 60.1'
- CONCRETE PAD - no concrete pad - gravel (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 10.34' 2/24/00 2:10 pm
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE : 10/29/84
- DRILLING METHOD :
- SCREEN SIZE : none, open hole in bedrock
- SCREEN LENGTH : 7'
- SAND PACK HEIGHT: 31.7'
- BENTONITE SEAL: not noted
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) : bedrock.
- TOTAL DEPTH OF WELL - (bottom of sump) 53.82' 56.7'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

bladder pump removed, allowed to attenuate before water level taken.

very sticky bottom

rock, Miss, silt

PHOTOGRAPH MUST BE ATTACHED

)RING WELL
Y CHECKLIST
Miss-3A

PROJECT Maywood GW
DATE 2/24/00
INSPECTOR J Lincoln

E THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

IOUNT **STICK-UP** X

TOP OF CASING EL. (if known) 58.6'

INTERIOR COMPRESSION CAP - no interior cap - pvc loose
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 2.4'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" / schedule 40 PVC

SURFACE EL. (if known) - 56.2'

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 7.15' 2/24/00 3:35

ANY OBSERVED OBSTRUCTION - good.

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10/25/84
DRILLING METHOD :
SCREEN SIZE : slotted schedule 40 PVC
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 10'
BENTONITE SEAL: 1.0'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : overburden

TOTAL DEPTH OF WELL - 11.87
bottom of sump 15.0'

COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
inner PVC loose. nothing in well
hard bottom

, geographic location

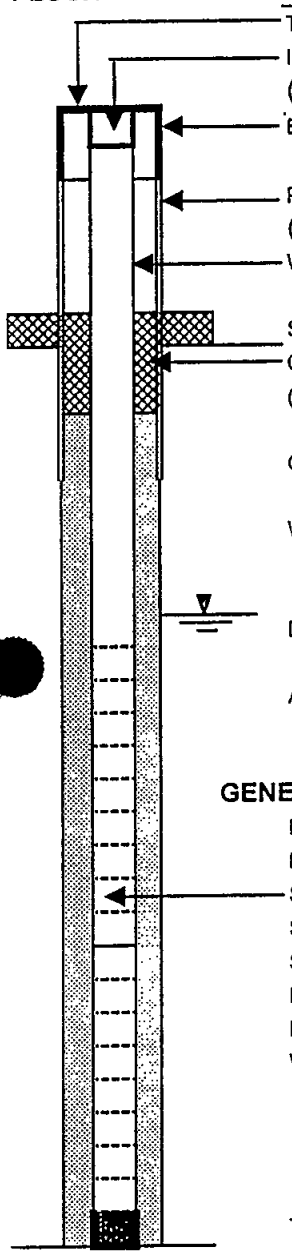
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID Miss-3B

PROJECT Maywood G.W.
DATE 2/24/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 58.0'

INTERIOR COMPRESSION CAP - present no lock, poor seal
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - Outer casing is bent. lock is fine.

PROTECTIVE CASING - 2.0'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 4in/steel conductor casing.

SURFACE EL. (if known) - 56.2'

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - outer casing bent but generally good.

WELL ALIGNMENT (if observable) - good

DEPTH TO WATER - 8.16'

ANY OBSERVED OBSTRUCTION - _____

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10/25/84
DRILLING METHOD : _____
SCREEN SIZE : None. Open hole in bedrock
SCREEN LENGTH : 30'
SAND PACK HEIGHT: 30'
BENTONITE SEAL: Not noted
HYDRAULIC CONDUCTIVITY : _____
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 40.62'
bottom of sump 51.5'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

bottom of the well feel very sticky. black silty type material came out of well on measuring tape and probe.

it, bedrock.

PHOTOGRAPH MUST BE ATTACHED

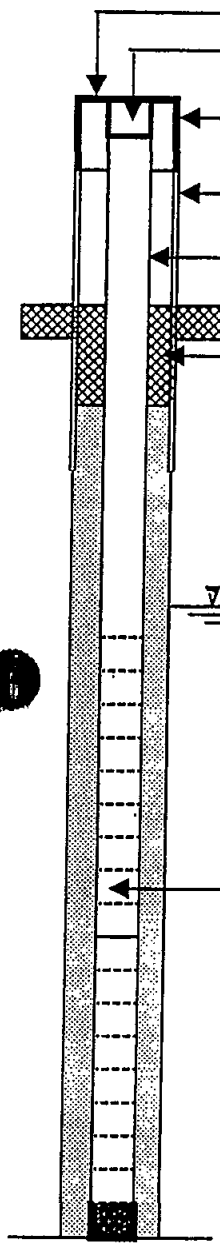
MONITORING WELL INTEGRITY CHECKLIST

WELL ID Miss-4A

PROJECT Maywood GW
DATE 2/24/00
INSPECTOR JLincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 57.2'

INTERIOR COMPRESSION CAP - No cap present
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 2.2'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2 inch PVC.

SURFACE EL. (if known) - 55.0'

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) - good

DEPTH TO WATER - 7.05'

ANY OBSERVED OBSTRUCTION - _____

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10/26/84
DRILLING METHOD : _____
SCREEN SIZE : Slotted schedule 40 PVC, 0.02"
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 6.2'
BENTONITE SEAL: 0.8'
HYDRAULIC CONDUCTIVITY : _____
WELL TYPE (overburden, bedrock) : overburden.

TOTAL DEPTH OF WELL - 11.7'
bottom of sump 12.1'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

_____

_____

_____

_____

_____

_____

_____

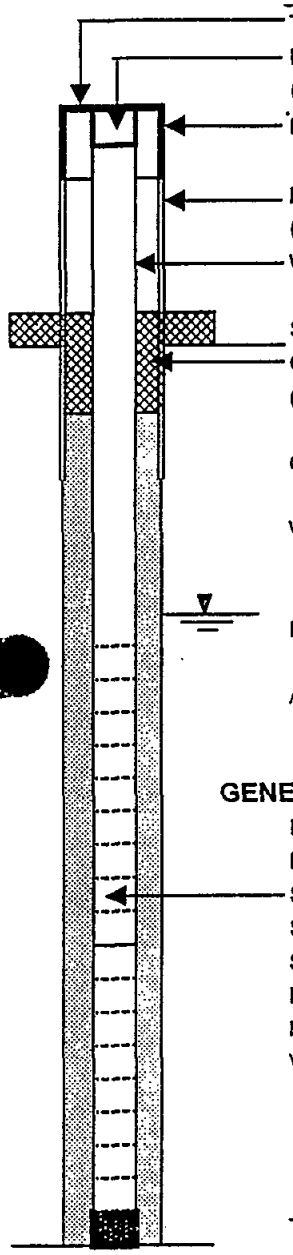
/ ***PHOTOGRAPH MUST BE ATTACHED***

MONITORING WELL INTEGRITY CHECKLIST
WELL ID Miss-4B

PROJECT Maywood GW
DATE 2/22/00
INSPECTOR JLincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 56.8'

INTERIOR COMPRESSION CAP - present, not look, very poor seal
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 1.5'
(stick-up height) -

WELL DIAMETER & MATERIAL (e.g. PVC,.SS etc.) - 4in / steel rusty

SURFACE EL. (if known) - 55.3'

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) - good

DEPTH TO WATER - 9.81

ANY OBSERVED OBSTRUCTION - _____

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10/26/84
DRILLING METHOD : _____
SCREEN SIZE : None, open hole
SCREEN LENGTH : 30'
SAND PACK HEIGHT: 30'
BENTONITE SEAL: not noted
HYDRAULIC CONDUCTIVITY : _____
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 47.48'
bottom of sump 48.1'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

bottom slightly sticky

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID Miss-5A

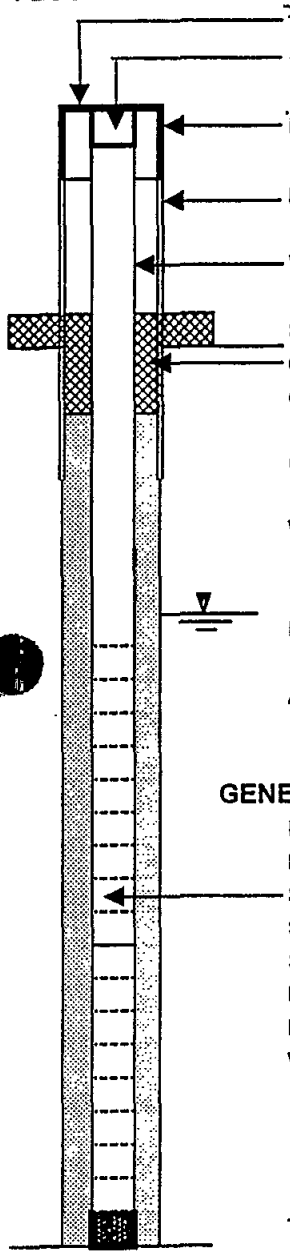
PROJECT Maywood GW

DATE 2/24/00

INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 58.9'

INTERIOR COMPRESSION CAP - no interior cap.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 1.5'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in / PVC

SURFACE EL. (if known) - 57.4'

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 11.65' 2/24/00 3:05

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 11/1/84

DRILLING METHOD :

SCREEN SIZE : Slotted schedule 40 PVC

SCREEN LENGTH : 3.9'

SAND PACK HEIGHT: 5.0'

BENTONITE SEAL: 2.0'

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) : overburden

TOTAL DEPTH OF WELL - 15.79' (H.D.)
bottom of Sump

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

plastic tubing removed allowed to attenuate

PHOTOGRAPH MUST BE ATTACHED

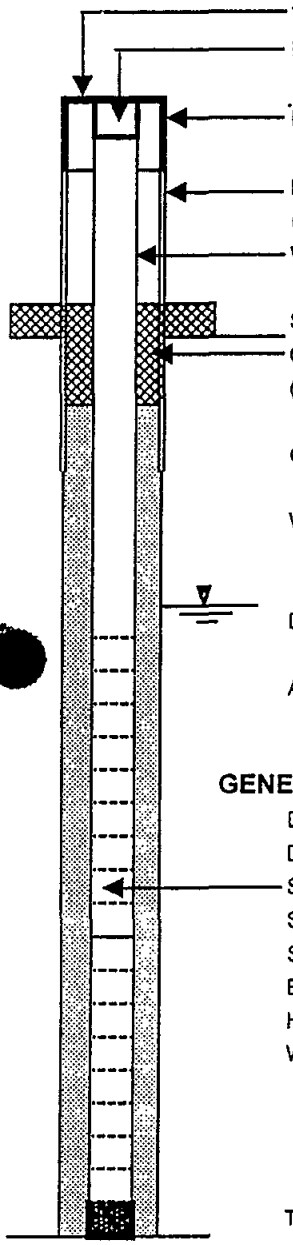
MONITORING WELL INTEGRITY CHECKLIST

WELL ID Miss-SB

PROJECT Maywood GW
DATE 2/24/00
INSPECTOR Jkinsella

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



- TOP OF CASING EL. (if known) - 59.8'
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) - none - bladder pump removed.
- EXTERIOR CAP &PAD LOCK - good condition
- PROTECTIVE CASING - (stick-up height) - 2.4'
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 4in / steel
- SURFACE EL. (if known) - 57.4'
- CONCRETE PAD - (cracks, separation from casing, erosion etc.) - good condition
- GENERAL SURFACE CONDTIONS - good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 14.78' 2/24/00 2:58pm
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE : 11/2/84
- DRILLING METHOD :
- SCREEN SIZE : None, open hole in bedrock
- SCREEN LENGTH : 30.0'
- SAND PACK HEIGHT: 30.0'
- BENTONITE SEAL: not noted.
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 57.13'
bottom of sump 57.3'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

4in inner steel casing very rusty, sticky.

PHOTOGRAPH MUST BE ATTACHED

ONITORING WELL
TEGRITY CHECKLIST

ID Miss-16A

PROJECT Maywood GW
DATE 2/24/00
INSPECTOR JLincoln

SCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

JSH MOUNT

STICK-UP X

TOP OF CASING EL. (if known) 58.4'

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) no interior cap.

EXTERIOR CAP &PAD LOCK - poor - stick-up outer casing completely removeable (see pictures)

PROTECTIVE CASING - (stick-up height) 1.8'

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2"/Schedule 40 PVC

SURFACE EL. (if known) - 56.6'

CONCRETE PAD - (cracks, separation from casing, erosion etc.) good condition

GENERAL SURFACE CONDTIONS - poor

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 8.63' 2/24/00 3:57pm

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 10/30/84
DRILLING METHOD :
SCREEN SIZE : Slotted Schedule 40 PVC 0.02 in.
SCREEN LENGTH : 5.8'
SAND PACK HEIGHT: 11.0'
BENTONITE SEAL: 1.0'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : overburden

TOTAL DEPTH OF WELL - bottom of sump 15.48' 16.8'

RY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

lastic tubing removed from well and archived next to well, well allowed
o attenuate before water level measurement taken.

nner PVC stickup removeable to 2.5" depth inside 4" steel casing.

bottom
& B abandon

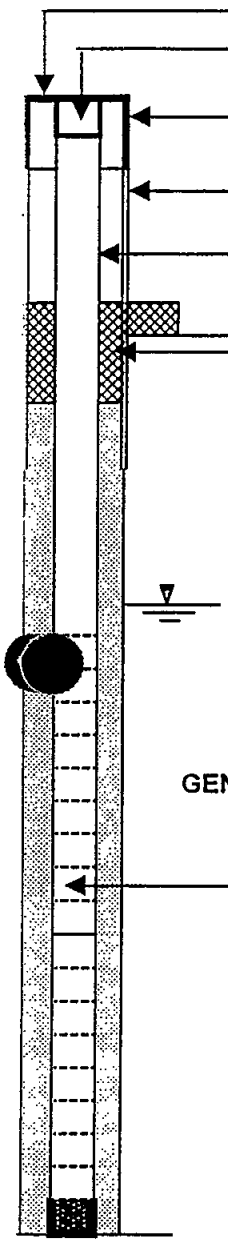
oring broke off
den.

PHOTOGRAPH MUST BE ATTACHED

)NITORING WELL
[illegible]RITY CHECKLIST
[illegible]ID Miss-7A

PROJECT Maywood GW
DATE 2/23/00
INSPECTOR J Lincoln

SCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:



JSH MOUNT _____ STICK-UP X

TOP OF CASING EL. (if known) 55.7'

INTERIOR COMPRESSION CAP - NO Cap
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - Good Condition

PROTECTIVE CASING - 2.6'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in /schedule 40 PVC

SURFACE EL. (if known) - 53.1'

CONCRETE PAD - Good Condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - Good

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 7.26' 2/24/00 2:30pm.

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 11/5/84
DRILLING METHOD :
SCREEN SIZE : slotted schedule 40 PVC
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 9.0'
BENTONITE SEAL: 0.5'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 10.65'
[illegible] of Sump 12.1'

IMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

no [illegible] plastic [illegible] removed well allows [illegible]
before [illegible] level measurement [illegible]

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID MW-7D

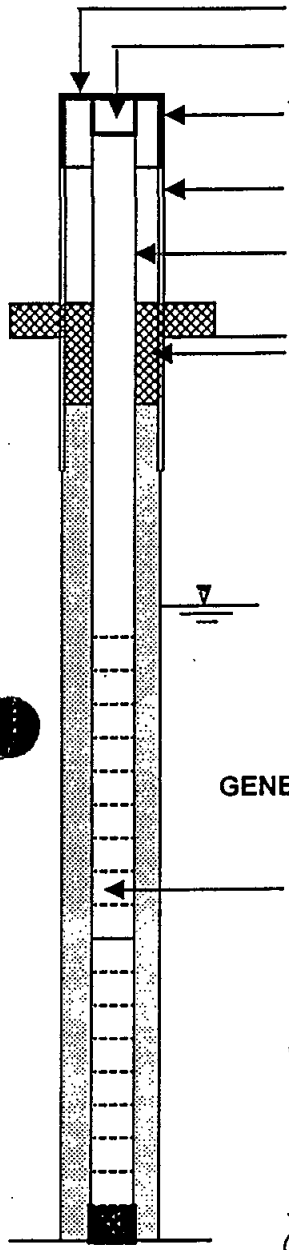
PROJECT [illegible]

DATE [illegible]

INSPECTOR [illegible]

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 55.6'

INTERIOR COMPRESSION CAP - [illegible]
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - Good Condition

PROTECTIVE CASING - 2.2'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 4in/steel conductor casing

SURFACE EL. (if known) - 53.6'

CONCRETE PAD - Good Condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - [illegible]

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 10.33' 2/24/10 2:35

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 11/6/84

DRILLING METHOD :

SCREEN SIZE : New, drive hole in bedrock

SCREEN LENGTH : 20'

SAND PACK HEIGHT: 20.0'

BENTONITE SEAL: not noted

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 50.15' 49.0
(bottom of sump) 51.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

bladder pump removed and allowed to stabilize before water level measurement taken.

-well measured to depth greater than indicated on [illegible]

PHOTOGRAPH MUST BE ATTACHED

ITORING WELL
RITY CHECKLIST

B38W15

PROJECT Maywood GW
DATE 2/22/00
INSPECTOR J Lincoln

RIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

H MOUNT **STICK-UP** X



TOP OF CASING EL. (if known) 57.2'

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - no cap / lock - rusted

PROTECTIVE CASING - (stick-up height) 2.0'

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/ Stainless steel.

SURFACE EL. (if known) - 55.2

CONCRETE PAD - 6.5' x 6.5' (cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS -

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 5.21

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 11/21/88

DRILLING METHOD :

SCREEN SIZE : 2"/316L Stainless Continuous Wrap. 0.01"

SCREEN LENGTH : 5.0'

SAND PACK HEIGHT: 9.0'

BENTONITE SEAL: 2.0'

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) : Overburden

TOTAL DEPTH OF WELL - 25.1' 25.0'

RY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

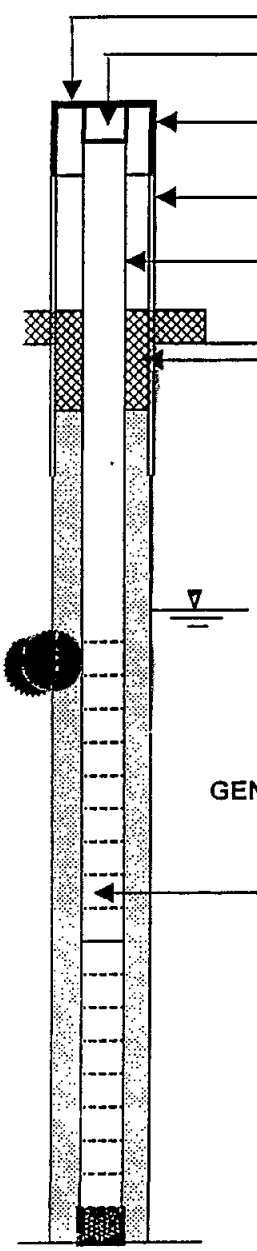
PHOTOGRAPH MUST BE ATTACHED

IONITORING WELL
GRITY CHECKLIST
LL ID B38W02D

PROJECT Maywood GW
DATE 2/22/00
INSPECTOR J Linwin

ESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

LUSH MOUNT _____ **STICK-UP** x



TOP OF CASING EL. (if known) 78.1'
INTERIOR COMPRESSION CAP - steel threaded up
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - cap good [illegible] lock [illegible] and [illegible]
PROTECTIVE CASING - 3.0'
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/Stainless steel
SURFACE EL. (if known) - 75.1'
CONCRETE PAD - x 10" steel [illegible] full [illegible] [illegible]
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - [illegible]
WELL ALIGNMENT (if observable) - [illegible]
DEPTH TO WATER - 14.27'
ANY OBSERVED OBSTRUCTION - [illegible]

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 11/9/88
DRILLING METHOD :
SCREEN SIZE : 2"/316L Stainless Continuous wrap 0.01"
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 29.5'
BENTONITE SEAL: 4.5'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 15,[illegible]'
bottom of sump 45.9'

JMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Does [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

graphic location

PHOTOGRAPH MUST BE ATTACHED

G WELL
CHECKLIST
38W03B

PROJECT Ma[illegible]
DATE 2/24/00
INSPECTOR J Lincoln

E CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

T _____ STICK-UP X

TOP OF CASING EL. (if known) _____

INTERIOR COMPRESSION CAP - PVC cap.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - _____
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/Stainless steel

SURFACE EL. (if known) - _____

CONCRETE PAD - cracked, slightly separated from pad.
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - rusty but good

WELL ALIGNMENT (if observable) - _____

DEPTH TO WATER - 8.88' 2/24/00 3:40

ANY OBSERVED OBSTRUCTION - _____

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 8/24/87
DRILLING METHOD : _____
SCREEN SIZE : 316L Stainless steel Continuous Slot 0.01"
SCREEN LENGTH : 9.7'
SAND PACK HEIGHT: 36.5'
BENTONITE SEAL: 3.0'
HYDRAULIC CONDUCTIVITY : _____
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 42.16'
bottom of sump. 41.8

NTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

.5 PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38W04B

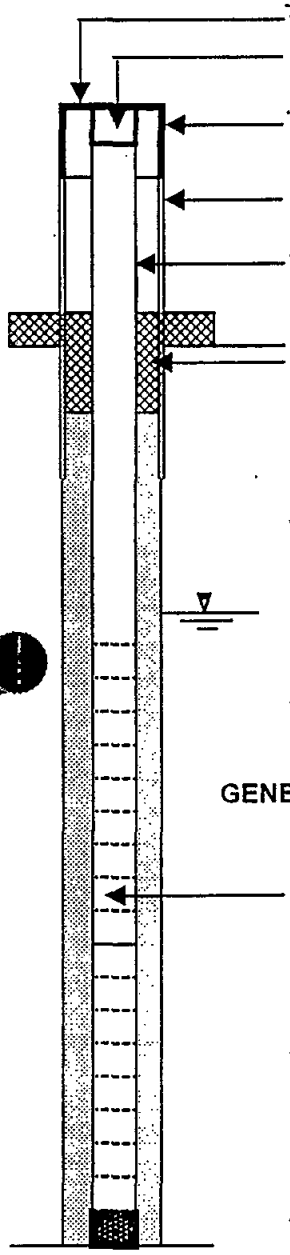
PROJECT Maywood GW

DATE 2/24/00

INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



- TOP OF CASING EL. (if known) - 65.8'
- INTERIOR COMPRESSION CAP - threaded steel cap.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - good condition
- PROTECTIVE CASING - 3.0'
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in / Stainless steel
- SURFACE EL. (if known) - 62.8'
- CONCRETE PAD - good condition
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good
- WELL ALIGNMENT (if observable) - good
- DEPTH TO WATER - 9.0'
- ANY OBSERVED OBSTRUCTION - none

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE : 9/11/87
- DRILLING METHOD :
- SCREEN SIZE : 2" / Stainless Wire Wrap. 0.01"
- SCREEN LENGTH : 5.0'
- SAND PACK HEIGHT: 26.5'
- BENTONITE SEAL: 2.5'
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 38.83'
bottom of Sump 26.5'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38WOSB

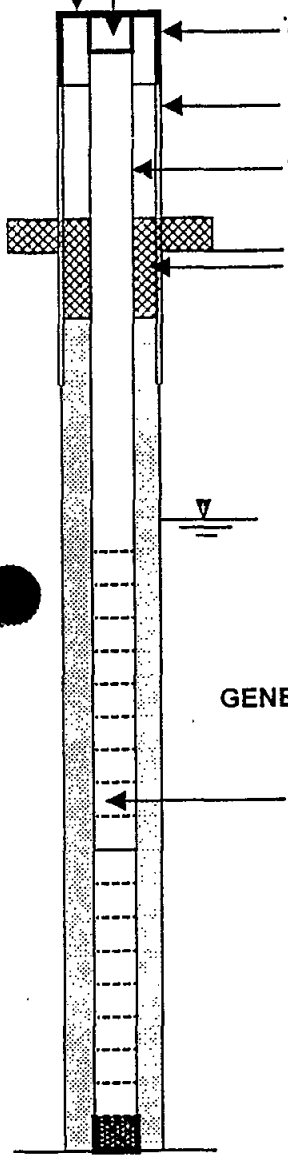
PROJECT Maywood GW

DATE 2/22/00

INSPECTOR J Linwin

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



- TOP OF CASING EL. (if known) - 71.0'
- INTERIOR COMPRESSION CAP - threaded stainless steel cap.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - good condition
- PROTECTIVE CASING - 3.0'
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" / 316L Stainless Steel
- SURFACE EL. (if known) - 68.1'
- CONCRETE PAD - cannot observe
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - Good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 10.28'
- ANY OBSERVED OBSTRUCTION - none.

Surface feature 022
video 023
integrity 025
Damplin 027
Geophysics 028
Geophysics 029
Surface Geophysics 210

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE : 9/16/87
- DRILLING METHOD :
- SCREEN SIZE : 2" 316L Stainless Continuous Slot
- SCREEN LENGTH : 18.3'
- SAND PACK HEIGHT: 30.5'
- BENTONITE SEAL: 2.0'
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 47.3'
bottom of sump 47.3

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Snow covering pad

PHOTOGRAPH MUST BE ATTACHED

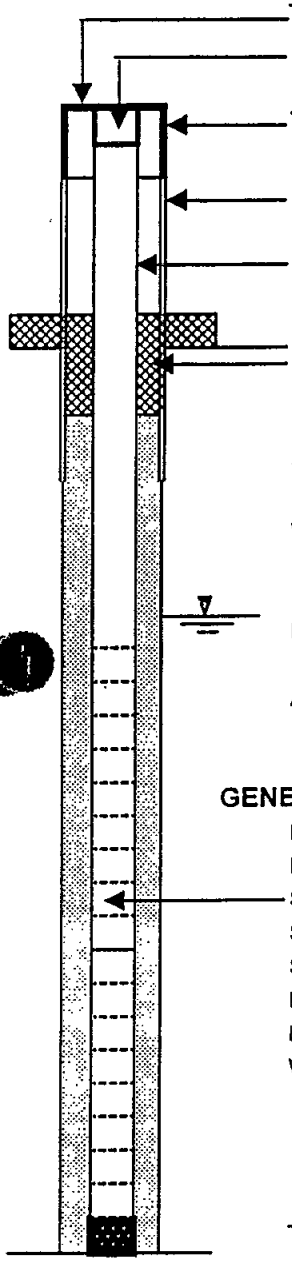
MONITORING WELL INTEGRITY CHECKLIST

WELL ID B35W07B

PROJECT Maywood GW
DATE 2/24/00
INSPECTOR J Linwin

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 52.7'

INTERIOR COMPRESSION CAP - steel threaded cap
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 3.3'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in stainless steel.

SURFACE EL. (if known) - 51.4'

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 8.94' 2/24/00 3:10 pm

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 9/22/87
DRILLING METHOD :
SCREEN SIZE : 2" / Stainless Continuous Slot
SCREEN LENGTH : 10.3'
SAND PACK HEIGHT: 27.2'
BENTONITE SEAL: 3.0'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 42.46'
bottom of sump unclear on well log.

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

elevations appear to be confused on construction logs.

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38W12A

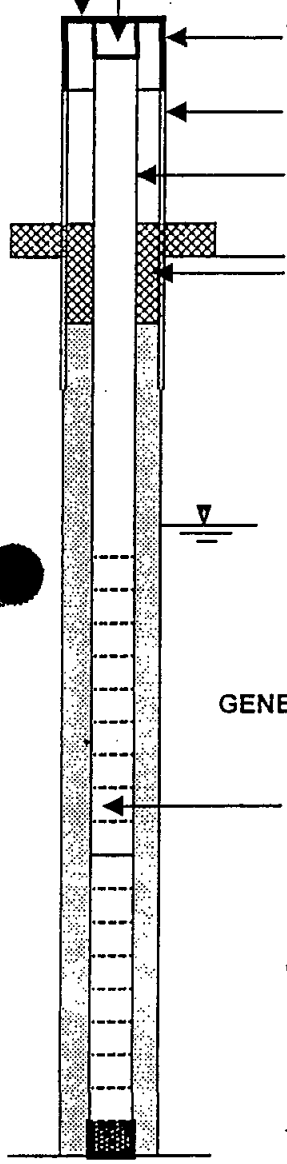
PROJECT Maywood GW

DATE 2/22/00

INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 50.2'

INTERIOR COMPRESSION CAP - stainless steel threaded cap.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 3.0'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2 inch stainless steel

SURFACE EL. (if known) - 47.2'

CONCRETE PAD - good condition
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good condition

WELL ALIGNMENT (if observable) - straight

DEPTH TO WATER - 5.31

ANY OBSERVED OBSTRUCTION - _____

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10/13/87

DRILLING METHOD : _____

SCREEN SIZE : 0.01" stainless continuous slot.

SCREEN LENGTH : 5.0'

SAND PACK HEIGHT: 10.8'

BENTONITE SEAL: 2.4'

HYDRAULIC CONDUCTIVITY : _____

WELL TYPE (overburden, bedrock) : overburden

5.26'

TOTAL DEPTH OF WELL - 17.7
bottom of sump. 17.7

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

sound bottom

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38W12B

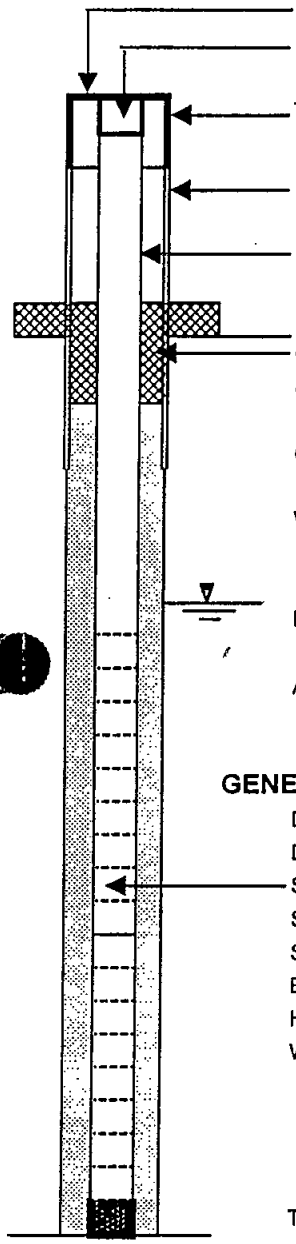
PROJECT

DATE 2/22/2000

INSPECTOR

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** x



TOP OF CASING EL. (if known) - 49.7'

INTERIOR COMPRESSION CAP - stainless steel threaded.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - 2.4'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2 inch stainless steel

SURFACE EL. (if known) - 47.3'

CONCRETE PAD - pad - poor shape
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - Concrete pad has several large cracks radiating from protective steel

WELL ALIGNMENT (if observable) - Straight

DEPTH TO WATER - 4.81

ANY OBSERVED OBSTRUCTION - None

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 10/14/87

DRILLING METHOD :

SCREEN SIZE : 0.01"

SCREEN LENGTH : 10.4'

SAND PACK HEIGHT: 26.8'

BENTONITE SEAL: 3'

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 52.2
bottom of sump. 52.6

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38W17A

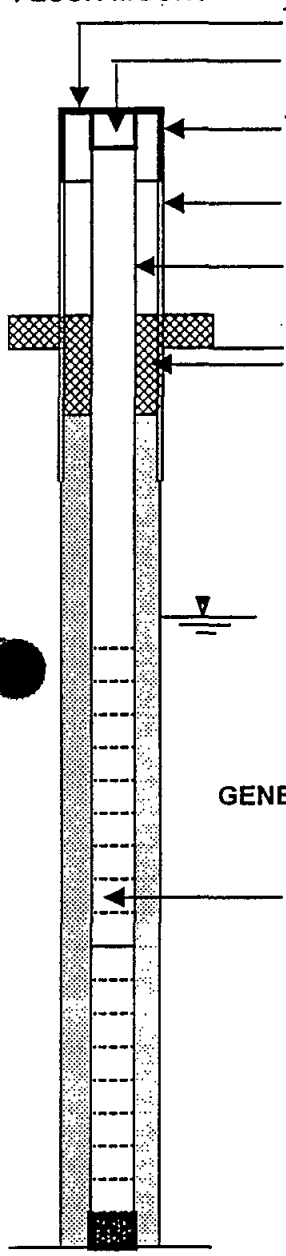
PROJECT Maywood GW

DATE 2/22/00

INSPECTOR Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) - 53.5

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) - steel threaded cap, good condition

EXTERIOR CAP &PAD LOCK - good condition

PROTECTIVE CASING - (stick-up height) - 3.0'

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/stainless steel

SURFACE EL. (if known) - 50.5'

CONCRETE PAD - 2 small cracks
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good

WELL ALIGNMENT (if observable) - good

DEPTH TO WATER - 8.18'

ANY OBSERVED OBSTRUCTION - plastic tubing in well

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10/9/87

DRILLING METHOD :

SCREEN SIZE : Stainless Continuous Slot - 0.01

SCREEN LENGTH : 5.0'

SAND PACK HEIGHT: 9.0'

BENTONITE SEAL: 2.16'

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) : overburden.

TOTAL DEPTH OF WELL - 16.65'

bottom of sump 16.7'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

plastic tube in well

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38W17B

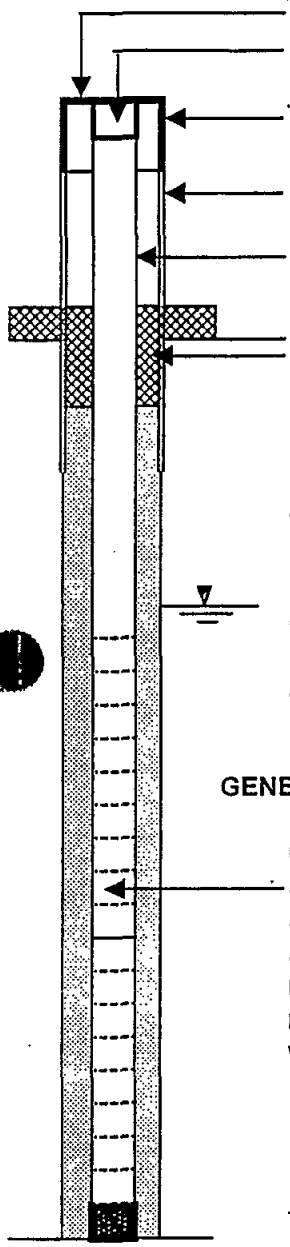
PROJECT Maywood GW

DATE 2/22/00

INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** x



- TOP OF CASING EL. (if known) - 53.5'
- INTERIOR COMPRESSION CAP - steal metal cap
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - good condition
- PROTECTIVE CASING - 3.0'
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/ Stainless steel,
- SURFACE EL. (if known) - 50.5'
- CONCRETE PAD - good condition
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good
- WELL ALIGNMENT (if observable) - good
- DEPTH TO WATER - 8.35'
- ANY OBSERVED OBSTRUCTION - plastic tube in well

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE : 10/2/87
- DRILLING METHOD :
- SCREEN SIZE : Stainless Con. slot 0.01
- SCREEN LENGTH : 10.3'
- SAND PACK HEIGHT: 28.3'
- BENTONITE SEAL: 2.0'
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) : bedrock
- TOTAL DEPTH OF WELL - 21.3'
  bottom of sump 47.1'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Plastic tube in well

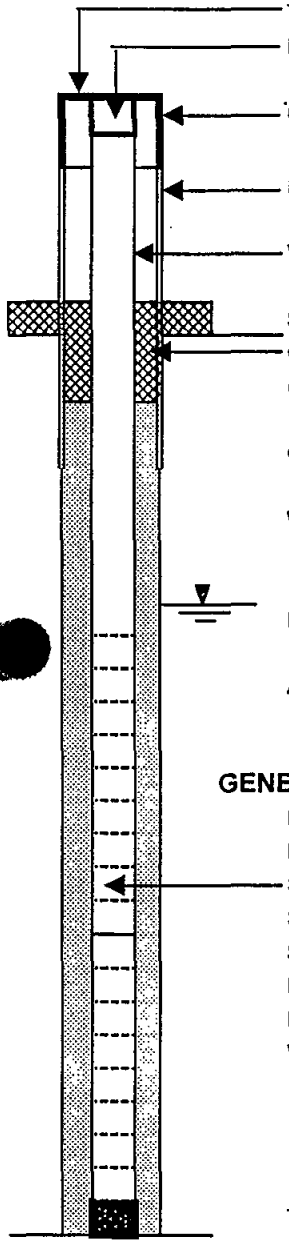
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID B38W18D

PROJECT Maywood GW
DATE 2/23/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT X **STICK-UP** Construction log says stickup.



TOP OF CASING EL. (if known) - 58.2'

INTERIOR COMPRESSION CAP - Good condition
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - missing rubber gasket

PROTECTIVE CASING - Bechtel Man covers well log identifies this as a stick up however it is a flush mount.
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in stainless steel. 4in.

SURFACE EL. (if known) - 58.2'

CONCRETE PAD - Good
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) - good.

DEPTH TO WATER - 2.94' 2/25/00 3:15pm

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : 10/18/88
DRILLING METHOD :
SCREEN SIZE : 316L Stainless Continuous Slot 0.01
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 116.2'
BENTONITE SEAL: 2.5'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock.

TOTAL DEPTH OF WELL - bottom of sump. 46.64' 43.1'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

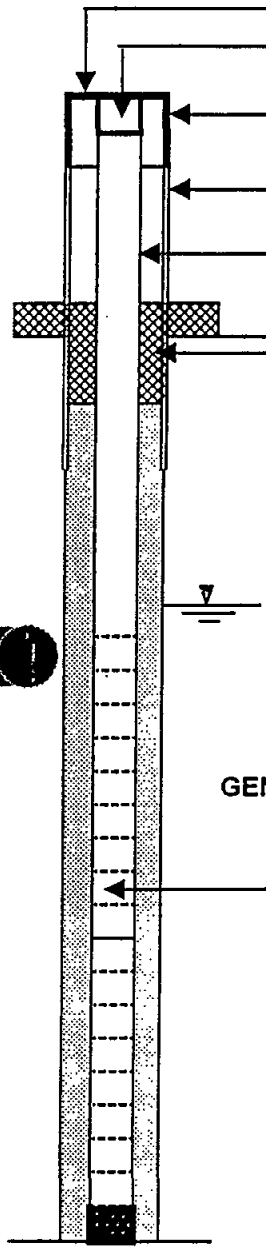
2/25/00 bladder pump removed, allowed to attenuate before water level measurement taken.

MONITORING WELL
INTEGRITY CHECKLIST
WELL ID B38W119S on construction log labelled B38W19S

PROJECT Maywood GW
DATE 2/23/00
INSPECTOR [illegible]

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** x



TOP OF CASING EL. (if known) 60.0'
INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) [illegible] good condition
EXTERIOR CAP &PAD LOCK - good condition
PROTECTIVE CASING - (stick-up height) 2.7'
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2"/stainless steel
SURFACE EL. (if known) - 57.3'
CONCRETE PAD - (cracks, separation from casing, erosion etc.) good condition
GENERAL SURFACE CONDTIONS - good condition
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 15.94' 2/24/00 2:50
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 10/6/89
DRILLING METHOD :
SCREEN SIZE : 2"/stainless steel continuous wrap
SCREEN LENGTH : 2.0'
SAND PACK HEIGHT: 4.2'
BENTONITE SEAL: 1.8'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : overburden

TOTAL DEPTH OF WELL - (bottom of sump) 18.4 18.01'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

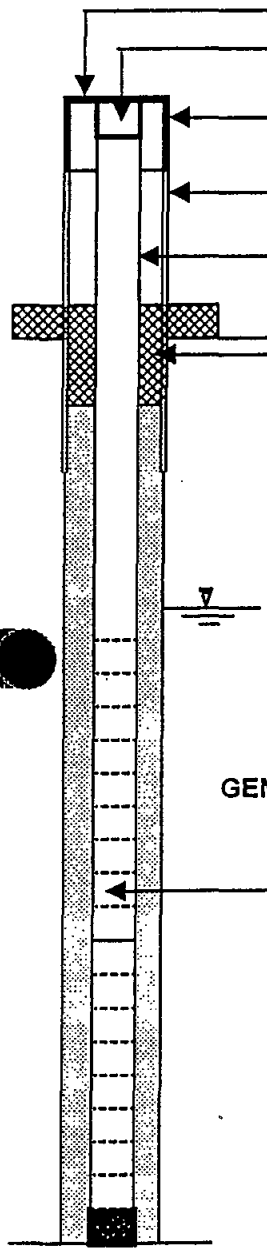
- Plastic tubing removed - well allowed [illegible] [illegible] [illegible] measurement -

MONITORING WELL
INTEGRITY CHECKLIST
WELL ID B38W19D

PROJECT Maywood GW
DATE 2/23/00
INSPECTOR J Linioln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) 60.5'
INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) no cap - bladder pump
EXTERIOR CAP &PAD LOCK - good condition.
PROTECTIVE CASING - (stick-up height) 3.1'
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2 in/stainless steel
SURFACE EL. (if known) - 57.4'
CONCRETE PAD - (cracks, separation from casing, erosion etc.) good condition
GENERAL SURFACE CONDTIONS - good condition
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 15.16' 2/24/00 2:45 pm
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 10/6/89
DRILLING METHOD :
SCREEN SIZE : 2"/stainless steel continuous wrap
SCREEN LENGTH : 10.2'
SAND PACK HEIGHT: 27.8
BENTONITE SEAL: 1.9'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 50.7'
(Bottom of sump) 50.2'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

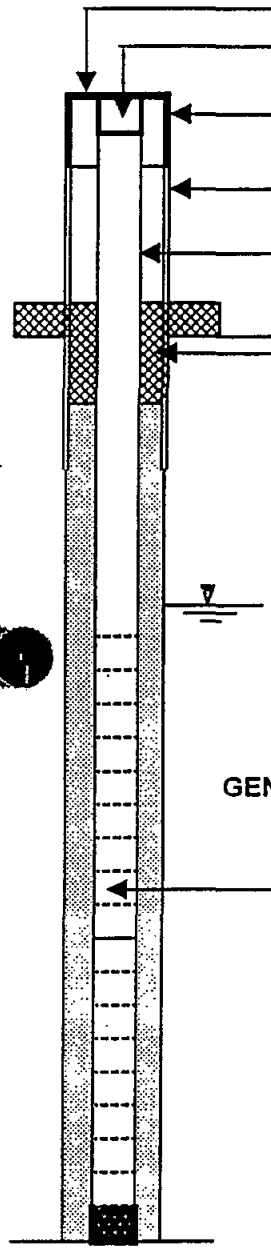
- bladder pump removed allowed [illegible] before water level measurement was taken

MONITORING WELL
INTEGRITY CHECKLIST
WELL ID B38 W 24S

PROJECT Maywood FW
DATE 2/24/00
INSPECTOR J Linwin

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT X **STICK-UP** ____



TOP OF CASING EL. (if known) 56.0'
INTERIOR COMPRESSION CAP - present w/lock, poor seal
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - steel cap present, no lock
PROTECTIVE CASING - —
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2 in/steel.
SURFACE EL. (if known) - 56.0'
CONCRETE PAD - Covered by gravel.
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 8.77' 2/24/00 3:25pm.
ANY OBSERVED OBSTRUCTION - NONE

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 4/8/93
DRILLING METHOD :
SCREEN SIZE : 2" stainless Steel continuous wrap.
SCREEN LENGTH : 4.08'
SAND PACK HEIGHT: 6.6'
BENTONITE SEAL: not noted.
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : overburden

TOTAL DEPTH OF WELL - 15.17'
bottom of sump 15.6'

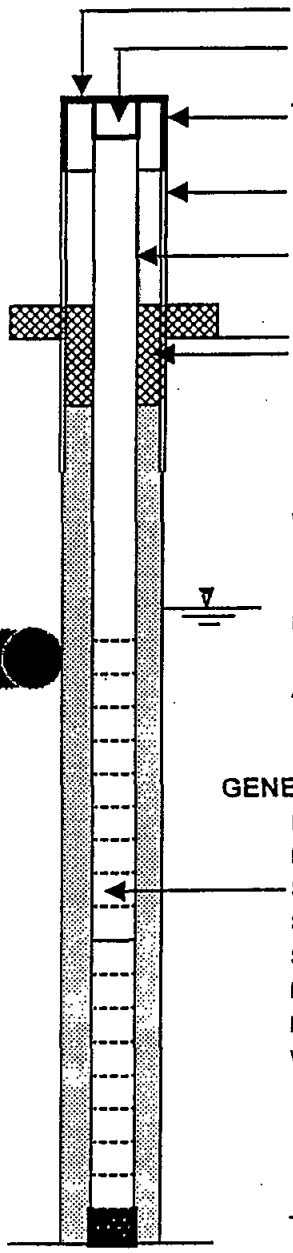
SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
plastic tubing removed. and well allowed to attenuate before water level taken.

MONITORING WELL
INTEGRITY CHECKLIST
WELL ID B38W24D

PROJECT Maywood 1 W
DATE 2/24/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT X **STICK-UP** ____



TOP OF CASING EL. (if known) 56.0'

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) cap + lock present, poor seal

EXTERIOR CAP &PAD LOCK - Steel cap present, no lock.

PROTECTIVE CASING - (stick-up height) —

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/steel

SURFACE EL. (if known) - 56.0'

CONCRETE PAD - (cracks, separation from casing, erosion etc.) pad present but covered by gravel

GENERAL SURFACE CONDTIONS - good

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 8.1' 2/24/00 3:30pm

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 3/29/93
DRILLING METHOD :
SCREEN SIZE : 2in/stainless continuous wrap
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 12.5'
BENTONITE SEAL: 2.1'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 27.54'
bottom of sump 28.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

plastic tubing removed, well [illegible]
before water level taken.

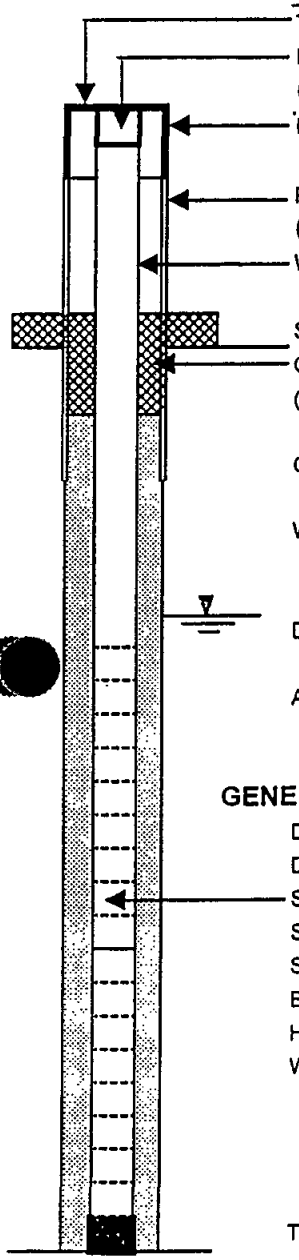
hard bottom

MONITORING WELL
INTEGRITY CHECKLIST
WELL ID B38W25D

PROJECT Maywood GW
DATE 2/24/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) 59.4'
INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) No cap present.
EXTERIOR CAP &PAD LOCK - No Paddlock, top bent in (picture)
PROTECTIVE CASING - (stick-up height) 3.4'
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/steel
SURFACE EL. (if known) - 56.0'
CONCRETE PAD - (cracks, separation from casing, erosion etc.) cracked.
GENERAL SURFACE CONDTIONS - poor - bent 8 1/4 steel casing
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 6.68' 2/24/00 3:50 pm.
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 3/31/93
DRILLING METHOD :
SCREEN SIZE : 2"/Stainless Continuous wrap
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 15.8'
BENTONITE SEAL: 2.4'
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : bedrock

TOTAL DEPTH OF WELL - 30.32'
bottom of sump 30.4'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

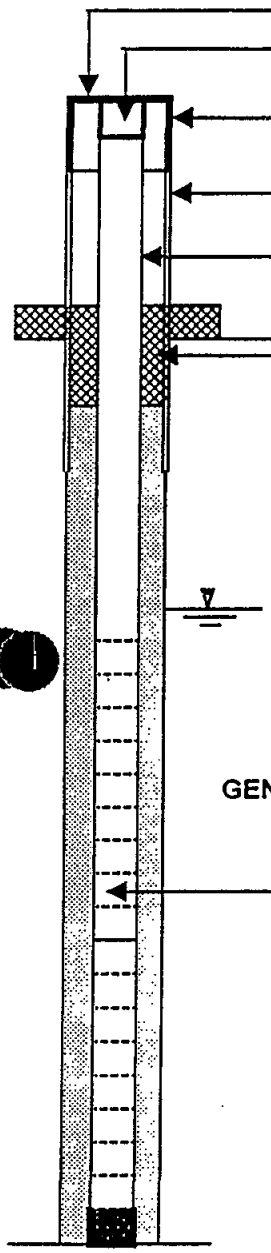
bladder pump remove, [illegible] next to well, well allowed to attenuate before water [illegible] measurement [illegible] hard bottom.

MONITORING WELL
INTEGRITY CHECKLIST
WELL ID B38W26S

PROJECT Maywood GW
DATE 2/24/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT _____ **STICK-UP** X



TOP OF CASING EL. (if known) 58.5'

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) present but no lock + poor seal

EXTERIOR CAP &PAD LOCK - good condition.

PROTECTIVE CASING - (stick-up height) 3.0'

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2in/steel

SURFACE EL. (if known) - 55.5'

CONCRETE PAD - (cracks, separation from casing, erosion etc.) good condition

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 6.5' 2/24/00 3:52 pm

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : 4/6/93
DRILLING METHOD :
SCREEN SIZE : 316 Stainless Steel continuous wrap 0.01"
SCREEN LENGTH : 5.0'
SAND PACK HEIGHT: 8.0'
BENTONITE SEAL: not noted
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) : overburden

TOTAL DEPTH OF WELL - [illegible]
bottom of sump 15.3'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

[illegible] removed [illegible] well
[illegible]

hard bottom

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38WI55

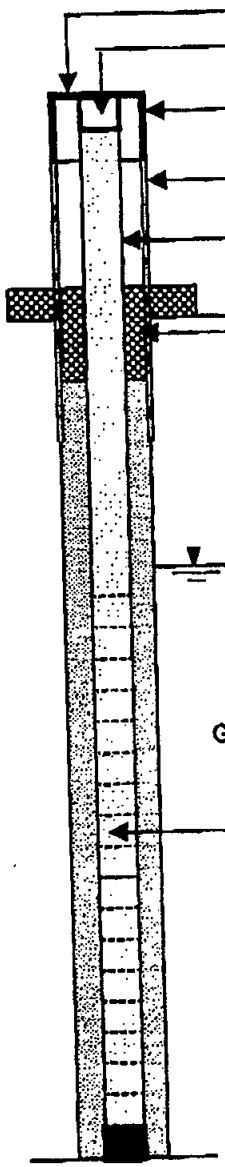
PROJECT 3674011 Maywood GWRI

DATE 6/12/00

INSPECTOR J. DeHoskins / T. Robinson

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ✓ **STICK-UP** _____



- TOP OF CASING EL. (If known) _____
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) _____
- EXTERIOR CAP &PAD LOCK - _____
- PROTECTIVE CASING - (stick-up height) N/A
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" SS
- SURFACE EL. (If known) - _____
- CONCRETE PAD - None Apparent (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - _____
- WELL ALIGNMENT (If observable) - N/A
- DEPTH TO WATER - 9.33
- ANY OBSERVED OBSTRUCTION - Dedicated Teflon Tube inside well

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE : _____
- DRILLING METHOD : _____
- SCREEN SIZE : _____
- SCREEN LENGTH : _____
- SAND PACK HEIGHT: _____
- BENTONITE SEAL: _____
- HYDRAULIC CONDUCTIVITY : _____
- WELL TYPE (overburden, bedrock) : _____

TOTAL DEPTH OF WELL - 16.27

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

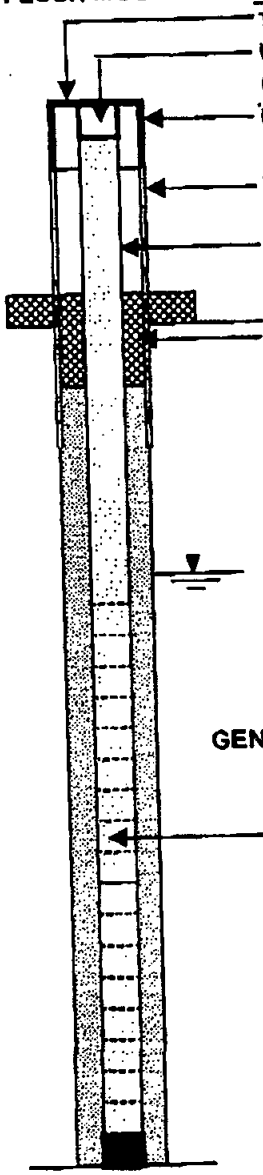
Expansion cap and lock in very poor condition

MONITORING WELL INTEGRITY CHECKLIST
WELL ID B38W15D

PROJECT 374011 Maywood GWRT
DATE 6/12
INSPECTOR J. Dekoskie / T. Robinson

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ✓ **STICK-UP** _____



- TOP OF CASING EL. (if known) _____
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) poor condition
- EXTERIOR CAP &PAD LOCK - _____
- PROTECTIVE CASING - (stick-up height) N/A
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" S.S.
- SURFACE EL. (if known) - _____
- CONCRETE PAD - (cracks, separation from casing, erosion etc.) None apparent
- GENERAL SURFACE CONDTIONS - GRASS/GRAVEL
- WELL ALIGNMENT (if observable) - N/A
- DEPTH TO WATER - 4.21
- ANY OBSERVED OBSTRUCTION - Dedicated Teflon Tubing inside well

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE : _____
- DRILLING METHOD : _____
- SCREEN SIZE : _____
- SCREEN LENGTH : _____
- SAND PACK HEIGHT: _____
- BENTONITE SEAL: _____
- HYDRAULIC CONDUCTIVITY : _____
- WELL TYPE (overburden, bedrock) : _____

TOTAL DEPTH OF WELL - 46.60

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

MONITORING WELL INTEGRITY CHECKLIST

WELL ID R38W14S

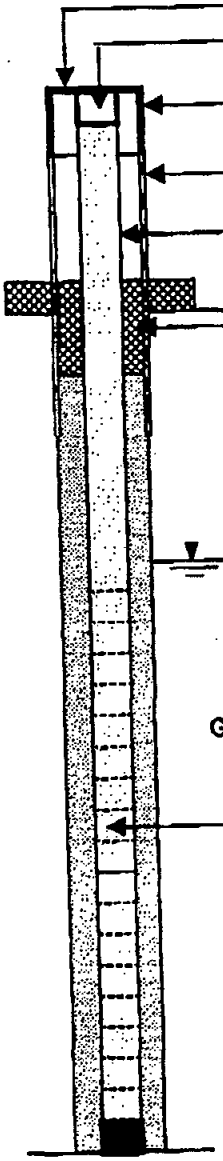
PROJECT 3674011 MAYWOOD GWRI

DATE 6/12/2000

INSPECTOR J DEKOSKIE/T ROBINSON

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ✓ **STICK-UP** _____



TOP OF CASING EL. (if known) _____

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) POOR CONDITION

EXTERIOR CAP &PAD LOCK - LOCK IS RUSTED & OPEN

PROTECTIVE CASING - (stick-up height) _____

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC

SURFACE EL. (if known) - _____

CONCRETE PAD - NONE APPARENT (cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - GRASS/LAWN

WELL ALIGNMENT (if observable) - _____

DEPTH TO WATER - 3.81 ft

ANY OBSERVED OBSTRUCTION - _____

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE : _____

DRILLING METHOD : _____

SCREEN SIZE : _____

SCREEN LENGTH : _____

SAND PACK HEIGHT: _____

BENTONITE SEAL: _____

HYDRAULIC CONDUCTIVITY : _____

WELL TYPE (overburden, bedrock) : _____

TOTAL DEPTH OF WELL - 13.65 ft.

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

CAP IS RUSTY & DOESNT WORK PROPERLY

MONITORING WELL INTEGRITY CHECKLIST

WELL ID B38W14D

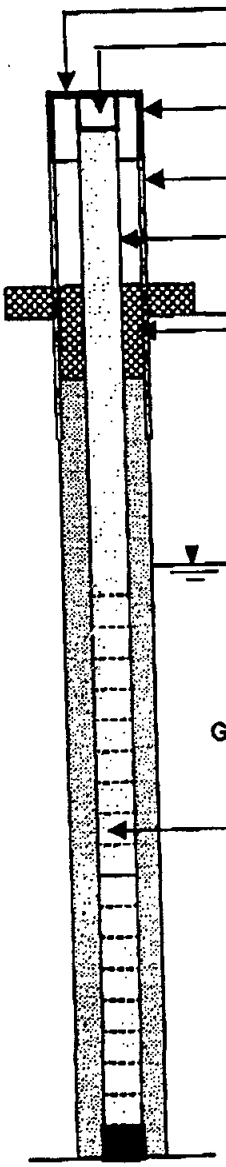
PROJECT 3674011 MAYWOOD GWRI

DATE 6-12-2000

INSPECTOR I DEKOSKIE / T ROBINSON

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT **STICK-UP** _____



TOP OF CASING EL. (if known) _____

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) _____

EXTERIOR CAP & PAD LOCK - NO LOCK CAP RUSTY

PROTECTIVE CASING - (stick-up height) _____

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC

SURFACE EL. (if known) - _____

CONCRETE PAD - NONE APPARENT (cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - GRASS / LAWN

WELL ALIGNMENT (if observable) - _____

DEPTH TO WATER - 3.35 ft

ANY OBSERVED OBSTRUCTION - _____

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE : _____

DRILLING METHOD : _____

SCREEN SIZE : _____

SCREEN LENGTH : _____

SAND PACK HEIGHT: _____

BENTONITE SEAL: _____

HYDRAULIC CONDUCTIVITY : _____

WELL TYPE (overburden, bedrock) : _____

TOTAL DEPTH OF WELL - 51.25 ft

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

WATER IN FLUSHMOUNT ABOVE CAP/PLUG
BAILED OUT WATER BEFORE OPENING

APPENDIX C

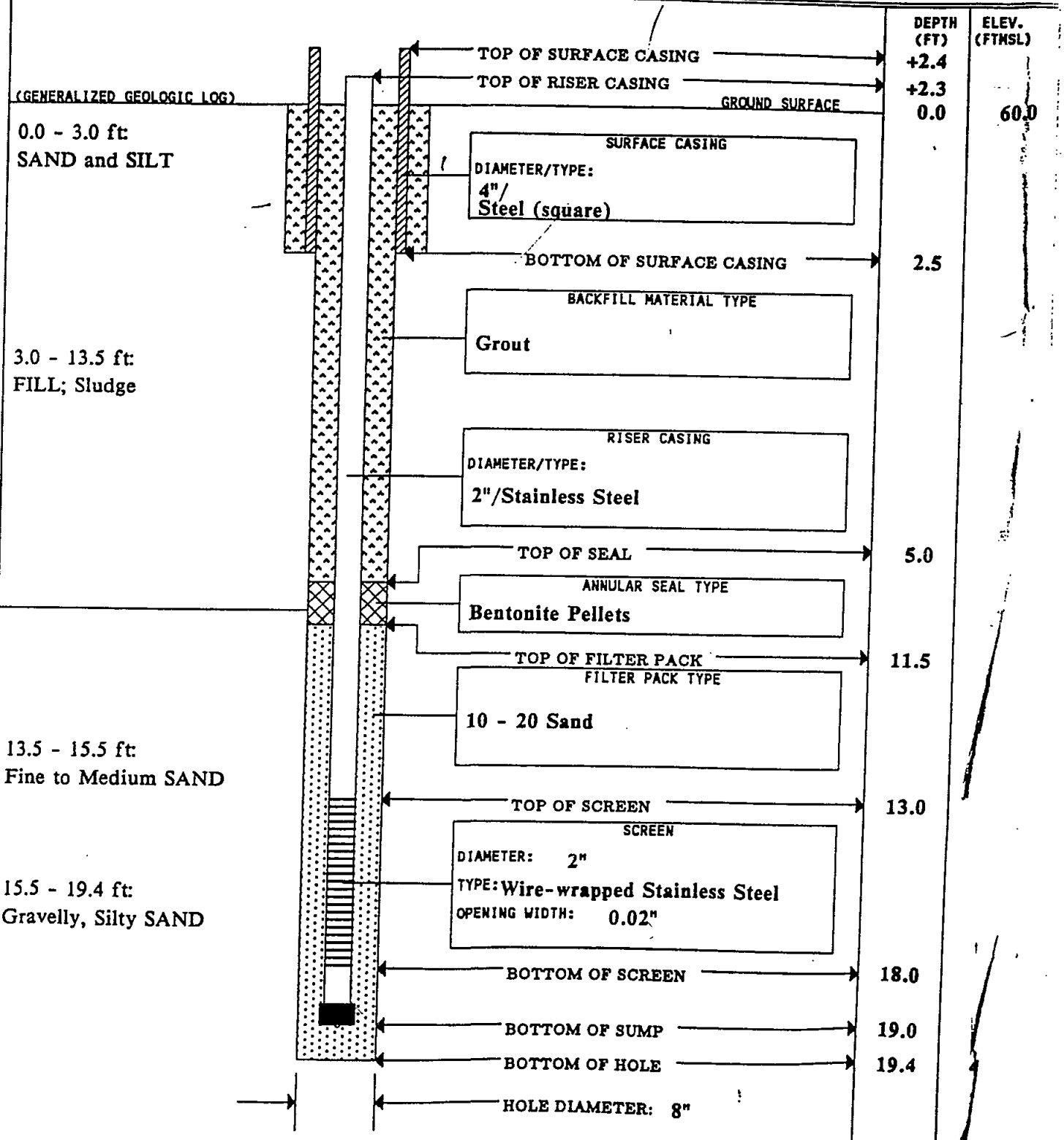
MONITORING WELL CONSTRUCTION LOGS

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-1AA

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,745 E 9,290

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
7/30/92	8/5/92	Stephen Knuttel	Top of Casing



Update: 08-18-92
Template: 11WELLOG

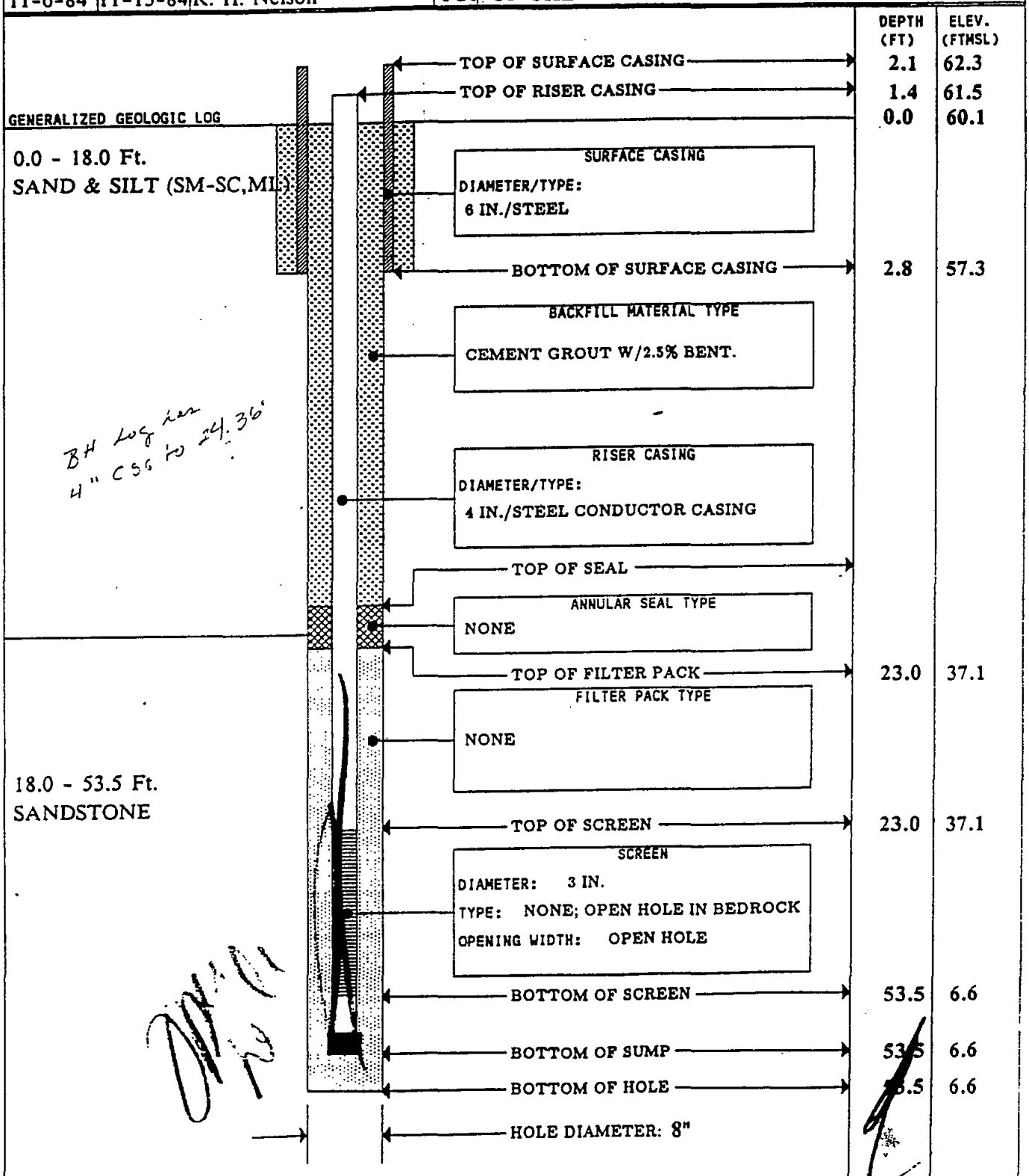
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-1B

JOB NO.	SITE	COORDINATES
14501-130	MISS	N 9747.0 E 9278.9

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-6-84	11-13-84	R. H. Nelson	TOP OF THE RISER PIPE.



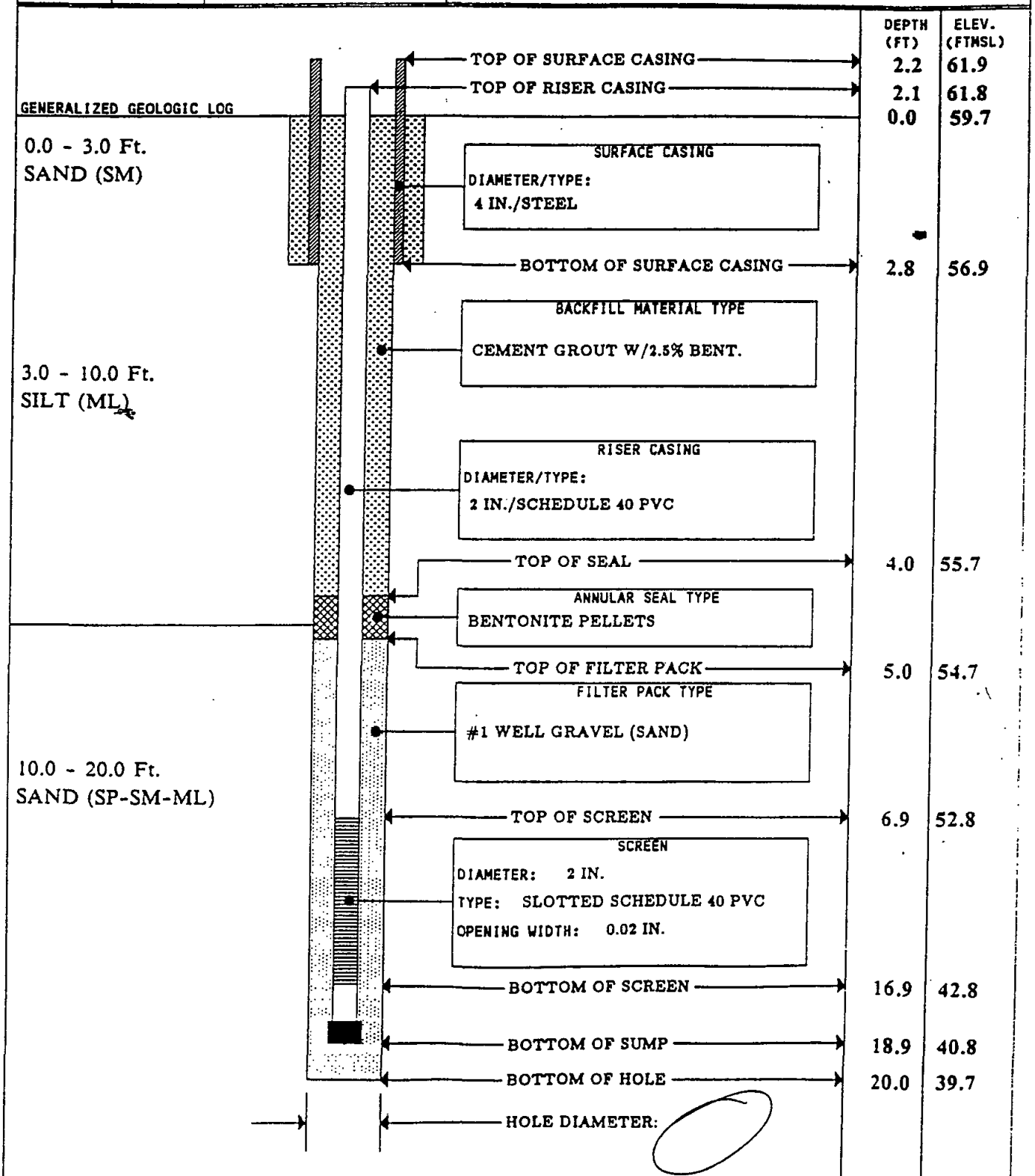
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.1	62.3
TOP OF RISER CASING	1.4	61.5
	0.0	60.1
BOTTOM OF SURFACE CASING	2.8	57.3
TOP OF SEAL		
TOP OF FILTER PACK	23.0	37.1
TOP OF SCREEN	23.0	37.1
BOTTOM OF SCREEN	53.5	6.6
BOTTOM OF SUMP	53.5	6.6
BOTTOM OF HOLE	53.5	6.6

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-2A

JOB NO.	SITE	COORDINATES
14501-138		N 9973.4 E 9875.9

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-29-84	10-30-84	R. H. Nelson	TOP OF THE RISER PIPE.

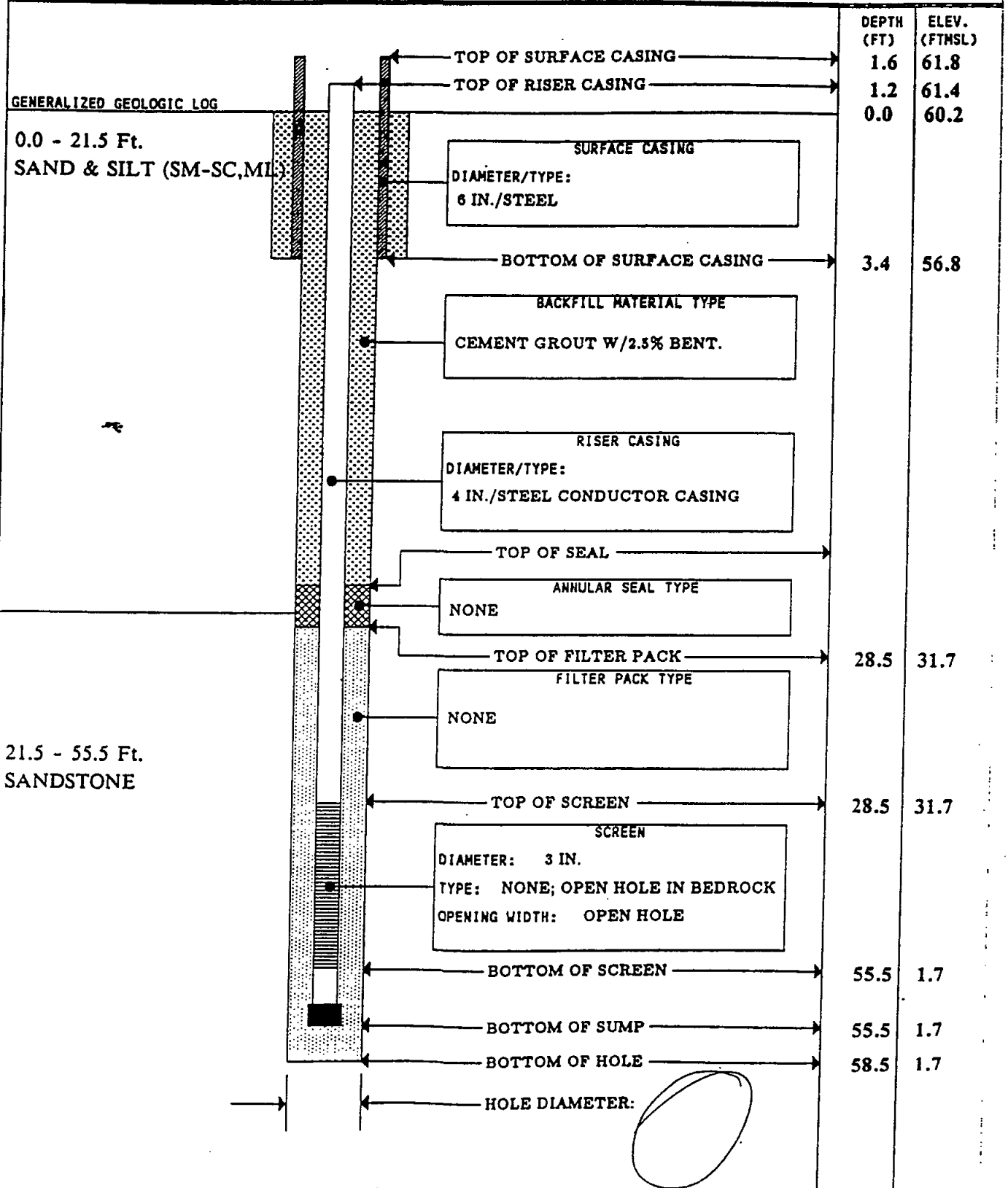


MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-2B

JOB NO.	SITE	COORDINATES
14501-138		N 9962.5 E 9888.2

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-29-84	11-12-84	R. H. Nelson	TOP OF THE RISER PIPE.



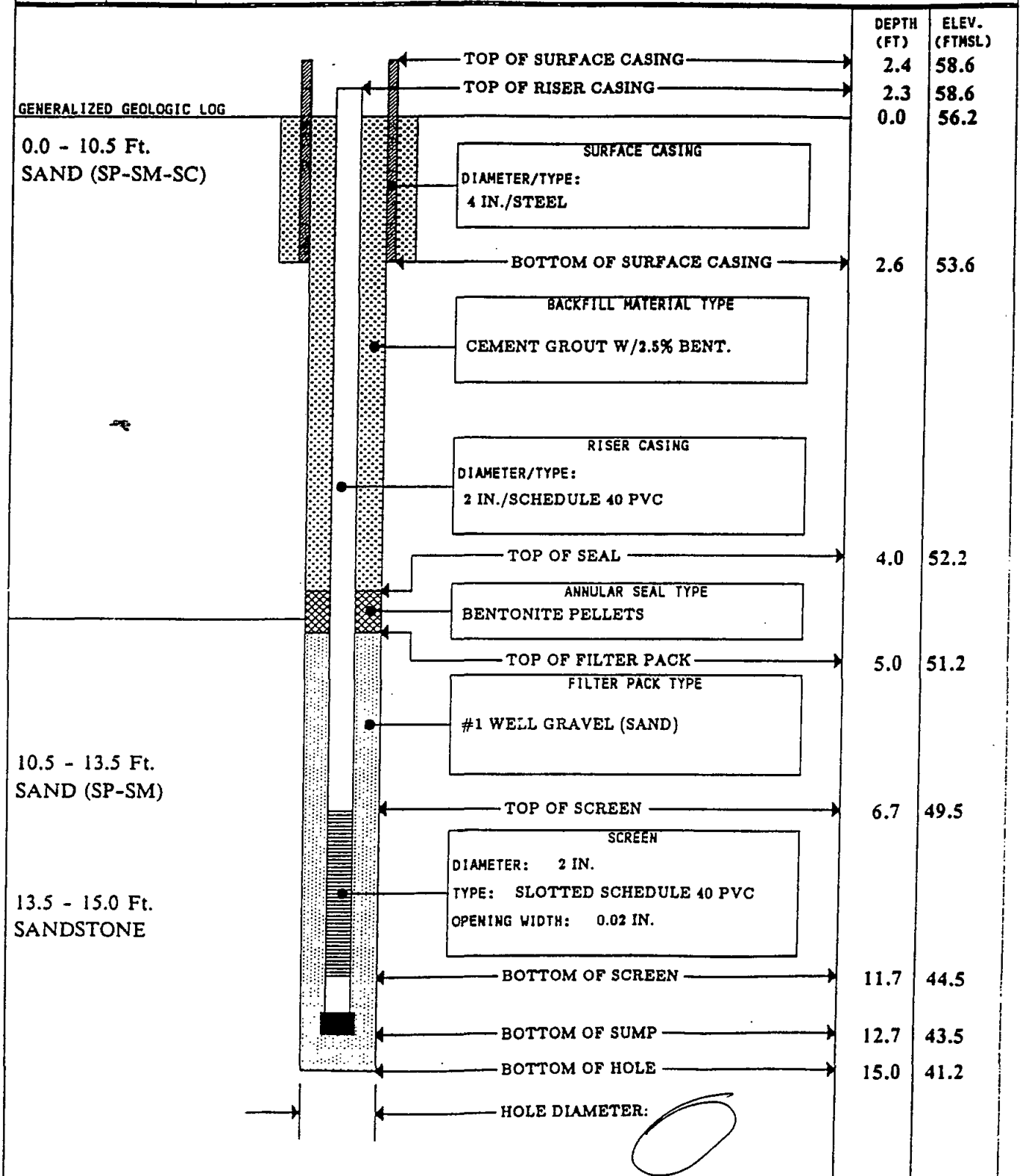
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	1.6	61.8
TOP OF RISER CASING	1.2	61.4
	0.0	60.2
BOTTOM OF SURFACE CASING	3.4	56.8
TOP OF SEAL		
TOP OF FILTER PACK	28.5	31.7
TOP OF SCREEN	28.5	31.7
BOTTOM OF SCREEN	55.5	1.7
BOTTOM OF SUMP	55.5	1.7
BOTTOM OF HOLE	58.5	1.7

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-3A

JOB NO.	SITE	COORDINATES
14501-138		N 9423.4 E 9952.4

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-25-84	10-25-84	R. H. Nelson	TOP OF THE RISER PIPE.



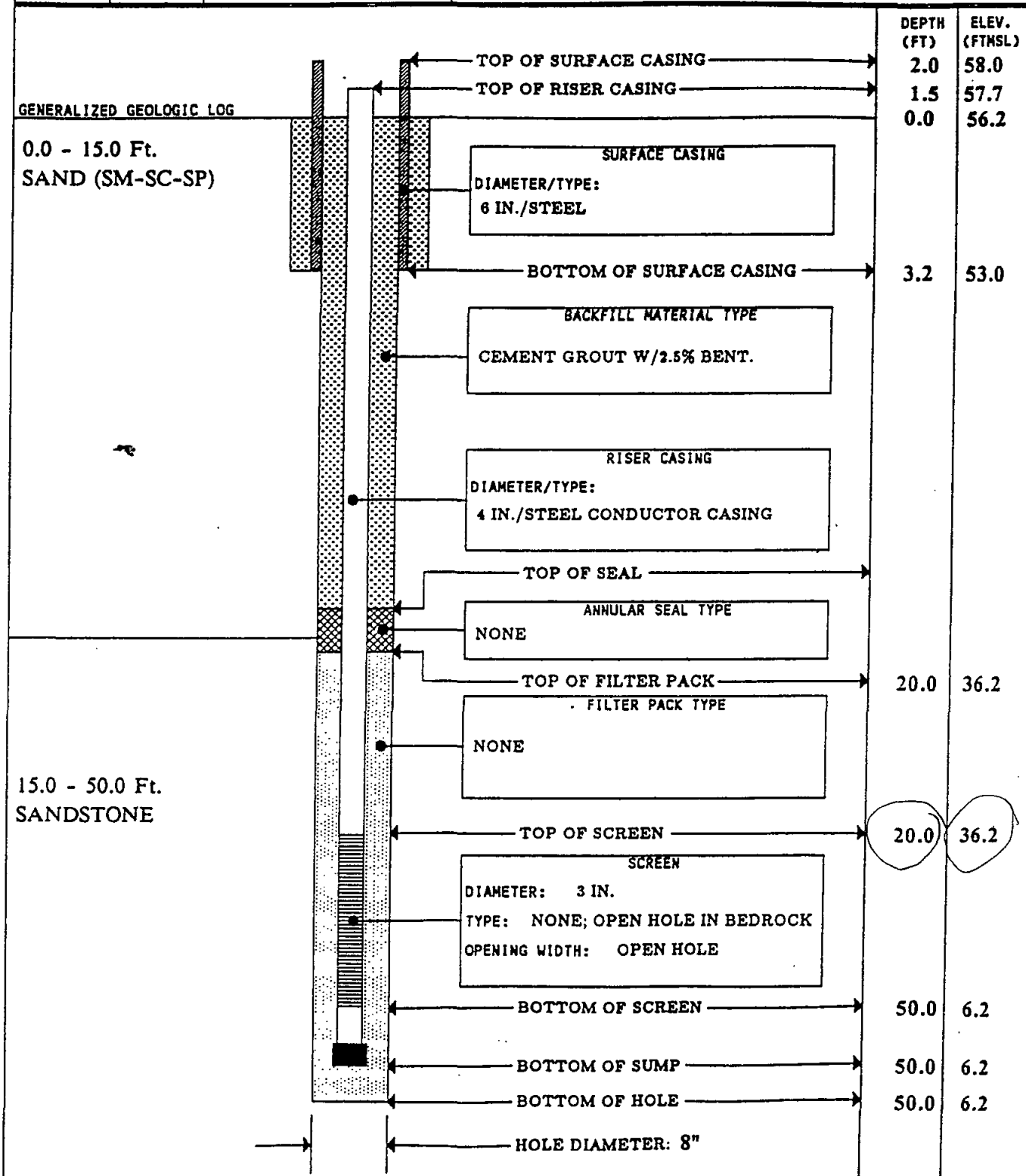
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.4	58.6
TOP OF RISER CASING	2.3	58.6
	0.0	56.2
BOTTOM OF SURFACE CASING	2.6	53.6
TOP OF SEAL	4.0	52.2
TOP OF FILTER PACK	5.0	51.2
TOP OF SCREEN	6.7	49.5
BOTTOM OF SCREEN	11.7	44.5
BOTTOM OF SUMP	12.7	43.5
BOTTOM OF HOLE	15.0	41.2
HOLE DIAMETER:		

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-3B

JOB NO.	SITE	COORDINATES
14501-13	MISS	N 9427.5 E 9966.5

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-25-84	11-8-84	R. H. Nelson	TOP OF THE RISER PIPE.



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.0	58.0
TOP OF RISER CASING	1.5	57.7
	0.0	56.2
BOTTOM OF SURFACE CASING	3.2	53.0
TOP OF SEAL		
TOP OF FILTER PACK	20.0	36.2
TOP OF SCREEN	20.0	36.2
BOTTOM OF SCREEN	50.0	6.2
BOTTOM OF SUMP	50.0	6.2
BOTTOM OF HOLE	50.0	6.2

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-4A

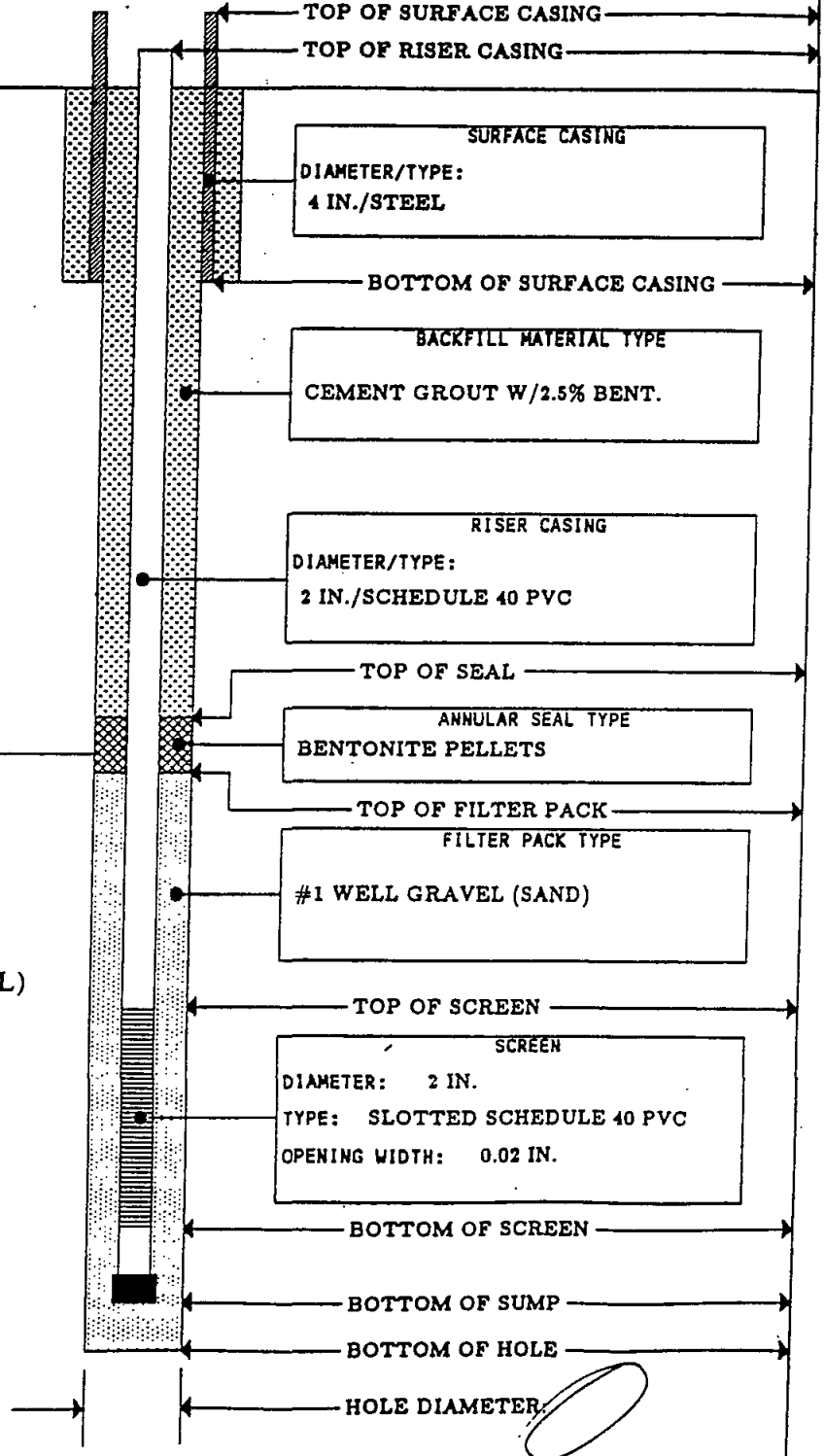
JOB NO.	SITE	COORDINATES
14501-138		N 9216.5 E 9996.9

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-26-84	10-26-84	R. H. Nelson	TOP OF THE RISER PIPE.

GENERALIZED GEOLOGIC LOG

0.0 - 4.0 Ft.
SAND (SM-SC)

4.0 - 10.0 Ft.
SAND & SILT (SM-ML)



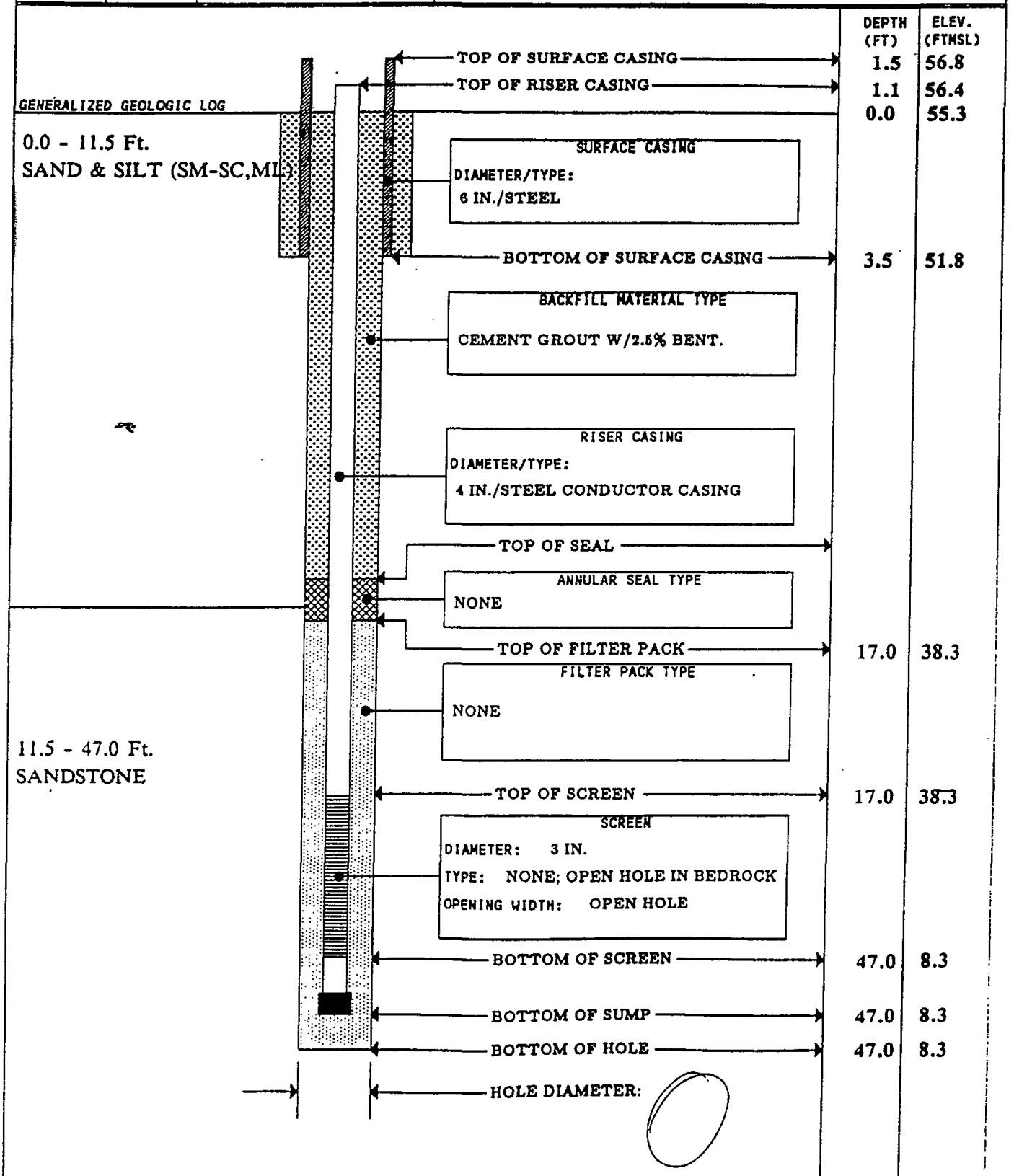
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.2	57.2
TOP OF RISER CASING	2.1	57.1
	0.0	55.0
BOTTOM OF SURFACE CASING	2.8	52.2
TOP OF SEAL	3.0	52.0
TOP OF FILTER PACK	3.8	51.2
TOP OF SCREEN	4.7	50.3
BOTTOM OF SCREEN	9.7	45.3
BOTTOM OF SUMP	9.7	45.3
BOTTOM OF HOLE	10.0	45.0

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-4B

JOB NO.	SITE	COORDINATES
14501-138		N 9208.2 E 10008.4

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-26-84	11-10-84	R. H. Nelson	TOP OF THE RISER PIPE.



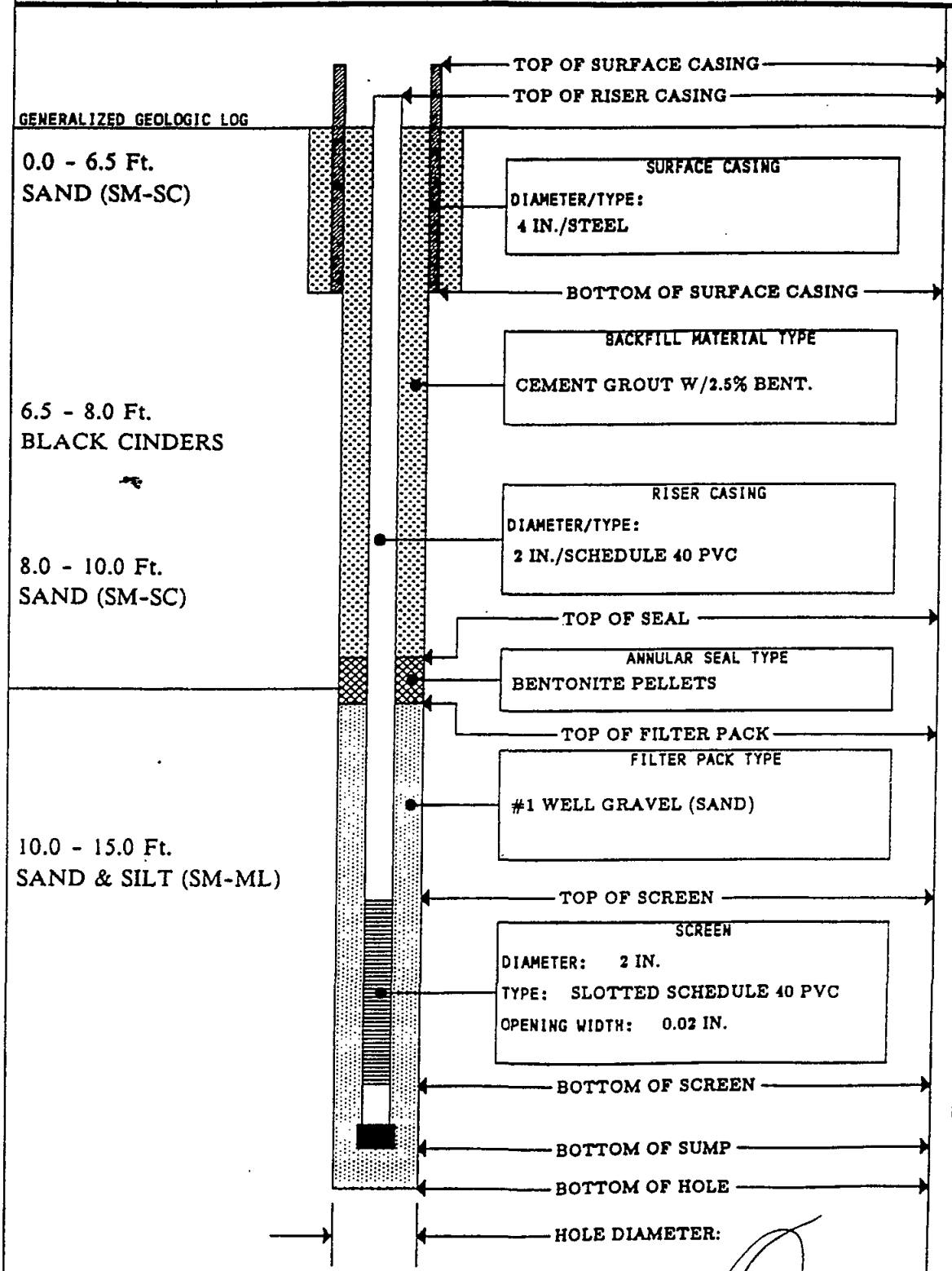
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	1.5	56.8
TOP OF RISER CASING	1.1	56.4
	0.0	55.3
BOTTOM OF SURFACE CASING	3.5	51.8
TOP OF SEAL		
TOP OF FILTER PACK	17.0	38.3
TOP OF SCREEN	17.0	38.3
BOTTOM OF SCREEN	47.0	8.3
BOTTOM OF SUMP	47.0	8.3
BOTTOM OF HOLE	47.0	8.3
HOLE DIAMETER:		

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-5A

JOB NO.	SITE	COORDINATES
14501-138		N 9234.4 E 9602.6

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-1-84	11-1-84	R. H. Nelson	TOP OF THE RISER PIPE.



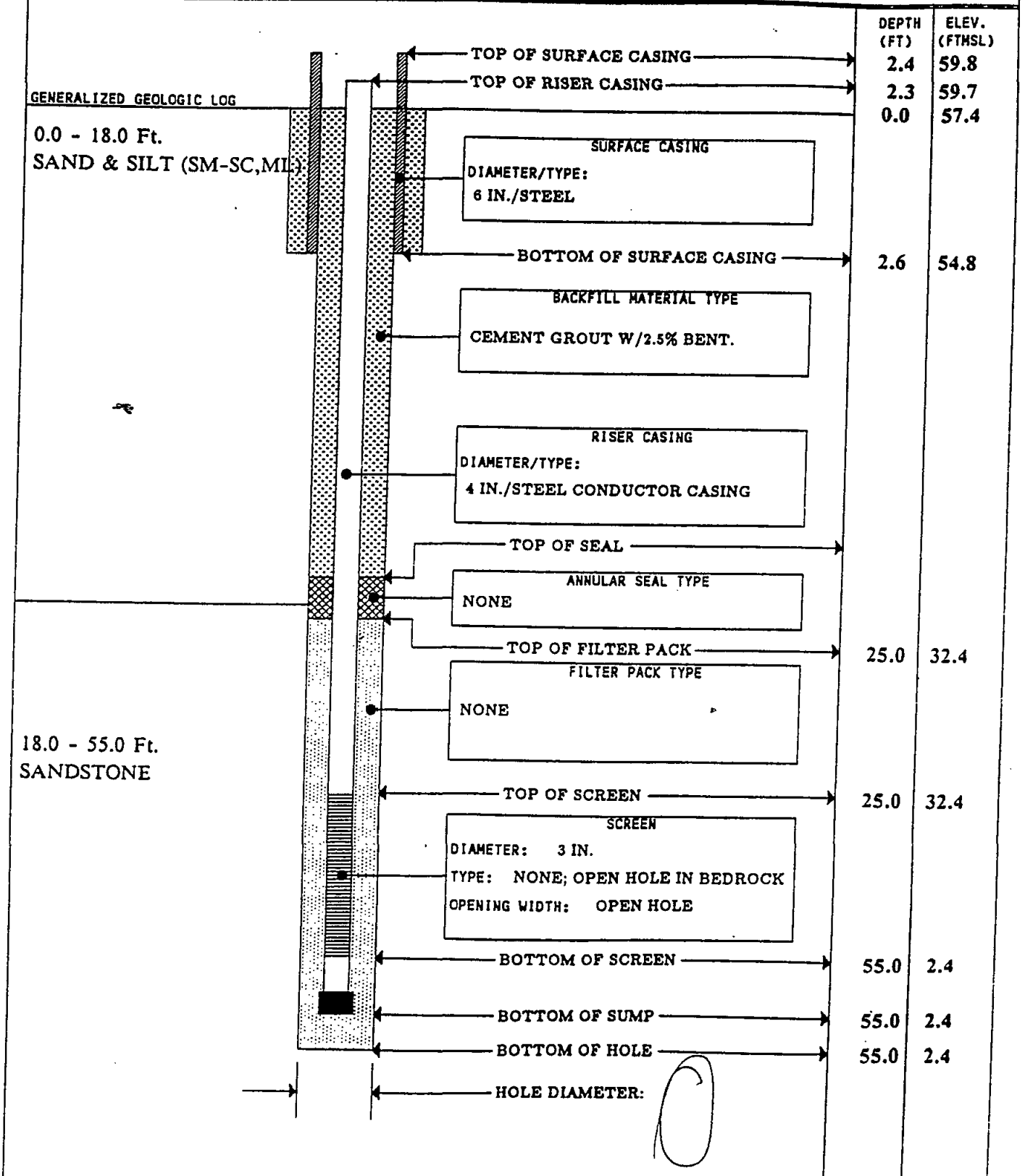
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	1.5	58.9
TOP OF RISER CASING	1.2	58.7
	0.0	57.4
BOTTOM OF SURFACE CASING	3.5	53.9
TOP OF SEAL	8.0	49.4
TOP OF FILTER PACK	10.0	47.4
TOP OF SCREEN	10.7	46.7
BOTTOM OF SCREEN	14.6	42.8
BOTTOM OF SUMP	14.8	42.8
BOTTOM OF HOLE	15.0	42.4

MONITORING WELL

PROJECT	WELL NO.
FUSRAP —	MISS-5B

JOB NO.	SITE	COORDINATES
14501-138		N 9243.5 E 9596.0

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-2-84	11-10-84	R. H. Nelson	TOP OF THE RISER PIPE.



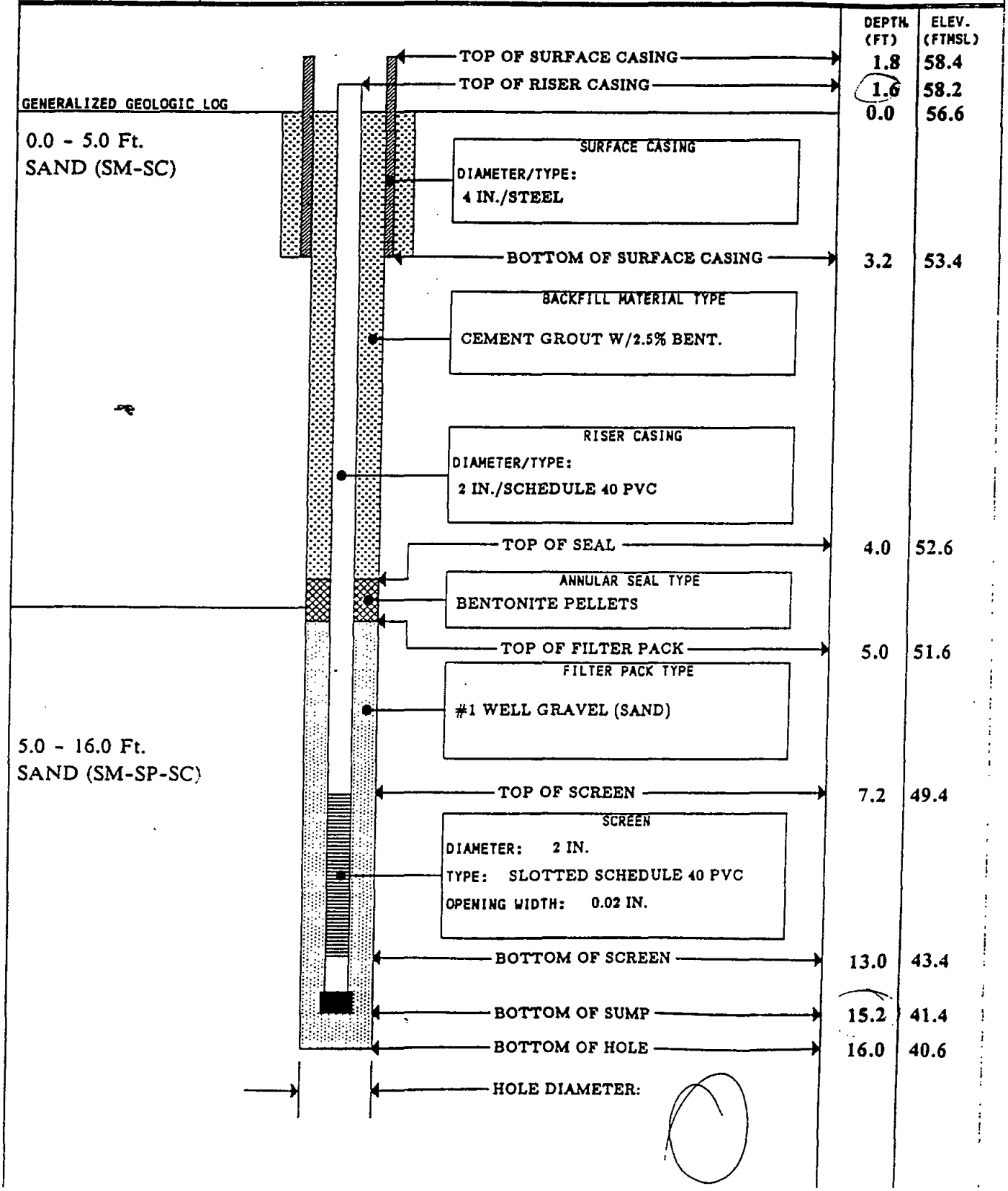
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.4	59.8
TOP OF RISER CASING	2.3	59.7
	0.0	57.4
BOTTOM OF SURFACE CASING	2.6	54.8
TOP OF SEAL		
TOP OF FILTER PACK	25.0	32.4
TOP OF SCREEN	25.0	32.4
BOTTOM OF SCREEN	55.0	2.4
BOTTOM OF SUMP	55.0	2.4
BOTTOM OF HOLE	55.0	2.4

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-6A

JOB NO.	SITE	COORDINATES
14501-138		N 9570.6 E 9576.4

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-30-84	10-31-84	R. H. Nelson	TOP OF THE RISER PIPE.

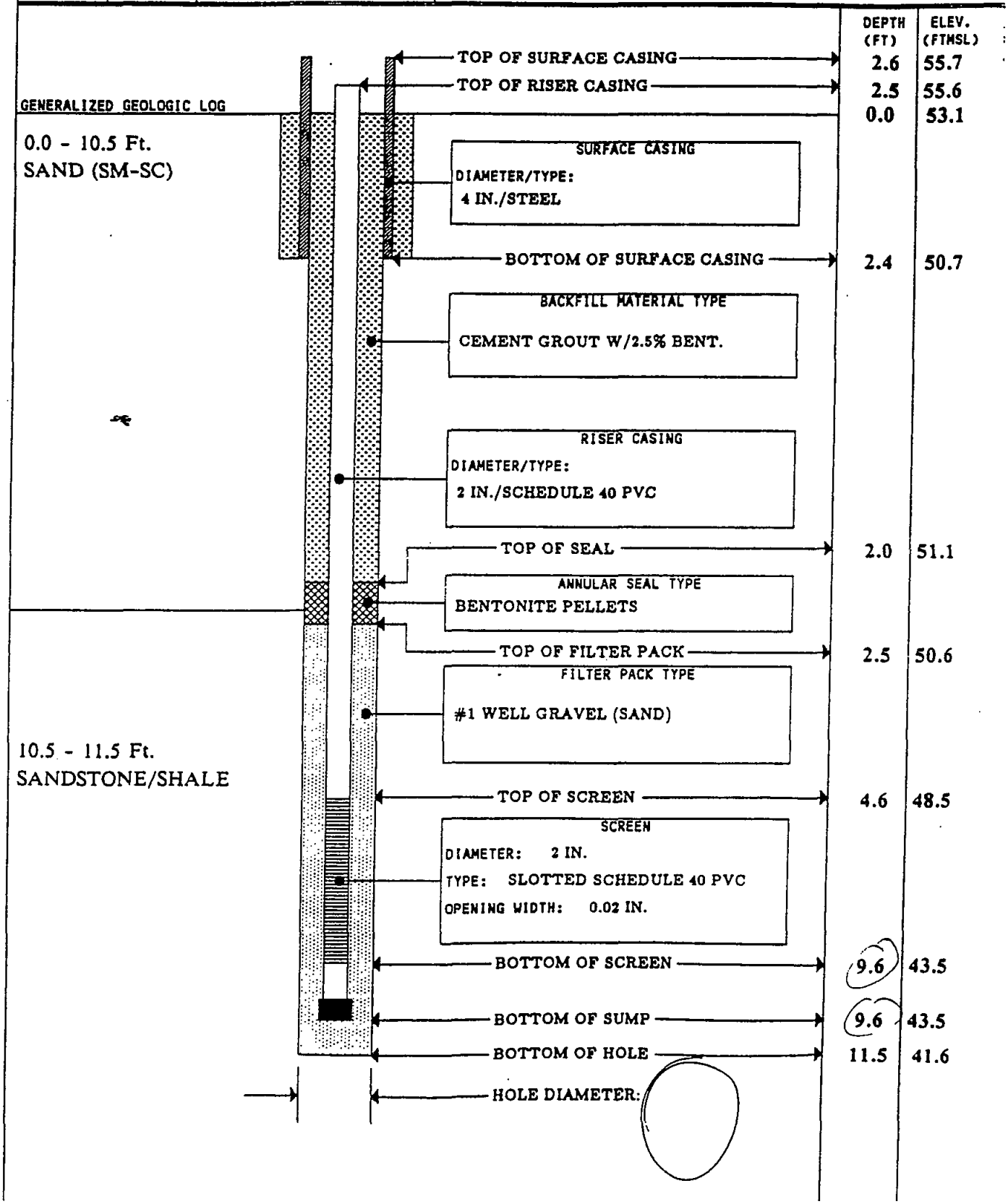


MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-7A

JOB NO.	SITE	COORDINATES
14501-138		N 9477.6 E 9431.4

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-5-84	11-5-84	R. H. Nelson	TOP OF THE RISER PIPE.



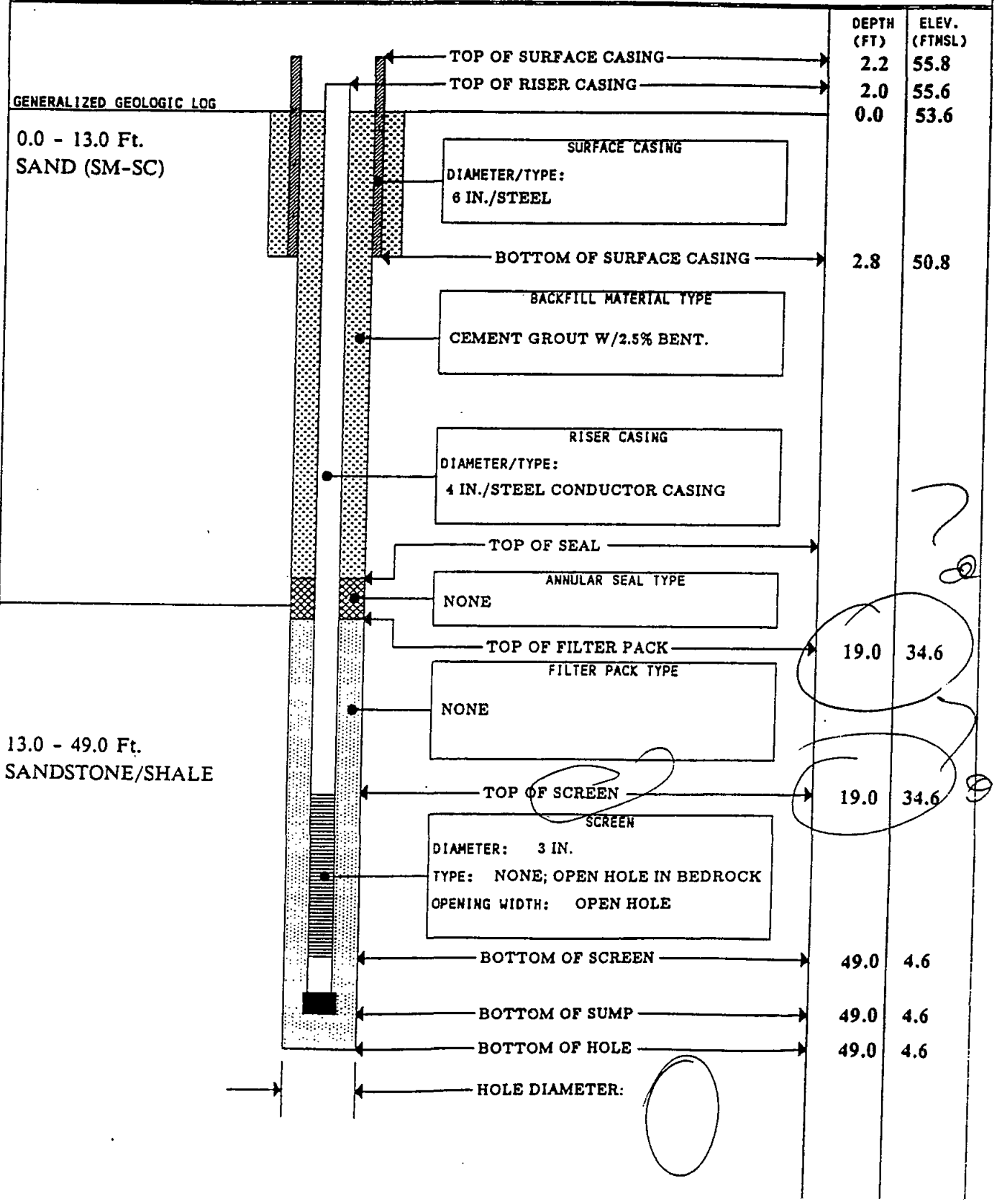
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.6	55.7
TOP OF RISER CASING	2.5	55.6
	0.0	53.1
BOTTOM OF SURFACE CASING	2.4	50.7
TOP OF SEAL	2.0	51.1
TOP OF FILTER PACK	2.5	50.6
TOP OF SCREEN	4.6	48.5
BOTTOM OF SCREEN	9.6	43.5
BOTTOM OF SUMP	9.6	43.5
BOTTOM OF HOLE	11.5	41.6

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	MISS-7B

JOB NO.	SITE	COORDINATES
14501-138		N 9471.4 E 9430.7

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-6-84	11-9-84	R. H. Nelson	TOP OF THE RISER PIPE.



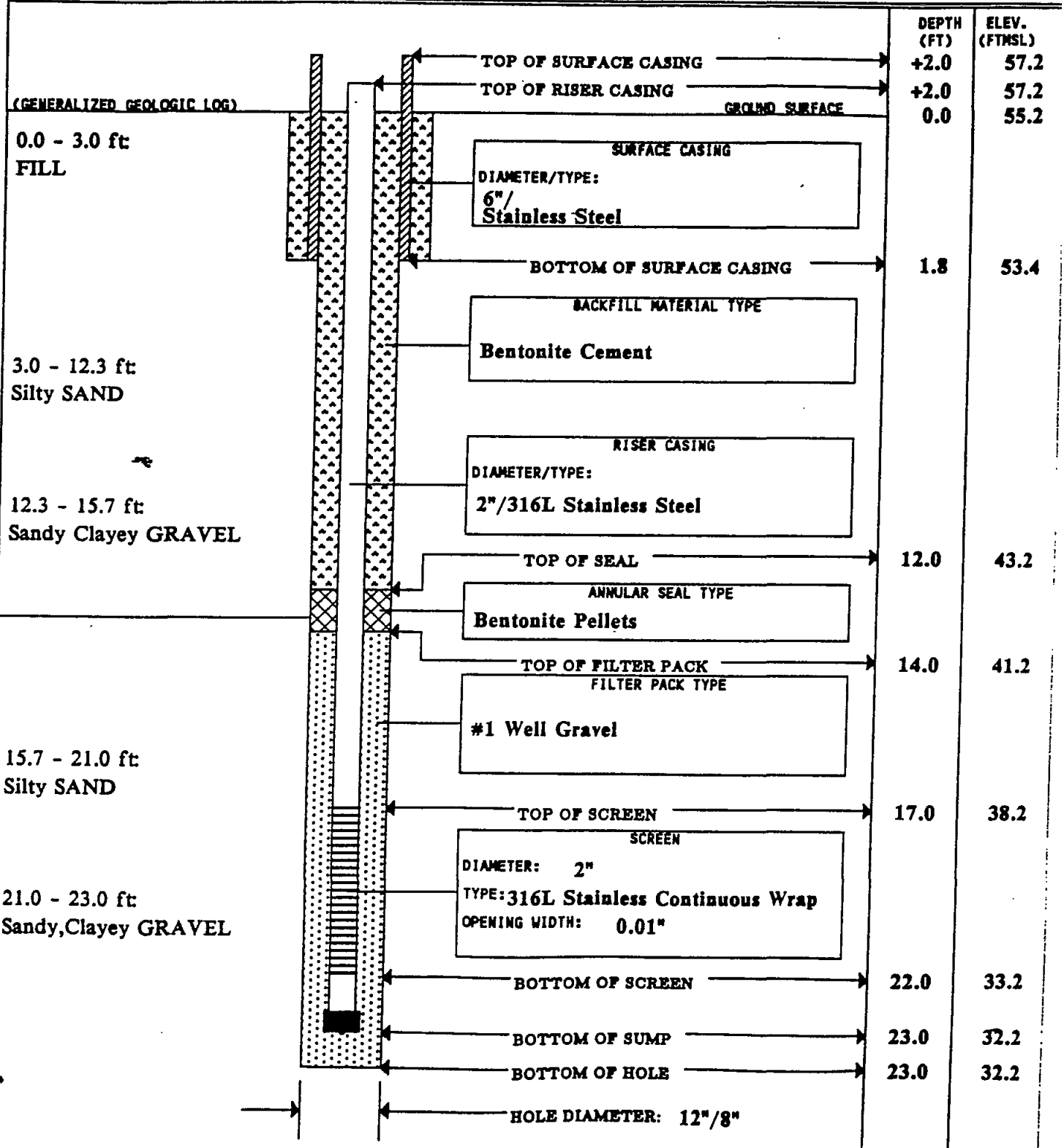
	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.2	55.8
TOP OF RISER CASING	2.0	55.6
	0.0	53.6
BOTTOM OF SURFACE CASING	2.8	50.8
TOP OF SEAL		
TOP OF FILTER PACK	19.0	34.6
TOP OF SCREEN	19.0	34.6
BOTTOM OF SCREEN	49.0	4.6
BOTTOM OF SUMP	49.0	4.6
BOTTOM OF HOLE	49.0	4.6

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W1S

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	NY Susquehanna & Western RR	N 10,072 E 9,926

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-21-88	11-21-88	J. Lord	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+2.0	57.2
TOP OF RISER CASING	+2.0	57.2
GROUND SURFACE	0.0	55.2
BOTTOM OF SURFACE CASING	1.8	53.4
TOP OF SEAL	12.0	43.2
TOP OF FILTER PACK	14.0	41.2
TOP OF SCREEN	17.0	38.2
BOTTOM OF SCREEN	22.0	33.2
BOTTOM OF SUMP	23.0	32.2
BOTTOM OF HOLE	23.0	32.2

Update: 04-30-92
Template: 11WELLOG

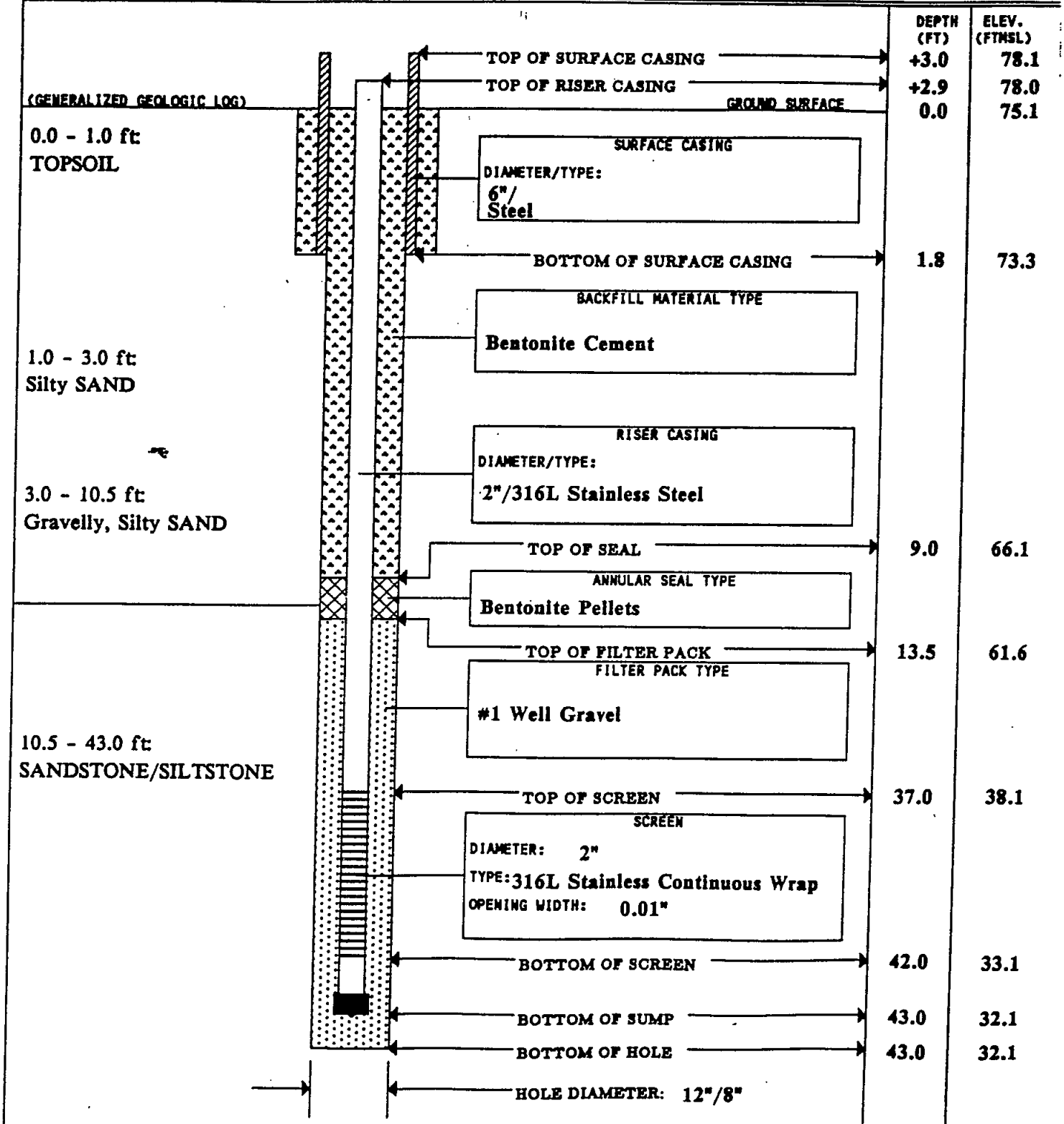
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W2D

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	NY Susquehanna & Western RR	N 10,111 E 10,444

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-9-88	11-9-88	J. Lord	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+3.0	78.1
TOP OF RISER CASING	+2.9	78.0
GROUND SURFACE	0.0	75.1
BOTTOM OF SURFACE CASING	1.8	73.3
TOP OF SEAL	9.0	66.1
TOP OF FILTER PACK	13.5	61.6
TOP OF SCREEN	37.0	38.1
BOTTOM OF SCREEN	42.0	33.1
BOTTOM OF SUMP	43.0	32.1
BOTTOM OF HOLE	43.0	32.1

Update: 04-30-92
Template: 11WELLOG

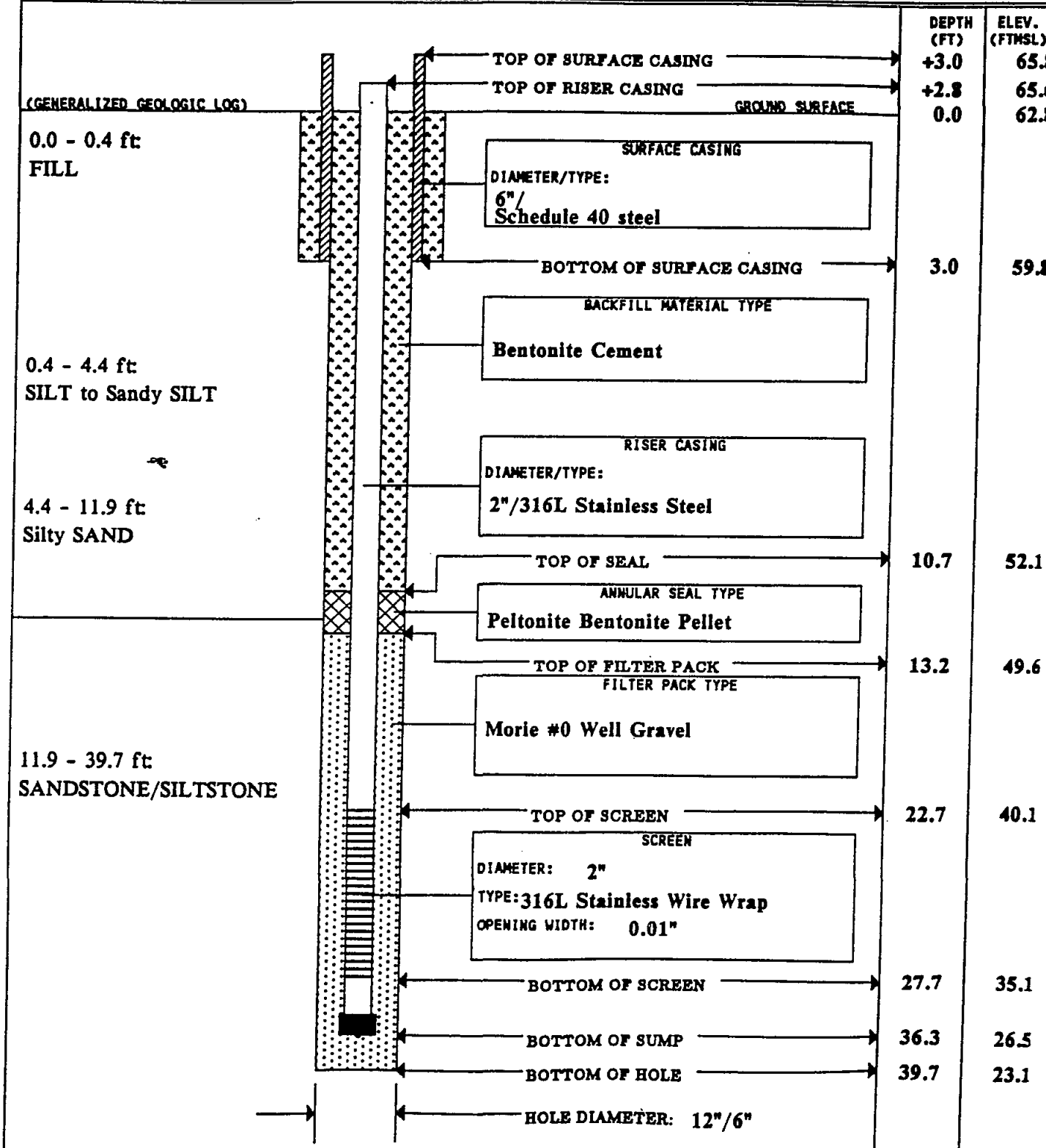
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W48

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	Stepan Property	N 9,564 E 10,488

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
9-11-87	9-15-87	C.A. Clark	Ground Surface



Update: 04-30-92
Template: 11WELLOG

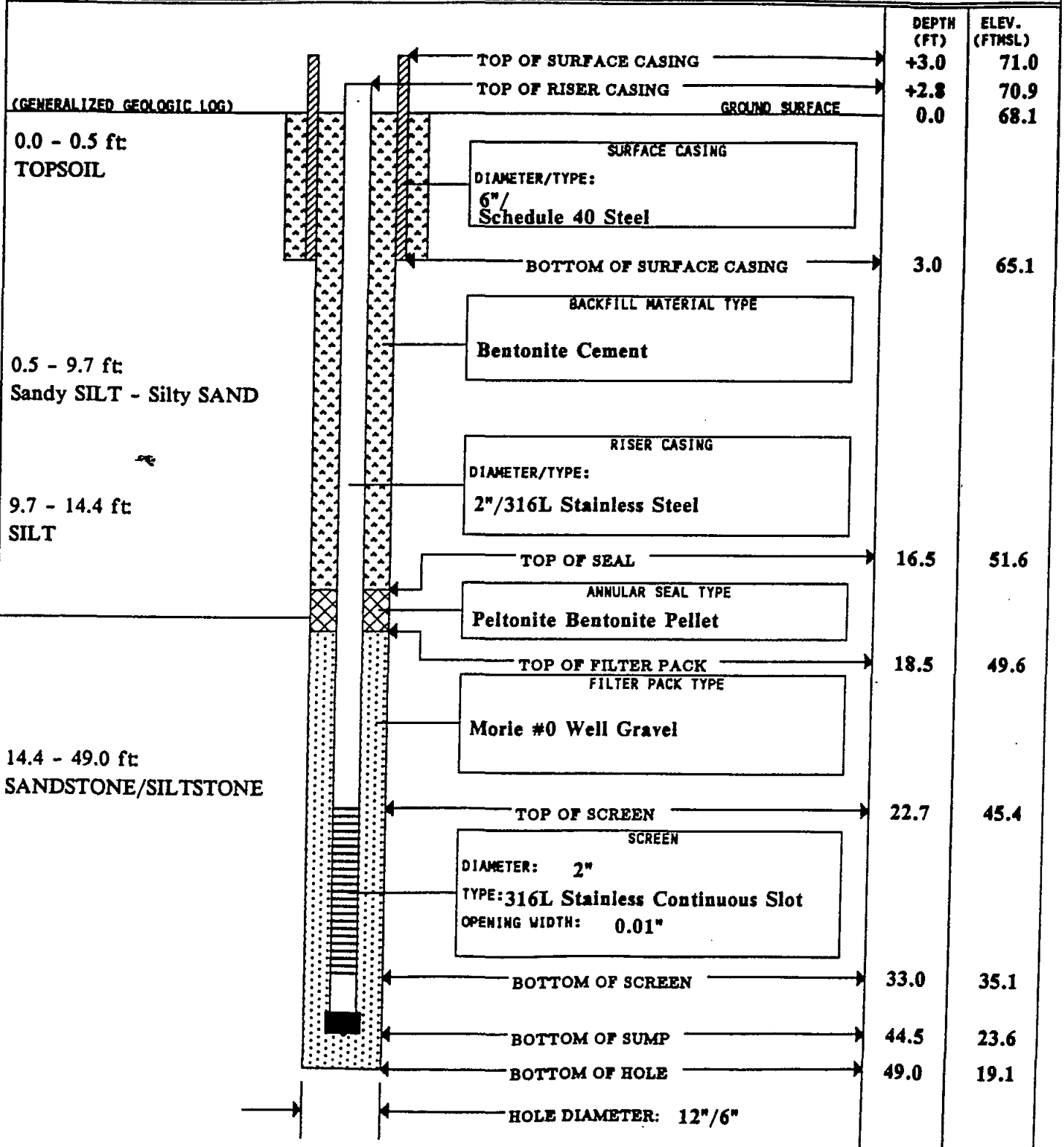
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W5B

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	Stepan Property	N 9,880 E 10,772

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
9-16-87	9-21-87	C.A. Clark	Ground Surface



Update: 04-30-92
Template: 11WELLOG

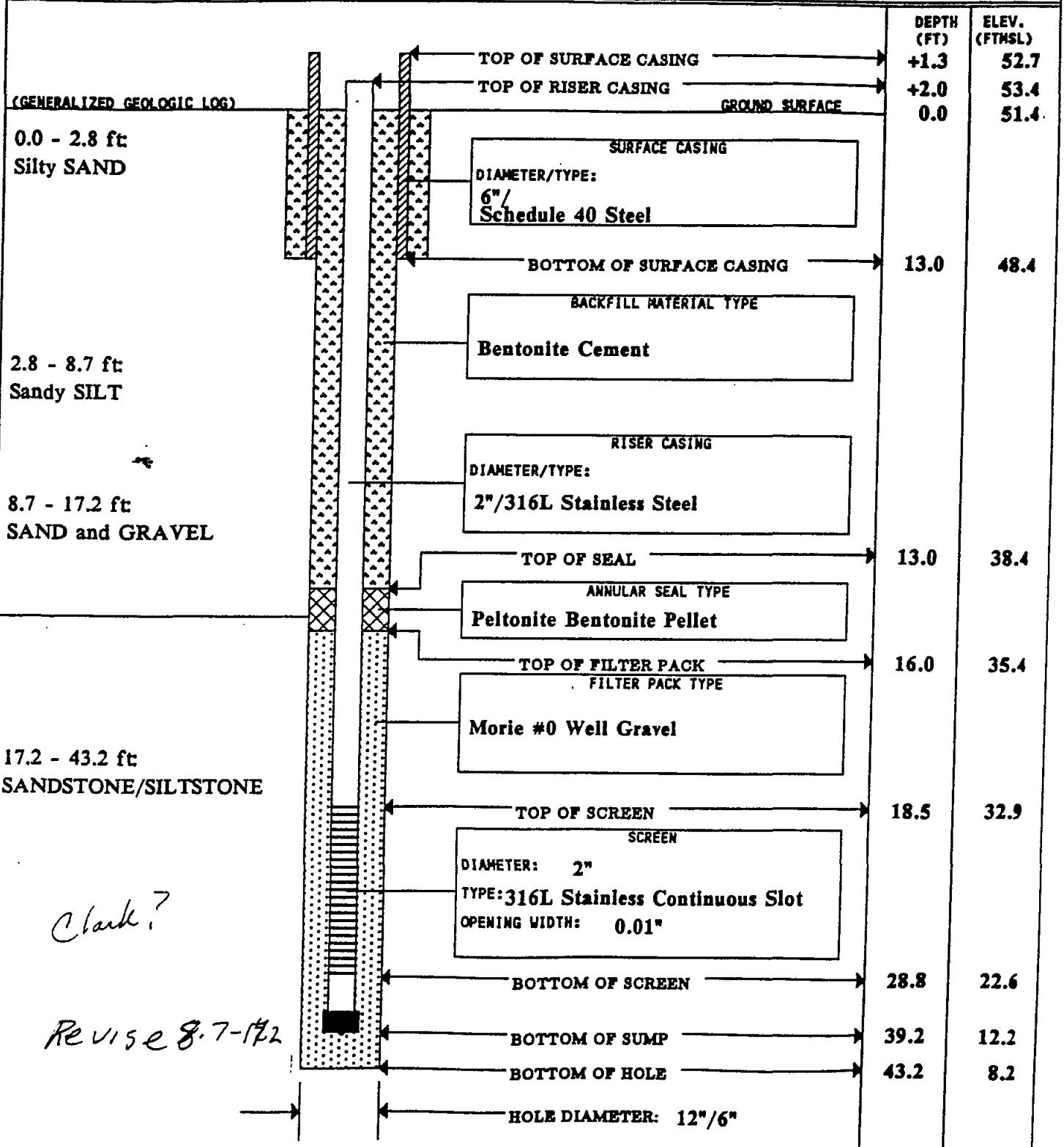
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W7B

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	Stepan Property	N 8,999 E 9,933

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
9-22-87	9-30-87	C.A. Clark	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+1.3	52.7
TOP OF RISER CASING	+2.0	53.4
GROUND SURFACE	0.0	51.4
BOTTOM OF SURFACE CASING	13.0	48.4
TOP OF SEAL	13.0	38.4
TOP OF FILTER PACK	16.0	35.4
TOP OF SCREEN	18.5	32.9
BOTTOM OF SCREEN	28.8	22.6
BOTTOM OF SUMP	39.2	12.2
BOTTOM OF HOLE	43.2	8.2

Clark?

Revise 8.7-172

Update: 04-30-92
Template: 11WELLOG

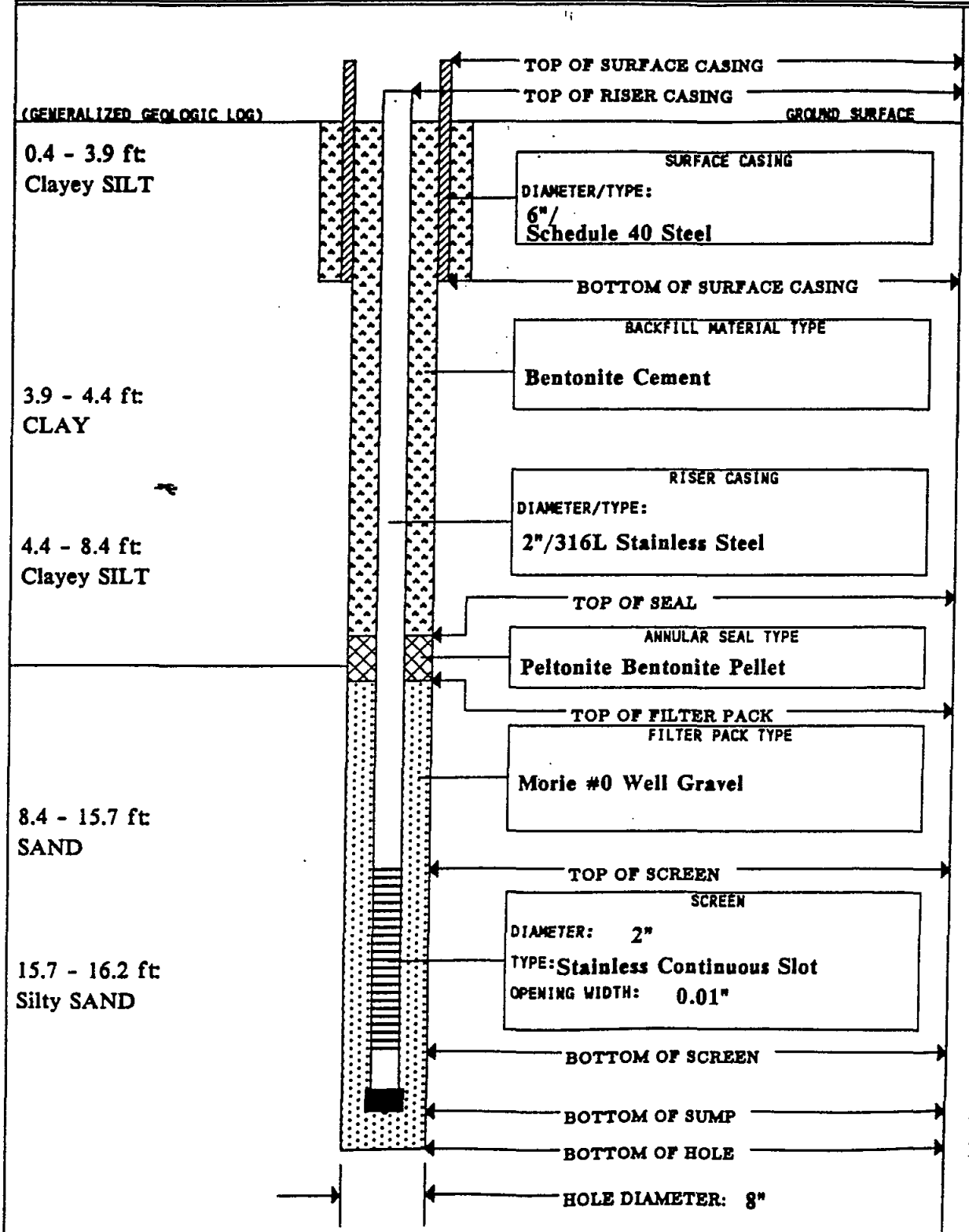
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W12A

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	Desaussure Property	N 8,773 E 11,631

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-13-87	10-14-87	C.A. Clark	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+3.0	50.2
TOP OF RISER CASING	+2.8	50.0
GROUND SURFACE	0.0	47.2
BOTTOM OF SURFACE CASING	3.0	44.2
TOP OF SEAL	3.0	44.2
TOP OF FILTER PACK	5.4	41.8
TOP OF SCREEN	7.4	39.8
BOTTOM OF SCREEN	12.4	34.8
BOTTOM OF SUMP	14.8	32.4
BOTTOM OF HOLE	16.2	31.0

NOT TO SCALE

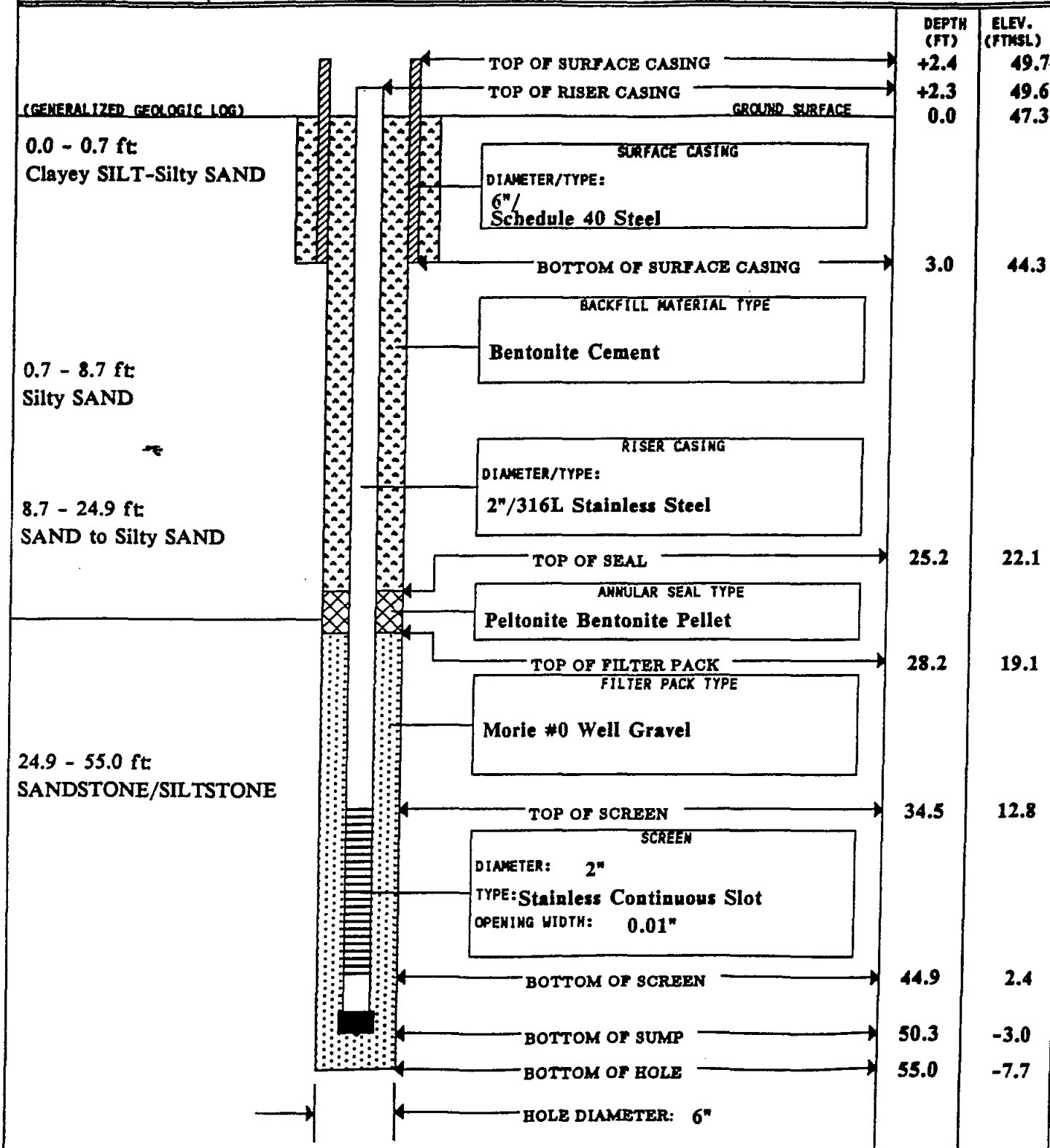
Update: 04-30-92
Template: 11WELLOG

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W12B

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	Desaussure Property	N 8,768 E 11,638

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-14-87	10-14-87	C.A. Clark	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+2.4	49.7
TOP OF RISER CASING	+2.3	49.6
GROUND SURFACE	0.0	47.3
BOTTOM OF SURFACE CASING	3.0	44.3
TOP OF SEAL	25.2	22.1
TOP OF FILTER PACK	28.2	19.1
TOP OF SCREEN	34.5	12.8
BOTTOM OF SCREEN	44.9	2.4
BOTTOM OF SUMP	50.3	-3.0
BOTTOM OF HOLE	55.0	-7.7

Update: 04-30-92
Template: 11WELLOG

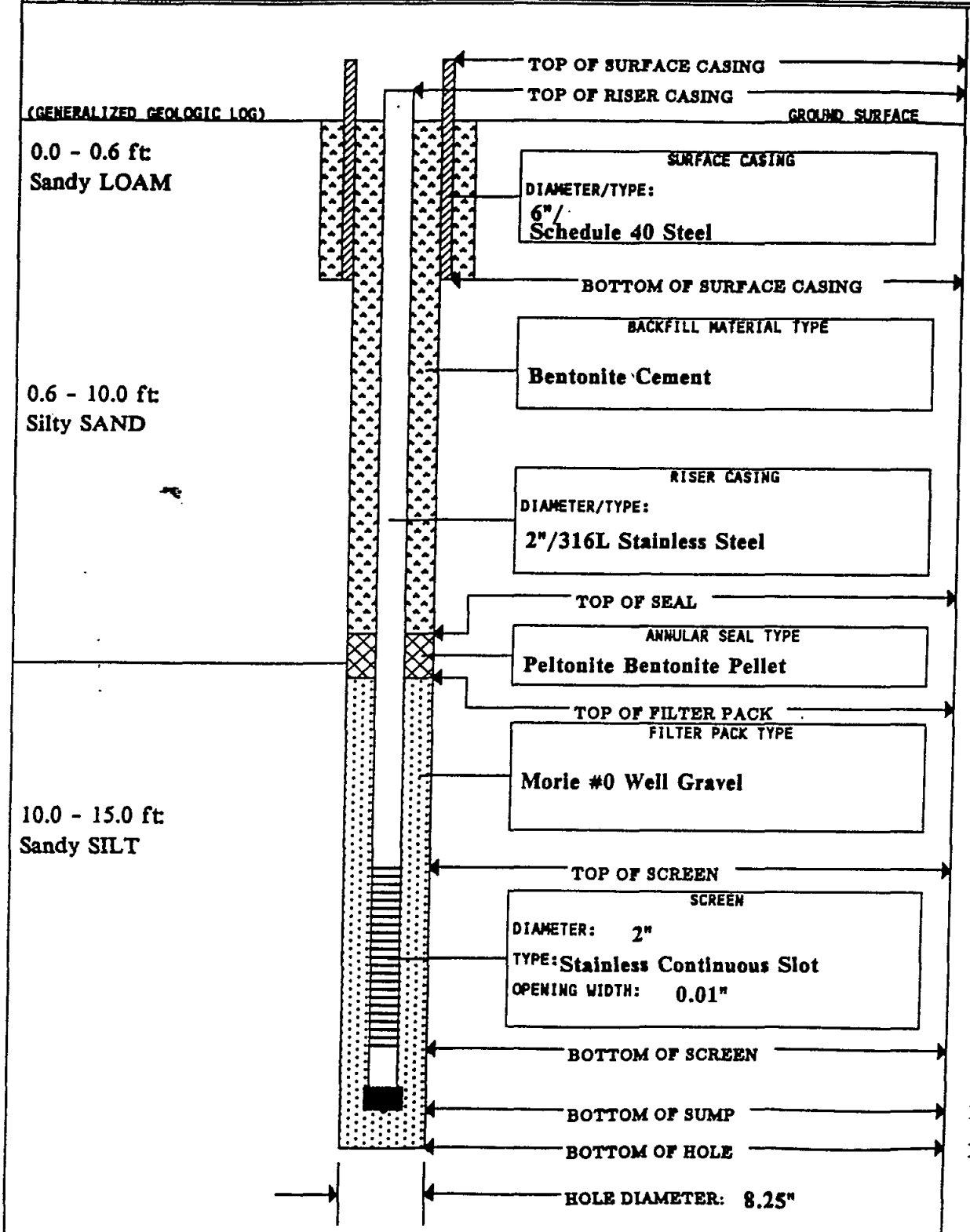
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W17A

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	17 Grove Ave., Rochelle Pk.	N 8,889 E 9,710

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-9-87	10-9-87	C.A. Clark	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+3.0	53.5
TOP OF RISER CASING	+2.6	53.1
GROUND SURFACE	0.0	50.5
BOTTOM OF SURFACE CASING	3.0	47.5
TOP OF SEAL	3.4	47.1
TOP OF FILTER PACK	6.0	44.5
TOP OF SCREEN	7.6	42.9
BOTTOM OF SCREEN	12.6	37.9
BOTTOM OF SUMP	14.1	36.4
BOTTOM OF HOLE	15.0	35.5

Update: 04-30-92
Template: 11WELLOG

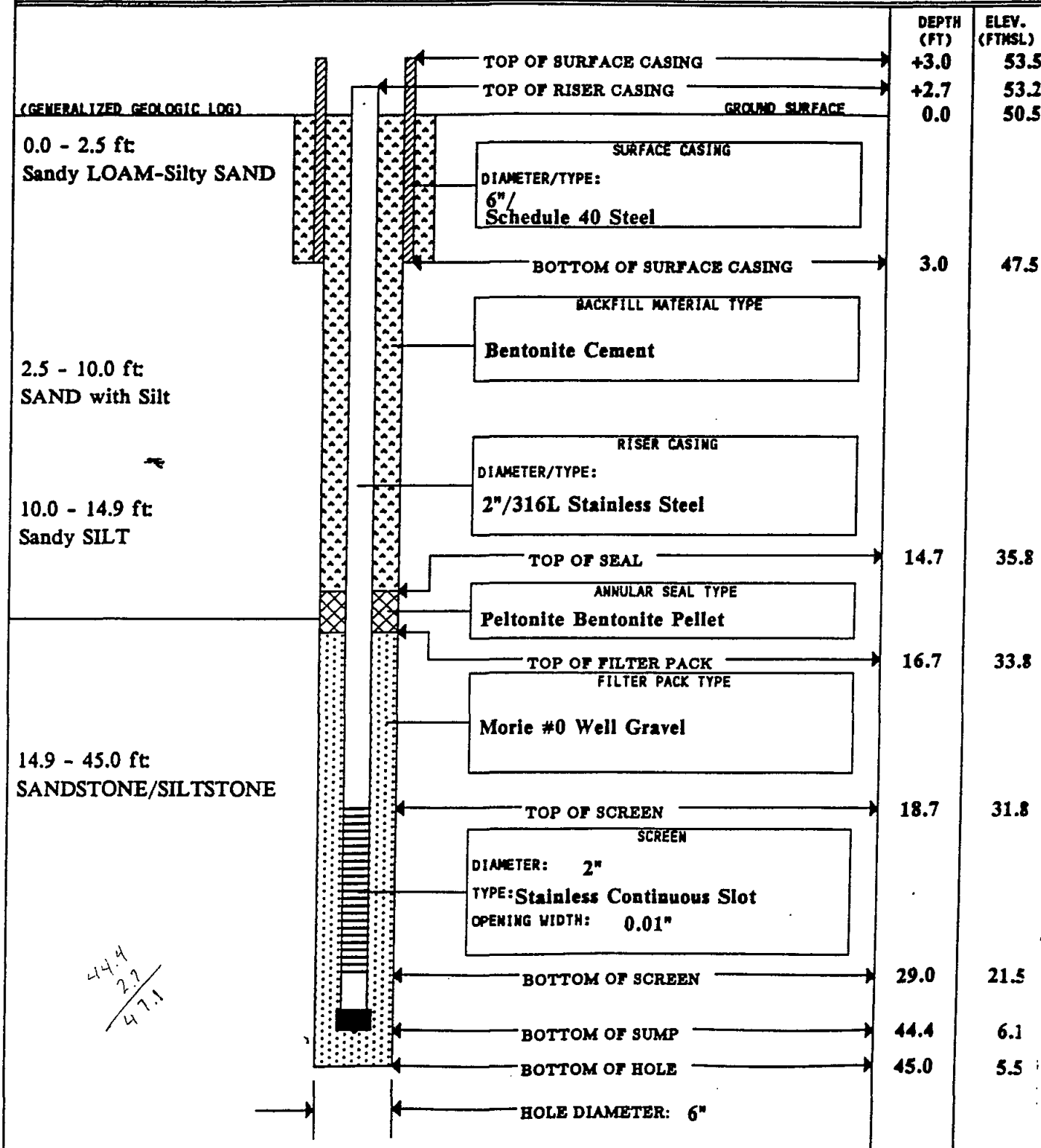
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W173

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	17 Grove Ave., Rochelle Pk.	N 8,893 E 9,712

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-2-87	10-9-87	C.A. Clark	Ground Surface



44.4
2.1
47.1

Update: 04-30-92
Template: 11WELLOG

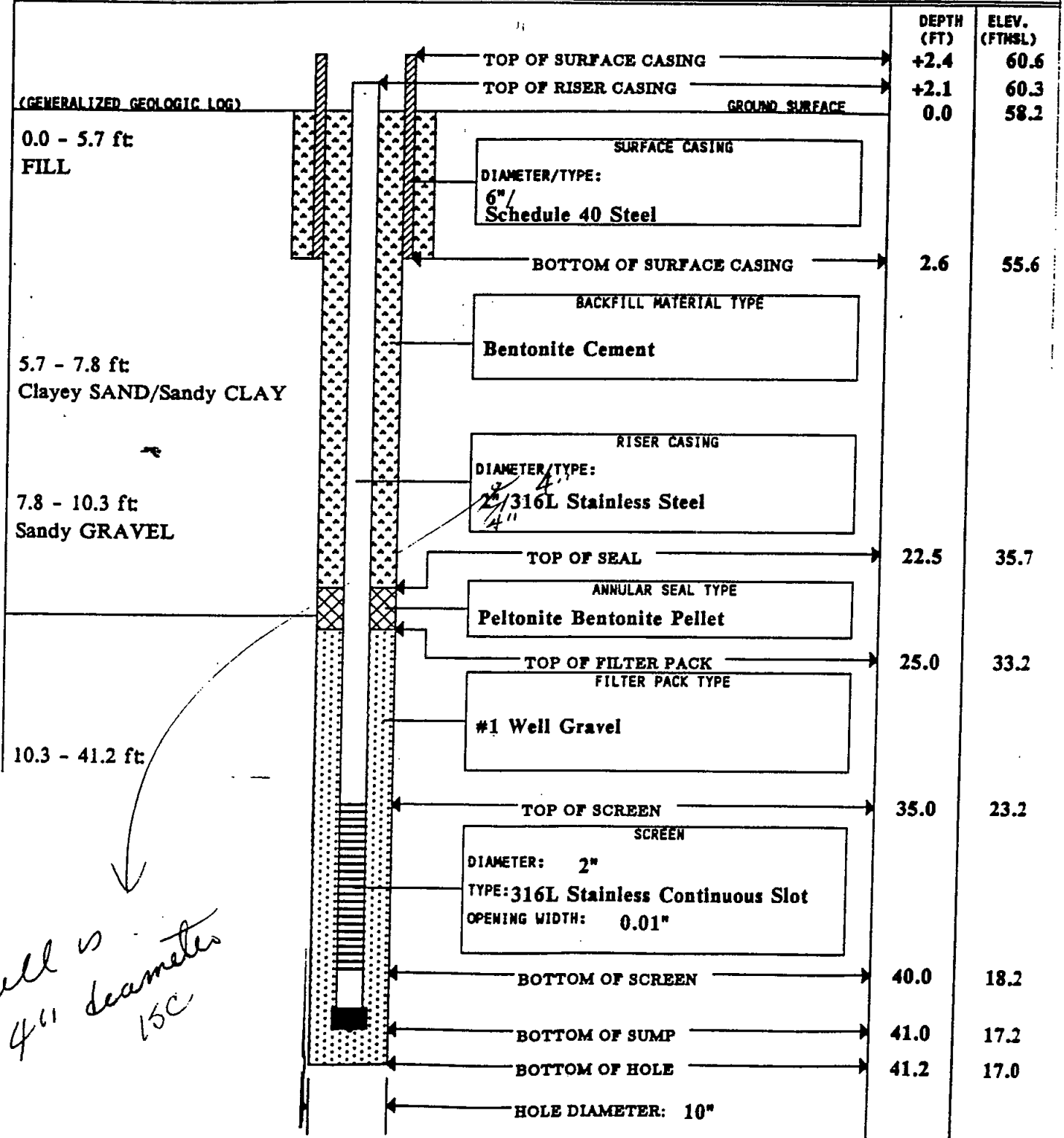
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W1[illegible]

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,793 E 10,108

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-18-88	10-21-88	R. Talmage	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+2.4	60.6
TOP OF RISER CASING	+2.1	60.3
GROUND SURFACE	0.0	58.2
BOTTOM OF SURFACE CASING	2.6	55.6
TOP OF SEAL	22.5	35.7
TOP OF FILTER PACK	25.0	33.2
TOP OF SCREEN	35.0	23.2
BOTTOM OF SCREEN	40.0	18.2
BOTTOM OF SUMP	41.0	17.2
BOTTOM OF HOLE	41.2	17.0

Well is 4" diameter SC

Update: 04-30-92
Template: 11WELLOG

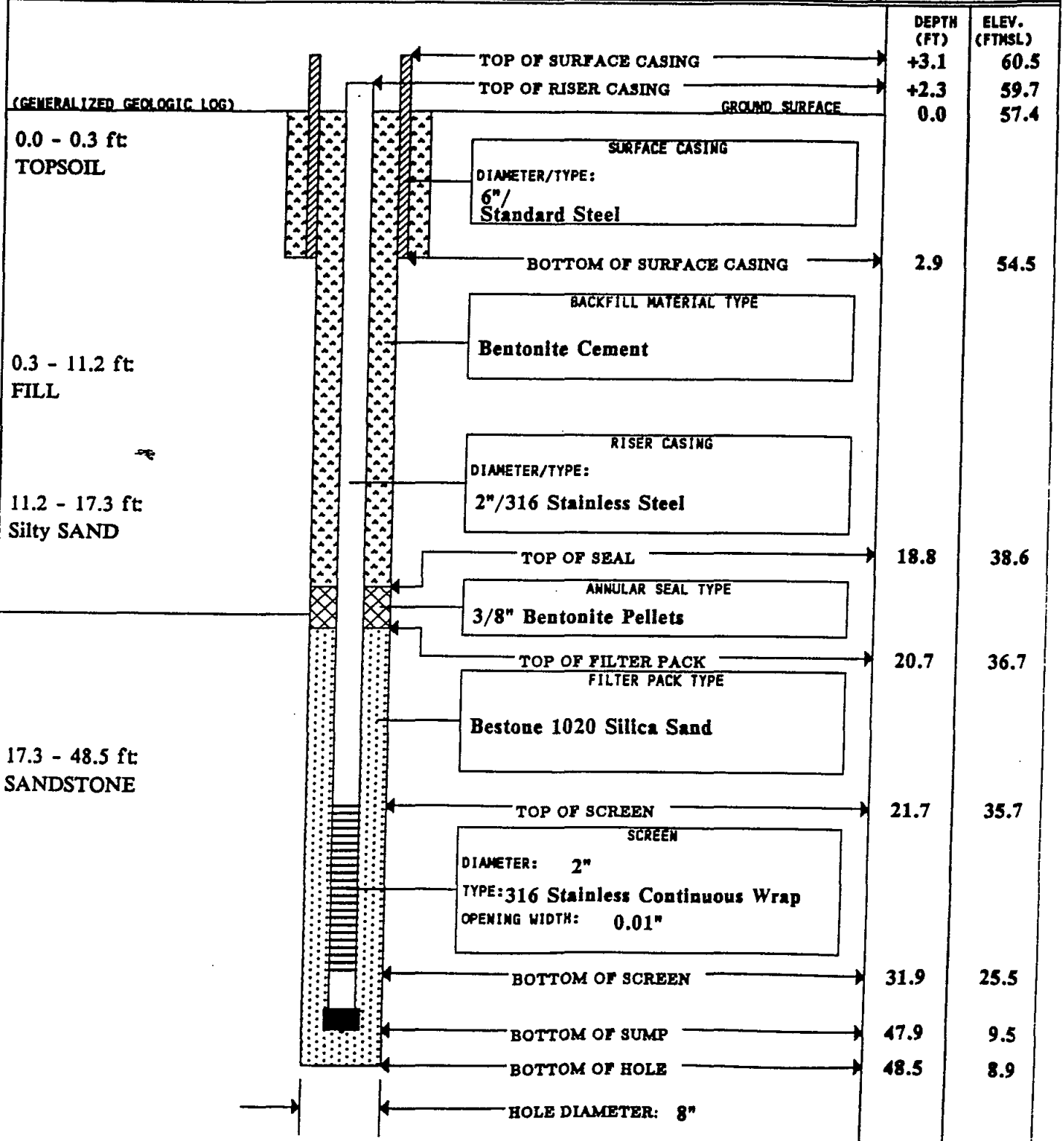
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W19D

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,360 E 9,515

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-6-89	10-12-89	C. A. Clark	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+3.1	60.5
TOP OF RISER CASING	+2.3	59.7
GROUND SURFACE	0.0	57.4
BOTTOM OF SURFACE CASING	2.9	54.5
TOP OF SEAL	18.8	38.6
TOP OF FILTER PACK	20.7	36.7
TOP OF SCREEN	21.7	35.7
BOTTOM OF SCREEN	31.9	25.5
BOTTOM OF SUMP	47.9	9.5
BOTTOM OF HOLE	48.5	8.9

Update: 04-30-92
Template: 11WELLOG

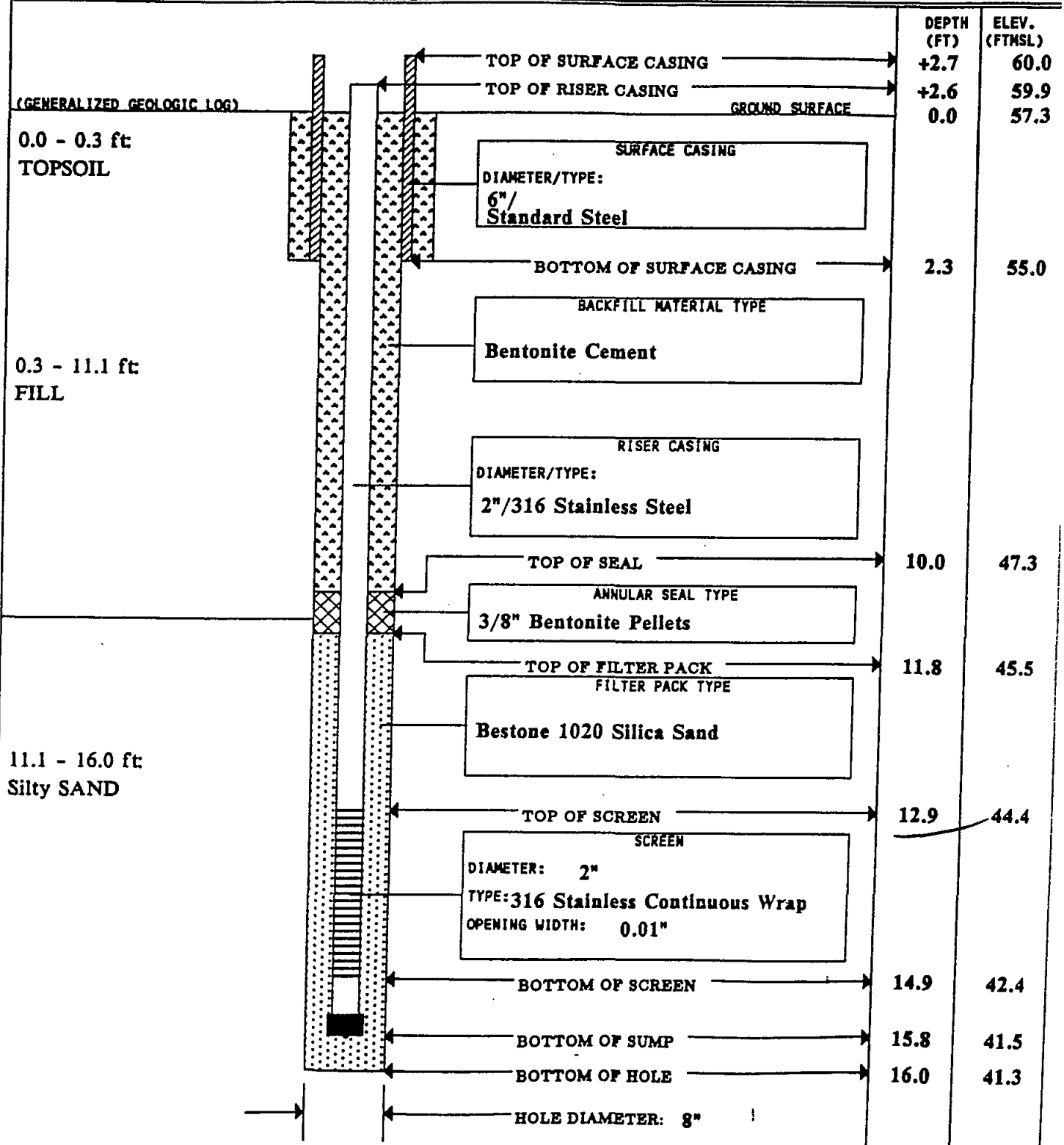
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W19

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,364 E 9,506

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-6-89	10-12-89	C. A. Clark	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+2.7	60.0
TOP OF RISER CASING	+2.6	59.9
GROUND SURFACE	0.0	57.3
BOTTOM OF SURFACE CASING	2.3	55.0
TOP OF SEAL	10.0	47.3
TOP OF FILTER PACK	11.8	45.5
TOP OF SCREEN	12.9	44.4
BOTTOM OF SCREEN	14.9	42.4
BOTTOM OF SUMP	15.8	41.5
BOTTOM OF HOLE	16.0	41.3

Update: 04-30-92
Template: 11WELLOG

NOT TO SCALE

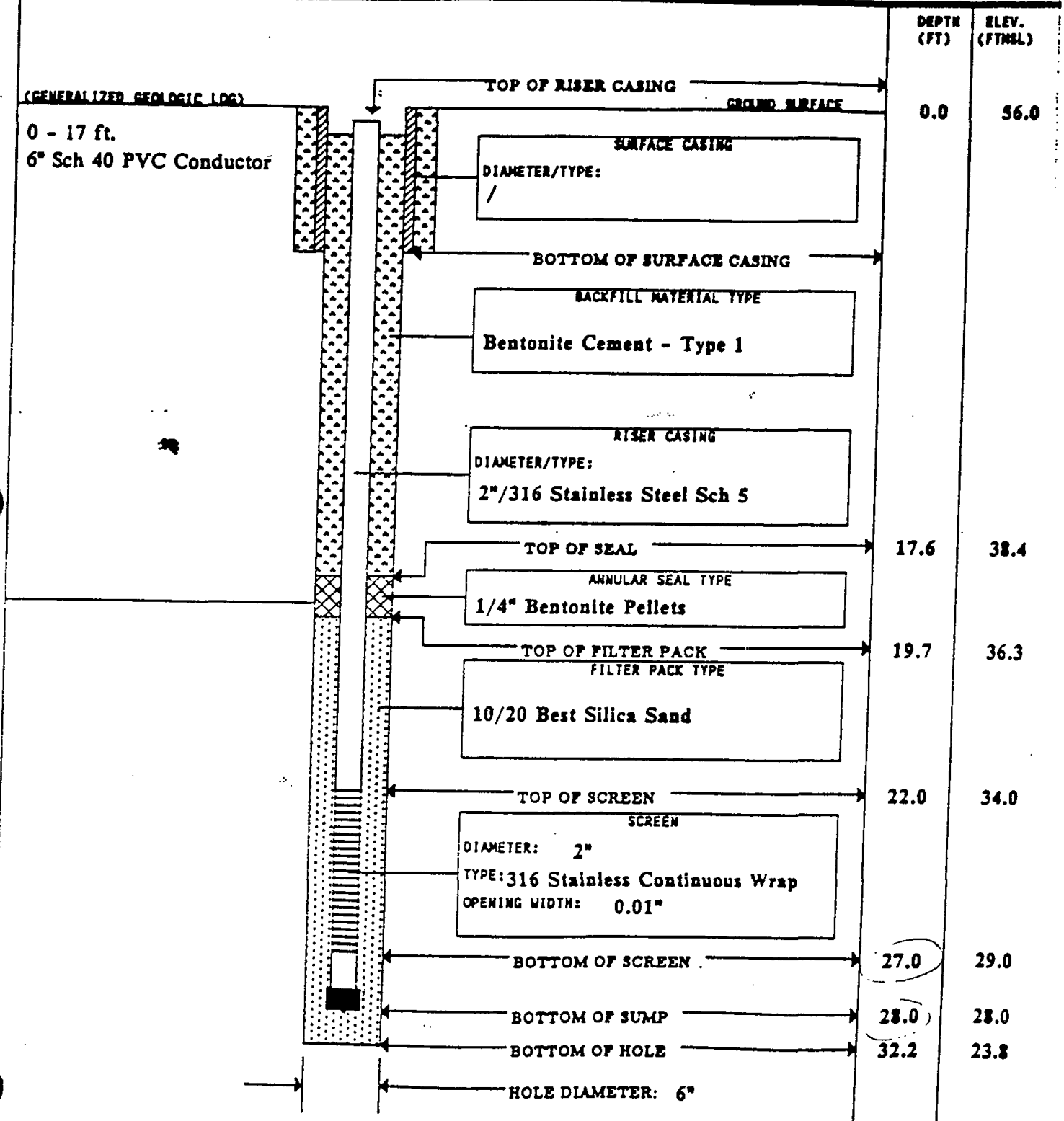
MONITORING WELL

FUSRAP

WELL NO. B38W24D

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,250 E 9,900

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
3-29-93	4-8-93	D. Kyllonen	Top of Riser - Water levels



	DEPTH (FT)	ELEV. (FTMSL)
GROUND SURFACE	0.0	56.0
TOP OF SEAL	17.6	38.4
TOP OF FILTER PACK	19.7	36.3
TOP OF SCREEN	22.0	34.0
BOTTOM OF SCREEN	27.0	29.0
BOTTOM OF SUMP	28.0	28.0
BOTTOM OF HOLE	32.2	23.8

Update: 4-28-93
Template: FUSRAP10

NOT TO SCALE

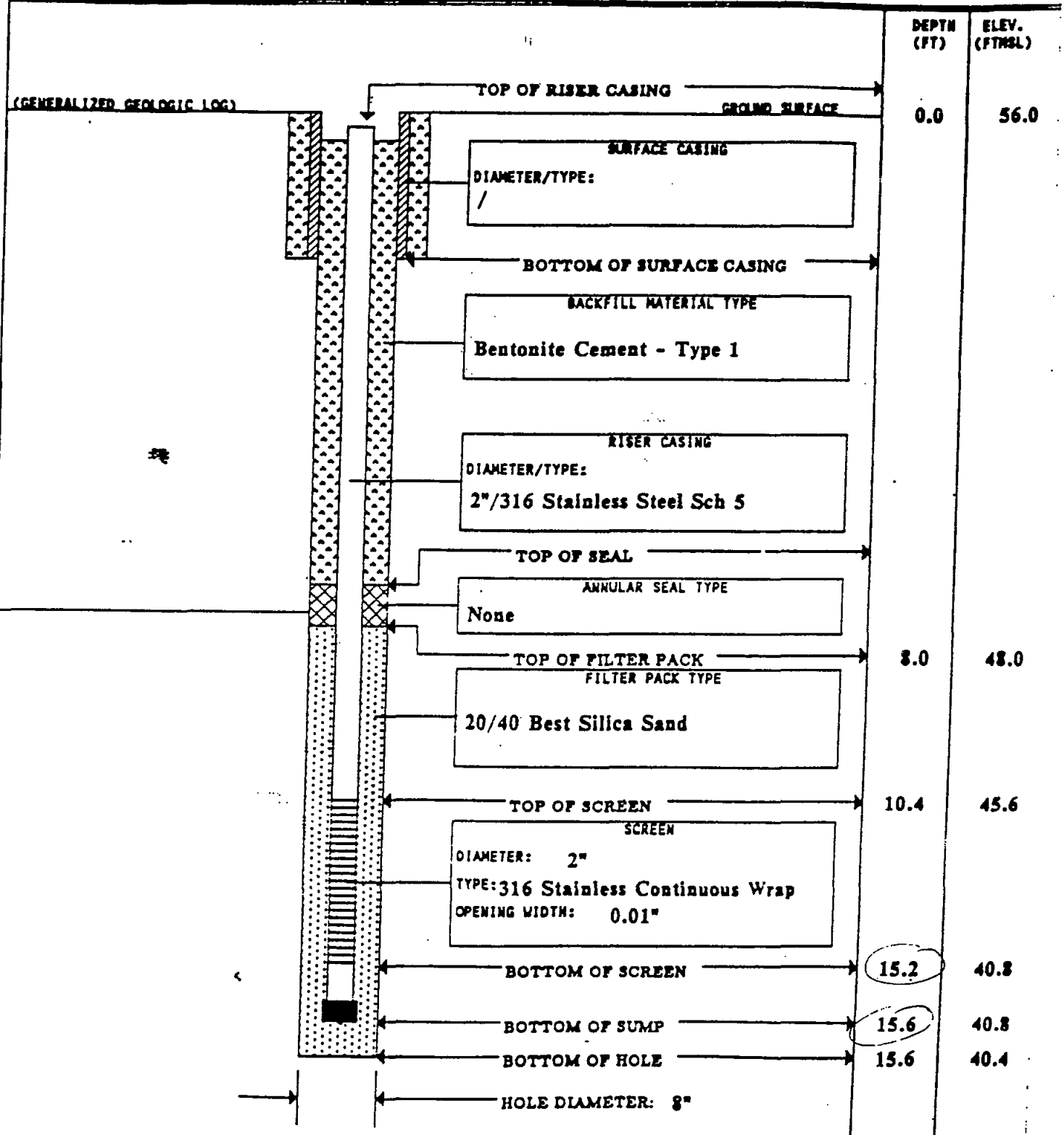
MONITORING WELL

FUSRAP

WELL NO. B38W24S

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,260 E 9,900

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
4-8-93	4-8-93	D. Kyllonen	Top of Riser - Water levels



Update: 4-28-93
Template: FUSRAP10

NOT TO SCALE

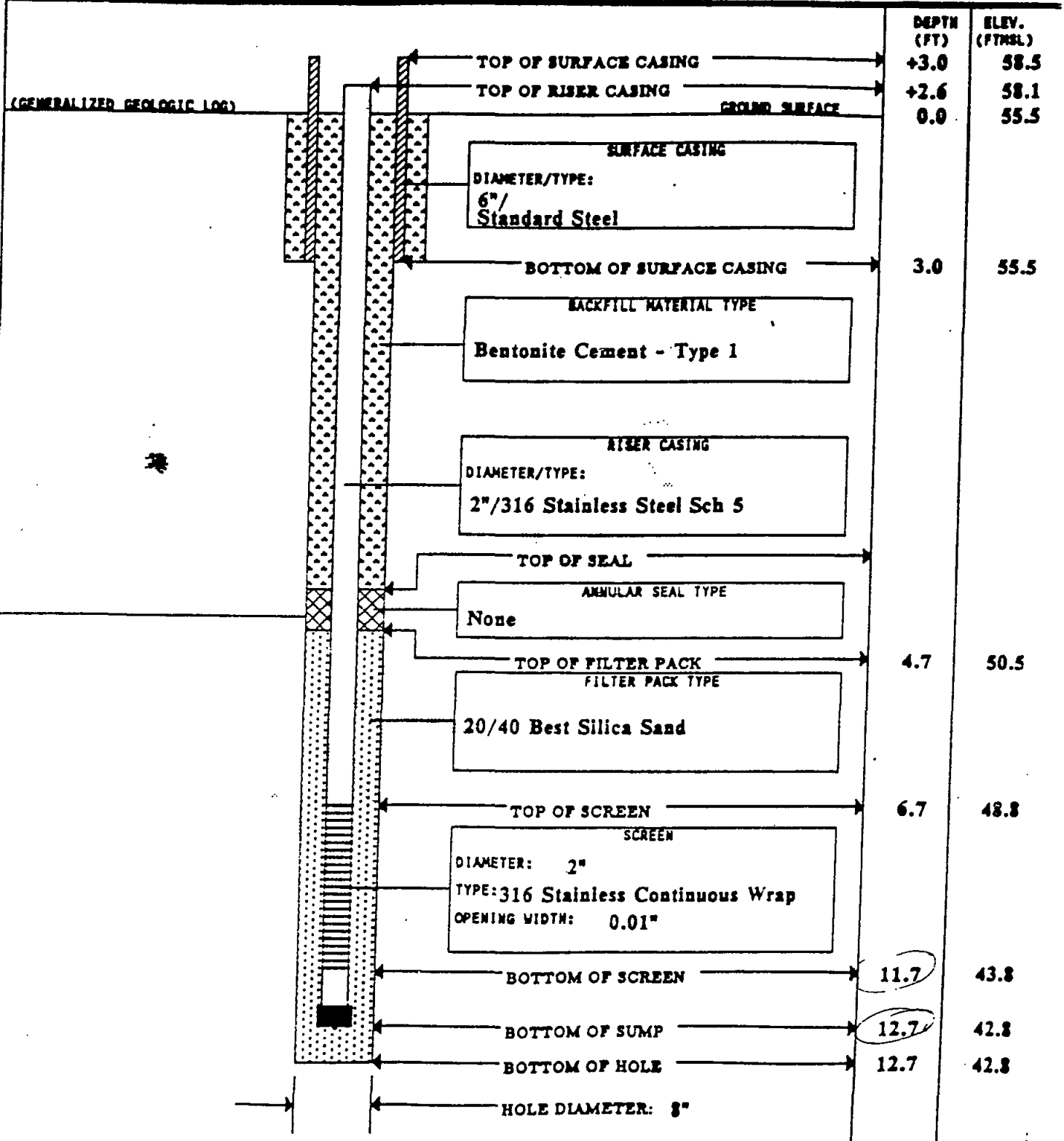
MONITORING WELL

FUSRAP

B38W255

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,560 E 9,750

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
4-6-93	4-6-93	D. Kyllonen	Top of Riser - Water levels



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+3.0	58.5
TOP OF RISER CASING	+2.6	58.1
GROUND SURFACE	0.0	55.5
BOTTOM OF SURFACE CASING	3.0	55.5
TOP OF FILTER PACK	4.7	50.5
TOP OF SCREEN	6.7	48.8
BOTTOM OF SCREEN	11.7	43.8
BOTTOM OF SUMP	12.7	42.8
BOTTOM OF HOLE	12.7	42.8

Update: 4-28-93
Template: FUSRAP11

NOT TO SCALE

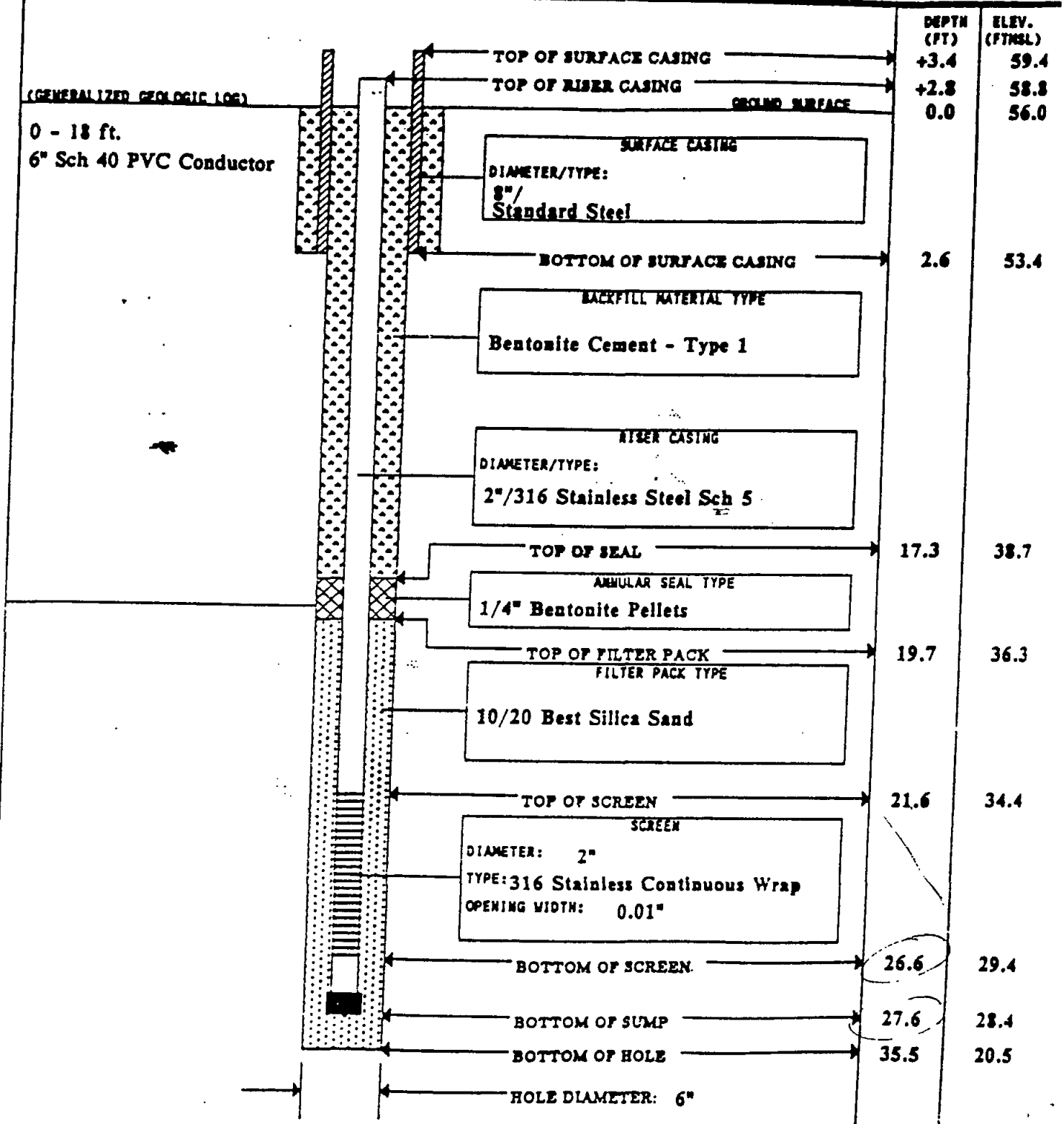
MONITORING WELL

FUSRAP

WELL NO. B38W25I

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	MISS on Site	N 9,550 E 9,750

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
3-31-93	4-6-93	D. Kyllonen	Top of Riser - Water levels



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	+3.4	59.4
TOP OF RISER CASING	+2.8	58.8
GROUND SURFACE	0.0	56.0
BOTTOM OF SURFACE CASING	2.6	53.4
TOP OF SEAL	17.3	38.7
TOP OF FILTER PACK	19.7	36.3
TOP OF SCREEN	21.6	34.4
BOTTOM OF SCREEN	26.6	29.4
BOTTOM OF SUMP	27.6	28.4
BOTTOM OF HOLE	35.5	20.5

Update: 4-28-93
Template: FUSRAP11

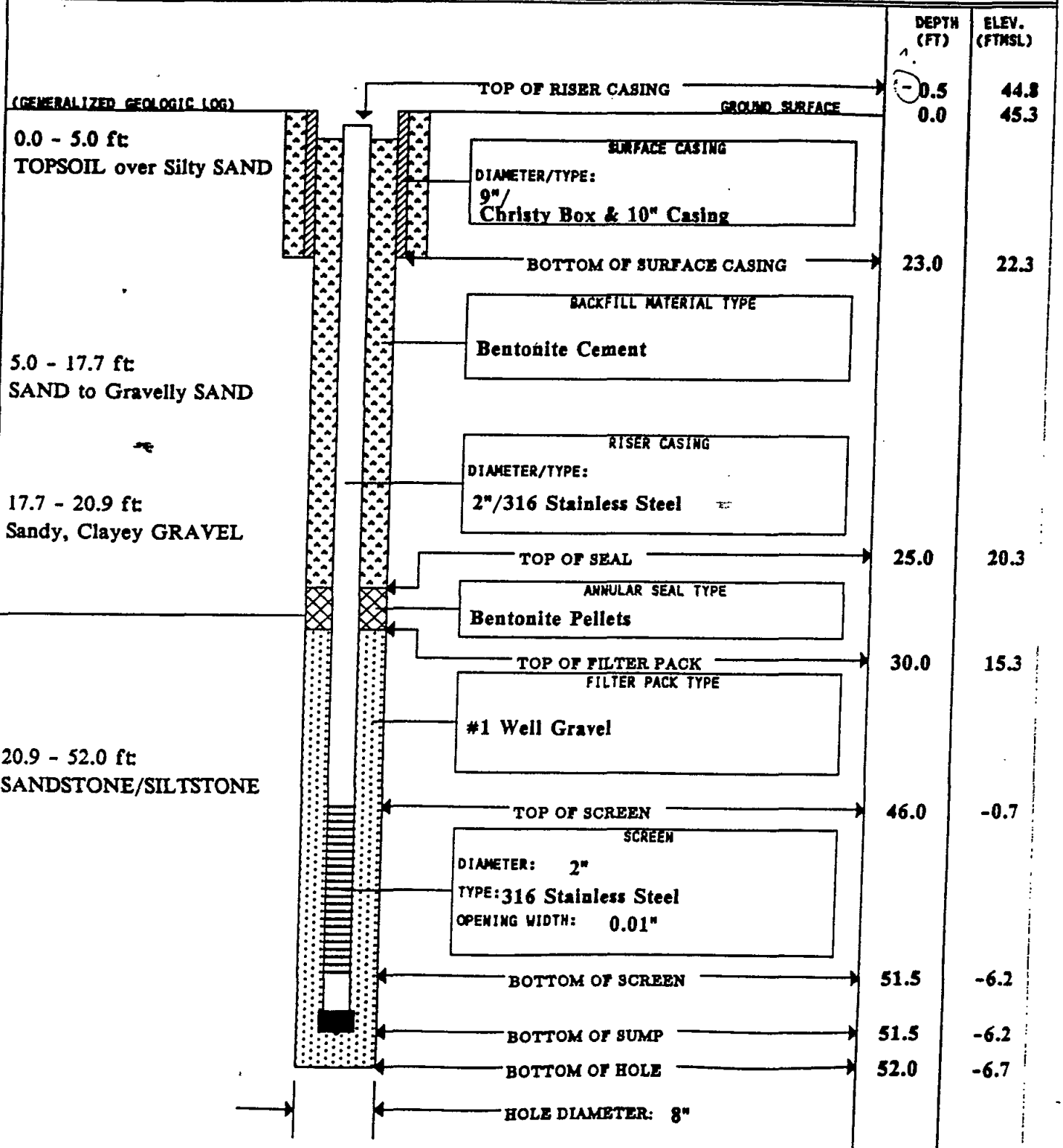
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W14

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	Park Way, Rochelle Park	N 9,032 E 8,938

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-3-88	11-4-88	J. Lord	Ground Surface



Update: 04-30-92
Template: 10WELLOG

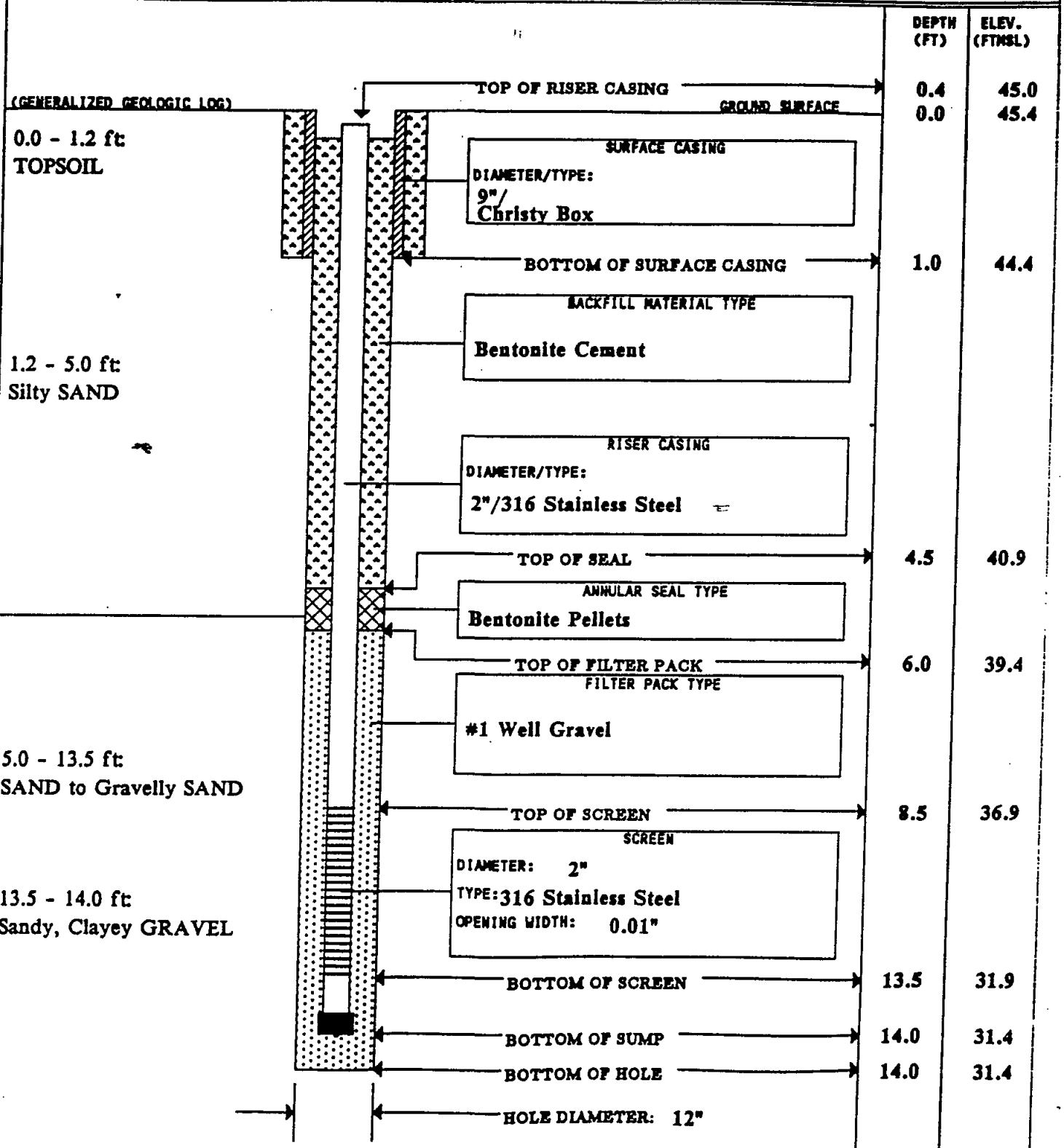
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W14S

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	Park Way, Rochelle Park	N 9,031 E 8,931

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
11-4-88	11-4-88	J. Lord	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF RISER CASING	0.4	45.0
GROUND SURFACE	0.0	45.4
BOTTOM OF SURFACE CASING	1.0	44.4
TOP OF SEAL	4.5	40.9
TOP OF FILTER PACK	6.0	39.4
TOP OF SCREEN	8.5	36.9
BOTTOM OF SCREEN	13.5	31.9
BOTTOM OF SUMP	14.0	31.4
BOTTOM OF HOLE	14.0	31.4

Update: 04-30-92
Template: 10WELLOG

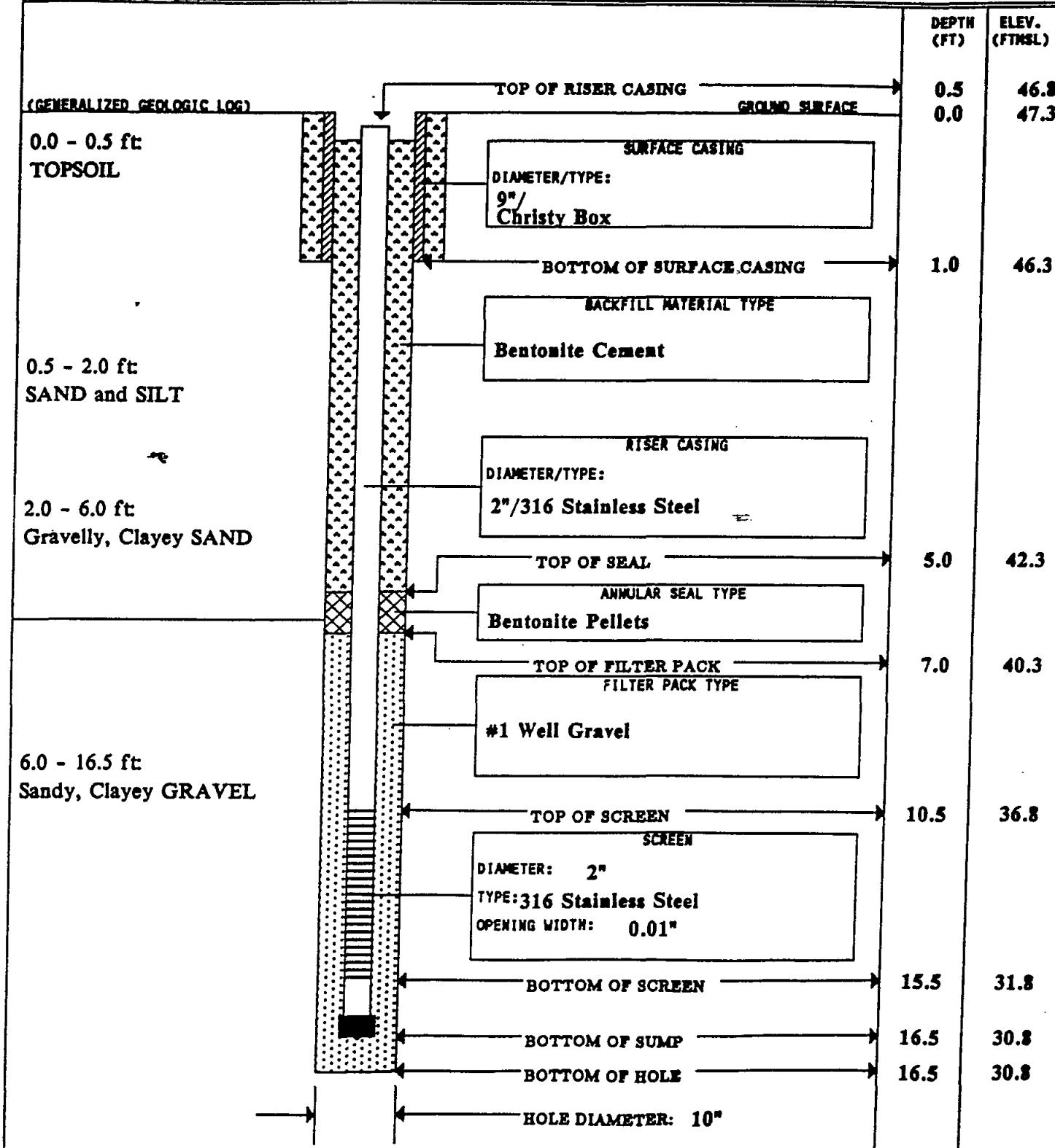
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W15S

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	26 Grove Ave., Rochelle Pk.	N 8,893 E 9,142

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-28-88	10-28-88	J. Lord	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF RISER CASING	0.5	46.8
GROUND SURFACE	0.0	47.3
BOTTOM OF SURFACE CASING	1.0	46.3
TOP OF SEAL	5.0	42.3
TOP OF FILTER PACK	7.0	40.3
TOP OF SCREEN	10.5	36.8
BOTTOM OF SCREEN	15.5	31.8
BOTTOM OF SUMP	16.5	30.8
BOTTOM OF HOLE	16.5	30.8

Update: 04-30-92
Template: 10WELLOG

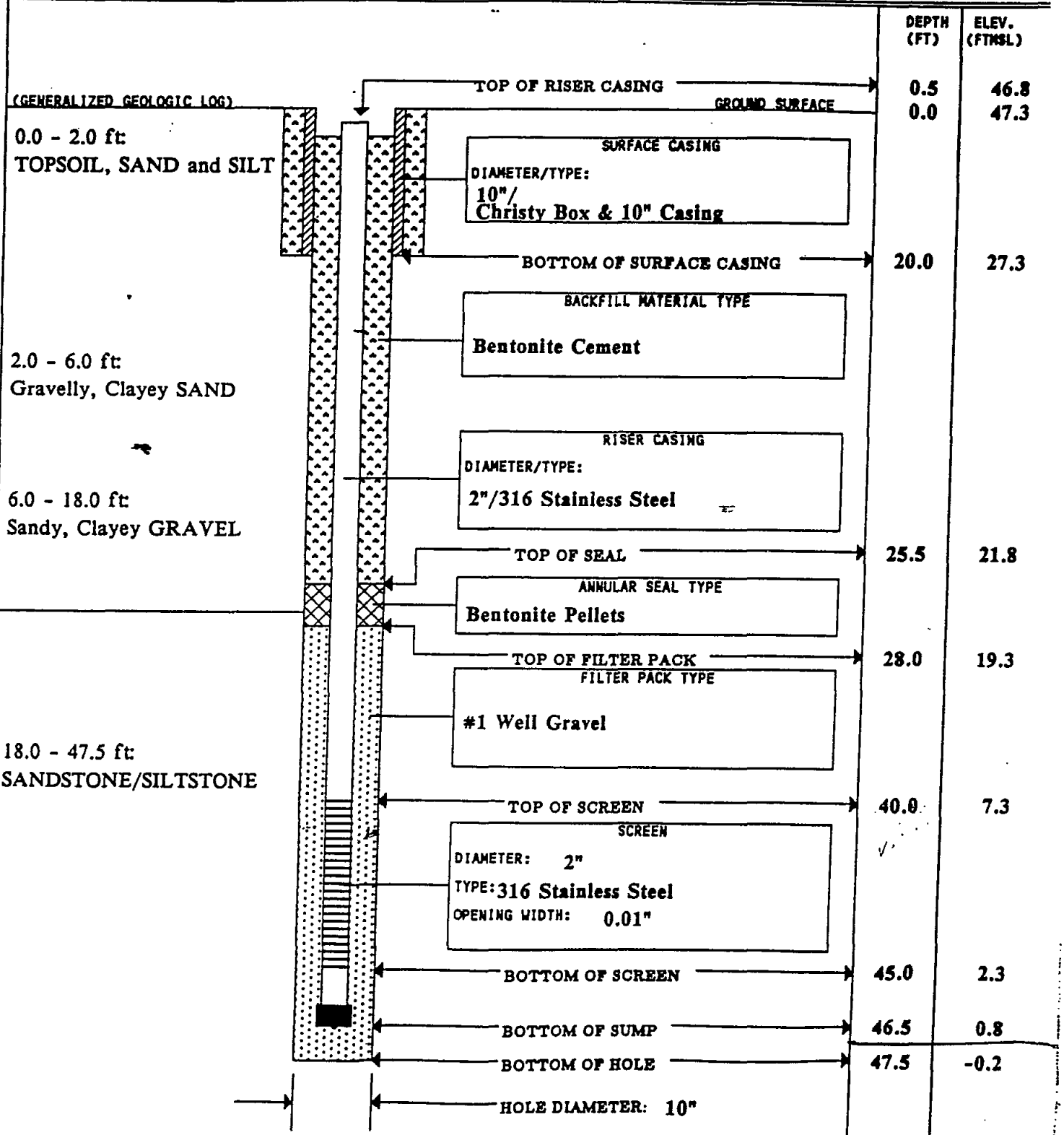
NOT TO SCALE

MONITORING WELL

PROJECT	WELL NO.
FUSRAP	B38W15D

JOB NO.	SITE	COORDINATES and/or STATIONING
14501	26 Grove Ave., Rochelle Pk.	N 8,898 E 9,143

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-27-88	10-28-88	J. Lord	Ground Surface



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF RISER CASING	0.5	46.8
GROUND SURFACE	0.0	47.3
BOTTOM OF SURFACE CASING	20.0	27.3
TOP OF SEAL	25.5	21.8
TOP OF FILTER PACK	28.0	19.3
TOP OF SCREEN	40.0	7.3
BOTTOM OF SCREEN	45.0	2.3
BOTTOM OF SUMP	46.5	0.8
BOTTOM OF HOLE	47.5	-0.2

NOT TO SCALE

Update: 04-30-92
Template: 10WELLOG

APPENDIX D

SLUG TEST RESULTS

LEGEND FOR SLUG TEST GRAPHS

H_o = Initial Head

r_c = Radius of well casing

r_w = Radius of borehole

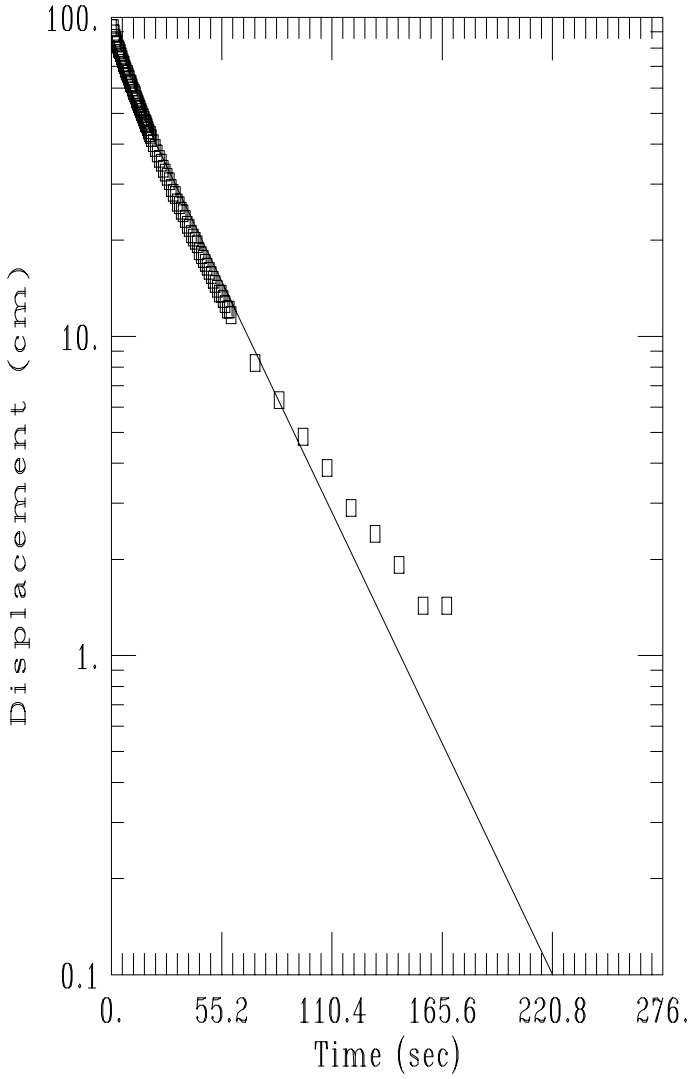
L = Screen length

B = Saturated thickness

H = Static height of water in well

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS1B RISING HEAD TEST



DATA SET:

MISS1BR.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS1B

ESTIMATED PARAMETERS:

K = 0.0007549 cm/sec

y0 = 78.73 cm

TEST DATA:

H0 = 92.35 cm

rc = 3.81 cm

rw = 20.33 cm

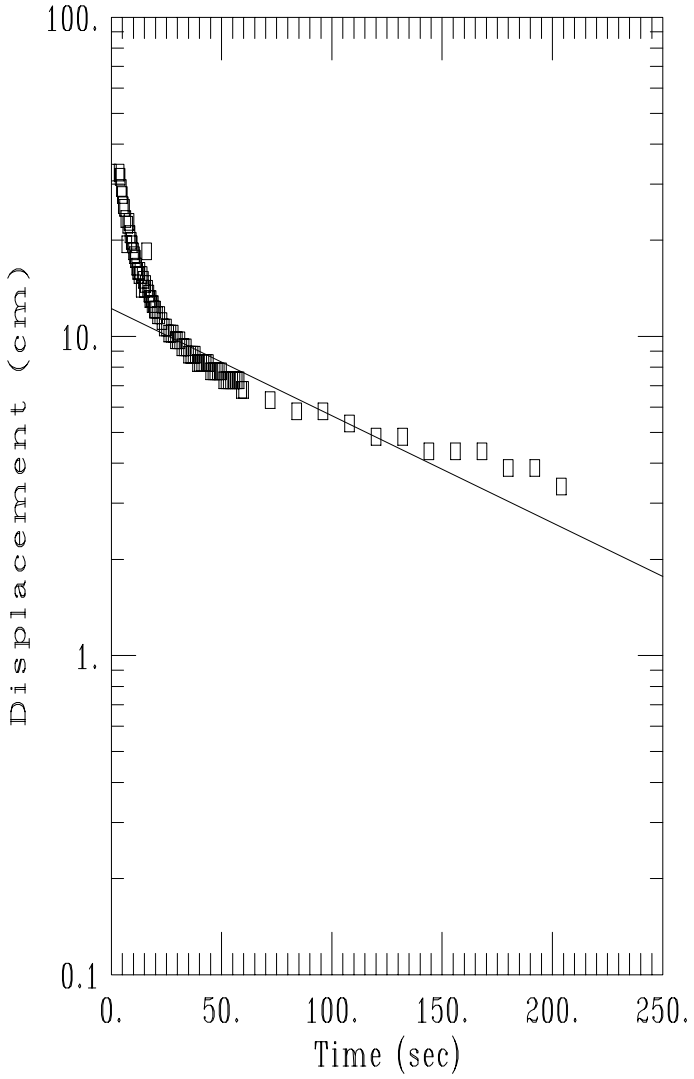
L = 899.2 cm

b = 1237.5 cm

H = 1237.5 cm

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS2B FALLING HEAD TEST



DATA SET:

MISS2BF.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS2B

ESTIMATED PARAMETERS:

K = 0.0002255 cm/sec

y0 = 12.2 cm

TEST DATA:

H0 = 32.55 cm

rc = 3.81 cm

rw = 20.33 cm

L = 771.8 cm

b = 1325.3 cm

H = 1325.3 cm

SE2000
Environmental Logger
03/03 16:17

Unit# 609 Test 7

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_1B
Reference	0.000
PSI at Ref.	3.596
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 0 03/01 13:15:16

Elapsed Time	INPUT 1
0.0000	-0.031
0.0083	-0.015
0.0166	-0.031
0.0250	-0.031
0.0333	-0.031
0.0416	-0.031
0.0500	-0.015
0.0583	-0.015
0.0666	-0.031
0.0750	-0.031
0.0833	-0.031
0.0916	-0.207
0.1000	-0.925
0.1083	-1.914
0.1166	-1.643
0.1250	-2.009
0.1333	-2.392
0.1416	-2.169
0.1500	-2.281
0.1583	-2.743
0.1666	-2.871
0.1750	-2.871
0.1833	-2.855
0.1916	-2.887
0.2000	-2.504
0.2083	-2.297
0.2166	-2.679
0.2250	-2.504
0.2333	-2.648
0.2416	-2.121
0.2500	-2.297
0.2583	-2.329
0.2666	-2.456
0.2750	-2.424
0.2833	-2.313
0.2916	-1.834
0.3000	-2.265
0.3083	-2.009
0.3166	-2.297
0.3250	-2.217
0.3333	-2.057

0.3500	-1.898
0.3666	-1.978
0.3833	-1.834
0.4000	-1.786
0.4166	-1.722
0.4333	-1.690
0.4500	-1.643
0.4666	-1.595
0.4833	-1.563
0.5000	-1.515
0.5166	-1.467
0.5333	-1.435
0.5500	-1.403
0.5666	-1.371
0.5833	-1.339
0.6000	-1.292
0.6166	-1.260
0.6333	-1.228
0.6500	-1.212
0.6666	-1.180
0.6833	-1.148
0.7000	-1.116
0.7166	-1.084
0.7333	-1.068
0.7500	-1.036
0.7666	-1.004
0.7833	-0.973
0.8000	-0.973
0.8166	-0.941
0.8333	-0.925
0.8500	-0.893
0.8666	-0.877
0.8833	-0.861
0.9000	-0.845
0.9166	-0.813
0.9333	-0.797
0.9500	-0.781
0.9666	-0.765
0.9833	-0.749
1.0000	-0.733
1.2000	-0.542
1.4000	-0.430
1.6000	-0.319
1.8000	-0.255
2.0000	-0.207
2.2000	-0.175
2.4000	-0.127
2.6000	-0.111
2.8000	-0.095
3.0000	-0.079
3.2000	-0.063
3.4000	-0.063
3.6000	-0.063
3.8000	-0.047
4.0000	-0.031
4.2000	-0.031
4.4000	-0.031
4.6000	-0.031
4.8000	-0.015
5.0000	-0.015
5.2000	-0.015
5.4000	-0.015
5.6000	-0.015
5.8000	-0.015
6.0000	-0.015
6.2000	-0.015

6.4000	0.000
6.6000	0.000
6.8000	0.000
7.0000	0.000
7.2000	0.000
7.4000	0.015
7.6000	0.000
7.8000	0.015
8.0000	0.000
8.2000	0.000
8.4000	0.015
8.6000	0.000
8.8000	0.000
9.0000	0.015
9.2000	0.015
9.4000	0.015
9.6000	0.015
9.8000	0.015
10.0000	0.015

SE2000
Environmental Logger
03/03 16:19

Unit# 609 Test 7

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_1B
Reference	0.000
PSI at Ref.	3.596
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

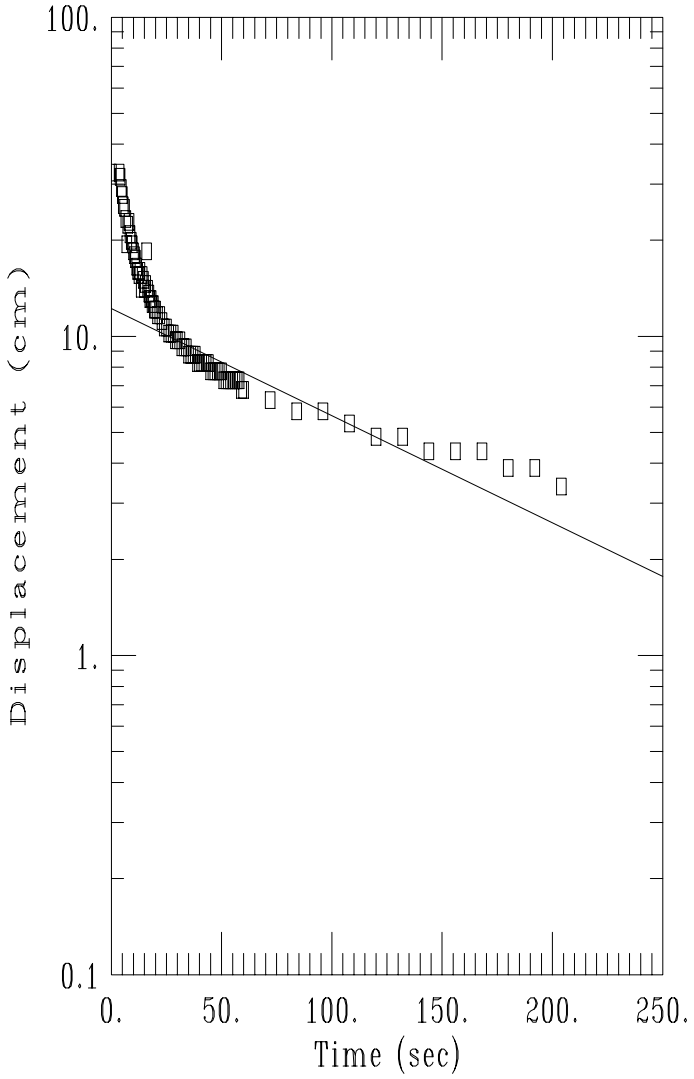
Step 1 03/01 13:25:47

Elapsed Time	INPUT 1
0.0000	2.265
0.0083	2.759
0.0166	3.030
0.0250	2.919
0.0333	2.823
0.0416	2.759
0.0500	2.711
0.0583	2.616
0.0666	2.584
0.0750	2.536
0.0833	2.472
0.0916	2.424
0.1000	2.360
0.1083	2.328
0.1166	2.265
0.1250	2.217
0.1333	2.185
0.1416	2.137
0.1500	2.089
0.1583	2.041
0.1666	2.025
0.1750	1.977
0.1833	1.930
0.1916	1.898
0.2000	1.866
0.2083	1.818
0.2166	1.786
0.2250	1.754
0.2333	1.722
0.2416	1.690
0.2500	1.658
0.2583	1.627
0.2666	1.595
0.2750	1.563
0.2833	1.531
0.2916	1.515
0.3000	1.483
0.3083	1.451
0.3166	1.419
0.3250	1.403
0.3333	1.371

0.3500	1.323
0.3666	1.276
0.3833	1.228
0.4000	1.180
0.4166	1.148
0.4333	1.100
0.4500	1.068
0.4666	1.036
0.4833	1.004
0.5000	0.957
0.5166	0.925
0.5333	0.909
0.5500	0.861
0.5666	0.845
0.5833	0.813
0.6000	0.797
0.6166	0.765
0.6333	0.733
0.6500	0.717
0.6666	0.685
0.6833	0.669
0.7000	0.654
0.7166	0.638
0.7333	0.606
0.7500	0.590
0.7666	0.574
0.7833	0.558
0.8000	0.542
0.8166	0.526
0.8333	0.510
0.8500	0.494
0.8666	0.478
0.8833	0.462
0.9000	0.446
0.9166	0.446
0.9333	0.430
0.9500	0.414
0.9666	0.398
0.9833	0.398
1.0000	0.382
1.2000	0.271
1.4000	0.207
1.6000	0.159
1.8000	0.127
2.0000	0.095
2.2000	0.079
2.4000	0.063
2.6000	0.047
2.8000	0.047
3.0000	0.031
3.2000	0.031
3.4000	0.031
3.6000	0.015
3.8000	0.015
4.0000	0.015
4.2000	0.015
4.4000	0.015
4.6000	0.015

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS2B FALLING HEAD TEST



DATA SET:

MISS2BF.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS2B

ESTIMATED PARAMETERS:

K = 0.0002255 cm/sec

y0 = 12.2 cm

TEST DATA:

H0 = 32.55 cm

rc = 3.81 cm

rw = 20.33 cm

L = 771.8 cm

b = 1325.3 cm

H = 1325.3 cm

SE2000
Environmental Logger
03/03 16:00

Unit# 609 Test 5

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_2B
Reference	0.000
PSI at Ref.	5.014
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 0 03/01 08:28:24

Elapsed Time	INPUT 1
0.0000	-5.870
0.0083	-5.870
0.0166	-6.110
0.0250	-6.620
0.0333	-6.987
0.0416	-7.147
0.0500	-7.274
0.0583	-7.689
0.0666	-7.514
0.0750	-7.434
0.0833	-7.530
0.0916	-7.769
0.1000	-7.035
0.1083	-7.226
0.1166	-7.322
0.1250	-7.322
0.1333	-7.370
0.1416	-7.306
0.1500	-7.274
0.1583	-7.274
0.1666	-7.274
0.1750	-7.322
0.1833	-7.210
0.1916	-7.258
0.2000	-7.242
0.2083	-7.274
0.2166	-7.210
0.2250	-7.226
0.2333	-7.226
0.2416	-7.210
0.2500	-7.210
0.2583	-7.210
0.2666	-7.195
0.2750	-7.195
0.2833	-7.195
0.2916	-7.179
0.3000	-7.179
0:3083	-7.163
0.3166	-7.163
0.3250	-7.163
0.3333	-7.147

0.3500	-7.147
0.3666	-7.147
0.3833	-7.099
0.4000	-7.131
0.4166	-7.147
0.4333	-7.147
0.4500	-7.131
0.4666	-7.131
0.4833	-7.115
0.5000	-7.115
0.5166	-7.099
0.5333	-7.083
0.5500	-7.067
0.5666	-7.067
0.5833	-7.067
0.6000	-7.051
0.6166	-7.051
0.6333	-7.035
0.6500	-7.035
0.6666	-7.019
0.6833	-7.019
0.7000	-7.003
0.7166	-7.003
0.7333	-6.987
0.7500	-6.987
0.7666	-6.971
0.7833	-6.971
0.8000	-6.955
0.8166	-6.955
0.8333	-6.955
0.8500	-6.939
0.8666	-6.939
0.8833	-6.923
0.9000	-6.923
0.9166	-6.907
0.9333	-6.907
0.9500	-6.907
0.9666	-6.891
0.9833	-6.891
1.0000	-6.875
1.2000	-6.796
1.4000	-6.732
1.6000	-6.668
1.8000	-6.620
2.0000	-6.572
2.2000	-6.524
2.4000	-6.477
2.6000	-6.445
2.8000	-6.413
3.0000	-6.381
3.2000	-6.349
3.4000	-6.317
3.6000	-6.285
3.8000	-6.269
4.0000	-6.237
4.2000	-6.221
4.4000	-6.205
4.6000	-6.189
4.8000	-6.173
5.0000	-6.158
5.2000	-6.142
5.4000	-6.126
5.6000	-6.126
5.8000	-6.110
6.0000	-6.094
6.2000	-6.094

6.4000	-6.078
6.6000	-6.062
6.8000	-6.062
7.0000	-6.046
7.2000	-6.046
7.4000	-6.046
7.6000	-6.030
7.8000	-6.030
8.0000	-6.030
8.2000	-6.014
8.4000	-6.014
8.6000	-5.998
8.8000	-5.998
9.0000	-5.998
9.2000	-5.998
9.4000	-5.998
9.6000	-5.982
9.8000	-5.982
10.0000	-5.982
12.0000	-5.950
14.0000	-5.934

SE2000
Environmental Logger
03/03 16:02

Unit# 609 Test 5

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_2B
Reference	0.000
PSI at Ref.	5.014
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 1 03/01 08:44:18

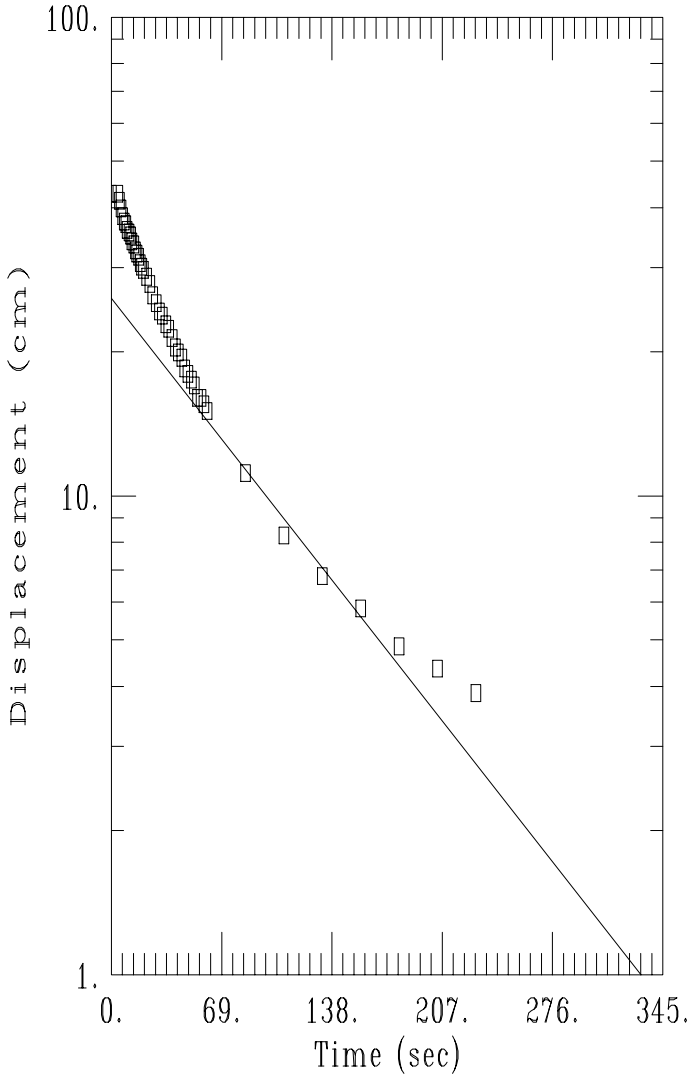
Elapsed Time	INPUT 1
0.0000	-5.041
0.0083	-5.041
0.0166	-5.041
0.0250	-5.791
0.0333	-4.977
0.0416	-4.610
0.0500	-4.371
0.0583	-4.387
0.0666	-4.403
0.0750	-4.403
0.0833	-4.419
0.0916	-4.419
0.1000	-4.419
0.1083	-4.450
0.1166	-4.450
0.1250	-4.450
0.1333	-4.466
0.1416	-4.466
0.1500	-4.482
0.1583	-4.482
0.1666	-4.482
0.1750	-4.498
0.1833	-4.498
0.1916	-4.514
0.2000	-4.514
0.2083	-4.530
0.2166	-4.530
0.2250	-4.530
0.2333	-4.546
0.2416	-4.546
0.2500	-4.546
0.2583	-4.562
0.2666	-4.562
0.2750	-4.562
0.2833	-4.578
0.2916	-4.578
0.3000	-4.578
0.3083	-4.594
0.3166	-4.594
0.3250	-4.594
0.3333	-4.610

0.3500	-4.610
0.3666	-4.626
0.3833	-4.642
0.4000	-4.642
0.4166	-4.658
0.4333	-4.674
0.4500	-4.674
0.4666	-4.690
0.4833	-4.706
0.5000	-4.706
0.5166	-4.706
0.5333	-4.722
0.5500	-4.738
0.5666	-4.738
0.5833	-4.754
0.6000	-4.754
0.6166	-4.770
0.6333	-4.770
0.6500	-4.785
0.6666	-4.801
0.6833	-4.801
0.7000	-4.801
0.7166	-4.817
0.7333	-4.817
0.7500	-4.833
0.7666	-4.833
0.7833	-4.849
0.8000	-4.849
0.8166	-4.865
0.8333	-4.865
0.8500	-4.881
0.8666	-4.881
0.8833	-4.881
0.9000	-4.897
0.9166	-4.897
0.9333	-4.913
0.9500	-4.913
0.9666	-4.929
0.9833	-4.929
1.0000	-4.929
1.2000	-5.009
1.4000	-5.089
1.6000	-5.136
1.8000	-5.184
2.0000	-5.232
2.2000	-5.280
2.4000	-5.328
2.6000	-5.360
2.8000	-5.392
3.0000	-5.424
3.2000	-5.456
3.4000	-5.487
3.6000	-5.519
3.8000	-5.535
4.0000	-5.551
4.2000	-5.583
4.4000	-5.599
4.6000	-5.615
4.8000	-5.631
5.0000	-5.631
5.2000	-5.647
5.4000	-5.663
5.6000	-5.679
5.8000	-5.695
6.0000	-5.711
6.2000	-5.711

6.4000	-5.727
6.6000	-5.743
6.8000	-5.743
7.0000	-5.743
7.2000	-5.759
7.4000	-5.759
7.6000	-5.759
7.8000	-5.775
8.0000	-5.775
8.2000	-5.775
8.4000	-5.775
8.6000	-5.791
8.8000	-5.791
9.0000	-5.791
9.2000	-5.807
9.4000	-5.807
9.6000	-5.807
9.8000	-5.822
10.0000	-5.822

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS-3B Rising Head Test



DATA SET:

MISS3BR.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS3B

ESTIMATED PARAMETERS:

K = 0.000273 cm/sec

y0 = 25.89 cm

TEST DATA:

H0 = 42.76 cm

rc = 3.81 cm

rw = 10.15 cm

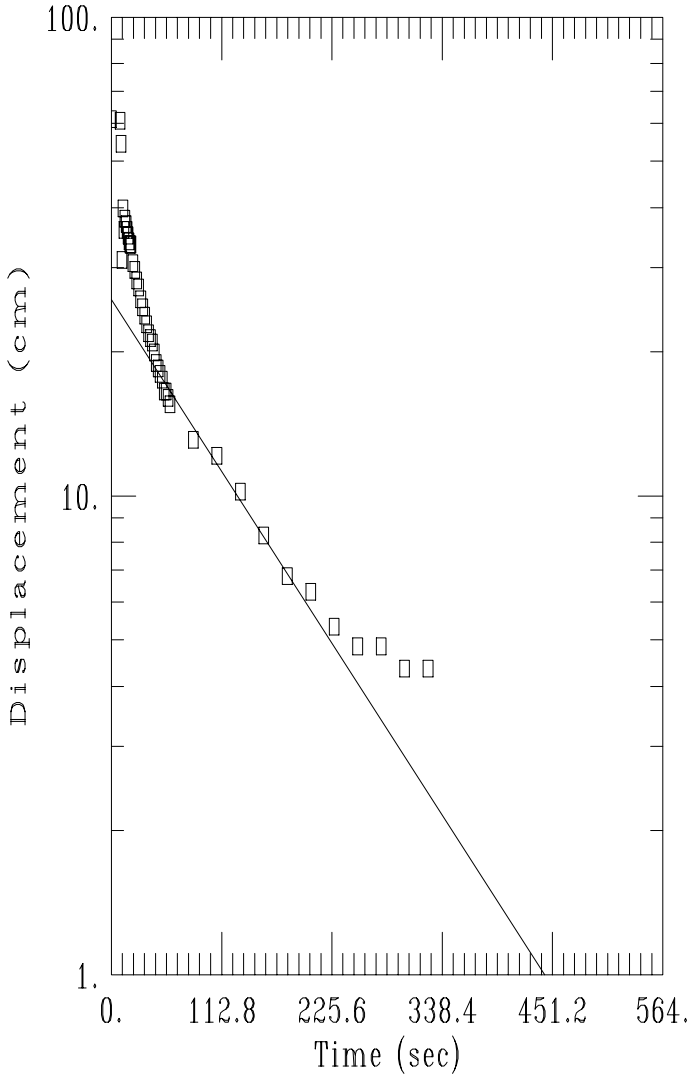
L = 914.4 cm

b = 976. cm

H = 976. cm

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS-3B Falling Head Test



DATA SET:

MISS3BF.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS3B

ESTIMATED PARAMETERS:

K = 0.0002037 cm/sec

y0 = 25.7 cm

TEST DATA:

H0 = 61.26 cm

rc = 3.81 cm

rw = 10.15 cm

L = 914.4 cm

b = 976. cm

H = 976. cm

SE2000
Environmental Logger
03/01 17:13

Unit# 609 Test 8

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_3B
Reference	0.000
PSI at Ref.	7.324
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 0 03/01 13:55:20

Elapsed Time	INPUT 1
0.0000	-0.015
0.0166	-0.015
0.0333	-0.526
0.0500	-0.845
0.0666	-1.707
0.0833	-2.010
0.1000	-1.754
0.1166	-1.196
0.1333	-1.786
0.1500	-1.994
0.1666	-1.786
0.1833	-1.021
0.2000	-1.308
0.2166	-1.180
0.2333	-1.244
0.2500	-1.212
0.2666	-1.180
0.2833	-1.148
0.3000	-1.116
0.3166	-1.100
0.3333	-1.100
0.3666	-1.005
0.4000	-0.973
0.4333	-0.925
0.4666	-0.893
0.5000	-0.845
0.5333	-0.813
0.5666	-0.781
0.6000	-0.749
0.6333	-0.717
0.6666	-0.701
0.7000	-0.686
0.7333	-0.654
0.7666	-0.622
0.8000	-0.606
0.8333	-0.590
0.8666	-0.574
0.9000	-0.542
0.9333	-0.542
0.9666	-0.526

1.0000	-0.510
1.4000	-0.430
1.8000	-0.398
2.2000	-0.335
2.6000	-0.271
3.0000	-0.223
3.4000	-0.207
3.8000	-0.175
4.2000	-0.159
4.6000	-0.159
5.0000	-0.143
5.4000	-0.143
5.8000	-0.159
6.2000	-0.159
6.6000	-0.159
7.0000	-0.143
7.4000	-0.127
7.8000	-0.079
8.2000	-0.063
8.6000	-0.047
9.0000	-0.047
9.4000	-0.047

SE2000
Environmental Logger
03/01 17:14

Unit# 609 Test 9

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_3B
Reference	0.000
PSI at Ref.	7.344
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

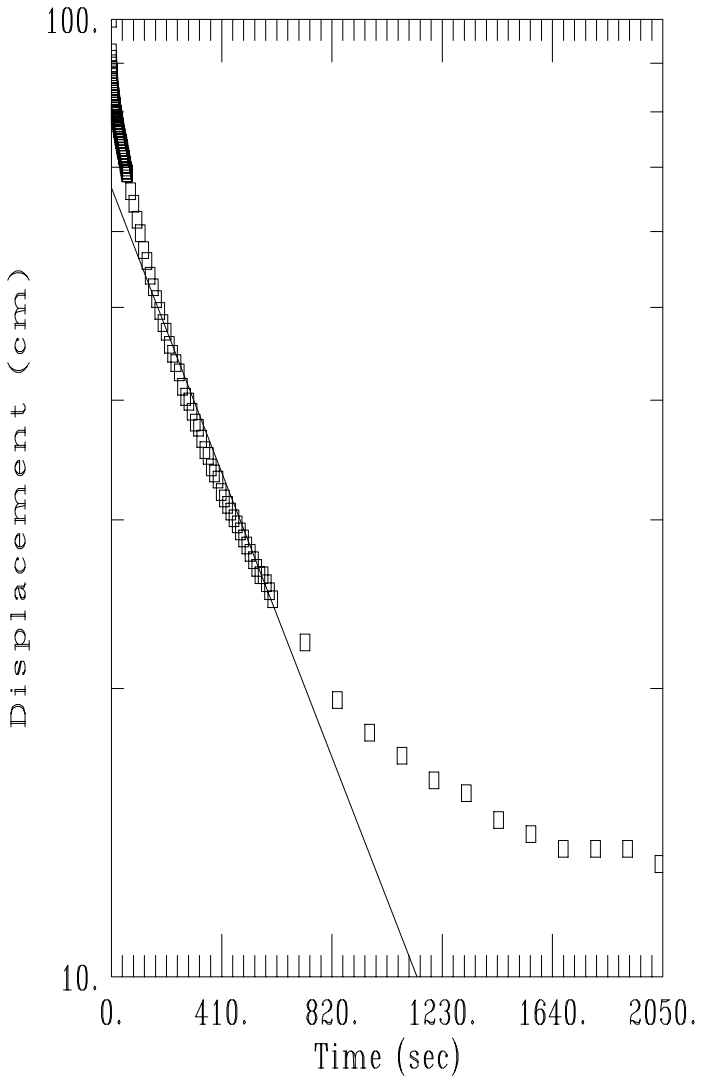
Step 0 03/01 14:06:04

Elapsed Time	INPUT 1
0.0000	2.680
0.0166	3.414
0.0333	-0.271
0.0500	1.116
0.0666	1.403
0.0833	1.356
0.1000	1.308
0.1166	1.260
0.1333	1.228
0.1500	1.212
0.1666	1.180
0.1833	1.164
0.2000	1.148
0.2166	1.116
0.2333	1.100
0.2500	1.068
0.2666	1.052
0.2833	1.036
0.3000	1.005
0.3166	0.989
0.3333	0.973
0.3666	0.941
0.4000	0.909
0.4333	0.861
0.4666	0.829
0.5000	0.797
0.5333	0.781
0.5666	0.749
0.6000	0.733
0.6333	0.701
0.6666	0.670
0.7000	0.654
0.7333	0.638
0.7666	0.606
0.8000	0.590
0.8333	0.574
0.8666	0.558
0.9000	0.526
0.9333	0.526
0.9666	0.510
1.0000	0.494

1.4000	0.366
1.8000	0.271
2.2000	0.223
2.6000	0.191
3.0000	0.159
3.4000	0.143
3.8000	0.127
4.2000	0.111
4.6000	0.111
5.0000	0.095
5.4000	0.095
5.8000	0.095
6.2000	0.079
6.6000	0.079

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS-6A Rising Head Test



DATA SET:

MISS6AR.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS6A

ESTIMATED PARAMETERS:

K = 8.8119E-05 cm/sec

y0 = 66.7 cm

TEST DATA:

H0 = 100.1 cm

rc = 2.539 cm

rw = 7.62 cm

L = 146.3 cm

b = 208.8 cm

H = 208.8 cm

SE2000
Environmental Logger
03/03 16:52

Unit# 609 Test 4

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_6A
Reference	0.000
PSI at Ref.	2.987
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 0 02/28 14:35:51

Elapsed Time	INPUT 1
0.0000	0.000
0.0083	-1.722
0.0166	-1.595
0.0250	-1.403
0.0333	-1.483
0.0416	-1.339
0.0500	-0.526
0.0583	-1.499
0.0666	-1.068
0.0750	-0.861
0.0833	-0.797
0.0916	-0.765
0.1000	-0.765
0.1083	-0.717
0.1166	-0.717
0.1250	-0.622
0.1333	-0.685
0.1416	-0.685
0.1500	-0.685
0.1583	-0.685
0.1666	-0.669
0.1750	-0.669
0.1833	-0.669
0.1916	-0.669
0.2000	-0.669
0.2083	-0.669
0.2166	-0.669
0.2250	-0.654
0.2333	-0.669
0.2416	-0.669
0.2500	-0.654
0.2583	-0.654
0.2666	-0.654
0.2750	-0.654
0.2833	-0.654
0.2916	-0.654
0.3000	-0.654
0.3083	-0.654
0.3166	-0.654
0.3250	-0.654
0.3333	-0.654

0.3500	-0.638
0.3666	-0.638
0.3833	-0.638
0.4000	-0.638
0.4166	-0.638
0.4333	-0.638
0.4500	-0.638
0.4666	-0.638
0.4833	-0.638
0.5000	-0.638
0.5166	-0.638
0.5333	-0.638
0.5500	-0.638
0.5666	-0.638
0.5833	-0.638
0.6000	-0.638
0.6166	-0.638
0.6333	-0.638
0.6500	-0.638
0.6666	-0.622
0.6833	-0.622
0.7000	-0.622
0.7166	-0.622
0.7333	-0.622
0.7500	-0.622
0.7666	-0.622
0.7833	-0.622
0.8000	-0.622
0.8166	-0.622
0.8333	-0.622
0.8500	-0.622
0.8666	-0.622
0.8833	-0.622
0.9000	-0.622
0.9166	-0.622
0.9333	-0.622
0.9500	-0.622
0.9666	-0.622
0.9833	-0.622
1.0000	-0.606
1.2000	-0.606
1.4000	-0.590
1.6000	-0.590
1.8000	-0.590
2.0000	-0.574
2.2000	-0.574
2.4000	-0.574
2.6000	-0.574
2.8000	-0.574
3.0000	-0.574
3.2000	-0.558
3.4000	-0.558
3.6000	-0.558
3.8000	-0.558
4.0000	-0.558
4.2000	-0.558
4.4000	-0.558
4.6000	-0.558
4.8000	-0.558
5.0000	-0.558
5.2000	-0.558
5.4000	-0.558
5.6000	-0.558
5.8000	-0.558
6.0000	-0.558
6.2000	-0.558

6.4000	-0.542
6.6000	-0.542
6.8000	-0.542
7.0000	-0.542
7.2000	-0.542
7.4000	-0.542
7.6000	-0.542
7.8000	-0.542
8.0000	-0.542
8.2000	-0.542
8.4000	-0.542
8.6000	-0.542
8.8000	-0.542
9.0000	-0.542
9.2000	-0.542
9.4000	-0.526
9.6000	-0.542
9.8000	-0.542
10.0000	-0.526
12.0000	-0.510
14.0000	-0.478
16.0000	-0.478
18.0000	-0.350
20.0000	-0.303
22.0000	-0.271
24.0000	-0.207
26.0000	-0.175
28.0000	-0.175
30.0000	-0.127
32.0000	-0.111
34.0000	-0.095
36.0000	-0.063
38.0000	-0.063
40.0000	-0.063

SE2000
Environmental Logger
03/03 16:55

Unit# 609 Test 4

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_6A
Reference	0.000
PSI at Ref.	2.987
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

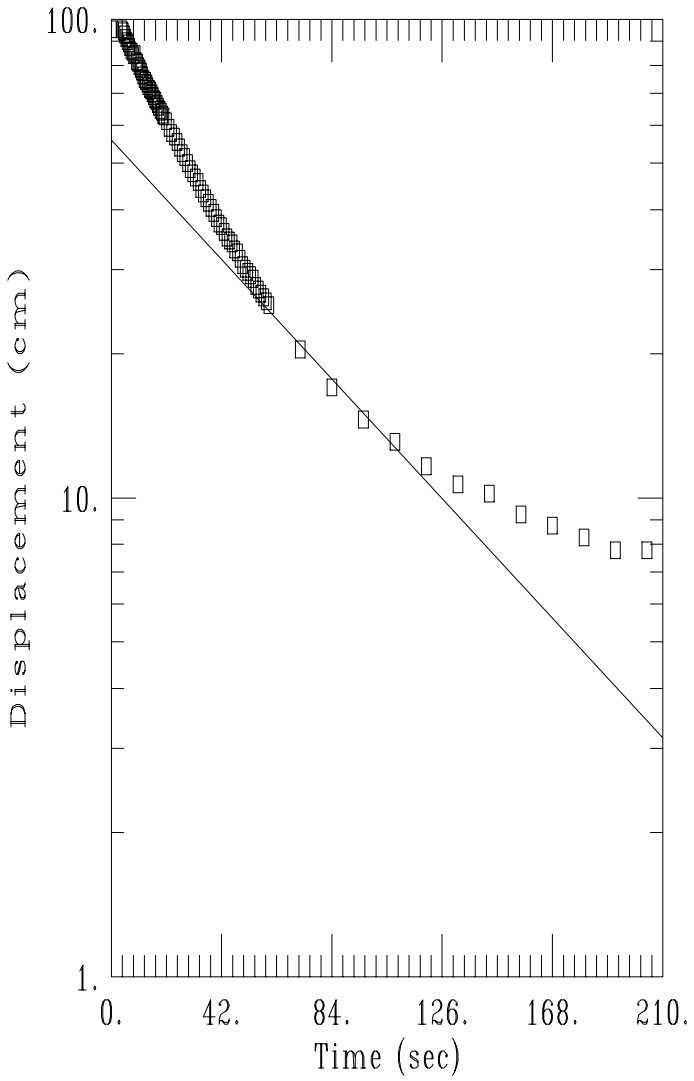
Step 1 02/28 15:16:43

Elapsed Time	INPUT 1
0.0000	3.285
0.0083	3.030
0.0166	2.982
0.0250	2.950
0.0333	2.935
0.0416	2.903
0.0500	2.887
0.0583	2.871
0.0666	2.855
0.0750	2.823
0.0833	2.823
0.0916	2.807
0.1000	2.791
0.1083	2.775
0.1166	2.759
0.1250	2.759
0.1333	2.759
0.1416	2.743
0.1500	2.727
0.1583	2.727
0.1666	2.727
0.1750	2.711
0.1833	2.711
0.1916	2.695
0.2000	2.679
0.2083	2.679
0.2166	2.679
0.2250	2.663
0.2333	2.663
0.2416	2.647
0.2500	2.647
0.2583	2.647
0.2666	2.631
0.2750	2.631
0.2833	2.615
0.2916	2.615
0.3000	2.615
0.3083	2.615
0.3166	2.600
0.3250	2.600
0.3333	2.584

6.4000	1.100
6.6000	1.084
6.8000	1.052
7.0000	1.036
7.2000	1.020
7.4000	1.004
7.6000	0.988
7.8000	0.973
8.0000	0.957
8.2000	0.941
8.4000	0.925
8.6000	0.909
8.8000	0.893
9.0000	0.877
9.2000	0.861
9.4000	0.861
9.6000	0.845
9.8000	0.829
10.0000	0.813
12.0000	0.733
14.0000	0.638
16.0000	0.590
18.0000	0.558
20.0000	0.526
22.0000	0.510
24.0000	0.478
26.0000	0.462
28.0000	0.446
30.0000	0.446
32.0000	0.446
34.0000	0.430
36.0000	0.430
38.0000	0.430
40.0000	0.414
42.0000	0.414
44.0000	0.414
46.0000	0.414
48.0000	0.414
50.0000	0.414
52.0000	0.414
54.0000	0.398
56.0000	0.398
58.0000	0.398
60.0000	0.398
62.0000	0.398
64.0000	0.398
66.0000	0.398
68.0000	0.398
70.0000	0.398
72.0000	0.398
74.0000	0.398
76.0000	0.398
78.0000	0.398
80.0000	0.398
82.0000	0.398
84.0000	0.382
86.0000	0.382
88.0000	0.398

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS-7B Rising Head Test



DATA SET:

MISS7BR.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS7B

ESTIMATED PARAMETERS:

K = 0.000487 cm/sec

y0 = 55.93 cm

TEST DATA:

H0 = 95.28 cm

rc = 3.81 cm

rw = 20.33 cm

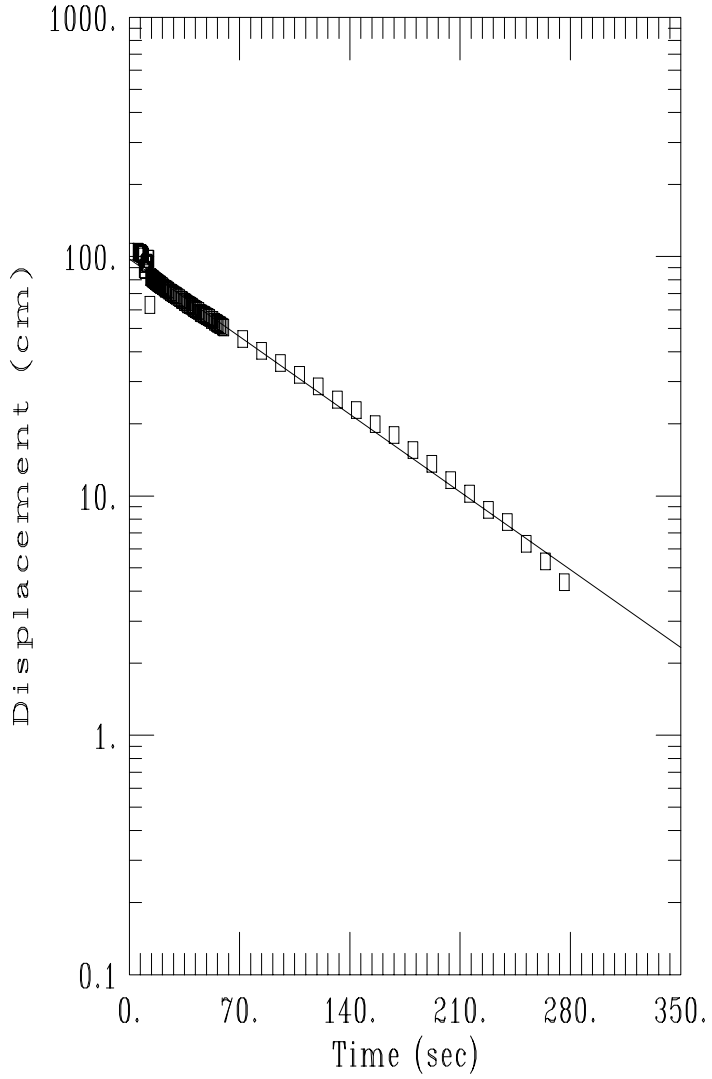
L = 609.6 cm

b = 1213.7 cm

H = 1213.7 cm

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

MISS-7B Falling Head Test



DATA SET:

MISS7BF.DAT

06/22/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

MISS7B

ESTIMATED PARAMETERS:

K = 0.0003798 cm/sec

y0 = 97.61 cm

TEST DATA:

H0 = 105. cm

rc = 3.81 cm

rw = 20.33 cm

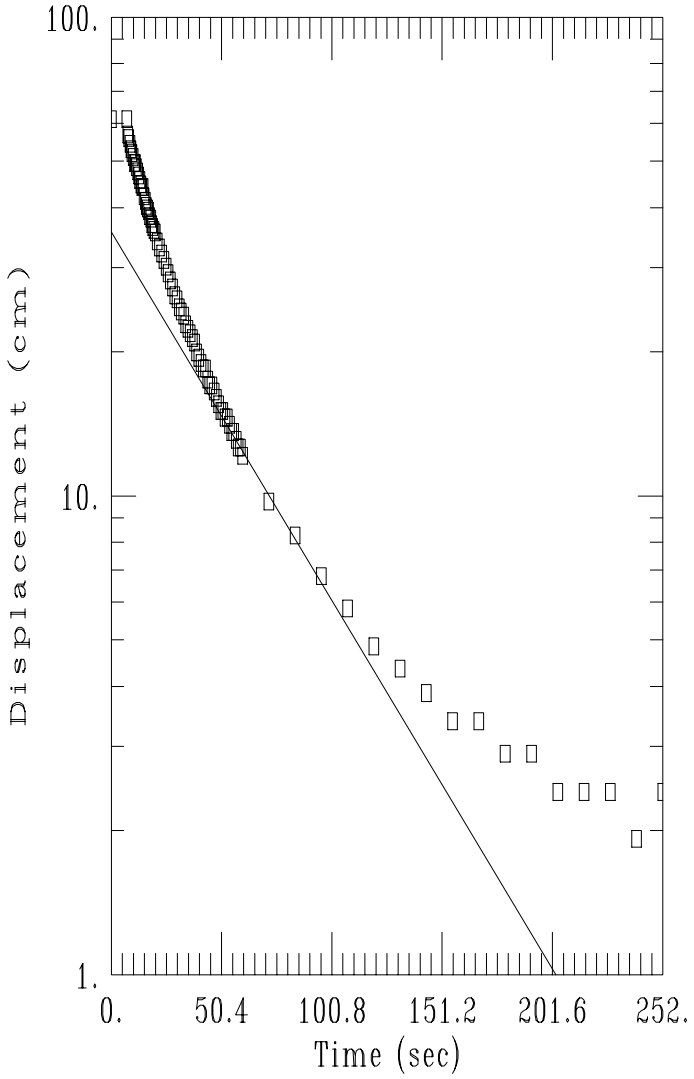
L = 609.6 cm

b = 1213.7 cm

H = 1213.7 cm

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

B38W07B Rising Head Test



DATA SET:

B38W7BR.DAT

06/21/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

B38W7BR

ESTIMATED PARAMETERS:

K = 0.0006399 cm/sec

y0 = 35.56 cm

TEST DATA:

H0 = 61.26 cm

rc = 2.53 cm

rw = 7.62 cm

L = 312.4 cm

b = 1021.7 cm

H = 1021.7 cm

SE2000
Environmental Logger
03/03 16:25

Unit# 609 Test 8

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_7B
Reference	0.000
PSI at Ref.	6.362
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 0 03/02 08:48:46

Elapsed Time	INPUT 1
0.0000	0.111
0.0083	0.095
0.0166	0.095
0.0250	0.079
0.0333	0.079
0.0416	-0.335
0.0500	-1.563
0.0583	-2.393
0.0666	-2.664
0.0750	-3.414
0.0833	-3.382
0.0916	-3.446
0.1000	-3.414
0.1083	-3.398
0.1166	-3.398
0.1250	-3.382
0.1333	-3.366
0.1416	-3.334
0.1500	-3.286
0.1583	-2.903
0.1666	-2.871
0.1750	-3.047
0.1833	-3.095
0.1916	-3.079
0.2000	-3.206
0.2083	-3.206
0.2166	-2.058
0.2250	-2.696
0.2333	-2.680
0.2416	-2.664
0.2500	-2.648
0.2583	-2.632
0.2666	-2.616
0.2750	-2.600
0.2833	-2.584
0.2916	-2.568
0:3000	-2.552
0.3083	-2.536
0.3166	-2.520
0.3250	-2.504

0.3333	-2.504
0.3500	-2.472
0.3666	-2.440
0.3833	-2.409
0.4000	-2.393
0.4166	-2.361
0.4333	-2.329
0.4500	-2.313
0.4666	-2.281
0.4833	-2.265
0.5000	-2.249
0.5166	-2.217
0.5333	-2.201
0.5500	-2.169
0.5666	-2.153
0.5833	-2.121
0.6000	-2.105
0.6166	-2.073
0.6333	-2.058
0.6500	-2.042
0.6666	-2.026
0.6833	-1.994
0.7000	-1.978
0.7166	-1.962
0.7333	-1.946
0.7500	-1.914
0.7666	-1.898
0.7833	-1.882
0.8000	-1.866
0.8166	-1.850
0.8333	-1.834
0.8500	-1.818
0.8666	-1.786
0.8833	-1.786
0.9000	-1.754
0.9166	-1.738
0.9333	-1.722
0.9500	-1.707
0.9666	-1.691
0.9833	-1.675
1.0000	-1.659
1.2000	-1.483
1.4000	-1.324
1.6000	-1.180
1.8000	-1.052
2.0000	-0.941
2.2000	-0.829
2.4000	-0.749
2.6000	-0.654
2.8000	-0.590
3.0000	-0.510
3.2000	-0.446
3.4000	-0.382
3.6000	-0.335
3.8000	-0.287
4.0000	-0.255
4.2000	-0.207
4.4000	-0.175
4.6000	-0.143
4.8000	-0.111
5.0000	-0.095
5.2000	-0.063
5.4000	-0.047
5.6000	-0.015
5.8000	0.000
6.0000	0.015

6.2000	0.031
6.4000	0.047
6.6000	0.063
6.8000	0.079
7.0000	0.079
7.2000	0.095
7.4000	0.095
7.6000	0.111
7.8000	0.127
8.0000	0.127
8.2000	0.127
8.4000	0.143
8.6000	0.143
8.8000	0.143
9.0000	0.143
9.2000	0.159
9.4000	0.159
9.6000	0.159
9.8000	0.159
10.0000	0.175
12.0000	0.191
14.0000	0.191
16.0000	0.191
18.0000	0.191
20.0000	0.175
22.0000	0.191
24.0000	0.191
26.0000	0.191
28.0000	0.191
30.0000	0.191
32.0000	0.191

SE2000
Environmental Logger
03/03 16:27

Unit# 609 Test 8

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	MISS_7B
Reference	0.000
PSI at Ref.	6.362
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 1 03/02 09:21:34

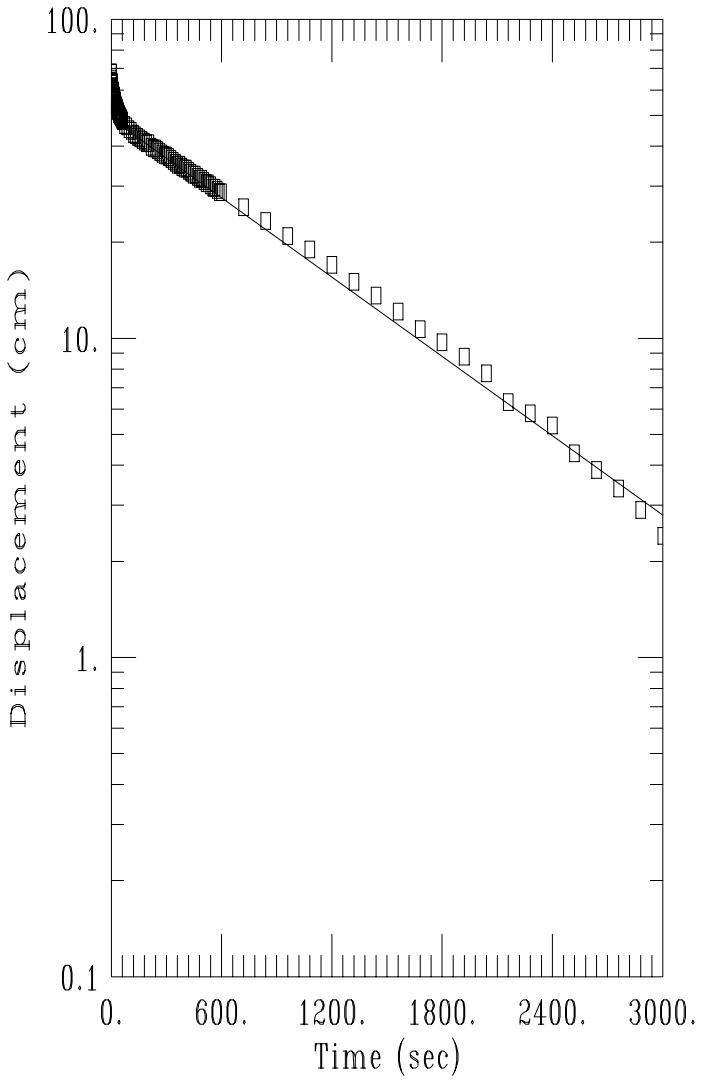
Elapsed Time	INPUT 1
0.0000	1.802
0.0083	2.010
0.0166	2.648
0.0250	1.563
0.0333	2.552
0.0416	2.839
0.0500	2.680
0.0583	3.015
0.0666	3.126
0.0750	3.094
0.0833	3.047
0.0916	2.999
0.1000	2.951
0.1083	2.919
0.1166	2.871
0.1250	2.823
0.1333	2.807
0.1416	2.759
0.1500	2.775
0.1583	2.680
0.1666	2.664
0.1750	2.616
0.1833	2.584
0.1916	2.552
0.2000	2.504
0.2083	2.456
0.2166	2.440
0.2250	2.408
0.2333	2.377
0.2416	2.345
0.2500	2.329
0.2583	2.297
0.2666	2.265
0.2750	2.233
0.2833	2.217
0.2916	2.185
0.3000	2.153
0.3083	2.121
0.3166	2.105
0.3250	2.073
0.3333	2.057

0.3500	2.010
0.3666	1.946
0.3833	1.898
0.4000	1.866
0.4166	1.818
0.4333	1.770
0.4500	1.722
0.4666	1.691
0.4833	1.643
0.5000	1.595
0.5166	1.563
0.5333	1.531
0.5500	1.499
0.5666	1.451
0.5833	1.419
0.6000	1.387
0.6166	1.356
0.6333	1.324
0.6500	1.292
0.6666	1.260
0.6833	1.228
0.7000	1.212
0.7166	1.180
0.7333	1.148
0.7500	1.132
0.7666	1.116
0.7833	1.084
0.8000	1.068
0.8166	1.036
0.8333	1.005
0.8500	0.989
0.8666	0.973
0.8833	0.957
0.9000	0.941
0.9166	0.909
0.9333	0.893
0.9500	0.877
0.9666	0.861
0.9833	0.845
1.0000	0.829
1.2000	0.670
1.4000	0.558
1.6000	0.478
1.8000	0.430
2.0000	0.382
2.2000	0.350
2.4000	0.335
2.6000	0.303
2.8000	0.287
3.0000	0.271
3.2000	0.255
3.4000	0.255
3.6000	0.239
3.8000	0.223
4.0000	0.223
4.2000	0.223
4.4000	0.223
4.6000	0.207
4.8000	0.207
5.0000	0.207
5.2000	0.191
5.4000	0.207
5.6000	0.191
5.8000	0.191
6.0000	0.191
6.2000	0.175

6.4000	0.191
6.6000	0.175
6.8000	0.175
7.0000	0.175
7.2000	0.175
7.4000	0.175
7.6000	0.175
7.8000	0.175
8.0000	0.175
8.2000	0.175
8.4000	0.159
8.6000	0.159
8.8000	0.159
9.0000	0.159
9.2000	0.159
9.4000	0.159
9.6000	0.159
9.8000	0.159
10.0000	0.159
12.0000	0.159
14.0000	0.159
16.0000	0.159
18.0000	0.159
20.0000	0.159
22.0000	0.159
24.0000	0.159
26.0000	0.159
28.0000	0.143
30.0000	0.143
32.0000	0.159
34.0000	0.159
36.0000	0.159

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

B38W02D Rising Head Test



DATA SET:

B38W2DR.DAT

06/21/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

B38W02D

ESTIMATED PARAMETERS:

K = 4.6053E-05 cm/sec

y0 = 48.84 cm

TEST DATA:

H0 = 68.06 cm

rc = 2.53 cm

rw = 20.33 cm

L = 152.4 cm

b = 953.7 cm

H = 953.7 cm

SE2000
Environmental Logger
03/03 16:42

Unit# 609 Test 1

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	B38W02D
Reference	0.000
PSI at Ref.	9.288
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 0 02/28 10:30:45

Elapsed Time	INPUT 1
0.0000	-0.015
0.0083	-0.015
0.0166	-0.015
0.0250	-0.015
0.0333	-0.015
0.0416	-0.015
0.0500	-0.015
0.0583	-0.015
0.0666	-0.015
0.0750	-0.015
0.0833	0.000
0.0916	-0.015
0.1000	-0.015
0.1083	-0.015
0.1166	-0.015
0.1250	-0.015
0.1333	-0.015
0.1416	-0.015
0.1500	-0.031
0.1583	-2.473
0.1666	-2.871
0.1750	-1.643
0.1833	-2.696
0.1916	-2.409
0.2000	-2.281
0.2083	-2.265
0.2166	-2.664
0.2250	-2.233
0.2333	-2.153
0.2416	-2.313
0.2500	-1.978
0.2583	-1.707
0.2666	-2.169
0.2750	-2.185
0.2833	-2.185
0.2916	-2.185
0.3000	-2.185
0.3083	-2.169
0.3166	-2.153
0.3250	-2.169
0.3333	-2.138

0.3500	-2.138
0.3666	-2.122
0.3833	-2.106
0.4000	-2.090
0.4166	-2.090
0.4333	-2.074
0.4500	-2.074
0.4666	-2.058
0.4833	-2.042
0.5000	-2.042
0.5166	-2.042
0.5333	-1.611
0.5500	-2.010
0.5666	-2.010
0.5833	-1.994
0.6000	-1.994
0.6166	-1.978
0.6333	-1.978
0.6500	-1.962
0.6666	-1.962
0.6833	-1.962
0.7000	-1.946
0.7166	-1.946
0.7333	-1.930
0.7500	-1.930
0.7666	-1.930
0.7833	-1.930
0.8000	-1.914
0.8166	-1.914
0.8333	-1.914
0.8500	-1.898
0.8666	-1.898
0.8833	-1.898
0.9000	-1.882
0.9166	-1.882
0.9333	-1.882
0.9500	-1.882
0.9666	-1.866
0.9833	-1.866
1.0000	-1.866
1.2000	-1.818
1.4000	-1.802
1.6000	-1.771
1.8000	-1.739
2.0000	-1.723
2.2000	-1.707
2.4000	-1.675
2.6000	-1.659
2.8000	-1.643
3.0000	-1.627
3.2000	-1.595
3.4000	-1.579
3.6000	-1.563
3.8000	-1.547
4.0000	-1.531
4.2000	-1.499
4.4000	-1.483
4.6000	-1.467
4.8000	-1.451
5.0000	-1.435
5.2000	-1.420
5.4000	-1.404
5.6000	-1.388
5.8000	-1.372
6.0000	-1.356
6.2000	-1.340

6.4000	-1.324
6.6000	-1.308
6.8000	-1.292
7.0000	-1.276
7.2000	-1.260
7.4000	-1.244
7.6000	-1.244
7.8000	-1.212
8.0000	-1.212
8.2000	-1.196
8.4000	-1.180
8.6000	-1.164
8.8000	-1.148
9.0000	-1.132
9.2000	-1.132
9.4000	-1.116
9.6000	-1.100
9.8000	-1.084
10.0000	-1.084
12.0000	-0.973
14.0000	-0.893
16.0000	-0.829
18.0000	-0.781
20.0000	-0.733
22.0000	-0.670
24.0000	-0.638
26.0000	-0.590
28.0000	-0.558
30.0000	-0.526
32.0000	-0.494
34.0000	-0.462
36.0000	-0.430
38.0000	-0.414
40.0000	-0.382
42.0000	-0.366
44.0000	-0.351
46.0000	-0.319
48.0000	-0.303
50.0000	-0.287
52.0000	-0.271
54.0000	-0.255
56.0000	-0.255
58.0000	-0.239
60.0000	-0.223
62.0000	-0.223

SE2000
Environmental Logger
03/03 16:44

Unit# 609 Test 1

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	B38W02D
Reference	0.000
PSI at Ref.	9.288
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 1 02/28 11:33:07

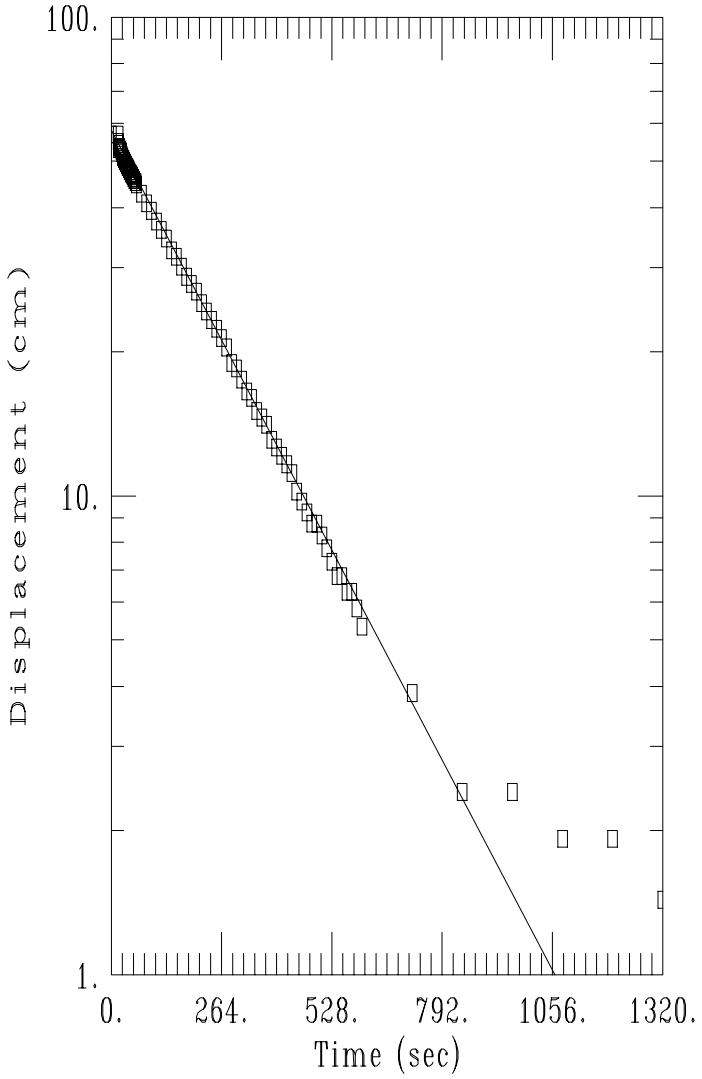
Elapsed Time	INPUT 1
0.0000	-0.239
0.0083	2.329
0.0166	0.000
0.0250	2.233
0.0333	2.137
0.0416	2.106
0.0500	2.090
0.0583	2.090
0.0666	2.074
0.0750	2.058
0.0833	2.058
0.0916	2.026
0.1000	2.010
0.1083	2.010
0.1166	1.994
0.1250	1.994
0.1333	1.994
0.1416	1.978
0.1500	1.962
0.1583	1.962
0.1666	1.962
0.1750	1.946
0.1833	1.930
0.1916	1.930
0.2000	1.930
0.2083	1.914
0.2166	1.914
0.2250	1.898
0.2333	1.898
0.2416	1.898
0.2500	1.882
0.2583	1.882
0.2666	1.882
0.2750	1.866
0.2833	1.866
0.2916	1.850
0.3000	1.850
0.3083	1.834
0.3166	1.834
0.3250	1.834
0.3333	1.818

0.3500	1.818
0.3666	1.802
0.3833	1.786
0.4000	1.786
0.4166	1.770
0.4333	1.770
0.4500	1.755
0.4666	1.755
0.4833	1.739
0.5000	1.739
0.5166	1.739
0.5333	1.723
0.5500	1.707
0.5666	1.707
0.5833	1.707
0.6000	1.691
0.6166	1.691
0.6333	1.675
0.6500	1.675
0.6666	1.659
0.6833	1.659
0.7000	1.659
0.7166	1.659
0.7333	1.643
0.7500	1.643
0.7666	1.643
0.7833	1.627
0.8000	1.627
0.8166	1.627
0.8333	1.627
0.8500	1.611
0.8666	1.611
0.8833	1.611
0.9000	1.595
0.9166	1.595
0.9333	1.595
0.9500	1.595
0.9666	1.579
0.9833	1.579
1.0000	1.579
1.2000	1.531
1.4000	1.515
1.6000	1.483
1.8000	1.467
2.0000	1.435
2.2000	1.419
2.4000	1.404
2.6000	1.388
2.8000	1.372
3.0000	1.356
3.2000	1.340
3.4000	1.340
3.6000	1.308
3.8000	1.292
4.0000	1.292
4.2000	1.276
4.4000	1.260
4.6000	1.244
4.8000	1.228
5.0000	1.228
5.2000	1.212
5.4000	1.196
5.6000	1.180
5.8000	1.164
6.0000	1.148
6.2000	1.148

6.4000	1.132
6.6000	1.116
6.8000	1.116
7.0000	1.100
7.2000	1.084
7.4000	1.068
7.6000	1.068
7.8000	1.053
8.0000	1.037
8.2000	1.037
8.4000	1.021
8.6000	1.005
8.8000	1.005
9.0000	0.989
9.2000	0.973
9.4000	0.973
9.6000	0.957
9.8000	0.941
10.0000	0.941
12.0000	0.845
14.0000	0.765
16.0000	0.686
18.0000	0.622
20.0000	0.558
22.0000	0.494
24.0000	0.446
26.0000	0.398
28.0000	0.351
30.0000	0.319
32.0000	0.287
34.0000	0.255
36.0000	0.207
38.0000	0.191
40.0000	0.175
42.0000	0.143
44.0000	0.127
46.0000	0.111
48.0000	0.095
50.0000	0.079
52.0000	0.063
54.0000	0.047
56.0000	0.031
58.0000	0.031
60.0000	0.015
62.0000	0.015
64.0000	0.000
66.0000	0.000
68.0000	-0.015
70.0000	-0.015
72.0000	-0.015
74.0000	-0.031

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

B38W12A Falling Head Test



DATA SET:

B38W12AF.DAT

06/21/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

B38W12AF

ESTIMATED PARAMETERS:

K = 0.0001529 cm/sec

y0 = 58.05 cm

TEST DATA:

H0 = 56.88 cm

rc = 2.53 cm

rw = 20.33 cm

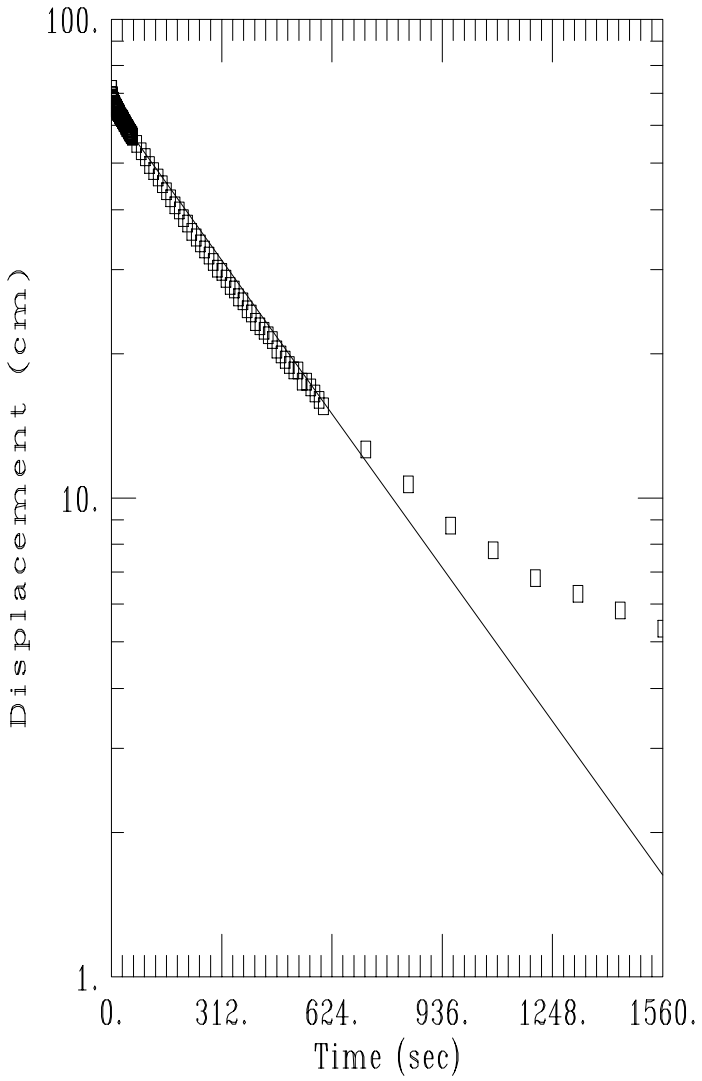
L = 152.4 cm

b = 377.6 cm

H = 377.6 cm

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

B38W12A Rising Head Test



DATA SET:

B38W12AR.DAT

06/21/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

B38W12AR

ESTIMATED PARAMETERS:

K = 9.4698E-05 cm/sec

y0 = 65.69 cm

TEST DATA:

H0 = 71.48 cm

rc = 2.53 cm

rw = 20.33 cm

L = 152.4 cm

b = 377.6 cm

H = 377.6 cm

SE2000
Environmental Logger
03/03 16:38

Unit# 609 Test 0

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	B38W12A
Reference	0.000
PSI at Ref.	5.228
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 0 02/28 08:56:48

Elapsed Time	INPUT 1
0.0000	0.000
0.0083	-0.015
0.0166	-0.797
0.0250	-1.196
0.0333	-1.706
0.0416	-1.659
0.0500	-2.329
0.0583	-1.898
0.0666	-2.169
0.0750	-1.866
0.0833	-1.978
0.0916	-1.722
0.1000	-1.547
0.1083	-1.978
0.1166	-1.850
0.1250	-2.041
0.1333	-1.738
0.1416	-1.930
0.1500	-1.770
0.1583	-1.850
0.1666	-1.802
0.1750	-1.914
0.1833	-1.770
0.1916	-1.914
0.2000	-1.786
0.2083	-1.802
0.2166	-1.786
0.2250	-1.722
0.2333	-1.834
0.2416	-1.786
0.2500	-1.770
0.2583	-1.818
0.2666	-1.866
0.2750	-1.802
0.2833	-1.738
0.2916	-1.786
0.3000	-1.754
0.3083	-1.754
0.3166	-1.754
0.3250	-1.754
0.3333	-1.754

0.3500	-1.738
0.3666	-1.738
0.3833	-1.722
0.4000	-1.722
0.4166	-1.706
0.4333	-1.691
0.4500	-1.675
0.4666	-1.675
0.4833	-1.659
0.5000	-1.659
0.5166	-1.643
0.5333	-1.643
0.5500	-1.627
0.5666	-1.627
0.5833	-1.627
0.6000	-1.611
0.6166	-1.611
0.6333	-1.595
0.6500	-1.595
0.6666	-1.595
0.6833	-1.579
0.7000	-1.579
0.7166	-1.563
0.7333	-1.563
0.7500	-1.563
0.7666	-1.547
0.7833	-1.547
0.8000	-1.547
0.8166	-1.531
0.8333	-1.531
0.8500	-1.531
0.8666	-1.515
0.8833	-1.515
0.9000	-1.499
0.9166	-1.499
0.9333	-1.499
0.9500	-1.483
0.9666	-1.483
0.9833	-1.483
1.0000	-1.467
1.2000	-1.403
1.4000	-1.340
1.6000	-1.292
1.8000	-1.228
2.0000	-1.180
2.2000	-1.132
2.4000	-1.068
2.6000	-1.036
2.8000	-0.989
3.0000	-0.941
3.2000	-0.909
3.4000	-0.877
3.6000	-0.829
3.8000	-0.797
4.0000	-0.765
4.2000	-0.733
4.4000	-0.701
4.6000	-0.670
4.8000	-0.622
5.0000	-0.606
5.2000	-0.574
5.4000	-0.542
5.6000	-0.526
5.8000	-0.494
6.0000	-0.478
6.2000	-0.462

6.4000	-0.430
6.6000	-0.414
6.8000	-0.398
7.0000	-0.382
7.2000	-0.366
7.4000	-0.335
7.6000	-0.319
7.8000	-0.303
8.0000	-0.287
8.2000	-0.287
8.4000	-0.271
8.6000	-0.255
8.8000	-0.239
9.0000	-0.223
9.2000	-0.223
9.4000	-0.207
9.6000	-0.207
9.8000	-0.191
10.0000	-0.175
12.0000	-0.127
14.0000	-0.079
16.0000	-0.079
18.0000	-0.063
20.0000	-0.063
22.0000	-0.047

SE2000
Environmental Logger
03/03 16:40

Unit# 609 Test 0

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	B38W12A
Reference	0.000
PSI at Ref.	5.228
SG	1.000
Linearity	0.046
Scale factor	50.538
Offset	-0.125
Delay mSEC	50.000

Step 1 02/28 09:19:37

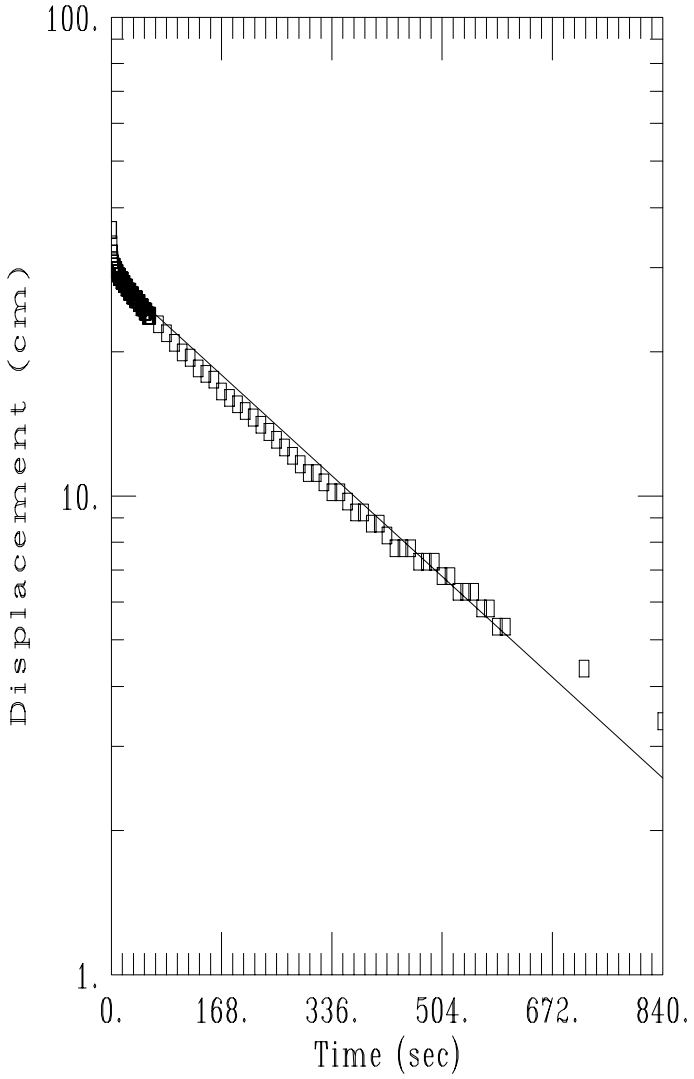
Elapsed Time	INPUT 1
0.0000	6.045
0.0083	1.084
0.0166	2.345
0.0250	2.281
0.0333	2.265
0.0416	2.249
0.0500	2.281
0.0583	2.233
0.0666	2.233
0.0750	2.217
0.0833	2.217
0.0916	2.217
0.1000	2.217
0.1083	2.201
0.1166	2.201
0.1250	2.185
0.1333	2.185
0.1416	2.185
0.1500	2.185
0.1583	2.169
0.1666	2.169
0.1750	2.169
0.1833	2.153
0.1916	2.153
0.2000	2.153
0.2083	2.153
0.2166	2.153
0.2250	2.137
0.2333	2.137
0.2416	2.137
0.2500	2.137
0.2583	2.121
0.2666	2.121
0.2750	2.121
0.2833	2.121
0.2916	2.105
0.3000	2.105
0.3083	2.105
0.3166	2.105
0.3250	2.105
0.3333	2.089

0.3500	2.089
0.3666	2.089
0.3833	2.073
0.4000	2.073
0.4166	2.057
0.4333	2.057
0.4500	2.057
0.4666	2.041
0.4833	2.041
0.5000	2.041
0.5166	2.025
0.5333	2.025
0.5500	2.025
0.5666	2.010
0.5833	2.010
0.6000	1.994
0.6166	1.994
0.6333	1.994
0.6500	1.978
0.6666	1.978
0.6833	1.962
0.7000	1.962
0.7166	1.962
0.7333	1.946
0.7500	1.946
0.7666	1.946
0.7833	1.930
0.8000	1.930
0.8166	1.930
0.8333	1.914
0.8500	1.914
0.8666	1.914
0.8833	1.898
0.9000	1.898
0.9166	1.898
0.9333	1.882
0.9500	1.882
0.9666	1.882
0.9833	1.866
1.0000	1.866
1.2000	1.802
1.4000	1.738
1.6000	1.690
1.8000	1.627
2.0000	1.579
2.2000	1.531
2.4000	1.483
2.6000	1.435
2.8000	1.387
3.0000	1.340
3.2000	1.308
3.4000	1.260
3.6000	1.228
3.8000	1.180
4.0000	1.148
4.2000	1.116
4.4000	1.084
4.6000	1.052
4.8000	1.020
5.0000	0.989
5.2000	0.973
5.4000	0.941
5.6000	0.909
5.8000	0.893
6.0000	0.861
6.2000	0.845

6.4000	0.813
6.6000	0.797
6.8000	0.765
7.0000	0.749
7.2000	0.733
7.4000	0.717
7.6000	0.701
7.8000	0.670
8.0000	0.654
8.2000	0.638
8.4000	0.622
8.6000	0.606
8.8000	0.606
9.0000	0.574
9.2000	0.574
9.4000	0.558
9.6000	0.542
9.8000	0.526
10.0000	0.510
12.0000	0.414
14.0000	0.350
16.0000	0.287
18.0000	0.255
20.0000	0.223
22.0000	0.207
24.0000	0.191
26.0000	0.175

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

B38W17A Rising Head Test



DATA SET:

B38W17AR.DAT

06/21/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

B38W17A

ESTIMATED PARAMETERS:

K = 0.0001361 cm/sec

y0 = 29. cm

TEST DATA:

H0 = 35.97 cm

rc = 2.53 cm

rw = 10.48 cm

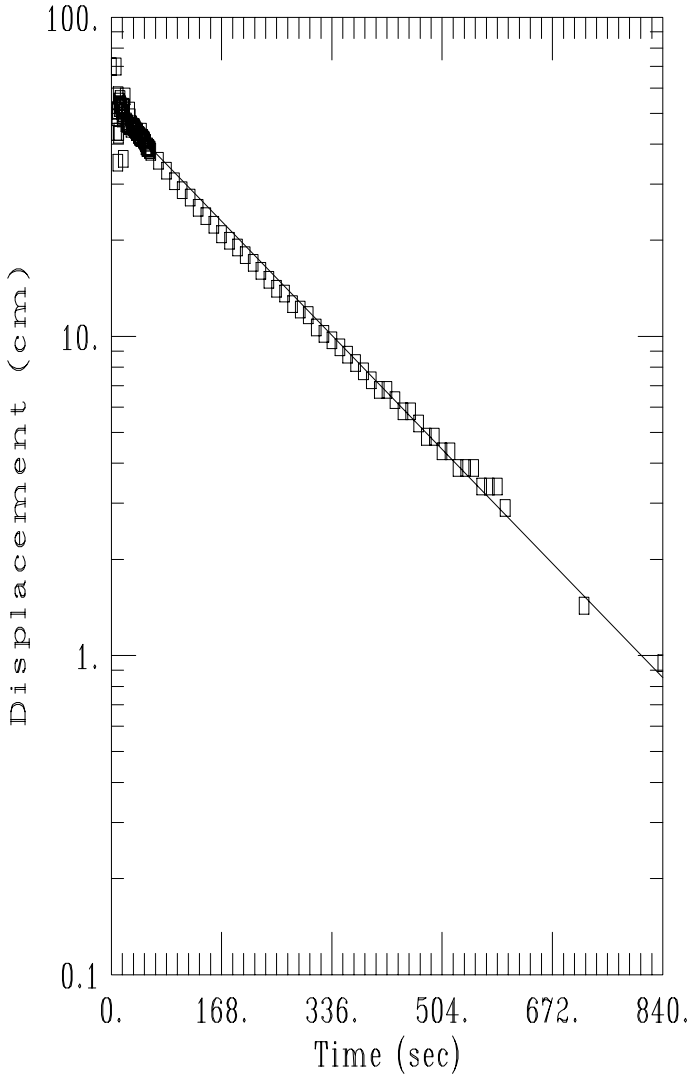
L = 152.4 cm

b = 258.2 cm

H = 258.2 cm

MALCOLM PIRNIE, INC.	Client: US ARMY CORPS OF ENGINEERS
Project No. 3674011	Location MAYWOOD, NEW JERSEY

B38W17A Falling Head Test



DATA SET:

B38W17AF.DAT

06/21/00

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

MARCH 2000

TEST WELL:

B38W17A

ESTIMATED PARAMETERS:

K = 0.0002311 cm/sec

y0 = 52.21 cm

TEST DATA:

H0 = 70.01 cm

rc = 2.53 cm

rw = 10.48 cm

L = 152.4 cm

b = 258.2 cm

H = 258.2 cm

Stepan Chemical Monitoring Well Integrity Survey

FUSRAP Maywood Superfund Site

Prepared by:
Malcolm Pirnie, Inc.

For:
Stone & Webster Environmental Technology & Services

January 2001

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3.0 Results.....3

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A Photographs of Wells

B Monitoring Well Integrity Forms

C Monitoring Well Construction Logs

1.0 INTRODUCTION

The monitoring well integrity survey was conducted to verify the integrity of Stepan Chemical Company's monitoring wells documented in Table 8-2 of the Ground Water Remedial Investigation Work Plan (GWRIWP) (Stone and Webster, 2000). Table 8-2 was further compared with the Former Aromatics Area Map, Plate 3, Volume 1 located in the Second Treatability Report for In-situ Biologic Treatment of BTEX Contaminated Soil and Groundwater (CH2M Hill, 2000) to determine if wells were added, renamed, replaced or abandon. The integrity survey involved several tasks as described below:

- Immediately upon opening the wells, a field measurements of Lowest Explosive Limit (LEL), CO_2, Volatile Organic Compound (VOC), and CO levels in the wells were obtained,
- Photo of each well was taken for documentation,
- The protective casings (i.e., stickup or flushmounts) were inspected for signs of damage;
- The condition of the monitoring well locks were verified;
- The condition of the monitoring well caps were inspected;
- The monitoring wells were sounded with the water level meter probe to determine the total depth of each well and if there was a buildup of silt and sediment or other obstruction(s). The depth measured was compared to the well construction information to determine how much sediment had deposited in the well.
- Damaged monitoring wells were identified and the type of repair necessary to re-establish integrity has been provided in this report.

2.0 METHODOLOGY

The monitoring well integrity check involved a site visit to the well to take a picture of the well, measure air quality in the well and observe the general condition of the well (Appendix A). The condition of the outer casing, outer cap and padlock, cement pad, inner cap and padlock was documented on monitoring well integrity forms (Appendix B). In addition, water level measurements were obtained and the total depth of each well was determined by allowing the probe to go down the well to the greatest depth possible and taking a measurement. The observed total depth was compared to the depth documented on the construction logs (Appendix C) to determine which wells may need to be re-drilled or flushed out during development.

3.0 RESULTS

Of the 40 monitoring wells documented in Table 8-2, only 34 were located. The 6 wells that were not located are: OBMW2, OBMW3, OBMW4, BRMW4, BRMW7, and MW-1. One well, PT-2S, was added to the integrity survey after reviewing the Former Aromatics Area Map, Plate 3 Volume 1 located in the *Second Treatability Report for In-situ Biologic Treatment of BTEX Contaminated Soil and Groundwater*. In addition, BRMW2 was drilled out and replaced with BRTW-1. The integrity survey has been completed on all the located monitoring wells and is summarized in Table 1. Air quality results are recorded in the monitoring well integrity forms (Appendix B).

4.0 CONCLUSIONS

Of the 34 located wells, there are 5 wells that potentially need vigorous flushing during development or to be re-drilled. In addition, 13 outer caps on manholes, 9 j-plugs, 1 stick-up, and 8 well pads need to be replaced. It should be noted that all non-working locks (approximately 25) were cut and replaced with new locks. All locks were keyed alike and Stepan Chemical was given a key to the new locks.

5.0 RECOMMENDATIONS

Upon completion of the monitoring well integrity survey, several recommendations are provided. These recommendations are summarized in Table 2.

Table 2. Recommended Action

Well ID	Recommendations
OBMW1	Replace outer cap and locking mechanism
BRMW1	Replace outer cap and locking mechanism
PT-1DA (MW-2A)	Well in good condition
PT-1DB (MW-2B)	Well in good condition
BRMW3	Replace j-plug and concrete pad
OBMW5	Replace j-plug, outer cover on manhole, and concrete pad
BRMW5	Replace outer cap
OBMW6	Replace outer cap and manhole cover
BRMW6	Well in good condition
OBMW7	Replace concrete pad, manhole, and J-plug
OBMW8	Replace concrete pad, manhole, and J-plug
BRMW8	Replace rubber sealing mechanism for manhole cover
BRMW9	Flush well vigorously during well development (approximately 3.5 feet of silt)
OBMW10	Replace inner cap (j-plug), lock, and rubber sealing mechanism for manhole cover
BRMW10	Flush well vigorously during well development (approximately 1.5 feet of silt)
OBMW11	Replace concrete pad and j-plug
BRMW11	Replace concrete pad
OBMW12	Replace outer cap on manhole
BRMW12	Replace outer cap and sealing mechanism on manhole, and j-plug
OBMW13	Replace outer cap on manhole
BRMW13	Replace outer cap on manhole
OBMW14	Replace outer cap on manhole
BRMW14	Well in good condition, note: well was under pressure when j-plug was removed.
OBMW15	Well in good condition
BRMW15	Well in good condition
BRMW16	Replace concrete pad
OBMW17	Well in good condition
BRMW17	Well in good condition
OBMW18	Replace inner cap
OBMW19	Well in good condition
WELL 1	Replace stick-up and concrete pad so well can be locked. Flush well vigorously during development (approximately 1 foot of silt)
WELL 2	Flush well vigorously during development (approximately 2 feet of silt)

Table 2. Recommended Action	
Well ID	**Recommendations**
WELL 5	Replace j-plug and Flush well vigorously during development (approximately 2 feet of silt)
WELL 8	Well in good condition
BRTW2	Soft bottom
PT-2S	Contained strong surfactant and organic odor

6.0 REFERENCES

Stone & Webster Environmental Technology & Services, *Groundwater Remedial Investigation Work Plan*, June 2000.

CH2M Hill, *Second Treatability Report for In-situ Biologic Treatment of BTEX Contaminated Soil and Groundwater*, Volume 1, August 2000.

APPENDICES

APPENDIX A

Photographs of Wells



PHOTO NO. 1 - MONITORING WELL NO. BRMW1



PHOTO NO. 2 - MONITORING WELL NO. OBMW1

MALCOLM PIRNIE	**FUSRAP MAYWOOD SUPERFUND SITE** **PHOTO LOG**	MALCOLM PIRNIE, INC. **FIGURE 1**



PHOTO NO. 3 - MONITORING WELL NO. PT-1DB (MW-2B) and INTERMEDIATE PT-1DA (MW-2A)

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 2

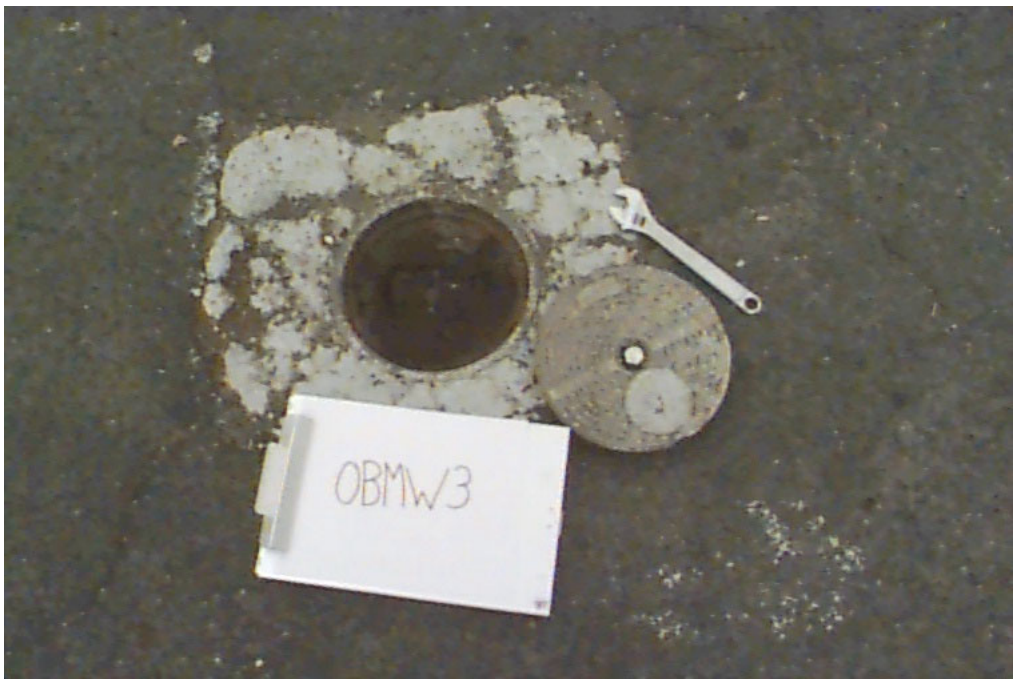


PHOTO NO. 4 - MONITORING WELL NO. OBMW3



PHOTO NO. 5 - MONITORING WELL NO. BRMW3

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 3



PHOTO NO. 6 - MONITORING WELL NO. OBMW5



PHOTO NO. 7 - MONITORING WELL NO. BRMW5

MALCOLM PIRNIE	**FUSRAP MAYWOOD SUPERFUND SITE**	MALCOLM PIRNIE, INC.
	PHOTO LOG	**FIGURE 5**



PHOTO NO. 8 - MONITORING WELL NO. OBMW6



PHOTO NO. 9 - MONITORING WELL NO. BRMW6

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 6



PHOTO NO. 10 - MONITORING WELL NO. OBMW7



PHOTO NO. 11 - MONITORING WELL NO. OBMW8



PHOTO NO. 12 - MONITORING WELL NO. OBMW8



PHOTO NO. 13 - MONITORING WELL NO. BRMW8



PHOTO NO. 14 - MONITORING WELL NO. BRMW9

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 9



PHOTO NO. 15 - MONITORING WELL NO. OBMW10
prior to removing outer cap



PHOTO NO. 16 - MONITORING WELL NO. OBMW10
after removing outer cap

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 10



PJHOTO NO. 17 - MONITORING WELL NO.OBMW10
Note tape over inner 2 inch casing



PHOTO NO. 18 - MONITORING WELL NO. BRMW10



PHOTO NO. 19 - MONITORING WELL NO. OBMW11



PHOTO NO. 20 - MONITORING WELL NO. BRMW11



PHOTO NO. 21 - MONITORING WELL NO. OBMW12



PHOTO NO. 22 - MONITORING WELL NO. BRMW12



PHOTO NO. 23 - MONITORING WELL NO. OBMW13



PHOTO NO. 24 - MONITORING WELL NO. BRMW13



PHOTO NO. 25 - MONITORING WELL NO. OBMW14



PHOTO NO. 26 - MONITORING WELL NO. BRMW14



PHOTO NO. 27 - MONITORING WELL NO. OBMW15



PHOTO NO. 28 - MONITORING WELL NO. BRMW15



PHOTO NO. 29 - MONITORING WELL NO. BRMW16

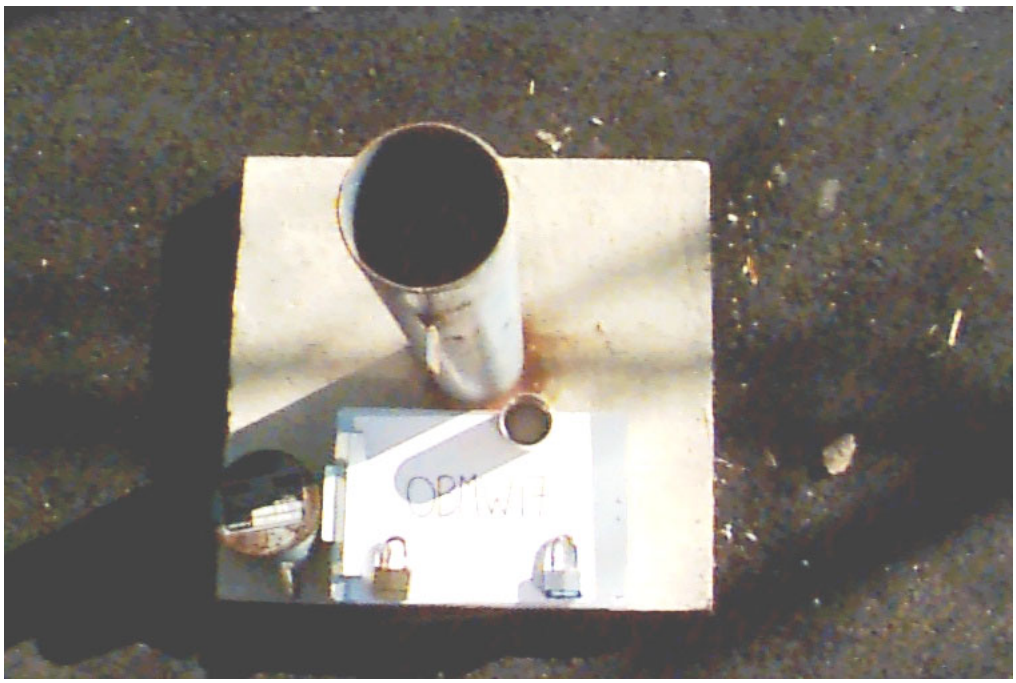


PHOTO NO. 30 - MONITORING WELL NO. OBMW17

MALCOLM PIRNIE	FUSRAP MAYWOOD SUPERFUND SITE PHOTO LOG	MALCOLM PIRNIE, INC. FIGURE 18



PHOTO NO. 31 - MONITORING WELL NO. BRMW17



PHOTO NO. 32 - MONITORING WELL NO. OBMW18



PHOTO NO. 33 - MONITORING WELL NO. OBMW19



PHOTO NO. 34 - MONITORING WELL NO. Well 1



PHOTO NO. 35 - MONITORING WELL NO. Well 2



PHOTO NO. 36 - MONITORING WELL NO. Well 5



PHOTO NO. 37 - MONITORING WELL NO. Well 8

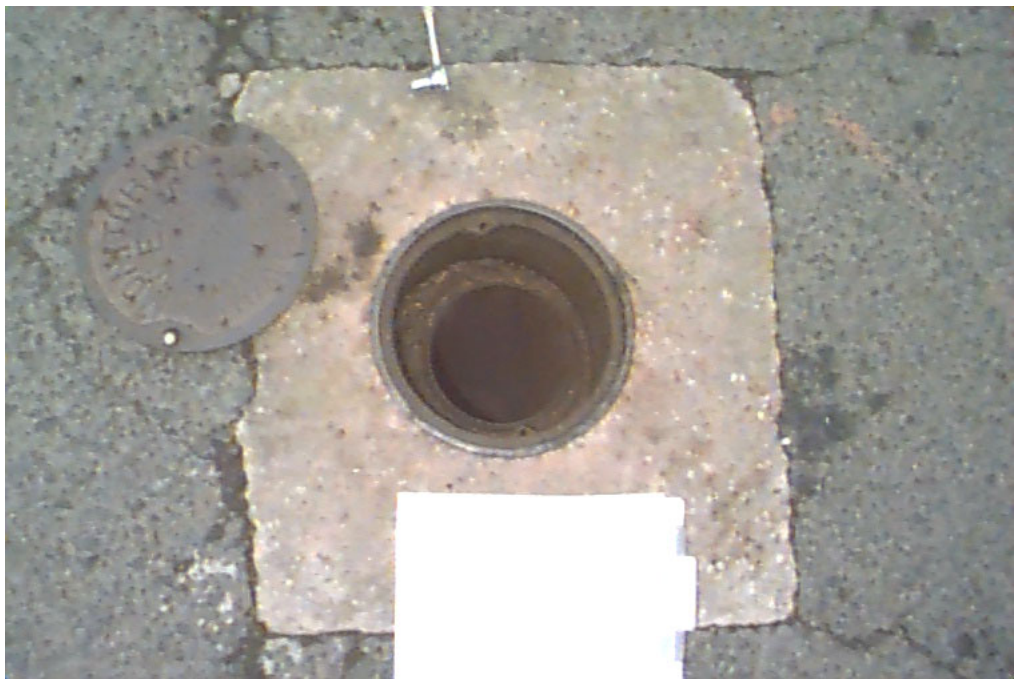


PHOTO NO. 38 - MONITORING WELL NO. BRTW2



PHOTO NO. 39 - MONITORING WELL NO. PT-2S

APPENDIX B

Monitoring Well Integrity Forms

MONITORING WELL INTEGRITY CHECKLIST

WELL ID OBMW1D

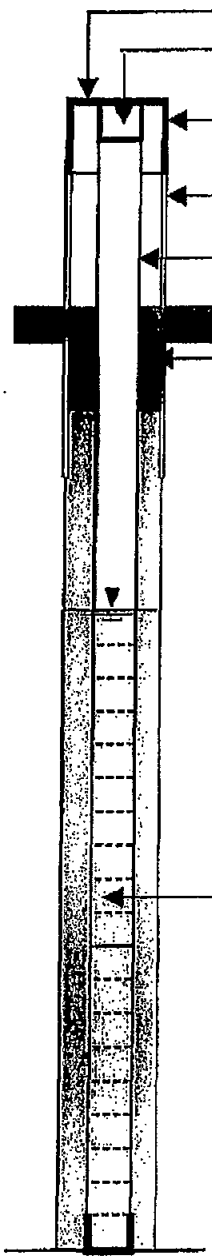
PROJECT Maywood FUSRAP GWR1

DATE 3/5/01

INSPECTOR G. Markt

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (if known) -

INTERIOR COMPRESSION CAP - j-plug.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - fair (water inside of flushmount)

PROTECTIVE CASING - —
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC

SURFACE EL. (if known) -

CONCRETE PAD -
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - poor, adjacent to salt pile + UST

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 0.7 (2/14/01)

ANY OBSERVED OBSTRUCTION - between salt pile + active UST

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :

DRILLING METHOD :

SCREEN SIZE :

SCREEN LENGTH :

SAND PACK HEIGHT:

BENTONITE SEAL:

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (8.0) 9.7'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

annulus inside of flushmount full of water

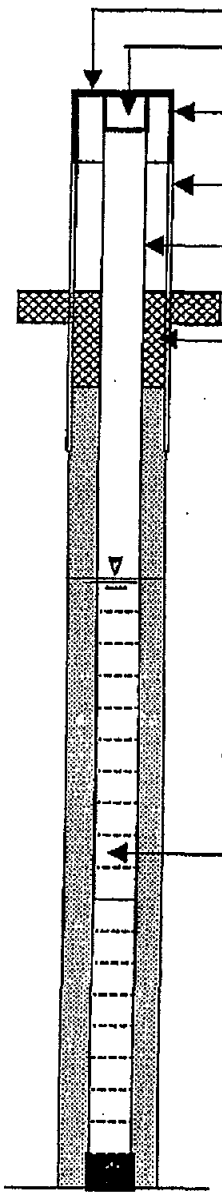
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW1

PROJECT
DATE 12/19/00 1530
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [X] **STICK-UP** [ ]



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.): j-plug, needs new lock
- EXTERIOR CAP &PAD LOCK: inner locking piece stuck or jammed on lid.
- PROTECTIVE CASING - (stick-up height): —
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.): 2" stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - (cracks, separation from casing, erosion etc.): good
- GENERAL SURFACE CONDTIONS: good
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER: 4.38'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

LEL 22%
O_2 15%

TOTAL DEPTH OF WELL - (10.0') 9.05'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

needs new lock

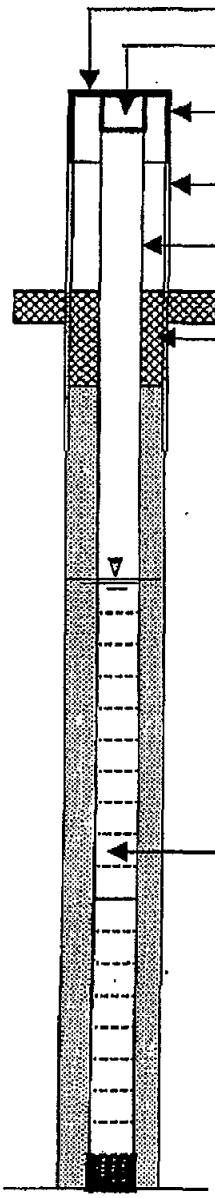
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW1

PROJECT
DATE 12/19/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☒ **STICK-UP** ☐



- TOP OF CASING EL. (if known) —
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) j-plug = not on well, lock present but very rusted
- EXTERIOR CAP &PAD LOCK - locking mechanism stuck on jammed on cap.
- PROTECTIVE CASING - (stick-up height) —
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
- SURFACE EL. (if known) - 49.5 (ft msl)
- CONCRETE PAD - three cracks (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - poor.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 4.95'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (47.0') 47.5'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Note: Picture taken immediately upon opening well.
- j-plug was off inner casing, laying next to hole.
- sheen on water in manhole.

Needs new j-plug + lock!

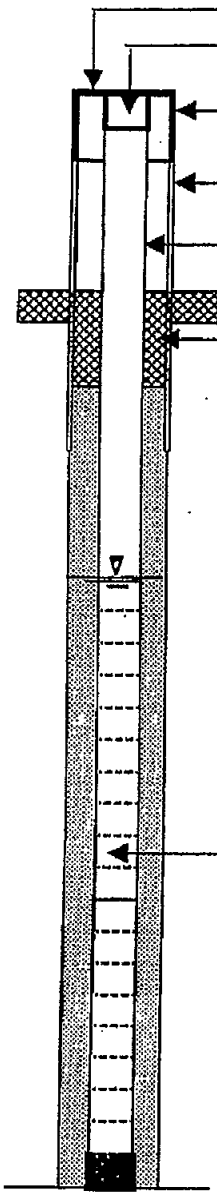
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID PT-1DA

PROJECT
DATE 12/18/02 SIS
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT ☐ **STICK-UP** ☐



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) — j-plug & lock cut & replaced
- EXTERIOR CAP &PAD LOCK - good.
- PROTECTIVE CASING - (stick-up height) — Flushmount
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC.
- SURFACE EL. (if known) -
- CONCRETE PAD - (cracks, separation from casing, erosion etc.) — several cracks.
- GENERAL SURFACE CONDTIONS - fair
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 9.25
- ANY OBSERVED OBSTRUCTION - MW-2A & MW-2B in same manhole.

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (39.0') 38.9'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

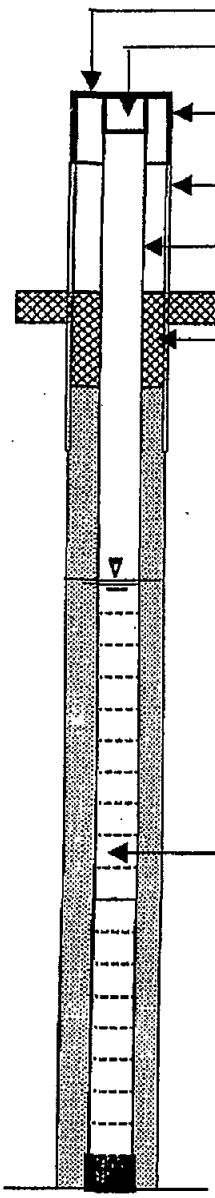
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID PT-1DB

PROJECT
DATE 12/18/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT ☐ **STICK-UP** ☐



TOP OF CASING EL. (if known)

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) j-plugs, lock cut & replaced.

EXTERIOR CAP &PAD LOCK - good.

PROTECTIVE CASING - (stick-up height) Flushmount

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC.

SURFACE EL. (if known) -

CONCRETE PAD - several cracks
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - fair

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 9.45

ANY OBSERVED OBSTRUCTION - MW-2A & MW-2B in same manhole.

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (62.0') 62.4'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID OBMW3

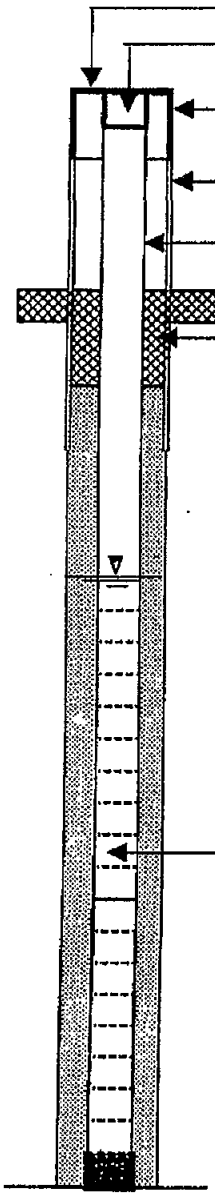
PROJECT

DATE 12/19/00

INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) — j-plug - no lock. put lock on. j-plug broken.
- EXTERIOR CAP &PAD LOCK - outer cap will not lock or tighten on hole.
- PROTECTIVE CASING - (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - some cracks. (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - moderate.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 4.34'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (12.0') 12.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

manhole full of soil, see pictures

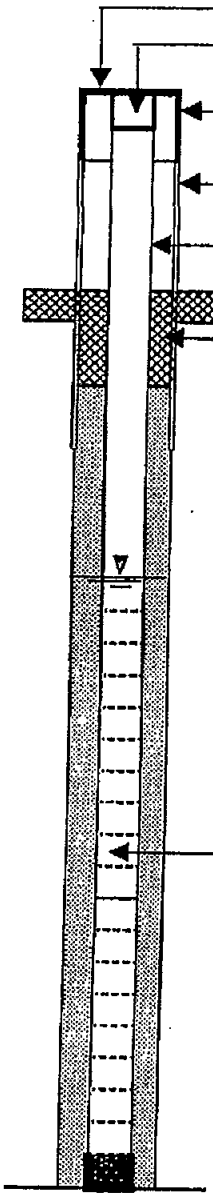
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW3

PROJECT
DATE 12/19/00 1225
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☒ **STICK-UP** ☐



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - j-plug, lock cut + replaced. j-plug cracked.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - good.
- PROTECTIVE CASING - —
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - several small cracks.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - moderate.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 3.42'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

low oxygen 19.9%

TOTAL DEPTH OF WELL - (30.0') 30.1'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

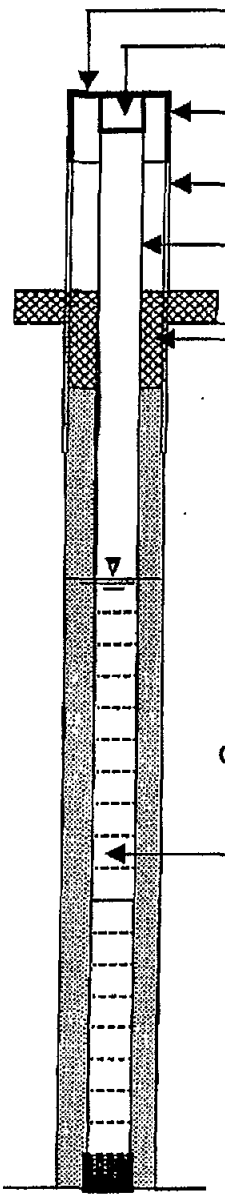
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW5

PROJECT
DATE 12/19/00 1210
INSPECTOR d.Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



- TOP OF CASING EL. (if known) -
- INTERIOR COMPRESSION CAP - present but j-plug not on, grout up around 2" open stainless steel casing.
- (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - bolt holding cap was bent See picture.
- PROTECTIVE CASING - —
- (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - several cracks.
- (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - very poor
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 3.61
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE *(overburden, bedrock)* :

TOTAL DEPTH OF WELL - (10.0') 9.4

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

- bottom soft.
- grout + sand filling manhole.

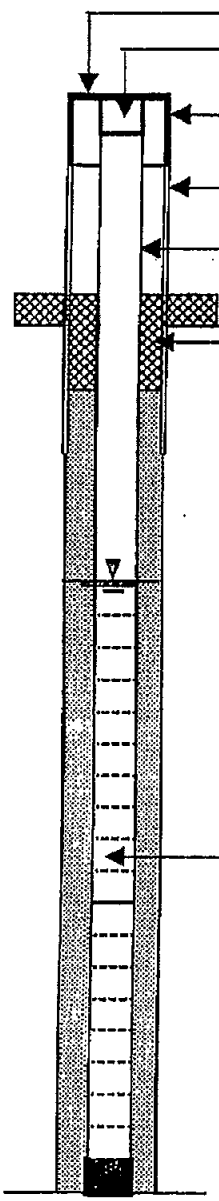
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW5

PROJECT
DATE 12/19/00 1205
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (if known) -
INTERIOR COMPRESSION CAP - j-plug, no lock
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - bolt holding cap was bent
PROTECTIVE CASING - —
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
SURFACE EL. (if known) -
CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 3.16'
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

LEL 3%
VOC 11.0 ppm

TOTAL DEPTH OF WELL - (29.0') 28.7'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
Soft bottom.

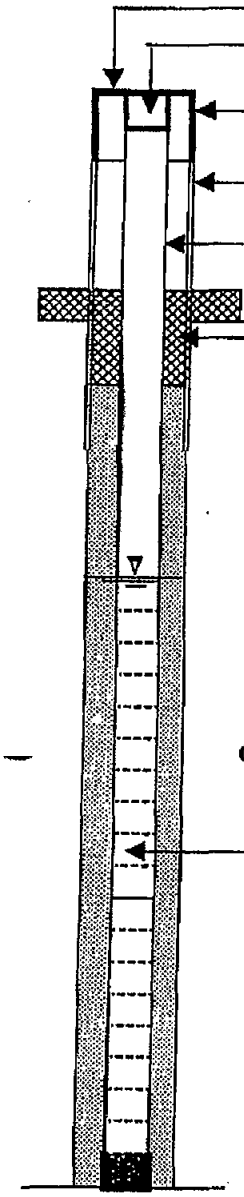
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW6

PROJECT
DATE 12/19/00
INSPECTOR 1100

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) — j-plug, lock unlocked.
- EXTERIOR CAP &PAD LOCK - — good. manhole cap is bent - need new one.
- PROTECTIVE CASING - (stick-up height) —
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - (cracks, separation from casing, erosion etc.) — good.
- GENERAL SURFACE CONDTIONS - good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 3.16'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (8.0') 7.95'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
BOTTOM FAIRLY SOLID

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID BRMW6

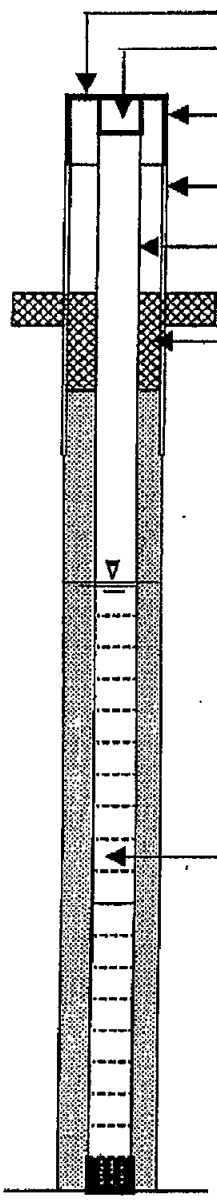
PROJECT

DATE 12/19/00 1055

INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (if known)

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) j-plug + lock, cut + replaced lock.

EXTERIOR CAP &PAD LOCK - good.

PROTECTIVE CASING - (stick-up height) —

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel

SURFACE EL. (if known) -

CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 3.64'

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :

DRILLING METHOD :

SCREEN SIZE :

SCREEN LENGTH :

SAND PACK HEIGHT:

BENTONITE SEAL:

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) :

low oxygen 16.5%

TOTAL DEPTH OF WELL - (27.0) 26.75'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Bottom Soft

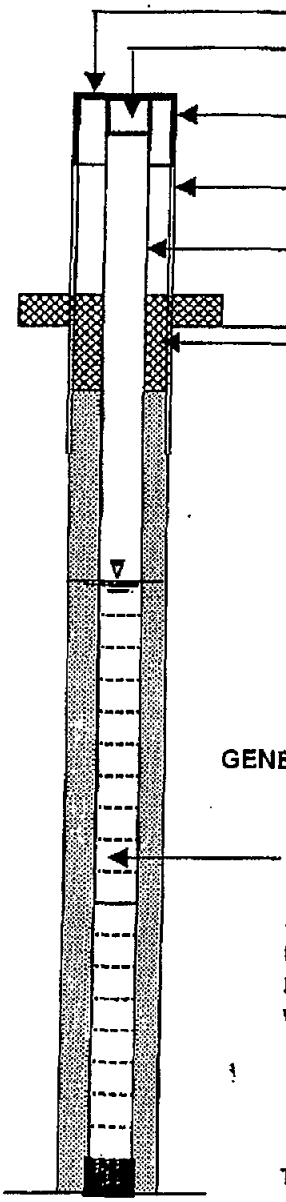
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW7

PROJECT
DATE 12/19/00 1130
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [X] **STICK-UP** [ ]



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - PVC cap + locking lock
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - no outer cap
- PROTECTIVE CASING - —
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC
- SURFACE EL. (if known) -
- CONCRETE PAD - several cracks
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - New pour
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 2.21
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (15.0') 10.3

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

- Leaves in manhole, no outer cap.
- behind E-Z Way Storage containers off corner of Desaucer on Architectural Windows.

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID OBMW8 Architectural Windows mar 17 N

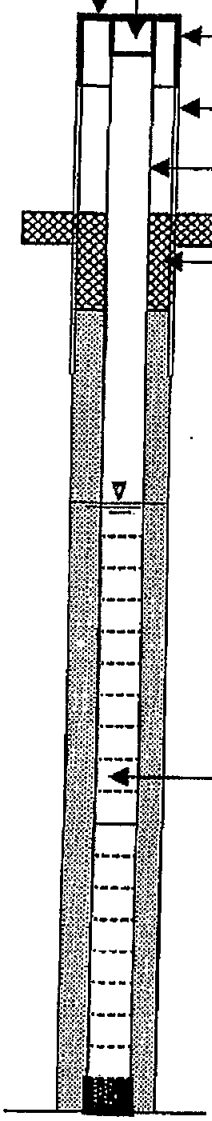
PROJECT

DATE 12/19/00 1145

INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [X] **STICK-UP** [ ]



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - bad.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - no outer cap - full of soil + leaves
- PROTECTIVE CASING - —
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - very broken/cracked.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - poor
- WELL ALIGNMENT (if observable) - possible misalignment
- DEPTH TO WATER - 5.05'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (12.5') 12.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

bottom soft, well may be misaligned.

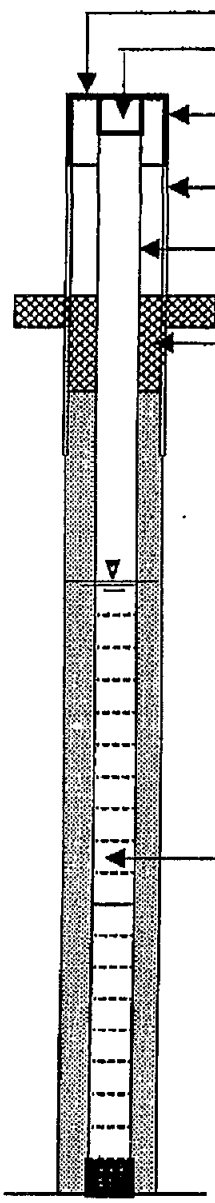
PHOTOGRAPH MUST BE ATTACHED Pictures ✓

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW8

PROJECT
DATE 12/19/00 1152
INSPECTOR d.Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (If known) -
INTERIOR COMPRESSION CAP - j-plug, lock cut & replaced.
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - Cap good
PROTECTIVE CASING - —
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
SURFACE EL. (if known) -
CONCRETE PAD - eroding
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (If observable) -
DEPTH TO WATER - 41.6'
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

LEL 4%
low oxygen 8.8%
VOL 0.2 ppm

TOTAL DEPTH OF WELL - 42.4' (42.0')

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
Water in manhole.

Pictures ✓

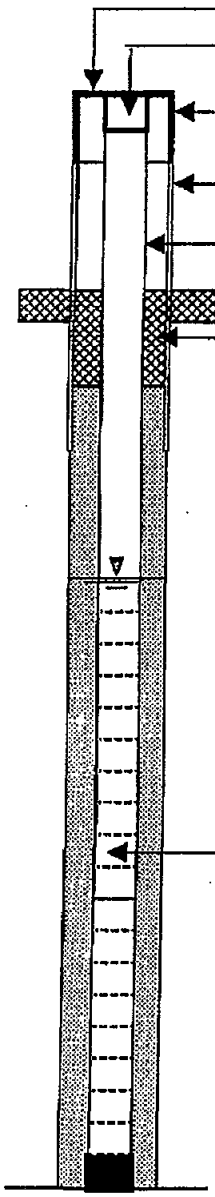
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW9

PROJECT
DATE 12/19/00, 1340
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [ ] **STICK-UP** [X]



- TOP OF CASING EL. (if known) -
- INTERIOR COMPRESSION CAP - J-plug.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - Cap good, lock cut + replaced.
- PROTECTIVE CASING - good ~1.2'
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" stainless steel.
- SURFACE EL. (if known) -
- CONCRETE PAD - good.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 15.66'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

LEL 3%
O_2 14.7%

LEL 31%
O_2 2% } OBMW12

- TOTAL DEPTH OF WELL - (23.5') 19.9'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
soft bottom

Pictures ✓

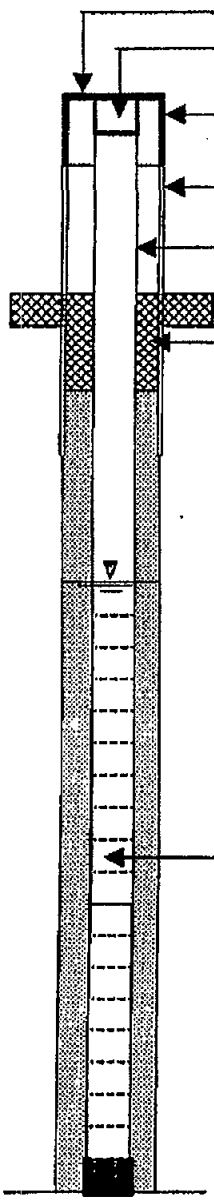
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW10

PROJECT
DATE 12/18/00 1000
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (if known) -
INTERIOR COMPRESSION CAP - j-plug, lock very rusted + unlocked. replaced lock.
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - good
PROTECTIVE CASING - flushmount
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel.
SURFACE EL. (if known) -
CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 9.01'

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (40.0') 38.6'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
feels sticky - sand bottom

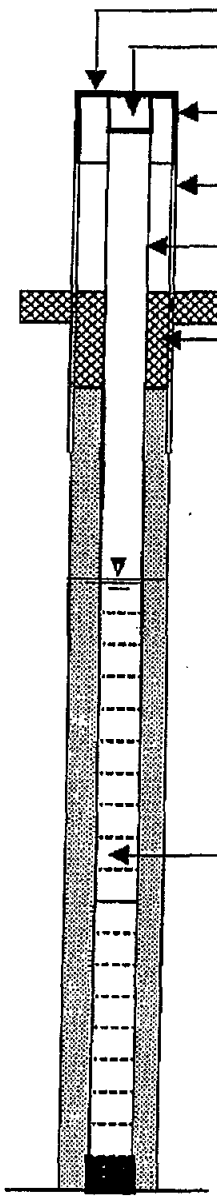
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW11

PROJECT
DATE 12/20/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [ ] **STICK-UP** [X]



TOP OF CASING EL. (If known) -

INTERIOR COMPRESSION CAP - j-plug needs to be replaced, No inner lock
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - lock cut & replaced, outer cap good.

PROTECTIVE CASING - ~2.5'
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel

SURFACE EL. (If known) - —

CONCRETE PAD - cracked and covered with roots & organic mat'l
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - fair

WELL ALIGNMENT (if observable) - —

DEPTH TO WATER - 2.55'

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (10.0') 12.0

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

PID Diagnostics: LEL: 2%
~~CO_2 : 20.5%~~ 4%.
VOC : 0.0%
O_2 = 20.5%

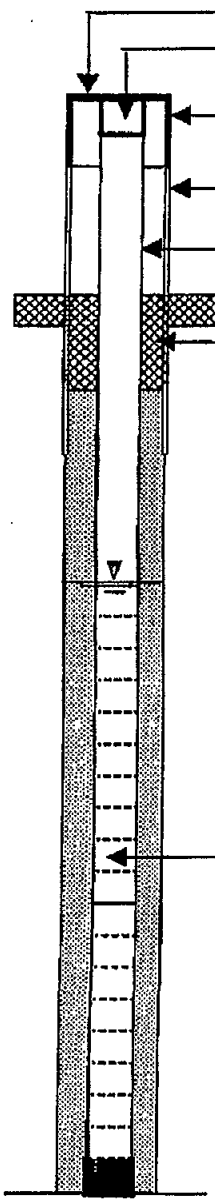
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW11

PROJECT
DATE 12/20/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT ☐ **STICK-UP** ☒



TOP OF CASING EL. (if known)

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) No inner lock, j-plug good.

EXTERIOR CAP &PAD LOCK - lock cut + replaced, outer cap good

PROTECTIVE CASING - (stick-up height) ~2.5'

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel

SURFACE EL. (if known) - -

CONCRETE PAD - (cracks, separation from casing, erosion etc.) Cracked

GENERAL SURFACE CONDTIONS - fair

WELL ALIGNMENT (if observable) - —

DEPTH TO WATER - 2.83'

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

30 ppm CO

TOTAL DEPTH OF WELL - (33.0') 34.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID OBMW 12

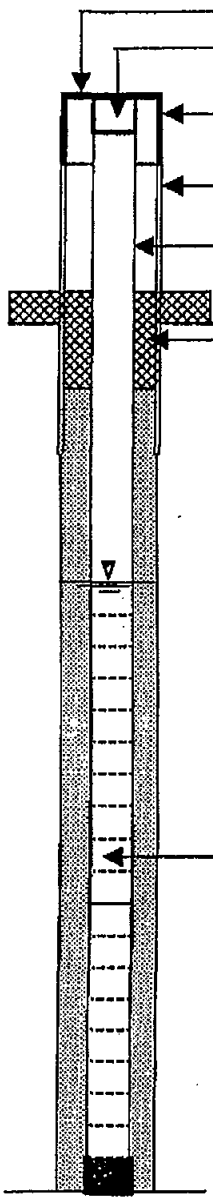
PROJECT

DATE 12/19/00 1325

INSPECTOR J. Lawlor

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (if known) -

INTERIOR COMPRESSION CAP - j-plug, lock cut + replaced.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - cap jammed on support bracket.

PROTECTIVE CASING - —
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" stainless steel

SURFACE EL. (if known) -

CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 6.11

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

LEL 31%
O_2 2%

TOTAL DEPTH OF WELL - (15.0') 15.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

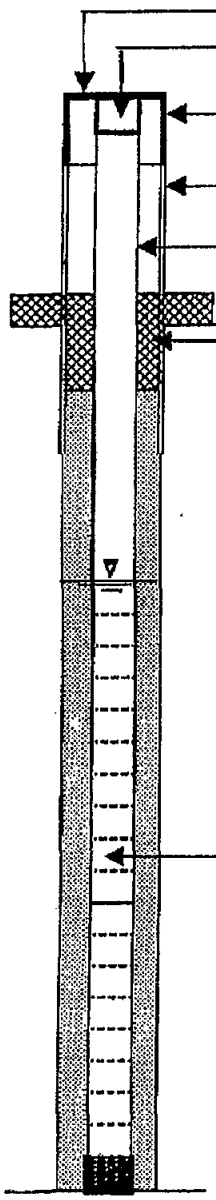
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW12

PROJECT
DATE 12/19/00 1325
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) — J-plug (broken), lock cut + replaced.
- EXTERIOR CAP &PAD LOCK - no bolt to tighten cap.
- PROTECTIVE CASING - (stick-up height) —
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - good.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 4.4'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

VOC 0.2 ppm
O_2 19.2

TOTAL DEPTH OF WELL - (48.0') 47.65

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
- water in manhole
- soft bottom.

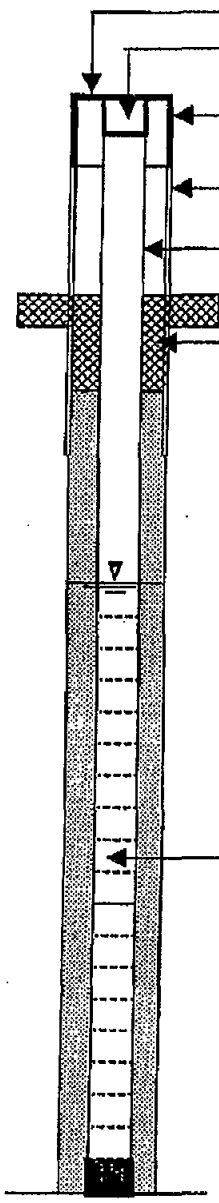
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW13

PROJECT
DATE 12/20/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☒ **STICK-UP** ☐



TOP OF CASING EL. (if known) -
INTERIOR COMPRESSION CAP - J-plug, lock cut + replaced
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - good
PROTECTIVE CASING - —
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" stainless steel
SURFACE EL. (if known) -
CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 3.78
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (14.0') 13.8'

LEL 49%
Co 1 ppm
H_2S 1 ppm
VOC 0.8 ppm

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
~ soft bottom.

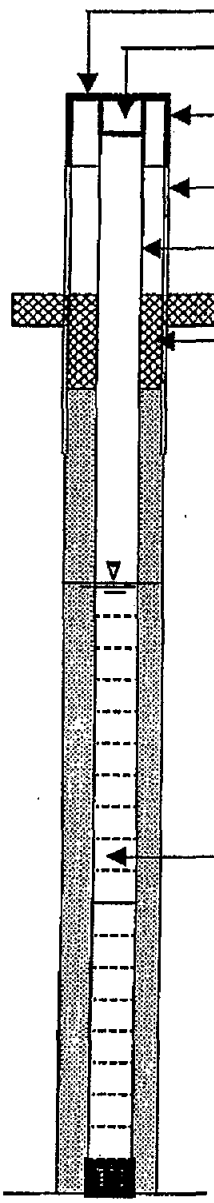
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW13

PROJECT
DATE 12/20/00 1015
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (If known)

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) j-plug, cut & replaced lock.

EXTERIOR CAP &PAD LOCK - good

PROTECTIVE CASING - (stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel

SURFACE EL. (if known) -

CONCRETE PAD - good. (cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (If observable) -

DEPTH TO WATER - 3.69

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(If available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (33.0') 33.5'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Support bracket is lowered on outer cap - could not tighten exterior cap.

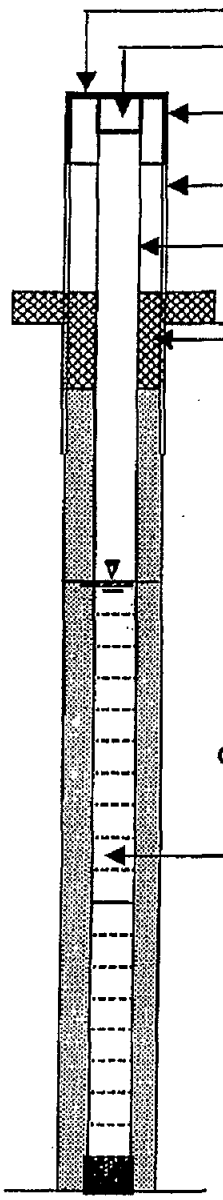
PHOTOGRAPH MUST BE ATTACHED Picture ✓

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW14

PROJECT
DATE 12/20/00 1040
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (if known)
INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) j-plug, lock (should be replaced)
EXTERIOR CAP &PAD LOCK - good
PROTECTIVE CASING - (stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" stainless steel
SURFACE EL. (If known) -
CONCRETE PAD - (cracks, separation from casing, erosion etc.) good
GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (If observable) -
DEPTH TO WATER - 2.8
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

LEL 32%

TOTAL DEPTH OF WELL - (14.0') 13.75'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Bolt for exterior cap is bent therefore could not tighten.

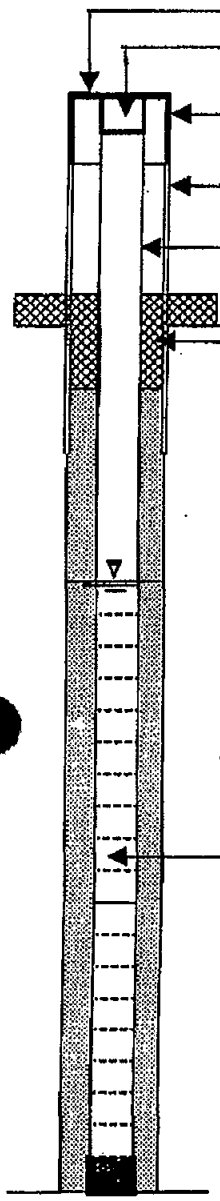
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW14

PROJECT
DATE 12/20/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT [X] **STICK-UP** [ ]



TOP OF CASING EL. (If known)
INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) [illegible]
EXTERIOR CAP &PAD LOCK - good
PROTECTIVE CASING - (stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" [illegible]
SURFACE EL. (If known) -
CONCRETE PAD - good (cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 12.45
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

VOC 0.5
O_2 18%
LEL 1%

TOTAL DEPTH OF WELL - (37.0') 37.2'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

- Well under pressure.
- Did not mark with paint near cars.

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID OBMW15

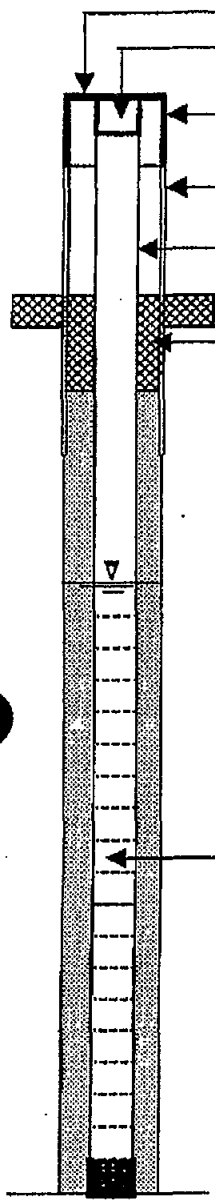
PROJECT

DATE 12/18/00

INSPECTOR JLincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



TOP OF CASING EL. (If known)

INTERIOR COMPRESSION CAP - Stainless Steel Threaded Cap.
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - a Caps is good, but lock + replaced it.

PROTECTIVE CASING - good.
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel

SURFACE EL. (if known) -

CONCRETE PAD - good
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 14.51

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :

DRILLING METHOD :

SCREEN SIZE :

SCREEN LENGTH :

SAND PACK HEIGHT:

BENTONITE SEAL:

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (17.0') 19.8

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

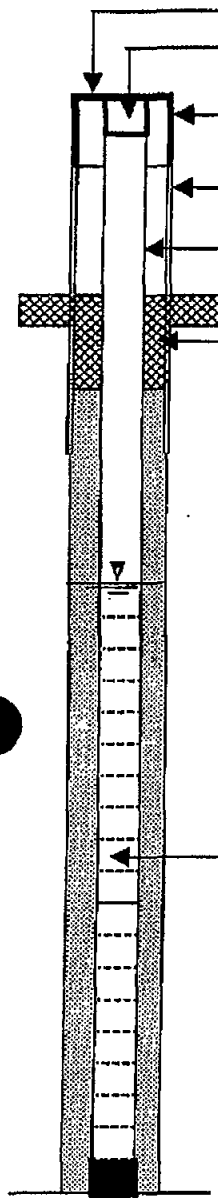
PHOTOGRAPH MUST BE ATTACHED Picture ✓

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW15

PROJECT
DATE 12/18/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



- TOP OF CASING EL. (if known) -
- INTERIOR COMPRESSION CAP - j-plug no lock
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - cap good, put lock + replaced it.
- PROTECTIVE CASING - good.
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel.
- SURFACE EL. (if known) -
- CONCRETE PAD - one small crack.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 13.56'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (30.0') 31.1'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Pictures ✓

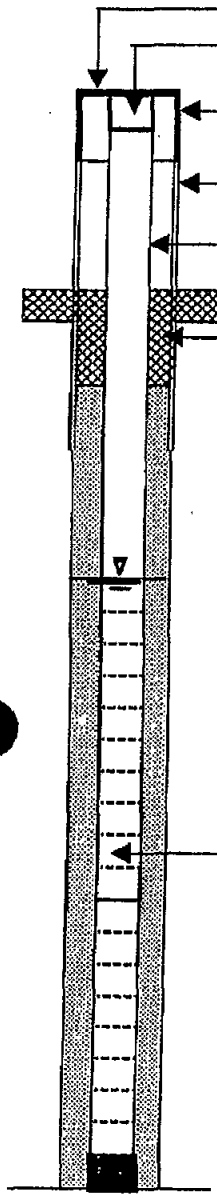
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW16

PROJECT
DATE 12/18/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



TOP OF CASING EL. (If known) -

INTERIOR COMPRESSION CAP - j-plug, no lock
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - Cap good, cut & replace lock.

PROTECTIVE CASING - good, ~1' stick-up
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" stainless steel

SURFACE EL. (if known) -

CONCRETE PAD - large cracks.
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - bad.

WELL ALIGNMENT (If observable) -

DEPTH TO WATER - 11.59'

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (30.0') 31.15

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

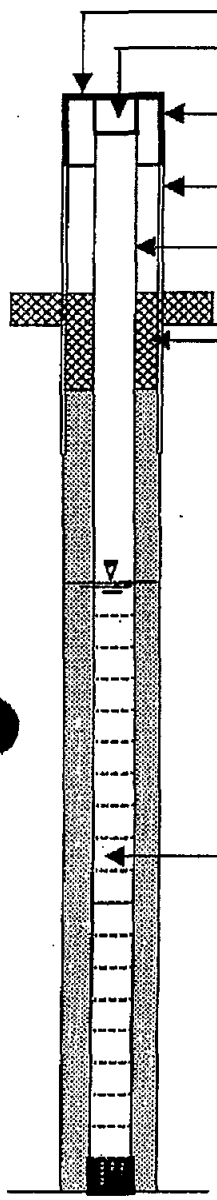
PHOTOGRAPH MUST BE ATTACHED Picture ✓

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW17

PROJECT
DATE 12/18/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



TOP OF CASING EL. (if known)
INTERIOR COMPRESSION CAP - Stainless steel threaded cap.
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - Cap good, Cut + replaced lock.
PROTECTIVE CASING - ~2", good.
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel
SURFACE EL. (if known) -
CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good.
WELL ALIGNMENT (if observable) -
DEPTH TO WATER - 8.6'
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

VOC. 0.8 ppm.
Oxygen 18%

TOTAL DEPTH OF WELL - (15.0') 16.8'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
black silty material on water level meter.

PHOTOGRAPH MUST BE ATTACHED

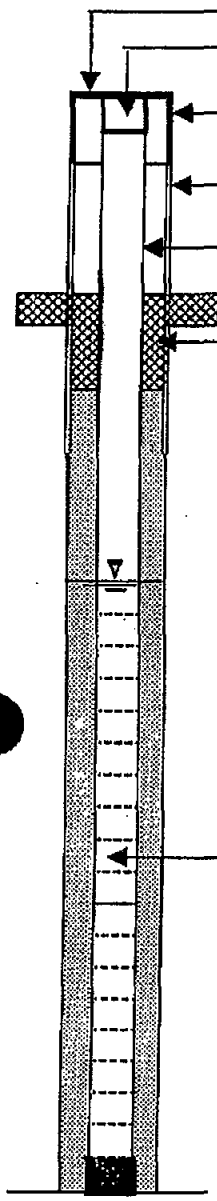
picture ✓

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRMW17

PROJECT
DATE 12/18/00
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



- TOP OF CASING EL. (if known) -
- INTERIOR COMPRESSION CAP - J plug - No lock.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - cap good, cut + replaced lock.
- PROTECTIVE CASING - good. 2' stickup.
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel
- SURFACE EL. (if known) -
- CONCRETE PAD - asphalt good.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 7.88'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (35.0') 37.1'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

PHOTOGRAPH MUST BE ATTACHED

Picture ✓

MONITORING WELL INTEGRITY CHECKLIST

WELL ID OBMW18

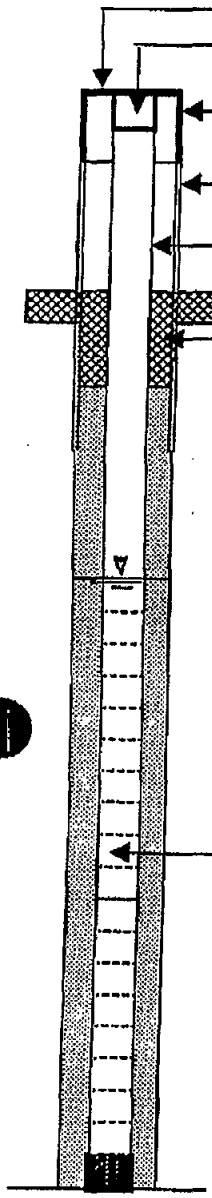
PROJECT

DATE 12/18/00

INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ STICK-UP ☐



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) No cap
- EXTERIOR CAP &PAD LOCK - Cap good, cut lock + replaced it.
- PROTECTIVE CASING - (stick-up height) ~2" stick up.
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless steel
- SURFACE EL. (if known) -
- CONCRETE PAD - good. (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 9.05'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE : VOA 15.5
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - 12.85'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Picture ✓

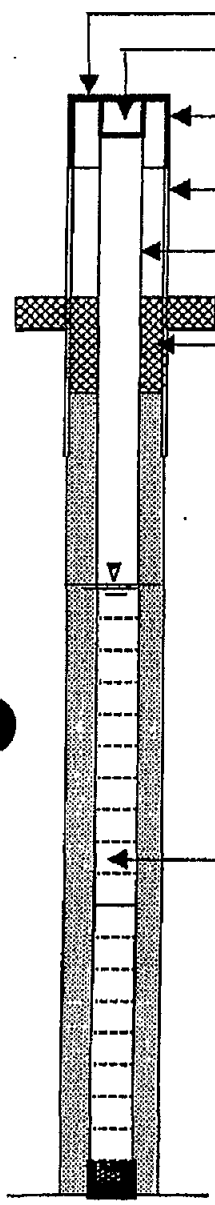
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID OBMW19

PROJECT
DATE 12/18/00 1231
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT ☐ **STICK-UP** ☐



- TOP OF CASING EL. (if known) -
- INTERIOR COMPRESSION CAP - j-plug, no lock.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - Cap good, cut + replaced lock.
- PROTECTIVE CASING - ~2'
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" Stainless Steel.
- SURFACE EL. (If known) -
- CONCRETE PAD - good.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - good.
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 9.01'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

low Oxygen 1.5%
LEL 5%

- TOTAL DEPTH OF WELL - 17.4'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
2 pieces of poly tubing in well.

PHOTOGRAPH MUST BE ATTACHED

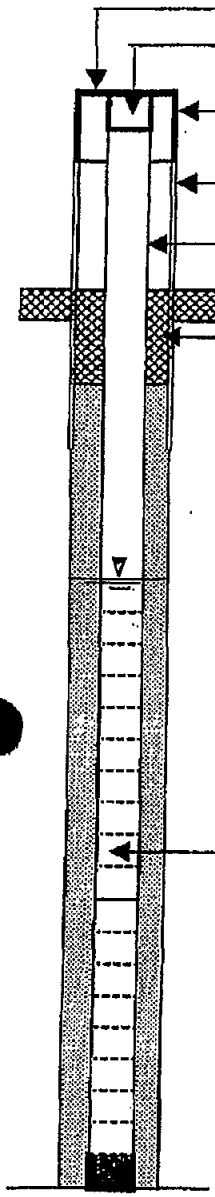
Pictures

MONITORING WELL INTEGRITY CHECKLIST
WELL ID Well-1

PROJECT
DATE 12/18/00 1020
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [ ] **STICK-UP** [X]



- TOP OF CASING EL. (if known)
- INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) J-plug + lock but not tight cut + replaced lock.
- EXTERIOR CAP &PAD LOCK - Stick-up in good condition but cannot lock ~~out~~ protective casing cover.
- PROTECTIVE CASING - (stick-up height) 8" stick-up.
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC
- SURFACE EL. (if known) -
- CONCRETE PAD - Several cracks. (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - poor
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 9.3'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - ~~(16.0')~~ 14.8'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

Picture ✓

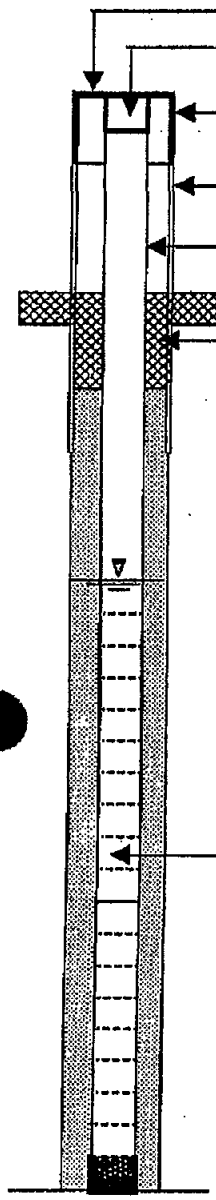
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID Well-2

PROJECT
DATE 12/19/00 10:30
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT [ ] **STICK-UP** [X]



- TOP OF CASING EL. (if known) -
- INTERIOR COMPRESSION CAP - PVC cap. - no lock.
  (seal/gasket, sealing mechanism, etc.)
- EXTERIOR CAP &PAD LOCK - Cap good, lock cut & replaced.
- PROTECTIVE CASING - good 1'
  (stick-up height)
- WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC.
- SURFACE EL. (if known) -
- CONCRETE PAD - Several cracks.
  (cracks, separation from casing, erosion etc.)
- GENERAL SURFACE CONDTIONS - poor
- WELL ALIGNMENT (if observable) -
- DEPTH TO WATER - 9.83'
- ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

- DATE :
- DRILLING METHOD :
- SCREEN SIZE :
- SCREEN LENGTH :
- SAND PACK HEIGHT:
- BENTONITE SEAL:
- HYDRAULIC CONDUCTIVITY :
- WELL TYPE (overburden, bedrock) :

89-3090

TOTAL DEPTH OF WELL - (20.0') 18.0'

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
SOFT BOTTOM, SILT ON END OF INDICATOR

Pictures ✓

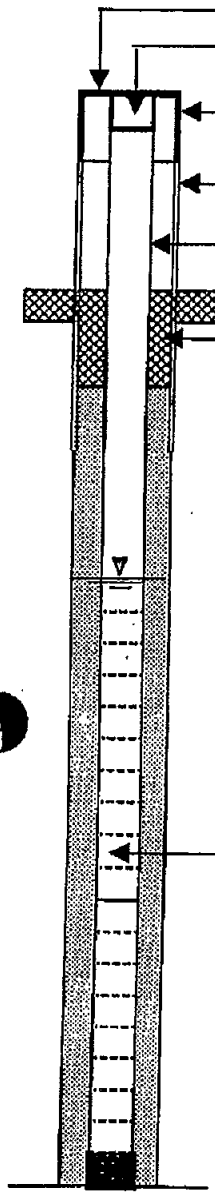
PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST
WELL ID Well-5

PROJECT
DATE 12/18/00 1430
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



TOP OF CASING EL. (If known)

INTERIOR COMPRESSION CAP - (seal/gasket, sealing mechanism, etc.) Off-set on well (see pictures) J-plug, cut lock & replace.

EXTERIOR CAP &PAD LOCK - Cap - good, No lock.

PROTECTIVE CASING - (stick-up height) flushmount.

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC.

SURFACE EL. (if known) -

CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - good.

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 6.04

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS ***(if available)***

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (13.0') 10.12

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

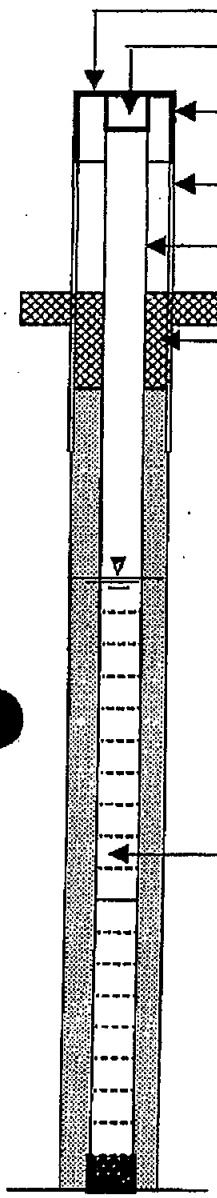
PHOTOGRAPH MUST BE ATTACHED Picture ✓

MONITORING WELL INTEGRITY CHECKLIST
WELL ID Well-8

PROJECT
DATE 12/18/00
INSPECTOR J Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



TOP OF CASING EL. (if known) -
INTERIOR COMPRESSION CAP - No cap or lock
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - good.
PROTECTIVE CASING - 2'
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC
SURFACE EL. (if known) -
CONCRETE PAD - No pad.
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good
WELL ALIGNMENT (if observable) - Not observed.
DEPTH TO WATER - 14.7'
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (17.0') 18.95' from Top of PVC

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

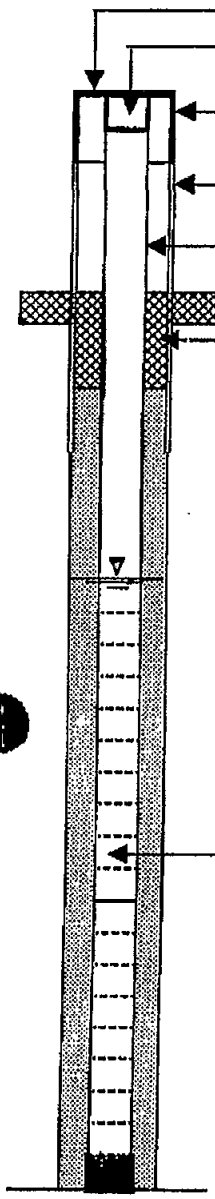
PHOTOGRAPH MUST BE ATTACHED Picture ✓

MONITORING WELL INTEGRITY CHECKLIST
WELL ID BRTW2

PROJECT
DATE 12/19/00 1550
INSPECTOR J. Lincoln

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS:

FLUSH MOUNT ☐ **STICK-UP** ☐



TOP OF CASING EL. (If known)
INTERIOR COMPRESSION CAP - No cap or lock
(seal/gasket, sealing mechanism, etc.)
EXTERIOR CAP &PAD LOCK - Cap is good - No lock.
PROTECTIVE CASING - —
(stick-up height)
WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 8" Steel → bedrock well.
SURFACE EL. (if known) -
CONCRETE PAD - good.
(cracks, separation from casing, erosion etc.)
GENERAL SURFACE CONDTIONS - good
WELL ALIGNMENT (If observable) -
DEPTH TO WATER - 3.8' FT
ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :
DRILLING METHOD :
SCREEN SIZE :
SCREEN LENGTH :
SAND PACK HEIGHT:
BENTONITE SEAL:
HYDRAULIC CONDUCTIVITY :
WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (62) (65.0)

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)
I think this is a test well. Bottom not well defined.

PHOTOGRAPH MUST BE ATTACHED

MONITORING WELL INTEGRITY CHECKLIST

WELL ID PT-25

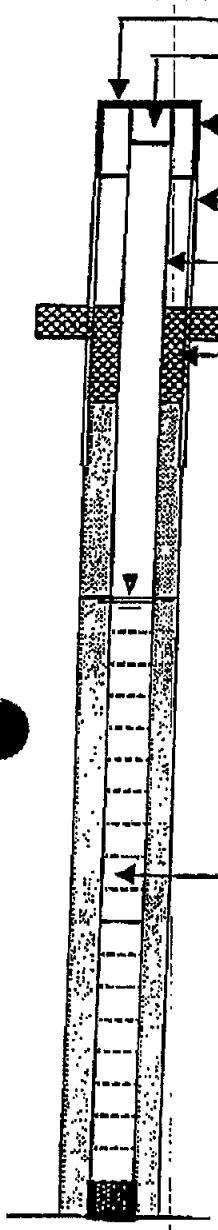
PROJECT Maywood FUSRAP GW

DATE 3/5/01

INSPECTOR G. Market

DESCRIBE THE CONDITION OF THE FOLLOWING MONITORING WELL ITEMS

FLUSH MOUNT ☑ STICK-UP ☐



TOP OF CASING EL. (if known) -

INTERIOR COMPRESSION CAP - jplug
(seal/gasket, sealing mechanism, etc.)

EXTERIOR CAP &PAD LOCK - good

PROTECTIVE CASING - Flush mount
(stick-up height)

WELL DIAMETER & MATERIAL (e.g. PVC, SS etc.) - 2" PVC

SURFACE EL. (if known) -

CONCRETE PAD - good
(cracks, separation from casing, erosion etc.)

GENERAL SURFACE CONDTIONS - Soft earth (muddy)

WELL ALIGNMENT (if observable) -

DEPTH TO WATER - 4.8' (1/26/01)

ANY OBSERVED OBSTRUCTION -

GENERAL CONSTRUCTION & INSTALLATION DETAILS *(if available)*

DATE :

DRILLING METHOD :

SCREEN SIZE : 2"

SCREEN LENGTH :

SAND PACK HEIGHT:

BENTONITE SEAL:

HYDRAULIC CONDUCTIVITY :

WELL TYPE (overburden, bedrock) :

TOTAL DEPTH OF WELL - (15) 14.9

SUMMARY COMMENTS / OBSERVATIONS (evidence of tampering, surrounding conditions, etc.)

- Strong surfactant + organic odor detected in well

PHOTOGRAPH MUST BE ATTACHED

APPENDIX C

Monitoring Well Construction Logs

PROJECT NUMBER	BORING NUMBER
NJ022948.SR.WI	ORMW1 SHEET 1 OF 1

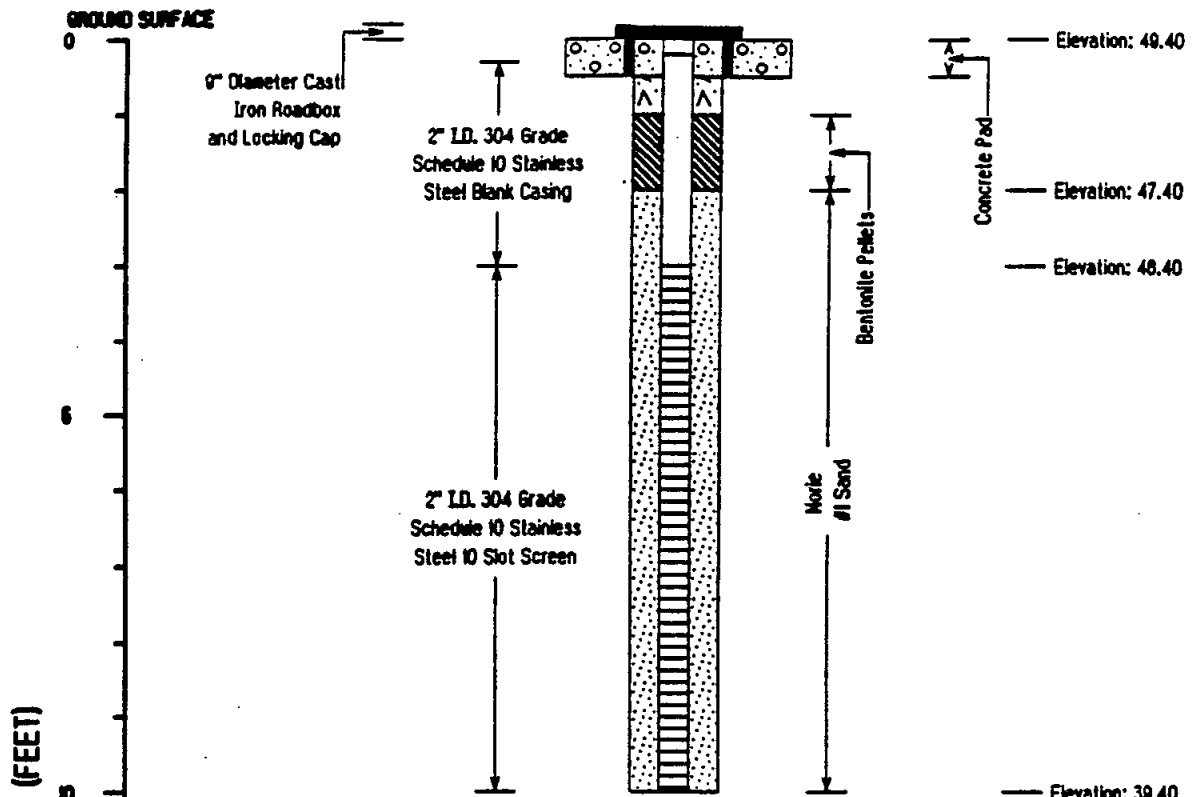
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 49.4 (GS); 48.82 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4 I.D.

WATER LEVELS 5.00 (ft); 43.82 (MSL), 8/22/92 START 4-27-92 FINISH 4-27-92 LOGGER L. Vogel



See Boring Log For Drilling Details

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28450
Atlas Sheet Coordinates 26 : 03 : 535

OWNER IDENTIFICATION - Owner KEN PROPERTIES
Address 77 TARRYTOWN RD. SUITE 100
City WHITE PLAINS State NY Zip Code 10607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-1
County Bergen Municipality MAYWOOD BORO Lot No. 30 Block No. 124
Address 149-151 Maywood Ave., Maywood, NJ
DEVELOPED 4/27/92 (COMPLETED)

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 4 / 01 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 201 316-9300

WELL CONSTRUCTION

Total depth drilled 10 ft.
Well finished to 10 ft.
Borehole diameter:
Top 8 in.
Bottom 8 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	0'	3'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	3'	10'	2"	Stainless Steel
Tail Piece	NA	NA	NA	
Gravel Pack	1'	10'	8"	# 1 Gravel
Annular Seal/Grout	0'	1'	8"	cement
Method of Grouting	gravity			

Static water level after drilling 4 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Hollow Stem AUger
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING, INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-4' glacial till
4'-10' weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 1/6/92

CHM HILL

PROJECT NUMBER	BORING NUMBER	
NJ022948.ST.WI	BRMW1	SHEET 1 OF 1

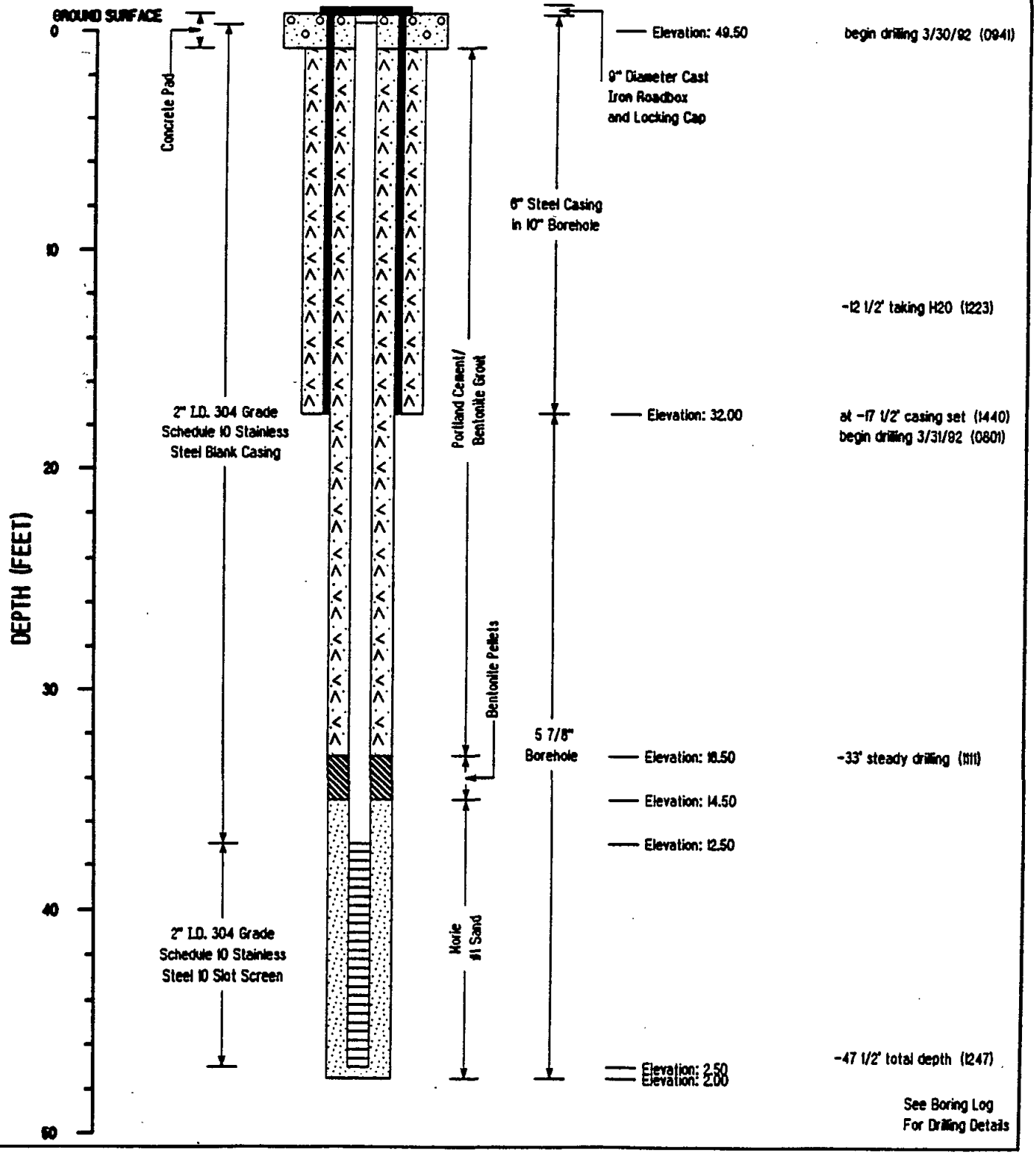
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 49.5 (GS); 49.08 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 5.80 (ft); 43.48 (MSL), 6/22/92 START 3-30-92 FINISH 3-31-92 LOGGER D. Snyder



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 - 28450
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner KEN PROPERTIES
Address 77 TARRYTOWN RD. SUITE 100
City WHITE PLAINS State NY Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-1
County Bergen Municipality MAYWOOD BORO Lot No. 12,30 Block No. 124
Address 149-151 Maywood Ave., Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) Date well completed 6 / 21 / 92
Regulatory Program Requiring Well MONITORING CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 908 316-9300

WELL CONSTRUCTION

Total depth drilled 47/5 ft.
Well finished to 37 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface ____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	27'	2"	304 Stainless steel
Outer Casing (Not Protective Casing)	0'	17½'	6"	steel casing
Screen (Note slot size)	27'	37'	2"	Slot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	25'	37'	6"	# 1 Gravel
Annular Seal/Grout	0'	25'	10/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 4 ft.
Water level was measured using M Scope
Well was developed for 1½ hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile b-80
Name of Driller Thomas Lynch & Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1499 & J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING, INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-6' fill
6'-12' weathered sandstone
12'-17½' sandstone & Shale
17½'-47.5 sandstone & Shale

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

CRM HILL

PROJECT NUMBER	BORING NUMBER
NJ022948.ST.WI	ORMW2 SHEET 1 OF 1

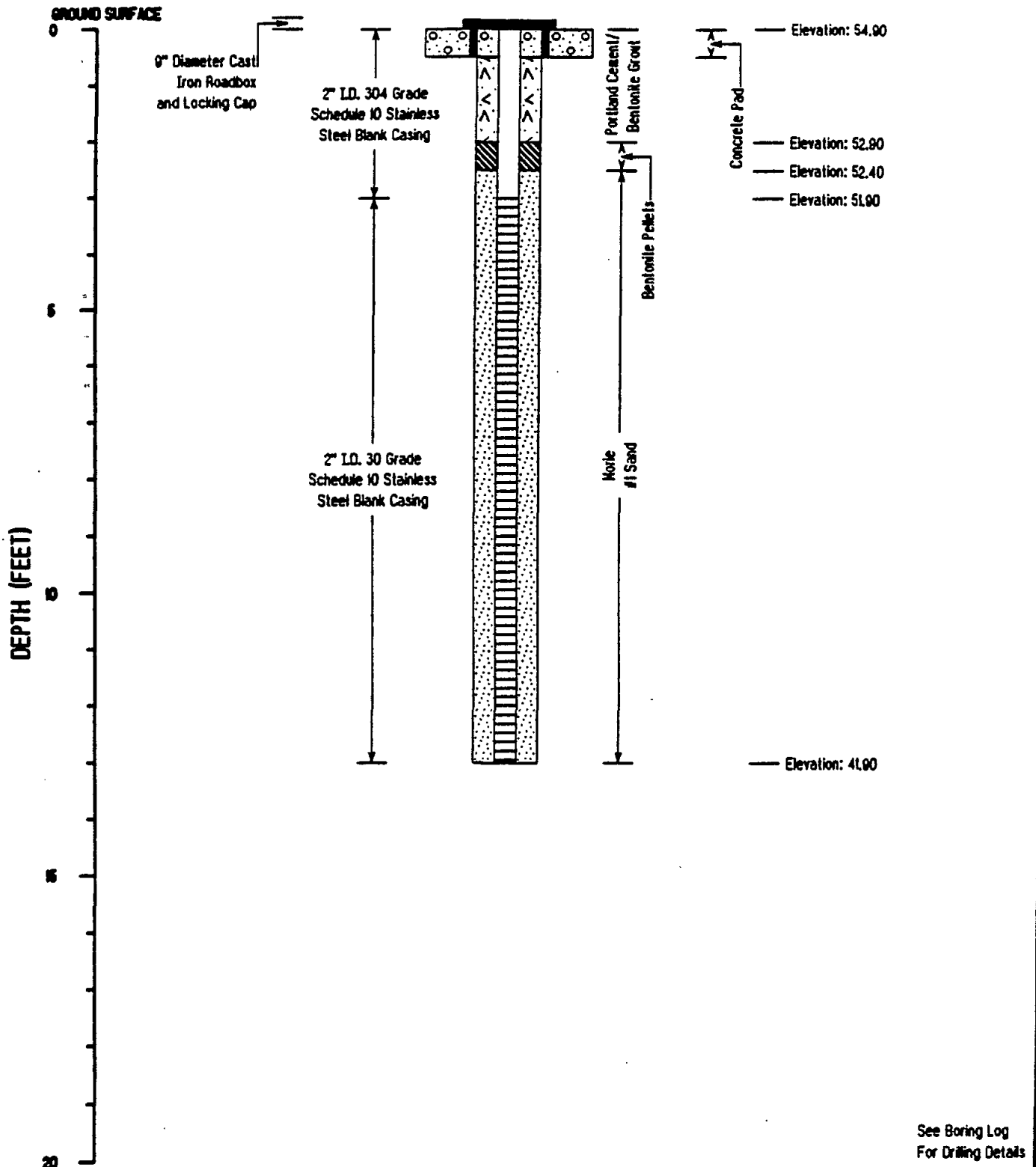
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 54.9 (GS); 54.40 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 6 1/4" ID

WATER LEVELS 5.11 (ft); 49.29 (MSL), 6/22/92 START 4-22-92 FINISH 4-22-92 LOGGER L. Vogel



See Boring Log For Drilling Details

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28469
Atlas Sheet Coordinates 26 : 03 : 535

OWNER IDENTIFICATION - Owner SHERAN COMPANY
Address 22 WEST FRONTAGE ROAD
City NORTHFIELD State IL Zip Code 60093

WELL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-2
County Bergen Municipality MAYWOOD BORO Lot No. 32 Block No. 124
Address 100 West Hunter Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) DEVELOPED 4/22/92 (COMPLETED)
Regulatory Program Requiring Well MONITORING CERCLA Date well completed 3 / 02 / 92 Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 609 795-6800

WELL CONSTRUCTION

Total depth drilled 13 ft.
Well finished to 13 ft.
Borehole diameter:
Top 8 in.
Bottom 8 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	3'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	3'	13'	2"	Stainless Steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	1'	13'	8"	# 1 Gravel
Annular Seal/Grout	0'	1'	8"	Cement
Method of Grouting	Gravity			

Static water level after drilling 10 ft.
Water level was measured using M Scope
Well was developed for 2½ hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Hollow Stem Auger
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. 1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-10' fill
10'-13' weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 6/18/92

PROJECT NUMBER	BORING NUMBER	
NJ022948.ST.WI	BRMW2	SHEET 1 OF 1

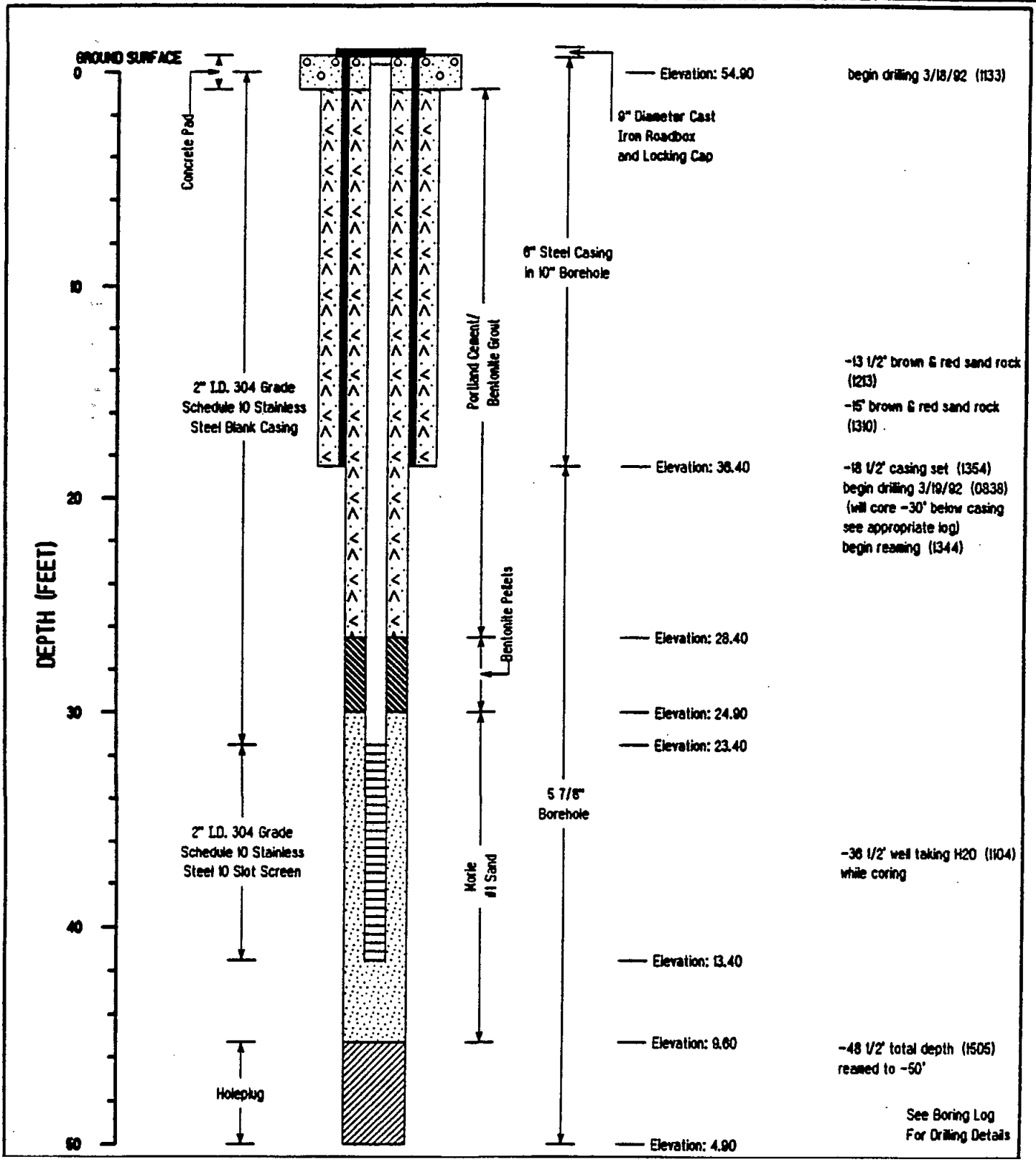
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 54.9 (GS); 54.61 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 8.52 (ft); 46.09 (MSL), 8/22/92 START 3-18-92 FINISH 3-19-92 LOGGER D. Snyder



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28467
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner STEPAN COMPANY
Address 22 WEST FRONTAGE ROAD
City NORTHFIELD State IL Zip Code 60093

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-2
County Bergen Municipality Lot No. 32 Block No. 124
Address 100 West Hunter Avenue, Maywood, NJ MAYWOOD BORO

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 08 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 908 316-9300

WELL CONSTRUCTION

Total depth drilled 48.5 ft.
Well finished to 41.5 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	0'	31.5	2"	[illegible]
Outer Casing (Not Protective Casing)	0'	20'	6"	Steel casing
Screen (Note slot size)	31.5	41.5	2"	Slot .010
Tail Piece	NA	NA	NA	
Gravel Pack	29.5	41.5	6"	#1 Gravel
Annular Seal/Grout	0'	29.5	19/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 8 ft.
Water level was measured using M Scope
Well was developed for 1½ hours at 2+ gpm
Method of development submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid nA Type of Rig Mobile B-61
Name of Driller Robert Arkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-5' fill
5'-8' clay
8'-13' silty sand and clays
13'-18' sandstone
18'-48.5 sandstone and shale

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

PROJECT NUMBER	BORING NUMBER
NJ022948.GE.WI	OBMW3 SHEET 1 OF 1

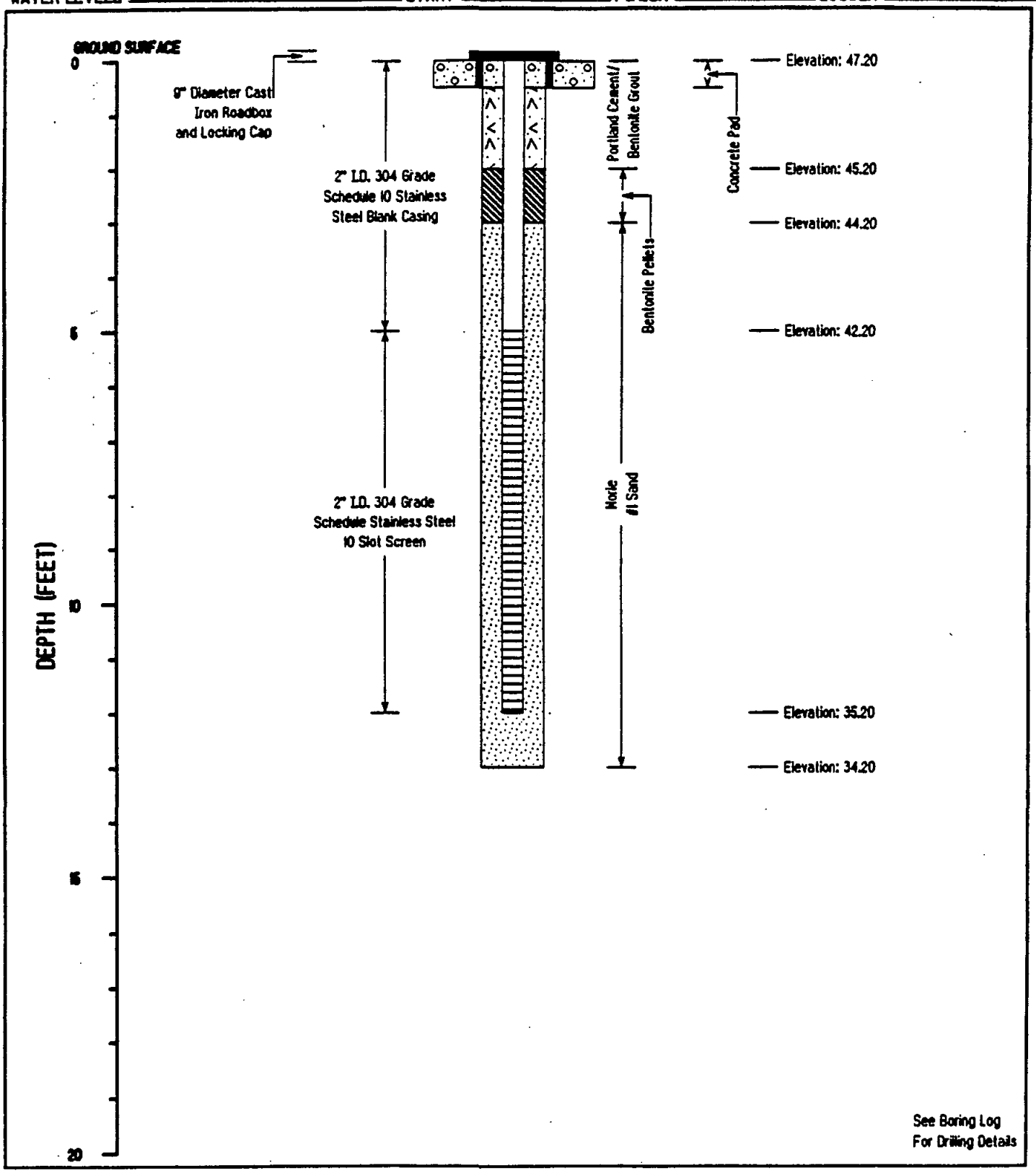
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 47.2 (GS); 46.80 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4" I.D.

WATER LEVELS 4.47 (ft); 42.33 (MSL), 6/22/92 START 4-23-92 FINISH 4-23-92 LOGGER L. Vogel, S. Vozza



See Boring Log For Drilling Details

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28447
Atlas Sheet Coordinates 26 : 03 : 535

IDENTIFICATION - Owner CUMBERLAND FARMS, INC.
777 DEDHAM STREET
CANTON State MA Zip Code 02021

OCATION - If not the same as owner please give address. Owner's Well No. OBMW-3
Bergen Municipality Lot No. 1 Block No. 124
239 N/S Rt. 17, Maywood, NJ HAYWOOD ROAD
DEVELOPED 4/28/92 (COMPLETED)

WELL (as per Well Permit Categories) Date well completed 3 / 9 / 92
y Program Requiring Well MONITORING CERCLA Case I.D. # 10105
TING FIRM/FIELD SUPERVISOR (if applicable) CH2M HILL Tele. # 1 201 316-9300

ONSTRUCTION

th drilled 13 ft.
hed to 12 ft.
diameter:
8 in.
8 in.
finished: ☐ above grade
☒ flush mounted
above grade, casing
ick up) above land
ft.
l protective casing installed?
☐ No
ter level after drilling 6 ft.
el was measured using M Scope
developed for 1½ hours at 2+ gpm
f development submersible Pump
nanent pumping equipment installed? ☐ Yes ☒ No
pacity NA gpm
e: NA
ethod Hollow Stem Auger
uid NA Type of Rig Mobile B-61
Driller Robert Atkinson
d Safety Plan submitted? ☐ Yes ☐ No
Protection used on site (circle one) None D C B A
nse No. J 1478
Drilling Company ENVIRONMENTAL DRILLING, INC.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	4'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	4'	12'	2"	Stainless steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	2'	12'	8"	# 1 Gravel
Annular Seal/Grout	0'	2'	8"	Cement
Method of Grouting	Tremie Pressure			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' fill
8'-13' weathered rock

hat I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
les and regulations.

Driller's Signature _____ Date 6/17/92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

PROJECT NUMBER	BORING NUMBER
NJ022948.GE.WI	BRMW3 SHEET 1 OF 1

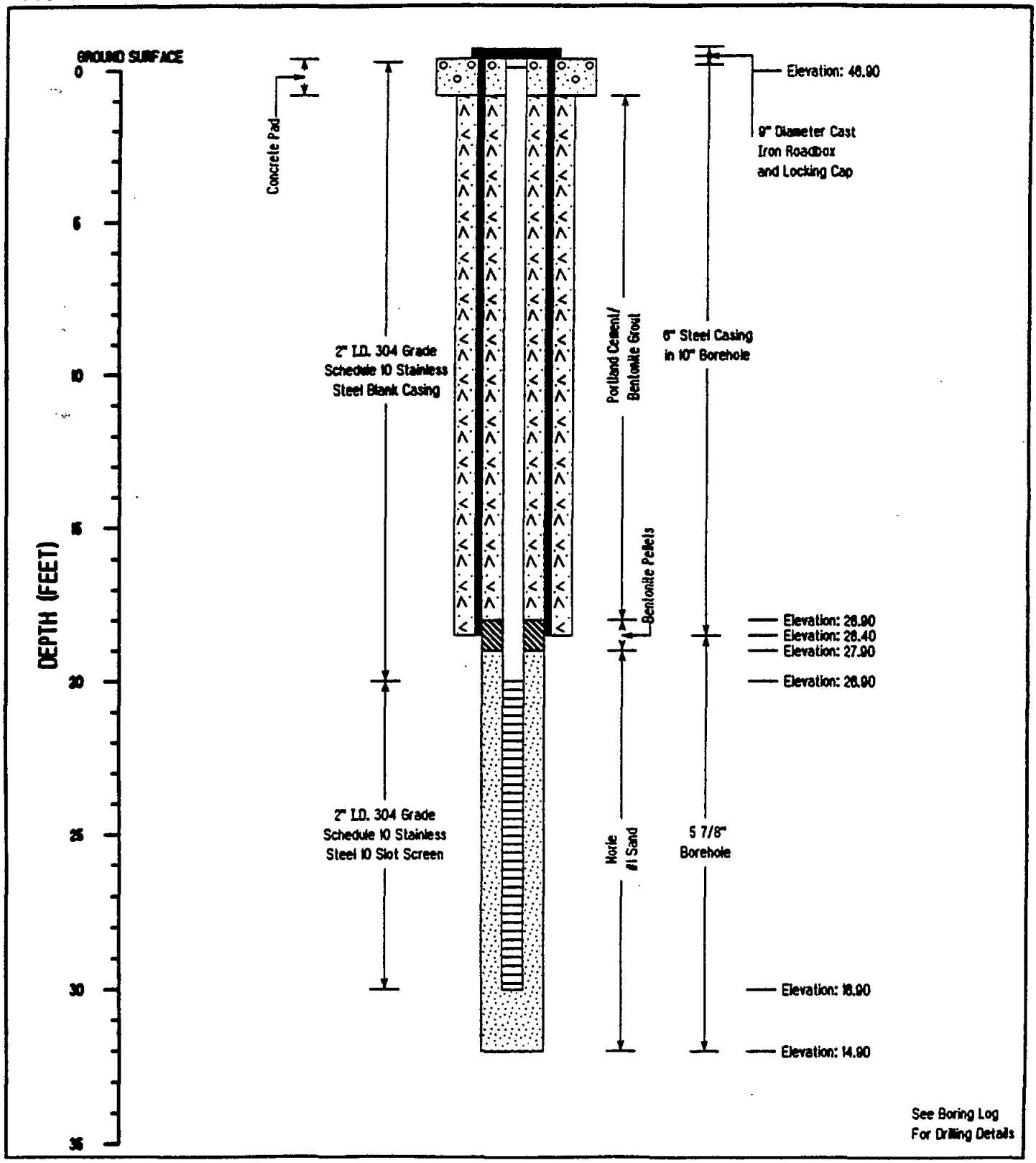
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI **LOCATION** Maywood, NJ

ELEVATION 46.9 (GS); 46.67 (inner casing) **DRILLING CONTRACTOR** Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary; Air Rotary

WATER LEVELS 3.85 (ft); 42.82 (MSL), 6/22/92 **START** 3-26-92 **FINISH** 3-27-92 **LOGGER** D. Snyder



See Boring Log For Drilling Details

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28302
Atlas Sheet Coordinates 28 : 09 : 535

OWNER IDENTIFICATION - Owner ~~CUMBERLAND FARMS, INC.~~
Address ~~777 DURHAM STREET~~
City CANTON State MA Zip Code 02021

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-3
County Bergen Municipality HAYWOOD BORO Lot No. 1 Block No. 124
Address 239 N/S Rt 17, Haywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 18 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 908 316-9200

WELL CONSTRUCTION

Total depth drilled 51 ft.
Well finished to 30 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	20'	2"	~~SS~~ Stainless steel
Outer Casing (Not Protective Casing)	0'	18'	6"	Steel Casing
Screen (Note slot size)	20'	30'	2"	~~Stainless steel~~ Slot .010
Tail Piece	NAQ	NA	NA	
Gravel Pack	18'	4 30'	6"	# 1 Gravel
Annular Seal/Grout	0'	18'	10/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 4 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-80
Name of Driller THomas Lynch
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J1499
Name of Drilling Company ~~ENVIRONMENTAL DRILLING~~

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-6' fill
6'-8' clay
8'-13½' cobbles & boulders
13½'-18' sandstone
18'-25' sandstone
25'-51' rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

PROJECT NUMBER	BORING NUMBER
NJ022948.SR.WT	OBMW4 SHEET 1 OF 1

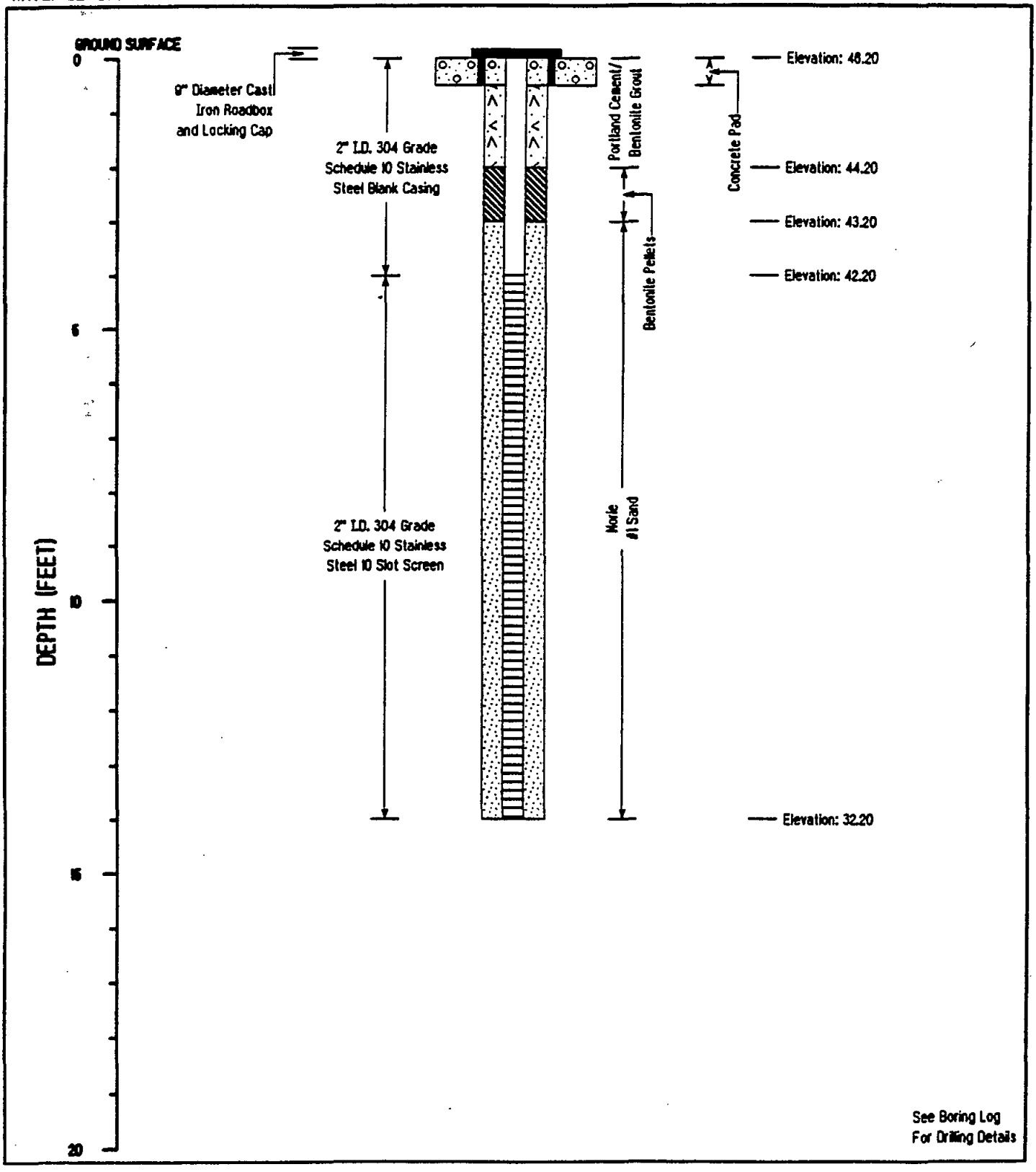
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 46.2 (GS); 45.96 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4" I.D.

WATER LEVELS 2.49 (ft); 43.47 (MSL), 8/22/92 START 4-28-92 FINISH 4-28-92 LOGGER L. Vogel



See Boring Log For Drilling Details

138 M

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28451
Atlas Sheet Coordinates 28 : 03 : 535

NER IDENTIFICATION - Owner KIN PROPERTIES
ress 77 TARRYTOWN RD SUITE 100
WHITE PLAINS State NY Zip Code 02021 10607

LL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-4
nty Bergen Municipality MAYWOOD BORO Lot No. 30 Block No. 124
dress 239 N/S Rt. 17, Maywood, NJ DEVELOPED 4/28/92 (COMPLETED)
Date well completed 4 / 02 / 92

PE OF WELL (as per Well Permit Categories) MONITORING
gulatory Program Requiring Well CERCLA Case I.D. # 10105
NSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 201 316-9300

ELL CONSTRUCTION
tal depth drilled 14 ft.
ell finished to 14 ft.
rehole diameter:
Top 8 in.
ottom 8 in.
ell was finished: ☐ above grade ☒ flush mounted
finished above grade, casing eight (stick up) above land urface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No
tatic water level after drilling 5 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Hollow stem auger
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	0'	4'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	4'	14'	2"	Stainless Steel slot .010
Tail Piece	NA	NA	NA	
Gravel Pack	2'	14'	8"	#1 Gravel
Annular Seal/Grout	0'	2'	8"	Cement
Method of Grouting	Gravity			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-5' silty sand
5'-9' sand
9'-14' weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature [signature] Date 6/17/92

PROJECT NUMBER	BORING NUMBER
NJ022948.ST.WI	RRMW4 SHEET 1 OF 1

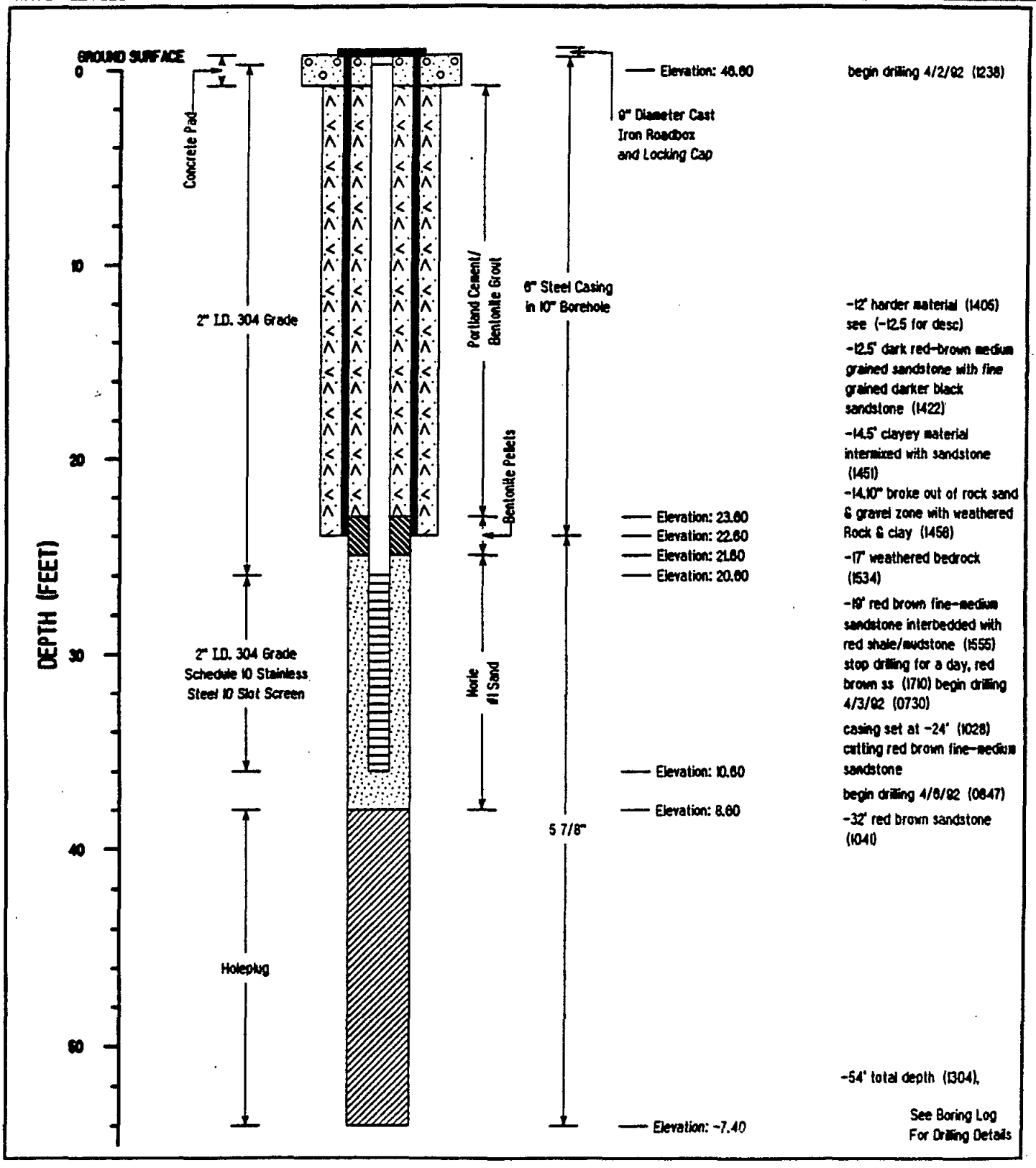
WELL COMPLETION LOG

PROJECT tepan Co. and Sears and Adjacent Properties RI **LOCATION** Maywood, NJ

ELEVATION 48.8 (GS); 48.33 (inner casing) **DRILLING CONTRACTOR** Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 3.44 (ft); 42.89 (MSL), 8/22/92 **START** 3-2-92 **FINISH** 3-3-92 **LOGGER** S. Scanlon



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 - 28459
Atlas Sheet Coordinates 28 : 09 : 536

OWNER IDENTIFICATION - Owner KIN PROPERTIES
Address 77 TARRYTOWN RD. SUITE 100
City WHITE PLAINS State NY Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-4
County Bergen Municipality MAYWOOD BORO Lot No. 12,30 Block No. 124
Address 149-151 Maywood Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 03 / 92 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele# 908 316-9300

WELL CONSTRUCTION

Total depth drilled 56½ ft.
Well finished to 35 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade
☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed?
☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	26'	2"	stainless steel
Outer Casing (Not Protective Casing)	0'	26	6"	steel
Screen (Note slot size)	26'	36'	2"	stainless steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	24'	36'	6"	# 1 Gravel
Annular Seal/Grout	0'	34'	10/6"	cement
Method of Grouting	tremie pressure			

Static water level after drilling 24 ft.
Water level was measured using scope
Well was developed for 2 hours at 2+ gpm
Method of development submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-80
Name of Driller Thomas Lynch
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. 1499
Name of Drilling Company ENVIRONMENTAL WELL INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-11½' fill
11'-19.5' sand, cobbles & Boulders
19.5'-24½' sandstone & shale
24½'-54½' sandstone & Shale
54½'-56½' sandston & shale

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/24/92

PROJECT NUMBER	BORING NUMBER
NJ022948.SN.WI	OBMW5 SHEET 1 OF 1

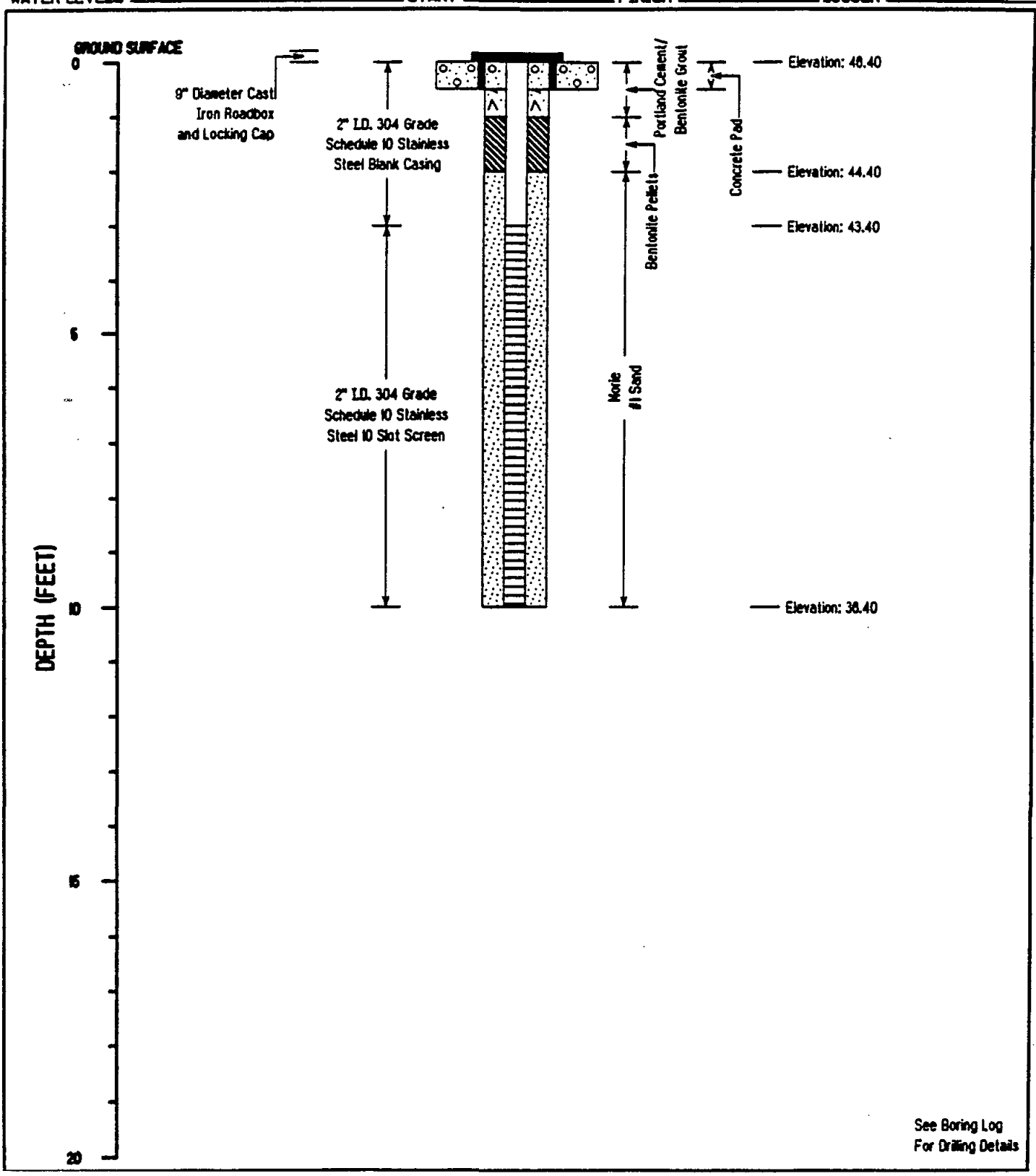
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 46.4 (GS); 46.13 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4" I.D.

WATER LEVELS 3.95 (ft); 42.18 (MSL), 6/22/92 START 4-29-92 FINISH 4-29-92 LOGGER L. Vogel



See Boring Log For Drilling Details

-138 M

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 25 - 28448
Atlas Sheet Coordinates 26 : 03 : 535

WNER IDENTIFICATION - Owner SUN OIL CORPORATION
dress 1801 MARKET STREET
y PHILADELPHIA State PA Zip Code 19103

ELL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-5
unty Bergen Municipality MAYWOOD BORO Lot No. 2 Block No. 124
dress 167 N/S Rt. 17, Maywood, NJ DEVELOPED 4/29/92 (COMPLETED)
Date well completed 3 / 09 / 92
'PE OF WELL (as per Well Permit Categories) MONITORING
igulatory Program Requiring Well CERCLA Case I.D. # 10105
ONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M HILL Tele. # 1 201 316-9300

ELL CONSTRUCTION

otal depth drilled 10 ft.
Well finished to 10 ft.
orehole diameter:
Top 8 in.
Bottom 8 in.
Well was finished: ☐ above grade ☒ flush mounted
f finished above grade, casing
eight (stick up) above land
urface _____ ft.
Was steel protective casing installed?
☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	4'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	4'	10'	2"	Stainless Steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	2'	10'	8"	# 1 Gravel
Annular Seal/Grout	0'	2'	8"	Cement
Method of Grouting	Gravity			

Static water level after drilling 5 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Hollow Stem Auger
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Arkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' fill
8'-10' weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 6/18/92

Goldenrod - Health Dept.

PROJECT NUMBER	BORING NUMBER
NJ022948.SC.WI	BRMW5 SHEET 1 OF 1

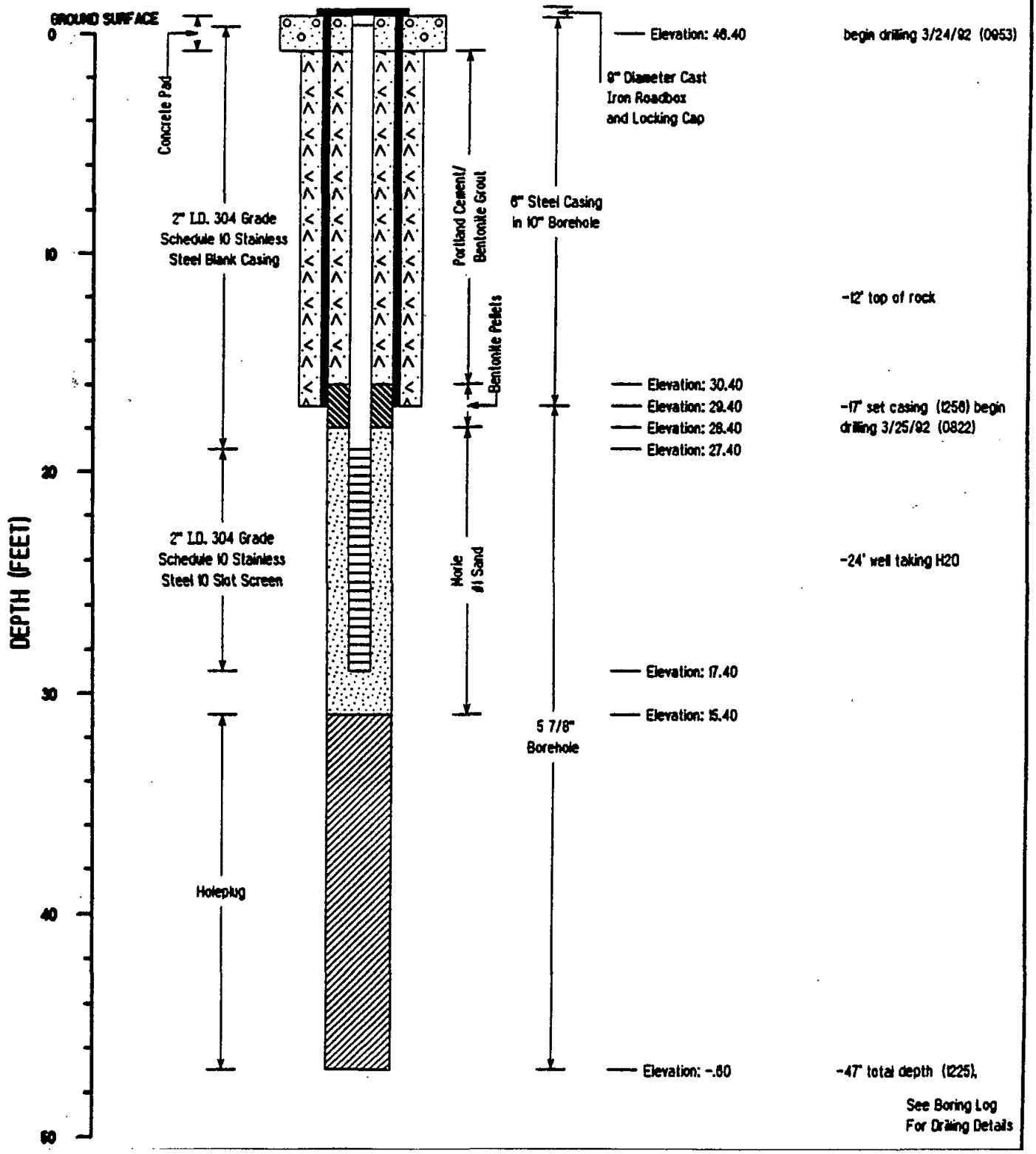
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI **LOCATION** Maywood, NJ

ELEVATION 46.4 (GS); 45.97 (inner casing) **DRILLING CONTRACTOR** Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 3.92 (ft); 42.05 (MSL), 8/22/92 **START** 3-24-92 **FINISH** 3-25-92 **LOGGER** D. Snyder



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28449
Atlas Sheet Coordinates 28 : 03 : 536

OWNER IDENTIFICATION - Owner SUN OIL CORPORATION
Address 1801 MARKET STREET
City PHILADELPHIA State PA Zip Code 19103

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-5
County Bergen Municipality HAYWOOD BORO Lot No. 2 Block No. 124
Address 167 N/S Rt. 17, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 15 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10106
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 908 316-9300

WELL CONSTRUCTION

Total depth drilled 47 ft.
Well finished to 40 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	0'	30'	2"	Stainless steel
Outer Casing (Not Protective Casing)	0'	17'	6"	Steel Casing
Screen (Note slot size)	30'	40'	2"	Stainless steel Slot .010
Tail Piece	NA	NA	NA	
Gravel Pack	28'	40'	6"	# 1 Gravel
Annular Seal/Grout	0'	28'	10/6"	Cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 5 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-80 & B-61
Name of Driller Thomas Lynch & Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J1499 and J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' fill
8'-10' silt and clay
10'-17' sandstone & Shale
17'-47' sandstone & Shale

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

CRA HILL

PROJECT NUMBER	BORING NUMBER
NJ022948.SR.WI	OBMW8 SHEET 1 OF 1

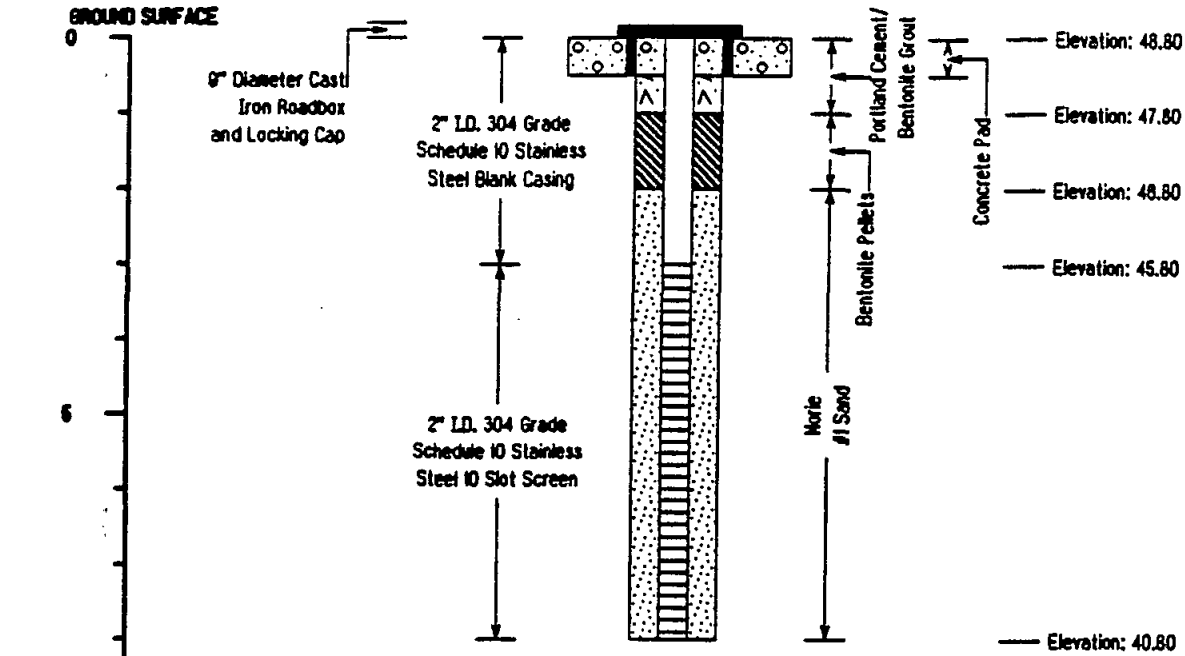
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 48.8 (GS); 48.94 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4" I.D.

WATER LEVELS 3.00 (ft); 45.94 (MSL), 6/22/92 START 4-30-92 FINISH 4-30-92 LOGGER L. Vogel





See Boring Log For Drilling Details

WR-138 M
2/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 - 28452
Atlas Sheet Coordinates 26 : 03 : 535

OWNER IDENTIFICATION - Owner KIN PROPERTIES
Address 77 TARRYTOWN RD SUITE 100
City WHITE PLAINS State NY Zip Code 10607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-6
County Bergen Municipality HAYWOOD BORO Lot No. 30 Block No. 124
Address 239 N/S Rt 17, Maywood, NJ DEVELOPED 4/30/92

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 4 / 02 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 201 316-9300

WELL CONSTRUCTION

Total depth drilled 8 ft.
Well finished to 8 ft.
Borehole diameter:
Top 8 in.
Bottom 8 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	3'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	3'	8'	2"	Stainless Steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	1'	8'	8"	# 1 Gravel
Annular Seal/Grout	0'	1'	8"	Cement
Method of Grouting	♦ Gravity			

Static water level after drilling 3 ft.
Water level was measured using M Scope
Well was developed for 2½ hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Hollow Stem Auger
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING, INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-7' fine sand
7'-8' weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 6/17/92

PROJECT NUMBER	BORING NUMBER	
NJ022948.SR.WT	BRMW6	SHEET 1 OF 1

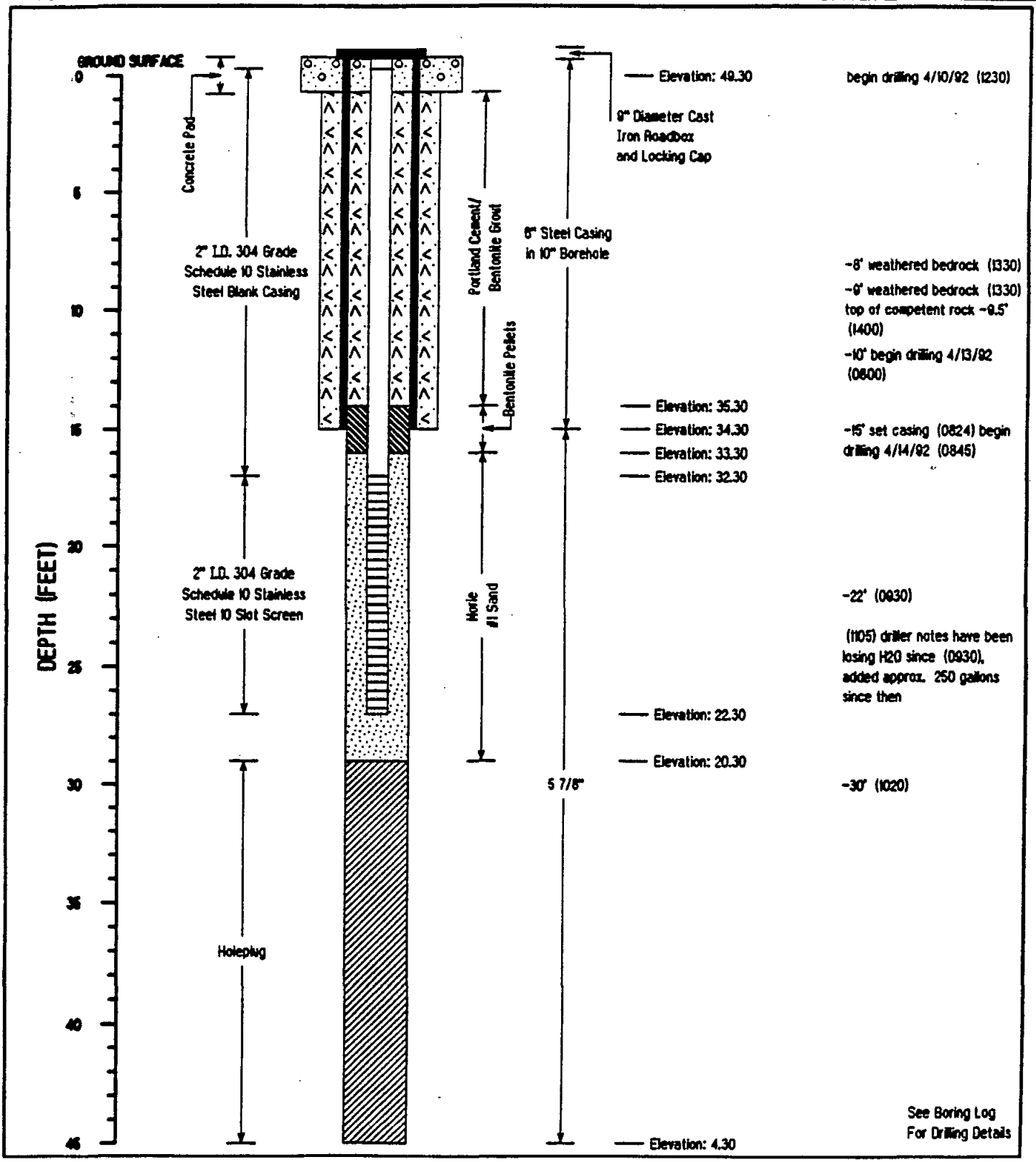
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 49.3 (GS); 49.06 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 3.12 (ft); 45.94 (MSL), 8/22/92 START 4-10-92 FINISH 4-14-92 LOGGER S. Repko



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28460
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner ~~ISN PROPERTIES~~
Address ~~77 TARRYTOWN RD. SUITE 100~~
City WHITE PLAINS State NY Zip Code 10607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-6
County Bergen Municipality ~~HAYWOOD BORO~~ Lot No. ~~12,30~~ Block No. ~~124~~
Address 149-151 Maywood Ave., Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) Date well completed 6 / 11 / 92
Regulatory Program Requiring Well MONITORING ~~CERCLA~~ Case I.D. # ~~10105~~
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 908 316-9300

WELL CONSTRUCTION
Total depth drilled 45 ft.
Well finished to 27 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	17'	2"	stainless steel
Outer Casing (Not Protective Casing)	0'	15'	6"	Steel casing
Screen (Note slot size)	17'	27'	2"	Slot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	15'	27'	6"	# 1 Gravel
Annular Seal/Grout	0'	15'	10/6"	Cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 2½ ft.
Water level was measured using M Scope
Well was developed for 1½ hours at 2+ gpm
Method of development SUbmersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Moible b-80
Name of Driller k Thomas Lynch
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J1499
Name of Drilling Company ~~ENVIRONMENTAL DRILLING~~ INC

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-0'-5' fill
5'-15' red sandstone
15'-45' red sandstone/some red shale

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

COPIES: White & Green DEPE Canary Driller Pink Owner Gold Local Health Dept.

PROJECT NUMBER	BORING NUMBER
NJ022948.SR.WI	ORMW7 SHEET 1 OF 1

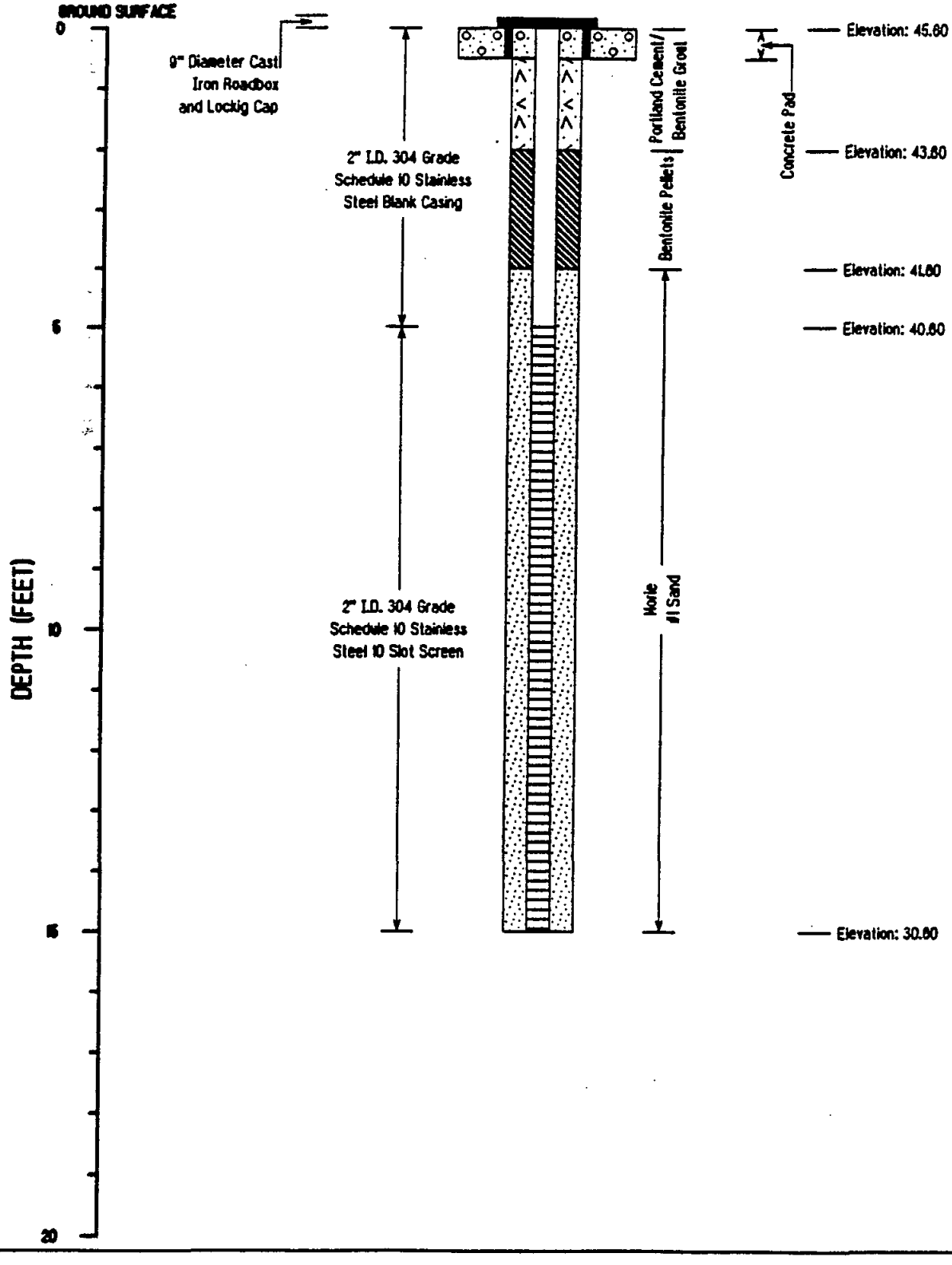
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 45.6 (GS); 44.95 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4" I.D.

WATER LEVELS 1.94 (ft); 43.01 (MSL), 8/22/92 START 4-30-92 FINISH 4-30-92 LOGGER S. Repko



See Boring Log For Drilling Details

138 M

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28453
Atlas Sheet Coordinates 26 : 03 : 5'W

NER IDENTIFICATION - Owner KEN PROPERTIES
ress 77 TARRYTOWN RD SUITE 100
WHITE PLAINS State NY Zip Code 02021 10607

LL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-7

inty Bergen Municipality MAYWOOD BORO Lot No. 30 Block No. 124

lress Sears - 149-151 Maywood Ave., Maywood, N.J. DEVELOPED 4/30/92 (COMPLETED)

PE OF WELL (as per Well Permit Categories) MONITORING Date well completed 4 / 15 / 92

gulatory Program Requiring Well CERCLA Case I.D. # 10105

NSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. #

LL CONSTRUCTION

al depth drilled 15 ft.

ll finished to 15 ft.

rehole diameter:
Top 8 in.
ttom 8 in.

ll was finished: ☐ above grade
☒ flush mounted

inished above grade, casing
ight (stick up) above land
rface ft.

as steel protective casing installed?
☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	5'	2"	PVC Stain.Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	5'	15'	2"	Stain. Steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	3'	15'	8"	# 1 Gravel
Annular Seal/Grout	0'	3'	8"	Cement
Method of Grouting	Gravity			

atic water level after drilling 7 ft.

ater level was measured using M Scope

ell was developed for 1½ hours at 2+ gpm

ethod of development Submersible Pump

as permanent pumping equipment installed? ☐ Yes ☒ No

ump capacity na gpm

ump type: NA

rilling Method Hollow Stem Auger

rilling Fluid NA Type of Rig Mobile B-80

lame of Driller Thomas Lynch

lealth and Safety Plan submitted? ☐ Yes ☐ No

evel of Protection used on site (circle one) None D C B A

I.J. License No. 1499

lame of Drilling Company ENVIRONMENTAL DRILLING, INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-5' fill
5'-11' clay
11'-15' silt sand and gravels

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Date 6/18/92

PROJECT NUMBER	BORING NUMBER
NJ022948.SR.WT	BRMW7 SHEET 1 OF 1

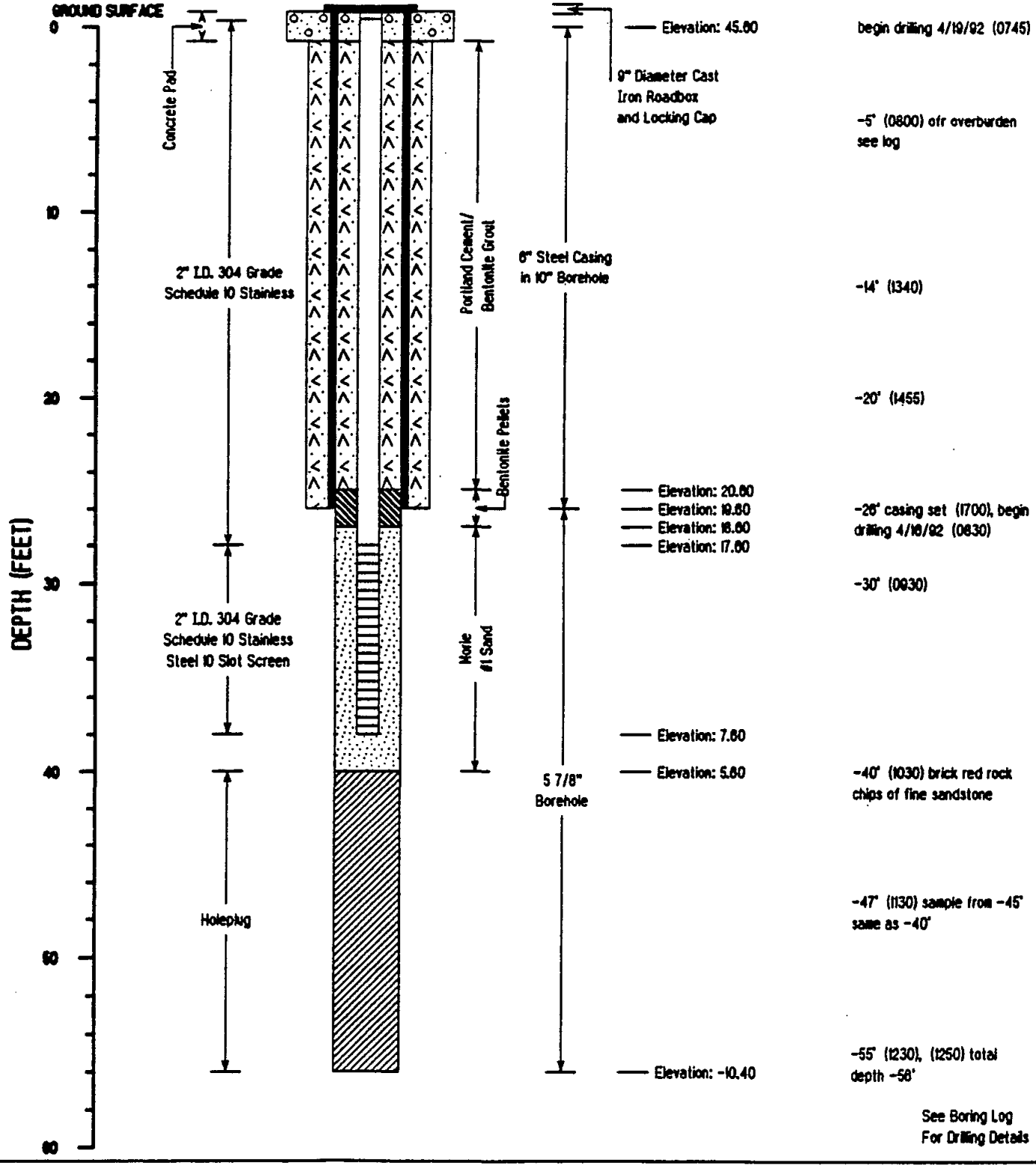
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 45.6 (GS); 45.11 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 2.18 (ft); 42.93 (MSL), 6/22/92 START 4-15-92 FINISH 4-16-92 LOGGER S. Repko



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 - 28461
Atlas Sheet Coordinates 26 : 07 : 536

OWNER IDENTIFICATION - Owner LEH PROPERTIES
Address 77 TARRYTOWN RD, SUITE 100
City WHITE PLAINS State NY Zip Code 10607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-7
County Bergen Municipality MAYWOOD BORO Lot No. 12,30 Block No. 124
Address 149-151 Maywood Ave., Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) _____ Date well completed 6 / 10 / 92
Regulatory Program Requiring Well MONITORING CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # _____

WELL CONSTRUCTION

Total depth drilled 56 ft.
Well finished to 38 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	28'	2"	stainless steel
Outer Casing (Not Protective Casing)	0'	28'	6"	Steel casing
Screen (Note slot size)	28'	38'	2"	Ft. Slot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	26'	38'	6"	# 1 Gravel
Annular Seal/Grout	0'	26'	10/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 1 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-80
Name of Driller Thomas Lynch
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J1499
Name of Drilling Company ENVIRONMENTAL DRILLING

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-6' fill
6'-17' sandstone
17'26' sandstone some shale
26'-56' sandstone

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

PROJECT NUMBER	BORING NUMBER	
NJ022948.FH.WI	OBMW8	SHEET 1 OF 1

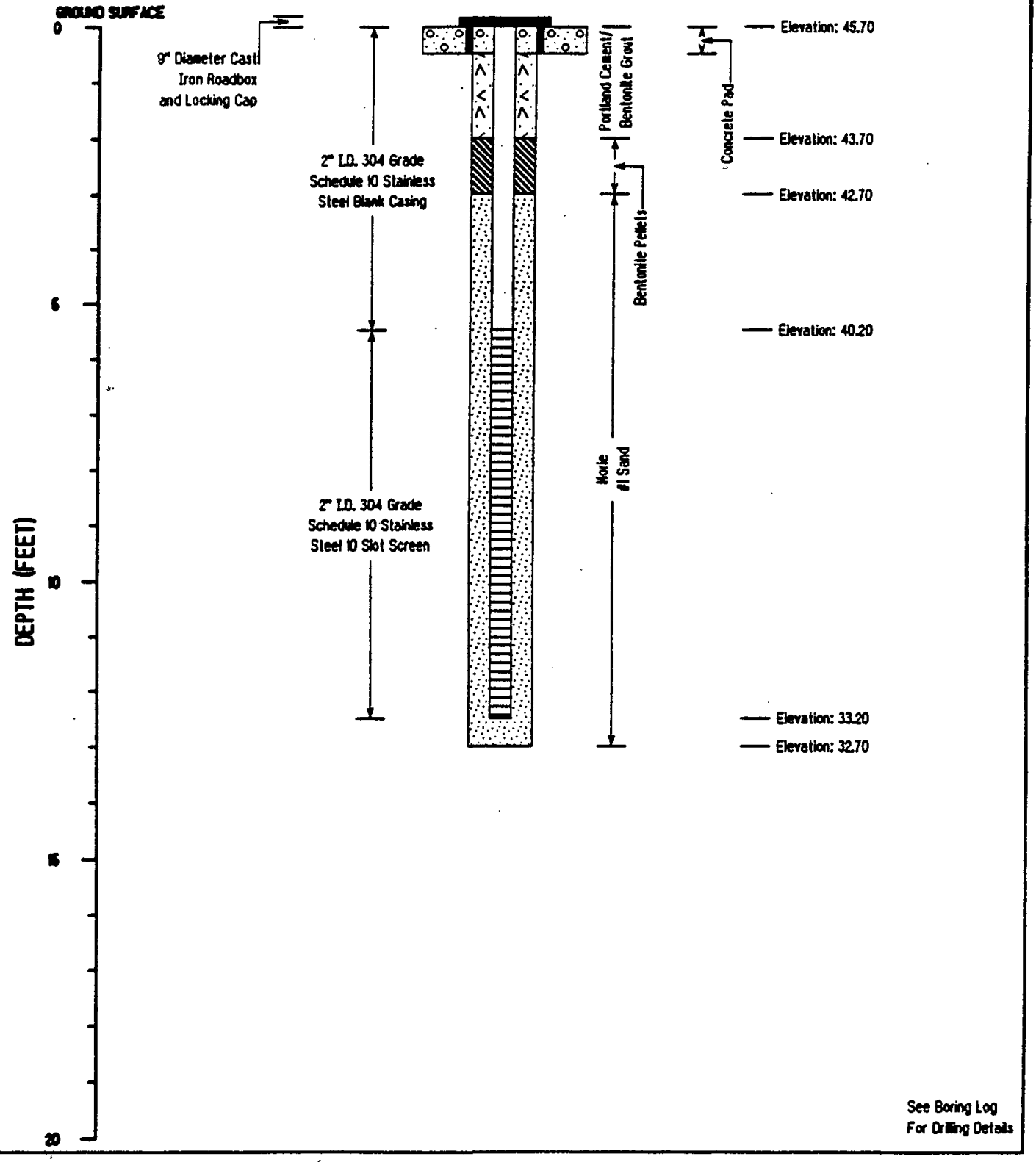
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 45.7 (GS); 45.55 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B60 HSA 4 1/4" I.D.

WATER LEVELS 4.71 (ft); 40.84 (MSL), 6/22/92 START 4-24-92 FINISH 4-24-92 LOGGER L. Vogel



See Boring Log For Drilling Details

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 24 - 28474
Atlas Sheet Coordinates ___ : ___ : ___

OWNER IDENTIFICATION - Owner G. W. S. REALTY
Address 500 RT. 17S
City HASBROUCK HEIGHTS State NJ Zip Code 07604

WELL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-8
County Bergen Municipality MAYWOOD BORO Lot No. 4 Block No. 124
Address 87 & Rt 17 NMaywood, NJ

DEVELOPED 4/29/92 (COMPLETED) 3/14/92

TYPE OF WELL (as per Well Permit Categories) ___ Date well completed ___/___/___
Regulatory Program Requiring Well MONITORING Case I.D. # 10106
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 201 316-9300

WELL CONSTRUCTION

Total depth drilled 13 ft.
Well finished to 12.5 ft.
Borehole diameter:
Top 8 in.
Bottom 8 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface ___ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	5.5'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	5.5'	12.5'	2"	Stainless Steel slot.010
Tail Piece	NA	NA	NA	
Gravel Pack	3.5'	12.5'	8"	# 1 Gravel
Annular Seal/Grout	0'	3.5'	8"	Cement
Method of Grouting	Gravity			

Static water level after drilling 7 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method hollow stem auger
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' sand
8'-13'± weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature ___ Date 6/17/92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

PROJECT NUMBER	BORING NUMBER	
NJ022948.SR.WT	BRMW8	SHEET 1 OF 1

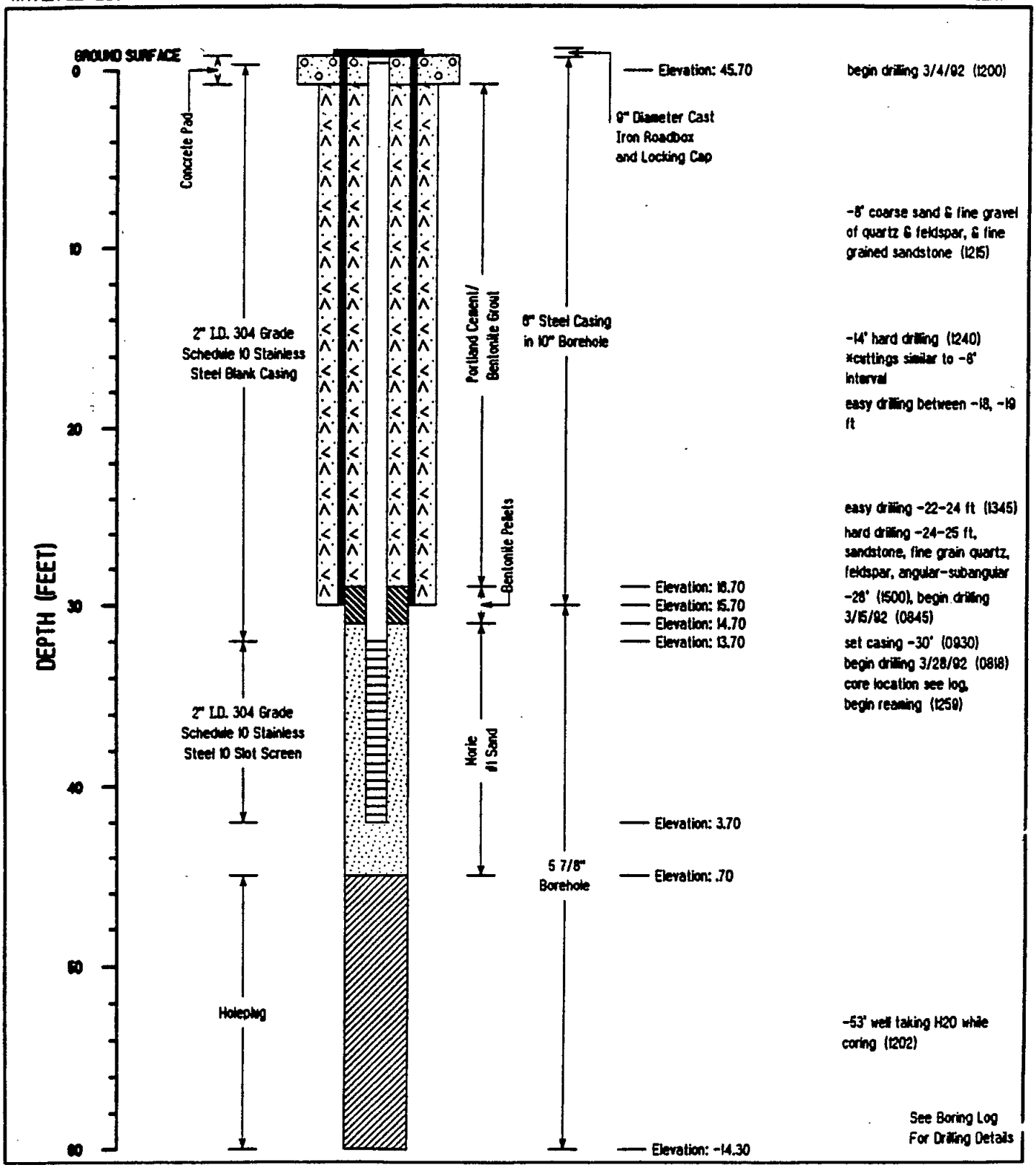
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI **LOCATION** Maywood, NJ

ELEVATION 45.7 (GS); 45.17 (inner casing) **DRILLING CONTRACTOR** Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 Water Rotary

WATER LEVELS 4.50 (ft); 40.67 (MSL), 6/22/92 **START** 4-15-92 **FINISH** 4-16-92 **LOGGER** D.Snyder, L. Vogel



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28475
Atlas Sheet Coordinates 26 : 19 : 535

OWNER IDENTIFICATION - Owner S. W. S. REALTY
Address 500 RT. 17 S
City HASBROUCK HEIGHTS State NJ Zip Code 07604

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-8
County Bergen Municipality MAYWOOD BORO Lot No. 4 Block No. 124
Address 87 Rt 17 N., Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) _____ Date well completed 5 / 29 / 92
Regulatory Program Requiring Well MONITORING CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 201 316-9300

WELL CONSTRUCTION

Total depth drilled 60 ft.
Well finished to 42 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☒ Yes ☐ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	32'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	0"	30'	6"	steel
Screen (Note slot size)	32'	42'	2"	stainless steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	30'	42'	6"	# 1 Gravel
Annular Seal/Grout	0'	30'	10/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 5 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development air
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud rotary
Drilling Fluid na Type of Rig Mobile B 61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' sand
8'-25' weathered rock
25'-28' competent rock
28'-30' rock
30'-60' sandstone & shale

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/10/92

PROJECT NUMBER	BORING NUMBER
NJ022948.ST.WI	BRMW9 SHEET 1 OF 1

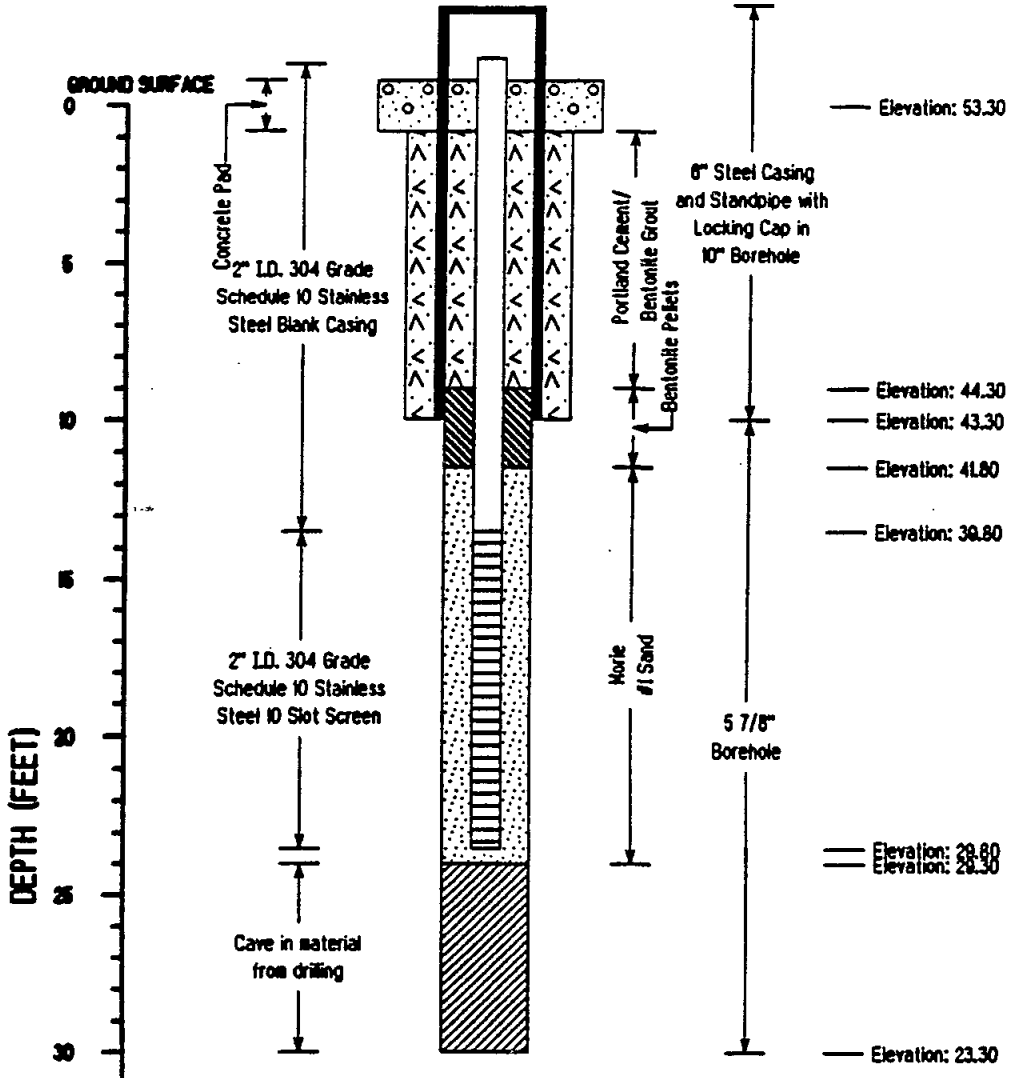
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI **LOCATION** Maywood, NJ

ELEVATION 53.3 (GS); 54.34 (inner casing) **DRILLING CONTRACTOR** Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 Water Rotary, B80 Air Rotary

WATER LEVELS 15.57 (ft); 38.77 (MSL), 6/22/92 **START** 3-10-92 **FINISH** 3-12-92 **LOGGER** L. Vogel



-10" borehole, hard drilling 10 casing set 3/10/92
Well construction details:
Well originally planned as overburden well but had to go a few feet into rock to get 1st H20 drilled to -14' no H20 (3/7/92) continued to -20' no H20 (3/8/92) at this point (-27') became BRMW9 lost H20 (3/8/92) continued to -30' (3/8/92) H20 rose to approx. -15' bgs, returned (3/10/92) to set casing rock at -2' hard drilling at -10' compared to -9' returned (3/12/92) to flushout well, cuttings from casing

-25' lost H20 approx. 100 gal.

-27' hard drilling

-30' total depth, 5 7/8" borehole
hole collaspsed before well installation

6/12/92 returned to ream hole able to clean to -30' but keeps caving in unable to blow everything out, hole to large, silt & cobbles coming up. Set well at deepest possible depth.

See Boring Log For Drilling Details

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28472
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner M.M. Vell, Trustee
Address 51 Commerce Street
City Springfield State NJ Zip Code 07081

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-9
County Bergen Municipality MAYWOOD BORO Lot No. 5 Block No. 124
Address 239 N/S RT 17, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 12 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 201 316-9300

WELL CONSTRUCTION

Total depth drilled 30 ft.
Well finished to 25 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☒ Yes ☐ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	0'	15'	2"	stainless steel
Outer Casing (Not Protective Casing)	0'	10'	6"	steel casing
Screen (Note slot size)	15'	25'	2"	stainless steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	13'	25'	6"	# 1 Gravel
Annular Seal/Grout	0'	13'	10/6"	Cement
Method of Grouting				

Static water level after drilling 14 ft.
Water level was measured using M Scope
Well was developed for 2 hours at 2+ gpm
Method of development air
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile 61
Name of Driller Thomas Lynch
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. 1499
Name of Drilling Company ENVIRONMENTAL DRILLING

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'—2' top soil
2'-14' rock
14'-30' bedrock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/10/92

CH2M HILL

PROJECT NUMBER	BORING NUMBER	
NJ022948.SR.WT	OBMW11	SHEET 1 OF 1

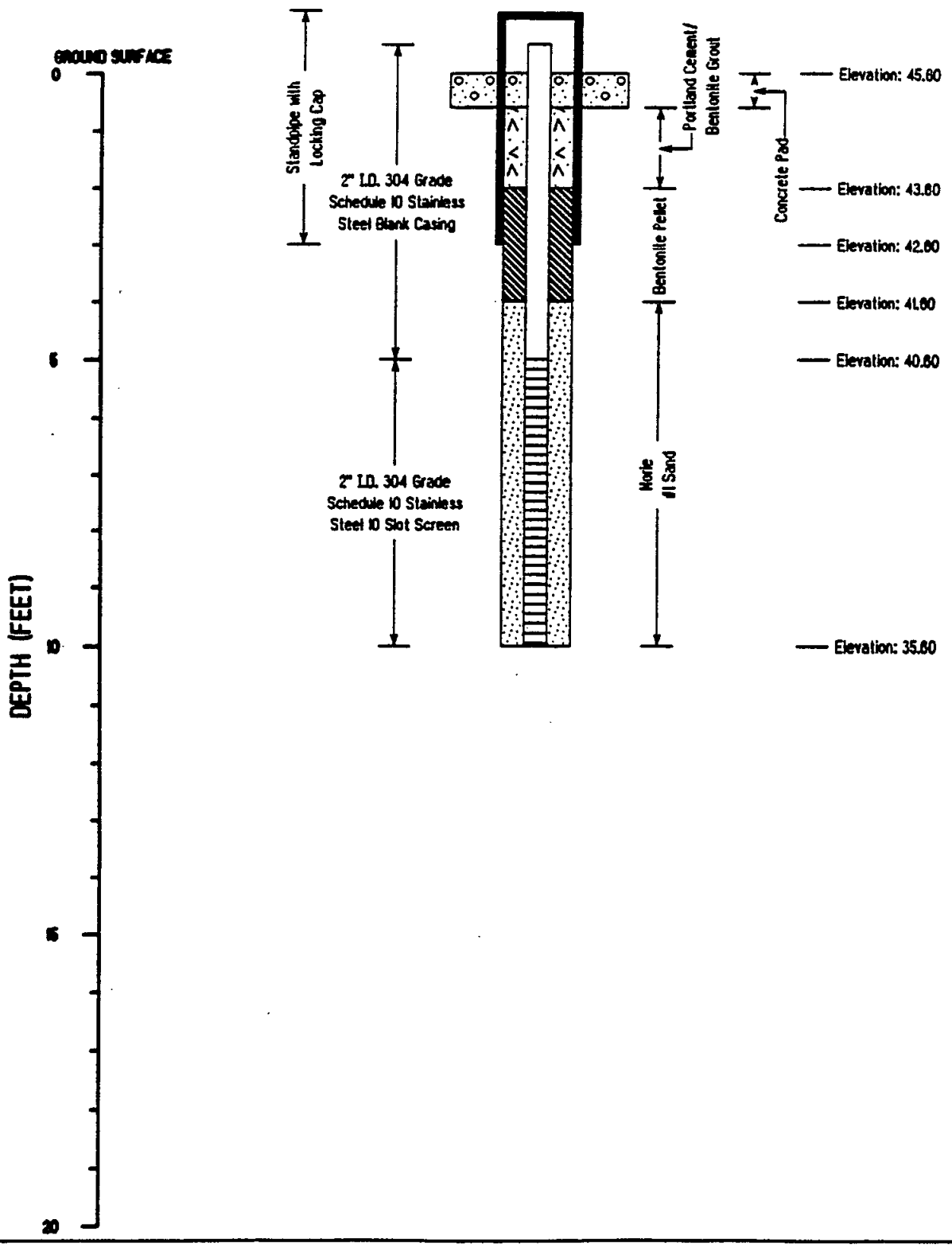
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 45.8 (GS); 48.28 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT CME ATV Rig 4 3/4" I.D. HSA

WATER LEVELS 2.57 (ft); 45.86 (MSL), 8/22/92 START 4-28-92 FINISH 4-28-92 LOGGER S. Repko



See Boring Log For Drilling Details

-138 M

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 - 28455
Atlas Sheet Coordinates 26 : 03 : 535

WNER IDENTIFICATION - Owner KIN PROPERTIES
dress 77 TARRYTOWN RD. SUITE 100
y WHITE PLAINS State NY Zip Code 10607

ELL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-11
unty Bergen Municipality HAYWOOD BORO Lot No. 30 Block No. 124
dress 149-151 Tarrytown Rd., Maywood, NJ DEVELOPED 5/01/92 COMPLETED
Date well completed 4 / 15 / 92
'PE OF WELL (as per Well Permit Categories) MONITORING Case I.D. # 10105
igulatory Program Requiring Well OSHCA Tele. # 201 316-9300
ONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill

ELL CONSTRUCTION

otal depth drilled 10 ft.
Vell finished to 10 ft.
orehole diameter:
Top 8 in.
Bottom 8 in.
Vell was finished: ☐ above grade ☒ flush mounted
f finished above grade, casing
eight (stick up) above land
surface _____ ft.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	5'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	5'	10'	2"	Stainless Steel
Tail Piece	NA	NA	NA	
Gravel Pack	3'	10'	8"	# 1 Gravel
Annular Seal/Grout	0'	3'	8"	Cement
Method of Grouting	Gravity			

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 6 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Hollow Stem Auger
Drilling Fluid NA Type of Rig Mobile b-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING, INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-4' fill
4'-9' sand and gravel
9'-10' weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 6/17/92

White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

PROJECT NUMBER	BORING NUMBER	
NJ022948.ST.WI	BRMW10	SHEET 1 OF 1

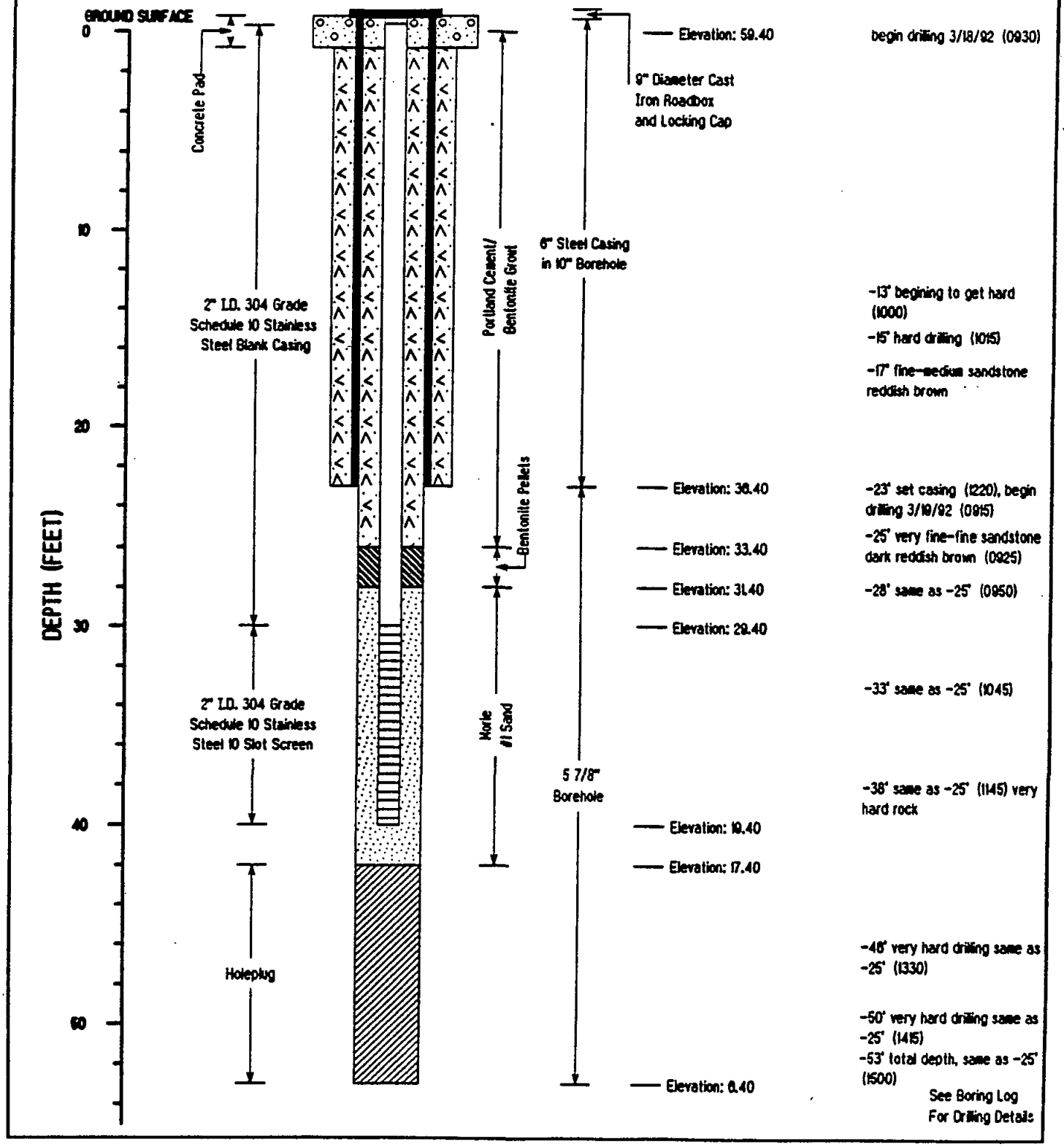
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 59.4 (GS); 58.95 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 Water Rotary

WATER LEVELS 7.57 (ft); 51.38 (MSL), 8/22/92 START 3-18-92 FINISH 3-19-92 LOGGER L. Vogel



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28468
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner STEPAN COMPANY
Address 22 WEST FRONTAGE ROAD
City NORTHFIELD State IL Zip Code 60093

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-10
County Bergen Municipality _____ Lot No. 32 Block No. 124
Address 100 West Hunter Avenue, Maywood, MAYWOOD BORO

TYPE OF WELL (as per Well Permit Categories) _____ Date well completed 6 / 04/ 92
Regulatory Program Requiring Well MONITORING: CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2mhill Tele. # 908 316-9300

WELL CONSTRUCTION

Total depth drilled 53 ft.
Well finished to 29 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	0'	19'	2"	Stainless steel
Outer Casing (Not Protective Casing)	0'	25'	6"	Steel Casing
Screen (Note slot size)	19'	29'	2"	Stainless steel Slot .010
Tail Piece	NA	NA	NA	
Gravel Pack	17'	29'	6"	# 1 Gravel
Annular Seal/Grout	0'	17'	10/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 10 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development SubmersiblePump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. I 1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-12' sand, fine and medium
12'-17' weathered rock
17'-23' competent rock
23'-53' competent rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

PROJECT NUMBER	BORING NUMBER	
NJ022948.SR.WI	RRMW11	SHEET 1 OF 1

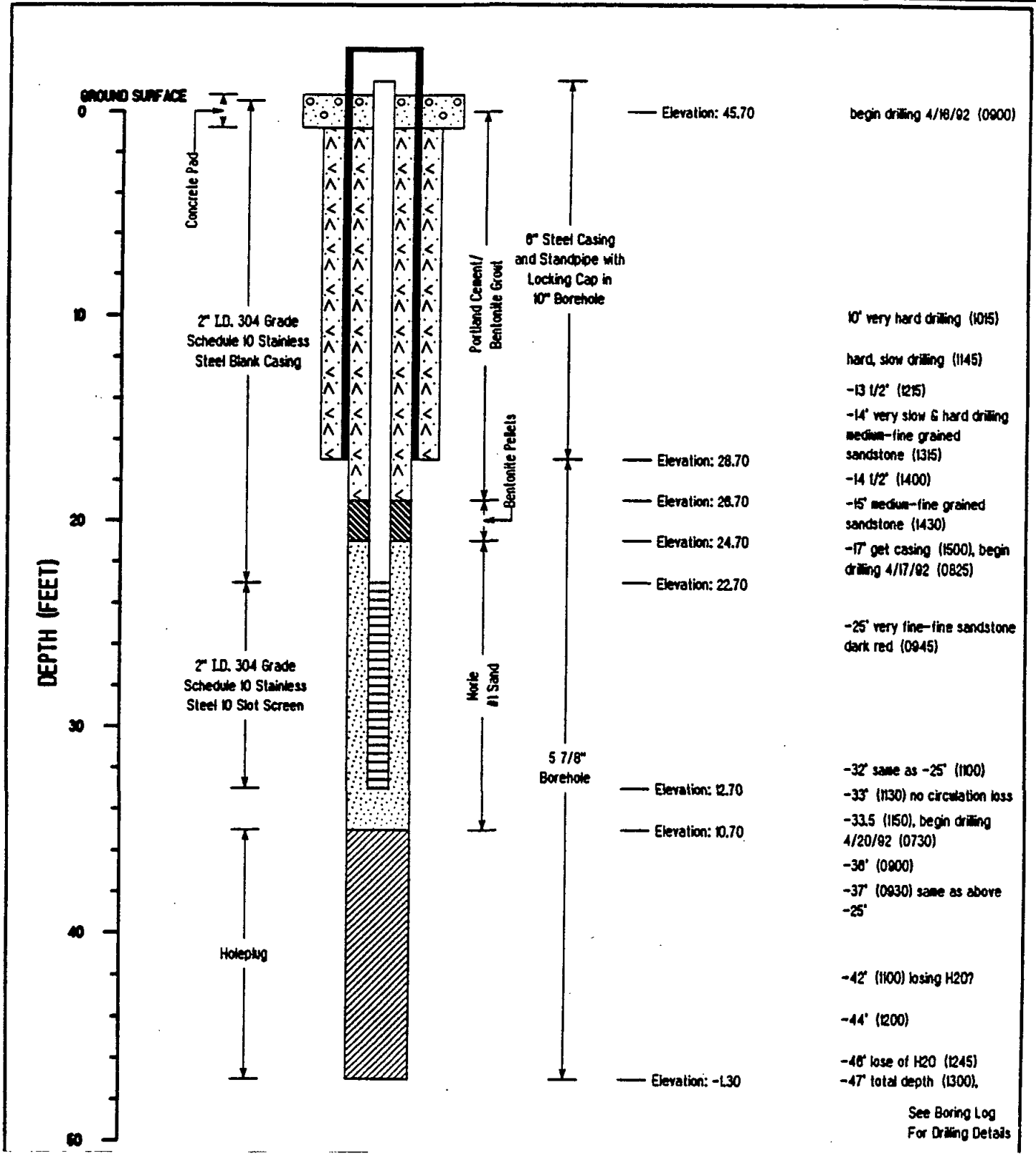
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 45.7 (GS); 47.79 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT CME ATV Water Rotary

WATER LEVELS 2.91 (ft); 44.88 (MSL), 6/22/92 START 4-16-92 FINISH 4-20-92 LOGGER L. Vogel, S. Repko



begin drilling 4/16/92 (0900)

10' very hard drilling (1015)

hard, slow drilling (1145)

-13 1/2' (1215)

-14' very slow & hard drilling medium-fine grained sandstone (1315)

-14 1/2' (1400)

-15' medium-fine grained sandstone (1430)

-17' get casing (1500), begin drilling 4/17/92 (0825)

-25' very fine-fine sandstone dark red (0945)

-32' same as -25' (1100)

-33' (1130) no circulation loss

-33.5 (1150), begin drilling 4/20/92 (0730)

-38' (0900)

-37' (0930) same as above -25'

-42' (1100) losing H20?

-44' (1200)

-46' lose of H20 (1245)

-47' total depth (1300).

See Boring Log For Drilling Details

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 - 284652
Atlas Sheet Coordinates 26 : 13 : 536

OWNER IDENTIFICATION - Owner KEN PROPERTIES
Address 77 TARRYTOWN RD. SUITE 100
City WHITE PLAINS State NY Zip Code 10607

WELL LOCATION - *If not the same as owner please give address.* Owner's Well No. BRMW-11
County Bergen Municipality HAYWOOD BORO Lot No. 30 Block No. 124
Address 149-151 Maywood Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 11 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 908 316-9300

WELL CONSTRUCTION

Total depth drilled 47 ft.
Well finished to 33 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☐ flush mounted
If finished above grade, casing height (stick up) above land surface 2 ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	+2'	23'	2"	Stainless steel
Outer Casing (Not Protective Casing)	+2'	17'	6"	steel casing
Screen (Note slot size)	23'	33'	2"	Slot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	21'	33'	6"	# 1 Gravel
Annular Seal/Grout	0'	21'	10/6"	Cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 1 ft.
Water level was measured using MScope
Well was developed for 1½ hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid na Type of Rig Mobile B- 53
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-4' fill
4'-9' sand & Gravel
9'-10' weathered rock
10'-17' rock
17'-33' bed rock
33'-47' bedrock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

PROJECT NUMBER	BORING NUMBER
NJ022948.FA.WT	ORMW12 SHEET 1 OF 1

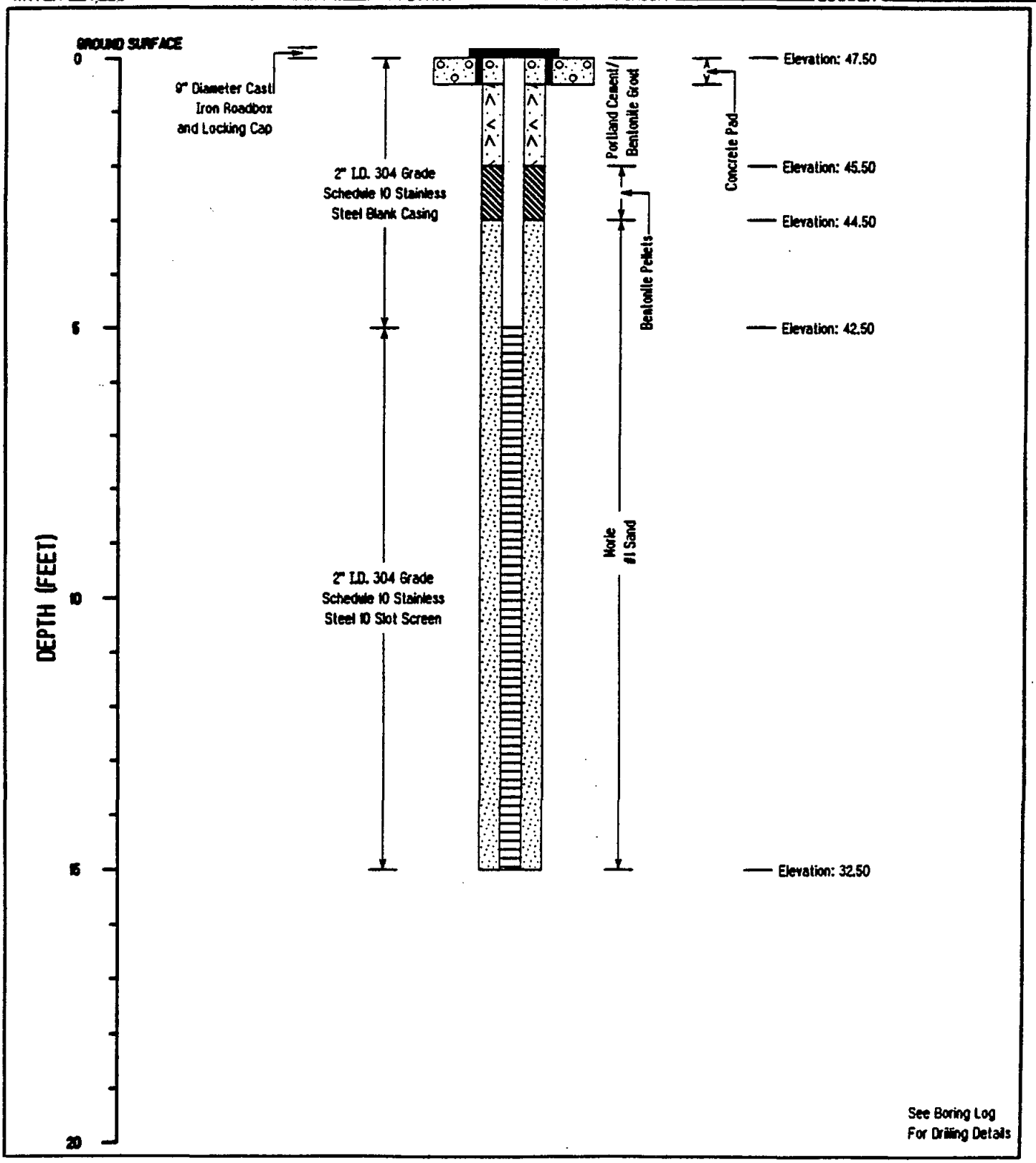
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 47.5 (GS); 47.27 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B60 HSA 4 1/4" I.D.

WATER LEVELS 8.10 (ft); 41.17 (MSL), 8/22/92 START 4-29-92 FINISH 4-29-92 LOGGER L. Vogel



See Boring Log For Drilling Details

B M

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28: - 28471
Atlas Sheet Coordinates 28 : 03 : 436

ER IDENTIFICATION - Owner M. M WEH, TRUSTEE
ss 51 COMMERCE ST
SPRINGFIELD State NJ Zip Code
DEVELOPED 4/29/92 (COMPLETED)

LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-12

y Bergen Municipality MAYWOOD BORO Lot No. 5 Block No. 124
ss 29 Essex St., Maywood, NJ

OF WELL (as per Well Permit Categories) MONITORING Date well completed 3 / 5 / 92
atory Program Requiring Well CERCLA Case I.D. # 10105
ULTING FIRM/FIELD SUPERVISOR (if applicable) CHZM Hill Tele. # 201 316-9300

CONSTRUCTION

depth drilled 15 ft.
nished to 15 ft.
ole diameter:
op 8 in.
m 8 in.
vas finished: ☐ above grade
☒ flush mounted
hed above grade, casing
(stick up) above land
e ft.
steel protective casing installed?
es ☒ No
water level after drilling 7 ft.
level was measured using M Scope
vas developed for 1½ hours at 2+ gpm
od of development submersible Pump
permanent pumping equipment installed? ☐ Yes ☒ No
capacity NA gpm
type: NA
g Method Hollow Stem Augers
g Fluid NA Type of Rig Mobile B- 61
of Driller Robert Atkinson
h and Safety Plan submitted? ☐ Yes ☐ No
of Protection used on site (circle one) None D C B A
License No. J 1478
of Drilling Company ENVIRONMENTAL WELL, INC.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	5'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	5'	15'	2"	Stainless Steel
Tail Piece	NA	NA	NA	
Gravel Pack	3'	15'	8"	# 1 Gravel
Annular Seal/Grout	0'	3'	8"	Cement
Method of Grouting	Gravity			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-13' sand, medium and fine
13'-15' weathered rock

ify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
rules and regulations.

Driller's Signature _____ Date 6/18/92

PROJECT NUMBER	BORING NUMBER
NJ022948.EA.WI	BRMW12 SHEET 1 OF 1

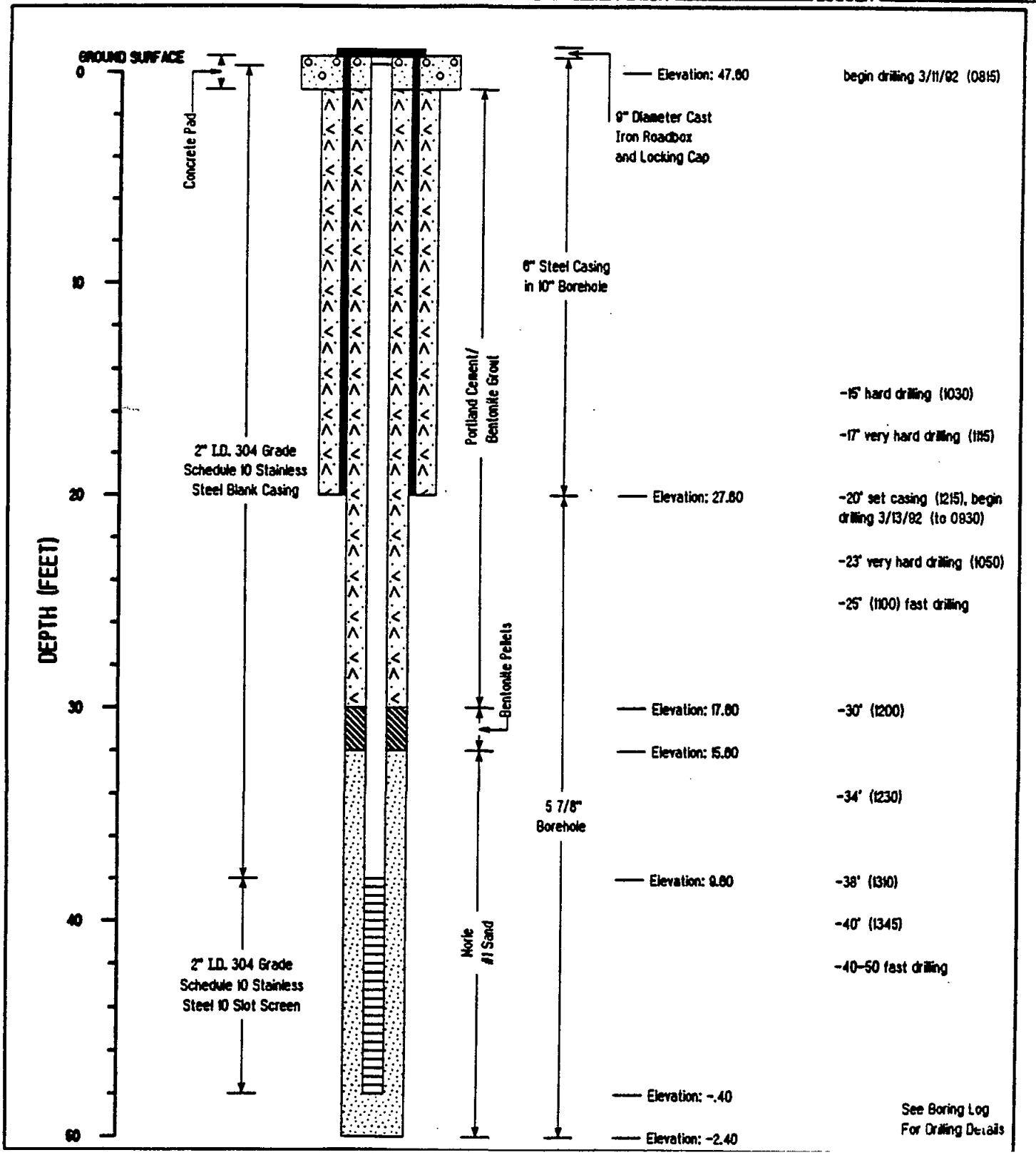
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 47.6 (GS); 47.23 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 Water Rotary

WATER LEVELS 4.58 (ft); 42.85 (MSL), 8/22/92 START 3-11-92 FINISH 3-13-92 LOGGER L. Vogel



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28473
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner M. H WEIL, TRUSTEE
Address 51 COMMERCE ST
City SPRINGFIELD State NJ Zip Code 07081

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-12
County Bergen Municipality MAYWOOD BORO Lot No. 5 Block No. 124
Address 239 N/S RT 17, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 5 / 28 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 201 3169300

WELL CONSTRUCTION

Total depth drilled 50 ft.
Well finished to 48 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☐ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	38'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	0'	20'	6"	Steel Casing
Screen (Note slot size)	38'	48'	2"	Stainless Steel
Tail Piece	NA	NA	NA	
Gravel Pack	36'	48'	6"	# 1 Gravel
Annular Seal/Grout	0'	36'	10/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 5 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Air
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING, INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-7' sand
7'-13' weathered rock
13'-20' rock
20'-50' bedrock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 6/17/92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept

PROJECT NUMBER	BORING NUMBER
NJ022948.SR.WI	BRMW13 SHEET 1 OF 1

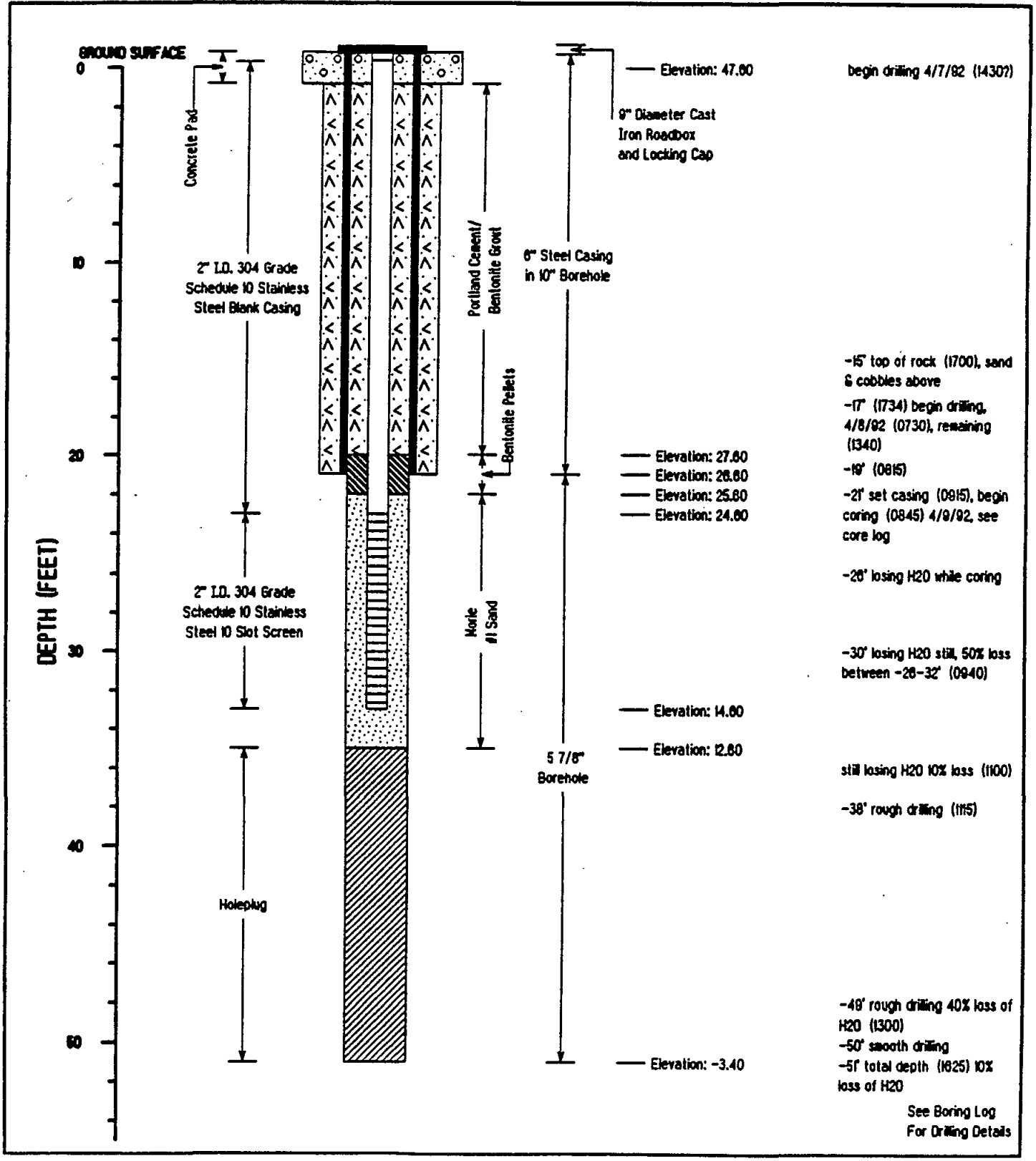
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI **LOCATION** Maywood, NJ

ELEVATION 47.6 (GS); 47.21 (inner casing) **DRILLING CONTRACTOR** Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile 880 Water Rotary

WATER LEVELS 3.81 (ft); 43.40 (MSL), 6/22/92 **START** 4-7-92 **FINISH** 4-9-92 **LOGGER** L. Vogel



DWR-138 M,
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 25 - 28463
Atlas Sheet Coordinates 36 : 03 : 536

OWNER IDENTIFICATION - Owner EIN PROPERTIES
Address 77 TARRYTOWN RD. SUITE 100
City WHITE PLAINS State NY Zip Code 10607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-13
County Bergen Municipality HAYWOOD BORO Lot No. 30 Block No. 124
Address 149-151 Maywood Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 10 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. #908 316-9300

WELL CONSTRUCTION

Total depth drilled 51 ft.
Well finished to 33 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade
X ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed?
☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	23'	2"	Stainless steel
Outer Casing (Not Protective Casing)	0'	23'	6"	Steel casing
Screen (Note slot size)	23'	33'	2"	slot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	21'	33'	6"	# 1 Gravel
Annular Seal/Grout	0'	21'	10/6"	cement
Method of Grouting	tremie pressure			

Static water level after drilling 4½' ft.
Water level was measured using m Scope
Well was developed for 1½ hours at 2+ gpm
Method of development submersible pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: na
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-80 B-61
Name of Driller Thomas Lynch & Robert Atkinson
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1499 J1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-9' fill
9'-15' sand & gravels
15'-16' sandstone & Shale
16'-21' sandstone
21=51' sandstone

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

PROJECT NUMBER	BORING NUMBER	
NJ022948.SR.WI	OBMW14	SHEET 1 OF 1

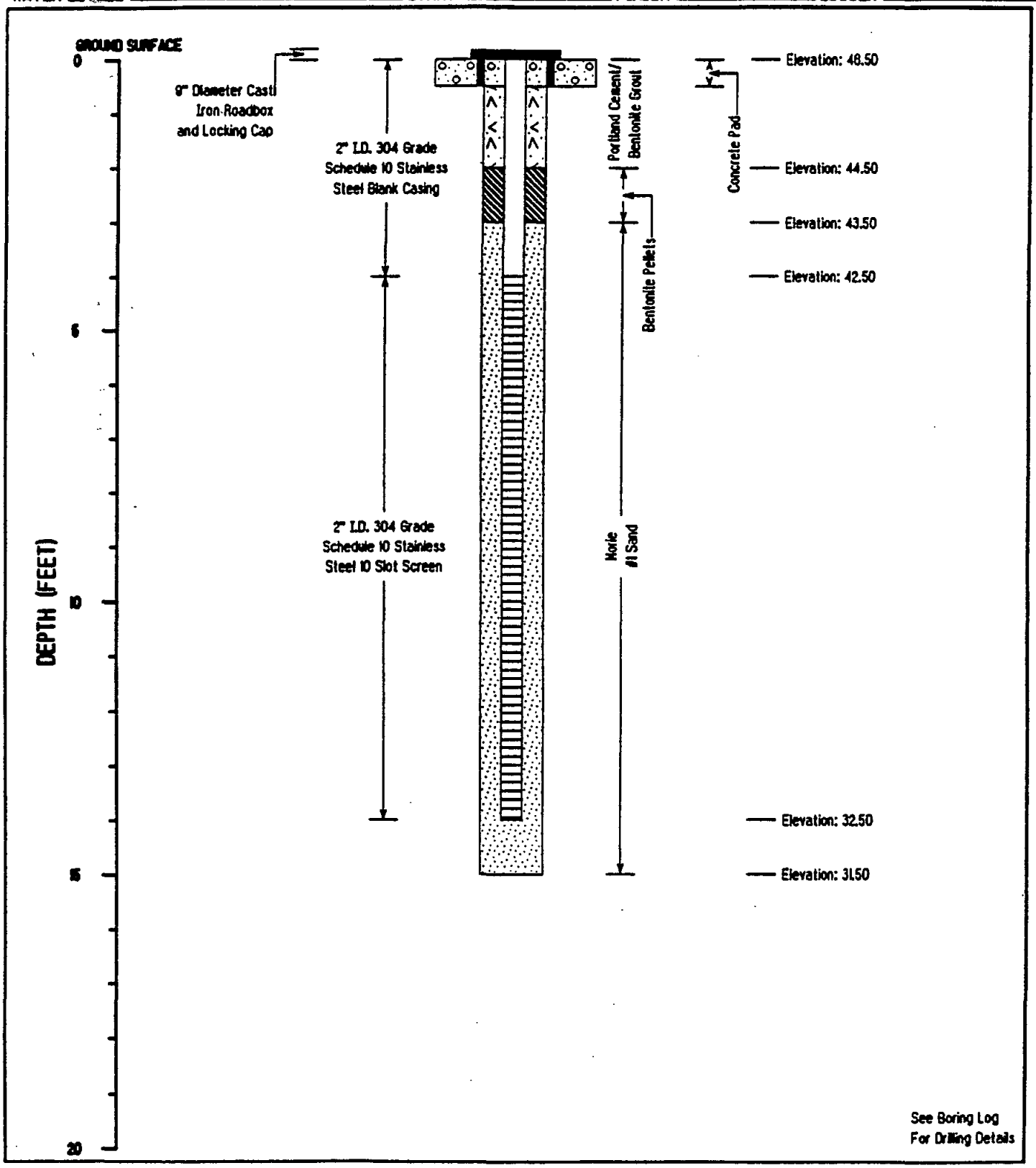
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 46.5 (GS); 46.02 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4" I.D.

WATER LEVELS 2.93 (ft); 43.09 (MSL), 6/22/92 START 4-27-92 FINISH 4-27-92 LOGGER S. Vozza



See Boring Log For Drilling Details

138 M

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 2845?
Atlas Sheet Coordinates 26 : 03 : 53?

NER IDENTIFICATION - Owner KIN PROPERTIES
ress 77 TARRYTOWN RD. SUITE 100
WHITE PLAINS State NY Zip Code 10607

LL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-14
inty Bergen Municipality MAYWOOD BORO Lot No. 30 Block No. 124
lress 149-1512 Tarrytown Rd., Maywood, NJ DEVELOPED 4/27/92 (COMPLETED)
PE OF WELL (as per Well Permit Categories) Date well completed 4 / 06 92
gulatory Program Requiring Well MONITORING Case I.D. # 10105
NSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 201 316-9300

LL CONSTRUCTION

al depth drilled 15 ft.
ll finished to 15 ft.
rehole diameter:
Top 8 in.
ttom 8 in.
ell was finished: ☐ above grade ☒ flush mounted
inished above grade, casing ight (stick up) above land rface ____ ft.
as steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	5'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	5'	15'	2"	Stainless Steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	3'	15'	8"	# 1 Gravel
Annular Seal/Grout	0'	3'	8"	Cement
Method of Grouting	Gravity			

atic water level after drilling 6 ft.
ater level was measured using M Scope
ell was developed for 2½ hours at 2+ gpm
ethod of development submersible Pump
as permanent pumping equipment installed? ☐ Yes ☒ No
ump capacity NA gpm
ump type: NA
rilling Method Hollow Stem Auger
rilling Fluid NA Type of Rig Mobile B-61
lame of Driller Robert Atkinson
lealth and Safety Plan submitted? ☐ Yes ☐ No
evel of Protection used on site (circle one) None D C B A
J.J. License No. J 1478
lame of Drilling Company ENVIRONMENTAL DRILLING, INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-5' fill
5'-14' sand and gravel

certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 6/18/92

PROJECT NUMBER	BORING NUMBER	
NJ02294A.SR.WT	ARMW14	SHEET 1 OF 1

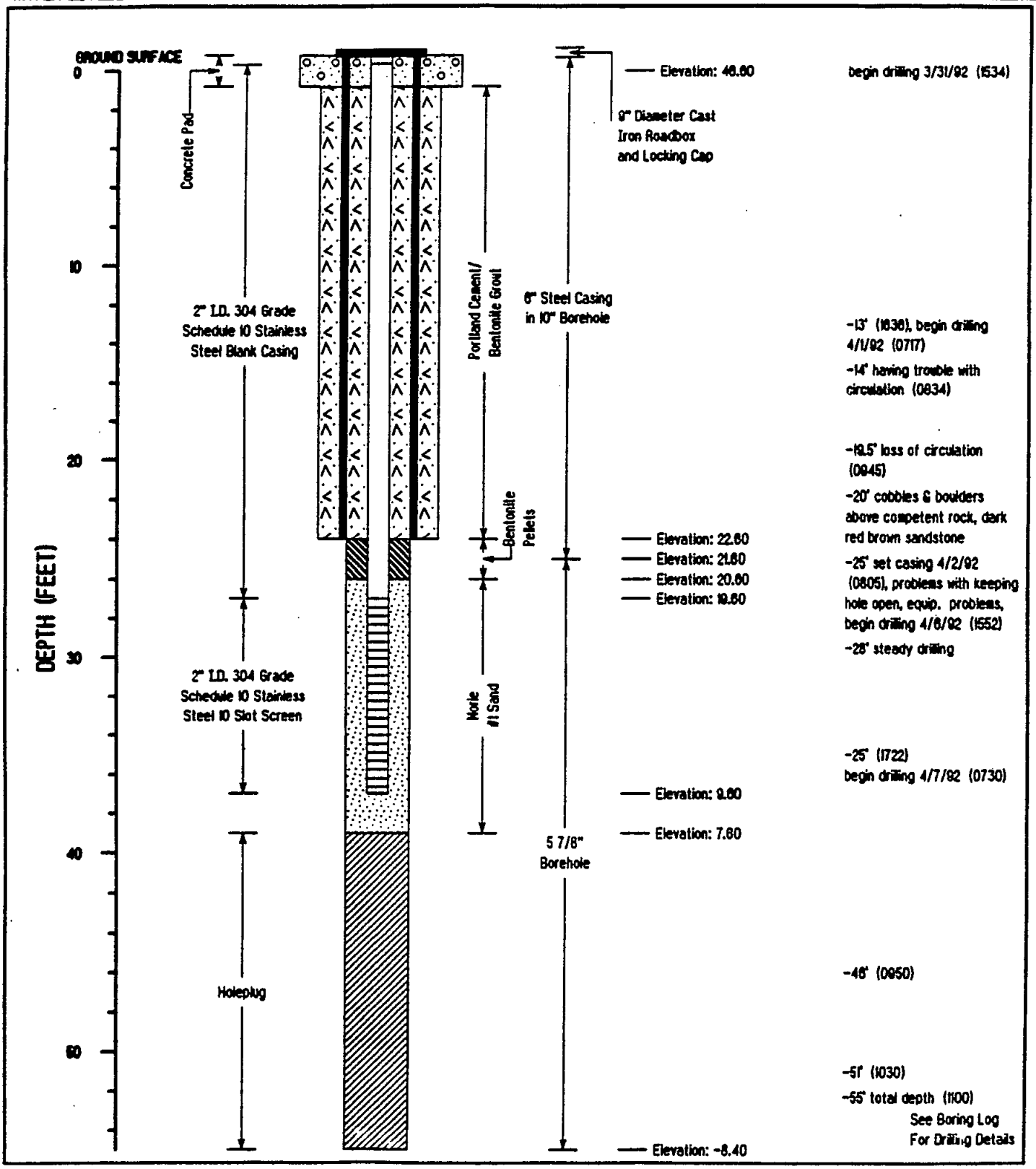
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 46.6 (GS); 46.22 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 4.05 (ft); 42.17 (MSL), 8/22/92 START 3-31-92 FINISH 4-7-92 LOGGER S. Scanlon, D. Snyder



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28464
Atlas Sheet Coordinates 26 : 03 : 5.46

OWNER IDENTIFICATION - Owner KEN PROPERTIES
Address 77 TARRYTOWN RD. SUITE 100
City WHITE PLAINS State NY Zip Code 10607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-14
County 149-151 Maywood Ave. Municipality Lot No. Block No.
Address Maywood, NJ Bergen Co. MAYWOOD BORO 30 124

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 10 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Ch2M Hill Tele. # 908 316-9300

WELL CONSTRUCTION

Total depth drilled 55 ft.
Well finished to 37 ft.
Borehole diameter: 10
Top 10 in.
Bottom 6 in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface ____ ft.
Was steel protective casing installed? ☐ Yes ☒ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0'	27'	2"	4" stainless steel
Outer Casing (Not Protective Casing)	0'	27'6"	6"	Steel Casing
Screen (Note slot size)	27'	37'	2"	Slot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	25'	37'	6"	# 1 Gravel
Annular Seal/Grout	0'	25'	10/6"	cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 4 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development submersible Pump
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-80
Name of Driller Thomas Lynch
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1499
Name of Drilling Company ENVIRONMENTAL DRILLING

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-7' fill
7'-11' clay
11'-12' sand & cobbles
12'-20' sand, silt with cobbles
20'-25' sandstone
25'-35' sandstone & Shale
35'-55' sandstone & Shale

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

PROJECT NUMBER	BORING NUMBER
NJ022948.ST.WI	ORMW15 SHEET 1 OF 1

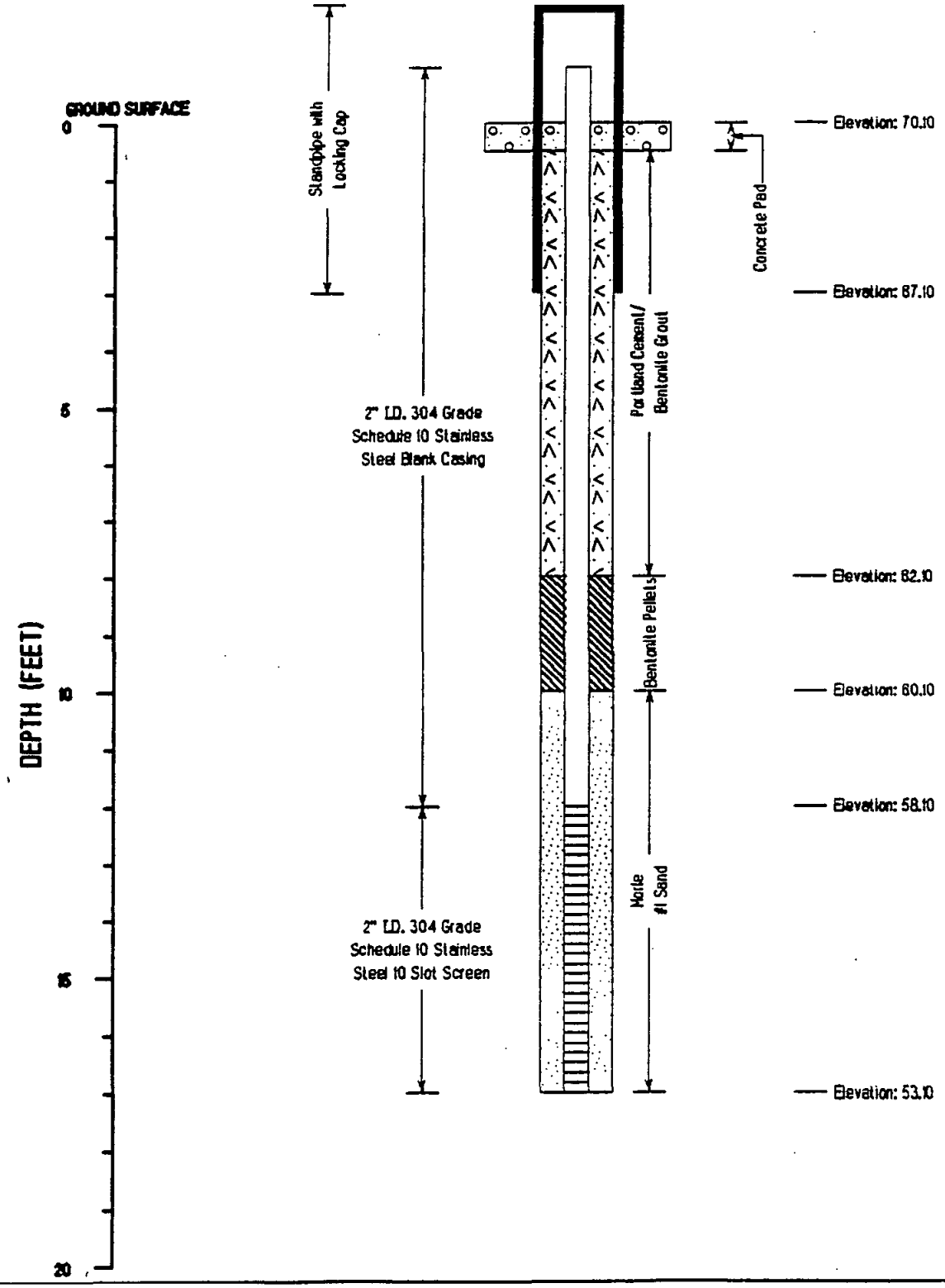
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 70.1 (GS); 72.27 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 5 7/8 Roller Bit Water Rotary

WATER LEVELS 12.80 (ft); 59.87 (MSL), 8/22/92 START 4-22-92 FINISH 4-22-92 LOGGER L. Vogel



See Boring Log For Drilling Details

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 - 28893
Atlas Sheet Coordinates 26 : 03 : 536

R IDENTIFICATION - Owner STERLAN COMPANY
ss 22 WEST FRONTAGE ROAD
NORTHFIELD State IL Zip Code
DEVELOPED 4/30/92 (COMPLETED)

LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-15

Bergen Municipality MAYWOOD BORO Lot No. 48 Block No. 124
ss 100 West Hunter Avenue, Maywood, NJ

OF WELL (as per Well Permit Categories) MONITORING Date well completed 3 / 11 / 92
atory Program Requiring Well CERCLA Case I.D. # 10105
ULTING FIRM/FIELD SUPERVISOR (if applicable) Ch2M Hill Tele. # 201 316-9300

CONSTRUCTION

depth drilled 17 ft.
nished to 17 ft.
ole diameter:
op 8 in.
m 8 in.
was finished: [X] above grade
[ ] flush mounted
hed above grade, casing
(stick up) above land
e 2 ft.
steel protective casing installed?
es [ ] No
water level after drilling 13 ft.
r level was measured using M Scope
was developed for 1 hours at 2+ gpm
od of development Submersible Pump
permanent pumping equipment installed? [ ] Yes [X] No
capacity NA gpm
type: NA
g Method Hollow Stem Auger
g Fluid NA Type of Rig Mobile B-61
e of Driller Robert Atkinson
th and Safety Plan submitted? [ ] Yes [ ] No
l of Protection used on site (circle one) None D C B A
License No. 11478
e of Drilling Company ENVIRONMENTAL DRILLING INC

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	+2'	12'	2"	stainless steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	12'	17'	2"	Stainless Steel
Tail Piece	NA	NA	NA	
Gravel Pack	10'	17'	8"	# 1 Gravel
Annular Seal/Grout	0'	10'	8"	Cement
Method of Grouting	Tremie Pressure			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' fill
8'-17' rock

tify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable e rules and regulations.

Driller's Signature _____ Date 6/18/92

Goldenrod - Health Dept.

PROJECT NUMBER	BORING NUMBER	
NJ022948.ST.WI	BRMW15	SHEET 1 OF 1

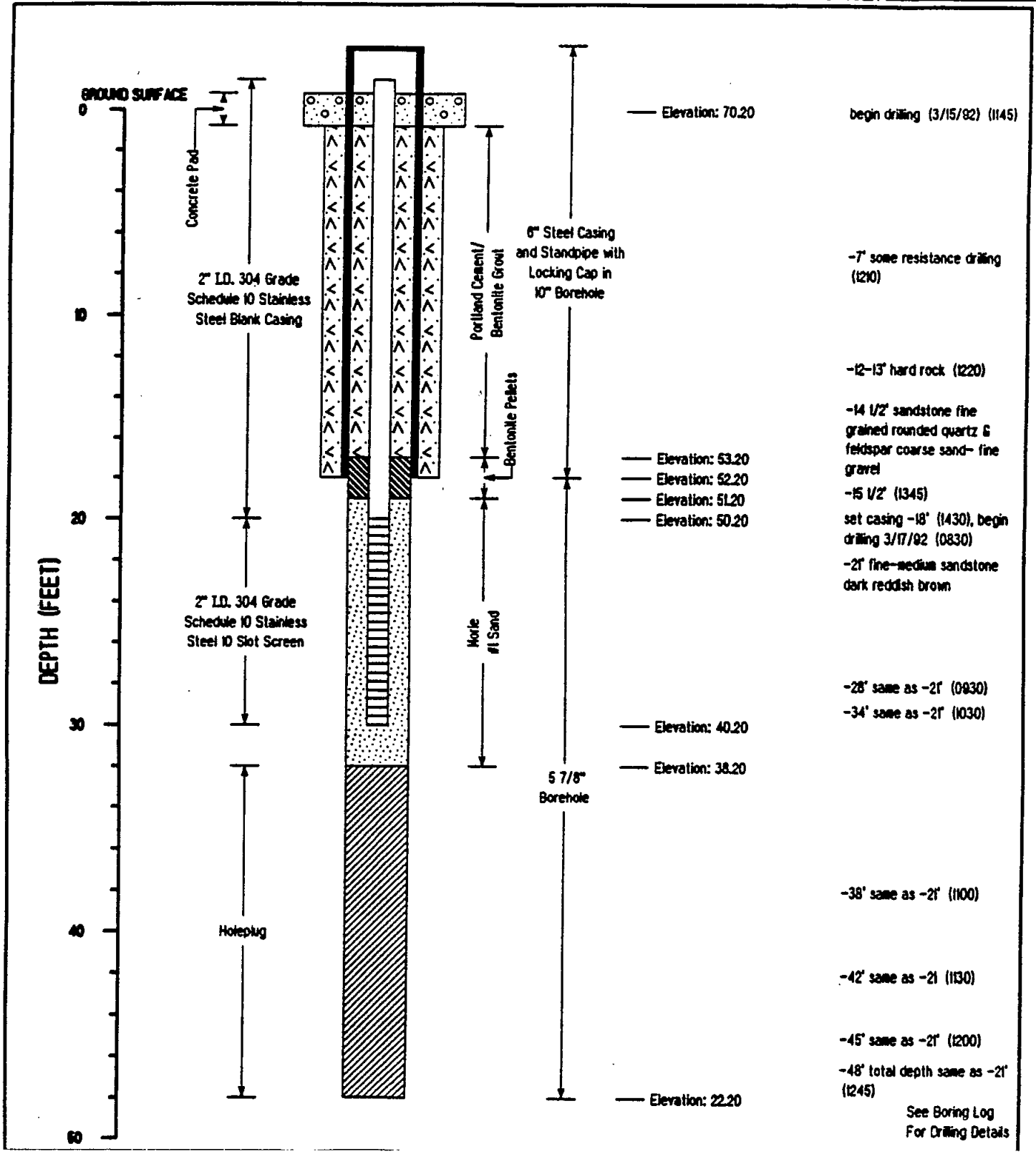
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI **LOCATION** Maywood, NJ

ELEVATION 70.2 (GS); 71.83 (inner casing) **DRILLING CONTRACTOR** Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 Water Rotary

WATER LEVELS 11.89 (ft); 59.74 (MSL), 6/22/92 **START** 3-16-92 **FINISH** 3-17-92 **LOGGER** L. Vogel



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No: 26 - 28892
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner STEPHAN COMPANY
Address 22 WEST FRONTAGE ROAD
City NORTHFIELD State ILL Zip Code 60093

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-15
County Bergen Municipality MAYWOOD BORO Lot No. 40 Block No. 124
Address 100 West Hunter Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 01 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 908 316-9300

WELL CONSTRUCTION

Total depth drilled 48 ft.
Well finished to 35 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: [X] above grade. [ ] flush mounted
If finished above grade, casing height (stick up) above land surface 2 ft.
Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	+2'	25'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	0'	18'	6"	Steel
Screen (Note slot size)	25'	35'	2"	Stainless Steel .010
Tail Piece	NA	NA	NA	
Gravel Pack	23'	35'	6"	# 1 Gravel
Annular Seal/Grout	0'	23'	10/6"	Cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 8± ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development AIR
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud rotary
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? [ ] Yes [ ] No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J-1478
Name of Drilling Company DRILLING

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-9' sand
9'-11' weathered rock
11'-18' comp. rock
18'48' comp. rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/10/92

PROJECT NUMBER	BORING NUMBER	
NJ022948.ST.WI	BRMW16	SHEET 1 OF 1

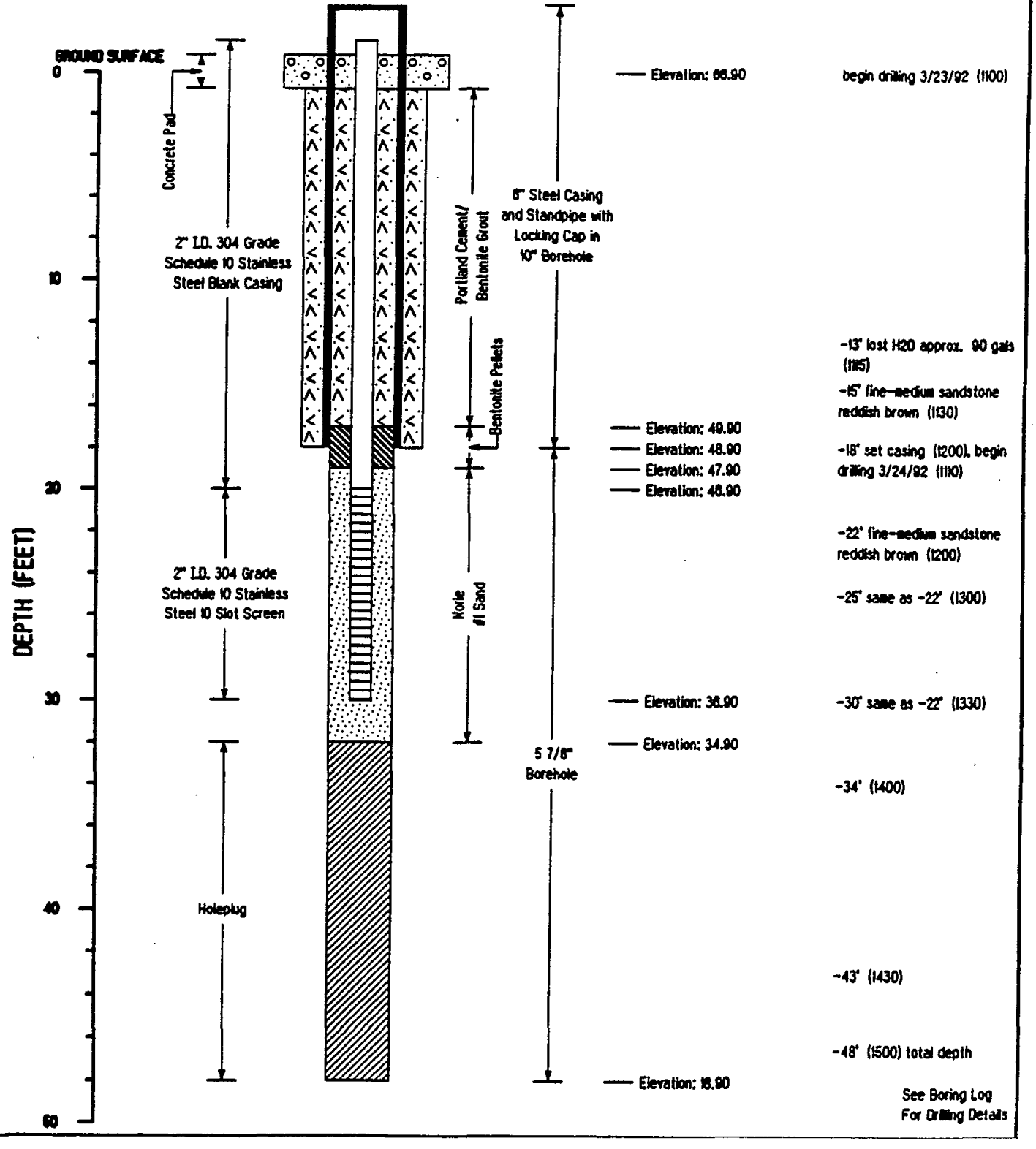
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 66.9 (GS); 67.96 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 Water Rotary

WATER LEVELS 9.96 (ft); 58.00 (MSL), 6/22/92 START 3-23-92 FINISH 3-24-92 LOGGER L. Vogel



DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28465
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner CIBA-GEIGY COMPANY
Address 22 WEST FRONTAGE ROAD
City NORTHFIELD State IL. Zip Code 60093

WELL LOCATION - *If not the same as owner please give address.* Owner's Well No. BRMW-16
County Bergen Municipality HAYWOOD BORO Lot No. 40 Block No. 124
Address 100 West Hunter Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 09 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 908 316-9300

WELL CONSTRUCTION

Total depth drilled 47 ft.
Well finished to 30 ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: [X] above grade [ ] flush mounted
If finished above grade, casing height (stick up) above land surface 2 ft.
Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	+2'	20'	2"	Stainless steel
Outer Casing (Not Protective Casing)	+2'	18'	6"	Steel Casing
Screen (Note slot size)	20'	30'	2"	Slot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	18'	30'	6"	# 1 Gravel
Annular Seal/Grout	0'	18'	10/6"	Cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 8 ft.
Water level was measured using M Scope
Well was developed for 2½ hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? [ ] Yes [ ] No
Level of Protection used on site (circle one) None D C B A
N.J. License No. 11478
Name of Drilling Company ENVIRONMENTAL DRILLING

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-13' sand
13'-18' rock
18'-50' rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 72 7/23/92

CH2M HILL

PROJECT NUMBER	BORING NUMBER	
NJ022948.ST.WI	OBMW17	SHEET 1 OF 1

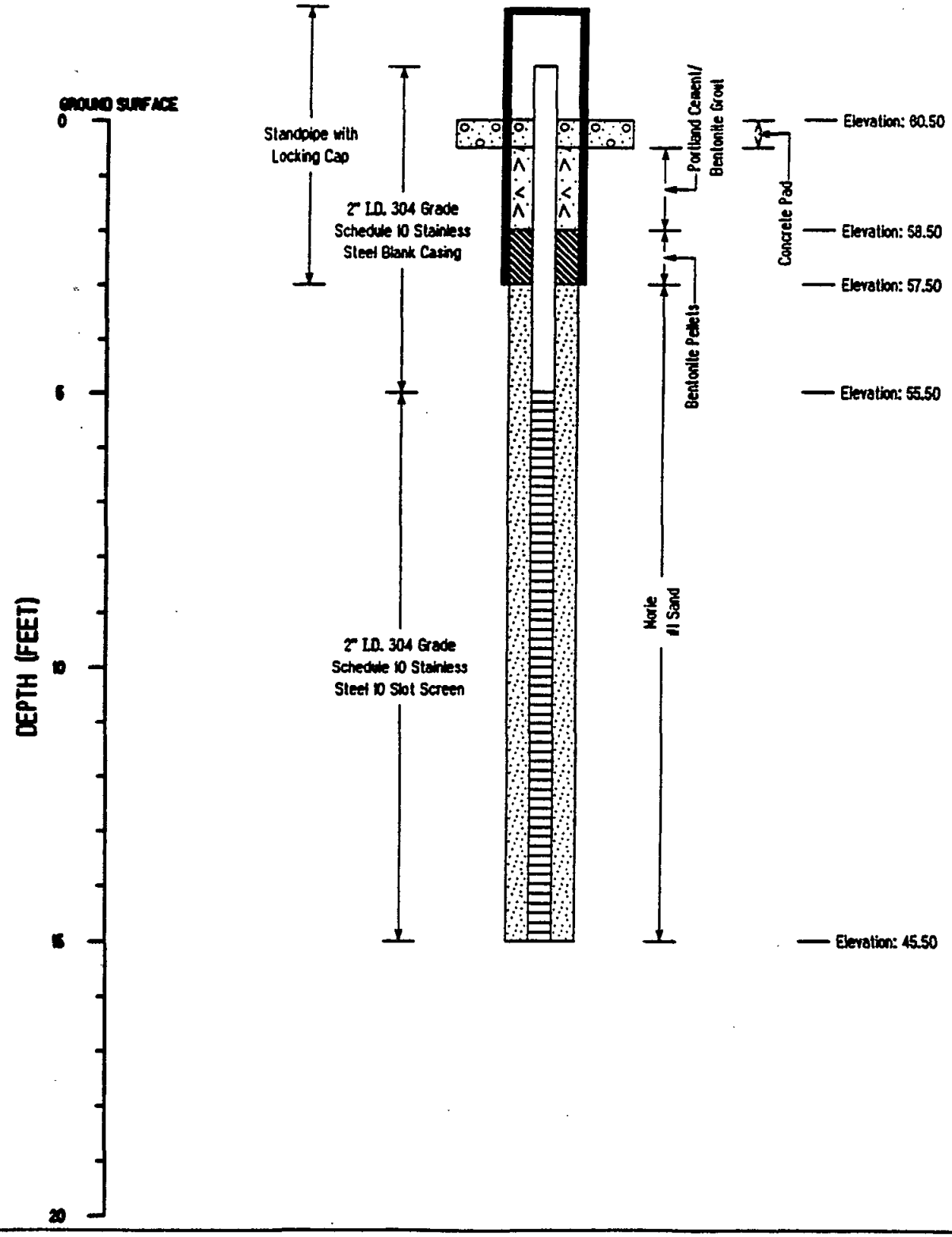
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 80.5 (GS); 82.70 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B61 HSA 4 1/4" I.D.

WATER LEVELS 7.50 (ft); 55.20 (MSL), 6/22/92 START 4-23-92 FINISH 4-23-92 LOGGER L. Vogel



See Boring Log For Drilling Details

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28894
Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner STEPHAN COMPANY
Address 22 WEST FRONTAGE ROAD
City NORTHFIELD State IL Zip Code 10607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. OBMW-17
County Bergen Municipality MAYWOOD BORO Lot No. 40 Block No. 124
Address 100 West Hunter Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed DEVELP ED 5/19/92 (COMPLETED) 3/11/92
Regulatory Program Requiring Well ECRU Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 201 316-9300

WELL CONSTRUCTION

Total depth drilled 15 ft.
Well finished to 15 ft.
Borehole diameter:
Top 8 in.
Bottom 8 in.
Well was finished: [X] above grade [ ] flush mounted
If finished above grade, casing height (stick up) above land surface 2 ft.
Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	+2'	5'	2"	Stainless Steel
Outer Casing (Not Protective Casing)	NA	NA	NA	
Screen (Note slot size)	5'	15'	2"	Stainless Steel
Tail Piece	NA	NA	NA	
Gravel Pack	3'	15'	8"	#1 Gravel
Annular Seal/Grout	0'	3'	8"	Cement
Method of Grouting	Gravity			

Static water level after drilling 7 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2+ gpm
Method of development Submersible Pump
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity NA gpm
Pump type: NA
Drilling Method Hollow Stem Auger
Drilling Fluid NA Type of Rig Mobile B-61
Name of Driller Robert Atkinson
Health and Safety Plan submitted? [ ] Yes [ ] No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478
Name of Drilling Company ENVIRONMENTAL DRILLING INC

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-9' sand
9'-15' weathered rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature [signature] Date 6/16/92

CHM HILL

PROJECT NUMBER	BORING NUMBER
NJ022948.ST.WI	BRMW17 SHEET 1 OF 1

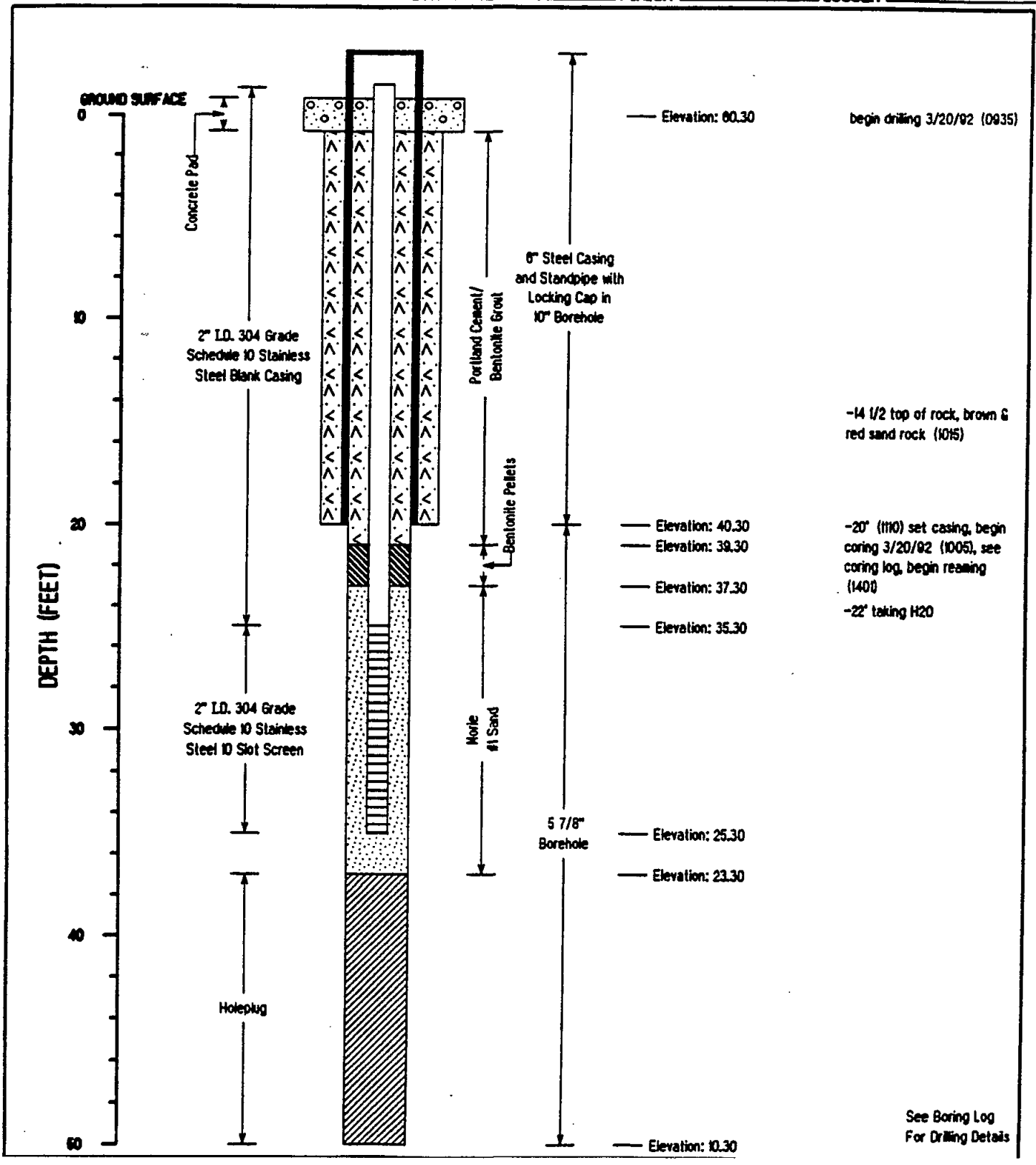
WELL COMPLETION LOG

PROJECT Stepan Co. and Sears and Adjacent Properties RI LOCATION Maywood, NJ

ELEVATION 60.3 (GS); 62.04 (inner casing) DRILLING CONTRACTOR Environmental Drilling Inc., West Creek, NJ

DRILLING METHOD AND EQUIPMENT Mobile B80 Water Rotary

WATER LEVELS 8.17 (ft); 55.87 (MSL), 8/22/92 START 3-20-92 FINISH 3-23-92 LOGGER D. Snyder



DWR-138.M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 28466
Atlas Sheet Coordinates 36 : 03 : 536

OWNER IDENTIFICATION - Owner STEPAN COMPANY
Address 22 WEST FRONTAGE ROAD
City NORTHFIELD State IL Zip Code 60093

WELL LOCATION - If not the same as owner please give address. Owner's Well No. BRMW-17
County Bergen Municipality MAYWOOD BORO Lot No. 40 Block No. 124
Address 100 West Hunter Avenue, Maywood, NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 6 / 9 / 92
Regulatory Program Requiring Well CERCLA Case I.D. # 10105
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) CH2M Hill Tele. # 1 908 316-9300

WELL CONSTRUCTION

Total depth drilled 50 ft.
Well finished to 35' ft.
Borehole diameter:
Top 10 in.
Bottom 6 in.
Well was finished: [X] above grade [ ] flush mounted
If finished above grade, casing height (stick up) above land surface 2 ft.
Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	+2'	25'	2"	Stainless steel
Outer Casing (Not Protective Casing)	+2'	20'	6"	Steel Casing
Screen (Note slot size)	25'	35'	2"	SLot .010 S.S.
Tail Piece	NA	NA	NA	
Gravel Pack	23'	35'	6"	# 1 Gravel
Annular Seal/Grout	0'	23'	10/6"	Cement
Method of Grouting	Tremie Pressure			

Static water level after drilling 4 ft.
Water level was measured using M Scope
Well was developed for 1½ hours at 2+ gpm
Method of development submersible Pump
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity NA gpm
Pump type: NA
Drilling Method Mud Rotary
Drilling Fluid NA Type of Rig Mobile B-80
Name of Driller Robert Arking & Thomas Lynch
Health and Safety Plan submitted? [ ] Yes [ ] No
Level of Protection used on site (circle one) None D C B A
N.J. License No. J 1478 & J1499
Name of Drilling Company ENVIRONMENTAL DRILLING

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-4' fill
4'- 15' silt and clay
15'-20' sandstone & Shale
20'-50' rock

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature _____ Date 7/23/92

APPENDIX N
WELL SAMPLING RECORDS

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/14/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: EPA LOW FLOW.

WELL I.D. MW-2D

SAMPLE I.D. 23b-021049

MEAS. REF. POINT (Ft AGS OR BGS) 5.05 BTW

WELL DEPTH (Ft TOC) 47.7

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1500	5.05								
1505	5.15	500	2L	11.9	2.12	7.90	-35	5.0	20.8
1510	5.15	500	4.5L	12.8	1.72	7.89	-37	2.0	13.8
1515	5.15	500	6.0L	13.7	1.50	7.88	-30	1.1	9.2
1520	5.15	500	8.5L	14.2	1.46	7.88	-28	0.9	7.1
1525	5.15	500	10L	14.2	1.45	7.87	-26	0.8	6.2
1530	5.15	500	12.5L	14.3	1.44	7.87	-25	0.8	5.7
1535	COLLECT		SAMPLE						

APPEARANCE/COLOR LIGHT GREY

SAMPLED BY (PRINT) J DEKOSKIS

SIGNATURE J Dekoskis

WELL CAP REPLACED AND LOCKED BY STEVE SHAW

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

TB: 020021479

RINSE BLK: 10A021477

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3/15/01

WORK ORDER # _____ NORFAS # _____

FIELD INSTRUMENTS: PERISTALTIC PUMP
TEFLON BAILER, HORIBA U-22

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-35

SAMPLE I.D. 12A 021 051 + MS MSD
12A 021 529 DUPLICATE

MEAS. REF. POINT (Ft AGS OR BGS) 5.75 DTW

WELL DEPTH (Ft TOC) 16.80

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1215	5.75	300	0	—	—	—	—	—	—
1225		300	3L	11.2	1.59	7.07	25	6.00	
1230	6.02	300	4.5L	11.3	1.75	6.41	18	4.07	2
1240	6.05	300	7.5	11.4	1.74	6.56	-46	2.26	2
1245	6.05	300	9.0	11.5	1.75	6.59	-60	1.89	2
1255	6.03	300	12.0	11.6	1.76	6.60	-64	1.78	1
1300	6.03	300	13.5	11.6	1.76	6.61	-67	1.69	1
1305	6.03	300	15.0	11.6	1.76	6.61	-68	1.64	1
0	START SAMPLING								

RB: 09A 021 461
TB 000 021 530

Recal. Horiba

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY (PRINT) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/20/01

WORK ORDER # _____ NORFAS # _____

FIELD INSTRUMENTS: peristaltic pump, horiba U22, LaMotte.

SAMPLING METHOD: low flow sampling were using a peristatic pump.

WELL I.D. MW-45

SAMPLE I.D. 238-021052

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) ~9 ft.

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 8 ft.

Sample Time (From/To)	Water Level (Ft TOC)	(ml/min) Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1455	4.35	140		10.18	0.742	6.95	167	5.40	43.1
1505	4.32	140		10.27	0.731	7.01	165	5.56	28
1515	4.34	140		10.79	0.72	7.04	162	5.67	36
1520	4.34	140		10.81	0.712	7.08	161	5.89	34.1
	Note: turbidity was checked with the LaMotte								

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3/12/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

PERISTALTIC PUMP, BAILER.

PID: 19.8 % O_2

SAMPLING METHOD: EPA LOW FLOW.

WELL I.D. MW-55

SAMPLE I.D. 236-021054

MEAS. REF. POINT (Ft AGS OR BGS) 8.92

WELL DEPTH (Ft TOC) 19.50

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 17.50

Sample Time (From/To)	Water Level (Ft TOC)	~~GPM~~ ml/min Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0830	8.92	250							
~~0845~~ 0835	10.63	250	3 L	9.3	1.27	5.95	250		249
0850	10.72	250	4.25	9.3	1.22	6.42	239		268
0900	10.80	250		9.7	1.19	6.72	239		268 *
0920	11.41	250		10.2	1.09	7.08	236	3.12	175.0
0930	11.65	250		10.5	1.08	7.14	238	2.75	167.0
0940	11.76	250		10.5	1.07	7.17	239	2.72	156.0
0950	11.85	250		10.7	1.05	7.20	240	2.56	133.0
1000	11.94	250		10.7	1.05	7.23	219	2.56	122.0
1010	~~12.05~~ 11.95	250		10.8	1.03	7.25	230	2.62	103.0
1020	11.93	250		10.9	1.01	7.25	234	2.72	89.8
~~1030~~ 1028	11.90	250		11.1	0.98	7.28	240	2.82	67.4
1040	11.90	250		11.2	0.97	7.30	243	2.89	50.6
1045	11.90	250		11.2	0.97	7.29	245	2.86	35.6
1050	11.90	250		11.3	0.96	7.29	245	2.87	29.2
1055 START Collecting Sample									
RB# 09A 021461									
TB# 000 021516									
EPA TB# 000 021517									

EMPTY F.T.L. / NEW HORIBA

APPEARANCE/COLOR CLEAR

ODOR NONE

SAMPLED BY (PRINT) J DEKOSKIE

SAMPLED BY (PRINT) _____

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-15-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

Grundfos 2" Pump

YSI Hydrolab

Horiba

SAMPLING METHOD: low flow

WELL I.D. MW-5D

SAMPLE I.D. 23B-021055

DTW MEAS. REF. POINT (Ft AGS OR BGS) 6.68

WELL DEPTH (Ft TOC) 52

INNER CASING/OPEN HOLE DIAM (In) 4

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	mL/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1340	6.60								
1345	6.99	400	1L	9.91	.5333	8.20	193	10.1	17.4
1350	7.03	400	3L	10.80	.5283	8.12	136	9.5	13.5
1355	7.03	400	5L	11.06	.5281	8.21	126	8.4	17.6
1400	7.04	400	7L	11.26	.5296	8.27	118	6.7	24.7
1405	7.04	400	9L	11.28	.5259	8.28	116	6.4	25.7
1410	7.04	400	11 L	11.34	.5292	8.24	114	6.3	25.5
1430	7.00	400	~19 L	12.7	.549	7.83	-17	1.9	182
1435	7.00	500	21.5	13.6	.547	7.97	-40	1.7	175
1440	7.03	500	24.0	13.9	.545	7.98	-52	1.7	185
1445	7.03	400	26.0	14.1	.544	7.97	-54	1.7	178
1450	7.06	400	28.0	14.7	.526	7.87	-50	3.0	121
1455	7.06	400	30.0	14.5	.534	7.85	-66	2.2	110
1501	7.06	400	32.0	14.5	.536	7.83	-69	2.2	107
1505	7.06	400	34.0	14.4	.537	7.79	-70	2.2	96.5
1520	7.06	400	36.0	14.6	.540	7.61	-62	2.2	83.0
1530	7.06	400	38.0	14.8	.543	7.54	-43	2.8	78.7
1540	7.06	400	40.0	14.8	.543	7.52	-41	3.0	76.4
1550	7.08	400	42.0	14.9	.540	7.48	-39	3.2	65.7
1555	7.09	400	44	14.7	.542	7.45	-39	3.3	58.1
1600	7.10	400	46	14.7	.543	7.41	-40	3.3	49.6

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

* switched from YSI to Horiba

ODOR None

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

class blk: 23b 021 484

trip blk: 23b 021 481

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/21/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Horiba U-22, LaMotte turbidity meter, Peristaltic pump, flow through cell

SAMPLING METHOD: low flow w/ peristaltic

WELL I.D. ~~OBMW-65~~ 4ft. MW-65

SAMPLE I.D. 236-021056

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 15 ft.

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 13 ft.

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1405	6.88	400		9.63	1.65	7.06	-55	2.50	65	*
1420	6.82	380		10.27	1.64	7.06	-72	0.70	30	*
1425	6.83	380		9.68	1.61	7.05	-77	0.43	16	*
1430	6.83	380		9.54	1.62	7.06	-78	0.32	11	*
1435	6.83	380		9.70	1.61	7.07	-78	0.27	10	*
1440	6.83	380		9.68	1.61	7.06	-78	0.29	9	*
Corresponding Blanks:			Trip = 000-021498			Rinsate = 09A 021461				
Limits				±3%	±3%	± 0.1 pH	± 10 mV	±10%	±10% <50	

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) M. Barone ; J. Lincoln

SIGNATURE M. Barone

WELL CAP REPLACED AND LOCKED BY _____

ODOR None

SAMPLED BY J. Lincoln, M. Barone.

SIGNATURE J. Lincoln

DATE/TIME 2/21/01 1435

* using Horiba + LaMotte (Turbidity)

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/21/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: hydrolab, horiba U22 LaMotte turbidity meter, flow thru cell, grunfos pump.

SAMPLING METHOD: Low Flow

WELL I.D. MW-6D

SAMPLE I.D. 230-021057

MEAS. REF. POINT (Ft AGS OR BGS) Dup 230-021496

WELL DEPTH (Ft TOC) 52 ft.

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 35 ft.

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
0845	5.15		—	—	—	—	—	—	—	
0900	5.44	150		10.97	.6255	7.82	26	20	142.1	
0905	5.43	150		10.85	.6340	7.84	3	11.5	78.1	
0910	5.40	150		10.93	.6373	7.84	0	10.3	71.2	
0915	5.40	150		11.03	.6408	7.84	-3	8.5	68.9	
0925	5.40	150		10.97	.6478	7.81	0	7.0	58.2	
0935	5.40	150		10.87	.6499	7.80	-2	5.3	56.9	
0950	5.40	150		10.81	.6579	7.76	2	3.1	67.9	
1005	5.40	150		10.83	.6578	7.79	-134	0.86	70.0	*
1025	5.40	150		12.79	.720	7.80	-130	0.55	65.0	*
1030	5.40	150		12.89	.724	7.58	-131	0.44	60.5	*
1040	5.40	150		12.94	0.722	7.61	-132	0.36	60.0	*
1045	5.40	150		12.77	0.723	7.62	-128	0.36	50.0	*
1050	5.4	150		12.73	0.723	7.62	-125	0.37	48.3	*
1100	5.4	150		12.71	0.723	7.62	-124	0.36	46.7	*
1105	5.4	150		12.71	0.723	7.62	-122	0.37	46	*
Corresponding Blanks:		Trip =		000-021498		Rinsate = 22B		021495		
Limits				±3%	±3%	± 0.1 pH	± 10 mV	±10%	±10% ≥50	

APPEARANCE/COLOR Clear/Green

SAMPLED BY (Print) M. Barone, J. Lincoln

SIGNATURE M. Barone

WELL CAP REPLACED AND LOCKED BY M. Barone

ODOR None

SAMPLED BY (Print) J Lincoln, M Barone

SIGNATURE J Lincoln

DATE/TIME 2/21/01, 1050

Depth to water 5.15

* Measured w/ Horiba & / or Motte

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/28/01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22.

PERISTALTIC PUMP

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-75

SAMPLE I.D. 23B 021 058

MEAS. REF. POINT (Ft AGS OR BGS) 7.81 BTOC

WELL DEPTH (Ft TOC) 15. ft

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1155									
~~1155~~			.5L						
1205	7.92	300	2L	7.9	.888	6.22	144	7.1	1.0
1210	7.95	300	3.5	8.7	.885	6.08	157	3.0	1
1215	7.95	300	5	9.2	.887	6.07	162	2.8	1
1220	7.95	300	6.5	9.2	.888	6.08	162	2.7	1
1225	Collect	Sample							
RWSE #	09A	021	461						
TRIP #	000	021	508						

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY (PRINT) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

43% LEL . 12.5 O2

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-28-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-7D

SAMPLE I.D. 236-021059

MEAS. REF. POINT (Ft AGS OR BGS) 7.95 DTW

WELL DEPTH (Ft TOC) 46.75

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ML/min Discharge ~~(GPM)~~	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0820	7.95	-	- -		-	-	-	.	-
6835		300	2L	9.6	1.05	6.43	-39	3.4	131.0
0840	8.55	300	3.5	10.1	1.04	6.56	-50	2.1	130.0 *
0850	8.61	300	6.5	12.1	0.97	6.60	-52	3.9	169.0
0855	8.61	300	8.0	12.3	1.00	6.63	-57	1.3	124.0
0900	8.61	300	9.5	12.7	1.01	6.64	-59	1.2	105.0 *
0910	8.61	300	12.5	13.7	1.00	6.66	-58	1.6	103.
0915	8.61	300	14.0	13.5	1.01	6.67	-60	0.8	84.8
0920	8.56	300	15.5	13.7	1.01	6.66	-61	0.6	70.7
0925	8.56	300	17.0	13.8	1.02	6.65	-61	0.6	67.9
0930	8.57	300	18.5	13.9	1.02	6.65	-61	0.6	64.6
0935	8.57	300	20	13.8	1.03	6.65	-59	0.6	59.3
0940	8.58	300	21.5	13.8	1.03	6.64	-56	0.5	56.4
0945	8.59	300	23.0	14.0	1.02	6.63	-54	1.2	36.7
0955	8.60	300	26	14.0	1.01	6.63	-56	1.1	15.2
1000	8.61	300	27.5	14.0	1.02	6.63	-56	1.2	20.1
1005	8.61	300	29	14.0	1.01	6.63	-56	1.2	22.7
1015	Collect Sample								
TB#	000 021 508								
RB#	236 021 509								

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (Print) _____ SAMPLED BY (Print) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

2GA JDL 2B 1E 1L 5'D 7B --

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 3/1/01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: HORIBA U-22
PERISTALTIC PUMP
TEFLON BAILER.

SAMPLING METHOD: Peristaltic Pump
Bailer VOC's EPA LOW FLOW

WELL I.D. MW-8S

SAMPLE I.D. 23B-021060 *

MEAS. REF. POINT (Ft AGS OR BGS) 4.95 DTW

WELL DEPTH (Ft TOC) ~~44.95~~ 20.0 gD

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) 18 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (~~GPM~~)ML	Volume Purged (~~GAL~~) L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1315	4.95									
1320	6.36	360 mL	1.5	10.0	.600	10.50	-25	2.91	1	
1325	6.37	360	3.0	10.2	.599	8.07		2.19	1	
1335	6.26	300	6.0	10.4	.686	6.65		0.80	1	
1340	6.23	300	7.5	9.8	.927	6.73	3	2.70	1	*
1345	6.30	300	9.0	10.3	.941	6.65	25	1.20	1	
1350	6.29	300	10.5	10.3	.950	6.64	35	1.00	1	
1355	6.29	300	12.0	10.5	.971	6.65	42	~~.90~~ ~~.987~~	1	
1400	6.29	300	13.5	10.4	.977	6.66	49	0.85	1	
1405	6.25	300	15.0	10.3	.981	6.66	53	0.79	1	
1410	6.25	300	16.5	10.3	.987	6.67	56	0.77	1	
1415	Began	Sampling								

* Switched metals U-10 start U-22 at 1340

* DUPLICATE SAMPLE # 23B-021507

TRIP BLANK: 000 021 513

RINSE BLANK: 09A-021461

APPEARANCE/COLOR CLEAR

SAMPLED BY (PRINT) KEN HAYES

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR NONE

SAMPLED BY (PRINT) ____

SIGNATURE ____

DATE/TIME ____

Field Logbook

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3-1-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP.

SAMPLING METHOD: E.P.A LOW FLOW

WELL I.D. MW-8D

SAMPLE I.D. 238 021 061

MEAS. REF. POINT (Ft AGS OR BGS) 6.27 DTW

WELL DEPTH (Ft TOC) 52

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 27-52

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 28 ft.

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1305	6.27	200							
1310	6.29	200	2 L	10.9	1.11	7.48	-188	3.2	73.4
1315	6.36	200	5 L	11.0	1.10	7.39	-185	1.6	74.2
1320	6.36	200	4 L	10.9	1.09	7.38	-187	1.1	71.7
* 1325	6.36	200	6 L	10.4	1.10	7.12	-179	2.4	75.4
1340	HORIBA PROBLEM, STILL HIGH NTU								
1350	6.36	200	10 L	11.6	1.14	N/A	N/A	2.2	>50
* 1410	6.37	200	14 L	—	—	—	—	—	—
1415	6.38	200	15 L	12.0	1.05	6.92	-123	2.0	83.2
1420	6.39	200	16 L	12.6	1.05	6.98	-124	2.0	~~91.0~~ 80
1425	6.40	200	17 L	13.6	1.07	6.99	-129	1.9	90.2
1430	6.40	200	18 L	13.5	1.07	7.00	-133	1.8	82.1
1435	6.40	200	19 L	13.3	1.07	7.00	-134	1.1	72.4
1445	6.39	200	21 L	13.2	1.07	7.00	-130	0.8	56.8
1456	6.37	200	23 L	13.1	1.07	6.95	-127	0.8	54.7
1500	6.37	200	24 L	12.9	1.07	6.93	-125	0.8	48.8
1505	COLLECT SAMPLE								
RINSE BLANK:	238 021 511								
TRIP BLANK:	000 021 513								

* SWITCHED TO HORIBA U-10 / SWITCH BACK TO U-22 @ 1410

APPEARANCE/COLOR CLOUDY

ODOR NONE

SAMPLED BY (PRINT) J DEKOSKIE

SAMPLED BY (PRINT) _____

SIGNATURE J Dekoskie

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY J Dek

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3-19-01 WELL I.D. MW-9S

WORK ORDER # _____ NORFAS # _____ SAMPLE I.D. _____

FIELD INSTRUMENTS: Peristaltic Pump MEAS. REF. POINT (Ft AGS OR BGS) 9.18 DTW

Horiba U-22, Teflon Bailer WELL DEPTH (Ft TOC) 13'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: Low Flow WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge ~~(GPM)~~ ML	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0840	9.22	Start Pump							
0845	9.70	250ML	1.25 L	9.2	.505	6.12	316	9.10	31
0855	9.72	250ML	3.75 L	9.6	.489	6.16	326	6.54	20.3
0900	9.71	250	5.0 L	9.7	.484	6.19	330	6.24	14.8
0905	9.71	250	6.25	9.9	.482	6.19	336	6.10	11.1
0910	9.71	250	7.50	10.0	.482	6.17	340	6.00	8.2
0915	9.71	250	8.75	10.1	.481	6.21	343	5.98	6.9
0920	START SAMPLING								
1010	Complete								

Sample ID = 22b-021067

Corp Split ID = 22b-021528

LVLI TB: 000-021-537

Corp TB: 000-021-538

RB: 09A-021461

PPEARANCE/COLOR Clear ODOR None

SAMPLED BY (PRINT) Ken Hayes SAMPLED BY (PRINT) _____

SIGNATURE Ken Hayes SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY Ken Hayes DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-13-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

31% LEL 3.2 VOC, 14.0 O_2

GRUNDFOS 2" PUMP.

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-9D

SAMPLE I.D. 226-021 063
226-021 521

MEAS. REF. POINT (Ft AGS OR BGS) 10.29

WELL DEPTH (Ft TOC) 46.6

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0835		300	—	—	—		—	—	—
0840	10.36	300	3						
0845	10.40	300	4.5	12.3	.551	7.05	105	2.76	14
0850	10.40	300	6	12.5	.578	7.07	102	2.83	11
0855	10.40	300	7.5	12.7	.582	7.12	87	3.09	9
0900	10.40	300	9	12.8	.585	7.12	83	3.11	8
0905	10.40	300	10.5	12.9	.583	7.11	81	3.06	6
0910	Collect Sample								
TB: 000-021	522								
RB 226-021	515								

APPEARANCE/COLOR CLEAR

SAMPLED BY (print) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR NONE

SAMPLED BY (print) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/19/01

WELL I.D. MW-105 (SERS)

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. _____

FIELD INSTRUMENTS: _____

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 8

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: low flow w/ peristaltic

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0910	3.02	—		—	—	—	—	—	—
0925	3.23	80		12.39	>100	6.40	179	13.6	0.0
0930	3.35	80		13.14	>100	6.05	201	15.2	0.0
0935	3.40	80		12.77	>100	6.19	212	14.6	0.0
0945	3.57	80		13.28	>100	6.13	226	14.3	0.0
1000	3.89	80		14.43	>100	6.15	250	16.4	0.0
1010	4.01	80		14.35	>100	6.21	253	16.6	0.0
1025	4.33	80		14.71	>100	6.32	252	16.8	0.0
1035	4.72	80		15.03	>100	6.35	249	17.1	0.0
1045	5.13	80		15.09	>100	6.38	247	17.0	0.0
1100	5.50	80		15.01	87.45	6.39	240	17.2	0.0
1115	6.64	80		14.42	84.0	6.42	234	17.0	0.0
1130	7.31	80		14.29	82.41	6.45	228	17.4	0.0
"									
Corresponding Blanks:			Trip =	000-02	1486	Rinsate =	09A	021	461
Limits				±3%	±3%	± 0.1 pH	± 10 mV	±10%	±10% <50

APPEARANCE/COLOR Clear

ODOR _____

SAMPLED BY (PRINT) M Barone, J Lincoln

SAMPLED BY (PRINT) _____

SIGNATURE M. Barone

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-26-01 WELL I.D. MW-10 S

WORK ORDER # ____ NORFAS # _____ SAMPLE I.D. 226-021 500

FIELD INSTRUMENTS: HORIBA U-22 MEAS. REF. POINT (Ft AGS OR BGS) 6.05

PERISTALTIC & PUMP, TEFLON BAILER WELL DEPTH (Ft TOC) 10 ft

_____ INNER CASING/OPEN HOLE DIAM (In) 2"

_____ DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: _____ WELL VOLUME (Gal) _____

_____ PUMP INTAKE (Ft TOC) 8 ft

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~GPM~~ Discharge	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1330	6.05								
1340	7.02	400	2 L	9.0	2.73	6.59	193	5.8	52.3
1350	7.02	200	3 L	9.0	2.34	6.55	171	2.9	23.1
1355	6.98	200	4 L	9.1	2.	6.54	168	2.8	20.7
1400	6.92	200	5 L	9.1	2.06	6.53	168	2.7	17.4
1405									
1410	collect Samples								
RINSE # 09A-021 461									
TRIP # 000-021 502									

APPEARANCE/COLOR CLEAR ODOR NONE

SAMPLED BY (PRINT) S DEKOSKIE SAMPLED BY (PRINT) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-9-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD: _____

WELL I.D. MW-10D

SAMPLE I.D. NJA

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 47

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1435	7.10	500	8	11.9	.484	10.98		1.42	29
1440	7.66	400	~34	12.1	.488	11.09		0.88	32
1445	7.90	END PURGE							

APPEARANCE/COLOR GREY

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/21/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Horiba U-22, flow through cell, water-level meter, grundfos pump + controller, generator, LaMotte turbidity meter.

SAMPLING METHOD: low flow w/grunfos

WELL I.D. ~~BRMW 10-D~~ MW-10D

SAMPLE I.D. 22b-021065

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 48

INNER CASING/OPEN HOLE DIAM (In) 4

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 30 ft.

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1540	6.68		—	—	—	—	—	—	—	
1555	7.05	175		10.97	0.679	8.97	65	4.14	13	*
1605	7.1	175		10.78	0.718	8.22	56	2.74	10	*
1610	7.1	175		10.47	0.734	8.01	46	2.66	10	*
1615	7.1	175		10.51	0.739	7.99	45	2.64	9	*
1620	7.1	175		10.53	0.741	7.97	44	2.61	9	*
Corresponding Blanks:		Trip = 000-021-498				Rinsate = 22B 021495				
Limits				±3%	±3%	± 0.1 pH	± 10 mV	±10%	±10% <50	

APPEARANCE/COLOR clear

SAMPLED BY (FROM) M. Barone ; J. Lincoln

SIGNATURE M. Barone

WELL CAP REPLACED AND LOCKED BY M. Barone

ODOR None

SAMPLED BY J Lincoln, M. Barone.

SIGNATURE J Lincoln

DATE/TIME 2/21/01

* Measured w/Horiba + LaMotte

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS 6WRT DATE 2/12/01 WELL I.D. MW11S

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 096-021066

FIELD INSTRUMENTS: Horiba U-22 MEAS. REF. POINT (Ft AGS OR BGS) top of inner casing

WELL DEPTH (Ft TOC) 8.2'

Peristaltic Pump (GeoTech Geopump 2) w/ teflon coated bailer INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 3.5

SAMPLING METHOD: USEPA Low Flow Method using peristaltic pump & teflon coated bailer WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 6'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1533	1.25	250		5.2	0.757	6.94	167	8.47	91.2 *
1538	2.10	"		5.7	0.792	6.60	166	6.85	96.1 *
1543	2.15	"		6.0	0.855	6.53	164	5.77	79.7 *
1550	2.15	"		6.30	0.876	6.540	161	4.91	41.0 *
1555	2.15	"		6.3	0.879	6.55	160	4.50	34.7 *
1600	2.15	"		6.6	0.886	6.55	159	4.06	25.8 *
1605	2.15	"		6.6	0.900	6.57	158	3.72	20.9 *
1610	2.15	"		6.5	0.906	6.57	157	3.53	16.2 *
1615	2.15	"		6.6	0.905	6.57	156	3.54	11.8 *

Trip blank # 000-021462 corresponds to this sample

* erratic reading

APPEARANCE/COLOR clear / brown tint ODOR none

SAMPLED BY (print) George Market SAMPLED BY — George Market

SIGNATURE George H. Market SIGNATURE George H. Market

WELL CAP REPLACED AND LOCKED BY ___ DATE/TIME 2/12/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/22/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22
PERISTALTIC PUMP
TEFLON BAILER.

SAMPLING METHOD: ~~HORIBA~~ LOW FLOW

WELL I.D. MW-12S

SAMPLE I.D. 00A-021068

MEAS. REF. POINT (Ft AGS OR BGS) 4.26 DTW

WELL DEPTH (Ft TOC) 19.50

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 16 ft

Sample Time (From/To)	Water Level (Ft TOC)	mL/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1430	4.26		-						
1435	4.47	300	3L	9.8	2.74	7.41	-62	4.53	96.1
1440	4.44	300	4.5	10.0	2.79	6.98	-45	3.96	35.1
1445	4.43	300	6.0	10.0	3.64	6.98	-47	1.25	32.9
1450	4.41	300	7.5	10.0	4.21	6.96	-49	0.96	31.3
1455	4.41	300	9.0	10.0	5.46	6.95	-50	0.94	30.6
1500	4.41	300	10.5	9.7	5.47	6.93	-53	0.84	27.1
1505	4.41	300	12.0	9.7	5.47	6.93	-53	0.82	21.4
1510	COLLECT SAMPLE.								

NOTE: SUSPECT IRON BACTERIA.

NOTE: CONCRETE PAD IS NOT BUILT PROPERLY - WELL IS LOOSE

CLEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY (PRINT) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3-13-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: _____

WELL I.D. MW-12 D

SAMPLE I.D. 08A-021069 08A-021518 08A-021519

MEAS. REF. POINT (FT AGS OR BGS) 2.75 DTW

WELL DEPTH (FT TOC) _____

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (FT TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (FT TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1200	2.75									
1215		300	3L	10.4	.682	7.03	-152	6.41	95.8	
1225	3.03	300	4.5	10.9	.704	7.37	-157	2.90	69.0	
1230	3.07	300	6.0	11.0	.708	7.38	-168	2.49	63.5	
1235	3.10	300	7.5	11.4	.739	7.43	-181	2.13	77.7	*
1245	3.14	300	10.5	12.5	.757	7.48	-185	2.95	52.3	*
1255	3.14	300	13.5	12.6	.761	7.50	-187	2.51	41.9	
1300	3.14	300	15.0	12.7	.754	7.52	-190	2.40	42.0	
1305	3.14	300	16.5	12.6	.758	7.53	-191	2.36	46.1	
1310	Collect	300	Sample							
TB: 000-021522										
RB: 2360-021515										

EMPTY F.T.C.

APPEARANCE/COLOR GREY

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR SLIGHT HYDROCARBON ODOR

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

GROUNDWATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 4/19/01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PERISTALTIC PUMP, TEFLON BAILER, HORIBA U-22

SAMPLING METHOD: EPA LOW FLOW

WELL I.D. MW-13S

SAMPLE I.D. 05A-021 541 EPA SPLIT: 05A-021 544

MEAS. REF. POINT (Ft AGS OR BGS) DTW: 4.25

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1155	4.72	300	2	12.4	3.67	7.15	-89	4.78	118
1200	4.79		3.5	12.5	3.68	6.96	-91	2.57	41.5
1205	4.86		5	11.8	3.59	7.01	-92	2.77	10.4
1210	4.89		6.5	12.0	3.56	7.05	-94	1.88	3.1
1215	4.88		8	12.0	3.52	7.04	-96	1.80	4.8
1220	4.88	↓	9.5	12.1	3.51	7.04	-97	1.81	4.0
1225	Collect Samples								
FB # 05A-021546									
TB # 000 021 549									
EPA TB# 000 021 548									

APPEARANCE/COLOR CLEAR

ODOR NONE

SAMPLED BY (print) L DEKOSKIE

SAMPLED BY ---

SIGNATURE L Dekoskie

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 4/19/01 1225

MW-13S

WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 4-19-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: GRUNDFOS PUMP
HORIBA - U-22

SAMPLING METHOD: EPA LOW FLOW

WELL I.D. MW-13 D

SAMPLE I.D. 05A-021 ~~548~~ 542
EPA SPLIT: ~~05A~~ 05A-021 545

MEAS. REF. POINT (Ft AGS OR BGS) DTW: 4.42

WELL DEPTH (Ft TOC) 51.30

INNER CASING/OPEN HOLE DIAM (In) 4

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ML/MIN Discharge ~~(GPM)~~	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0940									
0940	4.61	300	2 L	13.6	.891	6.79	-118	2.76	28
0945	4.81	↓	3.5	13.9	.913	7.26	-162	2.01	16.1
0950	4.96		5	14.5	.913	7.25	-163	1.61	10.7
0955	5.20		6.5	15.4	.960	7.32	-136	1.84	4.3
1000	5.21		8	15.5	.963	7.36	-139	1.81	9.5
1005	5.21		9.5	15.5	.965	7.36	-135	1.79	5.8
1010	COLLECT SAMPLE								

EB# 12A-021 547
TB# 000 021 549
EPA TB# 000 021 548

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR NONE

SAMPLED BY _____

SIGNATURE _____

DATE/TIME 4/19/01 1010

MW-13D

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-27-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

peristaltic pump

Horiba

teflon bailer

SAMPLING METHOD: low flow

WELL I.D. MW-145

SAMPLE I.D. 02a-021072

MEAS. REF. POINT (Ft AGS OR BGS) 3.92

WELL DEPTH (Ft TOC) 21

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 19

Sample Time (From/To)	Water Level (Ft TOC)	mL/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1340	3.92								
1345	4.00	300	1.5	10.4	1.81	6.27	258	4.01	30.6
1355	4.02	300	4.5	11.1	3.49	6.28	256	3.78	19.1
1400	4.02	300	6	11.3	3.45	6.53	225	3.37	21.3
1405	4.02	300	7.5	11.4	3.44	6.68	193	3.21	25.0
1410	4.02	300	9	11.4	3.44	6.74	173	3.12	20.1
1415	3.98	300	10.5	11.6	3.45	6.84	143	2.95	26.5
1420	3.98	300	12	11.6	3.45	6.90	136	2.82	24.0
1425	3.99	300	13.5	11.6	3.45	6.93	131	2.84	26.0
1430	4.01	300	15	11.6	3.45	6.95	127	2.83	28.4
1435	4.01	300	16.5	11.6	3.46	6.97	122	2.83	26.3
1440	—	—	Sampling	begins					
TRIP # 000		021503							
RINSE # 094		021461							

APPEARANCE/COLOR _____

SAMPLED BY (print) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY (print) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/27/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: LOW FLOW.

WELL I.D. MW-14 D

SAMPLE I.D. 02A-021073 02A-021506

MEAS. REF. POINT (Ft AGS OR BGS) 4.31 DTW

WELL DEPTH (Ft TOC) 53 ft.

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (~~GPM~~)	Volume Purged (~~GAL~~) L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1250	4.31	—	—	—	—	—	—	—	—	
1300	4.41	300	2L	11.9	.599	8.32	-143	4.8	206	
1305	4.42	300	3.5L	13.0	.597	8.61	-200	1.5	153	*
1310		300	5.0L		.594		-218	1.2	217.0	
1320	4.40	200	6.5	14.5	.592	8.62	-222	1.0	159	*
1330	4.36	200	8.5	13.5	.621	8.52	-163	3.3	202	
1345	4.35	200	9.5	13.1	.642	8.48	-177	0.8	204	
1400	4.35	200	12.5	12.9	.674	8.41	-173	0.6	202	
1415	4.35	200	13.5	13.4	.740	7.92	-139	1.4	163	
1445	4.35	200	19.5	13.0	.750	7.88	-150	0.7	174	*
1500	4.36	200		15.2	.823	7.60	-132	1.7	133	
1515	4.36	200		14.4	.865	7.57	-145	1.7	116	
1530	4.37	200		14.0	.862	7.60	-152	.97	110	
TB #	000 021 503									
RB #	10A-021 504									

* EMPTY FLOW-THRU-CELL

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (print) _____ SAMPLED BY (print) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-9-01 WELL I.D. MW-15 S

WORK ORDER # ____ NORFAS # _____ SAMPLE I.D. N/A

FIELD INSTRUMENTS: _____ MEAS. REF. POINT (Ft AGS OR BGS) _____

_____ WELL DEPTH (Ft TOC) _____

_____ INNER CASING/OPEN HOLE DIAM (In) _____

_____ DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: _____ WELL VOLUME (Gal) _____

_____ PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1130	1.96	500	∅	4.5	.179	6.20		~~8~~	272
1135	2.01	500	2.5	9.1	.295			1.40	342
1140	1.98	500	5.0	8.7	.284	5.88		0.75	311
1145	1.98	500		8.4	.283	5.91		0.81	86
1150	1.96	500		8.3	.284	5.88		0.74	87
1155									
1335	1.79	500		7.9	~~.293~~ .294	5.99			53
1340	1.71	500		7.8	.297	5.97			54
1345	1.	500		7.7	.295	5.81			14

APPEARANCE/COLOR ORANGE (Fe bacteria?) ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY ~~~ _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-19-01

WORK ORDER # _____ NORFAS # _____

FIELD INSTRUMENTS: YSI METER, PERISTALTIC PUMP, TEFLON BAILER, HORIBA U-22

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-15S

SAMPLE I.D. 020-021 074 MS/MSD
020-021 485 SPLIT

MEAS. REF. POINT (Ft AGS OR BGS) 2.76 DTW

WELL DEPTH (Ft TOC) 18.74

INNER CASING/OPEN HOLE DIAM (in) 2" PVC

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~15 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)/L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0900	2.76								
0935	2.85	200	1 L	14.45	.2480	>14	<-1000	1.06	27.9
0945	2.97	200	2 L	13.66	.2577	.	<-1000	0.50	39.5 *
switched to Horiba YSI IS OUT OF CAL									
1005	3.16	400	4 L	7.1	.368	5.50	45	3.4	45.9
1010	2.25	400	6 L	6.9	.370	5.62	41	1.4	30.8
1015	2.24	400	8 L	7.2	.340	5.67	44	2.0	11.5
1020	2.23	400	10 L	7.5	.351	5.67	44	0.8	4.1
1025	2.23	400	12 L	7.6	.355	5.67	45	0.6	1.3
1030	2.23	400	14 L	7.8	.356	5.67	47	0.5	Ø
1035	2.24	400	16 L	7.8	.356	5.66	47	0.5	Ø
1040	collect samples								
TRIP BLANK		000-021 486							
SPLIT TRIP BLANK		000-021 487							
RINSE BLANK		09A-							

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

MW-15S

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 2-19-01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: Horiba U-22

Grundfos 2"

SAMPLING METHOD: low flow

WELL I.D. MW-15 D

SAMPLE I.D. 02D-021 075

DTW MEAS. ~~REF. POINT~~ (Ft AGS OR BGS) 0.91

WELL DEPTH (Ft TOC) 61.10

INNER CASING/OPEN HOLE DIAM (In) 4

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) ____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1310	0.91	∅	∅	—	—	—	—	—	—
1315	1.25	500	2L	11.9	0.97	6.76	-106	2.4	76.3
1320	1.17	500	4.5L	12.4	1.08	7.07	-105	1.2	69.0
1325	1.17	500	7 L	13.0	1.13	7.14	-86	0.8	84.8
1330	1.17	500	9.5L	13.2	1.13	7.17	-85	0.7	89.1
1340	1.17	500	12	13.5	1.08	7.16	-88	2.1	76.0 *
1345	1.17	500	~~14.5~~ 16.5	13.3	1.11	7.18	-92	2.0	70.3
1350	1.17	500	16.5	13.3	1.11	7.18	-94	1.9	70.4
1355	1.17	500	19.0	13.3	1.12	7.18	-95	1.5	70.9
1400	1.17	500	21.5	13.3	1.12	7.16	-97	0.6	43.9
1405	1.17	500	24	13.3	1.12	7.15	-96	0.6	35.4
1410	1.17	500	26.5	13.3	1.12	7.15	-95	0.6	35.1
1415	1.17	500	29	13.3	1.12	7.15	-95	0.6	29.1
1420	EOT: Collect Sample								
RINSE BLANK:		02D-	021488						
TRIP BLANK		000	021486						

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

0.7 ppm VOC 34 ppm CO 18.5 O_2 1% LEL

ODOR N/A

SAMPLED BY (PRINT) ____

SIGNATURE ____

DATE/TIME ____

* EMPTY FLOW THRU CELL

MW-15D

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/19/01

WORK ORDER # ____ NORFAS # 2/19/01

FIELD INSTRUMENTS: HORIBA U-22, PERISTALTIC PUMP, TEFLON BAILER

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-16BS

SAMPLE I.D. 01a-021076

MEAS. REF. POINT (Ft AGS OR BGS) 3.61 DTW

WELL DEPTH (Ft TOC) 14

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1556	3.61	–	Ø	–	–	–	–	–	–
1600	3.65	400	2 L	10.2	.762	6.81	75		Ø
1605	3.65	400	4 L	10.2	.762	6.73	75	2.6	Ø
1610	3.65	400	6 L	10.4	.762	6.52	76	2.4	Ø
1615	3.65	400	8 L	10.5	.763	6.40	77	1.7	Ø
1620	3.64	400	10 L	10.6	.764	6.38	76	1.6	Ø
1625	3.64	400	12 L	10.6	.764	6.37	76	1.5	Ø
1630	collect Samples								
TRIP BLANK: 000-021 486									
RINSE BLANK: 09A-021 461									

APPEARANCE/COLOR Fe bacteria @ Startup, FLUSH MOUNT IS LOOSE ODOR NONE

SAMPLED BY (PRINT) J DEROSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/20/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP.

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-16D

SAMPLE I.D. NOT SAMPLED

MEAS. REF. POINT (Ft AGS OR BGS) 2.94 DTW

WELL DEPTH (Ft TOC) 73.0 DTW.

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 60

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (~~GPM~~ mL/min)	Volume Purged (GAL) L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1130	2.94								
1135	3.47	300	1.5	12.9	.748	7.88	-120	2.0	111.0
1140	3.61	300	3	12.9	.806	7.75	-101	1.1	110.0
1150	3.84	300	4.5	13.0	.821	7.70	-100	1.2	146.1
1200	4.00	500	6	13.2	.830	7.69	-99	1.5	230
1205	4.14	500	8.5	13.8	.831	7.69	-114	2.2	263
1224	4.14	500	18.5	13.9	.829	7.69	-115	0.8	202
1240	4.65	300	23	14.5	.823	7.69	-124	0.9	198
1310	4.59	300	31	14.6	.830	7.67	-129	0.8	152
1340	4.72	300	46	14.1	.750	7.75	-185	1.7	115.0
1355	4.80	300	45	14.6	.726	7.93	-240	1.6	81.6
1400	4.25	200	46	14.6	.723	7.93	-242	0.8	82.4
1425	3.93	200	51	14.2	0.773	7.88	-229	0.4	105
1440	3.91	200	54	14.7	0.785	7.76	-207	0.5	129
1455	4.52	500	61	15.7	0.792	7.64	-182	1.2	119
1500	4.53	500	64	15.6	0.801	7.64	-181	0.8	126
1505	4.54	500	67	15.7	0.802	7.64	-181	0.7	136
1510	4.54	500	69.5	15.7	0.804	7.63	-181	0.7	139
1515	4.54	500	72	15.5	0.807	7.63	-179	0.7	142
1525	4.51	300	75	15.2	0.809	7.61	-175	0.7	148
1530	ABORT	PURGE							

APPEARANCE/COLOR GREY

SAMPLED BY (PRINT) NOT SAMPLED

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/21/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-16 D

SAMPLE I.D. 01A-021499

MEAS. REF. POINT (Ft AGS OR BGS) 2.79 DTW

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1305	2.79	—	—	—	—	—	—	—	—
1310	3.41	200	2L	11.6	.699	8.16	-193	3.2	112
1315	3.65	400	4L	11.9	.719	7.97	-201	1.7	94.3
1320	3.71	300	5.5L	12.4	.728	7.89	-204	1.3	67.1
1325	COLLECT SAMPLE.								

APPEARANCE/COLOR YELLOW/GRAY

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

TRIP # 000-021498

RINSE # 22B-021495

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/9/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

_____

_____

_____

SAMPLING METHOD: _____

_____

WELL I.D. MW-17 S

SAMPLE I.D. N/A

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 10

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1045		400	2L	11.4	.619	7.30		2.09	214
1050		500	4.5L	11.4	.527	7.24		2.14	139
1055		500	7L	11.5	.525	7.19		1.96	46
1100		500	9.5L	11.6	.525	7.15		2.21	2

APPEARANCE/COLOR _____

SAMPLED BY (Print) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/9/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

_____

_____

_____

SAMPLING METHOD: _____

_____

WELL I.D. MW-17 S

SAMPLE I.D. N/A

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) 10

INNER CASING/OPEN HOLE DIAM (In.) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1045		400	2L	11.4	.619	7.30		2.09	214
1050		500	4.5L	11.4	.527	7.24		2.14	139
1055		500	7L	11.5	.525	7.19		1.96	46
1100		500	9.5L	11.6	.525	7.15		2.21	2

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-21-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Horiba U-22

PERISTALTIC PUMP

TEFLON BAILER

SAMPLING METHOD: Low Flow

WELL I.D. MW-17S

SAMPLE I.D. 226-021079

MEAS. REF. POINT (Ft AGS OR BGS) 5.25 DT

WELL DEPTH (Ft TOC) 9.90

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 7.9 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1455	5.25	-	-	-	-	-	-	-	-
1500	5.39	300	2L	9.0	.859	7.44	122	5.2	>1000
1505	5.43	300	3.5L	10.5	.692	7.04	81	4.3	53.9
1510	5.45	300	5.0L	10.5	.672	6.90	45	3.4	22.1
1515	5.45	300	6.5L	10.6	.671	6.88	40	3.5	12.1
1520	5.46	300	8L	10.7	.673	6.87	39	3.6	10.3
1525	Collect Sample								

APPEARANCE/COLOR Clear

ODOR None

SAMPLED BY (PRINT) J DEKOSKIE

SAMPLED BY (PRINT) _____

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME _____

TRIP # 000-021498

RINSE # 09A-021461

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/21/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" SUB PUMP.

SAMPLING METHOD: _____

WELL I.D. MW-17D

SAMPLE I.D. NOT SAMPLED.

MEAS. REF. POINT (Ft AGS OR BGS) 5.05 DTW

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1540	5.05	—	—	—	—	—	—	—	—
1545	5.51	400	2 L	12.6	.581	7.35	-54	4.1	302.
1550	5.49	400	4 L	15.6	.564	7.31	-19	3.4	240
1555	5.42	300	5.5	15.0	.575	7.31	-17	2.8	232
1600	5.37	300	7 L	14.8	.585	7.31	-13	2.9	204
1605	5.35	300	8.5L	14.9	.570	7.29	-1	2.9	157
1610	5.35	300	10 L	15.1	.583	7.30	-4	5.2	135
1615	5.34	300	11.5	14.9	.586	7.28	-4	5.1	120
1630	5.35	300	13	15.0	.587	7.27	-3	4.9	106
1645	5.35	300	14.5	15.0	.587	7.27	-1	4.9	100
ABORT PURGE 1650									

APPEARANCE/COLOR ORANGE

SAMPLED BY mom NOT SAMPLED

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR NONE

SAMPLED BY mom _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/22/01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

PERISTALTIC PUMP

SAMPLING METHOD: low flow

WELL I.D. MW-17D

SAMPLE I.D. 22B-021 078

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 46.0

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ML/min Discharge ~~(GPM)~~	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1135									
1140	5.32	400	2 L	11.6	.503	6.90	-62	5.05	151.0
1145	5.45	300	3.5	12.8	.519	7.17	-70	2.36	125.0
1150	5.40	300	5.0	12.9	.517	7.28	-78	1.47	106.0
1155	5.40	300	6.5	12.9	.517	7.30	-78	1.24	103.0
1205	5.38	300	9.5	13.0	1.27	7.34	-71	1.27	78.0
1220	5.37	300	14.0	13.1	2.44	7.38	-70	2.27	74.7
1225	5.38	300	15.5	13.2	2.44	7.37	-71	1.40	66.1
1235	5.37	300	18.5	13.1	2.45	7.38	-70	1.22	63.5
1240	5.37	300	20	13.6	2.45	7.39	-63	1.35	66.4
1250	5.35	200	23	13.8	2.45	7.39	-55	1.32	59.2
1255	5.35	200	24	13.6	2.45	7.39	-54	1.29	48.0
1300	5.35	200	25	13.4	2.46	7.39	-53	1.29	43.1
1305	5.35	200	26	13.3	2.45	7.39	-51	1.31	37.3
1310	Collect Sample								

APPEARANCE/COLOR SLIGHTLY CLOUDY

SAMPLED BY (PRINT) STEVE SHAW

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

TRIP #

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/15/01

WORK ORDER # ___ NORFAS # ___

FIELD INSTRUMENTS: ___

Hydrolab Surveyor 4a, S# 52065

Grundfos, S# 00300273

SAMPLING METHOD: USEPA Low Flow Method

WELL I.D. MW-18S

SAMPLE I.D. 226-021080

MEAS. REF. POINT (Ft AGS OR BGS) Top of inner casi

WELL DEPTH (Ft TOC) 20.5

INNER CASING/OPEN HOLE DIAM (In) 2" PVC

DEPTH TO TOP OF SCREEN (Ft TOC) 3.75

WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 15

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO * ~~(mg/L)~~ (%)	Turbidity (NTU)
1135	6.05	190		10.58	0.6243	6.77	288	28.2	59.8
1155	6.54	190		12.86	0.6545	6.78	301	32.8	13.4
1205	6.54	190		13.04	0.6315	6.78	315	37.8	4.9
1210	6.54	190		13.02	0.6244	6.78	323	37.4	BV 9.0
1215	6.54	190		13.03	0.6215	6.78	331	37.9	4.1
1220	6.54	190		13.05	0.6211	6.79	335	38.5	3.9
* Note that the DO is in % and not mg/L.									
Corresponding Blanks: Trip = 000-021481						Rinsate = 23B-021484			
Limits				± 3%	± 3%	± 0.1 pH	± 10 mV	± 10%	± 10% , <50

APPEARANCE/COLOR light brown tint

SAMPLED BY (PRINT) S. Ng

SIGNATURE ___

WELL CAP REPLACED AND LOCKED BY M. Baroni

ODOR None noticed

SAMPLED BY (PRINT) S. Ng

SIGNATURE ___

DATE/TIME 2/15/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/19/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD: low flow sampling

WELL I.D. MW-18D

SAMPLE I.D. 225 021081

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1235	1.6	—	—	—	—	—	—	—	—
1335	1.9	150		11.72	.5703	8.05	125	18.1	98.4
1345	1.9	150		11.45	.6286	7.76	141	18.5	204.6
1355	1.8	150		11.07	.6148	7.67	147	22.6	232.5
1405	1.95	150		11.22	0.5759	7.68	144	19.8	200
1420	1.98	150		11.24	0.5840	7.66	144	20.1	159.0
1430	2.00	150		11.32	0.5727	7.65	148	19.9	153.3
1440	2.00	150		11.30	0.6147	7.64	150	21.2	101.1
1450	2.00	150		11.32	0.6151	7.64	149	21.0	86.1
1455	2.00	150		11.43	0.6120	7.64	149	21.1	65.9
1515	2.00	150		11.47	0.6039	7.64	148	20.4	66.6
1525	2.00	150		11.49	0.6874	7.64	143	20.9	59.1
1535	2.00	150		11.48	0.6896	7.63	147	20.7	46.6
1540	2.00	150		11.50	0.6877	7.64	145	20.1	45.2
1545	2.00	150		11.49	0.6821	7.64	149	20.6	44.8
Corresponding Blanks:		Trip =	000-021486			Rinsate = 022-021488			
Limits				±3%	±3%	± 0.1 pH	± 10 mV	±10%	±10% <50

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) M. Barone, J. Lincoln

SIGNATURE M. Barone

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

38 ft

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/15/2001

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

Hydrolab Surveyor 4a, S# 52065

Grundfos, S# 00300273

SAMPLING METHOD: USEPA Low Flow Method

WELL I.D. MW-18D

SAMPLE I.D. 22b-021081

MEAS. REF. POINT (Ft AGS OR BGS) Top of Inner Cas

WELL DEPTH (Ft TOC) 57

INNER CASING/OPEN HOLE DIAM (In) 4" cast iro

DEPTH TO TOP OF SCREEN (Ft TOC) 32

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 50

Sample Time (From/To)	Water Level (Ft TOC)	Discharge mL/GPM	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (%)* ~~(mg/L)~~	Turbidity (NTU)
0835	1.25	180		13.45	0.5681	7.53	133	19.9	4.3
0850	2.38	180		12.53	0.6705	7.40	255	36.7	4.7
0905	2.38	180		11.66	0.6779	7.40	248	35.4	5.5
0915	2.38	180		✓ 11.56	0.6837	7.41	242	37.6	6.7
0925	2.38	180		✓ 11.42	✓ 0.6893	✓ 7.40	X 231	✓ 37.1	X 9.3
0930	2.40	180		✓ 11.39	✓ 0.6882	✓ 7.40	✓ 230	✓ 35.0	✓ 8.4
0935	2.40	180		✓ 11.45	✓ 0.6908	✓ 7.40	✓ 229	✓ 35.4	✓ 8.0

*Note that DO is in % and not mg/L.

Corresponding Blanks: Trip = 000-021481 Rinsate = 23B-021484

Split Trip = 000-021482

Limits				±3%	±3%	±0.1 pH	±10mV	±10%	±10% ,<50

APPEARANCE/COLOR brownish

SAMPLED BY (print) S. Ng

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY M. Barone

ODOR none noticed

SAMPLED BY S. Ng

SIGNATURE _____

DATE/TIME 2/15/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 7/23/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: peristaltic pump

SAMPLING METHOD: EPA Low flow

WELL I.D. MW 19S

SAMPLE I.D. no sample collected

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) 12.6

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 3'

WELL VOLUME (Gal) 0.84 gal

PUMP INTAKE (Ft TOC) 10'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) N/A	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1410	10.95	300	—	24.5	1.30	6.8	−23	5.60	990
1414	pumped well dry stopped pumping to let well recharge								
1421	11.60	resumed pumping of well							
1422	pumped well dry stopped pumping to let well recharge								
1438	11.60	300≈		28.9	1.24	6.7	−27	4.72	840
1439	pumped well dry. Stopped pumping.								

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR None

SAMPLED BY [redacted] _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-28-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS:

GRUNDFOS 2" PUMP

HORIBA U-22

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-19 D

SAMPLE I.D. 23B-021-083 23B-021-512

MEAS. REF. POINT (Ft AGS OR BGS) 8.43 DT

WELL DEPTH (Ft TOC) 42.0

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1450	8.43								
1505	8.62	300	2L	11.8	.622	6.49	-41	3.6	349
1510	8.85	300	3.5	12.3	.624	6.70	-68	1.2	349
1520	8.91	300	6.5	14.5	.674	6.74	-80	0.8	463.
1530	9.31	300	9.5	14.5	.693	6.73	-77	0.7	432
1540	9.45	300	12.5	14.4	.729	6.67	-68	0.6	383
1550	9.51	300	15.5	14.4	.787	6.62	-59	0.5	324
1600	9.68	300	18.5	14.9	.892	6.56	-38	0.6	347
1610	9.68	300	21.5	14.7	.878	6.54	-43	0.7	208 *
1620	9.69	300	24.5	15.5	.896	6.54	-36	0.8	159
1630	9.68	300	27.5	15.2	.911	6.50	-32	0.9	136
1640	9.68	300	30.5	15.6	.915	6.48	-30	0.9	91.6
1650	9.65	300	33.5	15.5	.921	6.48	-26	0.8	85.5
1655	9.67	300	36.5	15.6	.922	6.50	-29	0.8	76.1
1700	COLLECT SAMPLE + FIELD FILTERED TAL MTLS RAD GALLON								
TRIP #	000-	021-	508						
RINSE #	23B-	021-	509						

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

27 LFL 1.5 [illegible] 16 4 [illegible] 25 [illegible]

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/9/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD: _____

WELL I.D. MW 9 DD

SAMPLE I.D. NO SAMPLING

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1255	8.35								
1300	8.45			13.2	.698	9.27		0.42	12
1305	8.48			13.3	.706	9.30		0.11	14
1308	STOP	PURGE							

APPEARANCE/COLOR GREY

SAMPLED BY (Print) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/9/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

_____

_____

_____

SAMPLING METHOD: _____

_____

WELL I.D. MW 9 DD

SAMPLE I.D. NO SAMPLING

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1255	8.35								
1300	8.45			13.2	.698	9.27		0.42	12
1305	8.48			13.3	.706	9.30		0.11	14
1308	STOP	PURGE							

APPEARANCE/COLOR GREY

SAMPLED BY (Print) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3-1-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: EPA LOW FLOW

WELL I.D. MW-19 DD

SAMPLE I.D. 23B 021 510

MEAS. REF. POINT (Ft AGS OR BGS) 8.25

WELL DEPTH (Ft TOC) 76 ft

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 51' TO F

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 55 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0905	8.25		1L						
0910	GENERATOR		STALL						
0935	8.35								
0940	8.38	200	2L	8.6	.865	10.40	-203	4.6	~~21~~ 12.5
0945	8.38	200	3L	9.4	.904	10.98	-218	3.7	5.5
0950	POWER CORD		DETACHED, OR SOME			FAILURE			
~~0955~~ 1000	8.36	200	4 5L	10.0	.945	11.26	-244	2.6	9.3
1005	8.34	200	6L	10.1	.959	11.29	-258	2.1	8.9
1010	8.35	200	7L	10.1	.971	11.35	-265	1.7	10.5
1015	8.35	200	8L	10.2	.969	11.37	-265	1.5	12.2
1020	8.36	200	9L	10.6	.974	11.38	-273	1.5	16.2
1025	COLLECT SAMPLE								
TB	000 021 513								
RB	23B 021 511								

APPEARANCE/COLOR CLEAR

SAMPLED BY (PRINT) J. DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3-15-01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PERISTALTIC PUMP
HORIBA U-22, TEFLON BAILER

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-20S

SAMPLE I.D. 12A-021 085 * 12A-021 523 CORP SPLIT *

MEAS. REF. POINT (Ft AGS OR BGS) 7.66 DTW

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ML	Volume Purged (Gal) L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0820	7.66	-	-	-	-	-	-	-	-
0825	-	-	-	-	-	-	-	-	-
0835	8.27	300 ML	4.50	7.2	1.96	6.61	-36	6.13	74
0845	8.32	300	7.50	7.5	2.17	6.80	-82	3.83	228
0850	8.32	300	9.0 9.0	7.9	2.31	6.87	-102	2.95	322
0900	8.32	300	12.0 12	8.0	2.42	6.92	-112	2.53	391
* 0910	8.32	300	15.0 15	8.0	2.53	6.96	-119	2.27	382
0925	8.32	300	19.5	8.1	2.65	7.01	-122	2.24	295
0935	8.32	300	22.5	8.1	2.66	7.01	-125	1.95	311
0945	8.32	300	25.5	8.1	2.70	7.02	-124	2.26	354
1000	8.32	300	30.0	8.5	2.73	7.04	-115	2.80	365
1005	8.32	300	31.5	8.6	2.75	7.04	-111	3.09	368
1010	8.32	300	33.0	8.7	2.77	7.04	-109	3.20	314
1015	8.32	300	34.5	8.9	2.79	7.05	-107	3.21	377
1020	8.32	300	36.0	9.1	2.79	7.05	-106	3.03	397
1025	collect Sample + CORP SPLIT ~~+ DUP~~								
CORP TB: ~~12A~~ 000 021 ~~523~~ 536									
RB: 09A-021 461									
TB: 000 021 530									
* FIELD FILTERED MW-20S: 12A-021 534									
* FIELD FILTERED CORP SPLIT: 12A-021 535									
* EMPTY FLOW-THRU CELL									

APPEARANCE/COLOR YELLOW

SAMPLED BY (PRINT) J. DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3-14-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: GRUNDFOS 2" PUMP
HORIBA U-22, U-10
0.6 PID, 4% LEL, 6 CO,
18.4% O_2

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-20 D

SAMPLE I.D. 12A-021 0860+MS MSD
12A-021 524 CORP SPLIT.

MEAS. REF. POINT (Ft AGS OR BGS) 8.08 DTW

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 30'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 32 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1310	8.08								
1320		300	3	11.3	5.71	7.31	-182	0.35	165
1335	8.39	300	7.5	11.6	5.79	7.34	-178	0.28	12
1340	8.39	300	9	11.7	5.80	7.34	-182	0.19	9
1345	8.39	300	10.5	11.8	5.81	7.34	-186	0.16	6
1350	8.39	300	12	11.8	5.82	7.34	-189	0.13	1
1355	8.39	300	13.5	11.8	5.82	7.34	-188	0.13	1
1400	8.39	300	15	11.9	5.82	7.34	-188	0.14	1
1400	Collect Sample								
CORP TRIP BLANK: 000 021 527									
TB	000 021 525								
RB	12A 021 526								

APPEARANCE/COLOR YELLOW GREEN

SAMPLED BY (PRINT) J. DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR SLIGHT HYDROCARBON

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 7-11-01

WELL I.D. MW-21S

WORK ORDER # _____ NORFAS # _____

SAMPLE I.D. 01A-021591

FIELD INSTRUMENTS: Horiba U-22

MEAS. REF. POINT (Ft AGS OR BGS) 4.80

PERISTALTIC PUMP, BAILER.

WELL DEPTH (Ft TOC) 14.00

INNER CASING/OPEN HOLE DIAM (in) 2

DEPTH TO TOP OF SCREEN (Ft TOC) 4

SAMPLING METHOD: Low Flow

WELL VOLUME (Gal) _____

1410 START

PUMP INTAKE (Ft TOC) 12.00

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1410		300							
1420	5.21	300	2L	16.7	2.04	7.30	-146	2.21	>1000
1430	5.29	300	3.5	16.7	1.82	7.46	-139	1.65	178
1435	5.29	300	5	16.7	1.61	7.51	-131	1.63	54.7
1440	5.30	300	6.5	16.7	1.65	7.42	-130	1.59	47.2
1445	5.33	300	8	16.7	1.65	7.43	-130	1.59	43.1
1450	Collect Sample								

FB 10A 024530

TB 12A 024591

* EMPTY FLOW THRU CELL

APPEARANCE/COLOR Yellow Tint

ODOR _____

SAMPLED BY (PRINT) _____

SAMPLED BY _____

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 7/24/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA

PERISTALTIC PUMP, BAKER..

100 START

SAMPLING METHOD: LOW FLOW

WELL I.D. MW-22S

SAMPLE I.D. _____

MEAS. REF. POINT (Ft AGS OR BGS) 4.31 DTC

WELL DEPTH (Ft TOC) 4.50

INNER CASING/OPEN HOLE DIAM (in) 2" P

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 7.50

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1100	4.31								
1110	4.63	300	2L	20.7	1.39	7.27	115	5.64	319.0
1115	4.64	300	3.5	20.8	1.37	7.19	62	4.23	200
1120	4.65	300	5	20.9	1.37	7.07	48	4.11	160
1125	4.65	300	6.5	21.0	1.37	7.08	17	4.05	108
1130	4.65	300	8	21.1	1.37	7.08	15	4.04	10
1135	4.65	300	9.5	21.1	1.37	7.08	16	4.04	4
1140	SAMPLE								
TB #	17A-021605								
FB #									
~~DRUM CELL~~									

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) DeKOSKY

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR N

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME 7/24/01 1140

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 7-9-01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: _____

1320 START

WELL I.D. MW-23D

SAMPLE I.D. 126-021584

MEAS. REF. POINT (Ft AGS OR BGS) 11.19 DTW

WELL DEPTH (Ft TOC) 71.40

INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 60 Ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1320	11.								
1330	12.69	300	2L	19.7	2.29	6.83	103	2.10	250
1335	12.83	300	3.5L	21.0	2.27	6.79	80	1.37	280
* 1345	13.99	300	5L	20.7	2.27	6.80	60	1.10	150
1355	14.95	300	6.5L	20.5	2.14	6.81	53	1.27	60
1400	14.98	300	8L	20.6	2.17	6.83	55	1.24	45
1405	15.00	300	9.5L	20.7	2.17	6.86	55	1.21	46
1410	Collect Samples								45

TB: 126-021587

FB: 126 021586

* DRAIN FLOW-THRU-CELL

APPEARANCE/COLOR Clear

SAMPLED BY (print) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR Slight Chlorinated

SAMPLED BY (print) ---

SIGNATURE _____

DATE/TIME 1410 / 7/9/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 7-9-01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: 2" Grundfos Pump
Horiba U-22 WQM.

SAMPLING METHOD: how Flow

WELL I.D. MW 23 DD

SAMPLE I.D. 12b-021585

MEAS. REF. POINT (Ft AGS OR BGS) ____

WELL DEPTH (Ft TOC) 105'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) 85 ft

Sample Time (From/To)	Water Level (Ft TOC)	Mh Discharge ~~(GPM)~~	Volume Purged ~~(GAL)~~ h.	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
11:24	11.17	300mL							
1130	12.85	300mL	1.5L	21.5	2.64	9.94	100	6.38	290.0
1135	12.90	300mL	3.0L	20.8	3.03	8.79	114	4.20	121
1140	12.95	300mL	4.5L	21.3	3.36	7.79	134	3.19	48.3
1145	12.90	300	6.0	21.3	3.48	7.50	127	2.41	41.2
1150	12.88	300	7.5	21.3	3.56	7.36	121	1.88	40.4
1155	12.87	300	9.0L	21.3	3.78	7.27	111	0.97	36.3
1200	12.86	300	10.5L	21.6	3.93	7.20	99	0.89	33.6
1205	12.86	300	12	21.7	3.94	7.20	98	0.87	31.4
1210	12.86	300	13.5	21.8	3.94	7.20	96	0.86	29.7
1215	Collect Sample								

DUPLICATE 12b-021588
Sample MS/MSD 12b-021585
TB 12b-021587
FB 12b-021586

CLEARANCE/COLOR YELLOW TINT

SAMPLED BY (PRINT) DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR Slight Chlorinated

SAMPLED BY ---

SIGNATURE ____

DATE/TIME 7-9-01 / 1215

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 9-6-01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP.

SAMPLING METHOD: LOW FLOW

1030 TO 1200 START

WELL I.D. MW-24D

SAMPLE I.D. 126-024623

MEAS. REF. POINT (Ft AGS OR MSL) 14.78 TOR

WELL DEPTH (Ft TOC) 70.35 TOR

INNER CASING/OPEN HOLE DIAM (in.) ____

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) ____

	Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
	1020	13.44	X	PUMP	NOT WORKING.					
	1030	-	400	PUMP	FIX PUMP.					
	1035	16.40	400	3L	17.8	2.68	7.03	122	3.59	321
	1040	16.36	400	5L	18.2	2.96	6.59	56	2.30	322
*	1045	16.37	400	7L	19.3	3.37	6.61	49	3.11	916
	1100	15.96	300	8.5	19.5	3.39	6.61	51	2.54	923
	1115	15.96	300	10	19.5	3.42	6.64	50	2.69	888
*	1120	15.96	300	11.5	19.1	3.08	6.67	41	2.71	816
*	1140	15.96	300	13	18.9	3.44	6.58	-2	2.73	523
	1155	15.96	300	14.5	19.1	3.52	6.74	-11	2.77	393
*	1200	15.96	300	16	20.4	3.54	6.72	-16	2.84	343
	1210	15.96	300	17.5	20.2	3.55	6.77	-12	2.96	536
**	1215	15.96	300	19	20.3	3.55	6.77	-13	2.91	101
	1220	15.96	300	20.5	20.3	3.55	6.77	-12	2.90	40
	1230	Collect Sample								

FB # 126024623

TB # 126021624

** clear line of silt.

* EMPTY FLOW-THRU CELL

APPEARANCE/COLOR BUBBLES/GRAY

SAMPLED BY (Print) T DEKOSKIE

SIGNATURE ____

WELL CAP REPLACED AND LOCKED BY ____

ODOR STRONG CHLORINATED.

SAMPLED BY (Print) ____

SIGNATURE ____

DATE/TIME 9-6-01 / 1230

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 9-6-01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: Horiba U-22

SAMPLING METHOD: Low Flow

1330 START

WELL I.D. MW-24 DD

SAMPLE I.D. 126-021 622

MEAS. REF. POINT (ft AGS or BGS) 13.62 TOC

WELL DEPTH (ft TOC) 105

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (ft TOC) ____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1330	13.62	300	—	—	—	—	—	—	—
1340	13.81	300	2L	20.2	3.00	7.35		4.07	64
1345	14.15	300	3.5	21.0	3.61	7.36	-186	1.11	62
1350	14.17	300	5	21.3	3.62	7.37	-199	0.78	53
1355	14.17	300	7.5	21.4	3.62	7.41	-200	0.77	46
1400	14.17	300	9.0	21.4	3.62	7.43	-206	0.71	46
1410	Samples								
TB#	126-021 62A								
FB#	126-021 623								

APPEARANCE/COLOR Clear / Bubbles

SAMPLED BY (print) DEKOSKIE

SIGNATURE ____

WELL CAP REPLACED AND LOCKED BY ____

ODOR STRONG CHLORINATED.

SAMPLED BY ____

SIGNATURE ____

DATE/TIME 9/6/01 1410

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 7-12-01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: Horiba U-22

PERISTALTIC PUMP, BAILER.

SAMPLING METHOD: Low flow

1020 Start

WELL I.D. MISS 3A

SAMPLE I.D. 126-021 590

MEAS. REF. POINT (Ft AGS OR BGS) 10.04

WELL DEPTH (Ft TOC) 11.95

INNER CASING/OPEN HOLE DIAM (in) 2

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) 10.5

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1020									
X 1030	10.14*	300	2L	17.6	.560	6.47	-53	2.11	47.3
1040	10.12	300	3.5L	16.1	.527	6.21	-64	2.03	74.6
1045	10.10	300	5.0L	16.9	.535	6.29	-75	1.98	55.1
1050	10.11	300	6.5L	17.2	.537	6.30	-76	1.94	43.9
1055	10.11	300	8L	17.3	.536	6.28	-75	1.93	41.2
1100	10.11	300	9.5	17.3	.536	6.28	-75	1.91	39.6
1105	Begin	Sampling							

FB: 10A-024 530

TB: 126-021 593

X EMPTY FLOW THRU CELL

* CAP TIGHT → WATER LEVEL RISING AFTER WELL WAS OPENED

APPEARANCE/COLOR Yellow

SAMPLED BY (print) DeKoskie

SIGNATURE ____

WELL CAP REPLACED AND LOCKED BY ____

ODOR None

SAMPLED BY ____

SIGNATURE ____

DATE/TIME ____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 7-12-01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: horiba U-22

2" PUMP

SAMPLING METHOD: Low Flow

1010 Start

WELL I.D. MISS 3B

SAMPLE I.D. 126 021 592

MEAS. REF. POINT (Ft AGS OR BGS) 10.20 DT

WELL DEPTH (Ft TOC) 38.22

INNER CASING/OPEN HOLE DIAM (In) 4

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 33 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1010		—	—	—	—	—	—	—	—
1020	10.45	300	2L	15.3	1.13	6.30	-49	1.02	64
* 1025	10.38	300	3.5	15.8	1.14	6.31	-50	0.91	55
1035	10.45	300	5	17.2	1.15	6.31	-35	0.91	29
1040	10.45	300	6.5	17.4	1.19	6.29	-35	0.88	32
1045	10.47	300	8.0 L	17.4	1.15	6.28	-33	0.84	30
1050	10.47	300	9.5L	17.4	1.17	6.27	-35	0.85	36
1055	10.47	300	11 L	17.4	1.17	6.26	-35	0.80	37
1100	Collect Sample								

TB: 126021 593

FB: 126021 589

DUP ID#: 126-021 594

* empty flow thru cell

APPEARANCE/COLOR GREY

SAMPLED BY (PRINT) DeKoskie

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR None

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3-12-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PERISTALTIC PUMP
TEFLON BAILER
HORIBA U-22
Ø PID

SAMPLING METHOD: LOW FLOW

WELL I.D. MISS 7A

SAMPLE I.D. 12b-021 022

MEAS. REF. POINT (Ft. AGS OR BGS) 7.48 DTW

WELL DEPTH (Ft TOC) 9.58 DTB

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 9 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1310	7.48								
1320	8.88	300	3L	7.8	.241	6.92	119	12.25	94.0
1326	9.44	300		7.2	.205	7.03	131	12.12	62.3
1330	9.54	180		8.0	.208	6.96	129	8.99	40.0
1333	WELL	DRY							
1355	7.81								
1410	COLLECT SAMPLE								
TB: 000 021 516									
RB: 09A 021 461									

APPEARANCE/COLOR CLEAR/LT GRAY

SAMPLED BY (PRINT) J. DEKOSKIE

SIGNATURE JDeKoskie

WELL CAP REPLACED AND LOCKED BY JDeKoskie

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/7/01

WORK ORDER # ___ NORFAS # ___

FIELD INSTRUMENTS: Horiba Model U22 Serial # 928011

SAMPLING METHOD: Grunfos pump via USEPA Low Flow Sampling method

WELL I.D. OBMW1

SAMPLE I.D. ~~OBa-020100~~

MEAS. REF. POINT (Ft AGS OR BGS) PVC casing

WELL DEPTH (Ft TOC) ~~9.10~~ 10'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) ~~7~~ 3'

WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) ~~75.2~~ 7'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1028	4.14	~~400~~		10.46	1.40	6.39	82	5.05	75.60
1034	4.40	11		11.51	1.37	6.55	62	1.74	3750
1039	4.40	11		12.51	1.36	6.57	62	1.25	35.80
1044	4.40			12.52	1.37	6.58	63	0.78	33.90
1049	4.40			12.17	1.37	6.58	71	0.48	34.5
1054		pump stopped pumping. Adjusted rate							
1100	4.25	450		10.65	1.37	6.60	84	0.70	37.80
1105	4.30	11		12.17	1.36	6.60	86	0.69	38.0
1110	pump stopped pumping. Adjusted rate								
1115	4.25	450		12.17	1.36	6.60	85	0.68	38.2
1120	4.30	11		12.16	1.35	6.60	84	0.69	38.0
	began collecting sampling @ 1120								
	Pump stopped during sample collection. Had to extract pump from well. Observed pump to be overheating (may be clogged with silt). Got pump to run again but had								
	to re-purge as displayed below:								
1150	4.30	500		15.70	1.39	6.58	88	4.25	87.80
1155	4.35	11		13.06	1.49	6.59	87	3.96	78.80
1200	4.38	11		14.81	1.42	6.50	84	3.06	51.90
1205	4.36	11		12.08	1.414	6.51	95	3.11	52.30
1210	4.35	11		11.00	1.42	6.60	92	2.91	58.30
1215	Pump stopped pumping so replaced with Grunfos Model								
	Serial # 00300 pump							6.59	44.2
1235								6.59	44.2
	Bob Dennett told us to cease operations @ this well								

APPEARANCE/COLOR turbid brown/clear

SAMPLED BY (PRINT) ___

SIGNATURE No sample taken as per

WELL CAP REPLACED AND LOCKED BY direction of Bob Dennett

ODOR ___

SAMPLED BY ___

SIGNATURE ___

DATE/TIME ___

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRT DATE 2/7/01

WELL I.D. GRMW1

WORK ORDER # ___ NORFAS # ___

SAMPLE I.D. 09A-021401

FIELD INSTRUMENTS: Horiba U22

MEAS. REF. POINT (Ft AGS OR BGS) PVC

WELL DEPTH (Ft TOC) 47.5

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) ___

SAMPLING METHOD: LOW FLOW

WELL VOLUME (Gal) ___

Rinsate Blank 09A-021428

PUMP INTAKE (Ft TOC) ~~37.5~~ 40

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1325	6.20	400		14.73	2.44	7.08	140	4.36	1.30
1330	7.00	400		14.02	2.45	7.05	140	3.88	1.50
	lowered pump site								
1335	6.70	100		13.31	2.48	7.05	131	3.55	1.60
1340	6.70	"		13.13	2.46	7.03	128	2.98	~~2.10~~ 1.80
1345	6.70	"		12.97	2.44	6.96	108	2.61	3.20
1350	6.70	"		12.96	2.42	6.93		2.58	
1355	6.68	"		13.00	2.41	6.96	-9	5.25	6.2 *
1400	6.51	"		12.92	2.42	6.98	-20	5.33	6.5
1405	6.50	"		13.01	2.40	6.96	-21	5.31	6.5

APPEARANCE/COLOR Clear ODOR none

SAMPLED BY (PRINT) George Market SAMPLED BY (PRINT) George Market

SIGNATURE George W. Market SIGNATURE George W. Market

WELL CAP REPLACED AND LOCKED BY George Market DATE/TIME 2/7/01

Note * Cloudy

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MF SS WBS 6WRI DATE 2/8/01 WELL I.D. 08MW1

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 099-021400

FIELD INSTRUMENTS: Horiba Model U22 Serial # 928011 MEAS. REF. POINT (Ft. AGS OR BGS) PVC casing

Equipment Blank 099-021450 WELL DEPTH (Ft TOC) 10'

Trip Blank 000-021454. INNER CASING/OPEN HOLE DIAM (In) 2"

SAMPLING METHOD: peristaltic pump w/ disposable teflon bailers USEPA Low Flow Method DEPTH TO TOP OF SCREEN (Ft TOC) 3'

WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 7'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0945	4.1'	300		4.74	1.42	6.22	153	7.79	-0.3
0950	4.1	"		6.24	1.36	6.42	144	5.47	-0.5
0955	4.1	"		6.23	1.38	6.44	135	5.67	-0.6
1000	4.25	"		6.93	1.35	6.46	135	4.15	-4.9
1005	4.28	"		8.14	1.33	6.46	124	3.13	-4.2
1010	4.30	"		8.57	1.33	6.48	120	1.21	-4.4
1015	4.30	"		8.59	1.31	6.48	120	1.20	-4.5
1020	4.30	"		8.81	1.32	6.49	118	1.22	-4.3

APPEARANCE/COLOR clear ODOR none

SAMPLED BY (Print) George H. Markt SAMPLED BY — George Markt

SIGNATURE George H. Markt SIGNATURE George H. Markt

WELL CAP REPLACED AND LOCKED BY George H. Markt DATE/TIME 2/8/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/15/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: ~~Grundfos~~ 2" Pump

YSI Hydrolab

Peristaltic

SAMPLING METHOD: low flow

WELL I.D. ORMW-3

SAMPLE I.D. OGB-021 405

~~MEAS.~~ REF. POINT (Ft AGS OR BGS) 4.15

WELL DEPTH (Ft TOC) 12.2

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	~~GPM~~ mL/min Discharge	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1025	4.15								
1030	4.75	300	1.5 L	10.85	.6210	7.14	232	9.8	6.7
1035	5.21	300	3 L	10.71	.6970	6.90	156	4.2	3.1
1040	5.30	300	4.5 L	10.55	.7706	6.70	134	5.0	6.1
1045	5.38	300	6 L	10.61	.7735	6.69	130	4.8	8.1
1050	5.46	300	7.5L	10.68	.7761	6.68	129	4.7	6.4
1055	COLLECT SAMPLE								

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) J DEKOSICIE

SIGNATURE J Dekosicie

* WELL CAP REPLACED AND LOCKED BY J Dekosicie

* FLUSHMOUNT NEEDS REPAIR

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

rinsate : 09A-021 4/61 (peristaltic)

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 2/15/01

WELL I.D. BRMW-3

WORK ORDER # ____ NORFAS # ____

SAMPLE I.D. 06B-021-406

FIELD INSTRUMENTS: GRUNDFOS 2" PUMP
YSI HYDROLAB

MEAS. REF. POINT (Ft AGS OR BGS) 3.39 BTW

WELL DEPTH (Ft TOC) 31

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) ____

SAMPLING METHOD: LOW FLOW.

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) ____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0835	3.39								
0840	3.39	500	3 L	12.94	.5529	7.22	100	6.6	0.1
0845	3.39	500	5.5 L	12.96	.5299	7.26	88	4.8	0.0
0850	3.39	500	8 L	12.98	.5042	7.34	99	3.9	0
0855	3.39	500	10.5 L	12.97	.6013	7.37	113	3.5	1.4
0900	3.40	500	13 L	13.09	.5951	7.40	124	2.5	5.0
0905	3.40	500	15.5 L	13.20	.6151	7.41	144	2.2	0
0910	3.40	500	18 L	13.24	.6154	7.40	163	1.8	0
0915	3.40	500	20.5 L	13.29	.6189	7.40	173	1.6	0
0920	3.40	500	23 L	13.33	.6169	7.41	181	1.6	0
0925	3.40	500	25.5 L	13.40	.6196	7.42	188	1.3	0
0930	3.41	500	28 L	13.50	.6149	7.40	191	1.2	0
0935	COLLECT SAMPLE								

APPEARANCE/COLOR CLEAR

ODOR NONE

SAMPLED BY (PRINT) J DEKOSKIE

SAMPLED BY (PRINT) ____

SIGNATURE J Dekoskie

SIGNATURE ____

* WELL CAP REPLACED AND LOCKED BY J DeK

DATE/TIME ____

* FLUSHMOUNT NEEDS REPLACED

FIELD BLK: 23B 021 484

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/20/01

WELL I.D. ~~BR MW 40~~ MW-40

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 23b-021053 Corr. to 23b-02149

FIELD INSTRUMENTS: ~~Grunfos 40, Horiba 42.~~ Grunfos pump, hydrolab, LaMotte turbidity meter.

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 36 . 1

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: Low Flow Sampling. with a Grunfos 2" pump.

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 30

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1050	3.76	—	—	—	—	—	—	—	—
1105	3.80	450		13.21	.5109	7.30	171	7.5	>1000
1130	3.80	450		13.55	.5207	7.21	175	8.5	668.4
1140	3.80	450		13.60	.5203	7.19	191	9.6	316.5
1155	3.80	450		13.59	.5202	7.18	204	10.4	201.4
1210	3.82	450		13.74	.5207	7.16	216	10.7	140.1
1225	3.80	350		13.10	.5166	7.14	225	10.3	84.7
1230	3.80	350		13.56	.5180	7.13	227	10.4	83.2
1240	3.80	350		13.0	.4888	7.13	231	11.1	76.1
1340	3.80	350		12.32	.4701	7.15	236	8.8	67.8
1350	3.80	350		12.47	.4737	7.14	238	8.1	72.0
1415	3.8	350		12.45	.4737	7.13	237	8.2	45.0
									using LaMotte
Corresponding Blanks:		Trip =	000-21493			Rinsate = 288-02149 2			
Limits				±3%	±3%	± 0.1 pH	± 10 mV	±10%	±10% ,50

APPEARANCE/COLOR slightly cloudy

ODOR None

SAMPLED BY (PRINT) Julie Lincoln / Mike Barone.

SAMPLED BY Lincoln / M. Barone

SIGNATURE Julie Lincoln

SIGNATURE Lincoln

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 2/20/01, 1400

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/8/01 WELL I.D. BRMW6

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 09a021412

FIELD INSTRUMENTS: Horiba model U-22 (serial # 928091) MEAS. REF. POINT (Ft AGS OR BGS) top of inner ca

Equipment Blank 09a-021450 WELL DEPTH (Ft TOC) 27

Trip Blank 000-021454 INNER CASING/OPEN HOLE DIAM (In) 2

SAMPLING METHOD: USEPA Low Flow sampling method using Grundfos pump DEPTH TO TOP OF SCREEN (Ft TOC) 17

WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 23

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1530	2.35	400		8.55	0.94	7.15	65	6.42	40.7
1535	2.30	11		11.06	0.93	7.07	56	5.23	137.0
	agitated flow thru cell to clean off turbidity cell								
1540	2.30			12.03	0.97	7.04	63	5.06	49.0
~~1545~~									
1545	2.3			11.94	1.07	6.97	74	4.56	5.0
1550	2.3			11.78	1.09	6.95	76	4.35	2.70
1555	2.3			11.90	1.10	6.94	76	4.12	1.09
1600	2.3			11.89	1.05	6.94	76	4.10	1.05
1605	2.3			11.89	1.08	6.95	77	4.11	1.08

APPEARANCE/COLOR clear ODOR none

SAMPLED BY (PRINT) George H. Markt SAMPLED BY — George H. Markt

SIGNATURE George H. Markt SIGNATURE George H. Markt

WELL CAP REPLACED AND LOCKED BY George H. Markt DATE/TIME 2/8/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MESS WBS 6WRI DATE 2-13-01

WORK ORDER # ___ NORFAS # ___

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: USEPA Low flow method

WELL I.D. OB MW-7

SAMPLE I.D. 08A-021413 MS/

MEAS. REF. POINT (Ft AGS OR BGS) 1.44

WELL DEPTH (Ft TOC) 10.35

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 5

WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) ~~10~~ 8

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1340	1.44	—	—	—	—	—	—	—	—
1350	1.90	300	2L	10.8	1.18	6.83	33	0.7	315.0
1355	1.90	300	4	11.0	1.17	6.84	32	0.6	259.0
1415	1.90	300	5.5	12.4	1.16	6.85	33	1.2	89.1
1420	1.90	300	7.0	12.5	1.16	6.85	30	1.0	78.4
1425	1.90	300	8.5	12.5	1.16	6.85	29	0.9	79.7
1430	1.90	500	11	12.7	1.15	6.85	27	0.5	234
1440	1.90	300	13	13.1	1.17	6.87	25	2.0	30.7
1445	1.90	300	14.5	13.2	1.17	6.87	22	1.8	46.1
1450	1.90	300	16	13.1	1.17	6.86	22	1.0	45.5
1455	1.90	300	17.5	12.9	1.18	6.86	23	0.8	46.8
1500	1.90	300	19	13.0	1.18	6.87	24	0.7	47.8
1505	1.90	300	20.5	13.2	1.17	6.85	25	0.8	1.7
1515	COLLECT	SAMPLE							

APPEARANCE/COLOR CLEAR

SAMPLED BY (Print) J DEKOSKIE

SIGNATURE J Dek

WELL CAP REPLACED AND LOCKED BY J Dek

ODOR NONE

SAMPLED BY (Print) ___

SIGNATURE ___

DATE/TIME ___

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MESS WBS GWRI DATE 2-13-01

WORK ORDER # ___ NORFAS # ___

FIELD INSTRUMENTS: HORIBA U-22
GRUNDFOS 2" PUMP,
PERISTALTIC + Teflon bailer

SAMPLING METHOD: LOW FLOW

WELL I.D. OBMW-8

SAMPLE I.D. 06A-021415

MEAS. REF. POINT (Ft AGS OR BGS) ___

WELL DEPTH (Ft TOC) 12.20

INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 5.5

WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 10'

Sample Time (From/To)	Water Level (Ft TOC)	mL/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1025	4.25								
1030	6.16		2L	9.7	.557	6.54	97		217
1035		300	3.5L	11.1	.558	6.27	112	1.5	180
1040									
1045									
1050	STOP PURGE. SWITCH TO PERISTALTIC PUMP								
1100	6.39	300		12.9	.541	6.22	144	3.5	>1000
1120	7.24	200	~10L	11.1	.521	6.21	133	4.0	370
1125	7.29	200	11L	11.3	.528	6.21	133	2.8	329
1130	7.32	200	12L	11.4	0.540	6.23	132	1.9	224
1140	7.47	200	14L	11.1	0.531	6.26	124	2.6	150
1145	7.52	200	15L	11.1	.553	6.27	123	2.5	128
1150	7.57	200	16L	11.0	.556	6.28	120	2.0	106
1155	7.62	200	17	10.9	.557	6.29	120	1.8	44.3
1200	7.74	200	18	11.4	.540	6.36	111	1.7	40.7
1205	7.82	200	19	11.3	.551	6.35	109	1.6	39.2
1210	7.81	200	20	11.2	.562	6.34	109	1.5	36.1
1215	COLLECT SAMPLE								

APPEARANCE/COLOR YELLOWISH TINT

ODOR NONE

SAMPLED BY (PRINT) J DEKOSKIE

SAMPLED BY ___

SIGNATURE [signature]

SIGNATURE ___

WELL CAP REPLACED AND LOCKED BY [signature]

DATE/TIME 2/13/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MESS WBS GWRI DATE 2-13-01 WELL I.D. BR MW - 8

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. # 06E021 416 06E021 474 SPLIT

FIELD INSTRUMENTS: HORIBA U-22 MEAS. REF. POINT (Ft AGS OR BGS) 34.71

GRUNDFOS. PUMP. WELL DEPTH (Ft TOC) 42.0

INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 32

SAMPLING METHOD: LOW FLOW WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 38

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0810	34.71	—	—	—	—	—	—	—	—
0815	3.87	300	2 L	13.4	1.17	6.64	87	3.4	Ø
0820	3.82	300	3.5 L	14.6	1.18	6.95	56	1.1	Ø
0825	3.82	300	5 L	14.4	1.19	6.98	53	1.0	Ø
0830	3.84	300	6.5 L	14.6	1.18	7.00	52	0.9	Ø
0835	3.85	300	8.0 L	14.7	1.18	7.01	53	0.8	Ø

APPEARANCE/COLOR Clear. ODOR NONE

SAMPLED BY (PRINT) J DEKOSKIE SAMPLED BY ___

SIGNATURE J Dekol SIGNATURE ___

WELL CAP REPLACED AND LOCKED BY J Dekol DATE/TIME ___

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-8-06

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U22

SAMPLING METHOD: LOW FLOW

WELL I.D. BRMW-09

SAMPLE I.D. 06E 021 417

MEAS. REF. POINT (Ft AGS OR BGS) 14.75 DTW

WELL DEPTH (Ft TOC) 24.50

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1515	14.75								
1530	14.86	400	2L	12.4	1.95	6.95	2	8.3	203
1535	14.91	500	4.5L	15.2	1.68	6.95	3	6.5	99
1540	14.91	500	7 (SS) 6 L	15.4	1.52	6.96	6	6.1	68
1545	14.96	400	9 L	15.4	1.31	6.99	9	6.0	31.8
1550	14.98	500	11.5L	15.9	1.15	7.01	14	5.9	11.5
1555	14.95	500	14L	15.7	1.07	7.02	14	5.9	15.8
1600	14.95	500	16.5L	15.3	1.07	7.02	17	6.0	2.4
1605	14.94	500	19L	15.9	1.06	7.02	18	6.0	1.2
1610	14.94	500	21.5L	16.0	1.06	7.02	18	5.9	0
1615			begin	collecting					

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

FB # 10A 021 453

ODOR None

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MESS WBS GWRI DATE 2/13/01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: Horiba Model U-10
no serial #

Peristaltic pump and teflon micro bailer

SAMPLING METHOD: USEPA Low Flow Method using peristaltic pump and teflon bailer

WELL I.D. OBMW10

SAMPLE I.D. ~~10a-GWR-MW-BIS~~ 10a-021141

MEAS. REF. POINT (Ft AGS OR BGS) top of inner casing

WELL DEPTH (Ft TOC) 8

INNER CASING/OPEN HOLE DIAM (In) 2" stainless

DEPTH TO TOP OF SCREEN (Ft TOC) 3

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) ____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
	4.30								
Sampling abandoned due to heavy salt content in well (interference with water level meter) as per Kevin Cote.									

APPEARANCE/COLOR ____ ODOR ____

SAMPLED BY (print) ____ SAMPLED BY ____

SIGNATURE ____ SIGNATURE ____

WELL CAP REPLACED AND LOCKED BY ____ DATE/TIME ____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/14/01 WELL I.D. OBMW-10

WORK ORDER # ____ NORFAS # _____ SAMPLE I.D. _____

FIELD INSTRUMENTS: HORIBA U-22 MEAS. REF. POINT (Ft AGS OR BGS) 0.7 DTW

PERISTALTIC BAILER WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: LOW FLOW WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1125	0.7								
1130	3.1	2 L	100	7.3	>100	6.64	-42	1.2	22.4
1135	3.3	3 L	200	7.4	>100	6.70	-58	0.7	5.3
1140	3.83	4 L	200	7.4	>100	6.77	-25	1.0	2.8
1145	4.31	5 L	200	7.3	>100	6.72	-7	1.3	2.3
1150	4.52	6 L	200	7.3	>100	6.72	-4	1.4	1.2
1155	5.01	7 L	200	7.3	>100	6.71	4	1.6	1.2
1200	5.54	8 L	200	7.3	>100	6.69	9	1.7	0
1205	6.12	9 L	200	7.3	>100	6.66	15	1.9	0
1210	6.73	10 L	200	7.3	>100	6.65	19	2.0	0
1215	7.54	11 L	200	7.4	>100	6.69	-4	2.0	0
1220	WELL	DRY	STOP PURGE						

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

NOTE: WELL UNDER SALT PILE

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/14/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS SUBMERSIBLE

SAMPLING METHOD: EPA LOW FLOW.

WELL I.D. BRMW-10

SAMPLE I.D. IDA 021 419 IDA 021 478 → +DUP

MEAS. REF. POINT (Ft AGS OR BGS) 8.08 DTW

WELL DEPTH (Ft TOC) 40.0

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) 30

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~35

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0825	8.08	-	Ø	—	—	—	—	—	—
0830	9.29	300	1.5L	13.8	.912	7.08	163	2.3	293
0835	9.34	300	3L	15.2	.892	7.08	137	1.5	105
0840	9.60	300	4.5L	16.7	.867	7.08	107	1.5	2.7
0845	9.53	300	6L	16.7	.861	7.08	82	1.4	
0850	9.50	300	7.5L	16.6	.875	7.08	71	1.4	
0900	9.40	300	9.0L	16.5	.873	7.07	70	1.3	Ø

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY ~~~ _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

TB 000 021 479

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/13/01

WORK ORDER # ___ NORFAS # ___

FIELD INSTRUMENTS: Horiba Model U-10, no serial #002011
Horiba Model U-22, serial #928043
Grundfos Serial # 4033, Controller # P1950 04236

SAMPLING METHOD: USEPA Low Flow Method

WELL I.D. OBMW 11

SAMPLE I.D. 09a-021420

MEAS. REF. POINT (Ft AGS OR BGS) Top of inner casing

WELL DEPTH (Ft TOC) 10

INNER CASING/OPEN HOLE DIAM (in) 2

DEPTH TO TOP OF SCREEN (Ft TOC) 5

WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 8

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	* Eh (mv)	DO (mg/L)	Turbidity (NTU)
1045	3.29	200		10.2	0.727	6.84	35	4.47	335
1105	3.06	200		11.6	0.726	6.91	-3	2.45	89
1110	3.06	200		11.7	0.726	6.88	-14	2.12	69
1120	3.03	200		12.0	0.725	6.86	-32	1.51	46
1130	3.02	200		12.2	0.724	6.85	-37	1.21	30
1135	3.02	200		12.2	0.724	6.84	-42	1.02	23
1140	3.02	200		12.4	0.722	6.83	-43	0.79	18
1145	3.02	200		12.4	0.722	6.83	-41	0.73	17
1150	3.02	200		12.3	0.722	6.83	-42	0.71	17

* Eh readings taken with U-22, all others with U-10.

Corresponding Blanks: Trip = 000-021475, Rinsate = 06A-021470

APPEARANCE/COLOR Clear

ODOR None noticed

SAMPLED BY (PRINT) SHI NG

SAMPLED BY SHI NG

SIGNATURE

SIGNATURE

WELL CAP REPLACED AND LOCKED BY SHI NG

DATE/TIME 2/13/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/13/01

WELL I.D. BRMW-11

WORK ORDER # ____ NORFAS # ____

SAMPLE I.D. 09a-021421, Split=09a-02147

FIELD INSTRUMENTS: Horiba Model U-10, no serial # 002011
Horiba Model U-22, Serial # 92B043
Grundfos Serial # 00300273, Controller # P1950042360

MEAS. REF. POINT (Ft AGS OR BGS) Top of inner casing

WELL DEPTH (Ft TOC) 33

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) 23

SAMPLING METHOD: USEPA Low Flow Method

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) 28

Sample Time (From/To)	Water Level (Ft TOC)	Discharge mL (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1305	2.50	400		14.7	0.564	6.96	91	0.64	2
1315	2.44	400		15.1	0.565	6.94	75	0.65	2
1325	2.44	400		15.0	0.561	6.94	67	0.65	1
1330	2.44	400		15.0	0.560	6.93	65	0.63	1
1335	2.44	400		14.9	0.561	6.92	66	0.63	1

* Eh readings taken with U-22, all others with U-10

Corresponding Blanks: Trip = 000-021475, Trip Split = 000-021476, Rinsate = 06A-021470

APPEARANCE/COLOR Clear

ODOR None

SAMPLED BY (PRINT) S. Ng

SAMPLED BY S. Ng

SIGNATURE

SIGNATURE

WELL CAP REPLACED AND LOCKED BY M. Barone

DATE/TIME 2/13/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-12-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22 T005209

GRUNDFOS 2" SUBMERSIBLE

SAMPLING METHOD: LOW FLOW

WELL I.D. OBMW-12

SAMPLE I.D. 06E-021423

~~MEAS. REF. POINT~~ (Ft AGS OR BGS) DTW 5.13

WELL DEPTH (Ft TOC) 15.15

INNER CASING/OPEN HOLE DIAM (In) ____

DEPTH TO TOP OF SCREEN (Ft TOC) 5-15

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 13 ft

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0900	5.13								
0905	~~5.52~~ 5.79	300	2L	6.6	.98	6.51	-55	5.1	34.6
0910	5.52	300	4.5L	7.8	.97	6.55	-68	2.3	25.9
0915	5.64	300	6L	8.7	.97	6.58	-70	1.4	16.5
0920	5.66	300	7.5	9.1	.97	6.60	-69	1.3	15.9
0925	5.67	300	9.0	9.2	.97	6.60	-68	1.2	10.0
0930	COLLECT		SAMPLE						

APPEARANCE/COLOR YELLOW TINT

SAMPLED BY (print) J DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY J DEKOSKIE

RINSE BLANK: 06E-021460

ODOR NONE

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 2-12-01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: LOW FLOW

WELL I.D. BRMW-12

SAMPLE I.D. 06E-021422

MEAS. REF. POINT (Ft AGS OR BGS) 3.50 DT

WELL DEPTH (Ft TOC) 4

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 38-48 R

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) ____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1020	3.51								
1025	3.51	400	2L	~~7.25~~ 11.9	.709	7.34	20	8.6	21.9
1030	3.52	400	4L	12.4	.714	7.29	43	7.5	Ø
1035	3.54	400	6L	13.0	.721	7.26	66	6.7	Ø
1040	3.53	400	8L	13.2	.722	7.25	73	6.6	Ø
1045	3.53	400	10L	13.3	.722	7.25	73	6.6	Ø
1050	3.53	400	12L	13.4	.723	7.25	73	6.5	Ø
1055	COLLECT	SAMPLE							

APPEARANCE/COLOR CLEAR

SAMPLED BY (Print) J. DEKOSKIE

SIGNATURE J DeKe

WELL CAP REPLACED AND LOCKED BY J DeKe

RINSE BLANK: 06E-021460

ODOR NONE

SAMPLED BY ____

SIGNATURE ____

DATE/TIME ____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS OWRI DATE 2/7/01 WELL I.D. OBMW13

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 09a-021424

FIELD INSTRUMENTS: horiba U22 MEAS. REF. POINT (Ft AGS OR BGS) PVC casing

WELL DEPTH (Ft TOC) 13.5

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 3.5

SAMPLING METHOD: LOW FLOW WELL VOLUME (Gal) ___

Rinsate Blank 09a 021448 PUMP INTAKE (Ft TOC) 10

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1550	3.85	360		13.46	3.11	6.70	-140	2.43	345.00
1555	4.30	"		13.74	2.99	6.73	-142	0.80	295.00
1600	4.30	"		14.13	2.96	6.75	-143	0.62	198.00
1605	4.15	"		14.15	2.95	6.76	-143	0.52	162.0
1610	4.15	"		14.81	2.91	6.76	-144	0.41	108.0
1615	4.15	"		14.93	2.90	6.77	-146	0.32	94.8
1620	4.15	"		14.98	2.89	6.77	-146	0.28	79.0
1625	4.15	"		14.91	2.88	6.76	-147	0.25	62.30
1630	4.15	"		14.92	2.90	6.77	-148	0.26	49.20
1635	4.15	"		14.92	2.88	6.77	-149	0.20	45.40

APPEARANCE/COLOR clear ODOR clear

SAMPLED BY (PRINT) George H. Markt SAMPLED BY — George Markt

SIGNATURE George H. Markt SIGNATURE George H. Markt

WELL CAP REPLACED AND LOCKED BY ~~George Markt~~ DATE/TIME 2/7/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/8/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Horiba

Grundfos

SAMPLING METHOD: _____

WELL I.D. BR MW 16

SAMPLE I.D. 10A 021 480 DUP 10A 021

DTW

~~MEAS. REF. POINT~~ (Ft AGS OR BGS) 9.52

WELL DEPTH (Ft TOC) 31.5

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 26

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) 2½" dia	Volume Purged (GAL) L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0850	9.53		0						
0855	10.20	290	1.5	10.3	1.04	6.41	201	4.1	18.5
0900	10.61	300	3	13.5	1.03	6.60	167	1.7	3.0
0905	10.65	450	5.5	14.7	1.02	6.65	153	1.3	1.0
0910	10.65	500	8	15.4	1.00	6.66	147	1.3	0
0915	10.55	500	10.5	15.6	0.98	6.69	139	1.1	0
0920	10.54	500	13	15.9	0.96	6.70	132	1.3	0
0925	10.54	500	15.5	16.0	0.95	6.70	130	1.2	0
0930	10.54	500	18	16.0	0.94	6.71	127	1.2	0
0935	10.54	500	20.5	16.1	0.93	6.71	125	1.3	1.2
0940	COLLECT	SAMPLES							

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) J Dekoskie

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

FB# 10A 021 453

ODOR NONE

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-6-01 WELL I.D. OBMW-17

WORK ORDER # ___ NORFAS # _____ SAMPLE I.D. _____

FIELD INSTRUMENTS: HORIBA DTW ~~MEAS. REF. POINT~~ (FT AGS OR BGS) 7.33

2" GRUNDFOS PUMP WELL DEPTH (FT TOC) 17.10

PID/MULTI-RAE INNER CASING/OPEN HOLE DIAM (IN) 2

DEPTH TO TOP OF SCREEN (FT TOC) 5-15

SAMPLING METHOD: LOW FLOW (USEPA) WELL VOLUME (GAL) 1.6

PUMP INTAKE (FT TOC) 14

Sample Time (From/To)	Water Level (Ft TOC)	ML/MIN Discharge ~~(GPM)~~	Volume Purged ~~(Gals)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
10 25	7.50	300 ml/min	0	10.5	.540	6.17	193	4.1	65
10 35	7.41	300 ml/min	3 L	11.6	.526	6.24	182	3.4	40
10 55	7.31	300	~5 L	11.5	.523	6.27	172	2.8	33
11 10	7.43	300	~7 L	12.0	.521	6.28	170	2.6	27
11 25	7.48	400	~9 L	17.4	.503	6.24	208	1.9	>1000
1145	7.54	440	~14 L	16.3	.482	6.25	213	2.9	409
12 20	7.65	500	~24 L	16.3	.498	6.26	190	3.2	231
1235	7.48	390	~29 L	15.4	.513	6.25	185	1.5	136
1355	7.45	380	~40 L	16.1	.502	6.30	173	2.9	178
1425	ABANDON PURGE								

APPEARANCE/COLOR ORANGE ODOR NONE

SAMPLED BY (PRINT) N/A SAMPLED BY ---

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY JEFF DELOSKIE DATE/TIME 2/6/01 1425

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE _____

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PERISTALTIC PUMP

HORIBA U-22

SAMPLING METHOD: LOW FLOW

WELL I.D. OBMW-17

SAMPLE I.D. 10A-021432

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 17

INNER CASING/OPEN HOLE DIAM (in) _____

DEPTH TO TOP OF SCREEN (Ft TOC) 5

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~13

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged ~~(Gal)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0825	4.04	400	6	9.1	.576	6.06	226	6.0	125
0830	7.25	400	2 L	9.2	.577	6.07	237	5.7	113
0835	7.31	400	4 L	9.8	.578	6.22	219	3.8	89.5
0840	7.33	400	6 L	10.2	.566	6.25	185	3.1	60.4
0845	7.34	400	8 L	10.5	.564	6.26	161	2.8	40.5
0850	7.35	400	10 L	10.6	.558	6.25	147	2.4	18.1
0855	7.36	400	12 L	10.7	.557	6.25	146	2.3	12.5
0900	7.36	400	14 L	10.8	.547	6.23	126	1.9	1.9
0905	7.37	400	16 L	10.8	.543	6.23	122	1.8	2.1
0910	7.38	400	18 L	10.8	.544	6.22	121	1.8	1.1
0910	COLLECT	SAMPLE							

APPEARANCE/COLOR CLEAR

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE J Dekoskie

WELL CAP REPLACED AND LOCKED BY J DeKoski

TRIP BLANK # 000 021 449

ODOR NONE

SAMPLED BY ~~PRINT~~ _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-6-01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: Horiba U-22

2" GRUNDFOS PUMP

PID/MULTI-RAE

SAMPLING METHOD: Low Flow (USEPA)

WELL I.D. ER MW-17

SAMPLE I.D. 10A-021431

DTW

~~MEAS. REF. POINT~~ (Ft AGS OR BGS) 5.89

WELL DEPTH (Ft TOC) 35

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) 25-35

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 30

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged ~~(Gal)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1500	6.30	400	0	12.0	.537	6.81	91	7.8	138
1505	6.22	400	2 L	14.3	.542	6.82	114	6.6	15
1510	6.22	400	4 L	14.4	.543	6.83	117	6.2	18
1515	6.22	400	6 L	14.5	.542	6.82	119	6.1	17
1520	6.22	400	8 L	14.6	.542	6.81	119	6.0	20
1525	COLLECT SAMPLE								

APPEARANCE/COLOR CLEAR

SAMPLED BY (print) JEFF DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY C. GARY MOYER

ODOR NONE

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 2/6/01 1525

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS GWRI DATE 2/6/01

WORK ORDER # ___ NORFAS # ___

FIELD INSTRUMENTS: Horiba Model U22 Serial# PID/multi RAE 2" Grundfos Pump

SAMPLING METHOD: low flow sampling USEPA

WELL I.D. PTIDA

SAMPLE I.D. 10a-021403

MEAS. REF. POINT (FT AGS OR BGS) top of inner casing

WELL DEPTH (FT TOC) 39

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (FT TOC) 29

WELL VOLUME (Gal) ___

PUMP INTAKE (FT TOC) ~~39~~ 34

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1138	9.05	500		14.46	1.32	6.66	-79	1.28	21.0
1144	9.10	"		15.68	1.29	6.70	-90	0.76	9.20
1150	9.07	"		15.34	1.32	6.74	-96	0.54	7.12
1157	9.07	"		14.98	1.35	6.77	-98	0.30	2.10
1202	9.07	"		15.16	1.38	6.79	-99	0.24	0.60
1207	9.06	"		15.22	1.40	6.80	-100	0.20	1.10
1212	9.07	"		15.43	1.43	6.82	-102	0.18	1.10
1217	9.07	"		15.45	1.43	6.83	-103	0.19	1.15

APPEARANCE/COLOR clear

SAMPLED BY (PRINT) George Marks

SIGNATURE George H. Markt I

WELL CAP REPLACED AND LOCKED BY George Marks

ODOR none

SAMPLED BY (PRINT) George Markt

SIGNATURE George H. Markt

DATE/TIME 2/6/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-12-01 WELL I.D. OB MW-18

WORK ORDER # ____ NORFAS # _____ SAMPLE I.D. _____

FIELD INSTRUMENTS: Grundfos DTW MEAS. REF. POINT (Ft AGS OR BGS) 7.67 DTW

Horiba WELL DEPTH (Ft TOC) 12.95

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) N/A

SAMPLING METHOD: low flow WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) mL/min	Volume Purged (GAL) L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1305	7.67								
1310	7.66	200	1	6.5	0.965	6.96	-109	5.1	18.6
1315	7.85	200	2	7.3	0.918	6.94	-116	2.2	16.7
1320	7.71	200	3	7.5	0.967	6.93	-111	1.8	13.1
1325	8.22	500	5.5	11.6	0.830	6.89	-122	1.1	11.4
1330	7.93	200	8.5	11.4	0.876	6.90	-128	0.7	12.0
1335	7.81	200	7.5	10.3	0.836	6.91	-130	1.2	4.1
1340	7.92	200	8.5	10.4	0.925	6.96	-133	0.7	5.5
1345	7.77	200	9.5	11.6	0.924	6.97	-136	0.8	3.3
1350	7.77	200	10.5	10.9	0.934	6.98	-137	1.0	3.6
1400	7.78	200	11.5	11.1	0.933	6.90	-137	0.9	3.4
1405	COLLECT		SAMPLE						

APPEARANCE/COLOR CLEAR ODOR STRONG ODOR (HYDROCARBON)

SAMPLED BY (PRINT) J DEKOSKIE SAMPLED BY (PRINT) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

RINSE BLANK: 06E 021 460

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/5/01 WELL I.D. PT 1DB

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 10A-021404

FIELD INSTRUMENTS: Horiba model u22 MEAS. REF. POINT (Ft AGS or BGS) top of inner ca

MFG # 9272047 WELL DEPTH (Ft TOC) 62

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 52

SAMPLING METHOD: Low flow sampling for ground water WELL VOLUME (Gal) 8.84 gallons

PUMP INTAKE (Ft TOC) 52'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge ~~(GPM)~~ ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1252	8.90	500		14.27	1.12	6.66	-89	1.60	19.5
1256	"	"		14.41	1.15	6.69	-92	1.15	11.10
1300	"	"		14.50	1.19	6.71	-98	0.92	11.50
1305	"	"		14.67	1.20	6.73	-99	0.84	9.4
1310	"	"		15.32	1.21	6.74	-101	0.74	8.5
1318	"	"		15.47	1.24	6.75	-102	0.70	7.7
1324	"	"		15.55	1.28	6.77	-104	0.60	7.8
1329	"	"		15.44	1.31	6.78	-106	0.58	7.5
1334	"	"		15.47	1.31	6.78	-106	0.53	7.6

APPEARANCE/COLOR clear ODOR slight volatile odor

SAMPLED BY (Print) George Markt SAMPLED BY (Print) George Markt

SIGNATURE George H. Markt SIGNATURE George H. Markt

WELL CAP REPLACED AND LOCKED BY George Markt DATE/TIME 2/5/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE _____

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: FID, PID, DRAGER TUBES

PERISTALTIC PUMP, TEFLON BAILER

SAMPLING METHOD: LOW FLOW

WELL I.D. PT-2S

SAMPLE I.D. 10A 021 505

~~MEAS. REF. POINT~~ DTW (Ft AGS OR BGS) 4.12

WELL DEPTH (Ft TOC) 14.90

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	~~GPM~~ mL/min Discharge	Volume Purged (GAL) L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0925									
0930	5.50	400	3	10.9	1.81	6.15	-90	3.9	35.7
0935	5.91	200	4	11.6	1.80	6.16	-90	2.1	32.6
0940	5.96	200	5	11.6	1.78	6.15	-89	1.8	30.0
0945	5.85	200	6	11.4	1.78	6.16	-89	1.5	22.0
0950	5.78	200	7	11.4	1.78	6.16	-88	1.4	20.6
0955	5.77	200	8	11.4	1.78	6.16	-88	1.5	19.1
1000			sampling begins						

TRIP BLANK: 000 021 503

RINSE BLANK: 09A 021 461

NOTE: NO PRODUCT OBSERVED, INSIDE CLEAR BAILER

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY (PRINT) _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-12-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS 2" SUBMERSIBLE

SAMPLING METHOD: LOW FLOW

WELL I.D. B38W03B

SAMPLE I.D. 10a-021463

DTW

~~MEAS.~~ REF. POINT (Ft AGS OR BGS) 8.42

WELL DEPTH (Ft TOC) 42.0

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) ROCK WE

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1530	8.91	500	∅	10.6	2.03	6.37	-40	2.8	5.5
1535	8.86	500	2.5	11.8	2.18	6.32	-45	0.9	∅
1540	8.88	500	5.0	12.2	2.19	6.31	-46	0.8	∅
1545	8.89	500	7.5	12.3	2.21	6.31	-47	0.8	∅
1550	COLLECT SAMPLE								

APPEARANCE/COLOR Clear

SAMPLED BY (Print) SDEKOSKE

SIGNATURE SDek

WELL CAP REPLACED AND LOCKED BY SDeK

RINSE BLANK 06E 021460

ODOR NONE

SAMPLED BY ---

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-21-01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22
SOLINST INTERFACE PROBE
PERISTALTIC PUMP.

SAMPLING METHOD: LOW FLOW

WELL I.D. B38W 04 B

SAMPLE I.D. 10A-021 464

MEAS. REF. POINT (Ft AGS OR BGS) 9.39 DTW

WELL DEPTH (Ft TOC) 39.20

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0835	9.39								
0845	10.50	300	3L	8.0	.859	6.50	-76	6.1	11.1
0850	10.87	300	4.5L	9.4	.850	6.91	-117	3.7	1.0
0855	10.87	300	6L	9.9	.840	6.99	-128	3.0	Ø
0900	10.93	300	7.5L	10.5	.833	7.04	-141	2.0	3.0
0905	11.02	300	9L	11.4	.815	7.07	-144	1.9	Ø
0910	11.08	300	10.5L	11.3	.821	7.06	-152	1.6	12.1
0915	11.10	300	12L	11.4	.820	7.06	-153	1.7	16.5
0920	11.15	300	13.5L	11.5	.818	7.08	-150	1.4	10.3
0925	11.16	300	15L	11.7	.821	7.05	-153	1.1	7.5
0930	11.15	300	16.5L	11.7	.821	7.05	-155	0.9	2.7
0935	11.15	300	18L	11.8	.820	7.05	-155	0.8	2.1
0940	11.15	300	19.5	11.8	.820	7.05	-157	0.7	2.2
0945	COLLECT SAMPLE								

APPEARANCE/COLOR CLEAR / SMALL BLACK PARTICLES

ODOR STRONG HYDROCARBON ODOR

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

TRIP #

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-2-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, Grundfos 2" pump, generator, WLT

SAMPLING METHOD: Submersible 2" pump.

WELL I.D. B38W 12A

SAMPLE I.D. 08a 021031

MEAS. REF. POINT (Ft. AGS OR BGS) 2" Inner Riser Stainless

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 2' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. µ ~~(mS/cm)~~	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1145	7.40	—	—	~~16.74~~	~~2403~~	~~6.48~~	~~75.6~~	~~6.53~~	~~199.0~~
1150	8.56	210		16.74	2403	6.48	75.6	6.53	199.0
1155	8.61	200		16.68	2567	6.37	55.1	4.44	208.6
1200	8.65	200		17.68	2559	6.36	44.7	3.41	470.0
1205	8.68	200		19.54	2540	6.37	40.5	2.73	188.4
1210	8.65	200		19.84	2523	6.37	40.7	2.28	159.4
1215	8.67	200		20.13	2515	6.37	40.0	2.19	209.8

APPEARANCE/COLOR Very slightly turbid / clear

SAMPLED BY ~~[illegible]~~ V. BETRO / A. MOYER

SIGNATURE [signature]

ODOR NONE

SAMPLED BY ---

SIGNATURE _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-2-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PFD, YSI, Grundfos, WLI, Generator

SAMPLING METHOD: Submersible pump.

WELL I.D. B38W 12B

SAMPLE I.D. 08a-021032

MEAS. REF. POINT (Ft. AGS OR BGS) top of 2" pier

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (in) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 2' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. µ(~~m~~S/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1035	7.00	—	—	~~13.76~~					
1045	8.07	290 ~~300~~		13.76	770	7.38	108.3	7.36	57.3
1050	7.65	400		14.24	771	7.39	98.4	5.61	34.5
1055	7.56	350		14.78	772	7.39	86.6	4.44	23.5
1100	7.56	350		15.15	775	7.37	79.7	3.69	18.3
1105	7.56	350		15.24	775	7.35	77.6	3.21	14.7
1110	7.56	350	4 gal total	15.29	775	7.34	77.7	2.92	13.6

APPEARANCE/COLOR slightly turbid / ~~none~~ clear

SAMPLED BY (PRINT) V. Betro / G. Mayer

SIGNATURE Vincent Betro

ODOR None

SAMPLED BY ---

SIGNATURE _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-20-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA-U-22

PERISTALTIC PUMP, TEFLON BAILER.

SAMPLING METHOD: EPA LOW FLOW.

WELL I.D. STEPAN WELL 1

SAMPLE I.D. 10a-021433

DTW

~~MEAS. REF. POINT~~ (FT AGS OR BGS) 8.66

WELL DEPTH (FT TOC) 14.90

INNER CASING/OPEN HOLE DIAM (in) _____

DEPTH TO TOP OF SCREEN (FT TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (FT TOC) 12.90

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0835	8.66	—	—	—	—	—	—	—	—
0840	9.21	300	2L	11.5	.912	6.81	-95	2.3	29.5
0845	9.25	300	3.5L	11.6	.907	6.84	-96	1.8	22.4
0850	9.27	300	5.0L	12.1	.884	6.91	-97	1.4	12.0
0855	9.27	300	6.5L	12.2	.883	6.91	-99	1.3	15.0
0900	9.27	300	8L	12.5	.878	6.90	-100	0.9	11.0
0905	9.27	300	9.5L	12.6	.878	6.89	-101	0.8	10.5
0910	COLLECT SAMPLE.								

APPEARANCE/COLOR CLEAR

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

RINSATE # 09A-021461

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/14/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Horiba model U-10, S# 002011

Horiba model U-22, S# 9282040

Grundfos Pump #4033

SAMPLING METHOD: USEPA Low Flow Method

WELL I.D. Stepan Well 2

SAMPLE I.D. 10a-021434, ~~10a-021479~~ MS/MSD

MEAS. REF. POINT (FT AGS OR BGS) Top of inner casing

WELL DEPTH (FT TOC) 20

INNER CASING/OPEN HOLE DIAM (in) 2" ~~SS~~ PVC

DEPTH TO TOP OF SCREEN (FT TOC) 9

WELL VOLUME (Gal) _____

PUMP INTAKE (FT TOC) 16

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv) *	DO (mg/L)	Turbidity (NTU)
945	9.72	475		18.2	1.84	6.74	-143	0.56	131
955	10.60	475		17.1	1.85	6.79	-154	0.33	22
1000	10.60	475		17.0	1.83	6.81	-154	0.29	17
1005	10.55	475		16.8	1.83	6.82	-155	0.24	10
1015	10.40	475		15.7	1.83	6.85	-149	0.21	8
1020	10.40	475		15.8	1.83	6.86	-145	0.25	8
1030	10.40	475		17.3	1.79	6.83	-146	0.25	8
1035	10.40	475		17.2	1.80	6.85	-146	0.25	8
1040	10.40	475		17.2	1.81	6.88	-147	0.25	8

U-22 used to measure Eh, all other parameters with U-10

Corresponding Blanks: Trip = 000-21479 Rinsate = 10a-021477

APPEARANCE/COLOR YELLOWISH

ODOR none noticed

SAMPLED BY (PRINT) S. Ng

SAMPLED BY S. Ng

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY M. Barone

DATE/TIME 2/14/01, 1150

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/08/01

WORK ORDER # _____ NORFAS # _____

FIELD INSTRUMENTS: HORIBA

Grund fos

SAMPLING METHOD: EPA Low Flow

WELL I.D. Well 5

SAMPLE I.D. 10A 021 435

DTW

~~MEAS.~~ REF. POINT (Ft. AGS OR BGS) 4.10

WELL DEPTH (Ft TOC) 10.15

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 8.15

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1245	4.10		Ø						
1305	4.22	300	2	9.8	1.23	6.93	-41	4.8	69.5
1315	4.34	350	~4	11.7	1.20	6.90	-42	4.8	93.1
1320	4.53	450	~5.5	15.9	1.19	6.87	-73	2.2	44.9
1325	4.64	450	~7.5	15.8	1.02	6.87	-83	1.3	12.4
1330	5.2	500	10	13.9	1.31	6.86	-86	1.1	10.4
1335	5.12	500	12.5	13.7	1.32	6.86	-89	0.5	1.7
1340	4.96	500	15	13.8	1.34	6.86	-88	0.5	1.8
1345	4.74	500	17.5	13.8	1.33	6.85	-87	0.6	2.7
1350	4.31	450	~20	13.7	1.36	6.86	-89	0.5	4.1
1355	—	—	begin	collection	—	—	—	—	

APPEARANCE/COLOR Clear

SAMPLED BY (Print) DeKoskie

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR None

SAMPLED BY (Print) _____

SIGNATURE _____

DATE/TIME _____

ER # 10A M1 150

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/14/01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: Horiba U-10, S# 002011
Horiba U-22, S# 9282040
Peristaltic Pump # 33258 / Teflon micro-bailer

SAMPLING METHOD: USEPA Low Flow Method

WELL I.D. Well 8

SAMPLE I.D. 10a-021436

MEAS. REF. POINT (Ft AGS OR BGS) Top of inner casing

WELL DEPTH (Ft TOC) 17

INNER CASING/OPEN HOLE DIAM (In) 2" PVC

DEPTH TO TOP OF SCREEN (Ft TOC) 7

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) 16

Sample Time (From/To)	Water Level (Ft TOC)	Discharge ml (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv) *	DO (mg/L)	Turbidity (NTU)
1320	12.65	150		10.5	0.309	6.26	133	10.02	0
1330	15.39	150		10.2	0.307	6.14	154	9.65	0
1340	15.39	150		9.9	0.298	6.12	162	9.55	0
1345	15.39	150		9.8	0.297	6.11	164	9.75	0
1350	15.39	150		9.7	0.295	6.10	168	9.77	0
1355	15.39	150		9.6	0.294	6.09	169	9.78	0

U-22 used to measure Eh, all other parameters with U-22

SNG 2/14/01

Corresponding Blanks: Trip = 000-021479 Rinsate = ~~10a-021477~~ 09a-021461

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) S. NG

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY M. Barone

ODOR None noticed

SAMPLED BY S. NG

SIGNATURE [signature]

DATE/TIME 2/14/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 5/29/01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS Pump

SAMPLING METHOD: EPA - Low Flow

WELL I.D. DRPW-1D

SAMPLE I.D. 126-021 556

MEAS. REF. POINT (Ft AGS OR BGS) 10.45 DT

WELL DEPTH (Ft TOC) 110 ft

INNER CASING/OPEN HOLE DIAM (In) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 92 ft

Sample Time (From/To)	Water Level (Ft TOC)	mL/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1345	10.45	—	—	—	—	—	—	—	—
1350	—	500	X	—	—	—	—	—	—
1355	10.50	500	2	14.3	5.38	6.74	-32	3.27	42.1
1400	10.50	500	4.5	14.4	5.33	6.79	-37	3.08	40.8
1405	10.51	500	7	14.8	5.37	6.80	-40	3.16	34.0
1410	10.51	500	9.5	14.8	5.37	6.81	-46	3.19	21.2
1415	Collect Sample								
DUP ID: 126-021 557									
FB ID: 126-021 558									
TB ID: 126-021 559									

APPEARANCE/COLOR GREY

SAMPLED BY (Print) J DEKOSKIE

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR STRONG ODOR.

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 5/29/01 1415

SITE _____ WBS _____ DATE 6-28-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PERISTALTIC PUMP

_____

_____

_____

SAMPLING METHOD: _____

_____

WELL I.D. OBPW-15

SAMPLE I.D. 126 021 583

MEAS. REF. POINT (Ft AGS OR BGS) N/A

WELL DEPTH (Ft TOC) N/A

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1115	SAMPLE WHILE PUMPING - NO PARAMETERS								

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY ~~_____~~ N/A

PUMP TEST

ODOR NONE

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

SITE _____ WBS _____ DATE 7-19-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Horiba U-22

GRUNDFOS 2" PUMP

1035 START

SAMPLING METHOD: LOW FLOW

WELL I.D. BRPZ-4

SAMPLE I.D. 126-021 596

MEAS. REF. POINT (Ft AGS OR BGS) 11.04

WELL DEPTH (Ft TOC) 61.0

INNER CASING/OPEN HOLE DIAM (In) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~ 55 ft

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1035	11.04	300	Ø	-	-	-	-	-	-
~~1045~~	~~11.06~~	300							
1045	11.06	300	2	15.6	7.87	7.1	-127	0.61	23
1050	11.06	300	3.5	16.0	7.71	7.1	-139	0.58	16
1055	11.06	300	5	16.1	7.72	7.1	-140	0.57	22
1100	11.06	300	6.5	16.1	7.72	7.1	-145	0.53	29
1105	Sample								

note: Voa Vials and HCl are bubbling when in contact with Sample water.

TB: 126021598

FB 126021595

* PRODUCT SHEEN ON FLOW THRU CELL ^ SURFACE WATER.

APPEARANCE/COLOR LT GREY ~~GREY~~ BUBBLES/OFF GASSING

ODOR STRONG CHLORINATED ODOR

SAMPLED BY (Print) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME _____

SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 6/19/01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: Horiba, peristaltic pump water level indicator, packer system.

SAMPLING METHOD: peristaltic pump with dedicated tubing.

WELL I.D. BRTZ-5 (101 - 112.5)

SAMPLE I.D. 126-021575 (1155)

MEAS. REF. POINT (Ft AGS OR BGS) ____

WELL DEPTH (Ft TOC) ~114

INNER CASING/OPEN HOLE DIAM (in) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) 101'

WELL VOLUME (Gal) 16.79'

PUMP INTAKE (Ft TOC) 101 - 112.5

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0855	14.0		2	15.2	10.0	5.56			57
0922	14.0		5	14.8	10.2	6.4			37
0955	|		8	14.7	10.2	5.95			30
1034	|		11	14.9	9.8	6.4			27
1111	|		18	14.2	7.07	6.15			23
1125	|		20	14.3	6.96	6.25			25
1135	|		22	14.0	6.9	6.17			21
1140	|		34	14.0	6.84	6.17			30
1145	|		38	14.0	6.81	6.17			21
1150	14.0		40	14.7	6.69	6.26			17
		Not dtd 0.4 gpm.					Not collected	Not collected	

APPEARANCE/COLOR clear

SAMPLED BY (print) J. Lincoln

SIGNATURE J. Lincoln

WELL CAP REPLACED AND LOCKED BY ____

ODOR Aromatic

SAMPLED BY (print) J. Lincoln

SIGNATURE J. Lincoln

DATE/TIME 6/19/01 1150

...LING AND ANALYSIS

SITE _____ WBS _____ DATE 6/19/01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Horiba, peristaltic pump water level indicator, packer system.

SAMPLING METHOD: peristaltic pump with dedicated tubing.

WELL I.D. BRPZ-5 (67.5'-79')

SAMPLE I.D. 126-021576 (1435)

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) ~114

INNER CASING/OPEN HOLE DIAM (in) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) 67.5'

WELL VOLUME (Gal) 16.79

PUMP INTAKE (Ft TOC) 67.5'-79'

Sample Time (From/To)	Volume ~~Water Purged~~ ~~Level~~ (Ft TOC)	Water level ~~Discharge~~ (GPM)	~~Volume Purged (GAL)~~	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1400	2.5	18.5/9.5		17.3	7.15	6.82		0.5	482
1405	12.5	18.55/"		14.1	5.92	6.89		0.33	113
1410	25.0	18.65/"		15.7	5.39	6.3		0.21	57
1415	37.5	18.7/"		15.5	5.21	6.4		0.3	24
1425	62.5	18.7/"		15.5	5.13	6.42		0.7	20
1430	75.0	18.7/"		15.3	5.09	6.42		1.32	12.
1435	87.5	18.7/"		15.4	5.02	6.4		0.01	15
							Not recorded.		

APPEARANCE/COLOR clear

ODOR Aromatic

SAMPLED BY (PRINT) Julie Lincoln

SAMPLED BY — Julie Lincoln

SIGNATURE J. Lincoln

SIGNATURE J. Lincoln

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 6/19/01 1435

SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 6/19/01

WORK ORDER # _____ NORFAS # _____

FIELD INSTRUMENTS: Horiba, peristaltic pump, water level meter, packer system.

SAMPLING METHOD: peristaltic pump with dedicated tubing.

WELL I.D. BRPZ-5 (45'-56.5')

SAMPLE I.D. 12b-021573 (1541)

MEAS. REF. POINT (Ft AGS OR BGS) (1715)

WELL DEPTH (Ft TOC) ~114

INNER CASING/OPEN HOLE DIAM (In) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) 16.79

PUMP INTAKE (Ft TOC) (45'-56.5')

Sample Time (From/To)	Water Level 2" (Ft TOC) 6"	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mV)	DO (mg/L)	Turbidity (NTU)
1524	15.78/8.55	cloudy	1	20.6	5.78	6.72		0	325
1528	33.0/ "	cloudy	2	18.5	7.31	6.53		0.72	292
1536	29.5/ "	cloudy	4	22.3	9.80	6.32		0.69	285
1544	30.7/ "	"	5	21.3	15.3	6.3		0.66	264
1600	Switch from submersible pump to peristaltic pump.								498
1616	19.4/8.55	"	7	17.1	20.0	6.27		1.44	258-498
1624	21.4/ "	"	8.5	16.5	21.8	6.21		2.31	197-258
1629	21.95/ "	"	9.5	16.3	22.2	6.21		2.26	200-197
1635	22.15/ "	"	10.5	16.5	22.8	6.22		2.51	184-200
1643	22.05/ "	"	12.0	16.3	23.5	6.2		2.86	171-184
1651	21.95/ "	"	13.5	16.7	24.0	6.19		2.8	15-171
1658	21.93/ "	"	15.0	16.9	24.2	6.17		2.79	155
1706	21.98/ "	"	16.0	16.7	24.5	6.25		2.96	163
							Not recorded		

Note: bubbles in line.

APPEARANCE/COLOR cloudy / brown.

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE J Lincoln

WELL CAP REPLACED AND LOCKED BY _____

ODOR Aromatic

SAMPLED BY Julie Lincoln

SIGNATURE J Lincoln

DATE/TIME 1700, 6/19/01

SITE ____ WBS ____ DATE 7-19-01

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: HORIBA U-22

GRUNDFOS PUMP.

1245 START.

SAMPLING METHOD: LOW FLOW

WELL I.D. BRPZ - 9

SAMPLE I.D. 12b-021597

MEAS. REF. POINT (Ft AGS OR BGS) 11.41 DTW

WELL DEPTH (Ft TOC) 56.20

INNER CASING/OPEN HOLE DIAM (In) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) ____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1245	11.41								
1255	11.75	300	2L	17.7	11.0	6.8	-113	1.16	25
1300	11.84	300	3.5	18.1	11.0	6.8	-113	0.72	30
1305	11.88	300	5	18.3	11.0	6.8	-113	0.65	33
1310	11.89	300	6.5	18.3	11.0	6.8	-112	0.65	29
1315	Sample								

Note: Sample water off-gassing VOAs w/ HCl are bubbling

FB: 12b 021595

TB: 12b 021598

* Product Sheen on Water Surface in Flow through Cell.

APPEARANCE/COLOR GREY

SAMPLED BY (PRINT) DEKOSKIE

SIGNATURE ____

WELL CAP REPLACED AND LOCKED BY ____

ODOR STRONG CHLORINATED

SAMPLED BY ---

SIGNATURE ____

DATE/TIME ____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/7/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, HORIBA, pH/EH METER, PERASTALTIC PUMP

SAMPLING METHOD: LOW FLOW SAMPLING

WELL I.D. B38W24S

SAMPLE I.D. 10A-020724

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 15.17'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)'	(ML/MIN) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0935	9.5	≈400		16.8	0.542	5.68	21	4.01	999
0940	9.5	≈400		16.7	0.532	5.94	—	2.64	459
0945	9.62	≈400		17.3	0.540	6.00	—	1.49	101
0950	9.65	≈400		17.4	0.543	5.98	74	0.73	87
0955	9.64	≈400		17.5	0.545	5.97	63	0.52	73
1000	9.70	≈400		17.4	0.547	5.96	57	0.42	66
1005	9.69	≈400		17.3	0.548	5.95	53	0.34	56
1010	9.68	≈400		17.4	0.549	5.96	47	0.31	48
1015	9.68	≈400		17.5	0.554	5.98	41	0.24	44
1020	9.68	≈400		17.6	0.557	6.02	34	0.17	19
1025	9.68	≈400		17.6	0.561	6.04	29	0.14	16
0930 - CALIBRATE HORIBA, EH METER									
1030 - BEGIN SAMPLING									
1100 - END SAMPLING									

APPEARANCE/COLOR CLEAR

SAMPLED BY (PRINT) WILLIAM SPINELLA

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY WMS

ODOR —

SAMPLED BY (PRINT) SHT NG

SIGNATURE [signature]

DATE/TIME 4/7/00 - 1235

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/7/00

WELL I.D. B38W24D

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 10A-020725

FIELD INSTRUMENTS: PID, HORIBA, pH/EH METER, 2" SUBMERSIBLE PUMP

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 27.54'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: LOW FLOW SAMPLING

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	(ML/MIN) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0935	8.75	~350		16.6	0.732	6.20	26	0.11	33
0940	8.65	~350		16.6	0.734	6.20	—	0.33	27
0945	8.62	~350		16.7	0.735	6.21	-14	0.09	33
0950	8.64	~350		16.9	0.734	6.20	-29	0.05	29
0955	8.66	~350		17.1	0.735	6.20	-40	0.08	28
1000	8.66	~350		17.1	0.735	6.20	-47	0.04	28
1005	8.66	~350		17.0	0.735	6.20	-52	0.03	27
0930 - CALIBRATE HORIBA, EH METER									
1010 - BEGIN SAMPLING									
1050 - END SAMPLING									

APPEARANCE/COLOR CLEAR

ODOR —

SAMPLED BY (PRINT) WILLIAM SPINELLA

SAMPLED BY (PRINT) SHI NG

SIGNATURE William Spinella

SIGNATURE

WELL CAP REPLACED AND LOCKED BY WNS

DATE/TIME 4/7/00 - 1235

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/7/00

WELL I.D. MISS 4A

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 10A-020718

FIELD INSTRUMENTS: PID, HORIBA, pH/EH METER, PERASTALTIC PUMP

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 11.7'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: LOW FLOW SAMPLING

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	(ML/MIN) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1125	8.64								
1180	9.98	N 400		12.6	1.04	4.22	263	3.56	36
1185	10.6	N 150		11.6	1.08	4.18	277	3.20	25
WELL RUNNING DRY									
1300	10.7	>50		18.0	1.09	4.22	327	3.28	5
1300 + BEGIN SAMPLING									
1320 - END SAMPLING									

APPEARANCE/COLOR CLEAR

ODOR —

SAMPLED BY (PRINT) WILLIAM SPINELLA

SAMPLED BY (PRINT) SHI MG

SIGNATURE William Spinella I

SIGNATURE

WELL CAP REPLACED AND LOCKED BY NMS

DATE/TIME 4/7/00 -

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 128 WBS _____ DATE 4/7/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, HORIBA, pH/Eh Meter, Peristaltic Pump

SAMPLING METHOD: Low Flow Sampling

WELL I.D. MISS 5A

SAMPLE I.D. 10A-020720

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 15.79'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	(ML/MIN) Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1440	13.30	N160		15.3	2.58	6.34	199	2.25	356
1450	13.47	N160		14.4	2.59	6.30	189	1.91	107
1500	13.53	N160		14.3	2.61	6.34	181	1.27	93
1510	13.53	N160		14.5	2.62	6.36	173	1.11	85
1520	13.72	N180		14.4	2.63	6.39	166	0.87	69
1525	13.72	N180		14.4	2.64	6.42	162	0.83	65
1530	13.74	N190		14.5	2.64	6.43	159	0.90	65
1530 - Begin Sampling									
1615 - End Sampling									

APPEARANCE/COLOR Rusty [redacted] mix

SAMPLED BY (Print) William Spinella

SIGNATURE William Spinella

WELL CAP REPLACED AND LOCKED BY WMS

ODOR —

SAMPLED BY (Print) Shi Ng

SIGNATURE [signature]

DATE/TIME 4/7/00 - 1630

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12A WBS _____ DATE 4/14/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, EH/pH meter, peristaltic pump, flow through cell, generator.

SAMPLING METHOD: Low Flow Sampling

WELL I.D. B38W01S

SAMPLE I.D. 12A - 20728

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 25.9'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 19.0'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~20.0'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1400	6.7'	~700							
1405	6.7'	~350		13.5	2.32	6.94	078	2.38	503
1410	6.45'	~350		13.7	2.16	6.83	-3	1.54	94
1415	6.35'	~350		13.7	2.16	6.82	-19	1.29	64
1420	6.35'	~350		13.2	2.17	6.85	-29	1.44	51
1425	6.35'	~350		13.3	2.16	6.85	-32	1.38	44
1430	6.35'	~350		13.4	2.15	6.85	-35	1.4	34
1400	begin	purging.							
1435	begin	sample	collection.						
1510	sample	collection	complete.						

APPEARANCE/COLOR clear w/yellow tint

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE J Lincoln

WELL CAP REPLACED AND LOCKED BY J Lincoln

ODOR decaying organic material

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 4/14/00 - 1410

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 126 WBS _____ DATE 4/18/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, EH/pH meter, peristaltic pump, Flow through cell, generator.

SAMPLING METHOD: Low flow sampling.

WELL I.D. Miss-1B

SAMPLE I.D. 126-20731

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 21.15'

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 25.1'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~19.0'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1330	15.92								
1355	15.97	~325		12.0	0.719	7.04	80	0.33	57
1400	15.97	N 325		11.9	0.734	7.05	83	0.36	48
1405	15.97	N 325		11.8	0.762	7.06	83	0.30	44
1410	15.97	~325		11.8	0.771	7.06	83	0.30	45
1425	15.97	~325		12.0	0.775	7.06	94	0.47	126
1430	15.98	N 325		12.1	0.691	7.10	86	0.24	245
1435	15.98	N 325		12.0	0.704	7.08	76	0.24	315
1345	Began purging well								

APPEARANCE/COLOR Murky brown

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY

ODOR NONE

SAMPLED BY (PRINT) William Spindler

SIGNATURE William Spindler

DATE/TIME

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 4/11/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/EH meter, 2" Peristaltic pump. ~~Submersible grundfos~~ 4f. generator Flow through cell.

SAMPLING METHOD: Low Flow Sampling

WELL I.D. Miss-1AA

SAMPLE I.D. 12b-020730

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) 21.2'

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) 15.4'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~17'

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0900	14.9'								
0940	15.98'	~250		9.9	2.41	6.77	23	2.14	54
0945	16.1	~150		9.6	2.41	6.94	36	1.75	37
0950	16.1	~90		9.3	2.41	6.98	18	1.57	35
0955	16.12	~90		8.6	2.40	7.02	18	1.86	32
0935	begin	purging.							
PID = 0									
0955	begin	Sampling							

APPEARANCE/COLOR yellow murky

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY J Lincoln

ODOR None

SAMPLED BY (PRINT) William Spinella

SIGNATURE William Spinella

DATE/TIME 4/11/00 - 0940

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12A WBS _____ DATE 4/14/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, EH/pH meter, peristaltic pump, flow through cell, generator

SAMPLING METHOD: Low Flow Sampling

WELL I.D. B38W02D

SAMPLE I.D. 12a-20729

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) 45.56'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 40.0'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0915	16.76'			~~9.3~~	~~0.393~~	~~6.48~~	~~126~~	~~5.6~~	~~18~~ 41
0930	19.6'	~400		9.3	0.393	6.48	126	5.6	18
0935	19.95	~250		10.0	0.392	6.45	~~131~~ 128	3.40	19
0940	20.05	~250		10.1	0.391	6.44	133	3.11	21
0945	20.08	~250		10.2	0.392	6.43	135	2.75	19
0950	20.08	~250		10.2	0.392	6.43	134	1.93	15
0955	20.02	~250		10.4	0.392	6.45	133	2.42	14
1000	19.93	~250		10.6	0.392	6.47	132	2.35	13
0925	begin purging								
1005	begin sample collection								

APPEARANCE/COLOR clear

SAMPLED BY (Print) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY

ODOR None

SAMPLED BY (Print) Bill Spinella

SIGNATURE Bill Spinella

DATE/TIME

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 4/10/00

WELL I.D. Miss-2B

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 12B-020732

FIELD INSTRUMENTS: PDI, pH/EH meter, horiba, 2" submersible pump, flow through cell, peristaltic pump, generator.

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 20.19'

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: Low Flow Sampling

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~17'

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0920	7.82	~100							
0940	9.55			10.7	3.35	6.55	208	3.37	5
0945	9.65			10.6	3.34	6.56	208	3.44	5
0950	10.05			10.2	3.31	6.54	210	3.19	4
0955	9.7			9.9	3.32	6.53	212	2.98	5
1000	9.73			9.8	3.32	6.53	213	2.97	2
1005	9.78			9.6	3.35	6.52	211	3.04	4
0910	Calibrate horiba.								
0920	begin purging								
1035	begin sample collection.								

APPEARANCE/COLOR yellow

ODOR None

SAMPLED BY (Print) Julie Lincoln

SAMPLED BY (Print) Julie Lincoln

SIGNATURE Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

DATE/TIME 4/10/00 - 0920

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 4/10/00 WELL I.D. Miss-2B

WORK ORDER # ___ NORFAS # _____ SAMPLE I.D. 12B-020733

FIELD INSTRUMENTS: PDI, pH/EH meter, Horiba, 2" Submersible pump, flow through cell, peristaltic pump, generator. MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 53.82'

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: Low Flow Sampling WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~50'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0945	10.87	—							
0950	10.9	—		11.9	5.76	6.96	48	0.14	52
0955	10.86	~300		12.1	5.74	6.97	41	0.23	51
1000	10.86	~300		12.1	5.79	6.96	30	0.24	51
1005	10.87	~300		12.2	5.82	6.96	12	0.14	50
1010	10.9	~300		12.4	5.80	6.96	3	0.05	49
1015	10.89	~300		12.4	5.80	6.95	-4	0.1	49
1020	10.89	~300		12.5	5.81	6.95	-13	0.07	48
1025	10.89	~300		12.5	5.81	6.95	-22	0.08	50
1030	10.9	~300		12.4	5.81	6.94	-28	0.07	49
1035	10.9	~300		12.3	5.80	6.93	-32	0.05	48

APPEARANCE/COLOR YELLOW / MURKY ODOR ODEROUS

SAMPLED BY (PRINT) JULIE LINCOLN SAMPLED BY (PRINT) WILLIAM SPINELLA

SIGNATURE Julie Lincoln SIGNATURE William Spinella

WELL CAP REPLACED AND LOCKED BY Julie Lincoln DATE/TIME 4/10/00 - 0955

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/5/00

WELL I.D. MW-38

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 10A-20017

FIELD INSTRUMENTS: PDI, pH/eH METER, HORIBA, 2" SUBMERSIBLE GRUNDFOS PUMP

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: LOW FLOW SAMPLING

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1350	9.05	N350		10.9	1.32	5.98	120	0.92	127
1355	9.05			11.6	1.31	5.98	97	0.06	106
1400	9.06			12.0	1.30	6.01	69	0.07	76
1405	9.05			12.2	1.31	6.03	55	0.05	60
1410	9.05			12.3	1.31	6.04	49	0.11	48
1415	9.05			12.2	1.32	6.05	39	0.07	40
1420	9.06			12.5	1.31	6.09	34	0.03	32
1425	9.05			12.6	1.32	6.09	31	0.05	24
1345 – RECALIBRATE HORIBA									
1430 – BEGIN SAMPLING									

APPEARANCE/COLOR DARK/SILTY

ODOR —

SAMPLED BY (Print) WILLIAM SPINELLA

SAMPLED BY (Print) SUE NG

SIGNATURE William Spinella

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY WMS

DATE/TIME 4/5/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/5/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PDI, pH/EH METER, HORIBA, 2" SUBMERSIBLE GRUNDFOS PUMP

SAMPLING METHOD: LOW FLOW SAMPLING

WELL I.D. MW66 3A

SAMPLE I.D. 10A-30716

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	(ML/MIN) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1130	7.08	~400		15.8	0.664	6.11	-18	0.12	117
1135	7.15	↓		14.0	0.659	6.13	-52	0.06	100
1140	7.10			11.5	0.661	6.15	-61	-0.03	72
1145	7.09	↓		11.4	0.659	6.16	-63	-0.04	86
0910 - CALIBRATE HORIBA, REDOX METER									
1145 - BEGIN SAMPLING									
* NOTE - DIFFICULTIES W/PUMP CAUSED PREVIOUS PURGING EVENTS TO FAIL									
BUT AN ADDITIONAL 10 GAL. OF WATER TO BE PURGED.									

APPEARANCE/COLOR LIGHT RUSTY COLORING

SAMPLED BY (PRINT) WILLIAM SPINELLA

SIGNATURE William Spinella

WELL CAP REPLACED AND LOCKED BY WMS

ODOR ---

SAMPLED BY (PRINT) SHENG

SIGNATURE _____

DATE/TIME 4/5/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/6/00

WELL I.D. MISS 4B

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 10A-20949

FIELD INSTRUMENTS: PDI, pH/eH METER, HORIBA, 2" SUBMERSIBLE GRUNDFOS PUMP

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: LOW FLOW SAMPLING

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	(ML/MIN) Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1540	10.09	~300		12.9	1.70	6.46	8.16	0.42	45
1545	10.06	~300		13.0	1.62	6.48	8.40	0.09	29
1550	10.06	~300		13.2	1.61	6.42	8.48	0.06	29
1555	10.06	~300		13.7	1.60	6.43	8.52	0.04	23
1600 - BEGIN SAMPLING									

APPEARANCE/COLOR CLEAR

ODOR ____

SAMPLED BY (PRINT) NELLEAN SPINELLA

SAMPLED BY (PRINT) SUE NG

SIGNATURE Nellean Spinella

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY WNS

DATE/TIME 4/6/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/6/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, HORIBA, pH/EH, 2" SUBMERSIBLE GRUNDFOS, GENERATOR, FLOW THROUGH CELL

SAMPLING METHOD: LOW FLOW SAMPLING

WELL I.D. B38W05B

SAMPLE I.D. 10A-020721

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 47.3'

INNER CASING/OPEN HOLE DIAM (in) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~40.0'

Sample Time (From/To)	Water Level (Ft TOC)	(ML/MIN) ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1315	9.9								
1320	9.97	~350		13.6	0.426	6.81	183	4.32	740
1325	10.0	~350		15.5	0.422	6.71	175	2.75	341
1330	9.98	~350		15.7	0.422	6.68	171	2.59	244
1335	9.97	~350		16.1	0.422	6.68	168	2.73	170
1340	9.98	~350		16.4	0.424	6.70	164	2.93	111
1345	9.95	~350		16.6	0.424	6.72	161	2.96	73
1350	9.95	~350		16.7	0.426	6.75	159	2.77	56
1355	9.98	~350		16.7	0.428	6.76	160	2.62	45
Post sample 9.95									

APPEARANCE/COLOR brown

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE J Lincoln

WELL CAP REPLACED AND LOCKED BY _____

ODOR None

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE J Lincoln

DATE/TIME 4/6/00 - 1315

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 3/30/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/Eh meter, 2" submersible grundfos, generator, Flow through cell.

SAMPLING METHOD: Low Flow Sampling

WELL I.D. B38W078B J.L.

SAMPLE I.D. 10a - 20723

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) 42.46

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 19.8

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~~~40.2~~ ~25.0'

Sample Time (From/To)	Water Level (Ft TOC)	(ML/min) ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1525	8.16	~350		11.5	0.115	6.07	236	8.30	0
—									
—									
1535	8.05	~300		13.0	0.102	6.07	269	7.67	0
1540	8.05	~300		13.1	0.101	6.09	276	8.20	0
1545	8.06	~300		13.1	0.102	6.11	286	7.85	0
1550	8.11	~300		13.3	0.102	6.11	299	8.56	0
1555	8.11	~300		13.5	0.100	6.14	303	8.09	0
1600	8.12	~300		13.6	0.101	6.15	309	8.16	0
1605	8.13	~300		13.6	0.102	6.17	316	8.06	0
1610 – begin sample collection.									

APPEARANCE/COLOR Clear

SAMPLED BY (Print) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY Jeff DeKoskie

ODOR NONE

SAMPLED BY (Print) Jeff DeKoskie

SIGNATURE _____

DATE/TIME 3/30/00 - 1535

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 3/30/00

WELL I.D. MISS-SB

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 12B-20735

FIELD INSTRUMENTS: PID, Horiba, pH/EH meter 2" Submersible grundfos, generator, Flow through cell.

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) 57.4'

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 27.4'

SAMPLING METHOD: Low Flow Sampling

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~50.0'

Sample Time (From/To)	Water Level (Ft TOC)	(ML/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0940	14.8	~340		12.8	19.5	5.95	-29	0.85	28
0945	14.7	~340		12.4	25.5	5.91	-18	0.28	42
0950	14.68	~340		12.5	20.2	6.03	-77	0.19	51
1000	14.7	~300		12.8	10.3	6.25	-209	0.27	9
1005	14.69	~300		12.8	10.2	6.25	-230	0.14	8
1010	14.7	~300		12.8	10.2	6.25	-240	0.22	9
1015	14.7	~300		12.8	10.2	6.25	-248	0.16	10
Calibrate horiba ~ 0935									
begin Purging ~ 0940									
Purge well ~ 0950									
	2.9								
begin sampling 1015									

APPEARANCE/COLOR gray

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

ODOR Sulfur smell.

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 4/3/00 - 1000

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 4/13/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/Eh meter, Peristaltic pump, Flow through cell, generator

SAMPLING METHOD: ~~Flow through cell. 9!~~ Low flow sampling

WELL I.D. MISS-6A

SAMPLE I.D. 12B-020736

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 15.48

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 9.0'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 12.0'

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1150	7.4								
1205	11.3	~135		12.8	1.21	6.56	42	2.35	28
1210	11.15	~300		13.2	1.21	6.66	47	1.65	27
1215	11.1	~210		13.5	1.21	6.69	48	1.34	26
1220	11.01	~210		13.8	1.21	6.72	50	1.5	22
1225	10.8	~210		14.1	1.21	6.73	52	1.35	17
1225	begin sampling collection								
1300	sample collection comple.								

APPEARANCE/COLOR light yellow

SAMPLED BY (PRINT) Julie Lincoln.

SIGNATURE Julie Lincoln !

WELL CAP REPLACED AND LOCKED BY J. Lincoln

ODOR odorous.

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE J. Lincoln

DATE/TIME 4/13/00 - 1215

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE Cluster 12b WBS _____ DATE 3/29/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/Eh meter
2" submersible grundfos, generator
Flow through cell.

SAMPLING METHOD: Low Flow Sampling

WELL I.D. Miss-7A

SAMPLE I.D. No samples collected.

MEAS. REF. POINT (Ft AGS or BGS) TOC

WELL DEPTH (Ft TOC) 10.65'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 9.2'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~8.5' (TOC)

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1450	7.65								
1455	begin purging -								
1505	stop purging, not enough water in well to use submersible pump								

APPEARANCE/COLOR _____

SAMPLED BY (Print) Bill Spinelli

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

ODOR None

SAMPLED BY (Print) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 3/29/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 3/29/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/EH meter
2" submersible pump, generator,
Flow through cell.

SAMPLING METHOD: Low Flow Sampling.

WELL I.D. Miss-7B

SAMPLE I.D. 12b-020738 ~~(4)~~ 4.0.
12b-020768 (Dup Keate)

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) 50.15

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 21.2'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~45.'

Sample Time (From/To)	Water Level (Ft TOC)	(ML/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
	9.87	Prior	to inserting	pump					
1030	10.22	After	inserting	pump.					
1045	10.2	~350		12.5	4.86	7.24	220	2.81	42
1050	10.19	~350		12.8	4.93	~~12.8~~ 7.23	221	2.46	36
1055	10.21	~350		13.2	4.98	~~13.2~~ 7.21	203	2.45	30
1100	10.22	~350		13.2	5.01	7.22	208	2.15	31
PID	- 0.0								
Start	sampling: 1100								
Calibrate	horiba:	1020							
Dup	taken on	this	well.						

APPEARANCE/COLOR slightly yellow

SAMPLED BY (PRINT) Bill Spinella.

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

ODOR NONE

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 3/29/00 - 1025

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE Cluster 8a WBS _____ DATE 3/28/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/EH meter, 2" submersible pump, generator, flow through cell

SAMPLING METHOD: Low Flow Sampling

WELL I.D. ~~B3812A~~ 4.8. B38W12A

SAMPLE I.D. 08a-020~~7~~14

MEAS. REF. POINT (Ft. AGS OR BGS) TOC

WELL DEPTH (Ft TOC) 17.7

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) 10.4'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~14'

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1455	4.95	-350		13.8	4.16	6.22	242	1.45	10
1500	7.88	250		14.3	4.16	6.21	246	1.31	10
1505	6.02			14.7	2.85	6.07	255	1.86	67
1510	5.42			15.0	2.83	6.08	263	1.31	69
1515	5.79			15.2	2.83	6.13	254	1.03	69
1520	5.71			15.6	2.82	6.17	247	0.94	70

APPEARANCE/COLOR redish brown to yellow.

SAMPLED BY (PRINT) Bill Spinnela

SIGNATURE Bill Spinnela

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

ODOR NONE

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 3/28/00 1455

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE Cluster 8a WBS _____ DATE 3/28/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/EH meter
2" Submersible grundofs, generator,
Flow through cell.

SAMPLING METHOD: Low Flow Sampling

WELL I.D. B38W12B

SAMPLE I.D. 08a-02715

MEAS. REF. POINT (Ft AGS or BGS) TOC

WELL DEPTH (Ft TOC) ~52.2

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) 36.9'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~48.0'

Sample Time (From/To)	Water Level (Ft TOC)	(ml/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1310	4.9	~350		12.7	1.2	7.56	266	7.78	10
1315	5.01			12.8	1.2	7.55	261	7.30	10
1320	5.05			13.0	1.21	7.41	267	6.49	10
1325	5.06			13.5	1.2	7.34	264	6.03	10

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) Bill Spinnela

SIGNATURE Bill Spinnela

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

ODOR None

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 3/28/00 1255

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 20a WBS _____ DATE 4/11/00

WELL I.D. B38W17A

WORK ORDER # ___ NORFAS # _____

SAMPLE I.D. 20a-020746

FIELD INSTRUMENTS: PID, Horiba, pH/Eh meter, Flow through cell, generator, peristaltic pump.

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 16.65

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 10.6

SAMPLING METHOD: LOW FLOW SAMPLING

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~15.0'

Sample Time (From/To)	Water Level (Ft TOC)	(ML/MIN) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1330	8.7'								
1345	Begin purging.								
1355	9.82	~260		8.7	0.517	6.39	142	2.10	62
1400	9.83	~250		8.7	0.522	6.39	144	1.70	46
1405	9.83	~250		8.8	0.557	6.40	147	1.57	35
1410	9.84	~250		8.9	0.582	6.42	152	1.81	41
1415	9.83	~250		9.0	0.612	6.47	147	1.69	42
1420 - BEGIN SAMPLING									

APPEARANCE/COLOR Clear

ODOR NONE

SAMPLED BY (PRINT) Julie Lincoln

SAMPLED BY (PRINT) WILLIAM SPINELLA

SIGNATURE J Lincoln

SIGNATURE William Spinella

WELL CAP REPLACED AND LOCKED BY J Lincoln

DATE/TIME 4/11/00 - 1350

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 20a WBS _____ DATE 4/18/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, Eh/pH meter peristaltic pump, flow through cell, generator

SAMPLING METHOD: Low flow sampling.

WELL I.D. B38W17B

SAMPLE I.D. 20a-20747

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) 21.36

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 21.7

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~ 18'

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0925	8.50								
0940	8.50	~400		9.8	2.63	6.77	-24	2.35	64
0945	8.5	~400		10.2	2.62	6.83	-32	1.59	45
0950	8.5	~400		10.4	2.61	6.87	-36	1.27	21
0955	8.5	~400		10.5	2.61	6.88	-38	1.11	15
1000	8.5	~400		10.6	2.60	6.89	-42	0.93	13
1005	8.5	~400		10.6	2.61	6.87	-43	0.98	12
0905	Arrive at B38W17B								
0925	calibrate horiba								
0935	begin purging.								

APPEARANCE/COLOR yellow - clear

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

ODOR None

SAMPLED BY (PRINT) William Spinelli

SIGNATURE William Spinelli

DATE/TIME 4/18/00 - 0945

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 4/6/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, pH/EH meter, 2" submersible grundfos, generator, Flow through cell.

SAMPLING METHOD: Low Flow Sampling

WELL I.D. B38W18D

SAMPLE I.D. 12B-020739

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0915	3.41	Before inserting submersible pump							
0930	3.84	~400		14.0	0.27	6.30	213	5.8	201
0935	3.82	~400		14.7	0.238	6.49	209	5.73	240
0940	3.9	~400		15.4	0.320	6.26	205	5.66	220
0945	3.8	~350		15.6	0.323	6.21	204	4.65	220
0950	3.79	~350		15.4	0.495	6.01	202	4.12	208
0955	3.80	~350		15.5	0.678	5.92	194	2.39	194
1000	3.80	~350		15.5	0.764	5.90	186	1.78	177
1005	3.81	~350		15.6	0.835	5.88	176	1.37	177
1010	3.8	~350		15.6	0.867	5.85	172	1.48	160

APPEARANCE/COLOR brown

SAMPLED BY (Print) Julie Lincoln

SIGNATURE J Lincoln

WELL CAP REPLACED AND LOCKED BY _____

ODOR none

SAMPLED BY (Print) Julie Lincoln

SIGNATURE J Lincoln

DATE/TIME 4/6/00 - 0915

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 4/10/00

WELL I.D. B38W119S

WORK ORDER # ___ NORFAS # _____

SAMPLE I.D. 12B-020740

FIELD INSTRUMENTS: PID, Horiba, pH/Eh meter 2" submersible grundfos, generator, Flow through cell.

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) 17.81'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: Low Flow Sampling

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 17.5'

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1405	15.8'	~250		15.5	2.58	7.18	-37	1.37	298
1410	15.8'	~250		15.1	2.59	7.17	-43	1.13	290
1415	15.8'	~250		13.8	2.58	7.16	-59	0.54	249
1420	15.8'	~250		13.7	2.57	7.14	-68	0.85	173
1425	15.8'	~250		13.9	2.58	7.13	-75	0.45	164
1430	15.8'	~250		13.7	2.57	7.13	-82	0.28	80
1435	15.8'	~250		14.0	2.57	7.13	-86	0.24	86
1440	15.8'	~250		14.0	2.57	7.13	-86	0.19	87
1310	calibrate horiba.								
1340	begin purging.								
1445	begin sample collection.								

APPEARANCE/COLOR murky yellow

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY NMS

ODOR NONE

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 4/10/00 - 1405

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 12B WBS _____ DATE 3/29/00

WELL I.D. B38W19D

WORK ORDER # ____ NORFAS # _____

SAMPLE I.D. 12b-D2D741

FIELD INSTRUMENTS: PID, Horibas, pH/EH meter, 2" submersible grundfos, generator, Flow through cell.

MEAS. REF. POINT (Ft AGS OR BGS) TOC

WELL DEPTH (Ft TOC) 50.7'

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 24.8'

SAMPLING METHOD: Low Flow sampling.

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 45'

Sample Time (From/To)	Water Level (Ft TOC)	~~(GPM)~~ (mL/min) Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1530	14.9					~~4.52~~	~~84~~		
1540	14.9								
1550	14.9	~350		12.5	10.6	6.52	84	1.64	25
1555	14.91	~350		12.9	9.6	6.55	93	1.56	23
1600	14.91	~350		13.2	6.84	6.66	104	1.30	5
1605	14.92	~350		13.3	6.26	6.71	109	1.19	1
1610	14.91	~350		13.5	5.90	6.74	116	1.03	0
1540	begin	Purging							
1530	PID	0.0							
1615	begin	Sample collection							

APPEARANCE/COLOR Clear

ODOR NONE

SAMPLED BY (PRINT) Bill Spinnek

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE _____

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY Julie Lincoln

DATE/TIME 3/29/00 -

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/13/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, PH/EH meter, peristaltic pump, Flow through cell, generator

SAMPLING METHOD: Low Flow Sampling

WELL I.D. B38W25S

SAMPLE I.D. 10A-020726

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 15.07

INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 9.7'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~13.5'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1435	6.78								
1440	7.48			13.1	1.58	6.71	-60	2.17	722
1445	7.54	~400		11.9	1.41	6.80	-49	2.67	396
1450	7.3	~400		12.0	1.35	6.77	-62	0.96	156
1455	7.3	~400		12.2	1.31	6.79	-69	0.86	48
1500	7.3	~400		12.3	1.27	6.83	-73	0.66	44
1505	7.3	~400		12.3	1.24	6.87	-79	0.66	34
1440	Begin Purging.								
1505	Sample collection began								
1533	Sample collection complete								

APPEARANCE/COLOR clear

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

WELL CAP REPLACED AND LOCKED BY J. Lincoln.

ODOR very odorous (rotten eggs)

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE Julie Lincoln

DATE/TIME 4/13/00 - 1455

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE 10A WBS _____ DATE 4/13/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Horiba, EH/pH meter, Flow through cell, Peristaltic pump, generator

SAMPLING METHOD: Low Flow Sampling.

WELL I.D. B58W25

SAMPLE I.D. 10a-020724

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 30.32

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 25'

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~23.0'

Sample Time (From/To)	Water Level (Ft TOC)	(mL/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1510	7.06			~~13.2~~	~~0.92~~	~~6.95~~	~~-62~~	~~0.94~~	~~20~~
~~[illegible]~~ WNS									
1540		~220		13.2	0.92	6.95	-62	0.94	20
1545	7.17	~300		13.3	0.92	6.89	-70	0.53	5
1550	7.17	~300		13.9	0.92	6.86	-74	0.59	5
1555	7.17	~300		14.0	0.93	6.86	-77	0.54	6
1600	Beginning sample collection								
1630	Sample collection complete								

APPEARANCE/COLOR clear

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE J. Lincoln

WELL CAP REPLACED AND LOCKED BY J. Lincoln

ODOR decaying material

SAMPLED BY (PRINT) Julie Lincoln

SIGNATURE J. Lincoln

DATE/TIME 4/13/00 1455

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 11/1/00

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: PID, YSI, WLevel I, Grundfos 2" pump, generator, decon equip., PPE

SAMPLING METHOD: Submersible 2" Grundfos

WELL I.D. B38W17B

SAMPLE I.D. 200-02038

MEAS. REF. POINT (Ft AGS OR BGS) TOC Riser (outer casing)

WELL DEPTH (Ft TOC) ____

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) 7 gallons

PUMP INTAKE (Ft TOC) 21 from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Cond/Specific Cond. µS/cm	pH	Eh (mv)	ok, DO ~~(mg/L)~~ %	Turbidity (NTU)
0930	10.2								
0945	10.28	~~800~~ 600 ml/min		15.94	1948	7.08	-59.8	WLE 4.39	47.1
~~0950~~ 0950	10.24	320 ml/min		17.98	2034	7.04	-73.2	WLE 2.48	59.3
0955	10.24	500 ml/min		17.83	2027/~~2344~~	7.06	-82.6	~~1.57~~ 1.57	118.6
1000	10.23	180 ml/min		17.87	2022/2339	7.05	-83.9	1.56	126.0
1005	10.23	30 ml/min		18.75	2071/2352	7.07	-85.5	1.49	155.2
1010	10.23	300 ml/min		17.47	1965/2320	7.07	-88.8	0.98	111.7
1015	10.21	150 ml/min		17.92	2005/2317	7.07	-90.1	0.92	150.1

APPEARANCE/COLOR CLEAR

SAMPLED BY (print) VINCENT PEGRO

SIGNATURE Vincent Pegro

WELL CAP REPLACED AND LOCKED BY GARY MOYER

ODOR organic compounds (weathered)

SAMPLED BY ____

SIGNATURE ____

DATE/TIME 11-1-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MiSS WBS _____ DATE 12/21/00

WELL I.D. MiSS-01AA

WORK ORDER # ___ NORFAS # _____

SAMPLE I.D. 12b-021303

FIELD INSTRUMENTS: Peristaltic Pump Grundfos Converter, Horiba U-10 Myron-6P, Bailer

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: Low Flow

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1030	156								
1045	17.02	400		11.6	2.31	7.04	68	3.25	4
1050	17.67	370		11.9	2.30	7.04	64	2.70	4
1055	18.01	370		12.2	2.30	7.06	58	2.67	2
1100	18.8	370		12.2	2.30	7.05	58	2.26	2
1105	19.7	370		12.2	2.30	7.04	57	2.27	1

APPEARANCE/COLOR Clear

ODOR None

SAMPLED BY (Print) M. Hamashy

SAMPLED BY (Print) _____

SIGNATURE M. Hamashy

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE Mayport WBS _____ DATE 12/21/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: Submersible pump, Grundfos, Horiba Water, Myron-6P

SAMPLING METHOD: Low Flow

WELL I.D. MISS-01

SAMPLE I.D. 12b-021302B

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
915	16.2								
930	16.29	400		12.1	0.80	7.33	43	0.53	30
935	16.22	200		13.6	0.832	7.25	47	0.44	18
940	16.22	200		13.5	0.831	7.26	53	0.60	18
945	16.22	200		13.5	0.832	7.26	55	0.45	18

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) Maurice Hanashy

SIGNATURE Maurice Hanashy

WELL CAP REPLACED AND LOCKED BY _____

ODOR None

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MiSS WBS _____ DATE 12/21/00

WELL I.D. MiSS-06A

WORK ORDER # ___ NORFAS # _____

SAMPLE I.D. 12b-021304

FIELD INSTRUMENTS: Peristaltic Pump, Grundfos, Horiba, Myron, Bailer.

MEAS. REF. POINT (FT AGS OR BGS) _____

WELL DEPTH (FT TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (FT TOC) _____

SAMPLING METHOD: Low Flow

WELL VOLUME (Gal) _____

PUMP INTAKE (FT TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1130	8.05								
1150	8.32	230		8.5	0.824	6.97	64	5.65	22
1155	8.32	230		8.5	0.829	6.95	60	4.0	19
1200	8.31	230		8.6	0.83	6.94	61	4.1	18
1205	8.32	230		8.5	0.83	6.95	61	4.2	19

APPEARANCE/COLOR Milky

ODOR None

SAMPLED BY (PRINT) Maurice Hanashy

SAMPLED BY ~~~ _____

SIGNATURE M. Hanashy

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ~~EMSS~~ WBS _____ DATE 11/29/00

WELL I.D. B38W06B

WORK ORDER # ___ NORFAS # _____

SAMPLE I.D. 10a-21029

FIELD INSTRUMENTS: peristaltic pump, YSI water analyzer, water level meter

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2" steel

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: peristaltic pump/ micro bailer

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ≈ 20' below TOC

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. ~~(µS~~/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
~~1340~~	10.65			~~15.66~~	~~1180.0~~	~~6.78~~	~~147.4~~	~~8.51~~	~~219.6~~
1335	11.30	205		14.18	1180.0	6.78	147.4	8.51	219.6
1340	11.20	200		15.49	1241.0	6.72	-9.1	4.99	46.8
1345	11.20	215		15.55	1261.0	6.70	-28.1	4.71	29.7
1350	11.20	210		15.64	1284.0	6.69	-40.4	4.28	16.2
1355	11.21	215		15.67	1300.0	6.70	-46.8	3.90	10.9
1400	11.23	210		15.58	1310.0	6.70	-50.6	3.72	9.8
1405	Collect Samples								

APPEARANCE/COLOR Slightly yellow brown & turbid

ODOR degraded petrg or VOC odor

SAMPLED BY (PRINT) M. MYHOWICH

SAMPLED BY V. BETRO

SIGNATURE M Myhowich

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY CM

DATE/TIME 11/29/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/27/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Peristaltic Pump, power source, YSI water analyzer, water level meter, generator

SAMPLING METHOD: Peristaltic Pump / Bails

WELL I.D. B38W24S

SAMPLE I.D. 10a-21044

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2" Stn

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off bottom of w/

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (µS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1050	6.90'								
1100	7.15	240		14.36	1862.0	6.89	-35.9	5.45	318.0
1105	6.90	240		14.31	1841.0	6.81	-94.8	1.78	19.7
1110	6.90	250		14.31	1786.0	6.80	-94.1	1.27	12.4
1115	6.90	250		14.29	1656.0	6.80	-98.3	0.91	18.2
1120	6.90	250		14.23	1520.0	6.80	-101.3	0.78	26.5
1125	6.90	250		14.40	1428.0	6.81	-104.2	0.74	31.6
1130	6.90	265		14.81	1337.0	6.82	-109.2	0.69	47.1
1135	COLLECT		SAMPLES						

APPEARANCE/COLOR initial brown turbidity turning clear / clear w/ brown tint

ODOR organic odor little to no odor (chemical)

SAMPLED BY (PRINT) M. MYHOUNCH

SIGNATURE M Myhounch

WELL CAP REPLACED AND LOCKED BY GM

SAMPLED BY V. BETRO

SIGNATURE _____

DATE/TIME 11/27/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/27/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: Grundfos Pump, YSI water analyzer, water level meter, geneatr

SAMPLING METHOD: Grundfos Submersible Pump

WELL I.D. B38W24A

SAMPLE I.D. 10a-21045

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2.5"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	(ml/min) Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (µS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0956	6.95								
0955	6.99	Variable		14.72	812.0	6.89	91.8	4.92	30.8
1000	6.98	170		13.79	826.0	6.83	-78.0	4.00	8.0
1005	6.96	195		14.29	832.1	6.83	-89.3	3.70	5.5
1010	6.97	215		15.20	830.0	6.82	-88.7	2.45	2.8
1015	6.96	190		15.43	833.0	6.83	-96.2	1.81	2.5
1020	7.00	145		15.98	831.0	6.84	-99.3	1.47	2.2
1025	7.00	170		15.93	833.0	6.84	-101.3	1.17	3.2
1025	Collect	SAMPLE							

APPEARANCE/COLOR light green to yellow/brown

SAMPLED BY (print) M. MYHOWICH

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY GM

ODOR organic odor

SAMPLED BY V. BETRO

SIGNATURE _____

DATE/TIME 11/27/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE EMSS WBS _____ DATE 11/24/10

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: purged Waters

SAMPLING METHOD: bailer

WELL I.D. MISS 07A

SAMPLE I.D. 126-21022

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0900	8.30								
0900		collect sample							

APPEARANCE/COLOR clear/slight brown tint

SAMPLED BY (PRINT) M. Myhorusch

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY G.M

ODOR none

SAMPLED BY --- V. BETRO

SIGNATURE _____

DATE/TIME 11/24/10

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ~~FWS~~ WBS _____ DATE 11/21/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: Grundfos Sub. Pump, YSI water analyzer, water level meter generator

SAMPLING METHOD: Grundfos Sub. Pump

WELL I.D. MISS-02B

SAMPLE I.D. 126-21014

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (in) 4" S/S

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off bottom of u

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (~~GPM~~)	Volume Purged (GAL)	Temp. °C	Specific Cond. (~~µS~~/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1000	11.80			/					
1010	11.97	500		12.46	4741.0	8.02	-213.9	7.58	9.6
1015	12.00	200		12.516	4779.0	8.03	-212.8	4.78	9.9
1020	12.00	180		12.22	4810.0	8.00	-241.7	4.84	12.4
1025	12.00	175		11.75	4811.0	7.99	-245.2	5.15	11.9
1030	12.06	200		11.87	4791.0	7.98	-246.1	3.95	11.3
1035	12.00	150		12.73	4794.0	7.96	-253.3	3.14	12.0
1045	Co Next samples								

APPEARANCE/COLOR Light yellow brown

SAMPLED BY (PRINT) M. Mghamrah

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY GM

ODOR organic odor

SAMPLED BY V. Bettie

SIGNATURE _____

DATE/TIME 11/21/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMASS WBS _____ DATE 11/21/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: Peristaltic Pump, YSI water analyzer, water level meter, generator

SAMPLING METHOD: Peristaltic Pump/Bailer

WELL I.D. MISS-02A

SAMPLE I.D. 12b-21013

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) 20'

INNER CASING/OPEN HOLE DIAM (In) 2" PVC

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off well bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (µS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0820	10.00			/					
0835	10.70	245		10.57	44220	7.03	-31.7	5.28	560.70
0840	11.70	255		11.01	39274	6.96	-113.2	1.98	18.50
0845	12.19	270		11.47	36040	6.95	-123.5	1.95	23.10
0850	12.60	240		11.53	3528.0	6.96	-129.5	1.66	28.10
0855	12.85	230		11.40	3555.0	6.95	-130.0	1.43	18.50
0900	13.14	240		11.35	3591.0	6.95	-131.8	1.34	11.46
0910	Collect Samples								

APPEARANCE/COLOR yellowish brown

SAMPLED BY (PRINT) M. MYHOWICH

SIGNATURE M. Myhowich

WELL CAP REPLACED AND LOCKED BY GM

ODOR organic decay

SAMPLED BY V. Betro

SIGNATURE _____

DATE/TIME 11/21/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/20/2000

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI water analyzer, water level meter, gen., peristaltic pump, bailer

SAMPLING METHOD: peri. pump / bailer

WELL I.D. MISS-1AA

SAMPLE I.D. 126-21011

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 21

INNER CASING/OPEN HOLE DIAM (In) 2" ϕ Std

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off well bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (µS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0800	17.00								
0820	17.10								
0823	17.56	250		13.12	2323.0	7.06	195.3	9.26	42.4
0828	17.95	250		11.18	2351.0	6.94	174.0	5.52	13.8
0833	18.25	200		11.42	2346.0	6.95	168.3	5.54	9.7
0838	18.50	200		11.39	2347.0	6.96	164.9	5.34	7.6
0843	18.82	210		11.61	2349.0	6.96	162.3	5.04	6.4
0848	19.32	195		11.75	2347.0	6.96	159.4	4.83	6.5
0855	Collect Samples								

APPEARANCE/COLOR slightly brown turbid

SAMPLED BY (PRINT) M. Myhowich

SIGNATURE M. Myhowich

WELL CAP REPLACED AND LOCKED BY G.M.

ODOR very slight organic

SAMPLED BY V. Betro

SIGNATURE _____

DATE/TIME 11/20/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE EMSS WBS _____ DATE 11/20/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI water analyzer, water level meter, gen., Grundfos Pump (submersible)

SAMPLING METHOD: Grundfos Sub. Pump

WELL I.D. MISS-1B

SAMPLE I.D. 126-21012

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4" Ste.

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) ~~≈ 30' below~~ TC

PUMP INTAKE (Ft TOC) ~~5' off well bottom~~

Sample Time (From/To)	Water Level (Ft TOC)	ml/mm Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0930	16.90								
0935	17.10	200		16.15	5.00	7.32	138.9	10.01	45.0
0940	17.07	190		13.36	941.0	7.21	-17.6	4.38	270.3
0945	17.05	140		13.40	950.0	7.35	-21.8	4.65	286.3
0950	17.05	130		12.22	942.0	7.22	-23.3	2.60	138.9
0955	17.05	140		13.08	942.0	7.20	-22.8	2.24	152.8
1000	17.05	155		13.57	949.0	7.19	-24.7	1.83	129.4
1005	17.05	160		14.14	951.0	7.19	-26.1	1.56	108.6
1015	collect samples								

APPEARANCE/COLOR light brown moderately turbid

ODOR none

SAMPLED BY (PRINT) M. Myhowich

SAMPLED BY V. Betro

SIGNATURE M. Myhowich

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY G.M

DATE/TIME 11/20/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/20/10 WELL I.D. MISS-06A

WORK ORDER # ___ NORFAS # _____ SAMPLE I.D. 126 - 21021

FIELD INSTRUMENTS: PID, YSI water analyzer, water level meter, peristaltic pump, gen.

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) 16.5

INNER CASING/OPEN HOLE DIAM (In) 2" PVC

DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD: peri. pump / bailer

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off well bottom

Sample Time (From/To)	Water Level (Ft TOC)	mL/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1330	9.40								
1335	10.35	200		13.93	918.0	7.03	140.0	7.90	104.2
1340	11.12	205		14.23	931.0	6.89	132.2	5.39	18.7
1345	11.80	205		14.22	932.0	6.88	128.9	5.02	13.7
1350	12.10	170		14.24	943.0	6.88	126.4	4.48	8.4
1355	12.40	195		14.36	956.0	6.86	124.8	4.17	8.9
1400	12.55	190		14.29	958.0	6.88	123.6	3.93	6.6
1410	Collect Samples								

APPEARANCE/COLOR light brown & slightly turbid becomes clear with purge ODOR no odor

SAMPLED BY (PRINT) M. Mynowich SAMPLED BY V. Betro

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY G.M. DATE/TIME 11/20/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS -04B DATE 11/17/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD: Submersible pump low-flow sampling

WELL I.D. B38W-04B

SAMPLE I.D. 10a - 021027

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 11.6 ft

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) _____

Sample Time (From/To)	Water Level (Ft TOC)	mL/M Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0825	12.5 ft	150		14.50	746.00	6.83	-1.6	43.1	37.6
0830	12.6 ft	250		15.57	782.00	6.83	-47.0	33.9	50.0
0835	12.6 ft	250		16.68	805.00	6.81	-53.1	31.04	47.0
0840	12.6 ft	250		17.13	814.00	6.80	-56.6	29.2	37.5
0845	12.58 ft	250		17.44	825.00	6.79	-58.4	27.5	22.8
0850	12.59 ft	300		17.43	828.00	6.78	-59.0	25.3	17.8
0855	12.59 ft	250		17.59	833.00	6.76	-63.0	23.4	13.7
0900	Sampled —								

APPEARANCE/COLOR Gray Color.

SAMPLED BY (PRINT) Gary (SE), K. Zanchoni (SW)

SIGNATURE Kate Zanchoni

WELL CAP REPLACED AND LOCKED BY Kate Zanchoni

ODOR Yes - fuel like smell.

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS W5B DATE 11/17/00

WORK ORDER # ____ NORFAS # ____

FIELD INSTRUMENTS: ____

SAMPLING METHOD: low-flow submersible pump

WELL I.D. B38W-05B

SAMPLE I.D. 10a-021028

MEAS. REF. POINT (Ft. AGS OR BGS) ____

WELL DEPTH (Ft TOC) 15.3ft

INNER CASING/OPEN HOLE DIAM (In) ____

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) ____

Sample Time (From/To)	Water Level (Ft TOC)	mL/m ~~GPM~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0940	15.35ft	200		15.27	355.00	6.65	45.8	4.38	83.3
0945	15.35ft	300		15.51	364.00	6.51	50.0	3.45	67.2
0950	15.35ft	150		18.05	388.00	6.51	50.3	2.72	55.3
0955	15.35ft	230		18.17	395.00	6.52	53.9	2.70	51.6
1000	15.32ft	210		18.00	395.00	6.53	57.8	2.77	45.9
1005	15.30ft	200		17.97	395.00	6.54	59.5	2.71	43.2
1015 – Sampled.									

APPEARANCE/COLOR clear

SAMPLED BY (PRINT) [illegible]

SIGNATURE [illegible]

WELL CAP REPLACED AND LOCKED BY [illegible]

ODOR No

SAMPLED BY (PRINT) ____

SIGNATURE ____

DATE/TIME ____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/16/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI water anal. Grundfos sub pump, gen. / water level meter

SAMPLING METHOD: Submersible pump

WELL I.D. 338W03B

SAMPLE I.D. 10a - 21026

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2" steel

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off well bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0805	10.45								
0818	10.45	120		10.77	1849.0	7.00	-29.7	6.37	21.0
0823	10.60	200		11.20	2065.0	6.88	-10.5	4.30	9.6
0828	10.60	185		10.98	1595.0	6.39	-2.4	3.36	7.0
0833	10.60	175		11.19	2195.0	6.36	-1.6	3.18	6.4
0837	10.60	175		11.23	2,226.0	6.35	-1.4	2.84	8.1
0842	10.60	180		11.14	2,241.0	6.33	-2.4	2.63	8.6
0847	10.60	175		11.08	2,263.0	6.33	-2.3	2.51	8.9
0900	Collect Samples								

APPEARANCE/COLOR Clear, slight turbidity

SAMPLED BY (Print) M. Mynowych

SIGNATURE M. Mynowych

WELL CAP REPLACED AND LOCKED BY GM

ODOR organic, surfactant

SAMPLED BY — V. Betro

SIGNATURE _____

DATE/TIME _____

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FUSS WBS _____ DATE 11/16/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI water analyzer, water level meter, peristaltic pump,

SAMPLING METHOD: Peristaltic Pump/Bailer

WELL I.D. B38W14S

SAMPLE I.D. 19a-21033

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2" Stc

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off well bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (~~µ~~S/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1045	5.22								
1048	5.30	420		14.28	835	6.73	4.5	2.56	579.3
1050	5.30	350		14.44	736.0	6.45	16.0	0.67	540.0
1055	5.30	220		14.25	734.0	6.42	31.1	0.75	521.3
1100	5.30	235		14.22	738.0	6.42	36.4	0.68	195.9
1105	5.30	240		14.25	739.0	6.40	43.2	0.69	72.8
1110	5.30	240		14.23	739.0	6.40	52.1	0.62	39.9
1115	5.30	240		14.29	740.0	6.40	56.4	0.56	25.3
1120	Collect Samples								

APPEARANCE/COLOR initial brown heavy turbidity ~~to rel. clear w/ slight brown turbidity~~

ODOR slight to no odor (earthody)

SAMPLED BY (PRINT) V. Betro

SAMPLED BY M. Myhowick

SIGNATURE _____

SIGNATURE M. Myhowick

WELL CAP REPLACED AND LOCKED BY GM

DATE/TIME 11/16/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/16/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI water analyzer, water level mtr, centrifuge, geocrafter

SAMPLING METHOD: Grundfos Sub. Pump

WELL I.D. B38W14D

SAMPLE I.D. 19a-21034

MEAS. REF. POINT (Ft AGS OR BGS) 2" Steel

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off well bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. ~~(µS/cm)~~	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1151	3.85'								
1159	3.85'								
1200	4.90			13.61	584.0	7.36	28.2	8.15	85.1
1203	4.70	365		13.74	786.1	5.63	-0.7	5.61	25.8
1209	4.80	250		13.21	932.0	7.11	16.8	2.41	8.6
1214	4.90	365		13.65	938.0	7.11	23.1	1.88	8.5
1219	4.70	380		13.91	934.0	7.12	26.4	1.46	6.7
1224	4.70	305		14.12	932.0	7.12	28.1	1.39	4.8
1235	Collect Samples								

APPEARANCE/COLOR initial light brown turbidity to rel. clear w/ some brown turbidity

ODOR _____

SAMPLED BY (Print) V. Betro

SAMPLED BY M. Myhowesch

SIGNATURE _____

SIGNATURE M. Myhowesch

WELL CAP REPLACED AND LOCKED BY GM

DATE/TIME 11/16/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMS WBS _____ DATE 11-15-00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: Grundfos Sub. Pump, PID, YSI water anal.; water level meter

SAMPLING METHOD: submersible pump / low flow

WELL I.D. B38W-24D

SAMPLE I.D. 109-021043

MEAS. REF. POINT (Ft. AGS OR BGS) Inner 2" casing.

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' off well bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0814	9.79								
0817	9.98	205		16.65	508.0	6.52	3.7	3.08	56.6
0828	9.91	215		16.64	875.0	6.31	-68.5	0.58	54.2
0833	9.91	255		18.70	894.0	6.33	-75.6	0.47	135.9
0838	9.92	340		20.08	857.0	6.32	-80.1	0.42	429.8
0843	9.88	150		19.56	854.0	6.31	-81.3	0.39	772.9
0848	9.88	175		19.12	835.0	6.30	-83.0	0.37	1094.8
0853	9.88	180		19.61	816.0	6.30	-83.4	0.38	1595.1
0858	9.88	200		20.27	817.0	6.29	-78.3	0.36	1604.9
0915	Collect	Samples							

APPEARANCE/COLOR Very black, silty & turbid / slight sheen ODOR slight organic odor

SAMPLED BY (print) Michael Rybarczyk SAMPLED BY ---

SIGNATURE Michael Rybarczyk SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY MM DATE/TIME 11-15-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FM35 WBS _____ DATE 11-15-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, Peristaltic Pump, Gen., YSI water analyzer, water level mtr,

SAMPLING METHOD: peristaltic pump / low flow

WELL I.D. B38W-24S

SAMPLE I.D. 109-021042

MEAS. REF. POINT (Ft. AGS OR BGS) Inner 2" casing

WELL DEPTH (Ft TOC) 15'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) tubing at bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0955	10.27			/					
1000	10.61	180		18.34	533.0	6.03	39.9	3.30	1605.3
1005	10.41	200		18.93	541.0	5.98	16.7	1.16	1602.7
1010	10.42	200		19.41	538.0	5.97	16.9	0.83	327.2
1015	10.43	200		19.49	536.0	5.96	18.5	0.74	250.8
1020	10.43	200		20.09	537.0	5.96	17.6	0.72	85.2
1025	10.44	200		19.55	537.0	5.94	17.2	0.75	45.4
1030	Collect Samples								

APPEARANCE/COLOR red/brown silty to slightly silty

ODOR _____

SAMPLED BY (PRINT) M. Myhovich

SAMPLED BY ---

SIGNATURE M. Myhovich

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY MM

DATE/TIME 11-15-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-15-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, peristaltic pump, gen, YSI water analyzer water level meter

SAMPLING METHOD: peristaltic pump / low flow

WELL I.D. MISS03A

SAMPLE I.D. 10a-021015

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) 12

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' above well bot.

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1225	9.48								
1235	9.55	240		12.87	722.0	6.19	21.8	7.00	798.7
1240	9.52	225		13.67	743.0	6.21	-50.6	2.79	320.3
1245	9.55	235		13.96	739.0	6.20	-52.3	2.12	156.0
1250	9.54	235		13.80	738.0	6.21	-57.1	1.67	99.4
1255	9.54	245		14.13	740.0	6.21	-60.8	1.45	64.0
1300	9.54	260		14.28	741.0	6.23	-64.1	1.19	43.0
1305	9.54	255		14.10	741.0	6.24	-66.9	1.03	33.1
1320	Collect Samples								

APPEARANCE/COLOR light brown/silty

SAMPLED BY (PRINT) M. Mahowich

SIGNATURE Michael Mahowich

WELL CAP REPLACED AND LOCKED BY G. Moyer

ODOR slight org. decay odor

SAMPLED BY V. Betro

SIGNATURE _____

DATE/TIME 11/15/00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-4-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, WLI, Submersible 4" pump, generator.

SAMPLING METHOD: submersible pump/low flow

WELL I.D. MISS 4B

SAMPLE I.D. MW-021018

MEAS. REF. POINT (Ft AGS OR BGS) Inner RISER

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~5' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~(GPM)~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0825	11.35								
0835	11.40	200		13.91	1268.0	6.84	-69.7	2.96	23.4
0840	11.43	490		14.96	1549.0	6.69	-79.9	0.87	20.7
0845	11.41	210		14.96	1549.0	6.70	-80.6	0.67	22.7
0846	11.40	110		14.83	1549.0	6.70	-82.6	1.17	24.5
0851	11.39	130		14.48	1548.0	6.70	-81.2	1.55	31.7
0456	11.38	140		14.32	1548.0	6.70	-81.3	1.40	44.6
Start									
0900	collect samples								

APPEARANCE/COLOR brown/black silty

SAMPLED BY ~~AND~~ Michael Mayhew

SIGNATURE Michael Mayhew

WELL CAP REPLACED AND LOCKED BY VB

ODOR petrochemical

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 11-14-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-14-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, WLI, peristaltic pump.

SAMPLING METHOD: Peristaltic / Low Flow

WELL I.D. MISS 4A

SAMPLE I.D. 10a-021017

MEAS. REF. POINT (Ft AGS OR BGS) Inner casing

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) Tube at bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0800	10.87								
0802	12.07			13.76	1141	9.14	223.2	5.60	909.1
0806	runs	dry							
0807	11.76								

APPEARANCE/COLOR _____

SAMPLED BY (Print) NOT SAMPLED / DRY

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME 11-14-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/13/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: Grundfos Submersible Pump; PID, YSI water anal., water level meter

SAMPLING METHOD: Grundfos Sub. Pump

WELL I.D. MISS-3B

SAMPLE I.D. 10A-21016

MEAS. REF. POINT (Ft. AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4" St.

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' above well bot

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
12:30	10.40								
12:43	10.60	255		13.42	375.0	7.43	-87.2	5.59	657.3
12:49	10.51	170		13.95	1225.0	6.41	4.4	2.72	86.3
1254	10.51	150		14.07	1254.0	6.40	7.8	2.62	68.5
1259	10.51	155		14.11	1248.0	6.40	6.1	2.59	62.7
1303	10.51	145		14.23	1243.0	6.40	4.4	2.26	63.8
1308	10.52	160		14.29	1240.0	6.42	3.1	2.02	66.6
1313	10.51	150		14.48	1236.0	6.42	2.0	1.82	70.9
1320	collect samples								

APPEARANCE/COLOR Fine grain black silt silty (light to dark brown) turbid ODOR H_2S odor (organic)

SAMPLED BY (PRINT) Michael Myhowich SAMPLED BY ____

SIGNATURE Michael Myhowich SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY VB DATE/TIME 11/13/00 - 1340

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/13/00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI water analyzer, water l.m., generator, Grundfos sub. pump

SAMPLING METHOD: Grundfos Sub Pump

WELL I.D. ~~MISS-18A~~ R38W18

SAMPLE I.D. 126-021039

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (in) 4" steel

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 5' above bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0820	4.80								
0836	4.95	195		16.30	399.0	6.81	153.6	2.54	45.4
0841	4.96	190		17.17	497.0	6.25	68.1	0.68	59.0
0846	4.95	210		17.43	598.0	6.21	59.1	0.59	48.9
0851	4.95	225		17.53	612.0	6.20	55.8	0.55	42.2
0856	4.96	205		17.75	624.0	6.19	55.0	0.52	36.8
0901	4.97	190		17.92	641.0	6.16	56.9	0.43	34.1
0906	4.96	200		17.84	654.0	6.14	57.2	0.40	32.5
0920	sampling time								

APPEARANCE/COLOR Cloudy, slightly turbid, light brown

ODOR very slight organic

SAMPLED BY (PRINT) Michael Mayhewick

SAMPLED BY

SIGNATURE Michael Mayhewick

SIGNATURE

WELL CAP REPLACED AND LOCKED BY VB

DATE/TIME 11/13/00 — 0930

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11-9-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, WLI, generator, 2" grundfos pump.

SAMPLING METHOD: submersible / low flow

WELL I.D. B38W-15D

SAMPLE I.D. 20a-021036

MEAS. REF. POINT (Ft. AGS OR BGS) inner 2" riser

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~5' from bottom of well

	Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~Discharge~~ (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (µS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
	1055	5.82			~~15.58~~					
initial	1055	5.82	370		15.58	970	8.82	4.7	8.35	60.7
	1100	6.58	340		14.99	1873	7.72	13.0	0.89	105.3
	1105	6.58	400		16.09	2022.0	7.46	-21.1	0.40	270.0
	1110	6.49	300		16.25	2029.0	7.46	-43.3	0.37	265.9
	1115	6.39	305		16.40	1683	7.45	-47.2	0.33	390.2
	1120	6.37	280		16.54	1672	7.47	-45.00	0.31	331.0
	1125	6.35	290		16.57	1676	7.47	-40.50	0.29	76.4
	1135 – Sampled									
	Collected Rinsate @ 1350									

APPEARANCE/COLOR slightly turbid / v. light brown

SAMPLED BY (PRINT) V. Betro / Mike Myhonich

SIGNATURE Vincent Betro

WELL CAP REPLACED AND LOCKED BY M. Myhonich

ODOR organic decay

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 11-9-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE FMSS WBS _____ DATE 11/9/00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: YSI 610-DM
Water Level Mtr, Peristaltic Pump, PID

SAMPLING METHOD: peristaltic pump/bailer

WELL I.D. B38W15S
20a-021035
SAMPLE I.D. [illegible]

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) 16'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~1' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0925	6.80			14.66	1917.0	7.37	104.3	5.16	324.5
0926	7.17	225		15.22	1738.0	7.28	67.7	2.83	133.3
0931	7.00	225		15.55	2576.0	7.26	-10.8	0.96	331.9
0936	7.00	225		15.70	2580.0	7.26	-33.2	0.74	456.7
0941	7.00	225		15.76	2577.0	7.26	-40.0	0.69	639.2
0946	7.00	220		15.80	2576.0	7.26	-44.0	0.64	909.9
0951	7.00	220		15.77	2120.0	7.25	-46.3	0.59	1139.1
0956	7.00	220		15.80	2120.0	7.26	-49.9	0.54	1315.0

0955 – Sampled – Vinny's watch (time)

APPEARANCE/COLOR V. slightly turbid/clear

SAMPLED BY from V. Betro/Mike Myhovich

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY G. MOYER

ODOR organic decay

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 11-9-00 / 0955

16' [illegible]

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-8-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, VSI, WLI, generator, 2" submersible pump.

SAMPLING METHOD: submersible pump / low flow

WELL I.D. B38W 02D

SAMPLE I.D. 12a-021025 / DUPLICATE 12a-021128

MEAS. REF. POINT (Ft AGS OR BGS) inner stainless 2" riser

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~3' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. µ (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0850	21.45	—							
0852		~~110~~		11.44	411.0	6.21	136.6	5.79	13.3
0854	22.27	110	~~[illegible]~~	11.53	410.0	6.35	131.0	3.06	13.2
0859	22.25	110		11.52	413.0	6.29	128.9	3.92	14.6
0904	22.34	80		12.27	413.0	6.25	129.0	3.50	17.1
0909	23.50	~		18.46	421.0	6.24	122.1	0.92	57.0
0914	26.20	210		16.76	414.0	6.25	122.3	0.75	9.0
Lower Pump in Well & Start Again									
0934	24.90			13.62	549.0	6.84	126.8	6.34	440.0
0941	26.60			13.27	579.0	6.72	122.9	2.81	1574.7
0946	26.70	310		13.97	568.0	6.68	119.5	2.51	1578.5
0951	26.60	260		14.60	568.0	6.68	117.6	2.53	1581.7
0956	26.70	305		15.01	571.0	6.68	115.2	2.07	1583.8
1001	26.70	230		15.23	570.0	6.70	113.5	1.92	1584.8
1006	26.55	240		15.22	570.0	6.70	112.0	1.93	1584.8
1015 — Sampled									

APPEARANCE/COLOR V. slight turbidity / clear

SAMPLED BY (PRINT) V. Betro / M. Mykovich

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY V. Betro

ODOR none

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 11-8-00 / 1020

heavy sediment @ bottom of [illegible]

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-8-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, WLI, ~~gen~~ peristaltic pump.

SAMPLING METHOD: peristaltic pump / low flow

WELL I.D. B38W-01S

SAMPLE I.D. 129-021024

MEAS. REF. POINT (Ft AGS OR BGS) Inner 2" riser Stainless

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) tubing to approx bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
14:30 ~~[illegible]~~	7.30'	410		14.28	2038	6.96	-73.4	5.09	1577.8
14:35 ~~[illegible]~~	7.66	360		13.51	2214	6.81	-85.0	1.88	1576.5
14:40	7.66	310		13.40	2202	6.75	-78.2	1.41	1576.2
14:45	7.70	380		13.39	2130.0	6.71	-67.4	1.31	734.4
14:50	7.69			13.37	2107.0	6.70	-67.6	1.16	424.0
1455 - Sampled									

APPEARANCE/COLOR Slightly turbid / slightly cloudy (gray) (brown) ODOR None

SAMPLED BY (PRINT) V. Betro / M. Mykowich / G. Moyer SAMPLED BY ---

SIGNATURE [signature] SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY GARY MOYER DATE/TIME 11-8-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-7-00

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, NLI, peristaltic pump.

SAMPLING METHOD: peristaltic pump / low flow

WELL I.D. B38W19S ~~A138-19S~~

SAMPLE I.D. 126-021040

MEAS. REF. POINT (Ft AGS OR BGS) inner riser 2"

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2" Stainless Steel

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) tubing at bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. µ (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0909	16.7								
0925	17.2	305		13.30	2455	7.16	112.7	2.35	178.6
0930	17.49	300		13.13	2465	7.13	110.1	1.05	113.8
0935	N.M.	300		13.28	2446	7.14	105.1	0.80	279.9
0940	N.M. (N/A)	160		13.51	2482	7.16	73.9	1.13	107.0
0945	N.M.	170		13.38	2405	7.19	30.1	1.20	27.1
0950	N.M.	200		13.41	2412	7.19	4.4	1.17	16.4
0955	N.M.	190		13.48	2389	7.21	-11.3	1.23	7.9
1005 — Sampled									

APPEARANCE/COLOR V slight turbidity / clear

SAMPLED BY (print) V. BERO / G. MOYER

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY G. MOYER

ODOR none

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME 11-7-00 / 1015

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-7-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, WLI, generator, 2" grundfos pump

SAMPLING METHOD: Submersible / Low Flow

WELL I.D. B38W19D, ~~M35 19D~~

SAMPLE I.D. 126-021041

MEAS. REF. POINT (Ft. AGS OR BGS) inner casing

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 3' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	mL/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. µ ~~(mS/cm)~~	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1013	16.88			~~14.49~~	~~3057.0~~	~~7.12~~	~~-48.9~~	~~5.08~~	~~10.8~~
1022	~~16.90~~	~~300~~		14.49	3057.0	7.12	-48.9	5.08	10.8
1027	16.90	300		13.32	7649	6.66	-12.9	4.35	9.8
1032	16.90	350		14.58	9053	6.58	-6.9	2.85	68.1
1037	16.90	350		15.57	8811	6.58	-7.9	2.32	3225
1042	16.90	325		15.40	5879	6.76	-9.4	2.00	1588.6
1047	16.90	360		15.27	4532	6.87	-26.7	1.95	1587.9
1052	16.90	350		15.27	4109	6.91	-36.3	1.66	1587.9
1057	16.90	300		15.14	3963	6.92	-41.4	1.35	1587.2
1102	16.90	150		15.14	3961	6.91	-42.9	1.29	1587.4

1105 - Sampled

APPEARANCE/COLOR Slightly turbid / clear

SAMPLED BY (Print) V-Betro / Mike Mykowich

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY G. MOYER

ODOR organic decay / compounds

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 11-7-00 / 1115

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-7-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, Generator, grundfos 2", WLI,

SAMPLING METHOD: Submersible/Low flow

WELL I.D. STEPAN B38W 07B

SAMPLE I.D. 10a-021030

MEAS. REF. POINT (Ft AGS OR BGS) Inner 2" casing

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) ~3' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. µ (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1300	11.00			-1					
1306	11.17	250		14.03	310	6.97	27.0	2.16	14.0
1311	11.20	290		13.60	479	7.37	20.2	0.52	102.2
1316	11.21	270		14.69	470	7.38	17.7	0.47	395.1
1321	11.23	270		15.14	474	7.38	17.7	0.38	1196
1326	11.21	250		15.18	464	7.36	18.9	0.35	125.1
1330 — Sampled									

APPEARANCE/COLOR turbid / cloudy

SAMPLED BY ~~ofm~~ V. Betro / Mike Mylowich

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY V. Betro

ODOR none

SAMPLED BY ~~~

SIGNATURE _____

DATE/TIME 11-7-00 / 1340

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-6-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PED, VSI, WLI, generator, 2" submersible pump.

SAMPLING METHOD: submersible pump - low flow

WELL I.D. MISS 7B

SAMPLE I.D. 12b-021023

MEAS. REF. POINT (Ft. AGS OR BGS) INNER PVC casing

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 2 ft from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. µ (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
	~~9.37~~								
0805	12.00								
Start 0830	12.15	210		13.14	4648	8.15	133.6	2.64	246.2
0835	12.20	230		13.34	6566	7.15	103.1	2.37	292.0
0840	12.20	230		13.83	6653	7.14	80.3	1.86	314.9
0845	12.20	250		14.09	6617	7.15	38.4	1.35	340.3
0850	12.30	360		14.98	6500	7.16	7.0	0.94	388.7
0855	12.18	250		14.32	6453	7.17	-9.0	0.95	399.1
0900	12.17	220		14.47	6303	7.15	-18.9	1.20	494.9
0905	12.15	240		14.78	6235	7.17	-23.2	1.19	555.0
0940 → sampled									

APPEARANCE/COLOR slightly turbid / clear

SAMPLED BY (PRINT) V. BETRO / G. MOYER

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY G. Moyer

ODOR none

SAMPLED BY ~~~

SIGNATURE _____

DATE/TIME 11-6-00 / 0940

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-6-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, WLI, generator, 2" grundfos submersible pump.

SAMPLING METHOD: submersible pump - low flow

WELL I.D. MISS 5B

SAMPLE I.D. 12b - 021020

MEAS. REF. POINT (Ft AGS OR BGS) Inner 4" riser

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 2' from bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. µ ~~(mS/cm)~~	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1020	16.70			~~14.19~~	~~1616~~	~~8.25~~	~~-101.9~~	~~3.36~~	~~20.3~~
1035	16.70	300		14.19	1616	8.25	-101.9	3.36	20.3
1040	16.68	200		13.80	22550	6.23	-28.3	1.56	132.0
1045	16.70	300		13.31	28740	6.15	-23.3	3.33	1577.9
1050	16.70	400		13.90	27950	6.17	-36.4	0.62	1340
1055	16.70	170		15.49	27188	6.18	-46.0	0.69	1588
1100	16.70	360		14.44	26480	6.19	-49.2	0.39	1034
1105	16.70	225		15.33	22676	6.28	-74.9	0.45	1588
1110	16.70	210		15.26	18362	6.38	-93.4	0.16	1587
1120 - Sampled									

APPEARANCE/COLOR turbid (gray) / clear

SAMPLED BY (PRINT) V. BETRO / G. MOYER

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY G. Moyer

ODOR organic decay / organic chemical (weathered)

SAMPLED BY ---

SIGNATURE _____

DATE/TIME 11-6-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ____ WBS ____ DATE 11-6-00 WELL I.D. MISS 5A

WORK ORDER # ____ NORFAS # ____ SAMPLE I.D. 126 - 021019

FIELD INSTRUMENTS: PID, YSI, WIT, generator, peristaltic pump. MEAS. REF. POINT (Ft AGS OR BGS) Inner 2" PVC riser

WELL DEPTH (Ft TOC) ____

INNER CASING/OPEN HOLE DIAM (in) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) ____

SAMPLING METHOD: peristaltic/Bailers low flow (QED) WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) Tubing at bottom of well

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1330	13.45			~~14.71~~					
1335	15.15	325		14.71	2522	6.74	18.0	3.80	631
1340	N.M.	120		15.05	2451	6.71	1.6	3.34	1324
1345	N.M	90		15.81	2493	6.75	7.9	5.23	393
1350	N.M.	100		15.99	2548	6.76	17.2	5.70	74.5
1405 — Sampled									

APPEARANCE/COLOR V. Slight turbidity / clear ODOR none

SAMPLED BY (print) V. Pedro / C. Moyer SAMPLED BY ~~~ ____

SIGNATURE [signature] SIGNATURE ____

WELL CAP REPLACED AND LOCKED BY C. MOYER DATE/TIME 11-6-00

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 11-2-00

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: PID, YSI, Generator, WLI, Grundfor 2" Submersible

~~852~~ ~~1228~~

SAMPLING METHOD: Submersible pump - low flow

WELL I.D. B38W 17A

SAMPLE I.D. 20a-021037

MEAS. REF. POINT (Ft AGS OR BGS) 2" Riser (MP)

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 2' from bottom

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge ~~(GPM)~~	Volume Purged (GAL)	Temp. °C	Specific Cond. M ~~(mS/cm)~~	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0830	10.21	—	—	~~13.93~~ ↓	~~1013~~ ↓	~~7.15~~ ↓	~~119.5~~ ↓	~~3.23~~ ↓	~~574.5~~ ↓
0845	10.5	350 ml/min		13.93	1013	7.15	119.5	3.23	574.5
0850	10.66	200 ml/min		16.38	1002	7.11	79.2	0.90	163.1
0855	10.75	140 ml/min		17.28	998	7.10	65.1	0.62	36.9
0900	10.71	80 ml/min		17.35	997	7.11	59.1	0.55	23.0
0905	10.66	50 ml/min		16.98	997	7.10	55.9	0.57	19.6
0910	10.89	100 "		20.01	1001	7.11	43.8	0.50	28.6
0915	10.92	100 "		19.29	989	7.11	40.4	0.48	23.5
0920	10.87	100 "	2.5 total	19.05	986	7.11	40.2	0.48	34.6

APPEARANCE/COLOR turbid (slightly) / clear

SAMPLED BY (PRINT) - V. Betro / G. Moyer

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY G. MOYER

ODOR none

SAMPLED BY ~~~

SIGNATURE _____

DATE/TIME 11-2-00 / 1010

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFS3 WBS GWRI DATE 2/8/01 WELL I.D. BRMW13

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 09a-021425

FIELD INSTRUMENTS: Horiba model U22 (Serial#) MEAS. REF. POINT (Ft AGS OR BGS) PVC

WELL DEPTH (Ft TOC) 32'

Rinsate Blank # 09a-021450

Trip ~~Rinsate~~ Blank # 010-021454 INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 23 ~~23~~

SAMPLING METHOD: USEPA Low flow WELL VOLUME (Gal) ___

method using Grundfos pump PUMP INTAKE (Ft TOC) 27'

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM) ml/m	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1255	3.28	400		12.96	1.84	7.39	28	7.58	2.80
1300		"							
1305	3.30	"		16.32	0.91	7.47	23	1.28	1.00
1310	3.31	"		16.99	0.889	7.49	19	0.96	1.00
1315	3.31	"		17.19	0.883	7.49	16	0.70	1.00
1320	3.31	"		17.22	0.884	7.50	17	0.68	1.00
1325	3.31	"		17.24	0.883	7.50	18	0.65	1.00

APPEARANCE/COLOR clear ODOR none

SAMPLED BY (PRINT) George H. Markt SAMPLED BY George H. Markt

SIGNATURE George H. Markt SIGNATURE George H. Markt

WELL CAP REPLACED AND LOCKED BY George H. Markt DATE/TIME 2/8/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/12/01 WELL I.D. OBMW14

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 090-021426

FIELD INSTRUMENTS: Horiba Model U22 serial # 928011 peristaltic pump w/ teflon coated bailer (Geotech Geopump 2) MEAS. REF. POINT (Ft AGS OR BGS) top of inner casing

WELL DEPTH (Ft TOC) 14

INNER CASING/OPEN HOLE DIAM (In) 2" stainless

DEPTH TO TOP OF SCREEN (Ft TOC) 4'

SAMPLING METHOD: USEPA Low Flow Method using peristaltic pump w/teflon coated bailer WELL VOLUME (Gal) ___

PUMP INTAKE (Ft TOC) 12

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
~~1228~~										
0948	2.55	325		5.30	2.54	6.11	-50	13.63	7.7	*
0953	2.90	"		11.81	2.37	6.80	-106	10.09	-3.5	*
0958	2.95	"		12.36	2.40	6.92	-98	9.77	1.2	*
1007	2.95	"		12.33	2.41	6.94	-123	9.48	1.8	*
1012	2.95	"		12.55	2.45	6.94	-127	9.13	-10.0	*
1017	2.95	"		12.33	2.46	6.95	-127	9.10	-4.1	*
1022	2.95	"		12.35	2.47	6.96	-129	8.23	-3.3	*

* erratic reading

Trip blank # 000-021462 corresponds to this sample

APPEARANCE/COLOR yellowish tint ODOR none

SAMPLED BY (print) George Market SAMPLED BY George H. Market

SIGNATURE George Market SIGNATURE George Market

WELL CAP REPLACED AND LOCKED BY G. Market DATE/TIME 2/12/01

The padlock will be visible & in good repair once the bent and does not

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE MFSS WBS GWRI DATE 2/12/01 WELL I.D. BR MW 14

WORK ORDER # ____ NORFAS # ____ SAMPLE I.D. 099-021427

FIELD INSTRUMENTS: Horiba model U22 (serial# 428043) Peristaltic Pump GeoTech Model Geopump 2

MEAS. REF. POINT (Ft. AGS OR BGS) top of inner casing

WELL DEPTH (Ft TOC) 37

INNER CASING/OPEN HOLE DIAM (In) 2" Stainless

DEPTH TO TOP OF SCREEN (Ft TOC) 27

SAMPLING METHOD: USEPA Low flow method using peristaltic pump and teflon coated bailer

WELL VOLUME (Gal) ____

PUMP INTAKE (Ft TOC) 32

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1228	7.90	300		8.9	1.08	6.92	-7	16.38	-3.1 *
1233	9.70	300		11.2	0.709	7.27	48	7.20	3.0 *
1238	10.30	300		12.6	0.700	7.28	93	4.77	8.4 *
1243	11.15	300		12.5	1.74	7.29	106	4.70	1.8 *
1248	11.80	300		12.4	1.71	7.28	111	4.91	2.4 *
1253	12.50	300		12.6	1.71	7.24	124	4.98	3.2 *
1258	13.50	300		12.4	1.70	7.22	130	4.85	3.6 *
1303	14.80	300		12.2	3.21	7.22	135	4.78	4.3 *
1308	15.35	300		12.2	3.22	7.21	138	4.40	4.9 *
1313	15.75	300		12.2	3.23	7.21	139	4.11	4.7 *

* erratic reading

Trip blank # 000-021462 corresponds to this sample

APPEARANCE/COLOR clear ODOR none

SAMPLED BY (PRINT) George Markt SAMPLED BY George Markt

SIGNATURE George Markt SIGNATURE George K. Markt

WELL CAP REPLACED AND LOCKED BY George Markt DATE/TIME 2/12/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-7-01

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: GRUNDFOS 2" PUMP
HORIBA U-22, PID,

SAMPLING METHOD: LOW FLOW

WELL I.D. OBMW-15

SAMPLE I.D. 09A 021428

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 14

Sample Time (From/To)	Water Level (Ft TOC)	ml/min ~~GPM~~ Discharge	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1350	11.58								
1355	12.90	300		12.9	.553	6.94	96	9.1	1
1400		300		13.7	.554	6.93	94	7.5	Ø
1405	12.95	300		13.9	.553	6.92	87	7.4	Ø
1410	13.05	300		14.0	.549	6.91	84	7.5	Ø
1415	13.20	340		14.6	.548	6.91	84	7.3	Ø
1420	13.30	300		14.9	.549	6.90	83	7.1	Ø
1425	13.36	300		15.2	.549	6.90	84	7.1	Ø
1430	13.41	300		15.3	549	6.89	84	7.0	Ø
1435	COLLECT SAMPLE								

APPEARANCE/COLOR CLEAR

SAMPLED BY (PRINT) J DEKOSKIE

SIGNATURE J Dekoskie

WELL CAP REPLACED AND LOCKED BY J DEKOSKIE

TB# 000.021449

ODOR NONE

SAMPLED BY (PRINT) _____

SIGNATURE _____

DATE/TIME 2/6/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE ~~21~~ FMSS WBS CWRT DATE 2/6/01 WELL I.D. OBMW 19

WORK ORDER # ___ NORFAS # ___ SAMPLE I.D. 10a-021439

FIELD INSTRUMENTS: Horiba model U-22 Serial # 9272047. PID/multiRAE Peristaltic pump, teflon bailer MEAS. REF. POINT (Ft AGS OR BGS) top of PVC

WELL DEPTH (Ft TOC) 17.3

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 8.1

SAMPLING METHOD: bailer + peristaltic pump (Geotech Pump 2, CERTIFICATE 33258) WELL VOLUME (Gal) 1.33

PUMP INTAKE (Ft TOC) 15.3

Sample Time (From/To)	Water Level (Ft TOC)	Discharge ~~(GPM)~~ ml/min	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1455	9.85	500	—	8.47	0.726	6.39	-45	7.59	129
1459	10.90	"	1.33	8.88	0.713	6.26	-40	4.36	7.44
1506	9.90	"	2.00	7.26	0.708	6.24	-35	2.61	54.2
			~~2.99~~	lowered pump rate					
1516	9.58	250	2.66	6.75	0.699	6.22	-30	2.12	58.2
1548	9.90	250	3.99	5.73	0.689	6.19	-26	1.05	17.8
1554	9.89	250	—	5.68	0.690	6.20	-26	0.99	15.2
1559	9.89		—	5.64	0.693	6.19	-25	0.89	16.0

APPEARANCE/COLOR clear ODOR none

SAMPLED BY (PRINT) George Markt SAMPLED BY — George H. Markt

SIGNATURE George H. Markt SIGNATURE ___

WELL CAP REPLACED AND LOCKED BY George Markt DATE/TIME 2/6/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2-7-01

WORK ORDER # ___ NORFAS # _____

FIELD INSTRUMENTS: HORIBA - U-22

GRUNDFOS 2" PUMP

SAMPLING METHOD: LOW FLOW

WELL I.D. BRMW-15

SAMPLE I.D. 10A-021-429

MEAS. REF. POINT (Ft AGS OR BGS) _____

WELL DEPTH (Ft TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 23

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1130	11.05	—	0	—	—	—	—	—	—
1135	11.10	400	2L	11.1	.631	6.58	86	8.4	19.3
1140	11.12	400	4L	12.8	.609	6.85	81	7.1	12.8
1145	11.10	400	6L	13.8	.591	6.88	88	7.0	8.7
1150	11.10	400	8L	14.0	.591	6.88	100	7.1	8.4
1155	11.11	400	10L	14.9	.580	6.89	103	7.1	9.2
1200	11.11	400	12L	15.1	.577	6.89	106	7.1	11.2
1205	11.11	400	14L	15.3	.575	6.89	109	7.1	13.7
1210	11.11	400	16L	15.6	.570	6.89	110	7.2	16.3
1215	11.11	400	18L	15.6	.571	6.89	111	7.2	17.7
1220	—	—	begin	collection	—	—	—	—	—

APPEARANCE/COLOR CLEAR

SAMPLED BY (PRINT) J DEKOSKIE / S. SHAW

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY J DEKOSKIE

TB # 000 021 449

ODOR _____

SAMPLED BY --- _____

SIGNATURE _____

DATE/TIME 2/6/01

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 2/3/02

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: 2" GRUNFOS PUMP
Horiba U-10
Eh Meter.

SAMPLING METHOD: LOW FLOW, EPA

WELL I.D. MW-250

SAMPLE I.D. 126-021 639, 6

MEAS. REF. POINT (Ft AGS OR BGS) 13.51 MS

WELL DEPTH (Ft TOC) ~~13.51~~ 61.0

INNER CASING/OPEN HOLE DIAM (in) ~~4.50~~ 4

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 50 ft.

Sample Time (From/To)	Water Level (Ft TOC)	Discharge (GPM)	Volume Purged ~~(GAL)~~ L	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1150	START 13.51	300	0	—	—	—	—	—	—
1155	13.95	300	1.5	12.2	2.43	7.63	-232	1.25	143
1200	14.21	300	3.0	13.3	2.39	7.71	-217	1.08	75
1205	14.45	300	4.5	13.4	2.30	7.84	-211	0.95	12
1210	14.81	300	6.0	13.5	2.29	7.99	-199	0.63	10
1215	15.26	300	7.5	13.6	2.30	8.11	-183	0.41	9
1220	15.30	300	9.0	13.7	2.31	8.09	-184	0.39	6
1225	15.35	300	10.5	13.8	2.35	8.08	-184	0.35	4
1230	Sample	+ DUP	+		MS/MSD				

FB: 126-021 637
TB: 126-021 638

APPEARANCE/COLOR _____

SAMPLED BY (from) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR Slight

SAMPLED BY — _____

SIGNATURE _____

DATE/TIME 2-3-02 1230

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLING AND ANALYSIS

SITE _____ WBS _____ DATE 1-3-02

WORK ORDER # ____ NORFAS # _____

FIELD INSTRUMENTS: GRUNDFOS 2" PUMP
HORIBA U-10
Eh meter

SAMPLING METHOD: Low Flow

WELL I.D. MW-26D

SAMPLE I.D. 126-021 642

MEAS. REF. POINT (Ft AGS OR BGS) 12.95

WELL DEPTH (Ft TOC) 63.00

INNER CASING/OPEN HOLE DIAM (in) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WELL VOLUME (Gal) _____

PUMP INTAKE (Ft TOC) 50 Ft

Sample Time (From/To)	Water Level (Ft TOC)	ml/min Discharge (GPM)	Volume Purged (GAL)	Temp. °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1450	12.95	START	0	11.5	7.99	6.72	-228	1.91	10
1500	13.53	250	1.25	11.9	7.98	6.75	-383	1.01	7
1505	13.79	250	2.5	12.0	7.98	6.75	-381	1.00	4
1510	13.81	250	3.75	12.1	7.98	6.76	-382	1.01	3
1515	13.88	250	5.0	12.2	7.98	6.76	-381	1.00	3
1520	COLLECT SAMPLE								
FB: 126-021 637									
TB: 126-021 638									

APPEARANCE/COLOR Clear

SAMPLED BY (Print) J DEKOSKIE

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR Slight

SAMPLED BY ~~~ _____

SIGNATURE _____

DATE/TIME 1-3-02 1520

APPENDIX O
VIDEO SURVEY AND OBSERVATIONS: LODI AND WESTERLY BROOKS

Lodi Brook and Westerly Brook Video Inspection Report

FUSRAP Maywood Superfund Site

Prepared by:
Malcolm Pirnie, Inc.

Prepared for:
Stone & Webster Environmental Technology & Services

April 2000

LODI BROOK AND WESTERLY BROOK
VIDEO INSPECTION REPORT

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5.0	CONCLUSIONS	
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A	Sewer Video Inspection Report
B	Video Tape Review Notes

1.0 INTRODUCTION

As part of the Groundwater Remedial Investigation (GWRI) for the FUSRAP Maywood Superfund Site, a video-inspection survey was completed on the portions of Lodi Brook and Westerly Brook that are routed through concrete pipes (Figure 1). The purpose of the video-inspection survey was to evaluate the integrity of the pipes and observe areas where exfiltration/infiltration may be occurring. This information can be used to assess the potential migration of constituents of concern (COCs) from the brooks to the surrounding environment.

2.0 BACKGROUND

2.1 HISTORICAL WESTERLY BROOK

Westerly Brook is a continuous stream fed by surface water runoff and groundwater. The brook originates some 3,200 feet north of the FMSS. Historically, Westerly Brook flowed south in a natural open channel towards the MISS. The channel slope is approximately one percent, so flow velocities are typically low. At the Maywood Interim Storage Site (MISS), the historic flow of the brook changed course from a southerly direction to a southwesterly direction, which is similar to the direction of shallow groundwater flow in the area. The brook flows in the southwesterly direction, ultimately discharging into the Saddle River.

2.2 HISTORICAL LODI BROOK

Prior to development of the Sears property, shallow groundwater discharged to ground surface forming two separate springs (or seeps) that joined in a low lying area to form the Lodi Brook. From this point, the brook flowed generally south across relatively flat open terrain. The original stream channel split near the present location of Industrial Avenue in Lodi and rejoined at the present day location of Sydney Street in Lodi flowing southward to New Jersey Route 46 (Route 46). The historic flow of the brook south of Route 46 is not known. A 1940's (exact date unknown) aerial photograph of the area shows that at Route 46, the course of Lodi Brook may have been channeled through a culvert to the Saddle River.

2.3 WESTERLY BROOK AREA DEVELOPMENT

Development in the Westerly Brook area north of MISS generally includes commercial and light industrial development and residential developments are located to the east and to the west. Area businesses located to the west of the brook include two

auto body/repair shops (immediately next to the brook), and a chemical company (Dixo Co.) that formerly packaged industrial solvents located within one block of the brook.

Residential properties are located to the east of Westerly Brook with the exception of a Public Service Electric & Gas transformer station on West Central Avenue and a municipal swimming pool on Hergesell Avenue off of West Central Avenue. It appears that the original location of the brook may have been altered to facilitate the construction of the pool. Also to the east is a vacant lot adjacent to the brook on Magnolia Avenue (one block north of West Central Avenue). This property formerly housed several greenhouses and is currently being reviewed by the NJDEP specifically for groundwater contamination. A single monitoring well is visible in the southwest corner of the property adjacent to the Westerly Brook.

Westerly Brook was routed through a 72-inch culvert in the early 1970's starting just north of the MISS. Inside the MISS, the culvert abruptly changes direction (approximately 90°) at three locations before exiting the MISS towards the west. The culvert changes to a 90-inch tunnel beneath Route 17 (Figure 1-2). After passing beneath Route 17, the culvert again changes to a 72-inch by 60-inch elliptical pipeline. The culvert runs beneath an assisted living facility to a residential area before surfacing west of St. Anne Place. Westerly Brook then extends as a natural channel for approximately 600 feet ultimately discharging into the Saddle River.

2.4 LODI BROOK AREA DEVELOPMENT

The following summary of development at the Lodi Brook headwaters was taken from aerial photographs of the FMSS included in the USEPA Report entitled "Maywood Chemical Sites, Maywood and Rochelle Park, New Jersey," dated May 1984.

An analysis of the 1940's aerial photograph of the area shows that two reaches located north of Route 17 (on what is now the Sears Property) joined to form the Lodi Brook south of Route 17. Immediately to the north of the easternmost reach are three

areas defined as “lagoons” in the report. These lagoons appear in the 1965 aerial photograph (and not in the 1970 aerial photograph).

An aerial photograph dated 1951 shows additional smaller sources of water feeding into the primary reaches of the brook. Several of the sources that appear to be feeding the easternmost reach may be the result of continued development to the east of Maywood Avenue. A coal storage area is identified in a 1940 aerial photograph near an MCW power plant. This coal area was noted in a 1961 aerial photograph and not in the 1965 aerial photograph. This is of particular note in that a 1951 aerial photograph indicates a drainage channel from this area, running to the westernmost reach of the Lodi Brook headwaters.

The 1965 aerial photograph details the continued development adjacent to the Lodi Brook headwaters. The photograph shows the newly constructed buildings currently occupied by the DeSaussure Company, located off Maywood Avenue and both the Federal Express and SWS Realty Building at Route 17. The 1970 aerial photograph shows the Sears warehouse building and associated parking lot as “new construction”. All of this construction continued to impact the natural flow of the source waters to Lodi Brook leading potentially to further the development of the wetlands and marshes that currently exist in the area.

Not readily apparent from the aerial photographs included in this report is the construction of the building currently occupied by Myron Manufacturing (Myron) which is located upgradient from the MISS. Prior to Myron, this building was occupied by Pfizer, for the manufacturing of pharmaceutical products (as reported by the current owner).

West and south of Route 17, the Lodi Brook area has also experienced significant urban development over the years. Because of this development, the natural course of Lodi Brook has been straightened and culverted along an alignment, running north to south, on the east side of and parallel to Hancock Street in Lodi. South of the 80

Hancock Street property, Lodi Brook splits into two separate channels. The culvert exits to a drainage conduit at Route 46 that runs in a southwesterly direction and ultimately discharges into the Saddle River through a 48-inch corrugated metal pipe approximately 1,000 feet south of Route 46. Flow in Lodi Brook is supplemented by the drainage swale running along the south of Sears property (entering from the east on East Howcroft Street and from the rear of Federal Express and Uniform Fashions) and area stormwater runoff.

3.0 METHODOLOGY

The video inspection was completed using a video camera mounted on a small remote controlled all terrain tracker. Real time images were fed back to the video control truck. The video was recorded on twelve VHS videotapes (available for review at the FMSS field trailer). Field observations were recorded on Sewer Inspection Report Forms (Appendix A). Upon completion of video inspection, the videotapes were reviewed and additional observations were noted (Appendix B). Observations of the pipe conditions that were specifically of concern includes:

- offset, open, or leaking joints;
- leaking service connections;
- broken or cracked pipe sections;
- deformed or deteriorated pipe sections; and
- signs of infiltration/exfiltation.

4.0 OBSERVATIONS

The video inspection of Lodi Brook begins at 137 Route 17 North. It runs southwest, underneath Route 17 and Route 80, to 72 Sidney Street. It then flows west to Main Street where the video inspection ends. Table 1 describes the condition of these pipes is described in Table 1.

Table 1. Lodi Brook Video Inspection Summary

Video Tape #	Location of Inspection	Condition of Pipe
1	Setup at Location 2 to Location 1	Video camera underwater for duration of pipe (to 97 ft. where pipe bends and camera cannot continue).
1	Setup at Location 3 to Location 4	Pipe in fair condition (to 32 ft. where pipe bends and camera cannot continue).
1	Setup at Location 4 to Location 3	Pipe in poor condition – leaking joints, infiltration, pipe deformity.
1	Setup at Location 5 to Location 6	Pipe in fair condition.
1	Setup at Location 7 to Location 8	Pipe appears in fair condition. Camera underwater for much of the pipe – leaking joints, some signs of infiltration.
2	Setup at Location 8 to Location 9	Camera underwater for majority of pipe. Unable to determine integrity.
2	Setup at Location 9 to Location 8	Pipe in poor condition. – leaking joints, infiltration.
2	Setup at Location 9 to Location 10	Pipe in poor condition. – leaking joints, infiltration, sizeable crack with signs of heavy infiltration at 102 ft.
2-3	Setup at Location 10 to Location 9	Pipe in poor condition. – leaking joints, infiltration
3	Setup at Location 10 to Location 11	Pipe in poor condition. – deteriorating and leaking joints, infiltration, roots, cracks
3	Setup at Location 10A to Location 10	Pipe in poor condition. – deterioriating and leaking joints, heavy leak at 10 ft. (infiltrating at approx. 1 gal/min)
4	Setup at Location 10A to Location 11	Pipe in fair condition. – leaking joints
4	Setup at Location 11A to Location 10A	Pipe in poor condition. – leaking joints
4	Setup at Location 11A to Location 10	Pipe in poor condition. – leaking joints, offset joints, roots
4	Setup at Location 11A to Location 12	Pipe in fair condition. – leaking joints

The video inspection of Westerly Brook begins on the MISS. It runs west to manhole six where the video inspection ends. Westerly Brook continues to run west until it drains into the Saddle River. Table 2 describes the poor condition of these pipes.

Table 2. Westerly Brook Video Inspection Summary		
Video Tape #	**Location of Inspection**	**Condition of Pipe**
5	Setup at Location 6 to Location 5	Pipe in very poor condition. – leaking joints, heavy infiltration, offset joints, pipe deterioration, heavily leaking joint at 367 ft. (infiltrating at approx. 1 gal/min)
5	Setup at Location 5 to Location 4	Pipe in poor condition. – leaking joints, infiltration
5	Setup at Location 2 to Location 1	Pipe in poor condition. – leaking joints, infiltration
5	Setup at Location 2 to Location 3	Pipe in very poor condition. – leaking joints, heavy infiltration, heavily leaking joint at 253 ft. and 286 ft. (infiltrating at approx. 1 gal/min)
6	Setup at Location 3 to Location 4	Pipe in poor condition. – leaking joints, leaks stem from connection between top and bottom of pipe (two different types of pipe)
6	Setup at Location 4 to Location 5	Pipe in poor condition. – leaking joints, pipe deterioration

5.0 CONCLUSIONS AND RECOMMENDATIONS

The video inspection was largely successful in revealing the conditions of Lodi Brook and Westerly Brook pipelines. However, in some sections, the video camera was blocked by either high water or debris. In these areas, other means, such as confined space entry may be necessary to assess the condition of the pipelines. The video inspection revealed several areas in both the Lodi Brook and Westerly Brook where infiltration of groundwater into the pipelines was occurring. It is not known if during dry periods, the groundwater table drops below the pipe invert and flow within the pipeline exfiltrates to the environment.

Based on the observations made during the video inspection, a collaborative meeting with Stone & Webster to discuss a potential course of action is recommended. Since any potential work associated with Lodi Brook and Westerly Brook might be logistically complex (e.g. right-of-entry issues, out of scope budget issues) it is recommended that this meeting occur prior to presenting the findings to the U.S. Army Corps of Engineers.

6.0 REFERENCES

Allstate Power-Vac, *Sewer Video Inspection Report*, January 2000

Stone and Webster Environmental Technology and Services, *Groundwater Remedial Investigation Work Plan*, December 1999

USEPA, Maywood Chemical Sites – Maywood and Rochelle Park, New Jersey, May 1984

APPENDIX P
MONITORING WELL CLUSTER HYDROGRAPHS

Figure P-1: Hydrograph for Well Cluster MISS01

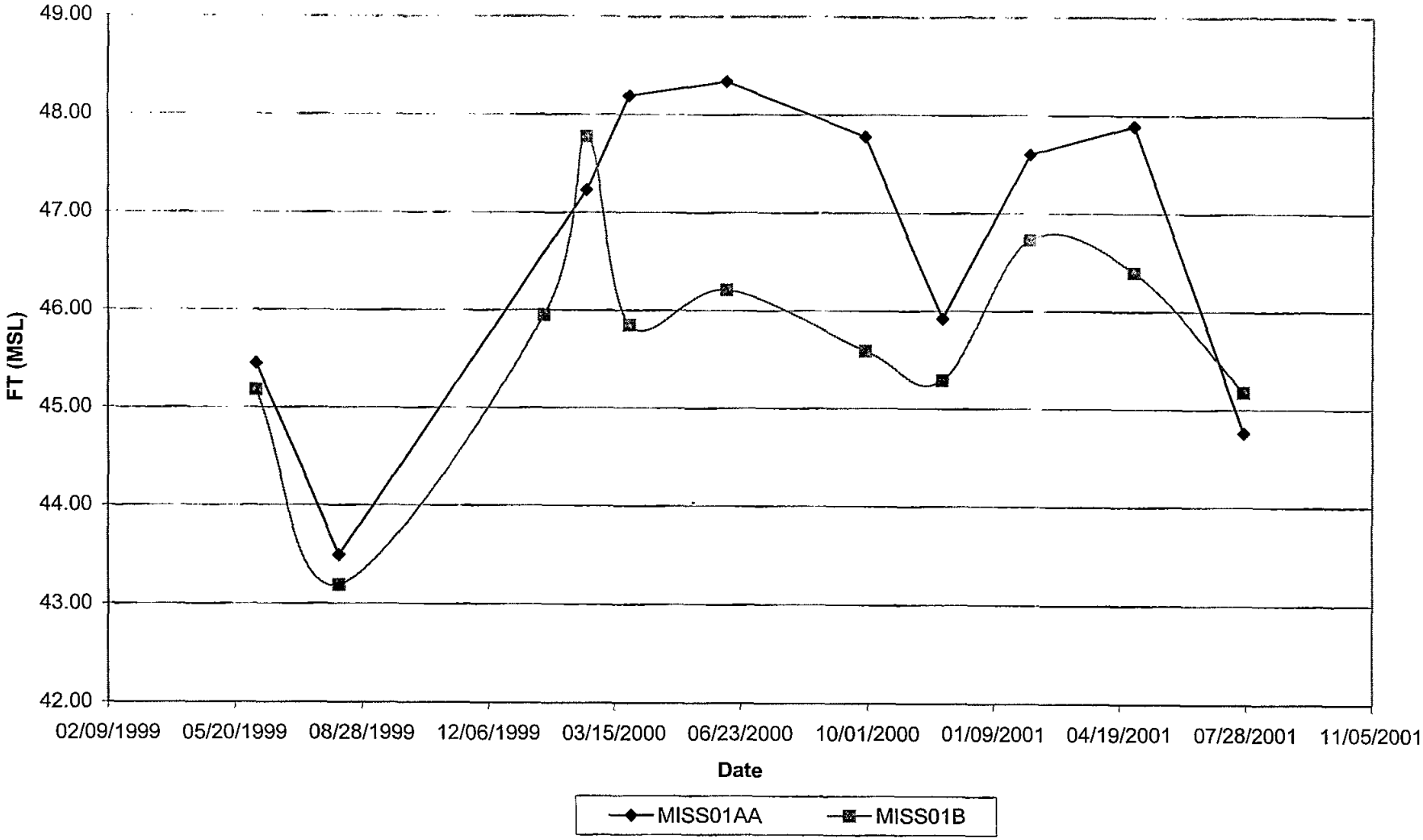


Figure P-2: Hydrograph for Well Cluster MISS02

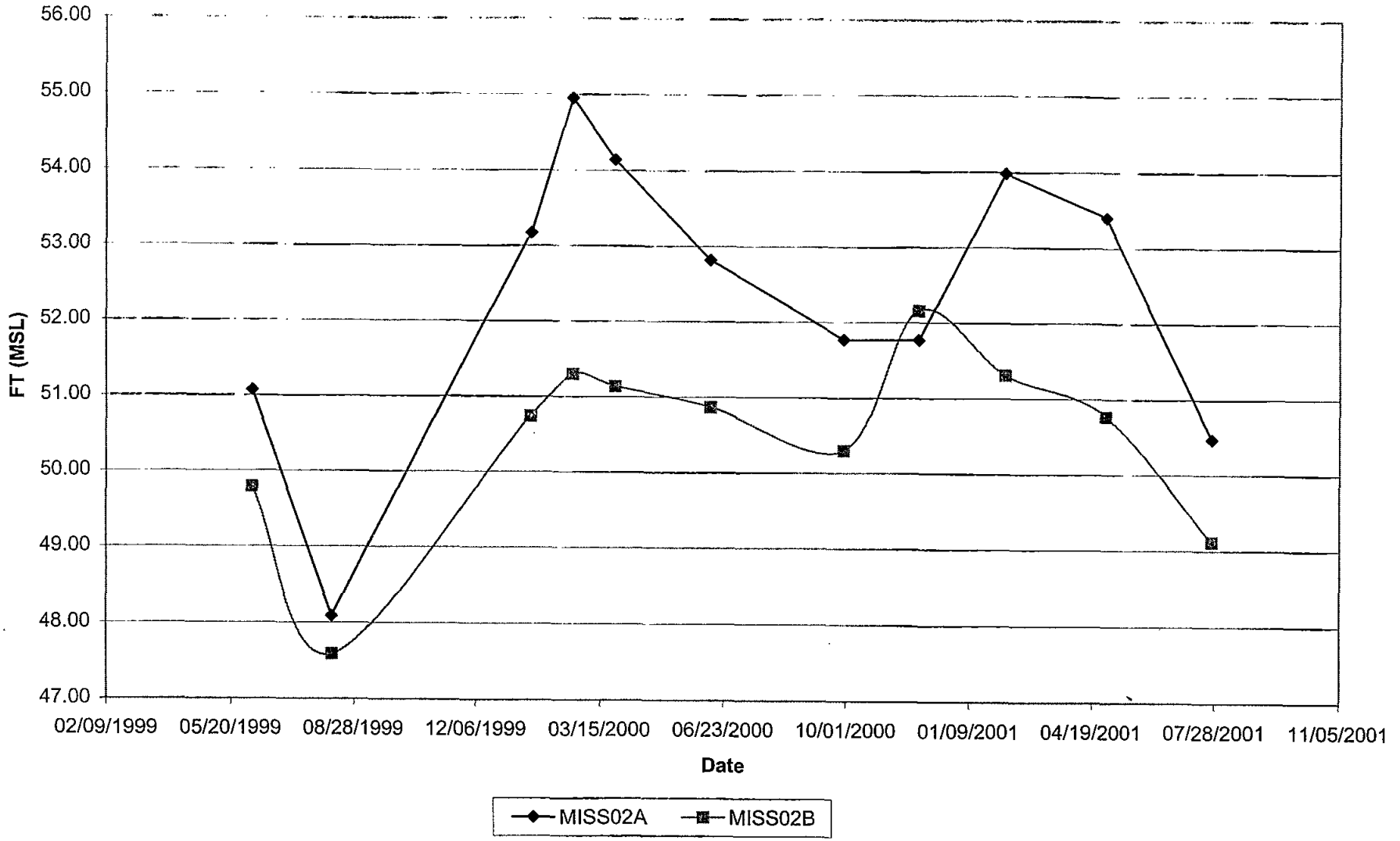


Figure P-3: Hydrograph for Well Cluster MISS03

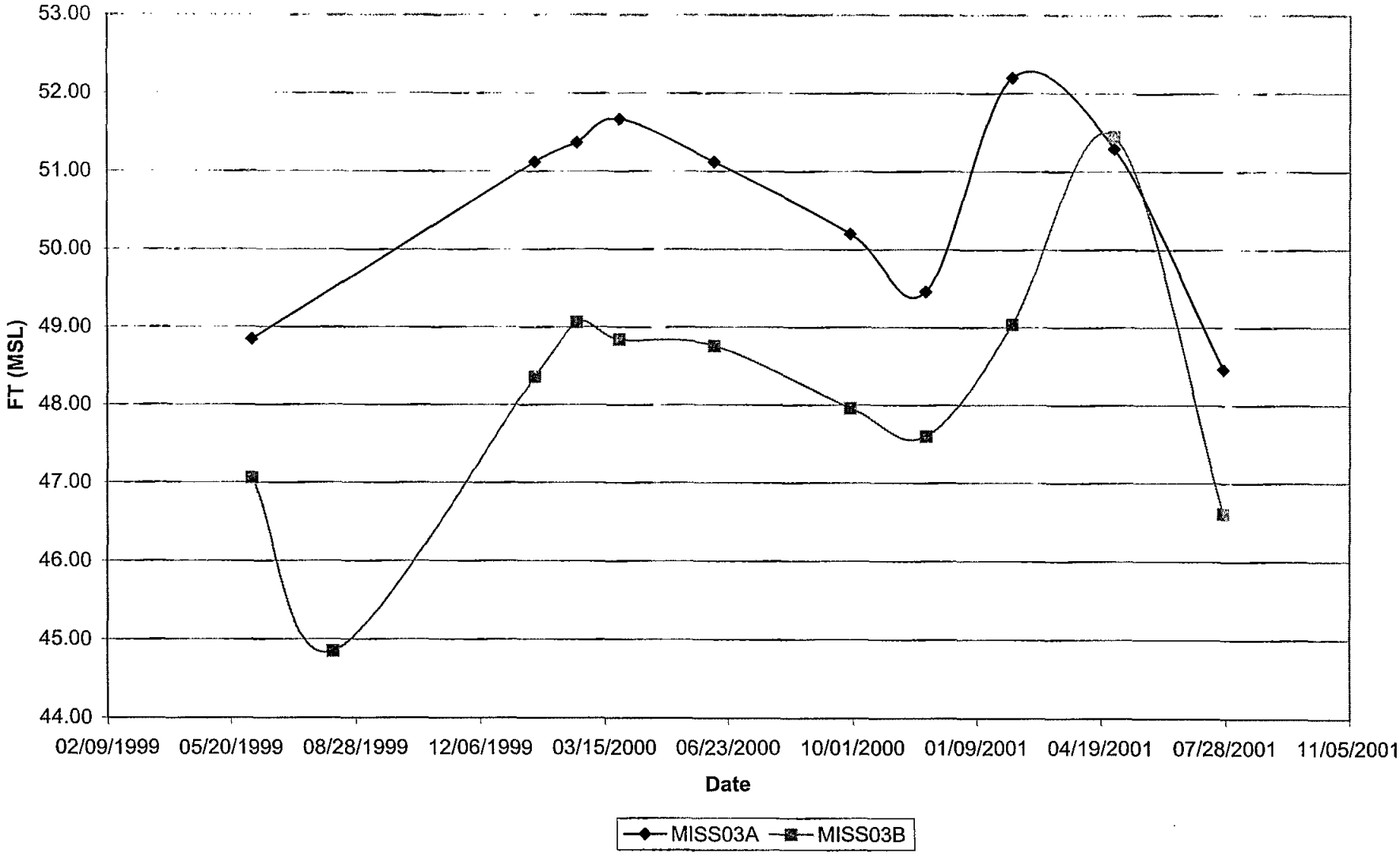


Figure P-4: Hydrograph for Well Cluster MISS04

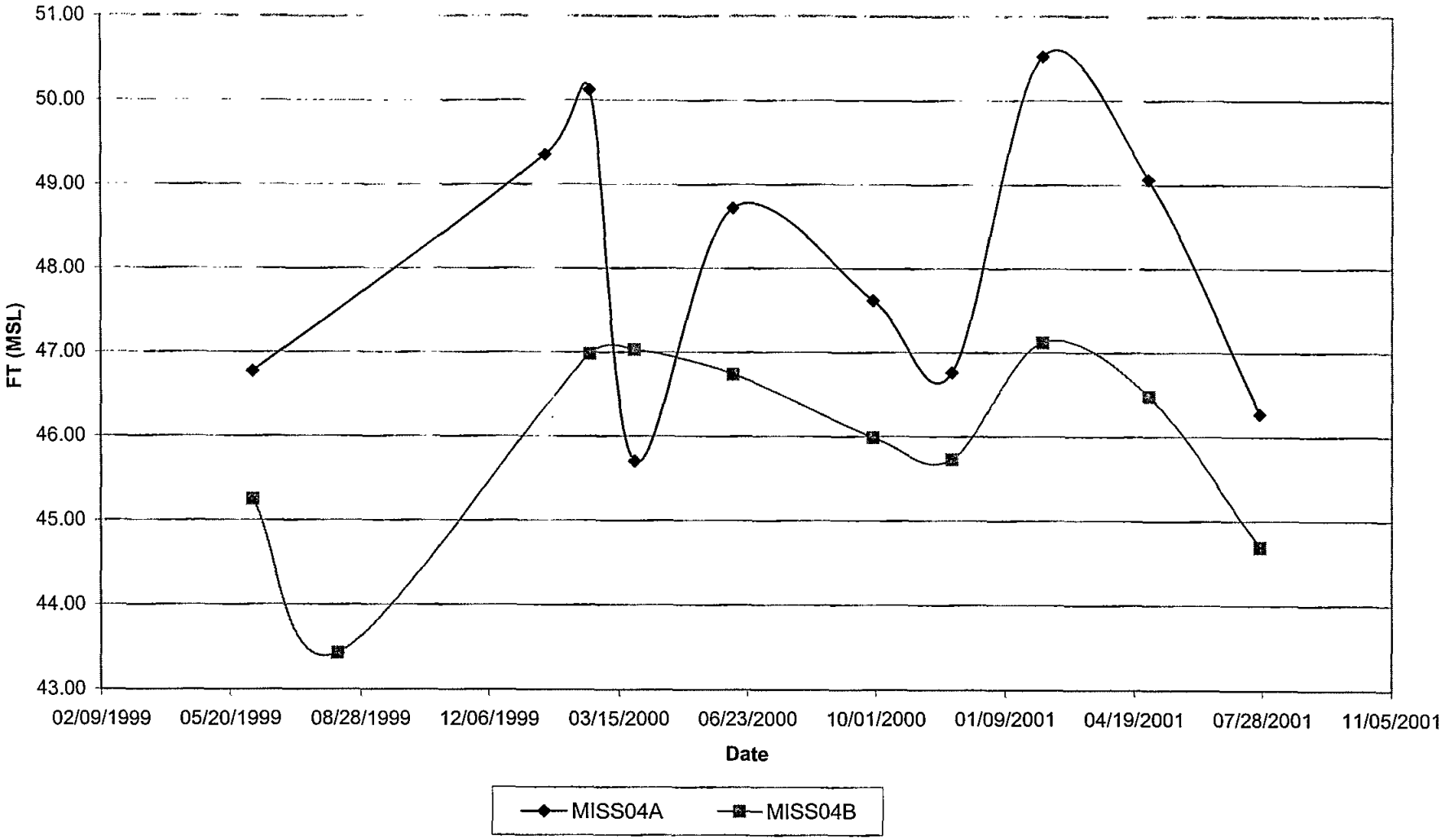


Figure P-5: Hydrograph for Well Cluster MISS05

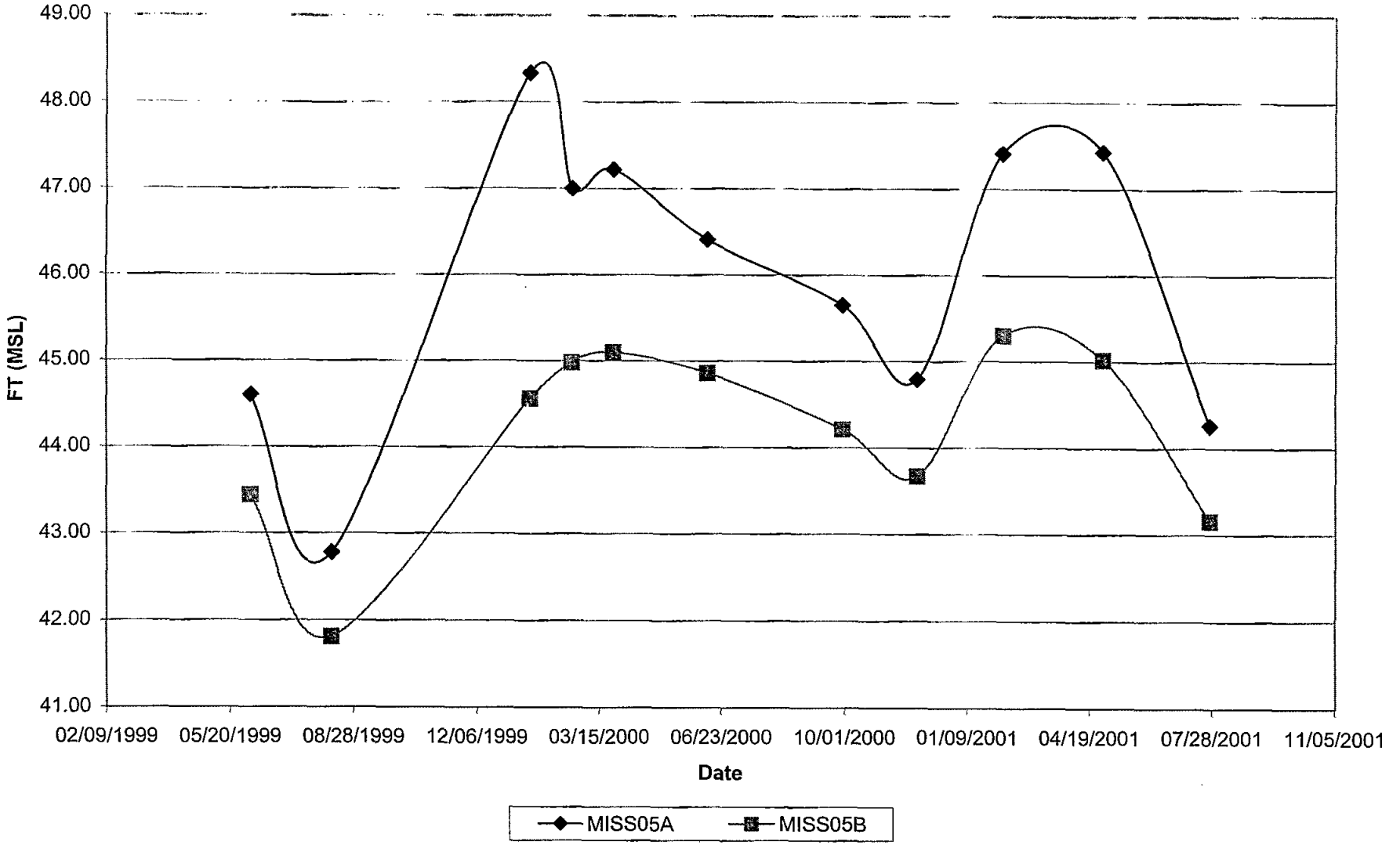


Figure P-6: Hydrograph for Well Cluster MISS07

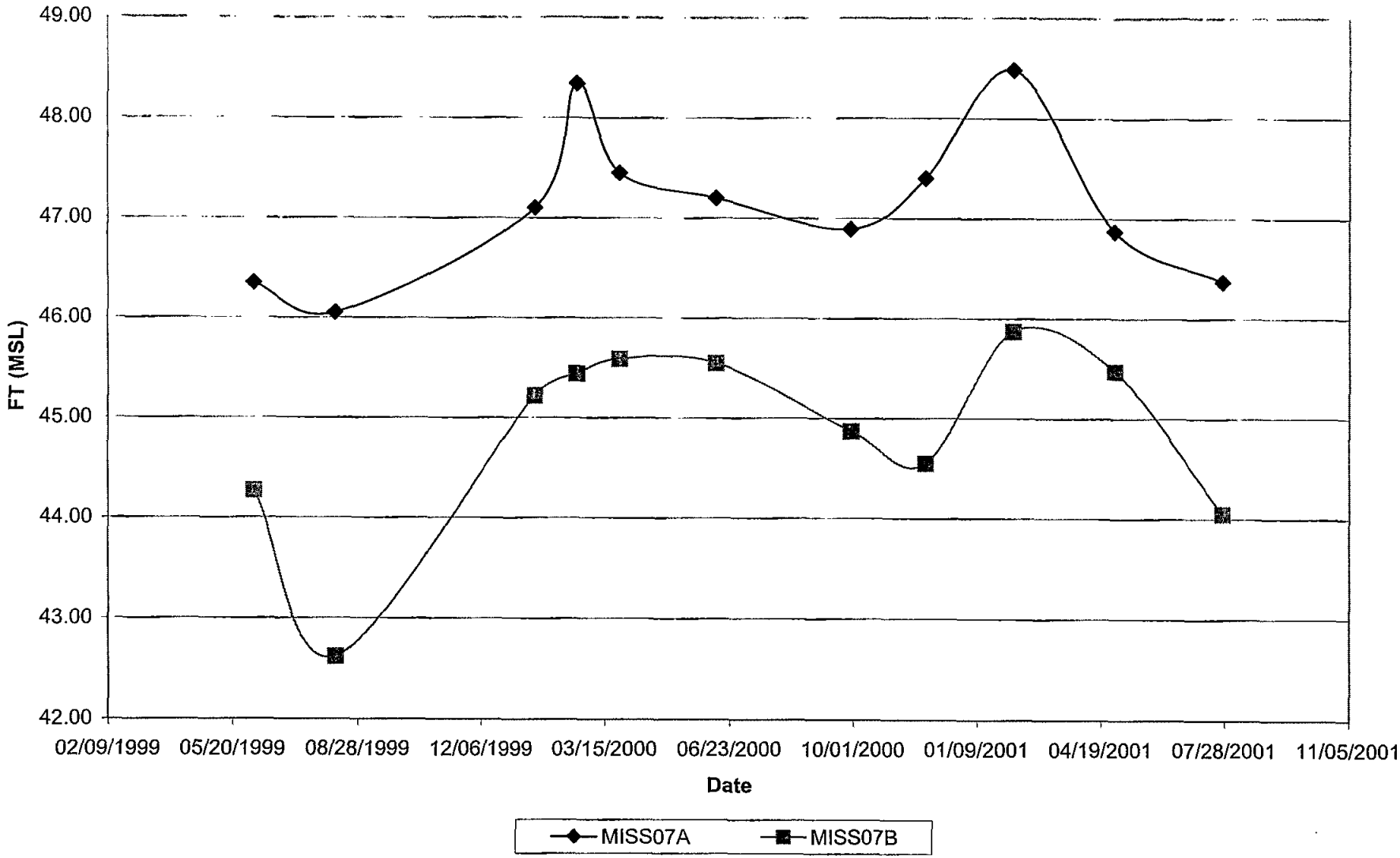


Figure P-7: Hydrograph for Well Cluster B38W12

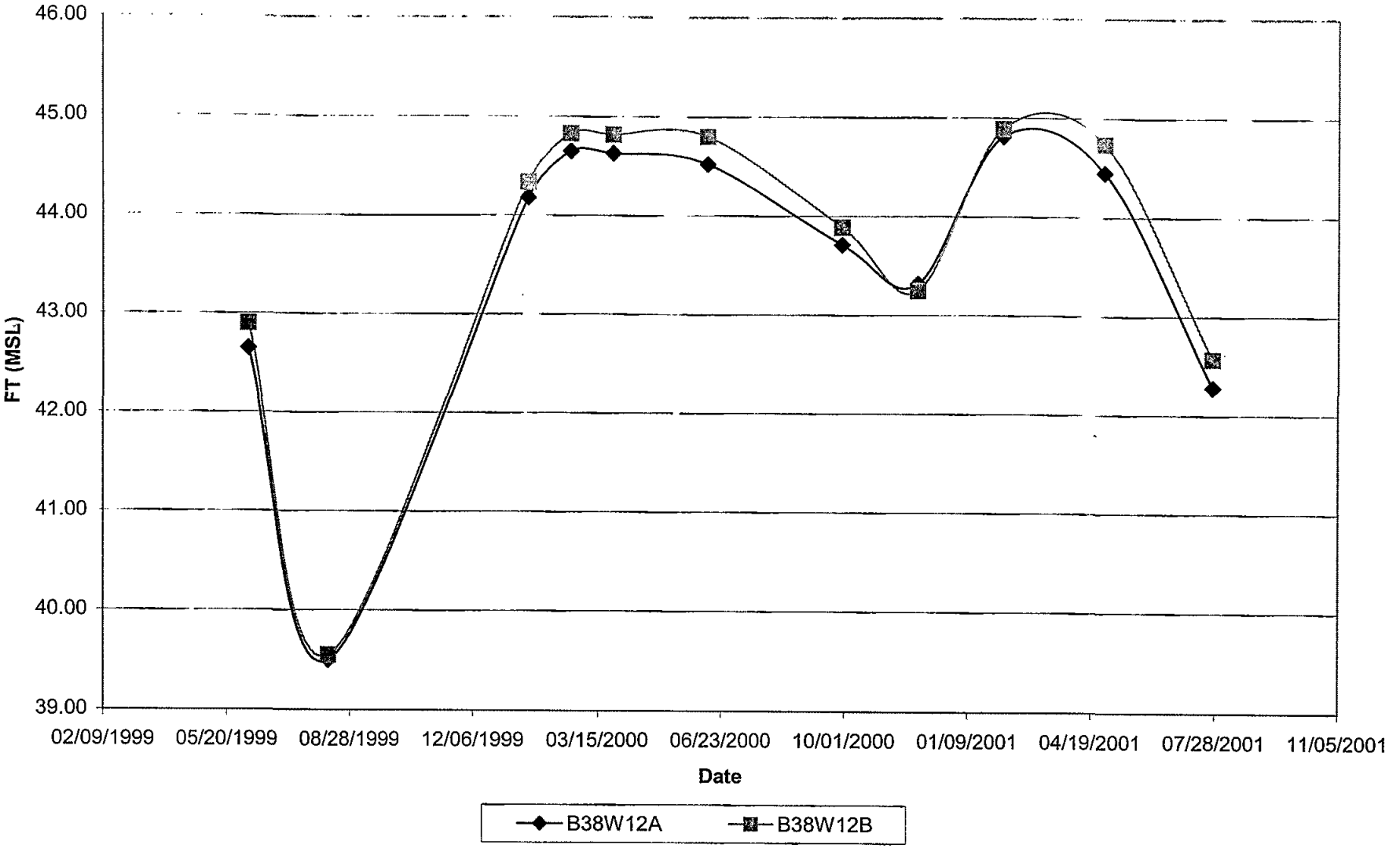


Figure P-8: Hydrograph for Well Cluster B38W14

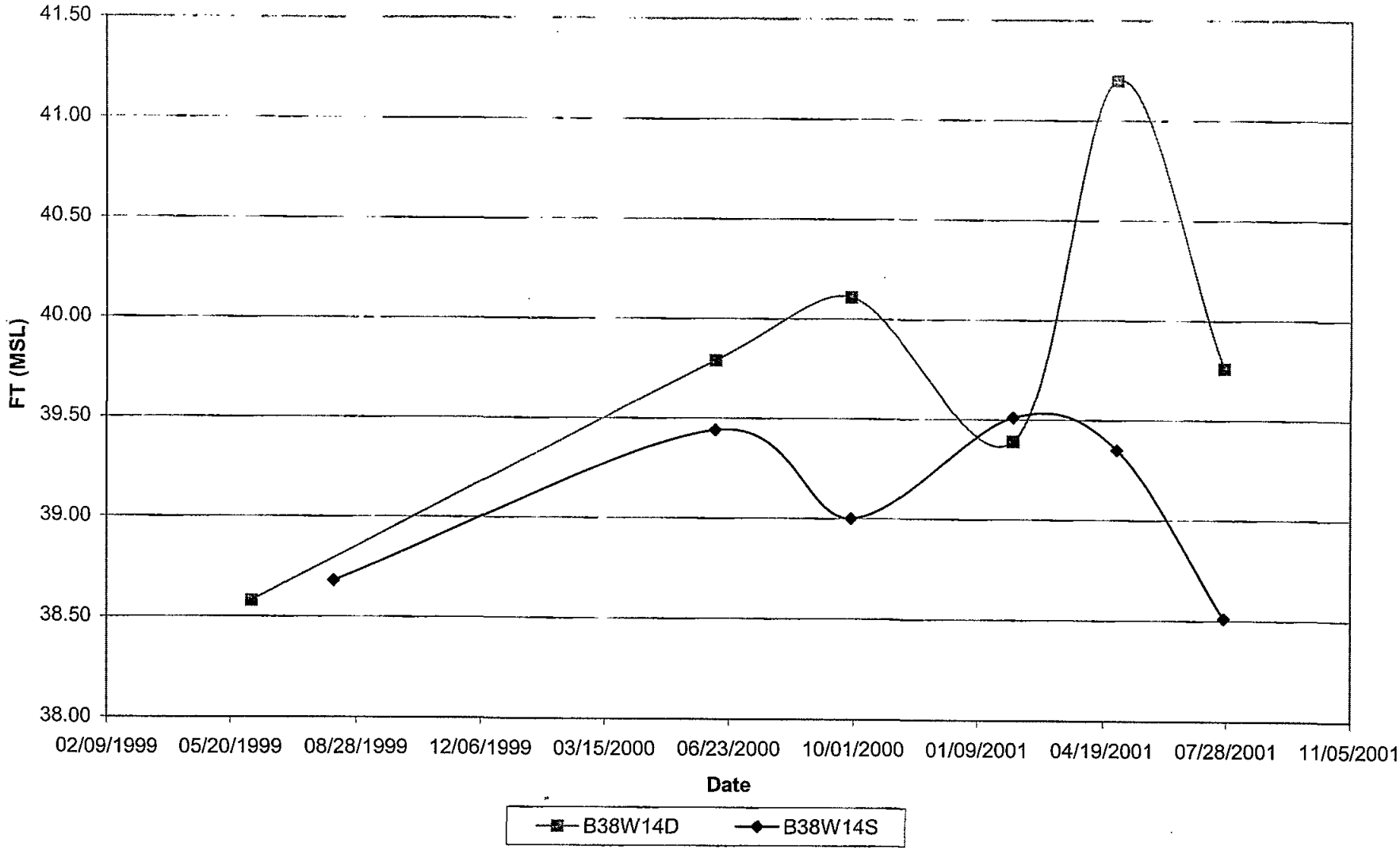


Figure P-9: Hydrograph for Well Cluster B38W15

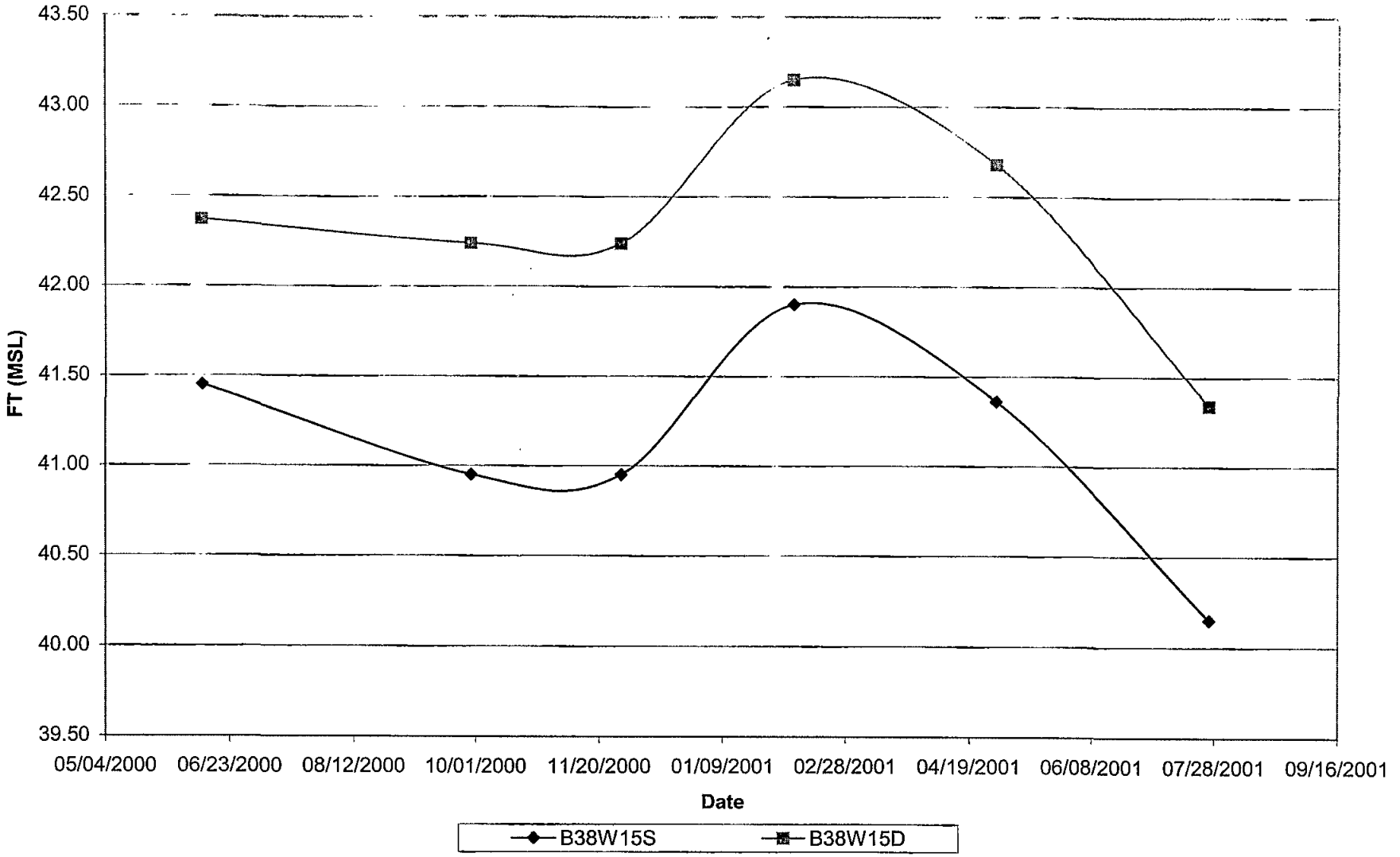


Figure P-10: Hydrograph for Well Cluster B38W17

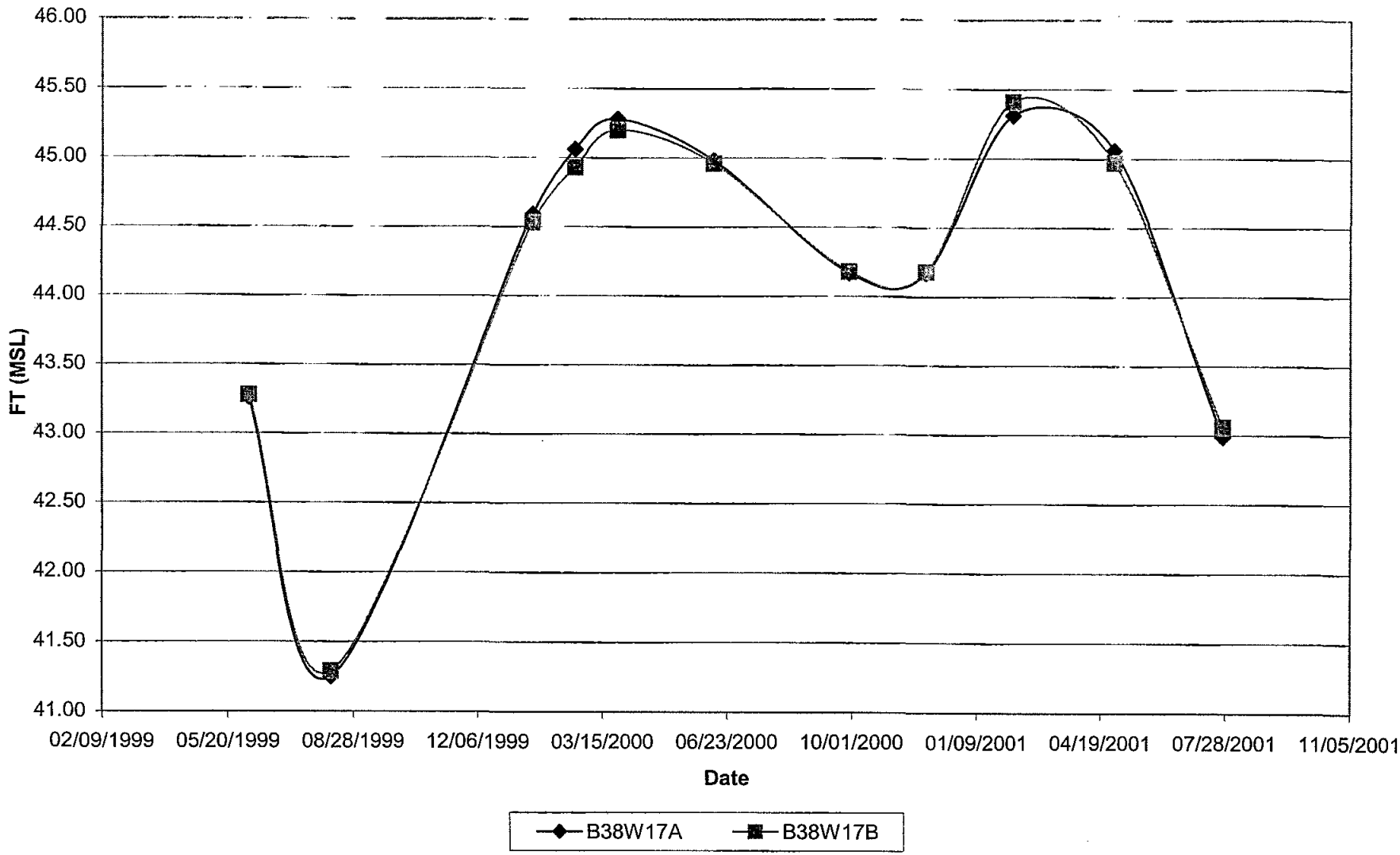


Figure P-11: Hydrograph for Well Cluster B38W19

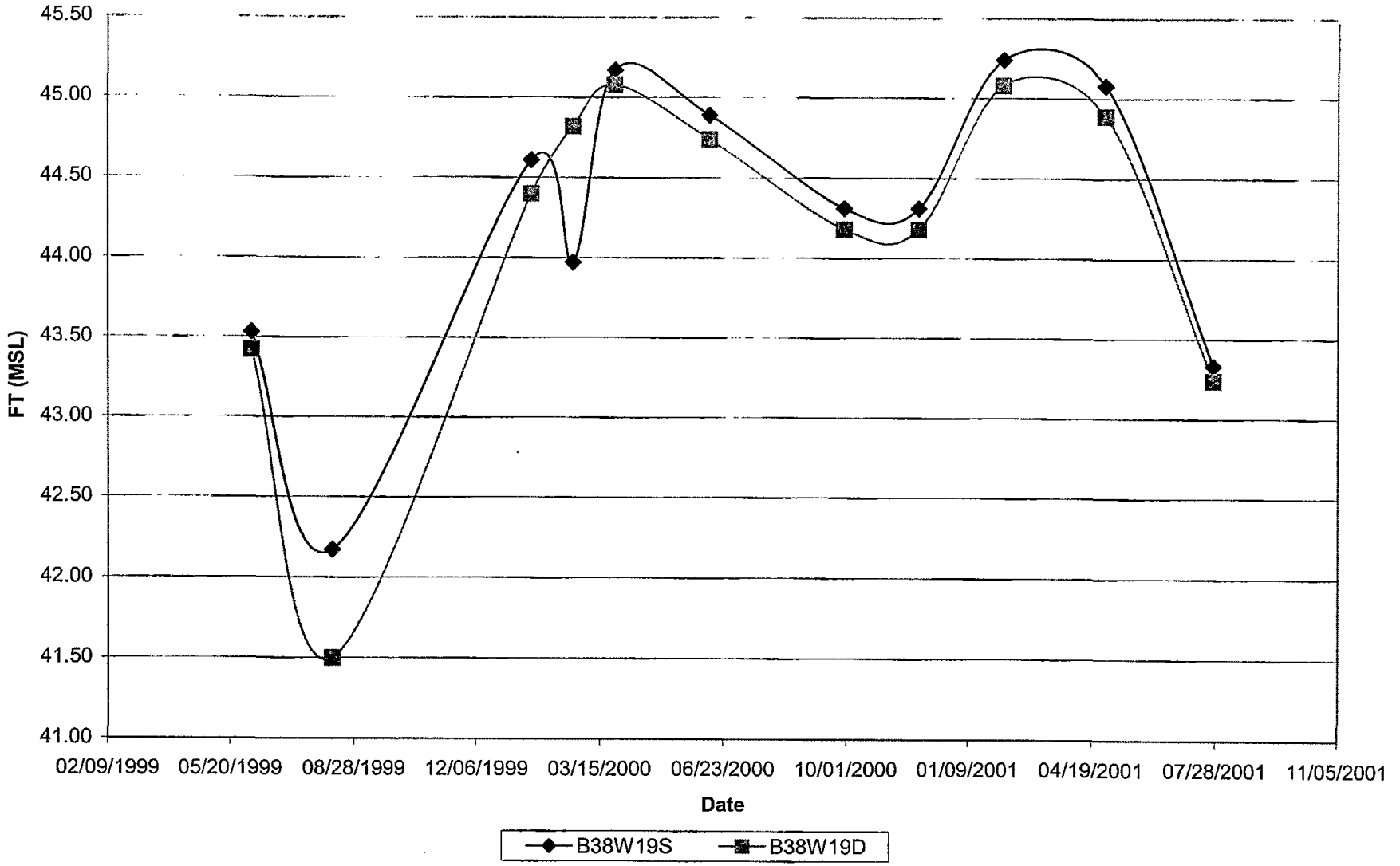


Figure P-12: Hydrograph for Well Cluster B38W24

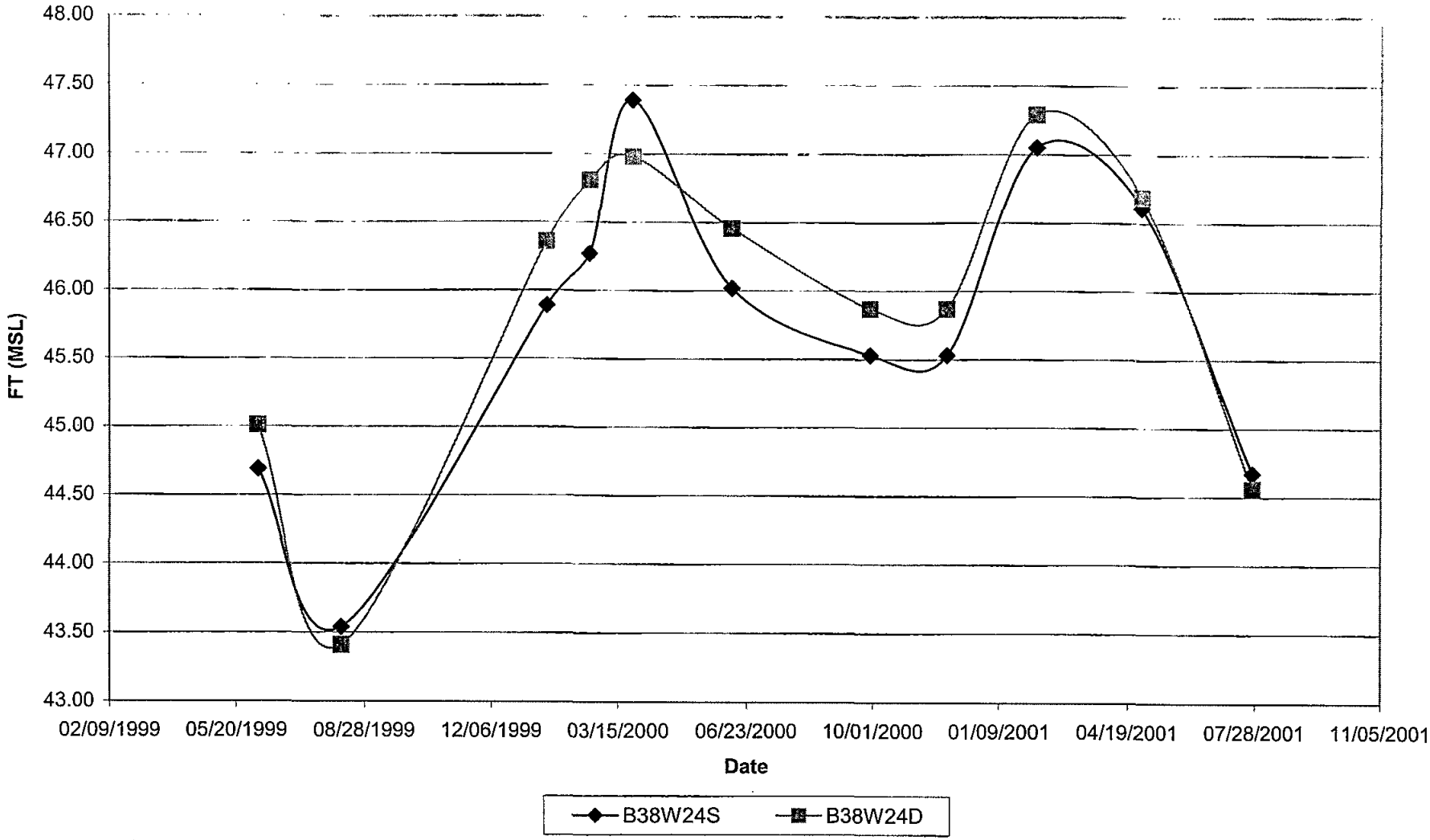
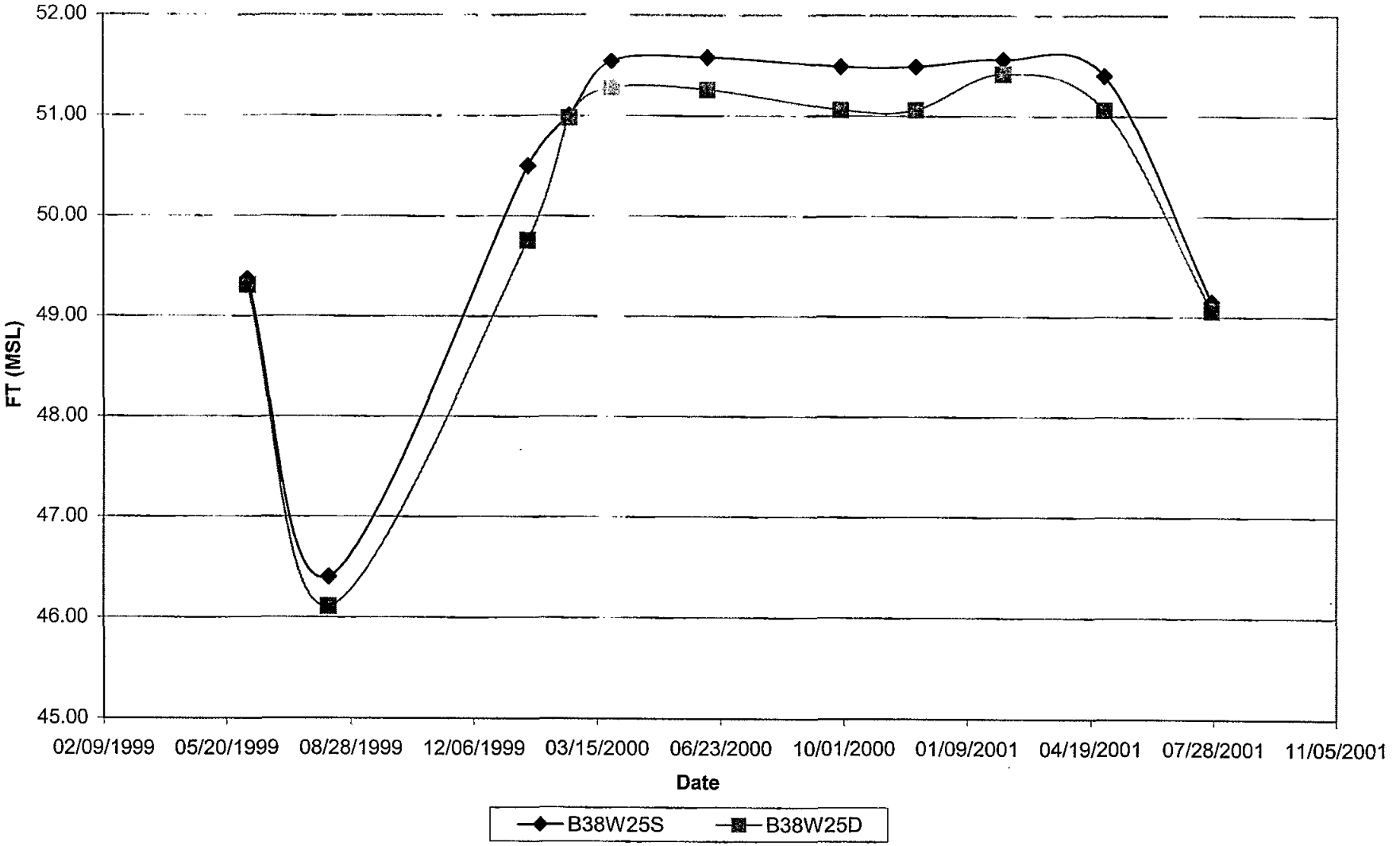


Figure P-13: Hydrograph of well cluster B38W25



APPENDIX Q
METEOROLOGY

APPENDIX Q

Introduction

This appendix contains data pertinent to the meteorology and surface water of the study area. The meteorology data is presented in tabular form, while the surface water data is presented as a table and figure. Meteorology information was obtained from Bechtel (1992), CH2M Hill (1994), the National Oceanic and Atmospheric Administration (NOAA) National Climate Data Center (NCDC). Surface water data was obtained from the United States Geological Survey (USGS) National Water Information Service (NWIS).

1.0 Meteorology

The FMSS lies within the Middle Atlantic Seaboard, which is characterized by four distinct seasons (spring, summer, autumn, winter), and moderate summers and winters. The regional climate is humid. According to NOAA (1984) there is a marked climate difference between southern New Jersey and northwestern New Jersey. The former is fairly well removed from the influence of storms that cross the Great Lakes region to the St. Lawrence Valley. Northern New Jersey is more often influenced by these storms. Southern New Jersey has January temperatures about the same as southwestern Virginia.

Northern New Jersey is near enough to the paths of the Great Lakes storms to receive part of its precipitation from that source (NOAA, 1984). However, the heaviest rains are produced by coastal storms of tropical origin. In northeastern New Jersey, the annual average rainfall ranges between 43 and 47 inches (NOAA, 1984). The normal annual precipitation within the Passaic River Basin (Section 3.4.4) is about 47 inches/year (CH2M Hill, 1994), though there are variations across the basin (Tables Q-1, Q-2, and Q-3). Precipitation is higher at Newark (15 miles south-southwest of the MISS), than at Teterboro (3 miles southeast of the MISS) or New Milford (5 miles northeast of the MISS) (Table Q-1). The average snowfall across the basin is approximately 34 inches (Bechtel, 1992; CH2M Hill, 1994). This is the equivalent of about 4 inches of rainfall. Precipitation is distributed fairly uniformly throughout the year, with approximately 120 days of precipitation annually (NOAA, 1984).

The Passaic River Basin is subject to moderate summer temperatures, with some hot and humid mid-summer days, and frequent electrical storms. Winter temperatures are generally moderate. The average monthly temperature ranges for Newark, Teterboro, and New Milford are presented in Table Q-1, with details at Teterboro provided in Table Q-2. The average monthly temperatures are similar between these three stations.

2.0 Surface Water Hydrology

A detailed discussion of the surface water features in the Saddle River Basin is presented in Section 3.4.4 of this Report. This appendix serves as a presentation of surface water data for USGS station 01391500 on the Saddle River, Lodi, New Jersey. The USGS provides the following basic data for this station:

Bergen, New Jersey
Hydrologic Unit Code 02030103
Latitude 40°53'25", Longitude 74°04'51" NAD27
Drainage area 54.60 square miles
Gage datum 25.00 feet above sea level NGVD29.

Table Q-4 presents surface water data for this station, while Figure Q-1 shows the stream hydrograph and discharge for the period February 1977 to April 2002.

Appendix Q, Table 1
Summary of Climatic Conditions, Northern New Jersey

Newark, New Jersey, Normals 1971-2000													
YEARS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Daily Maximum Temperature (°F)													
30	38.1	41.1	50.1	60.8	71.4	80.2	85.2	83.2	75.7	64.7	53.7	43	62.3
Daily Minimum Temperature (°F)													
30	24.4	26.6	34.2	37	54.1	63.5	69.1	67.7	59.9	48.2	39.1	29.8	46.7
Daily Average Temperature (°F)													
30	31.3	33.8	42.2	52.3	62.7	71.9	77.2	75.5	67.8	56.4	46.4	36.4	54.5
Average Precipitation (in)													
30	3.98	2.96	4.21	3.92	4.46	3.4	4.68	4.02	4.01	3.16	3.88	3.57	46.25
Average Wind Speed (MPH)													
57	11.2	11.5	11.9	11.2	10	9.5	8.9	8.7	9	9.4	10.2	10.8	10.2

Newark, Average Relative Humidity (%) through 2001
Morning (M), Afternoon (A)

YEARS		JAN		FEB		MAR		APR		MAY		JUN	
M	A	M	A	M	A	M	A	M	A	M	A	M	A
36	36	74	59	72	54	70	51	66	48	70	51	71	52

JUL		AUG		SEP		OCT		NOV		DEC		ANN	
M	A	M	A	M	A	M	A	M	A	M	A	M	A
72	52	76	53	79	55	79	53	76	56	74	58	73	53

Source: National Oceanic and Atmospheric Administration, Climate Resources, National Climate Data Center. For all records.
For Newark, NJ. http://lwf.ncdc.noaa.gov/oa/climate/climateresources.html

Teterboro, New Jersey, Averages June 1997-May 2002													
YEARS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Daily Maximum Temperature (°F)													
5	42	46	52	63	72	82	85	85	77	66	56	47	64
Daily Minimum Temperature (°F)													
5	26	29	34	42	52	62	65	65	57	45	38	31	45
Daily Average Temperature (°F)													
5	34	37	43	52	62	72	75	75	67	55	47	39	55
Average Precipitation (in)													
5	3.3	1.9	4.2	3.7	4.3	2.8	3.4	3	4.5	1.4	2.6	2.6	37.7
Average Wind Speed (MPH)													
5	8	8.3	9.5	7.8	7.1	7.1	6.8	6.3	6.4	6.6	7.6	7.8	7.4

Teterboro, Average Relative Humidity (%), June 1997-May 2002													
YEARS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
5	68	64	65	66	69	68	65	70	73	68	70	66	68

Source: For Teterboro, NJ. http://www.erh.noaa.gov/er/box

New Milford, New Jersey, Averages January 1992-December 2001													
YEARS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Average Precipitation (in)													
10	3.8	2.5	4.2	3.3	2.9	3.3	3.5	3.5	4.4	2.8	3.5	3.2	41

Source: For New Milford, NJ. http://lwf.ncdc.noaa.gov/oa/climate/climateresources.html

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

Teterboro, NJ. NWS Station. Daily Climatic Data. June 1997 to May 2002.

Description of Data

The climate data contained here is obtained from hourly observations used in operational forecasting. It is not official because of potential gaps in the data due to problems with communications etc. and because of potential errors which are not later corrected. The acquisition of this information is totally automated. But in spite of this in most cases it is reasonably accurate and many daily climate observations here are not available elsewhere on the internet.

The data begins with the end of May 1997. Each day of the month has an entry on one line. Data for a day for most of the parameters is for the period midnight to midnight EST (1 AM to 1 AM EDT). But total precipitation uses the period 1 AM to 1 AM EST (2 AM to 2 AM EDT). Before about June 23 1997 precipitation was from 8 PM to 8 PM EST. Data between September 11, 1997 and September 17 1997 is incomplete due to problems with the computer that acquires the data, it mainly affects maximum temperatures and data that occurred during the daylight hours.

The following abbreviations are used:

Dy: Day of Month
Mxt: The highest temperature of the day.
Mnt: The lowest temperature of the day.
AvT: The average daily temperature (the sum of MxT and MnT divided by 2.
HrlyT: The average of the hourly temperatures for each hour of the day. In most cases it is about the same as AvT.
HDDay: The heating degree days. This is obtained by subtracting AvT from 65. Negative values are set to zero.
AvDP: The average of the dew point for each hour of the day.
1HrP: The maximum precipitation that fell in one hour during the day. If 0.00 is shown it indicates a Trace.
Tpcpn: The total precipitation for the day. T indicates a trace. 0.00 indicates either 0 precipitation fell or that the total for the day is missing.
WxType The type of weather, if any, that occurred. The following abbreviations are used:
R Rain
T Thunderstorm
F Fog
L Drizzle
W Showers
H Haze
K Smoke
Z Freezing
B Blowing
S Snow
I Ice
A Hail
PDir: The prevailing wind direction in degrees (360 is north, 090 is east, 180 is south, 270 is west) averaged over 36 points of the compass.
AvSp: The average wind speed in miles an hour.
MxS:The maximum wind speed gust or peak wind in miles an hour.
Dir:The direction that occurred with the peak gust.
SkyC:The total sky cover is tenths. 10.0 indicates total cloud cover through the entire day. 0.0 indicates nearly clear. High thin clouds may not be included in the total sky cover for some locations.
MxR:The maximum relative humidity for the day.
MnR:The minimum relative humidity for the day.
AvSLP:The average sea level pressure for the day.
A * to the right of a value indicates it is an extreme for the month.

Near the bottom if each monthly file is a line that starts with "mo". This contains averages or totals of selected daily values through the last day of the month that is available. For instance under the MxT column it is the average maximum temperature from the first of the month (if it is available) through the last day of the month (or the previous day if it is a current month).

A final line may follow the "mo" line and will start with "dp". It is not available for all locations and will not be shown when not available. The "dp" line contains the departure of data on the "mo" line from normal. It is either the departure from normal for the entire month, or in cases where the month is not yet complete it is the departure from normal for the month to date.

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B Mx	Janu MnT	ary 20 AvT	2 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	36	17	27	38	9.8		0		310	8.5	340	22	0	67	35		1019.3
2	39	22	31	34	13.8		0		320	7.9	310	21	0.1	71	39		1023.4
3	38	21	30	35	14.9		0		340	5.2	20	9	2	74	37		1015.5
4	41	19	30	35	15.8		0		290	7	360	22	2	80	37		1015.6
5	44	28	36	29	15.3		0		250	8.1	250	15	4.4	55	35		1017.5
6	41	22	32	33	22.3	0.19	0.55	RSFH	20	4.5	10	22	7.4	92	46		1008.3
7	37	25	31	34	28.7	0.02	0.06	SF	10	8.3	360	21	9.7	89	75		1000.7
8	36	21	29	36	16.8	0.02	0.02		250	6.9	240	14	3.8	81	47		1012.5
9	39	28	34	31	25.6	0.05	0.09	IRFH	210	8.4	250	14	5.6	85	56		1006.9
10	53	33	43	22	32.2		0		230	5.9	250	22	3.1	85	50		1007.3
11	45	39	42	23	32	0.07	0.23	RF	290	8	290	28	7.6	89	46		1007.2
12	47	36	42	23	25.4		0		220	8.8	300	21	2.7	73	43		1011
13	45	36	41	24	23.5	0.01	0.01	RS	300	13.5	310	39	* 5.2	76	36		1001.6
14	46	33	40	25	21.8		0		290	7	280	21	2.7	76	38		1016.8
15	51	33	42	23	28	0	T	FH	280	8.1	300	24	5.5	89	37		1010.7
16	44	30	37	28	19.5		0		310	9.3	320	26	3.9	58	36		1019.7
17	48	32	40	25	23.2	0	T	S	200	9	270	30	6.1	82	37		1015
18	40	26	33	32	13.8		0		310	9	280	28	3.4	65	31		1018.3
19	30	25	28	37	14.4	0	T	SF	40	4.6	30	10	4.2	92	38		1019.5
20	39	16*	28	37	20.8	0.1	0.25	SF	260	5.8	240	10	3.3	96	46		1017.5
21	39	24	32	33	27	0.07	0.14	IRSFH	230	4.9	240	16	6.6	92	67		1013.7
22	47	31	39	26	22.5		0		220	7.9	310	23	2.2	75	31		1022.2
23	50	30	40	25	28.6		0	H	220	8.9	230	18	6.8	75	46		1019.8
24	61	42	52	13	39.7	0.1	0.28	RFH	210	7	320	14	8.7	100	55		1006.8
25	49	36	43	22	23.3	0	T	R	320	12.4	340	26	2.9	68	27		1014.9
26	56	31	44	21	20.4		0		240	9.4	260	22	1	64	26		1020.7
27	63	26	45	20	24.6	0	T		220	3.8	240	14	1.4	85	21		1021.2
28	62	32	47	18	30		0		230	4.8	250	20	3.2	89	31		1016.4
29	70*	35	53	12	40		0		220	5.9	300	25	0.7	89	40		1013.7
30	61	41	51	14	44.8	0.02	0.05	RH	330	6.9	330	13	9.1	83	59		1017.4
31	40	36	38	27	34.3	0.02	0.09	LRF	70	8	100	13	10	96	67		1026.2
mo	46.4	29.2	37.8	835	24.3		1.77			7.5			4.4	80.35484	42.41935		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE Dy	B Mx	Febr MnT	uary 2 AvT	2 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	55	37	46	19	34.6	0.05	0.19	LRF	70	9.6	300	43	* 7.8	100	37		1011.3
2	39	23	31	34	11.4		0		330	12	320	39	1	65	31		1024.6
3	43	22	33	32	17.6		0		220	5.5	220	23	2.8	77	36		1020.7
4	43	24	34	31	19.7	0	T	RS	330	6	330	30	3.7	85	35		1008.6
5	34	18	26	39	5.9		0		330	12.7	330	32	1.2	62	28		1019.8
6	45	23	34	31	16.2	0	T		250	7.9	310	20	0.3	60	33		1021.3
7	47	29	38	27	27.4	0.01	0.02	LRSFH	210	4.7	210	9	4.4	96	52		1013.2
8	54	34	44	21	23.6		0		310	7.3	330	14	0	79	26		1014.7
9	48	31	40	25	23.3		0		180	5.9	40	13	1	70	30		1030.6
10	55	35	45	20	39.5	0.08	0.28	RFH	180	8.2	200	23	9.4	96	65		1023.5
11	56	22	39	26	20.3	0.05	T	RF	330	13.8	340	39	5.1	96	29		1010.6
12	47	19	33	32	11.3		0		220	9.1	220	28	4.1	59	30		1014.7
13	41	22	32	33	10.6		0		340	11.8	310	31	0.7	78	21		1019.5
14	45	15*	30	35	7		0		210	6.5	210	17	0	67	23		1029
15	55	27	41	24	24.5		0		200	10.3	210	24	4.3	78	32		1021.3
16	57	39	48	17	28.3		0		220	5.6	290	21	6	82	29		1009.1
17	48	33	41	24	23	0.01	0.01	LF	330	11.7	330	30	7.2	82	27		1007
18	46	29	38	27	12.3		0		10	9.6	350	24	0.9	56	23		1022.3
19	55	21	38	27	17.3	0	T	RK	200	3.6	190	9	1.4	68	18		1024.1
20	58	39	49	16	35.5	0.16	0.21	RF	170	6.7	190	23	7.1	93	43		1016.4
21	63	47	55	10	42.2	0.16	T	RFH	290	8.7	310	25	5.2	100	34		1008
22	51	39	45	20	28.2		0		280	9.1	290	20	7.3	67	39		1012.3
23	47	33	40	25	17.5	0	T		340	8.4		17	2.6	60	24		1018.6
24	51	29	40	25	20.8		0		30	6.5	150	20	0	82	26		1024.2
25	53	30	42	23	32.1		0		200	6.6	150	23	2.9	88	42		1021.7
26	66*	34	50	15	40	0	T	RF	170	7.6	330	29	2.2	96	44		1008.2
27	48	29	39	26	22.2	0.03	0.04	RSF	290	12.5	280	33	6.6	89	30		1002.6
28	42	25	34	31	10	0	T	S	310	10.9	310	33	1.4	78	25		1015.1
mo	49.7	28.9	39.3	715	22.2		0.75			8.5			3.5	78.89286	32.57143		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B Marc MxT	h 2002 MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	49	23	36	29	13.6		0		260	7.5	260	29	0.2	57	25	1029.2
2	49	25	37	28	26	0.14	0.47	R	140	6.6	170	23	3.6	69	50	1031.5
3	62	26	44	21	45.7	0.27	0.6	RFH	220	13.1	300	39	8.8	96	33	1005
4	43	24	34	31	13.7	0	T		320	11.8	320	24	5.6	51	36	1013.6
5	34	19*	27	38	6.7		0		290	10.1	300	23	1.9	65	32	1026.1
6	61	27	44	21	22.8		0		220	11.1	240	31	4.4	66	25	1023.6
7	68	32	50	15	28.3		0	K	230	5.6	290	31	2.7	78	21	1023.7
8	53	40	47	18	37.5	0	T	FH	100	6.5	140	16	5.1	96	50	1031.4
9	67	43	55	10	48	0.01	0.03	RFH	180	9.5	190	30	9.3	100	54	1025.4
10	64	30	47	18	18.6	0.16	0.19	R	300	20.4	290	43	* 4.3	87	24	1015.9
11	40	26	33	32	6.7		0		300	11	320	33	2.9	44	27	1027.8
12	55	30	43	22	31		0		40	4.2	150	17	2.9	62	44	1020.9
13	44	40	42	23	38.8	0.07	0.22	LRF	30	6.1	80	10	9.1	100	62	1014.9
14	69	35	52	13	38.1		0	FH	190	5.2	180	10	1.6	96	18	1014.5
15	65	42	54	11	45.4		0	H	170	5.4	140	13	4.5	83	65	1014.9
16	64	35	50	15	42.2	0	T	LFH	10	7.3	10	21	4.7	93	48	1014.8
17	40	29	35	30	20.5	0	0.04	S	110	7.8	30	21	5.5	70	41	1031.5
18	38	33	36	29	30.5	0.09	0.28	ILRSFH	90	6.7	130	9	10	89	70	1026.1
19	47	35	41	24	32		0	F	30	5.3	120	8	6.8	92	51	1027.2
20	43	37	40	25	31	0.19	0.99	RFH	120	10.5	120	21	8.7	79	65	1019.1
21	57	29	43	22	29.9	0.01	0.01	RS	330	11.1	350	38	2.4	89	34	1010.7
22	33	22	28	37	5	0	0		320	16.3	340	40	5.2	59	27	1015.7
23	48	23	36	29	13.8		0		240	14.9	250	35	0.2	62	26	1016
24	56	31	44	21	23.6		0		230	8.9	270	24	3.9	61	30	1017.7
25	49	36	43	22	26	0.01	0.01	IR	20	8.9	30	22	9.4	85	39	1025.4
26	44	38	41	24	37	0.13	0.41	ILRF	90	9.4	310	38	10	100	67	1023
27	52	37	45	20	36.3	0.11	0.09	RF	340	10	340	25	4.9	100	56	1014.1
28	60	34	47	18	27.1	0	T		330	6.7	320	10	0	75	29	1018.6
29	58	38	48	17	36.1		0		190	9.3	180	22	3.7	86	51	1018.2
30	72*	49	61	4	43.9	0	T	RF	260	9.6	240	24	7.1	100	27	1012.2
31	60	47	54	11	42.7	0.05	0.15	RF	210	4.5	210	12	8.1	100	43	1016
mo	53	32.7	42.9	678	29		3.49			9.1			5.1	80.32258	40.96774	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B Apri MxT	l 2002 MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	59	43	51	14	38	0.04	0.05	RF	310	11.1	310	35	5.4	100	33	1009.1
2	59	37	48	17	34		0		180	8.3	180	21	1.9	96	45	1017.2
3	75	40	58	7	50.2	0.09	0.16	RF	340	11.6	330	37	5.6	100	58	1011.3
4	50	35	43	22	24.9		0		330	11.1	330	23	0.1	67	37	1022.7
5	44	30	37	28	21.8		0		340	7.3	330	20	3.3	69	44	1022.9
6	46	29	38	27	21	0	T		340	9.8	310	25	3	78	34	1022
7	48	23*	36	29	18.9	0	T		200	7.3	210	15	1.8	67	34	1029.1
8	65	40	53	12	39.3		0	H	200	9.7	170	18	4.4	83	55	1026.7
9	75	51	63	2	54.5	0.01	0.04	RF	210	13.3	240	35	4.7	93	50	1019.9
10	66	45	56	9	37.7	0.03	T	RF	350	9.1	340	28	2.7	93	29	1027.4
11	65	43	54	11	31.6	0	T		120	6.9	160	24	0.3	68	26	1035.8
12	58	40	49	16	46	0.09	0.15	RFH	40	4.5	150	9	6.4	100	53	1031.2
13	73	53	63	2	57.1	0.11	0.16	RF	200	8.2	220	17	8.8	100	59	1022.2
14	75	54	65		55.4	0.11	0.19	RF	160	6.2	240	14	5.4	100	46	1017.6
15	80	58	69		57.9	0.19	0.09	LRF	260	7.5	270	20	5.5	100	43	1013.9
16	90	58	74		58.6		0	F	200	3.7	200	14	0.5	90	32	1016.8
17	95*	63	79		56.5		0		230	6.1	240	22	0.4	81	25	1015.2
18	91	66	79		58.5		0		200	5.5	190	38	1.8	68	34	1015.7
19	90	63	77		60.2	1.31	1.5	RTFH	170	7.1	20	39	* 4.0	100	40	1012
20	67	53	60	5	52.7	0.03	0.05	RF	350	4.1	310	12	4.2	100	50	1010.3
21	56	48	52	13	33.6	0.01	0.02	R	350	6.8	10	12	7.3	64	35	1014.6
22	53	41	47	18	41.5	0.13	0.39	RTFH	100	6.4	340	24	9.9	96	57	1009.5
23	54	38	46	19	24.2		0		340	10.7	350	23	3.3	59	32	1017.5
24	65	33	49	16	25.1	0	T	R	190	6	180	18	0	59	22	1023.2
25	54	38	46	19	39.2	0.21	0.63	RF	160	6.9	170	22	4.9	96	53	1017.4
26	58	33	46	19	28.6	0	T		300	8.6	320	26	2.4	96	28	1020.6
27	63	35	49	16	29.3	0	0.03	R	190	6.3	300	20	2.4	85	27	1026.5
28	60	47	54	11	50.2	0.35	1.63	RFH	110	6.1	60	30	9.1	100	78	1008.2
29	54	43	49	16	38	0	0	FH	310	11.2	310	28	8.7	100	52	1004.1
30	57	40	49	16	37.1	0.08	0.19	RFH	310	8.1	220	21	5.1	96	45	1010.1
mo	64.8	44	54.4	364	40.7		5.28			7.8			4.1	86.88	41.56	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B May			2002															
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP		
1	66	36*	51	14	35.6	0	T	RF	310	6.2	350	23	1.2	100	18		1011		
2	57	48	53	12	48.9	0.29	0.56	RFH	150	6.4	160	23	9.6	96	71		1003		
3	59	46	53	12	30.1	0.01	0.01	H	320	15	310	38	0.8	83	28		1010.5		
4	66	37	52	13	33	0	T		200	6	200	14	1	79	28		1024		
5	72	44	58	7	40.7	0	T		200	6.6	190	15	1.6	80	32		1024.1		
6	75	48	62	3	48.5		0	FH	190	8.9	200	23	2.2	93	38		1023.2		
7	83	57	70		57.3	0	T		200	6.5	220	20	5.5	87	49		1014.5		
8	72	55	64	1	50.1		0		140	8.3	20	22	2.3	78	42		1020.2		
9	58	50	54	11	47.3	0.03	0.08	LRF	120	6.4	130	13	9.6	100	57		1018.7		
10	78	51	65		46.2	0	T	FH	270	8.4	260	26	2.6	100	28		1017.6		
11	71	49	60	5	35.5		0		320	8.6	330	21	1.3	80	26		1028.3		
12	57	53	55	10	51.2	0.1	0.2	LRF	180	4.1	190	10	9.5	100	66		1021		
13	53	48	51	14	50.4	0.53	1.98	RTF	90	7.8	90	20	10	100	86		1006.3		
14	64	47	56	9	40.2	0.07	T	RF	280	13	260	43	* 6.4	100	41		1000.6		
15	67	47	57	8	34.6		0		300	14.6	300	35	0.7	63	28		1013		
16	83*	44	64	1	44.7		0		250	9.8	240	32	1.6	86	27		1014.9		
17	77	54	66		51.7	0.06	0.21	R	350	9.3	360	18	7.7	86	34		1008.9		
18	54	43	49	16	40.6	0.28	1.39	RF	30	9.8	10	26	8.2	100	54		1008.8		
19	58	38	48	17	30.8		0		330	8.1	290	21	2	73	35		1019.3		
20	56	37	47	18	30.1	0	T		330	7	330	13	3.6	76	35		1021.6		
mo	66.3	46.6	56.5	171	42.4		4.43			8.5			4.4	88	41.15				
D	aily C	limate	Data																
(U	noffic	ial, P	relimi	nary D	ata)														

TE	B Janu	ary 20	1																
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP		
1	32	22	27	38	11.1		0		320	10	330	21	1.8	62	45		1019.8		
2	27	11	19	46	9		0		340	8.3	330	15	0	83	44		1024.3		
3	32	7*	20	45	11.3		0		230	5.6	310	8	0.3	87	53		1021.9		
4	33	17	25	40	16.5		0		260	6.8	270	12	6	74	54		1014.6		
5	32	11	22	43	21.2	0.05	0.13	SFH	180	4.5	200	13	5	100	61		1006.7		
6	40	18	29	36	22.8		0	FH	320	5.4	310	21	6.8	100	52		1003.5		
7	42	17	30	35	22.8		0		190	2.9	200	9	3.9	84	57		1010.4		
8	38	25	32	33	29.3	0.03	0.23	RSFH	20	5.3	20	10	7.2	100	75		1009.3		
9	34	24	29	36	19.3	0.01	T	SF	330	11.8	330	24	6	96	49		1008.3		
10	35	21	28	37	13.9	0	T	S	340	9.9	340	25	3.5	84	43		1014.9		
11	45	20	33	32	22.3		0		340	7.6	320	21	0.7	84	47		1015.2		
12	43	20	32	33	21.6		0	F	340	4	320	8	0.1	88	43		1022.3		
13	39	22	31	34	20.7		0		360	3.3	200	7	0.1	96	51		1027		
14	41	20	31	34	25.6		T	FH	200	1	80	5	2.4	92	57		1024.5		
15	39	34	37	28	35	0.07	0.25	RF	20	4.1		18	9.5	100	82		1018.4		
16	44	35	40	25	32.2		0	FH	230	8.6	320	24	5.1	100	55		1014.7		
17	41	34	38	27	28.1		0		280	7.9	280	12	7	78	55		1020.7		
18	37	26	32	33	27.8	0.04	0.05	RSF	150	3.5	160	9	7.9	96	56		1022.8		
19	38	34	36	29	35.3	0.08	0.75	RF	30	5.8	30	9	10	100	89		1013.1		
20	37	27	32	33	29.9	0.03	0.22	IZRSAF	20	8.7	30	18	10	96	81		1013.6		
21	33	16	25	40	16.1	0.03	0.11	BRSF	350	10.3	340	31	2.9	92	45		1016.8		
22	40	12	26	39	14.8		0		230	3.1		7	0	84	45		1031.2		
23	39	17	28	37	18.5		0	FH	350	2.3	160	8	0.3	92	50		1024.2		
24	43	29	36	29	22.5	0	T	H	260	2.3	250	9	0.7	84	45		1014.9		
25	40	23	32	33	21.2	0	T	SFH	360	8	340	24	5.8	85	48		1017.6		
26	38	20	29	36	14.4		0		350	7	350	18	1.4	68	42		1021.6		
27	41	26	34	31	24.5	0.03	0.03	SF	300	10.2	310	32	* 8.5	96	54		1011.2		
28	38	24	31	34	15.4		0		310	10.4	320	30	1.4	63	37		1022.4		
29	43	18	31	34	17.9	0	T		210	3.9	190	8	3.3	77	44		1024.4		
30	52*	33	43	22	28.8	0.18	0.77	RF	210	6.3	250	25	6.7	100	46		1006.2		
31	51	35	43	22	33.2	0.01	0.01	RFH	270	7.7	280	31	3.8	96	51		1003.1		
mo	38.9	22.5	30.7	1054	22		2.55			6.3			4.1	88.29032	53.41935				
D	aily C	limate	Data																
(U	noffic	ial, P	relimi	nary D	ata)														

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Febr	uary 2		1													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	49	31	40	25	29.6		0		270	7.4	290	18	7.9	85	47		1016.8
2	46	26	36	29	28.5	0.04	0.04	RSFH	220	5.7	310	33	7.6	89	49		1014.8
3	33	24	29	36	9.3		0		310	11.5	320	30	0	52	39		1022.7
4	38	21	30	35	18.7		0		190	4.6	170	23	5.3	81	52		1027.7
5	36	30	33	32	29.6	0.11	0.75	ISF	20	8.1	10	22	9.4	96	79		1012.3
6	43	33	38	27	30	0	T	L	240	10.6	240	22	7.5	85	55		1012.4
7	43	32	38	27	24.8		0		320	9	310	23	2.7	76	48		1023.8
8	44	28	36	29	24.7		0		190	4.4	200	9	6.1	76	52		1030.8
9	49	36	43	22	34.6	0	T	FH	80	2.9	100	6	6.5	85	70		1018.2
10	59*	27	43	22	25.8	0.01	0.01	RFH	310	16.8	310	37	2.3	92	31		1011.2
11	32	19	26	39	4.3		0		320	13.6	310	31	0.3	50	27		1032
12	33	15*	24	41	9.9	0.01	0.02	SF	180	7.5	200	16	3.2	96	35		1036.8
13	49	30	40	25	27.2	0.01	T	ZLSF	340	4.7	10	17	2.9	96	39		1027.3
14	47	29	38	27	31.6	0	T	RFH	210	3.5	230	12	5.5	96	66		1019.2
15	47	36	42	23	31.2	0.01	0.01	F	340	7.3	330	13	7.2	96	45		1013.1
16	39	29	34	31	27.7	0.06	0.28	LRFH	20	4.5	20	7	6.9	92	61		1017.1
17	38	20	29	36	17	0.01	0	H	330	15.6	320	44	4.7	89	36		1014.4
18	32	18	25	40	6.9		0		320	10.2	310	22	0	60	37		1028
19	49	18	34	31	14.8		0		210	10.1	250	21	2.3	70	31		1026.9
20	56	34	45	20	30.2	0	T	R	220	7.1	240	14	6.3	70	41		1018.9
21	49	19	34	31	18.4		0		340	12.7	340	35	2.1	70	27		1019.5
22	30	16	23	42	8.2	0.09	0.22	SF	360	7.2	120	28	4	96	40		1027.9
23	49	20	35	30	19.2	0.06	0.1	SF	310	9.7	280	47	* 6.6	88	47		1020.8
24	35	23	29	36	13.2		0		330	6.9	340	18	3.1	62	36		1034.4
25	51	33	42	23	32.4	0	T	ILRSFH	150	7.4	170	21	10	100	41		1020.6
26	52	34	43	22	25.4		0		320	12.3	330	33	3.6	73	39		1016.9
27	49	27	38	27	24.1		0		330	7.3	340	20	4.2	75	47		1020.6
28	35	26	31	34	10.6		0	K	360	10.8	330	26	3.8	54	34		1016.8
mo	43.3	26.2	34.7	842	21.7		1.43			8.5			4.7	80.35714	44.67857		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE	B Marc	h 2001															
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	38	23	31	34	13.6		T		290	9.5	270	22	5.9	72	42		1009.9
2	43	30	37	28	30.6	0.02	0.04	SF	280	4.6	260	14	9.9	100	67		1004.5
3	47	35	41	24	33.5		0	F	10	5.3	240	8	9.9	100	53		1009.4
4	37	29	33	32	31	0.06	0.1	ISAF	80	11.4	80	32	10	100	75		1016.4
5	32	27	30	35	29.6	0.06	0.31	IZLRSF	10	11.3	80	32	10	100	92		1000.9
6	36	25	31	34	28.3	0.02	0.26	SFH	350	12.8	360	31	10	100	78		993.9
7	44	30	37	28	27.8	0	0		20	6.8	30	13	3.7	96	57		1008.5
8	44	26	35	30	31.2	0	T	F	200	5.6	210	17	6.2	100	73		1016
9	43	33	38	27	33.1	0.17	0.38	RF	320	8	290	23	8.6	100	67		1009.4
10	45	31	38	27	26.8		0		320	13.8	340	35	0.7	75	55		1011.6
11	55	26	41	24	29		0		250	10.2	250	33	1.9	92	43		1015.4
12	48	29	39	26	24.3	0.01	0.07	RF	350	6.8	190	16	1.1	100	33		1022.3
13	49	35	42	23	38.6	0.29	1.11	RF	30	4.8	70	10	7.5	100	82		1001.9
14	49	32	41	24	29.4		0	F	300	11.2	310	36	4	100	38		1004.9
15	55	32	44	21	31.2	0	T		240	5.8	220	16	3.2	86	43		1013
16	57*	41	49	16	37.5	0.03	0.1	LRF	50	5.5	170	16	6.8	100	49		1012.4
17	46	36	41	24	39.7	0.06	0.22	RF	40	4.9	30	9	9.7	100	73		1013.7
18	46	34	40	25	29.3	0.01	0	F	340	13.3	330	31	5.1	100	41		1018.1
19	53	34	44	21	22.4		0		340	10.3	10	25	0	61	32		1026.9
20	54	31	43	22	31.5	0	T	R	120	5.9	220	16	0.7	85	46		1031
21	47	41	44	21	40.6	0.26	1.15	RF	70	15	60	40	6.8	100	79		1018.1
22	47	40	44	21	41.2	0.29	1.16	RF	10	13.2	80	39	9.9	100	79		998.3
23	56	39	48	17	30.3		0		310	18.3	320	41	* 3.3	79	34		1002
24	52	33	43	22	32.8	0.01	0.01	RF	250	14.2	240	38	3	92	49		1007.8
25	45	29	37	28	17.4		0		310	10.1	320	28	1.2	58	38		1015.8
26	42	27	35	30	22.3	0.02	0.05	SF	350	8.5	330	31	6.8	104	42		1016.4
27	42	23*	33	32	15.6		0		320	9.7	300	23	0.1	66	41		1021.8
28	49	27	38	27	25.1		0		300	7	310	28	0	85	42		1024.8
29	46	33	40	25	34.7	0.09	0.27	RF	90	6.4	170	10	5.1	100	60		1026.6
30	44	38	41	24	40.1	0.44	1.74	RFH	60	12.2	70	36	10	100	93		1008.2
31	47	38	43	22	38.6	0.03	0.03	IRF	40	5	30	8	7.8	100	73		1009.1
mo	46.4	31.8	39.1	794	30.2		7			9.3			5.4	91.96774	57.06452		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Apri	l 2001															
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	43	38	41	24	38.6	0.01	0.01	LF		70	5.8	20	8	10	100	86	1008.2
2	49	38	44	21	32.8		0			320	7.5	330	23	9	92	53	1013.2
3	55	36	46	19	29.5		0			330	6.6	20	13	4.8	72	41	1019
4	55	34	45	20	30.6		0			10	6.3	30	20	0	85	41	1024.9
5	63	31*	47	18	32.7	0	T			200	3.8	210	13	0.1	96	31	1025.2
6	55	40	48	17	44.8	0.05	0.23	LRF		210	5.4	230	13	5.9	100	60	1016
7	51	43	47	18	41.6	0	T	F		160	7.5	170	12	9	100	70	1021.6
8	50	41	46	19	41.2	0.08	0.1	LRTF		70	4.8	170	12	10	100	65	1019.6
9	77	44	61	4	53.4	0.36	0.91	RTFH		210	6.3	360	25	6.4	100	54	1009
10	62	49	56	9	45.5	0.02	T	RF		30	7.9	20	20	5.7	100	51	1016.5
11	54	43	49	16	45.5	0.05	0.19	RF		130	7.5	130	13	8.7	100	69	1024.4
12	66	44	55	10	50	0.01	0.03	LRFH		70	5	150	20	9.9	100	83	1016.3
13	73	51	62	3	48.3	0	T	RF		330	9.3	320	25	4.7	100	36	1009.6
14	67	45	56	9	36		0			320	10.4	340	23	0.1	68	32	1012.3
15	66	40	53	12	41.2	0.02	0.05	R		190	4.4	200	13	3.1	96	45	1009.1
16	60	48	54	11	40	0.04	0.04	R		20	6.6	330	20	8.5	100	36	1006.2
17	51	44	48	17	42.8	0.01	0.03	R		340	6.8	300	10	8.8	100	71	1005.6
18	53	37	45	20	27.6	0.01	T	R		340	13.9	350	30	2.7	100	38	1009
19	55	32	44	21	27.4		0	K		310	7.6	230	20	0.5	70	38	1021.8
20	66	35	51	14	44.5	0	T			200	5.1	200	29	3.5	92	58	1026.7
21	66	51	59	6	53.4	0.18	0.21	RFH		170	4.4	170	9	9	100	68	1025.7
22	85	50	68		62.2		0	FH		250	8.3	240	29	3.1	100	55	1021.2
23	80	57	69		58.2		0	F		200	5.8	150	20	2	100	50	1019.7
24	88*	51	70		57.4	0	T	RF		220	10.8	250	35	* 2.6	100	48	1011.8
25	55	44	50	15	34.5		0			360	8.1	340	21	2	82	43	1022.3
26	63	40	52	13	36.6		0			210	5.8	110	20	0.4	86	38	1023.4
27	73	35	54	11	40	0	T			340	4.9	340	21	1.5	82	36	1015.7
28	64	46	55	10	36.3		0			350	9.7	30	26	1.4	74	25	1022.2
29	66	38	52	13	27.1		0			350	5.9	300	10	0	76	20	1031.6
30	78	40	59	6	50.6		0			250	6.4		16	0.5	100	39	1025.1
mo	63	42.2	52.6	376	41.7		1.8				7			4.5	92.36667	49.33333	
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE	B May	2001															
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	87	55	71		49.8		0			200	5	190	15	0.1	69	32	1017.7
2	90	56	73		60.3		0			210	6.3	220	21	0.8	96	44	1017
3	95*	59	77		57.5	0	T	H		210	5.8	240	55	* 0.1	87	30	1019.4
4	92	60	76		61.1	0	T	H		230	5.4	260	14	3.2	87	38	1016.4
5	77	58	68		51.5	0	T	RFH		40	6.8	30	23	2.7	87	29	1017.8
6	64	48	56	9	40.2		0			50	8.3	120	20	1.2	80	38	1030.7
7	63	41*	52	13	38.8		0			200	5.4	150	10	0	96	33	1033.8
8	67	42	55	10	48.2		0	F		190	6	180	17	2	100	61	1028.4
9	79	45	62	3	53		0			190	2.4	320	8	1	100	48	1020.9
10	82	53	68		49.4	0	T	R		360	5.2	360	17	0.1	93	29	1016.7
11	86	53	70		54.2		0			180	4.1	200	18	0.1	80	35	1013.7
12	85	56	71		56.4	0.01	0.01	F		330	7.9	340	26	1.1	87	43	1010.4
13	73	52	63	2	42.3		0			360	10.4	340	23	0.6	76	22	1016.1
14	72	48	60	5	36.4	0	T			340	8.7	340	30	2.3	73	21	1017
15	73	49	61	4	35		0			330	10.2	320	30	1.1	61	23	1010.9
16	63	49	56	9	45.3		0			90	7.6	90	17	6.7	80	53	1014.5
17	64	53	59	6	48.3	0	T	R		190	7.9	170	17	10	86	56	1016.5
18	63	54	59	6	53.9	0.01	0.01	RF		190	7.7	210	14	9.5	100	78	1013.9
19	82	58	70		58.6		0	FH		310	4.5	90	18	6.3	100	45	1009.3
20	66	54	60	5	52.9		0			190	8.1	90	18	6	90	68	1017.8
21	58	53	56	9	53.5	0.18	0.85	RFH		70	7.3	80	12	9.1	100	86	1018.4
22	62	56	59	6	58.6	0.35	0.56	RF		70	8.7	80	22	10	100	96	1009.8
23	62	57	60	5	58.8	0.04	0.18	RF		80	6	90	10	10	100	93	1010.5
24	72	56	64	1	58.8	0.01	0	F		80	7.5	80	21	7.8	100	68	1015.1
25	58	53	56	9	53.7	0.01	0.01	RF		70	7.9	80	22	10	100	80	1020.6
26	65	53	59	6	57.5	0.09	0.3	RF		50	5	70	9	9.8	100	87	1018
27	71	58	65		60.6	0.11	0.09	RTF		90	5.1	170	17	8.2	100	71	1010.6
28	75	54	65		54.8	0.02	0.02	RF		260	8	250	25	3.5	100	40	1008.6
29	76	52	64	1	54.6	0.25	0.28	LRTF		220	4.9	320	25	3.2	93	52	1009.9
30	67	52	60	5	38.8	T				320	10.5	320	32	4.2	75	28	1012.5
31	70	48	59	6	35.5	0	0			320	8.1	310	24	1.5	60	26	1015.4
mo	72.9	52.7	62.8	120	50.9		2.31				6.9			4.3	88.90323	50.09677	
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B June MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	72	45*	59	6	45.6	0.47	1.34	RF	180	6.2	180	15	5.4	100	37		1014.8
2	74	58	66		64.2	0.48	0.82	RF	170	5.6	170	12	9.4	100	76		1004.3
3	75	58	67		56.8	0.04	0.05	RF	260	8.2	280	25	6.5	100	48		1004.5
4	74	54	64	1	51.2		0		310	8.2	320	20	2.4	81	48		1012.4
5	77	51	64	1	52.7		0		320	6.1	340	17	1.6	90	46		1015.2
6	78	65	72		51.9		0		330	7	330	13	3.7	65	42		1014.3
7	79	57	68		50.9		0		10	5.4	10	10	2	73	38		1011.8
8	81	59	70		45.5		0		320	6.4	320	23	0	73	27		1010.1
9	82	56	69		46.5		0		360	4.6		16	2.2	55	32		1010.2
10	82	56	69		50.7		0		290	4.5	310	20	1.3	77	33		1011.1
11	86	59	73		60.2	0.02	0.04	RTFH	210	5.4	260	33	3.9	100	13		1009.8
12	85	63	74		61.2		0	FH	200	6.3	260	16	1.2	100	13		1008.8
13	83	69	76		69.1		0	FH	100	6.1	100	16	3.1	97	74		1013.1
14	85	68	77		68.7		0	FH	90	5.8	190	13	5.6	100	63		1018.4
15	89	68	79		71.2		0	FH	170	5.5	170	13	6.9	100	65		1018
16	83	71	77		73.3	0	0.01	RFH	90	6.4	120	18	8.1	100	77		1014.8
17	79	66	73		66.9	0.27	1.04	RTF	360	8	40	20	5.4	100	62		1013.3
18	85	60	73		59.7		0		340	5.1	220	18	0	84	44		1020.8
19	91	63	77		67.4	0	T		200	7	170	38	* 0.3	93	57		1022.2
20	93*	67	80		69.1	0.01	0.01	RH	210	7.2	310	23	2.3	90	60		1019.4
21	74	68	71		65.9	0.14	0.22	RFH	80	6.3	90	10	6.3	97	79		1020.2
22	84	67	76		66.7		0	FH	150	9.5	170	31	7.9	93	59		1016.7
23	81	69	75		70.1	0.14	0.72	RTFH	180	6.8	210	25	8.1	100	79		1013.8
24	77	63	70		62.5	0	0	R	340	5	360	9	6	97	60		1018.4
25	84	61	73		60.9		0		40	4.3	40	12	0.6	97	43		1022.3
26	89	64	77		62.4		0		360	3.8	20	9	2.6	93	38		1025.1
27	91	66	79		64.5		0	H	290	6.8	300	21	0.7	90	41		1023.1
28	91	73	82		65		0	H	340	8.5	350	22	1	71	42		1019
29	85	71	78		63.6		0	TH	190	7.1	190	21	0.6	84	43		1018.5
30	92	73	83		70.2	0	T	TFH	250	8.9	240	30	0.8	93	49		1013.2
mo	82.7	62.9	72.8	8	61.2		4.25			6.4			3.5	89.76667	49.6		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE Dy	B July MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	89	62	76		66.7	0.13	0.29	RTFH	230	9.9	330	35	3.8	93	48		1009.3
2	74	55	65		42.7		0		340	11.3	320	30	0	65	32		1018.7
3	78	50	64	1	52.6	0	T		190	7.7	170	22	1.1	83	43		1022
4	81	65	73		66.4	0.38	0.55	RFH	200	6.4	280	23	6.2	100	69		1015
5	85	64	75		64.3	0.01	T	RFH	240	7.5	330	25	4.5	100	49		1008.9
6	74	58	66		49.6		0		320	8.5	300	25	2.2	87	39		1015.2
7	82	55	69		52		0		230	7	260	23	1	83	31		1018.2
8	74	64	69		64.4	0.29	0.53	RFH	200	5.9	180	12	9.1	97	64		1010.9
9	90	67	79		65.2	0	0	FH	40	4.4	310	9	2.8	100	35		1007.4
10	91	67	79		64.2	0	T	TH	260	6.3	230	14	2	90	42		1004.9
11	83	64	74		58.3	0.01	0.01	RTFH	330	7.3	350	38	* 2.3	90	37		1004.3
12	80	62	71		51.8		0		310	8.6	330	22	1.9	72	34		1010.1
13	78	56	67		52.7		0		320	6.8	290	18	2.6	77	42		1012
14	80	61	71		54.4		0		330	9.3	340	22	2.6	78	43		1010
15	89	64	77		58.6		0		340	6.2	360	16	3	67	35		1013.1
16	88	27*	58	7	58.7		0		290	3.9	310	10	1.4	87	28		1016
17	85	70	78		66.9	0.07	0.11	RTFH	270	3.7	40	8	6.3	100	59		1015.8
18	83	69	76		67	0.01	T	RFH	90	7	120	20	6.9	100	54		1017
19	79	66	73		62.3		0		80	7.4	90	18	5.3	90	58		1020.3
20	89	61	75		57.9		0	F	100	5.8	120	18	0.5	97	34		1020.1
21	88	58	73		59.8		0		180	5	190	12	0.5	93	40		1016.8
22	86	61	74		62		0	F	190	6.4	160	14	2.1	93	40		1015.9
23	91	63	77		68.8		0		210	7.7	250	17	0	97	45		1015
24	96	73	85		73.8		0	FH	220	11.2	260	23	2.9	100	49		1011.6
25	97*	77	87		76.2	0.04	0.06	RFH	260	8.7	240	20	3.7	94	53		1010.7
26	77	62	70		67.4	0.07	0.08	LRF	40	5.2	20	18	7.7	100	76		1014
27	78	58	68		52		0		40	6.8	60	14	2.4	87	39		1023.3
28	79	57	68		57.2		0		200	4.8	190	12	3.9	87	47		1024.1
29	79	63	71		59.5		0		190	6.9	140	21	4.7	84	52		1021.3
30	79	61	70		60.8		0		100	7	120	18	1.5	100	52		1020
31	89	60	75		59.5		0		200	4.1		30	0.1	97	37		1023.3
mo	83.6	61.3	72.4	8	60.4		1.63			6.9			3.1	89.93548	45.35484		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Augu	st 200	1													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	91	62	77		65.8		0		210	3.8	250	9	2.5	90	50	1025.2
2	92	65	79		63.6		0		250	8.9	270	23	2.7	84	41	1022.3
3	89	72	81		70.1	0 T		FH	230	8.6	230	20	5.1	97	55	1015.2
4	84	68	76		71.7	0.01	0.01	RTFH	210	3.7	200	12	7.3	100	72	1013.7
5	90	66	78		72.5	0.02	0.02	RFH	170	3.3	150	12	4.7	100	61	1018.9
6	95	71	83		73.6		0	FH	240	5.2		17	1.7	100	52	1018.4
7	98	75	87		73.5		0	FH	280	7	260	22	1.5	94	42	1013.7
8	98	76	87		71.6		0	H	320	5.9	280	16	1.9	85	42	1011.8
9	102*	72	87		70.6		0	H	220	6.4	240	21	1.3	87	33	1011.2
10	98	75	87		76.4	0.29	0.42	RTFH	230	8.4	300	33	4.5	100	53	1010.4
11	79	73	76		68.9	0.03	0.04	RFH	60	4.8	60	8	8.1	100	58	1016.9
12	76	72	74		72.2	0.16	0.54	RTF	70	3.7	100	7	10	100	90	1017.4
13	87	70	79		72.2	0.3	0.43	RTFH	230	3.3	340	13	6.9	100	65	1013.8
14	85	67	76		65.9	0.77	0.94	RWTF	10	5.8	340	30	3.8	100	46	1013.1
15	86	65	76		63.8		0	F	190	4.3	170	21	1	97	48	1017
16	86	64	75		64.8		0		200	6.2	190	18	0.4	93	47	1018.7
17	86	72	79		68.3	0.03	0.03	RH	240	9.1	240	21	4.2	90	54	1014.7
18	85	62	74		61.8		0		270	4.4	230	16	2.2	87	45	1014.2
19	84	68	76		67.7	0 T		RFH	160	4.3	180	10	6	90	58	1012.3
20	87	71	79		69.5	0.01	0.01	TFH	170	5.2	320	16	6.1	93	54	1011.7
21	84	65	75		63.2		0	F	280	5	280	17	1.3	93	53	1014.4
22	87	61	74		60.2		0		310	6	270	22	0.5	97	38	1017.1
23	83	62	73		65.8	0.37	0.59	RFH	10	3.3	240	10	4.6	100	57	1015.3
24	85	65	75		61.9	0.01	0.01	FH	30	6.7	10	20	1.3	100	43	1015.8
25	80	61	71		56.5		0		360	5.7	70	10	0	87	44	1020.7
26	83	58*	71		62.3		0		190	6.8	190	17	0	90	54	1016.8
27	87	70	79		69.9	0.02	0.03	RTFH	230	7	220	18	4.9	93	43	1010.4
28	89	66	78		66.7	0.01	0.01	RFH	260	4.7	300	31	3.5	100	43	1011
29	84	64	74		60.8		0	H	350	4.5	340	9	1	93	41	1015.4
30	85	61	73		64.7		0		190	6.9	180	15	5	87	67	1017.1
31	84	71	78		73.5	0.08	0.23	RTFH	200	7.6	170	33	* 5.0	100	79	1010.7
mo	87.4	67.4	77.4	0	67.4		3.31			5.7			3.5	94.41935	52.51613	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE	B Sept	ember	2001													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	80	59	70		60.8	0.06 T		RTF	330	9.3	330	22	4.7	100	47	1010.3
2	74	53	64	1	52.4		0		360	4.5	110	8	0	90	48	1018.5
3	79	53	66		58.6		0		180	3.7	200	12	0	100	54	1017.9
4	81	58	70		65	0 T		R	200	4.7	210	12	1.9	100	66	1013.4
5	79	60	70		56.7		0		10	5.9	30	12	1.9	90	45	1017.8
6	83	52	68		57.8		0		190	3.7	190	20	0	100	47	1021.8
7	87	56	72		61.1		0	F	200	5.7	220	16	0	100	36	1018.9
8	84	59	72		65.2		0	FH	210	6.5	240	14	2.7	100	55	1019.8
9	84	62	73		66.9		0	F	190	7.4	180	18	1.5	97	55	1021.7
10	90*	67	79		70	0.65	1.07	RWTF	180	6.4	160	21	5.9	100	67	1018.8
11	82	55	69		56.9	0.01	0.01	FK	350	6.3	310	18	0	100	40	1019
12	78	56	67		53.9		0		190	5	200	10	0.2	78	42	1021.4
13	86	53	70		57.8	0	0.13	RTF	250	5.9	230	21	0.9	96	41	1017.3
14	65	52	59	6	52	0.29	1.3	RWTF	20	7.3	360	21	7.9	96	60	1020.5
15	69	47	58	7	44.2		0		20	5.4	40	17	0.8	83	39	1021.4
16	74	46	60	5	47.9		0		20	3.3	90	9	0	93	41	1019.3
17	78	51	65		51.3		0		10	4.2	90	9	0.1	96	39	1018.2
18	79	54	67		54.5		0		60	1	50	5	0.7	96	50	1016.8
19	79	56	68		58		0		150	6.7	160	21	1.3	96	47	1019.9
20	73	66	70		65.4	0.19	0.79	RF	180	9.1	220	26	9	100	76	1018.5
21	79	65	72		66.4	0.26	0.62	RTF	190	4.7	160	9	7.9	100	65	1015.6
22	80	59	70		65.3		0	FH	210	3.7	250	8	3.7	100	65	1015.4
23	80	60	70		60.5		0	FH	360	2.9	30	7	3.5	97	49	1017.5
24	77	65	71		67.2	0.09	0.18	RFH	160	8.4	160	30	7.5	100	76	1013.1
25	73	53	63	2	62.7	0.23	0.5	RF	210	9.4	180	36	* 6.6	100	73	1009
26	65	44	55	10	44.4	0.01	0.01	F	260	6.1	260	22	0.5	93	48	1014.5
27	67	44	56	9	46.7		0	F	250	5	230	15	5.5	96	50	1013
28	67	44*	56	9	47.7	0 T			360	5.7	10	16	4.6	96	50	1014.2
29	64	52	58	7	46.6		0		30	10.2	30	23	5.8	90	50	1019.3
30	58	50	54	11	42.2	0.11	0.26	R	40	10.2	20	25	6.6	83	51	1019.1
mo	76.5	55	65.8	67	56.9		4.87			5.9			3.1	95.53333	52.4	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Octo	ber 20		1														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP	
1	58	45	52	13	46.8	0.13	0.18	RF	360	4.5	20	25	7.6	100	66		1011.4	
2	76	41	59	6	50.9	0.01	0.01	F	320	2.9	270	12	0.3	100	46		1012.8	
3	82	50	66		57		0	FH	220	5.6	230	14	0	100	45		1015.9	
4	82	56	69		55.6		0	FH	220	6.3	240	16	0.1	96	38		1015.2	
5	81	52	67		56		0	FH	210	7.2	260	22	0	96	41		1013.2	
6	70	50	60	5	50	0.04	0.05	R	300	13.2	290	41	* 3.1	93	41		1008.4	
7	58	39	49	16	30.4		0		310	10.5	300	32	0.5	79	30		1018.2	
8	54	35	45	20	28.9		0		330	8.1	330	22	0	89	36		1030.4	
9	61	30	46	19	32.5	0	T		220	4.7	240	18	0.1	96	29		1035.3	
10	70	38	54	11	44.6		0		220	5.8	260	20	0	100	39		1029.9	
11	76	47	62	3	55.8		0	F	210	5	240	17	0.4	100	58		1024.5	
12	79	50	65		57	0.01	0.01	F	200	3	240	16	1.6	100	48		1020.1	
13	77	58	68		59.8		0	FH	140	3.5	160	9	2.3	100	56		1020.1	
14	66	59	63	2	57.7	0.02	0.23	RFH	130	8.2	160	22	9.3	100	70		1016.7	
15	70	19*	45	20	47.8	0.21	0.15	RF	290	9.1	330	24	2.4	97	34		1015.3	
16	71	43	57	8	49	0.04	0.06	RF	160	8.3	160	33	4.3	93	53		1016	
17	60	46	53	12	35.7	0.02	0	R	250	13.6	260	37	6.1	89	37		1011	
18	57	37	47	18	29.3	0	T		300	6.9	320	22	0	92	33		1022.7	
19	68	33	51	14	42	0	T		200	6.1	220	18	2.3	100	43		1020.9	
20	72	43	58	7	48.8		0	F	240	4.3	250	18	1.4	100	49		1017.7	
21	75	41	58	7	54.8		0	FH	190	5.9	200	14	0.2	100	62		1020.5	
22	73	45	59	6	52.4		0	F	40	4.2	50	10	4.9	100	50		1016.7	
23	69	54	62	3	54.6		0	FH	180	7	160	20	8.2	97	57		1012.9	
24	84*	60	72		62.7		0	FH	190	4.8	150	12	3	100	52		1006.3	
25	77	50	64	1	45.7		0	F	270	8.7	250	33	0.9	100	14		1003.2	
26	59	42	51	14	27.1		0		270	12.1	290	33	1	60	29		1007.7	
27	53	39	46	19	31.4		0		320	11.1	310	25	5	76	42		1014.3	
28	53	36	45	20	26.8		0		340	7.7	360	21	0.7	76	29		1028.8	
29	62	31	47	18	32	0	T	R	230	3.6	240	40	2.1	92	34		1030.7	
30	63	43	53	12	35.6		0		20	5	60	9	2.7	69	34		1030.1	
31	55	38	47	18	37.6	0	T	R	30	4.4	220	10	7.2	96	48		1032.3	
mo	68.1	43.5	55.8	292	45		0.69			6.8			2.5	93	43.16667			
D	aily C	limate	Data															
(U	noffic	ial, P	relimi	nary D	ata)													

TE	B Nove	mber 2		1														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP	
1	72	43	58	7	53.2		0	FH	200	6.1	220	21	3.4	100	63		1026.2	
2	77*	50	64	1	57.8		0	FH	210	9.3	220	23	2.7	100	48		1022.4	
3	70	51	61	4	47.9	0.03	0.09	RF	330	7.3	230	13	4.7	90	26		1020.3	
4	63	39	51	14	37.8	0.05	0.05	R	320	6	330	25	1.7	89	39		1018.6	
5	51	43	47	18	31.3	0	0		330	13.4	330	40	* 3.8	89	41		1015	
6	56	41	49	16	27.3		0		340	12	350	25	0.1	60	34		1016.2	
7	65	37	51	14	33.4		0		330	10	340	33	1.1	68	33		1016.5	
8	59	31	45	20	39.7	0	T	FH	200	5.4	210	10	1.8	96	51		1019.2	
9	56	33	45	20	28.8	0	T	RFH	320	10.9	340	38	2.3	86	33		1019.7	
10	60	36	48	17	25.7		0		240	4.6	220	22	1.9	73	22		1014.4	
11	50	33	42	23	22.8	0	T		320	11.5	340	32	0	65	24		1019	
12	49	25	37	28	21.2		0		320	6.2	330	24	0.9	69	37		1029.9	
13	57	24*	41	24	27.2	0	T		200	3.8		18	0	85	34		1032.5	
14	65	31	48	17	33	0	T	FH	230	6.4	240	20	2	89	34		1025.5	
15	69	45	57	8	41.1	0	T	RH	220	5.2	220	12	5.2	80	42		1019.8	
16	72	47	60	5	41.3		0		230	7.4	330	18	0.7	80	33		1018.1	
17	53	39	46	19	30.7		0		30	6.1	30	18	0.1	82	39		1029.6	
18	60	30	45	20	36.2		0	FH	220	3.8	220	13	0	92	49		1027.8	
19	63	37	50	15	43.6		0	FH	210	6.2	220	13	1.7	100	58		1018.1	
20	57	35	46	19	31.4	0.05	0.11	RF	340	9.9	360	28	5.5	93	29		1012.1	
21	50	25	38	27	22.7	0	T		210	5.2	220	12	1.2	78	37		1018.5	
22	55	28	42	23	27.5	0	T		240	1.7	230	6	2	85	34		1019.5	
23	58	34	46	19	38.6		0	F	360	3.7	140	8	2.6	93	55		1024.4	
24	62	45	54	11	50.6	0.06	0.13	RFH	80	4.7	170	9	8.2	96	72		1026.7	
25	70	55	63	2	54.3	0.35	0.69	RF	160	10.5	170	24	8	96	65		1022	
26	62	45	54	11	47.7		0	F	330	5.1	320	10	6.2	100	60		1019.6	
27	59	37	48	17	41.2	0	T	R	210	3.5	190	8	5.7	89	53		1019.8	
28	67	47	57	8	46.2		0	FH	90	5	90	18	6.2	100	45		1022.2	
29	54	47	51	14	48.6	0.01	0.06	LRF	90	5.8	90	18	10	100	83		1024.4	
30	71	52	62	3	56.7	0.01	0.02	RFH	180	6.4	170	23	7.1	100	68		1016.6	
mo	61.1	38.8	50	444	38.2		1.15			6.8			3.2	87.43333	44.7			
D	aily C	limate	Data															
(U	noffic	ial, P	relimi	nary D	ata)													

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE B Dece mber 2 1

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	70	51	61	4	48.9		0	F	240	8.7	280	13	2.5	96	40		1016.1
2	53	35	44	21	35.7		0	F	340	3.4	350	9	3.8	92	52		1024.3
3	59	34	47	18	35		0	F	200	4.4	220	13	0.3	92	38		1026.1
4	66	33	50	15	37	0	T	FH	210	3	170	12	1.3	92	38		1025.9
5	76*	47	62	3	43	0.01	0.01	R	200	4.8	200	10	4	77	39		1024.5
6	74	47	61	4	42.7		0		280	7.7	340	17	4	83	33		1016.7
7	60	46	53	12	41.6	0.07	0.13	RF	280	6.1	270	14	5.4	96	32		1015.6
8	46	36	41	24	30.2	0.12	0.73	RFH	40	5.9	70	10	6.1	100	40		1019.7
9	42	28	35	30	32.6	0.12	0.06	RF	360	7.1	50	18	6.7	100	70		1019.4
10	51	24	38	27	31.4	0.01	0.01	F	200	2.6	210	9	4.7	100	53		1028.3
11	55	41	48	17	35.6		0		10	5.9	50	13	3.5	79	50		1026.5
12	47	37	42	23	35.4		0		90	6.2	110	10	6.9	80	68		1030.6
13	58	44	51	14	47.2	0.01	0.05	LFH	220	5.5	240	10	9.6	100	79		1017
14	62	45	54	11	52	0.03	0.13	RF	140	2.8	130	17	7.8	100	86		1010.9
15	61	34	48	17	29.7		0	F	320	13.2	310	33	3	96	45		1019.7
16	43	28	36	29	19.5	T			30	4.3	30	9	2.3	72	37		1030.2
17	50	36	43	22	26.2	0.07	0.3	RF	210	3.2	180	9	8.6	96	40		1014.3
18	50	42	46	19	36.9	0.1	0.32	RF	310	11.4	330	38	* 7.6	96	53		996.8
19	52	40	46	19	31.3		0		230	7.4	290	10	3.5	79	48		1009.7
20	47	35	41	24	26.6		0	F	300	10.1	320	33	3.7	92	31		1006.7
21	43	33	38	27	19.9		0		320	15.2	310	36	4.1	57	39		1015.5
22	44	30	37	28	18		0		330	7	340	13	0	66	34		1026.5
23	48	25	37	28	26.6	0.01	0.18	R	190	3.8	190	12	3.8	86	42		1019.6
24	50	33	42	23	32	0.18	0.43	RF	280	7.4	320	23	5.5	96	40		1007.6
25	39	27	33	32	15.6		0		270	7	290	16	1.1	60	37		1015
26	39	27	33	32	13		0		320	6.3	270	10	2.7	55	35		1009.5
27	34	23	29	36	11.1		0		260	9.4	280	23	2.1	57	41		1005.4
28	41	19	30	35	15.1		0		230	9.7	300	31	3.9	71	34		1005.5
29	40	24	32	33	16.4		0		280	8.6	300	22	4.5	60	39		1007.4
30	33	22	28	37	8.2		0		280	13.3	280	29	0.2	57	34		1013
31	32	19*	26	39	6.4		0		260	9.7	280	23	0	56	34		1016.8
mo	50.5	33.7	42.1	703	29.1		2.35			7.1			4	81.90323	44.54839		

D aily C limate Data
(U noffic ial, P relimi nary D ata)

TE B Janu ary 20 0

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	50	24	37	28	34.7		0	FH	220	3.3	200	13	2.5	104	80		
2	58	33	46	19	43.9	0.01	0.01	FH	200	4.4	220	15	4.1	104	77		
3	62	52	57	8	52.9	0	T	FH	210	6.3	210	10	6.5	100	75		
4	66*	47	57	8	52	0.18	0.69	RF	190	7.7	310	24	9.6	96	75		
5	47	28	38	27	21.2	0.07	0	RF	340	11.7	320	33	3	89	43		
6	43	25	34	31	22.1		0		190	5.7	190	13	0.5	89	50		
7	49	27	38	27	27.1		0	F	300	13	300	38	1.5	89	40		
8	39	29	34	31	19		0		320	7.3	320	13	0	67	46		
9	51	34	43	22	33.5	0	T	R	210	4.9	210	9	6.1	89	58		
10	58	43	51	14	44	0.22	0.79	RF	100	8.9	270	36	7.8	100	74		
11	53	39	46	19	32.8	0	T		240	14.3	270	40	2.9	93	34		
12	47	37	42	23	24		0		320	11.1	320	33	2.6	65	31		
13	38	18	28	37	22.2	0.02	0.03	SF	350	10.4	350	33	7.3	100	54		
14	22	13	18	47	2.1		0		330	17.1	320	36	0	56	43		
15	28	16	22	43	9.2	0	T		330	6.4	320	22	1.4	71	48		
16	46	21	34	31	23.8	0	T		200	13.7	330	45	6.9	82	43		
17	21	6	14	51	-5.6		0		340	18.3	320	45	* 0.0	59	36		
18	19	3*	11	54	-2.8		0		360	8.7	10	17	2	61	42		
19	30	8	19	46	7.6		0		340	5.7	330	16	1.9	88	48		
20	27	18	23	42	20.6	0.02	0.07	SF	10	6.5	60	18	8.1	100	77		
21	23	9	16	49	-1.7	0	T	BRS	320	18.2	320	40	0.9	77	36		
22	19	7	13	52	-4.2		0		310	12.1	300	32	1.2	54	35		
23	27	12	20	45	12.8	0	T	SF	50	3.7	110	8	8.4	85	44		
24	39	25	32	33	22.8	0	T	SH	20	4.3	20	12	5.5	81	59		
25	29	23	26	39	24.5	0.07	0.17	IZRSF	20	15.2	30	35	9	100	63		
26	31	21	26	39	16.5	0	T	RSFH	330	12.1	330	31	6.8	100	58		
27	21	11	16	49	1.2		0		320	15.5	310	33	2.1	65	44		
28	22	8	15	50	-0.5		0		320	13	330	26	0	58	43		
29	36	14	25	40	6.8	0	T		360	5.8	330	18	0	65	31		
30	36	8	22	43	16.6	0.11	T	ZRSF	40	2.7	70	10	5.9	104	49		
31	36	26	31	34	28.4	0.14	0.27	ZRF	280	11.8	290	31	5.6	100	75		
mo	37.8	22.1	30	1081	19.6		2.03			9.7			3.9	83.58065	51.96774		

D aily C limate Data
(U noffic ial, P relimi nary D ata)

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B Febr MxT	uary 2 MnT	AvT	0 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	37	25	31	34	24.6	0	T		260	11.9	310	32	3	96	66	
2	28	20	24	41	12.8		0		300	14.7	320	35	0.9	74	48	
3	36	20	28	37	20.5	0.02	0.08	SF	60	5.4	300	9	6.1	100	52	
4	32	26	29	36	26	0.01	T	SFH	360	3.6	360	7	9.9	104	75	
5	36	25	31	34	15.8	0	T	SF	270	9.1	290	23	2.6	96	34	
6	37	27	32	33	12.3	0	T	SF	300	11	320	24	0.7	69	27	
7	42	27	35	30	17.9		0		320	12.2	290	30	2	68	34	
8	32	19	26	39	5.6	0	T		200	6.8	360	12	0	74	28	
9	48	18*	33	32	25.9		0		210	7	230	14	1.1	89	58	
10	51	29	40	25	35		0	FH	120	5.2	120	9	0.3	100	65	
11	51	29	40	25	34.7	0.01	0.01	RFH	330	8.7	330	36	6.5	100	53	
12	32	23	28	37	7.6		0		40	7.7	330	22	0	57	28	
13	44	20	32	33	18.9	0.11	0.26	LRH	20	5.2	160	21	4.7	76	44	
14	53	36	45	20	37.9	0.15	0.47	RFH	250	9.1	230	36	* 9.1	100	65	
15	42	27	35	30	18.5		0		330	11.2	330	30	2.1	68	34	
16	52	26	39	26	27.2	0	T	S	220	8.7	330	23	7	78	52	
17	39	26	33	32	10		0		340	11	330	31	1.4	52	31	
18	36	28	32	33	22.2	0.1	0.46	ILRSF	80	7.9	80	22	8.5	96	42	
19	33	29	31	34	28.4	0.04	0.04	ZLRSFH	360	6.6	90	10	10	96	82	
20	39	30	35	30	23.8	0	T	SF	310	9.3	300	23	5.6	89	48	
21	43	24	34	31	20.4	0	T		290	6.4	330	12	0.4	74	39	
22	52	25	39	26	26		0		180	7.8	180	12	0	69	41	
23	58	29	44	21	31.9		0	FH	220	5.9	240	15	3.2	85	43	
24	67*	39	53	12	38.1		0	H	200	3.6	210	10	1.9	85	40	
25	50	40	45	20	41.2	0.06	0.03	RTFH	60	7.1	80	29	8.2	96	71	
26	43	39	41	24	38.2	0	T	LSF	30	6	40	8	10	100	85	
27	55	41	48	17	44.9	0.02	0.04	LRFH	190	4.1	180	10	9.9	100	83	
28	55	39	47	18	33.4	0.04	0.12	R	320	13.8	310	32	6.7	93	37	
29	54	35	45	20	20.6		0		330	11.8	320	30	0.6	61	24	
mo	44	28.3	36.2	830	24.8		1.51			8.2			4.2	84.31034	49.27586	
D (U	aily C noffic	limate ial, P	Data relimi	nary D	ata)											

TE Dy	B Marc MxT	h 2000 MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	54	29	42	23	25.1	0.01	0.02	R	160	4.1	140	30	2.9	78	37	
2	47	36	42	23	26.4	0	T	R	310	12.6	310	36	6.7	70	42	
3	47	34	41	24	18		0		330	16.4	310	33	3	59	23	
4	53	32	43	22	19.1	0	T	R	330	10.4	320	24	1.1	56	27	
5	55	38	47	18	25.5		0		340	10.2	330	31	3.9	57	36	
6	54	38	46	19	21.4		0		330	9.9	330	31	0.7	54	24	
7	68	29	49	16	26.2	0.01	0.01	R	250	6.4	270	18	2.2	77	22	
8	65	44	55	10	41.1	0.01	T	RH	120	4.9	120	17	2.7	86	43	
9	75*	45	60	5	46.9	0.01	0.01	RFH	200	5.5	300	33	4.3	93	43	
10	59	46	53	12	38.7		0		330	9.1	320	20	4.9	93	48	
11	46	38	42	23	36.8	0.35	1.11	RTF	80	9.9	80	24	10	100	76	
12	50	34	42	23	34.2	0.11	0.14	LRF	320	9.8	330	35	8.1	100	47	
13	47	31	39	26	19.9		0		330	7.9	320	23	0.9	63	34	
14	55	30	43	22	28.5		0		190	7.8	200	23	3.6	78	39	
15	70	32	51	14	33.4		0		210	8.3	200	32	1.4	85	27	
16	67	47	57	8	44.1	0.13	0.42	RF	210	7.5	260	13	4.8	96	38	
17	53	27	40	25	30.5	0.21	0.36	IRSFH	20	13.1	360	29	7.4	100	53	
18	38	21*	30	35	9.8	0	T		20	8.2	20	22	0	63	22	
19	43	28	36	29	23.2		0		210	4.9	150	9	2.7	75	48	
20	46	33	40	25	29		0		90	8.2	100	21	7	82	51	
21	44	38	41	24	34.6	0	T	LFH	80	12.6	80	24	10	85	67	
22	52	39	46	19	35.3	0	T	LF	70	8.6	60	22	7	85	61	
23	66	34	50	15	36.9	0	T	RFH	30	4	210	12	0.6	92	40	
24	74	39	57	8	35.1		0		360	5.2	20	12	0	82	22	
25	66	41	54	11	31	0.02	T	RTH	190	4.9	200	17	2.2	68	27	
26	63	48	56	9	27.1	0.02	0.02	RTH	290	8.7	330	26	3.1	43	26	
27	60	33	47	18	35		0.11		160	7.9	150	24	1.9	82	34	
28	60	48	54	11	42.3	0.29	0.77	RTF	230	12.4	270	30	8.4	100	32	
29	55	42	49	16	35	0	T	R	260	13.8	280	38	* 4.9	79	47	
30	57	35	46	19	30.8		0		250	8.2	250	23	4.6	79	38	
31	56	37	47	18	29	0	T		350	7.5	320	22	1.3	76	35	
mo	56.3	36.3	46.3	570	30.6		2.97			8.7			3.9	78.58065	39	
D (U	aily C noffic	limate ial, P	Data relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B April 2000 MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	64	33	49	16	31.5	0	T	R	200	4.9	270	18	0	82	26	
2	68	43	56	9	43.3		0		210	11.1	220	26	2.8	81	45	
3	69	57	63	2	55.1	0	0.11	RFH	160	6.6	240	12	8.7	93	68	
4	67	48	58	7	52.2	0.17	0.24	RTF	220	11.9	220	29	7.7	100	49	
5	48	38	43	22	23.4		0		300	11.6	290	33	4.9	60	36	
6	75	31	53	12	34.4	0	T		240	7.9	340	30	2.2	76	33	
7	67	44	56	9	36.1	0	T		150	7.7	200	13	1.3	74	31	
8	74	48	61	4	49.2	0	T	FH	150	11.1	180	35	3.8	100	43	
9	50	30*	40	25	26.9	0.1	0.32	IRSAFH	310	15	320	39	* 6.8	96	26	
10	53	32	43	22	24.8	0	T	R	250	10.8	290	29	2.2	75	27	
11	42	34	38	27	32.1	0.08	0.14	RSFH	80	4.6	160	10	7.5	100	44	
12	50	38	44	21	28.2	0.01	T	RFH	330	10.7	310	35	3.3	93	33	
13	53	33	43	22	19.8	0	T		200	7.2	360	18	0	64	24	
14	57	32	45	20	28.4		0		200	6.2	200	21	0.4	78	31	
15	61	43	52	13	47	0.03	0.18	RFH	200	1.9	210	8	8.3	100	48	
16	75*	52	64	1	55.1	0.11	0.25	RFH	20	5.7	20	14	7	100	54	
17	52	41	47	18	39.8	0.08	0.33	RFH	80	9.9	70	24	10	93	66	
18	48	38	43	22	35.4	0.01	0.01	LRFH	50	12.2	70	30	10	89	54	
19	63	42	53	12	42.7	0	T	FH	30	9.2	20	18	8.2	93	54	
20	66	50	58	7	44.4	0	T		190	6.1	190	18	7.7	77	56	
21	51	45	48	17	44.7	0.35	1.58	RTF	70	11.6	70	31	10	100	74	
22	51	44	48	17	44.1	0.04	0.03	RFH	360	9.2	50	28	10	96	80	
23	50	44	47	18	41.7	0.06	0.16	RF	340	8.9	330	20	9.9	96	71	
24	69	44	57	8	36.4		0		330	9.8	310	28	0.8	82	28	
25	55	47	51	14	34.7		0		80	8.8	110	23	1.9	68	45	
26	50	39	45	20	32.5	0.01	0.01	RH	60	8.9	50	18	9.6	89	47	
27	53	38	46	19	37.6		0		200	5.2	200	12	8.4	89	63	
28	58	43	51	14	42.2	0	T	FH	210	5.8	220	12	7.7	93	45	
29	66	40	53	12	40.5	0	T	FH	150	5	160	10	0.8	96	34	
30	64	46	55	10	28.1		0		340	10.4	340	31	1.5	83	14	
mo	59	41.2	50.1	440	37.7		3.36			8.5			5.4	87.2	44.96667	
D	ailyC	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B May 2000 MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	65	36*	51	14	33.2	0	T	R	180	7.6	160	21	2.5	67	30	
2	67	50	59	6	44.3	0.03	0.08	RF	350	8.8	320	24	5.1	96	31	
3	67	46	57	8	40.6		0		170	7	170	21	0	86	35	
4	75	46	61	4	48.5		0	F	170	8.8	180	24	0.9	100	49	
5	85	57	71		57.4	0.01	0.01	R	220	6.3	340	18	2.7	83	44	
6	88	59	74		60	0	T	F	100	3.9	300	18	1.2	93	36	
7	93*	61	77		61.2	0.09	0.12	RTFH	260	5.2		31	3	90	33	
8	90	67	79		63.8		0	FH	210	5.2	180	20	1.9	93	39	
9	92	69	81		64.1		0	H	240	9.8	250	29	1.1	84	41	
10	77	51	64	1	52.7	0.16	0.48	LRTFH	70	8	70	22	7.7	100	48	
11	75	50	63	2	46.2		0	F	340	7.1	330	26	4.1	100	26	
12	72	57	65		50.6	0.04	0.11	RTH	90	5.7	110	25	8.1	86	45	
13	74	56	65		56.2	0.19	0.42	RTFH	70	5.6	120	12	7	100	66	
14	73	51	62	3	45.5	0	T	RF	340	8.4	340	23	1.6	96	32	
15	66	45	56	9	34.2	0	T		340	5.7	280	20	2.9	65	28	
16	69	43	56	9	39	0	T		180	5.6	300	21	1	82	25	
17	72	57	65		49	0	T		180	6.8	150	37	4.3	90	47	
18	88	59	74		61.7	0.61	0.89	RTFH	200	11.4	320	46	* 6.7	100	55	
19	64	47	56	9	52.3	0.15	0.71	RTF	60	7.5	60	23	9.2	100	83	
20	52	45	49	16	46.5	0.12	0.45	RF	50	5.3	70	9	10	100	86	
21	57	51	54	11	51.8	0.01	0.02	LRFH	90	3.4	210	7	10	100	83	
22	65	52	59	6	52.3	0.01	0.03	RFH	90	4.2	100	9	9.9	96	70	
23	65	52	59	6	54.8	0.04	0.17	RFH	180	6.2	140	20	9.8	100	78	
24	81	56	69		58.4	0.56	0.74	RTF	280	7.6	270	32	5.9	100	43	
25	76	59	68		54.4	0.03	0	RTFH	310	7.4	290	33	3	100	40	
26	75	56	66		50.3		0		340	9.2	330	21	0.6	75	43	
27	68	49	59	6	51.7		0		270	5.7	260	18	0.2	93	59	
28	68	50	59	6	50		0		130	5.2	30	12	4.7	93	52	
29	66	53	60	5	49.2		0		90	6.9	80	20	6.6	96	56	
30	64	50	57	8	50		0		100	6.8	120	14	5.9	100	60	
31	74	48	61	4	52.7		0	FH	180	3.7	160	9	3.7	100	55	
mo	73	52.5	62.8	133	51.1		4.23			6.6			4.6	92.3871	48.96774	
D	ailyC	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B June MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	89	58	74		65		0	FH	210	5	270	10	2.7	96	59	
2	93	62	78		67.6	0.04	0.04	RTFH	230	7.5	280	53 * 1.6		100	43	
3	74	58	66		52.9		0		350	9.4	330	24	0.7	87	46	
4	75	52	64	1	48.6	0	T		180	5.4	190	18	1.3	90	30	
5	68	59	64	1	51.9	0	T	R	70	7.7	80	22	8.6	84	62	
6	60	50	55	10	52.7	0.54	2.52	RWF	20	11.9	80	28	9.9	100	72	
7	75 49*		62	3	50.8	0.11	0.15	RF	330	7.5	310	22	4.6	100	41	
8	83	53	68		56.8		0	H	230	7.2	230	25	1.3	96	41	
9	92	63	78		64.5		0		240	7.7	280	22	0.1	84	46	
10	91	68	80		68.7		0	FH	260	8.4	250	23	0	90	49	
11	94	71	83		71.3	0.23	0.24	RTFH	240	9.9	330	28	2.3	100	51	
12	72	57	65		62.1	0.06	0.31	LRF	80	6.6	100	10	8.4	100	93	
13	60	55	58	7	53.9	0.04	0.06	RF	100	6.5	90	9	10	100	77	
14	62	54	58	7	53.6	0.01	0.01	F	110	5.5	120	8	10	100	75	
15	80	56	68		62.7	0.01	0.03	LRFH	160	4.2	140	10	8.5	100	74	
16	94*	66	80		70.3		0	FH	220	8.9	230	18	2.9	100	58	
17	89	71	80		69.3	0	T	FH	240	9.2	260	24	2.7	87	54	
18	73	64	69		62.2	0.16	0.26	RFH	50	4.3	50	7	8.1	97	68	
19	72	60	66		60.1		0	F	30	4.6	20	12	6.6	97	64	
20	83	57	70		56.8		0		360	4.4	360	16	1.1	90	36	
21	86	61	74		63	0.16	0.23	RTFH	190	9.7	200	24	3.6	93	41	
22	90	69	80		66.6	0.06	0.03	RFH	240	9.1	250	24	3.4	97	45	
23	83	66	75		57.6		0		320	7.4	340	20	1.4	73	42	
24	85	62	74		60.4		0		200	5.6	200	17	1.5	84	44	
25	91	70	81		68.5		0	FH	190	9.9	190	23	2.6	87	54	
26	90	74	82		70.7	0	T	H	210	7.2	260	18	3.7	87	54	
27	86	71	79		68.7	0.05	0.06	RTFH	230	8	330	35	4.3	97	61	
28	83	67	75		60.6	0.01	0.01	R	190	5.9	180	12	5.1	87	44	
29	78	61	70		62	0.07	0.07	RF	180	4.5	200	13	2.7	100	62	
30	80	59	70		57.4	0.01	0.01	F	310	6.4	320	18	1.9	100	44	
mo	81	61.4	71.2	29	61.2		4.03			7.2			4.1	93.43333	54.33333	
D (U	aily C noffic	limate ial, P	Data relimi	nary D	ata)											

TE Dy	B July MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	84	57	71		57		0		180	3.3	190	9	1.2	90	41	
2	87	59	73		61.2		0	F	210	4	200	14	0.8	93	42	
3	87	65	76		68	0.08	0.15	RFH	210	5.6	190	12	4.1	100	59	
4	85	70	78		70.8		0	FH	260	4.9	240	10	7.7	100	65	
5	86	66	76		56.8		0		340	8.4	320	21	0.5	82	35	
6	80	57	69		51.7		0		340	5.4	80	21	0.1	72	36	
7	79	60	70		49		0		350	8.7	340	23	1.4	72	35	
8	80	57	69		49.1		0		330	7.5	310	21	1.2	72	34	
9	84 56*		70		58.8	0	T	R	240	8.1	230	25	4.2	84	44	
10	90	71	81		64.8	0.03	0.03	RFH	320	10		29	6.5	93	35	
11	84	64	74		52.8		0		340	7.5	320	18	1.1	78	33	
12	83	59	71		51.9		0		40	5.7	60	18	0.5	70	32	
13	88	59	74		55.8		0		190	6.7	190	18	1.1	84	36	
14	80	64	72		62.4	0.16	0.16	RTF	200	7.6	210	17	5.8	93	58	
15	70	64	67		65.7	0.54	2.29	LRFH	160	8.6	150	35 * 8.5		100	84	
16	82	65	74		66.9	0	0	RFH	180	4		17	6	100	49	
17	83	67	75		67.8	0	T	FH	190	5.1	200	17	5.7	93	48	
18	90*	67	79		63.6	0	T	F	250	9.3	270	29	1.2	100	34	
19	70	59	65		56	0.03	0.06	R	360	4.2	170	12	5	93	57	
20	79	62	71		57.3	0	0		40	4.7	50	8	2.5	97	35	
21	85	59	72		62.2	0.03	0.05	RF	190	5.6	200	13	2.6	100	49	
22	83	65	74		59.3	0.03	0	RF	300	6.8	320	18	4	100	39	
23	83	58	71		55.5		0		350	4.2	240	12	3.3	83	35	
24	79	64	72		61	0	T	LR	70	4.5	100	9	5.5	87	47	
25	77	67	72		61.2	0	T	R	80	6.9	110	16	7	90	55	
26	69	65	67		65.6	0.39	1.58	RF	60	7	60	17	10	100	81	
27	70	66	68		65.9	0.17	0.87	LRF	50	5.9	40	8	10	100	87	
28	80	65	73		65		0	F	30	5.6	120	9	9	97	67	
29	76	67	72		65.2	0	T	FH	200	3.2	170	8	8.9	93	71	
30	75	68	72		68.5	0.55	0.84	LRF	80	4.5	310	9	9.3	100	87	
31	77	67	72		68.8	0.06	0.14	LRFH	80	7	100	20	9.8	97	82	
mo	80.8	63.2	72	0	60.8		6.17			6.1			4.7	90.74194	51.35484	
D (U	aily C noffic	limate ial, P	Data relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Augu	st 200		0													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	85	66	76		67.7	0.16	0.32	RFH	80	4.9	60	9	9.7	100	74		
2	92	71	82		72.3	0	T	RFH	220	5.7		16	6.7	100	56		
3	90	70	80		72.5	0.26	0.45	RTFH	230	7.8	220	18	5.7	100	62		
4	82	70	76		64.1	0.05	0.01	RFH	340	5.8	340	9	7	100	49		
5	82	63	73		55.9		0		360	5.1	360	10	3.6	78	38		
6	78	61	70		63.5	0.01	0.01	LRF	190	6.6	180	21	5.2	97	52		
7	92	75	84		72.8	0	0	RFH	230	11.6	270	26	5.2	94	52		
9	90	73	82		70	0.06	0.14	RF	230	8.1	250	18	5.6	97	54		1011.3
10	86	70	78		65.5		0	H	340	5.9	310	16	1.8	79	50		1011.2
11	86	67	77		68.1	0.81	0.13	RWTFH	20	5.2	330	21	5	100	63		1012
12	72	64	68		64.3	0.2	0.36	RFH	60	6.8	70	12	9.5	100	73		1012.8
13	72	64	68		60.7	0.01	0.01	LR	40	8.1	80	21	9.2	90	71		1013.9
14	71	64	68		61.8	0.28	0.61	LRTF	20	7.1	30	18	9.4	97	73		1014.3
15	82	64	73		64.4	0.02	0.05	LF	360	5.2	40	9	6.4	100	53		1015.6
16	84	68	76		60.6	0.15	0.18	RTFH	320	9.2	310	26 * 2.3		100	39		1011.6
17	76	63	70		55.1	0	T		300	7.2	320	21	1.3	76	52		1015.4
18	68	62	65		59.3	0.06	0.12	LRF	360	4.3	10	8	8.3	97	63		1013.9
19	78	56	67		55.8		0		360	5.8	350	10	2.3	96	43		1016.5
20	75	59	67		49.1		0		340	7.3	330	20	2.1	78	37		1021.8
21	76	53*	65		51.4		0		360	4.7	20	12	0.6	84	40		1025.2
22	80	55	68		56.4		0		190	4.6	210	12	1.1	90	43		1025.1
23	76	62	69		64	0.05	0.17	RWF	200	6.6	210	22	5.9	100	62		1019.7
24	83	63	73		66.5	0.01	0.01	RFH	350	3.7	350	9	2.8	104	55		1015.7
25	83	61	72		60.4		0	F	360	5.1	20	8	0.7	90	42		1016.5
26	84	60	72		61.4	0	T	RF	260	2.3	270	8	1.4	93	46		1014.7
27	87	62	75		67.5	0	T	FH	210	4.1	140	10	2.8	93	63		1014
28	78	69	74		70.7	0	T	RTFH	80	5.8	90	12	7.2	100	82		1018.6
29	79	68	74		64.1		T	FH	70	8.2	80	17	7.3	93	62		1021.8
30	82	66	74		67.4	0	0		30	5.3	40	8	7.6	100	73		1021.3
31	92*	71	82		73.3		0	FH	60	6.2	180	14	5.9	100	63		1021.1
mo	81.4	64.7	73	0	63.6		2.57			6.1			5	94.2	56.16667		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE	B Sept	ember	2000														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	90*	72	81		74.9	0.11	0.16	RFH	200	4.9	160	22	6.4	100	72		1018.8
2	87	73	80		76	0.01	0.01	RTFH	200	3.8	180	16	8	107	77		1014.7
3	87	73	80		74.4	0.07	0.09	RTFH	200	3.1	130	18	7	100	75		1011.7
4	86	61	74		67.2	0.95	0.96	RTFH	40	7.4	330	30	4.6	100	58		1010.8
5	69	53	61	4	45.3		0		40	8.7	30	23	1	80	40		1024.8
6	70	52	61	4	50.1		0		40	5.6	110	10	0.2	96	42		1030.4
7	75	51	63	2	56.1		0	F	200	5.3	190	22	0.1	100	57		1026.4
8	82	52	67		62.4		0		230	7	270	17	1.6	100	66		1019.9
9	87	63	75		69.8	0.64	0.64	RTFH	210	3.5	10	26	3.2	104	65		1018.4
10	82	67	75		69.3	0.01	0.01	FH	30	4.5	170	12	5.6	103	74		1020.8
11	83	64	74		68.2		0	FH	180	4.9	170	18	4.3	100	69		1020.5
12	89	70	80		72.4		0	F	190	9.7	180	21	7.5	100	70		1015
13	81	63	72		67	0.05	0.32	RF	340	7	210	21	5.2	100	58		1013.1
14	80	57	69		61.5	0.09	0.45		180	6.7	170	13	2.1	100	52		1013.2
15	75	59	67		58	0.34	0.51	RTF	300	8.7	290	26	5.6	100	48		1004.1
16	68	53	61	4	47.3		0		310	8.3	290	28	2.8	80	46		1010.9
17	73	50	62	3	48.2		0		280	9.4	230	25	0.2	80	47		1016.5
18	77	52	65		55.9		0		220	4.6	220	10	1.4	93	55		1018.2
19	73	60	67		64.7	0.59	1.27	LRTFH	20	4.9	40	16	8.7	100	76		1013.1
20	88	65	77		65.7	0	T	RF	220	7.7	240	16	1.2	100	50		1009.6
21	77	60	69		57.3		0	F	280	11	310	31 * 1.5		97	46		1009
22	78	52	65		49.8		0		290	5.9		17	0.4	96	46		1020.4
23	70	53	62	3	60.9	0.02	0.07	RF	180	3.3	190	9	8.4	100	78		1016.5
24	78	57	68		64	0.08	0.08	RF	340	7	340	21	8.1	100	71		1008.3
25	64	52	58	7	46.8	0.01	0.04	R	40	7.1	30	12	6.3	93	50		1013.7
26	54	47	51	14	50	0.12	0.32	RWF	30	8.8	40	24	8.4	100	83		1014.2
27	73	40	57	8	48.5	0	T	F	230	3.5	210	12	0	100	46		1018.3
28	68	46	57	8	48.9		0	F	30	4.6	30	16	2	100	62		1021
29	61	40*	51	14	37.5		0		360	4.3	10	7	0	89	36		1029.2
30	67	41	54	11	47.7		0	F	180	3.9	220	16	1	96	58		1026.7
mo	76.4	56.6	66.5	82	58.9		4.93			6.2			3.8	97.13333	59.1		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Octo	ber 20		0														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP	
1	71	45	58	7	54.1	0.01	0.01	F	220	2.9	210	9	1.7	100	61		1021.4	
2	73	53	63	2	55.7	0.01	0.01	FH	10	2.9	20	6	4.5	100	57		1014.1	
3	84*	53	69		59.6	0	T	FH	290	4.6	300	21	3.1	100	57		1010.7	
4	82	50	66		58.7	0.05	0.06	RTFH	160	4.5	180	13	3.9	100	59		1014.7	
5	64	57	61	4	56.6	0.04	0.1	LRF	50	5.6	10	8	9.1	104	78		1015.9	
6	77	54	66		61.6	0.01	0.02	RFH	360	6.4	360	23	8.1	100	70		1009.9	
7	64	45	55	10	43.2		0		310	7	310	12	2.7	89	51		1017.1	
8	56	36	46	19	36.2		0		320	7.3	10	20	2	92	48		1021.2	
9	52	35	44	21	32		0		350	7.2	350	21	2.6	92	45		1019.8	
10	52	34	43	22	34.9		0		310	7.2	310	23	4.3	89	50		1015.8	
11	69	42	56	9	43.2		0		310	8	290	21	0.5	93	40		1017.8	
12	73	41	57	8	46.8		0		310	3.5	330	10	0	100	41		1023.2	
13	76	40	58	7	47.3		0		220	3.1	230	9	0	100	40		1021.1	
14	81	47	64	1	52.5		0	F	210	4.1	230	13	0.6	100	36		1017.7	
15	79	52	66		57		0		340	2.6	320	10	2.1	100	49		1016.6	
16	65	50	58	7	57.1	0.02	0.02	RF	80	7.8	90	20	9.2	100	87		1021.9	
17	58	50	54	11	52.7	0.02	0.02	RF	70	6.3	80	10	10	100	87		1024.6	
18	59	52	56	9	55.8	0.23	0.46	RF	80	5.3	330	9	8.6	100	96		1017.4	
19	67	43	55	10	46.4	0.01	0	F	320	8.1	330	26	0.4	96	45		1016.9	
20	71	37	54	11	46.1		0		190	3	170	9	0	104	42		1023.3	
21	75	44	60	5	54.6		0	FH	200	4.7	200	13	0.5	104	56		1020.1	
22	63	43	53	12	37.6		0		30	8.5	30	18	0.6	78	32		1030.3	
23	63	38	51	14	43.6		0		350	3.9	180	18	0.1	100	62		1035.7	
24	71	44	58	7	48.1		0		210	4.1	230	12	0.4	104	44		1027.9	
25	72	49	61	4	52.6		0	FH	220	3.8	220	10	1.5	100	57		1025.2	
26	74	49	62	3	53		0	FH	220	2.8	180	10	2.1	104	48		1025.2	
27	68	50	59	6	54.7		0	FH	120	1.8	130	6	3.8	100	70		1017.9	
28	62	41	52	13	40.4		0	F	340	11.9	350	32	0.4	100	37		1014.7	
29	49	36	43	22	25.8	0	T		350	12.1	20	32	* 2.5	96	44		1019.1	
30	51	33*	42	23	31.2		0		340	9.9	360	23	4.8	82	49		1017.5	
31	61	42	52	13	38.2		0		350	11.4	360	24	6.6	89	44		1017.9	
mo	67.2	44.7	55.9	280	47.7		0.7			5.9			3.1	97.29032	54.25806			
D	aily C	limate	Data															
(U	noffic	ial, P	relimi	nary D	ata)													

TE	B Nove	mber 2		0														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP	
1	60	39	50	15	39.6		0		350	9.3	10	29	0.1	100	47		1018.2	
2	64	41	53	12	37.8		0		340	8.7	30	28	0	89	38		1018.5	
3	68	43	56	9	44.9		0		350	3.4	340	8	2.1	96	43		1017.8	
4	69*	44	57	8	46.6		0	H	340	5.2	340	18	1.8	100	48		1012.1	
5	54	44	49	16	38.8		0		330	11.6	330	28	3.5	89	52		1011.4	
6	58	40	49	16	37.9		0		340	7.6	340	21	0	86	51		1015.6	
7	57	36	47	18	42.1		0		340	4.9	320	10	0.7	100	62		1017.6	
8	65	39	52	13	42.6	0	T		350	3	10	6	1.4	108	51		1017	
9	66	47	57	8	48.6	0.12	0.38	LRF	140	5.4	150	22	6.5	100	60		1012.8	
10	63	54	59	6	53.1	0.3	1.2	RF	300	9.2	280	22	9.8	100	72		1000.5	
11	57	49	53	12	45.7	0.01	0.02	R	340	12.5	350	21	9.1	93	66		1010	
12	55	42	49	16	39.9		0		10	8.7	20	21	5.8	82	61		1016.5	
13	55	39	47	18	41.6		0	H	30	4.9	50	8	9.2	93	71		1017.5	
14	57	40	49	16	47.2	0.18	0.49	RF	170	6.4	330	22	8.3	100	64		1009.6	
15	48	34	41	24	29.2		0		310	10.1	300	24	2.1	85	47		1011	
16	51	33	42	23	31.8		0		230	8.1	250	13	4.6	89	46		1013.9	
17	55	38	47	18	35.5		0	F	300	10.6	280	30	3.8	96	43		1007.8	
18	47	30	39	26	29.4		0		260	7.8	300	18	3.9	92	47		1017.9	
19	42	27	35	30	25.6		0	F	240	4.9	280	10	1.9	88	51		1018.9	
20	45	22	34	31	28.3	0.02	0.02	RFH	210	6.5	280	20	2.2	100	55		1013.9	
21	42	26	34	31	23		0		270	10.2	270	23	2.4	81	54		1013	
22	37	27	32	33	16.8		0		270	12	290	28	2	74	41		1016.1	
23	38	24	31	34	13		0		320	9.6	290	24	0.1	65	40		1024.2	
24	38	20*	29	36	15		0		320	3.1	300	10	2.5	74	40		1029.8	
25	43	25	34	31	27.2	T			80	5	20	8	4.7	92	59		1029.7	
26	53	38	46	19	46.3	0.23	1.29	RFH	100	8.1	110	25	10	100	82		1010	
27	52	43	48	17	42		0	F	250	9.2	270	24	8.5	100	61		1005.6	
28	52	37	45	20	35.6		0		280	5.1	280	8	7.4	89	54		1013.6	
29	50	36	43	22	31.6	0.05	0.13	RF	300	5.7	230	17	3.4	100	46		1017	
30	44	37	41	24	32.5	0.02	T	RF	330	9.9	320	30	* 9.2	100	55		1013.2	
mo	52.8	36.5	44.7	602	35.6		3.53			7.6			4.2	92.03333	53.56667			
D	aily C	limate	Data															
(U	noffic	ial, P	relimi	nary D	ata)													

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Dece	mber 2		0													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	41	31	36	29	21.1		0		320	9.5	360	17	3.3	64	46		1022.9
2	36	24	30	35	9.7		0		350	9.3	340	22	0	63	28		1030.2
3	36	19	28	37	11.6		0		350	4.4	70	9	0.6	74	29		1033.6
4	46	18	32	33	16.6		0		360	2.7	140	9	0.2	81	25		1027.1
5	47	24	36	29	23.5		0		270	9.2	290	30	1.9	100	40		1015.7
6	35	24	30	35	12.4		0		310	10.8	320	29	0.8	65	35		1018.4
7	36	26	31	34	18.8		0		270	8.9	280	21	5.1	75	54		1012.2
8	30	26	28	37	23.9	0 T		SF	40	4.4	70	8	9.3	100	55		1017
9	36	25	31	34	19.1	0 T			340	4.7	350	22	3	96	42		1028.1
10	40	22	31	34	25.8	0.01	0.01	LRF	20	5.1	20	8	6.3	100	63		1028
11	44	32	38	27	37	0	0.01	LFH	180	3.9	190	12	9.4	100	70		1018.9
12	52	24	38	27	25	0.01	0.01	LRFH	320	17.6	260	47 *	4.4	100	33		1011.5
13	32	20	26	39	8.3	T			330	5.8	320	20	1.4	65	33		1037.1
14	50	30	40	25	32.4	0.31	0.85	IRFH	280	8.1	270	15	7.4	100	47		1022.4
15	38	32	35	30	21		0		350	6.5	340	20	3.4	69	44		1033.1
16	53	34	44	21	37.5	0.13	0.49	RF	70	6.2	90	18	9.8	100	69		1026
17	64*	32	48	17	48.5	0.25	0.83	RTF	190	14.2	180	41	8.3	100	58		999.6
18	36	25	31	34	15.1		0		290	12.3	260	38	0.4	71	43		1013.8
19	41	24	33	32	21.1	0 T		S	30	4.6	10	10	6.2	84	51		1011.8
20	36	24	30	35	16.9	0.01	0.06	SF	300	13.3	310	31	3.6	100	41		1012.6
21	37	19	28	37	14.9		0		240	5.1	160	12	2.7	77	47		1024.2
22	32	17	25	40	18.6	0.01	0.01	SFH	310	7.7	330	35	8.6	92	46		1017.7
23	31	13*	22	43	5.7		0		310	9.9	340	31	0.3	59	41		1028.8
24	32	17	25	40	12.2		0		230	5.9	300	22	3.8	77	41		1024.7
25	26	14	20	45	1.9		0		320	14.5	330	37	0	56	37		1028.1
26	31	14	23	42	5.5		0		300	11.3	320	31	0	67	35		1026.5
27	33	17	25	40	11.8		0		290	9.3	300	20	2.9	80	41		1016.4
28	27	18	23	42	7.6		0		330	11.9	330	31	2.5	62	40		1012.4
29	31	15	23	42	10		0		10	6.4	350	12	1.8	70	44		1014.6
30	31	23	27	38	21	0.12	0.73	STF	20	10.8	280	30	7.7	100	57		1003.1
31	29	23	26	39	13.6	0 T		SF	290	12.2		31	5.5	84	48		1006
mo	37.7	22.8	30.2	1072	18.3		3			8.6			3.9	81.64516	44.6129		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE	B Janu	ary 19		99													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	30	11	21	44	5.1		0		330	12.4	300	30	3.3	74	21		
2	25	7*	16	49	-3		0.01		360	5.8	340	20	4.7	60	27		
3	52	22	37	28	33.1	0.87	2.29	ZRF	90	10.9	260	47 *	9.1	100	48		
4	32	20	26	39	9.4		0		300	12.6	280	23	0	63	39		
5	29	16	23	42	7.1	0.11	0.11	R	320	6.7	280	12	0	70	42		
6	31	11	21	44	12.4		0		220	7.9	210	18	3.3	80	46		
7	34	22	28	37	14.2	0 T		S	310	10.4	320	25	4.5	78	27		
8	30	20	25	40	15.8	0.06	0.26	ZRSF	10	4.9	60	13	5.7	100	49		
9	43	28	36	29	28.3	0.19	0.56	RF	330	7.2	320	35	9.3	100	60		
10	29	22	26	39	13		0		350	8	340	23	2	77	42		
11	25	19	22	43	6.8		0		290	9.6	290	24	3.6	81	35		
12	48	24	36	29	25.8		0		250	4.2	250	12	7	92	45		
13	51	18	35	30	32.5	0.02	0.05	ZRSF	40	8.7	30	24	8.3	96	74		
14	21	9	15	50	12.2	0.04	0.12	SF	60	11.7	70	26	10	100	77		
15	41	21	31	34	28	0.24	0.93	ZRSFH	280	9.4	290	25	9.8	100	75		
16	42	22	32	33	25.2	0 T			250	8.1	210	13	1.8	85	67		
17	53	29	41	24	31.6	0 T			260	4.3	250	10	2.2	100	40		
18	55	33	44	21	42.1	0.25	0.74	RTF	180	9.3	280	44	6.7	100	79		
19	50	32	41	24	31		0		270	10.3	270	30	2.3	100	47		
20	48	30	39	26	29.5		0		280	4.6	270	17	1.8	100	48		
21	47	30	39	26	36.1	0.04	0.11	RFH	50	4.2	60	8	5.5	104	79		
22	43	39	41	24	40.1	0.01	0.02	LRF	80	7.3	80	17	10	104	85		
23	57	40	49	16	42.3	0.04	0.06	LRF	80	6.7	180	20	10	100	82		
24	61*	41	51	14	49.6	0.2	0.92	RF	220	9.8	190	26	9.5	100	62		
25	41	32	37	28	28.9	0.07	0.16	SFH	330	7.9	320	30	4.4	100	59		
26	40	23	32	33	23.4		0		330	5.9	290	17	1.8	92	57		
27	46	23	35	30	27.9	0.02	0.02	RF	60	3.4	210	9	4.3	96	53		
28	40	35	38	27	35.2	0	0	RF	90	5.5	110	9	10	100	82		
29	38	26	32	33	23.7	0 T		F	10	7.1	330	25	3.5	100	50		
30	37	20	29	36	18.6	0 T		RS	40	5.8	30	24	2.2	84	54		
31	30	15	23	42	1.4	0 T			30	7	30	23	0	70	26		
mo	40.3	23.9	32.1	1014	23.5		6.36			7.7			5.1	90.51613	54.09677		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Febr	uary 1		999													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	43	16	30	35	12.2		0		230	5.7	250	12	2.5	74	40		
2	52	16	34	31	48.8	0 T		RF	220	5.2	200	7	9.5	100	86		
3	53	37	45	20	36.9	0.01	0.01	F	310	6	290	14	1.5	100	38		
4	51	32	42	23	37.3	0.01	0.01	RF	350	5.3	330	30	5.2	104	65		
5	45	32	39	26	19.1		0		360	14.2	330	36 *	1.8	65	33		
6	43	31	37	28	21.5	0 T		S	350	6	340	23	7.4	73	45		
7	41	29	35	30	30.2	0.03	0.11	ILRSF	350	6	340	23	7.8	100	57		
8	38	25	32	33	26.4	0.02	0.05	LSF	40	5.4	30	21	7	100	46		
9	44	22	33	32	26.7		0	FH	230	6.3	240	16	2.8	96	55		
10	51	28	40	25	21.4		0	F	330	8.6	320	32	0.6	88	24		
11	54	27	41	24	27.9		0		200	4.7	170	21	2.5	89	29		
12	69*	36	53	12	45	0.06	0.16	RAF	340	6.5	310	28	7.1	100	72		
13	41	27	34	31	24.8	0.02	0	R	310	11.5	280	28	4.6	100	54		
14	32	21	27	38	11.8		0		340	11	320	24	0.6	68	45		
15	49	17	33	32	20.6	0 T			220	3.9	200	10	0.6	96	36		
16	61	27	44	21	32.7	0 T			160	2.7	150	12	0	100	42		
17	48	35	42	23	39.5	0 T		FH	80	5.2	60	10	8.5	100	70		
18	44	36	40	25	41	0.14	0.77	RF	40	6.5	40	13	9.5	100	76		
19	42	32	37	28	32.2		0		30	7	30	10	3.5	100	73		
20	41	32	37	28	21.9		0		10	9.6	330	21	6	89	50		
21	36	25	31	34	17.6	0 T		SF	10	10.8	350	23	5.6	92	48		
22	28	17	23	42	0.3		0		30	12.9	20	35	0.7	57	22		
23	35	14*	25	40	2.3	0 T			40	5.3	10	10	2.5	55	25		
24	35	24	30	35	16.6	0	0		40	6.7	110	10	4.5	85	40		
25	41	26	34	31	29.2	0.02	0.02	SF	40	8.4	10	20	6.3	100	78		
26	48	31	40	25	27.4	0.01	0.02	SF	350	11.2	340	32	3.6	100	35		
27	50	31	41	24	29.6	0 T			330	5.7	320	12	0.6	85	52		
28	49	35	42	23	40.9	0.19	1.1	LRF	120	5.9	120	18	9.4	100	73		
mo	45.1	27.2	36.2	799	26.5		2.25			7.3			4.4	89.85714	50.32143		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE	B Marc	h 1999															
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	46	38	42	23	37	0.05	0.13	LRTF	300	9.9	310	23	7.7	100	68		
2	51	34	43	22	28.7		0		300	10	290	24	3.1	79	45		
3	61	31	46	19	41.6	0.17	0.56	RTF	170	13.3	150	44	7.3	100	64		
4	55	33	44	21	33.8	0.17	0.07	RSAF	320	19.8	170	43	9.4	100	56		
5	43	29	36	29	20.9	0 T			340	9.4	330	22	2.6	64	43		
6	47	35	41	24	34.8	0.09	0.32	RTF	70	6.8	130	21	8.7	100	50		
7	45	20	33	32	23.4	0.04	0.05	RSTF	10	15.8	330	32	9.5	100	65		
8	46	20	33	32	8.1		0		350	12.9	340	25	0	61	27		
9	35	20*	28	37	4.8		0		360	7	340	18	1.9	51	28		
10	43	26	35	30	7.8		0		20	9.5	350	20	4	51	27		
11	40	26	33	32	13.9		0		350	14.8	330	33	1.9	57	39		
12	38	25	32	33	15	0 T		S	350	14.8	340	29	8.8	68	46		
13	50	27	39	26	21.1		0		10	10.3	350	22	0.7	60	41		
15	41	32	37	28	28.5	0.13	0.18	SF	50	12.9	340	36	7.2	100	47		
16	50	32	41	24	21.6		0		310	13.2	350	30	0.1	59	39		
17	68	39	54	11	39.7		0		240	8.4	240	23	0	80	43		
18	69	42	56	9	38.4		0		310	12.7	270	39	3.5	93	34		
19	47	37	42	23	29.5		0		330	14.5	320	33	5.3	73	51		
20	51	33	42	23	26.8	0 T			350	7.6	340	20	1.3	100	33		
21	52	32	42	23	38.4	0.32	0.93	RF	150	10.6	160	48	5.8	100	58		
22	54	38	46	19	36.5	0.32	0.78	RSF	300	18.4	160	51 *	7.0	100	53		
23	53	31	42	23	32.5		0		270	9.6	250	22	3.5	92	43		
24	59	39	49	16	46.7	0.02	0.03	RF	190	4.9	320	12	8.7	100	76		
25	51	36	44	21	32.3		0		360	10.7	10	20	1.8	89	49		
26	52	31	42	23	30	0 T			30	5.8	40	17	0	100	44		
27	55	32	44	21	35.8	0.11	0.16	R	50	8.1	60	32	2.8	100	52		
28	52	39	46	19	42.9	0.11	0.22	RF	40	11.7	40	30	9.9	100	80		
29	67	44	56	9	40.4	0 T		L	350	9.6	320	24	3.9	104	40		
30	61	43	52	13	32.7		0		340	11.8	310	36	0	70	31		
31	76*	36	56	9	38.6		0		260	10	250	31	0	89	28		
mo	51.9	32.7	42.3	674	29.4		3.43			11.2			4.2	84.66667	46.66667		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE B Apri l 1999

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	65	44	55	10	47.7	0.01	0.01	RF	240	5.5	290	12	6.6	100	28	
2	66	50	58	7	48.1	0	0	F	120	6.5	230	15	7.3	104	56	
3	56	45	51	14	42.3		0		210	6.8	220	10	6.8	100	61	
4	67	42	55	10	39.8	0.01	0.02	RF	40	10.9	50	23	4.1	96	28	
5	61	35	48	17	29.6	0	T		40	7.5	30	21	0	72	32	
6	64	33	49	16	40.9	0.11	0.11	R	190	6.7	200	23	3.3	117	46	
7	72	41	57	8	44.4		0	F	290	7.7	300	25	0.2	93	35	
8	83*	47	65		48.8		0		270	9	290	31	1	104	32	
9	63	43	53	12	42	0.1	0.37	RF	50	8	60	17	7.3	104	45	
10	59	41	50	15	35.8	0.02	0.01	R	10	11.3	30	30	2.3	93	42	
11	50	37	44	21	34.1	0.18	0.3	RTF	50	6.5	150	13	5.6	100	58	
12	56	37	47	18	32.8	0.03	0.07	R	350	10.3	350	30	5.4	58	45	
13	61	40	51	14	30.7		0		330	14.2	350	36	0	70	29	
14	63	46	55	10	27		0		320	12.8	330	30	2.4	54	25	
15	72	41	57	8	42.6	0	T		240	9.4	260	20	3.1	100	27	
16	54	38	46	19	42.8	0.2	0.38	RF	90	6	90	17	8.3	100	66	
17	58	37	48	17	39.9	0	T	F	260	9.6	250	26	5	100	51	
18	63	42	53	12	39.4		0		280	9.6	270	28	3.5	93	41	
19	60	38	49	16	40.3	0.02	0.02	R	280	6.6	290	37	* 2.7	96	47	
20	53	37	45	20	43.2	0.09	0.32	RF	320	4.2	80	8	5.4	100	76	
21	62	35	49	16	40.7	0	T	F	220	5.7	230	17	2.9	104	42	
22	62	46	54	11	51.2	0.05	0.06	RFH	50	3.9	230	9	6.9	100	80	
23	57	43	50	15	49.2	0.11	0.36	RFH	40	6.4	20	22	6.1	104	72	
24	59	37	48	17	26		0		350	9.9	360	25	0	82	20	
25	64	32*	48	17	23.4	0	T		250	6.2	310	18	0.3	61	23	
26	76	44	60	5	32.7		0		270	13.1	310	33	2.1	58	24	
27	65	42	54	11	31.9	0	T		40	9.5	60	23	0.4	60	31	
28	64	44	54	11	39.6		0		30	4.2	210	10	4.2	80	41	
29	69	44	57	8	35.8		0		40	8.3	50	23	1	83	27	
30	70	38	54	11	41	0	T	R	30	6.4	140	23	0	96	39	
mo	63.1	40.6	51.9	386	38.8		2.03			8.1			3.5	89.4	42.3	

D ailyC limate Data
(U noffic ial, P relimi nary D ata)

TE B May 1999

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	68	41*	55	10	39.8		0		20	5.9	110	12	0	100	37	
2	68	45	57	8	41.6		0		40	9.3	100	24	2.2	100	35	
3	60	54	57	8	49.6	0.01	0.01	R	40	10.9	40	31	9.9	96	51	
4	63	51	57	8	54.9	0.29	0.61	RF	10	5.2	20	9	10	100	74	
5	78	56	67		58.3	0.01	0.01	RF	150	4.2	200	9	7.1	100	64	
6	71	55	63	2	57.8		0	FH	120	5.8	160	21	9.6	100	78	
7	58	55	57	8	56.8	0.03	0.14	LRF	80	5.2	110	8	10	100	96	
8	63	53	58	7	57.6	0.49	0.51	RTAF	80	3.9	90	9	9.5	100	96	
9	72	53	63	2	52.6	0.01	0.01	F	280	5.3	260	17	7.2	100	47	
10	73	52	63	2	43.7	0	T		340	8.7	320	22	0.6	72	35	
11	71	51	61	4	42.2	0	T		190	7.2	200	15	0.6	71	37	
12	77	49	63	2	43.2	0	T		180	5.1	170	10	0.8	89	30	
13	71	51	61	4	34.5	0	T	R	50	7.4	40	10	3.7	71	27	
14	67	47	57	8	40	0	T		210	7.4	200	13	0	86	31	
15	70	42	56	9	40.7	0	T		70	4.7	140	14	0.2	89	35	
16	71	45	58	7	43.4	0	T		130	5.5	150	9	2.8	80	47	
17	74	47	61	4	49		0		20	5.4	160	12	3.3	89	44	
18	69	54	62	3	58.1	0.02	0.06	LRF	80	5.3	100	12	7.5	100	73	
19	67	60	64	1	61.6	0.29	0.72	RF	360	5.4	30	18	9.6	100	87	
20	74	53	64	1	41	0.14	0.14	R	350	11	320	26	1.4	93	24	
21	79	44	62	3	39.5	0	T		320	4	320	9	0	76	23	
22	79	53	66		47.5		0		180	4.8	200	16	3	80	28	
23	66	60	63	2	58.2	0.1	0.31	RWF	90	5.3	110	12	8.6	100	65	
24	72	54	63	2	58.8	0.6	1.59	RTFH	240	5.9	230	18	8.2	100	77	
25	72	49	61	4	43.8		0		230	10.9	250	35	3.1	93	31	
26	71	54	63	2	44.2		0		310	11	260	37	* 6.8	72	36	
27	72	54	63	2	43.9		0		330	8.4	10	23	5.5	74	34	
28	80	50	65		46.6	0	T		320	4.6	360	17	0	72	34	
29	87	54	71		52.8		0		290	5.4	280	24	0.7	90	31	
30	88	60	74		52		0		200	3.9	70	9	0	75	29	
31	89*	59	74		56.1		0	F	190	3.7	180	18	0	83	32	
mo	72.3	51.8	62	113	48.7		4.11			6.3			4.3	88.74194	47.35484	

D ailyC limate Data
(U noffic ial, P relimi nary D ata)

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B June MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	88	62	75		59.6		0	FH	230	6.7	210	25	0.4	90	34	
2	92	73	83		64.2	0	T		190	6.7	160	21	5.6	73	41	
3	84	65	75		61.4	0	T		320	10.2	310	23	4.6	78	49	
4	79	60	70		46.1		0		350	8.4	30	22	0	70	27	
5	79	56	68		47.7		0		180	6.6	190	21	0.2	75	30	
6	81	54	68		55.7		0		200	6.4	240	13	0	86	39	
7	98*	69	84		64.7		0		310	7.9	290	16	1.5	73	37	
8	93	71	82		62.2		0	H	310	8.9	300	24	1.3	79	31	
9	86	63	75		59.5		0		80	8.2	90	22	4.7	78	46	
10	77	60	69		49.2		0		90	7.8		17	5.4	81	22	
11	78	56	67		51.2		0		80	5.8	100	10	1.1	83	37	
12	77	58	68		60.8		0		70	7	110	12	7.5	93	33	
13	80	66	73		66	0	T	LRFH	80	8.4	150	18	9	93	64	
14	82	67	75		66.1	0	T	RTFH	170	7.8	160	20	7.9	93	60	
15	82	63	73		53.6		0		330	8.7	320	16	5.1	90	36	
16	77	57	67		46.6		0	L	100	6.6	90	16	0.9	63	38	
17	66	57	62	3	56.1	0.01	0.02	R	70	5.6	100	9	9.5	93	63	
18	74	57	66		50.7		0		10	5.8	10	12	5.6	90	39	
19	79	54	67		50.3		0		200	4.8	190	10	0.7	86	31	
20	78	59	69		54	0	T	L	160	5.7	170	12	3.7	90	40	
21	69	59	64	1	57.6	0.03	0.1	LRF	50	4.5	50	9	7.7	93	65	
22	89	52*	71		54.4	0	T	F	190	3.7	170	10	0.4	96	29	
23	90	61	76		56.3		0	F	190	5.4	210	13	1.3	87	31	
24	88	61	75		52.2		0		190	7.9	190	24	0.4	81	26	
25	83	62	73		60.4		0		210	7.5	220	17	2.9	84	44	
26	92	72	82		65.4		0	HK	230	5.5	230	10	3.9	82	35	
27	91	72	82		69.1	0	T		180	6.9	170	22	1.2	87	38	
28	92	75	84		71.7	0		0 RTFH	210	11.7	230	25	4.1	90	50	
29	92	74	83		71.9	0		0 RTFH	200	8.1	290	25	* 7.3	94	54	
30	81	68	75		59.3	0.01	0.01	R	360	6.1	350	10	7.2	79	49	
mo	83.2	62.8	73	4	58.1		0.13			7			3.7	84.33333	40.6	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B July MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	86	71	79		70.1	0.14	0.19	LRFH		170	6.8	210	22	7.9	93	76
2	88	75	82		70.4	0.03	0.03	FH		220	13.6	240	28	5.8	84	57
3	89	72	81		55.1	0	T	H		190	5.3	190	10	2.6	88	17
4	96	79	88		75.1	0	T	TH		250	7.9	350	16	2.4	91	49
5	100	79	90		73		0	H		290	8.2	300	21	0.1	79	42
6	100*	77	89		70.9		0			270	9.2	250	29	* 0.4	79	39
7	91	74	83		57.3		0			320	9.6	300	22	1	65	26
8	86	65	76		52.3		0			340	7.9	330	26	1.8	68	27
9	84	66	75		59	T				190	6.3	190	20	3.2	77	37
10	87	65	76		63.8	0	T	R		250	11.4	300	26	5.7	84	46
11	82	56	69		50.2	0	T	R		360	7.3	10	21	1.3	80	30
12	79	57	68		51.8	0	T	R		130	5.9	140	21	4.6	77	35
13	78	63	71		54.5	0	T			70	7.1	120	13	4	87	43
14	76	60	68		58.7	0	T			210	3.4	220	10	1.8	90	56
15	95	55	75		58.2	0	T	F		190	4	200	14	1.5	90	35
16	98	68	83		64.8		0			230	7.4	220	21	0.2	79	34
17	99	73	86		67.3	0	T	H		200	6.6	180	15	1.1	71	34
18	98	75	87		68.7		0	H		200	5.6	200	14	0.5	77	38
19	98	73	86		69.8	0	T	H		360	5.6	250	24	1.2	85	36
20	92	72	82		62.8	0	T	R		40	6.6	170	25	5.6	84	41
21	87	70	79		62.6	0	T	R		190	7.4	180	21	4.4	81	41
22	88	73	81		68.2	0	T	RH		190	7.1	140	13	7.9	87	62
23	95	23*	59	6	73	0	T	FH		180	5.6	180	21	3	97	45
24	97	72	85		66.7		0	H		230	6	240	20	1.6	82	36
25	97	75	86		61.4		0			350	5.4	330	20	1.8	74	24
26	92	74	83		62.8	0	T			340	6.3	360	10	1.7	79	37
27	97	71	84		63.5		0			340	5.8		20	1.7	79	32
28	98	68	83		58.4	0	T	RT		340	6.7	320	23	2.2	73	26
29	97	68	83		63.3	0	T			160	4.6	140	26	2.4	79	32
30	95	71	83		69.9		0	TFH		190	6	170	14	1.5	97	40
31	90	73	82		73.2		0	FH		180	6.1	130	18	2.6	94	61
mo	91.5	68.2	79.8	6	63.8		0.22				6.9			2.7	82.25806	39.80645
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE B Augu st 199 9

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	99*		78	89	66.4	0	T	RF	330	7.9	290	18	2.7	88	24	
2		91	68	80	56.2		0		20	7.8	40	16	2.8	68	30	
3	88	67	78		54.5	0	T		360	7.9	10	16	2.6	73	28	
4	88	63	76		60.2		0		180	6.9	140	21	0.2	87	33	
5	88	66	77		62.1	0	T	RT	200	5.5	180	13	3.5	81	38	
6	89	61	75		55	0	T		270	8.1	220	22	1.4	75	28	
7	88	66	77		55.5		0		340	8.1	10	21	1.4	82	23	
8	83	73	78		68.6	0	0	RFH	260	9.6	260	26	6.5	97	62	
9	81	64	73		45.9		0		340	8.2		20	0.4	73	21	
10	82	58	70		49		0	R	190	5	180	18	4.6	76	29	
11	87	69	78		67.4	0.27	0.27	RTFH	170	5.7	60	24	7.8	97	59	
12	93	72	83		70.1		0	FH	180	5.8	180	12	4.2	97	47	
13	94	72	83		73.8	0.17	0.22	RTFH	190	8.7	260	28	6.3	97	63	
14	87	70	79		72.4	0.35	0.89	RTFH	190	5.6	240	25	8.1	100	70	
15	80	68	74		66.9	0.06	0.06	RF	30	7	360	12	9.1	97	60	
16	91	64	78		63.1	0	T		190	4.8	200	12	1.9	90	33	
17	91	70	81		71.3		0	FH	200	9	180	26	3	93	57	
18	87	71	79		61.6		0	H	340	8.1	290	23	2.3	82	35	
19	84	67	76		60.1		0		180	7.1	170	18	2.3	81	42	
20	75	61	68		61.2	0.11	0.36	RF	80	7.5	90	13	6.6	100	64	
21	64	59	62	3	58.5	0.02	0.04	LRF	30	7.6	60	16	9.9	97	84	
22	72	58	65		58.4		0		350	4.9	10	8	9.6	93	66	
23	87	55*	71		58.1	0	T	F	30	2.3	10	8	1.8	96	36	
24	87	63	75		63.2		0	FH	180	5	170	20	2	93	43	
25	83	64	74		64.8	0.01	0.02	RF	140	6.2	190	31	* 2.9	100	51	
26	77	69	73		70.5	1.08	2.25	RTF	60	7	270	17	10	100	87	
27	84	68	76		69.5	0.11	0.13	RTFH	230	5	210	29	5.5	100	63	
28	88	67	78		66.6		0	FH	270	6.3	270	20	0.5	97	48	
29	89	64	77		60		0	FH	340	8.1	360	23	0.8	97	26	
30	71	58	65		49.4		0		40	10.8	30	24	0	67	51	
31	76	60	68		52.8		0		50	8.1	80	18	0.1	78	44	
mo	84.6	65.6	75.1	3	61.7		4.24			7			3.9	88.77419	46.6129	

D aily C limate Data
(U noffic ial, P relimi nary D ata)

TE B Sept ember 1999

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	80	61	71		47.2		0		40	7	90	20	0.4	84	19	
2	85	62	74		51.4		0		20	4.3	100	8	0.1	81	23	
3	86	59	73		58.3		0		10	3.7	120	9	0.3	84	27	
4	82	65	74		68.6		0	FH	80	6.3	100	10	3.5	100	74	
5	76	72	74		72	0.04	0.18	RF	80	8.3	80	20	9.7	100	87	
6	85	74	80		73.1	0.04	0.05	RFH	170	8.8	160	16	7.2	100	72	
7	82	73	78		72.8	0.24	0.24	RFH	180	10.5	170	24	7.7	100	77	
8	86	72	79		72.4		0	FH	190	5	140	20	5.2	100	67	
9	87*	67	77		71.2	0.01	0.25	FH	170	4.9	150	31	4.4	100	59	
10	77	68	73		69	0.21	0.42	RWF	340	4.8	330	10	6.4	100	74	
11	80	62	71		55.4	0	T	F	360	6	10	15	0.6	97	35	
12	82	54	68		56.4		0	F	200	4	210	9	0	96	38	
13	78	58	68		58.6		0	FH	150	4.3	150	18	1	100	47	
14	80	58	69		60.4		0	FH	190	5.2	190	9	1.9	96	54	
15	70	67	69		66.2	0.1	0.73	RF	40	4.1	50	8	9.2	100	81	
16	76	58	67		63.5	1.31	6.35	RTF	40	13	10	44	*10.0	100	78	
17	62	58	60	5	52.3		0		320	18	310	37	8.4	78	65	
18							0									
19	75	52	64	1	55.8		0		200	5.9	190	8	5.9	81	63	
20	73	55	64	1	57.5	T		F	190	6.2	190	10	4.7	96	55	
21	66	55	61	4	58.4	0.33	0.52	RF	350	6.6	360	18	10	100	81	
22	58	50	54	11	46.1	0.03	0.03	RF	340	11.2	340	24	8.1	93	63	
23	74	50	62	3	47.3		0		310	9.5	320	22	0	83	46	
24	81	51	66		53.6		0		200	7.6	210	16	0	93	42	
25	77	55	66		52.8	0	T	FH	210	5.2	270	17	1.1	93	43	
26	74	50*	62	3	49.5		0		30	3.9	140	10	1.3	90	49	
27	73	56	65		58.7		0		180	3.7	200	9	2.8	93	57	
28	80	64	72		62.5		0	FH	180	4.4	160	10	7.4	97	54	
29	76	67	72		61.1	0	T	H	180	10	190	22	7	87	56	
30	71	53	62	3	51.5	0.43	0.96	RF	300	11.2	190	35	4.7	97	40	
mo	77	60.2	68.6	31	59.4		9.73			7			4.4	93.75862	56.06897	

D aily C limate Data
(U noffic ial, P relimi nary D ata)

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B Octo MxT	ber 19 MnT	AvT	99 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	75*		44	60	5	44.6		0		230	6.4	260	20	0	89	38
2		73	51	62	3	50.8		0 F		200	5.2	190	14	0.5	86	46
3		74	57	66		55.4	0 T	FH		360	4.9	210	9	0.8	93	53
4		68	48	58	7	54.6	0.21	0.81 RTF		20	7.1	10	17	9.4	93	67
5		53	43	48	17	42.5	0.11	0.01 RF		350	6.6	20	10	7.9	93	66
6		66	39	53	12	38.2		0		340	7.8	340	23	1.1	89	40
7		54	38	46	19	27		0		350	6	20	17	0	73	31
8		64	37	51	14	30.2	0 T			200	7.4	190	18	0	76	31
9		70	56	63	2	54.3	0 T	H		220	7.9	210	13	3.7	87	32
10		67	61	64	1	61.9	0.07	0.54 LRFH		200	6.7	200	23	9.9	100	84
11		71	47	59	6	46.7	0.01	0.01 F		340	7.5	10	22	2.1	100	25
12		65	42	54	11	39.4		0 F		210	3.9	200	12	0	83	30
13		74	43	59	6	51.4	0.04	0.23 RF		190	8.5	200	23	2.8	93	47
14		64	42	53	12	37.2	0.17	0.06 R		330	12.7	320	41 *	2.9	87	34
15		62	36	49	16	36.9		0		180	3.9	220	12	0	86	39
16		70	42	56	9	50.1	0 T	F		200	3.1	170	9	2.4	96	59
17		72	54	63	2	58	0.09	0.31 LRF		20	3.5	20	9	7.8	100	64
18		62	44	53	12	41.7	0.08	0.01 LRF		360	12.8	360	33	5.7	93	37
19		56	39	48	17	35	0.03	0.04 R		30	3.6	140	17	3.8	89	42
20		55	49	52	13	48.7	0.08	0.56 RF		340	4.1	340	9	7.1	100	77
21		60	40	50	15	38.1		0 F		350	3.4	330	10	0	93	39
22		62	39	51	14	31.4	0.06	0.17 RF		160	5.8	200	22	3.1	90	31
23		55	41	48	17	30.2	0.06	0.04 R		270	9.9	290	37	5.1	65	36
24	56	33*		45	20	31.4		0		320	8.2	330	24	2.6	92	40
25		62	37	50	15	31.6	0 T	R		250	7.2	250	17	0.9	76	36
26		68	40	54	11	31.2		0		230	7.2	220	16	0.2	70	25
27		60	41	51	14	31.1		0		360	6.8	360	18	2.7	65	33
28		55	37	46	19	34.8		0		200	5.5	170	13	0	80	50
29		72	39	56	9	31.3		0		220	2.6	150	10	0	76	23
30		68	47	58	7	50.7		0 FH		10	4.1	150	8	3.4	100	52
31		73	55	64	1	54		0 FH		230	7.6	210	12	5.2	100	48
mo		64.7	43.9	54.3	326	41.9		2.79			6.4			2.9	87.51613	43.70968
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B Nove MxT	mber 1 MnT	AvT	999 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	68	46	57	8	46.9		0	FH	170	3.9	150	16	0.1	90	37	
2	69	49	59	6	57.2	0.45	1.01	RTFH	160	12.6	160	53 *	8.1	100	76	
3	64	40	52	13	35.1	0 T			260	13.8	250	30	3.3	87	43	
4	51	37	44	21	25.2		0		260	11.3	270	23	0.2	64	33	
5	71	33	52	13	28.3	0 T			220	8.3	240	28	0.3	75	21	
6	66	43	55	10	29.8		0		330	8.4	340	28	0	62	23	
7	51	36	44	21	23.6		0		330	12.1	340	30	2.8	57	32	
8	48	31	40	25	23.6		0		330	5.8	350	18	1.9	69	36	
9	66	33	50	15	29.4		0		220	7.4	240	16	2.4	78	29	
10	75*		50	63	2	35.6	0.02	0.02 RTH	240	10	250	29	2.5	72	19	
11	64	33	49	16	28		0		40	10.4	30	30	3	74	35	
12	54	30	42	23	31.3		0		210	6.4	190	10	4.5	83	58	
13	54	38	46	19	41	0 T		H	330	5.8	330	12	3	96	61	
14	57	36	47	18	42		0	FH	330	6.8	330	33	5	100	54	
15	45	37	41	24	28		0		320	14.6	320	39	4.5	67	47	
16	40	32	36	29	22		0		320	16.6	310	38	3.2	64	48	
17	43	28	36	29	21.9		0		320	10.9	320	33	0.7	78	41	
18	53	25*	39	26	30.8		0		220	3.7	240	13	2.3	100	50	
19	61	41	51	14	36.1		0		200	5.7	190	10	2.5	100	15	
20	69	42	56	9	51.1	0.04	0.1	RF	190	5.5	200	23	7.7	100	59	
21	62	48	55	10	51.8		0	FH	40	2	60	6	5.8	104	70	
22	57	50	54	11	53.2	0.01	0.03	F	90	1.6	110	5	10	100	93	
23	64	53	59	6	56.1	0.01	0.01	RF	190	2.1	180	8	9.8	100	84	
24	71	56	64	1	58.9	0.05	0.07	RF	200	7.2	210	15	9.3	100	78	
25	60	46	53	12	49.6	0.1	0.2	LRWF	30	6.1	20	14	9.9	100	83	
26	65	47	56	9	56.3	0.26	0.86	LRF	190	8.1	190	21	10	100	87	
27	62	47	55	10	46.7	0.17	0.41	RF	270	7.9	340	21	4.9	100	53	
28	50	39	45	20	30.7		0		310	10.4	320	22	0	74	47	
29	45	34	40	25	28.9	0.01	0.01		290	8.1	290	20	2.6	82	53	
30	39	28	34	31	21.4		0		360	11.6	30	24	2.3	78	48	
mo	58.1	39.6	48.9	476	37.4		2.72			8.2			4.1	85.13333	50.43333	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B Dece MxT	mber 1 MnT	AvT	999 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	36	23	30	35	9.2		0		360	12	360	26	0	62	30	
2	49	26	38	27	22.5	0	T		350	5.4	10	10	0	100	43	
3	59	27	43	22	27.8	0	T		190	3.2	230	13	0.6	92	25	
4	61	40	51	14	41.7	0.08	0.09	RF	230	5.6	270	21	2.3	100	53	
5	66*	36	51	14	44.4		0	FH	170	4.7	160	13	0.4	100	56	
6	56	45	51	14	51.8	0.28	1.01	RF	340	2.4	340	12	9	100	86	
7	52	35	44	21	34.4	0	T	R	340	13	330	30	2	89	57	
8	58	27	43	22	29.2	0	T	F	330	2.8	130	9	0.1	92	46	
9	56	29	43	22	33.4		0	F	140	2.7	160	7	0.1	100	38	
10	58	36	47	18	42.7	0.06	0.14	RF	220	7.5	320	38	8	100	53	
11	44	36	40	25	23		0		320	18.1	310	45	* 0.8	61	36	
12	45	29	37	28	25		0		300	6	310	33	0.1	75	49	
13	44	29	37	28	42	0.02	0	RF	360	10.4	20	10	10	100	0	
14	43	38	41	24	39.2	0.13	0.65	RF	40	11.3	50	30	9.9	100	85	
15	46	42	44	21	43.7	0.02	0.04	RF	40	6.7	110	20	9.9	100	93	
16	48	34	41	24	34.4	0.01	0.01	RF	260	12.1	290	40	6.7	100	43	
17	44	30	37	28	22.4		0		250	9.2	250	24	1.5	78	35	
18	41	33	37	28	23.2		0		20	4.7	340	9	5.7	69	46	
19	40	31	36	29	20.1		0		40	7.6	40	10	4.1	66	44	
20	59	31	45	20	38.5	0.23	0.81	RF	40	8.1	180	28	8.8	100	58	
21	49	36	43	22	32.4	0.01	0	RF	310	7.9	290	14	5.6	100	46	
22	40	28	34	31	20.8	0	T		340	5.7	320	9	4.3	75	39	
23	41	23	32	33	17.2		0		240	8.2	200	24	3	75	37	
24	29	21	25	40	8.9		0		330	9.5	330	20	0.4	63	40	
25	29	18*	24	41	11.1		0		320	7.4	340	12	0.4	74	44	
26	35	23	29	36	17.5	0	T		230	11.5	210	29	1.8	72	43	
27	36	28	32	33	17	0	T		280	10.8	270	22	9.1	72	47	
28	29	19	24	41	11.1	0	T		340	7.4	230	13	2.9	66	48	
29	36	26	31	34	19.7		0		270	9	320	22	6.4	85	47	
30	48	32	40	25	32.2		0		260	8.3	280	23	1.2	96	55	
31	40	28	34	31	31.9	0.01	0.02	LRSF	50	3	30	8	5.5	104	67	
mo	45.7	30.3	38	831	28		2.77			7.8			3.9	86	48.03226	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B Janu MxT	ary 19 MnT	AvT	98 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	28	14*	21	44	6.3		0		260	12.2	220	26	1.5	61	42	
2	48	24	36	29	20.8		0		230	8	230	13	2.1	74	38	
3	60	40	50	15	27.9	0	T	R	220	8.3	230	19	5.8	56	27	
4	62	43	53	12	38.5	0	0.02	R	220	4.3	80	18	6.3	89	49	
5	47	42	45	20	41.4		0	F	100	5.2	80	18	9.5	100	79	
6	62	43	53	12	50.1	0.02	0.05	RF	230	3.5	220	11	9.6	100	87	
7	57	43	50	15	48.4	0.14	0.71	RF	110	6.2	60	17	10	100	93	
8	68*	42	55	10	48.4	0.02	0.04	RFH	200	7.8	210	15	9.1	100	30	
9	63	47	55	10	51.3	0.05	0.06	FH	200	10.9	290	43	* 6.5	97	58	
10	52	34	43	22	30.3		0		290	7.9	290	14	0	85	58	
11	50	31	41	24	22.8		0		260	7.8	270	20	0	89	33	
12	40	29	35	30	21.4	0	T		50	6.1	30	9	2.8	73	40	
13	48	31	40	25	32.1	0.04	0.05	RFH	230	11.2	320	30	7.6	89	34	
14	32	23	28	37	9.7	0	T	R	350	9.7	320	30	0	53	39	
15	39	25	32	33	23.4	0.12	0.55	LRSF	50	6.4	30	10	7.2	92	53	
16	39	32	36	29	30.4	0.11	0.07	LRFH	60	13.1	40	26	9.9	92	72	
17	38	32	35	30	24.8	0	T	S	40	8	20	19	9.6	78	58	
18	36	31	34	31	28.9	0.01	0.01	SFH	70	5.1	50	9	10	92	75	
19	41	33	37	28	29	0.01	0.01	SF	80	4.1	90	9	8.2	92	52	
20	45	32	39	26	17.3	0	T	SH	360	10.9	320	30	4.1	78	40	
21	37	28	33	32	17.4		0		350	10	360	19	1.7	63	38	
22	36	28	32	33	17.7		0		70	6.6	330	10	6.4	66	47	
23	43	32	38	27	33.8	0.43	1.91	IRSF	90	9.3	100	26	10	100	66	
24	47	34	41	24	35.8	0.09	0.16	RSF	10	10.2	330	15	9	100	70	
25	39	30	35	30	22.2	0.08	0.01	SF	340	12.9	310	37	5.2	96	42	
26	42	27	35	30	20		0		10	5.2	300	9	0.3	75	39	
27	38	29	34	31	24.5		0		80	9.8	80	25	8	82	53	
28	38	32	35	30	26.4	0	T	IR	50	14.1	40	32	8.2	82	61	
29	58	34	46	19	23.2		0		10	7.8	20	20	1.1	64	27	
30	47	36	42	23	28.4	0	T	R	330	6.8	320	24	9	70	49	
31	44	33	39	26	22.7		0		10	10.7	10	25	4.9	61	45	
mo	45.9	32.7	39.3	787	28.2		3.65			8.4			5.9	82.22581	51.41935	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Febr	uary 1		998													
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	47	28	38	27	21.7		0		20	4.8	360	10	0	85	36		
2	48	25	37	28	29.2		0		200	4.6	160	11	0.4	92	44		
3	48	37	43	22	31.8		0		50	6.6	40	12	3.1	89	49		
4	43	35	39	26	29	0.06	0.32	IRF	60	12.3	50	26	5.8	92	57		
5	37	34	36	29	27.5	0.1	0.46	RF	40	16	20	36	10	92	40		
6	44	31	38	27	13.4	0	T		30	9.3	30	22	3.5	51	29		
7	44	29	37	28	18		0		60	8.3	80	19	0	72	36		
8	43	29	36	29	21.3		0		60	7.5	40	13	1.1	72	39		
9	48	27	38	27	23.6	0	T	S	220	4.1	270	10	0	89	35		
10	59	30	45	20	28.1	0	T	F	30	4.5	130	12	0	92	40		
11	50	32	41	24	31.5	0.33	0.87	RFH	130	3.9	110	10	7.6	100	42		
12	56	44	50	15	31.4	0.33	0.13	RH	310	14.6	310	37	9.6	86	32		
13	44	32	38	27	23.1		0		340	12.9	290	26	2.7	57	45		
14	37	23	30	35	6.3		0		10	10.4	350	21	0	53	25		
15	33	16*	25	40	0.6	0	T		20	6.6	30	13	0	51	21		
16	39	21	30	35	15.4		0		170	5.1	190	10	1.2	65	35		
17	41	35	38	27	32.2	0.18	0.22	RF	80	12.9	90	37	9.8	96	61		
18	45	41	43	22	41.6	0.32	0.37	RTF	60	10	80	37	10	100	86		
19	51	40	46	19	40.4	0.04	0.1	RF	310	6.1	290	15	9.8	96	68		
20	50	40	45	20	38.9	0.02	0.06	R	330	4.4	290	10	9.4	89	63		
21	46	41	44	21	31.4		0		330	13.5	310	37	6.8	79	55		
22	51	39	45	20	29.4		0		360	8.2	360	22	3.1	67	42		
23	43	37	40	25	32.4	0.12	0.22	RF	80	11.8	80	32	7.1	96	57		
24	41	36	39	26	35.7	0.13	0.62	RSF	30	14	30	27	10	96	85		
25	49	37	43	22	30.3	0.04	T	R	350	19	340	48	* 5.9	85	49		
26	58	41	50	15	27		0		340	12.9	330	30	0	53	28		
27	60*	31	46	19	27.3		0		350	5.8	320	11	0.8	65	33		
28	53	42	48	17	35.5	0.04	0.09	RF	100	5.9	110	13	9.1	100	48		
mo	46.7	33.3	40	692	26.9		3.46			9.1			4.5	80.71429	45.71429		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE	B Marc	h 1998															
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	50	41	46	19	41.2		0	FH	90	3.7	100	11	8.1	100	74		
2	54	41	48	17	36.3		0	FH	200	3.5	190	13	9	96	39		
3	51	42	47	18	33.3	0	T	R	360	6.5	330	13	7.7	89	39		
4	50	39	45	20	29.9	0	T		310	8.5	290	21	7.4	70	44		
5	46	37	42	23	28.1	0	T		320	8.7	300	15	6	72	43		
6	47	28	38	27	28.3		0		190	6.2	200	12	3.3	85	45		
7	51	38	45	20	36.8		0	F	190	7.2	200	12	7.6	93	61		
8	44	40	42	23	36.4	0.13	0.56	RF	80	12.4	90	34	10	100	60		
9	61	41	51	14	50.6	0.44	1.51	RTF	190	12.5	180	48	* 9.6	100	93		
10	58	28	43	22	28	0	T	R	320	15.9	290	32	6.8	96	44		
11	32	20	26	39	4.6		0		340	16.5	320	34	0.3	50	29		
12	30	18	24	41	3.8	0	T		330	12.1	300	38	2.1	56	28		
13	38	17*	28	37	14	0	T		220	9.7	330	22	3.3	74	35		
14	44	31	38	27	26.1	0.07	0.16	RSF	210	14.5	270	40	5.9	92	38		
15	42	29	36	29	20.2		0	S	350	9.7	330	28	3.6	78	37		
16	43	28	36	29	17.1		0		20	7.1	40	19	1.4	63	36		
17	45	27	36	29	20.7		0		200	6.4	200	14	0	78	36		
18	43	34	39	26	33.8	0.02	0.2	RF	130	6.2	210	13	9.3	96	64		
19	43	38	41	24	37.9	0.18	1.15	RF	60	6.2	60	9	10	100	86		
20	51	38	45	20	37.9		0	FH	60	6.6	80	21	8.4	100	71		
21	42	33	38	27	31.9	0.14	0.3	ILRF	70	14.2	90	41	10	92	79		
22	37	30	34	31	27.4	0.07	0.29	ZLRSF	10	8.8	20	20	7.7	100	64		
23	47	29	38	27	24.3		0	SW	280	9.2	280	25	1.4	78	38		
24	48	31	40	25	21		0		10	6.4	270	19	1.7	82	29		
25	49	26	38	27	20.2	0	T		190	6.6	200	14	0	74	30		
26	71	35	53	12	38.8	0	T	R	220	10.1	230	24	2.3	82	40		
27	82	47	65		49.6	0	T	FH	250	10.8	260	33	0	93	37		
28	81	56	69		51.9		0		230	13.2	210	35	0	86	30		
29	81	60	71		49.4		0		290	10	300	27	0.5	75	29		
30	84	52	68		50.4		0		220	7.1	230	14	0.4	77	37		
31	85*	58	72		57.9		0		230	10.3	200	19	0	87	42		
mo	52.6	35.9	44.2	653	31.9		4.17			9.3			4.6	84.32258	47		
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B April 1998 MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	73	51	62	3	57.2	0.64	1.83	RTF		190	8.8	20	18	5.8	100	73
2	68	49	59	6	47.8	0.08	T	RFH		200	8	360	28	5.4	100	38
3	59	41	50	15	35.7	0	T			300	8.8	290	34	1.4	76	42
4	49	38	44	21	31.7		0			40	11.5	20	35	8.5	73	47
5	49	37	43	22	24.8		0			20	12.4	30	35	8.1	59	44
6	58	37	48	17	26.9		0			350	12	310	26	3.8	43	30
7	67	41	54	11	28.3		0			330	5.4	310	18	0	63	20
8	63	46	55	10	38.3	0.01	0.01	R		100	5.8	120	18	4.3	68	41
9	50	37	44	21	39.5	0.29	1.79	RTF		80	11.5	20	34	7.2	96	63
10	57	37	47	18	28.5	0.18	0.21	RF		10	10.2	10	25	3.5	96	26
11	61	37	49	16	23.4	0	T			360	5.4	330	12	0	65	18
12	60	38	49	16	29.2	0	T	R		230	5.2	200	21	0	79	30
13	69	37	53	12	29.8	0	T			190	3.9	200	10	0	73	19
14	64	43	54	11	39.5	0	T			110	6.2	120	20	3.6	89	41
15	63	48	56	9	49	0.04	0.1	RFH		50	3.2	230	11	8.2	96	72
16	60	46	53	12	50.2	0	T	RFH		90	4.9	120	19	7.1	100	80
17	78*	52	65		56.2	0.06	0.25	RTF		190	5	340	24	6.6	97	53
18	67	42	55	10	30.5	0	T			340	7.5	330	30	0.7	62	25
19	58	47	53	12	42.3	0.18	0.66	RF		100	6.3	110	20	10	96	33
20	58	43	51	14	41.6	0.05	0.01	RF		350	7.2	340	26	6.5	96	49
21	69	40	55	10	37.4	0	T			360	3.9	340	21	0	86	26
22	68	46	57	8	37.9		0			190	5.2	160	19	0.3	83	30
23	54	46	50	15	42.4	0.09	0.55	RF		30	9.5	20	27	8	93	57
24	73	47	60	5	40.3	0.01	T	R		310	8.2	350	36	* 5.1	86	28
25	65	49	57	8	35.1	0	T	F		350	10.4	310	33	0.3	96	27
26	53	43	48	17	37	0.12	0.61	RF		40	6.1	50	10	9.2	100	35
27	56	41	49	16	31.5		0			10	10.2	350	25	1.2	96	32
28	62	39	51	14	30.6	0	T			360	7.6	290	21	0.3	67	30
29	75	36*	56	9	38.4	0	T			250	7.6	260	21	0.4	85	31
30	73	57	65		53.7	0	T	R		240	5.9	250	10	6.4	90	59
mo	62.6	43	52.8	358	37.8		6.02				7.5			4.1	83.63333	39.96667
D	ailyC	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B May 1998 MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	74	56	65		57.6	0.13	0.56	RFH		150	5.5	120	18	7	100	75
2	71	55	63	2	56.6	0.12	0.04	RF		180	7.8	20	18	8	100	66
3	69	53	61	4	55	0.02	0.02	RFH		130	5.2	150	12	6.5	100	61
4	65	54	60	5	56	0.01	0.03	RFH		130	6.1	140	11	7.9	100	81
5	66	55	61	4	57.8	0.13	0.58	RFH		120	6.1	130	18	9.9	100	78
6	70	55	63	2	58.6	0	0	F		100	4.7	130	9	9.6	100	84
7	70	56	63	2	57.6		0	FH		190	5.2	130	20	6.8	100	68
8	59	55	57	8	55.4	0.05	0.21	RF		80	8.3	60	22	9.5	100	90
9	60	57	59	6	57.4	0.16	1.5	RF		60	13.4	20	30	10	100	87
10	58	53	56	9	55.3	0.45	1.85	RF		60	7.9	40	20	10	100	93
11	61	51	56	9	51.7	0.22	0.69	RF		50	9.8	60	25	10	100	75
12	63	51	57	8	44.8	0.01	0.01	R		90	11.6	50	22	8.7	96	43
13	67	43	55	10	42		0	F		90	6.9	50	19	1	96	47
14	79	42*	61	4	42.9	0	T	F		230	5	190	20	0.4	100	25
15	86	48	67		52.6		0	FH		50	4.2	30	21	0	96	35
16	86	57	72		56.7		0	F		130	5.7	170	12	0.9	96	38
17	71	55	63	2	52.1		0	F		90	5.8	80	10	4.4	93	63
18	84	48	66		52.1	0	T	RFH		360	5.3	350	30	0.5	100	35
19	88	60	74		57.5	0.01	0.01			340	6.4	280	25	2.5	84	38
20	89	57	73		55.9	0.01	T	RTF		180	5.5	170	12	0.9	90	47
21	81	57	69		49.6	0	T	F		340	8.9	330	32	2	93	23
22	70	52	61	4	39.5		0			350	11.7	330	26	0.6	64	37
23	76	45	61	4	40.1	0	T			340	7.2	310	20	0	83	26
24	81	47	64	1	40.8	0	T			220	4.7	310	18	0	64	22
25	68	60	64	1	55.3	0.15	0.19	RTFH		200	4.9	60	10	8	97	50
26	81	57	69		49.3		0	F		340	6.4	330	11	3	78	36
27	78	58	68		53.8		0	H		210	5.8	170	19	1	87	39
28	86	57	72		56.1		0	FH		210	5.6	170	14	1.3	93	33
29	93*	62	78		64	0.21	0.28	RTFH		220	9.4	340	42	2.6	100	50
30	86	63	75		60.8	0.01	0.01	F		210	5.1	350	20	0.5	100	40
31	90	63	77		66.4	0.2	0.38	RTFH		240	9.5	360	50	* 1.3	93	50
mo	75	54.3	64.6	85	53.3		6.36				7			4.3	93.64516	52.74194
D	ailyC	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B June		1998														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	74	56	65		51	0.23	0.27	RTF		350	9.2	310	25	2	100		27
2	79	49	64	1	51.4	0	T	RT		200	9.5	170	22	2.1	89		49
3	68	54	61	4	43.3	0	0	RT		330	12.2	300	31	2.2	84		33
4	69	49	59	6	37.8	0	T			330	10.7	300	30	0.1	71		29
5	70	51	61	4	36.9		0			330	10.1	320	25	2	57		32
6	72	53	63	2	39.6		0			350	10	340	30	2.1	55		33
7	67	49*	58	7	41.3	0.01	0.01	R		320	8.4	280	22	5.2	71		40
8	69	50	60	5	46.8		0			330	9.8	340	22	4	83		47
9	73	51	62	3	51.7		0			200	6.7	360	10	2.6	90		49
10	76	52	64	1	51.3	0	T	FH		190	5.7	170	20	1.6	96		29
11	73	61	67		56.9	0	T	R		160	8.7	140	23	9.8	90		46
12	70	62	66		63.5	0.25	1.14	RF		150	8.1	150	25	10	100		90
13	73	63	68		65.2	0.74	1.05	RTF		50	5.1	260	14	9.1	100		79
14	71	63	67		64.2	0.15	0.34	RF		290	4.1	250	9	7.7	100		81
15	77	59	68		64.8	0.08	0.43	RTFH		150	5	140	17	6.1	100		76
16	86	66	76		66	0.28	0.02	RTFH		250	6.8	290	31	7.3	100		48
17	85	64	75		64.5	0.27	0.33	RTF		280	7.7	270	20	3.6	100		50
18	83	66	75		63.6		0			320	7.4	320	18	3.8	90		49
19	86	63	75		62.6	0	T			290	4.8	250	16	2.6	87		46
20	89	68	79		66	0	T	T		210	3.9	180	24	2.5	90		50
21	87	68	78		67.4		0	FH		190	5.5	160	23	2.4	93		59
22	77	68	73		64.5		0	FH		210	5.9	170	10	10	90		74
23	76	68	72		67.3	0	T	RFH		200	5.8	200	13	10	93		79
24	89	70	80		70.2	0.04	0.06	RFH		210	4.3	110	17	6.5	93		61
25	95*	66	81		68.6		0	FH		260	5.5	260	17	0.4	100		43
26	93	74	84		71	0.03	0.03	RTFH		260	8.3	260	13	0.8	90		41
27	86	69	78		66.1	0	T	FH		320	10.3	300	32	4.3	93		50
28	80	61	71		59.6		0			210	6.6	200	13	2.5	90		54
29	79	64	72		65.2	0	T	RF		240	10.2	210	15	6.1	90		71
30	85	65	75		65.6	0.21	0.71	RTFH		240	9.3	350	33	* 6.6	100		47
mo	78.6	60.7	69.7	33	58.5		4.39				7.5			4.5	89.5		52.06667
D	aily C	limate	Data														
(U	noffic	ial, P	relimi	nary D	ata)												

TE	B July		1998														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP
1	78	62	70		54.5	0.01	0.01	R		320	12.4	310	35	* 3.0	87		39
2	83	63	73		54.6		0			350	5.7	340	18	1.1	75		37
3	86	66	76		56.1		0			40	4.1	190	13	3.6	81		32
4	85	64	75		59.9	0	0.01	H		220	4	190	9	3.9	84		38
5	82	65	74		59.9	0.14	0.19	RH		40	7	40	21	4.7	90		44
6	80	61	71		56.5		0			190	6.9	160	17	2.3	75		43
7	80	62	71		58.6	0	0	F		210	5	190	10	2.5	90		47
8	74	65	70		58.7	0.01	0.01	R		200	4.1	190	9	9.1	81		65
9	84	62	73		60.3	0	T			350	5.4	320	12	4.1	84		44
10	83	65	74		55.3	0	T	FH		330	9	360	24	1	87		34
11	81	58*	70		48.6		0			330	10.6	320	26	2	60		33
12	85	61	73		54		0			360	4.7	10	17	1.8	73		34
13	87	60	74		56.7		0			220	5.9	180	20	0	84		33
14	90	67	79		61.9		0			220	8.8	210	20	1.7	73		43
15	88	70	79		65.6		0			220	7.5	180	13	3.5	81		51
16	88	73	81		67.2	0	T	H		210	5.5	170	20	4.5	79		50
17	93	72	83		68.7	0.31	0.41	RTFH		320	2.9	280	13	5.2	90		48
18	88	70	79		60.6		0	F		10	7	330	16	3.3	87		37
19	85	68	77		61.8	0	T			190	5.8	170	12	3.4	76		46
20	87	72	80		67.4		0	H		280	7.9	250	23	4.2	84		55
21	93	66	80		66.2	0.04	0.04	RFH		270	4.7	230	18	1.7	87		37
22	93	75	84		66.8		0	H		310	8.4	290	23	1.1	82		38
23	93	72	83		66.3	0.04	0.05	RTFH		260	7	230	18	3	90		29
24	86	68	77		56.9		0			10	7.3	330	12	4.2	81		35
25	84	61	73		50.9		0			360	4.8	280	16	3.4	70		31
26	83	65	74		50.8		0			30	4.1	70	16	0.7	65		30
27	85	63	74		59	0	T			200	8.1	170	21	4.7	78		40
28	89	69	79		64.3		0			220	9.7	170	13	3.7	78		31
29	94*	72	83		65.6	0.02	0.02	FH		250	8.1	260	18	3.4	90		37
30	90	68	79		61.4	0.08	0.11	RH		220	5.3	190	10	4.5	84		35
31	82	66	74		59.1	0.11	0.37	RFH		50	6.3	30	17	7	90		36
mo	85.8	66.2	76	0	59.8		1.22				6.6			3.3	81.16129		39.74194
	Daily	Climat	e Data														
(U	noffic	ial, P	relimi	nary D	ata)												

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE B Augu st 199 8

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	80	59	70		47.5		0		30	5.8	10	16	0	67	28	
2	83	56	70		50.1		0		230	5.4	220	17	0.5	80	29	
3	87	60	74		53.4	0 T			220	3.6	360	8	1.8	81	29	
4	88	64	76		57		0		60	4.4	70	12	0.8	78	32	
5	90	66	78		55.8		0	H	220	4.5	210	18	1.4	81	33	
6	89	65	77		56.2		0		230	2.7	210	14	0	70	35	
7	86	64	75		57		0		140	6.3	130	22	0	84	32	
8	87	64	76		61.6		0		200	6.1	170	17	1.5	87	37	
9	89	70	80		65.1	0 T			190	6.6	180	13	1.6	87	45	
10	88	73	81		68.4	0.47	0.57	RTF	210	7.5	180	14	6.7	90	55	
11	89	70	80		67	0.03	0.06	R	250	7	260	12	4.3	93	45	
12	85	67	76		59.4		0		360	7.3	340	12	3	84	40	
13	80	66	73		60		0		210	8	190	13	6.4	84	50	
14	79	65	72		59.8		0		210	8.3	190	16	5.3	87	54	
15	85	68	77		60.7	0 T		R	210	6.5	200	17	3.1	78	45	
16	92	68	80		65		0		210	3.5	200	10	1.2	87	42	
17	78	73	76		71	0.8	1.36	LRTFH	60	4	360	9	9.4	97	79	
18	89	65	77		66.3	0.03	0.05	RFH	350	7.4	20	26	3.6	97	47	
19	89	58	74		42.9		0		40	9	310	23	2.1	81	32	
20	80	54*	67		47.5		0		360	4.6	300	22	0	74	29	
21	87	57	72		56.6		0		310	4.6	290	9	2	78	39	
22	85	66	76		62		0		210	6.2	190	20	1.6	87	46	
23	90	70	80		66.7		0	FH	210	5.3	250	12	4.4	87	43	
24	91	73	82		62.6		0	H	250	10.5	240	28	* 0.8	79	12	
25	93*	70	82		63.4	0 T		RTH	280	9	240	24	2.8	76	36	
26	90	71	81		69.6	0.2	0.38	RTF	280	7	280	13	7.8	93	54	
27	86	72	79		62	0.01	0.01	RH	30	6.1	20	12	4	82	45	
28	83	71	77		62.6	0 T		FH	50	8.6	100	24	6.3	87	40	
29	90	67	79		62.7		0		290	6.4	270	20	1.9	78	43	
30	90	65	78		61.6		0	FH	340	2.8	260	10	1.5	87	35	
31	85	66	76		57.7		0		30	5	20	9	2.6	71	40	
mo	86.5	65.9	76.2	0	60		2.43			6.1			2.9	82.96774	40.35484	

D aily C limate Data
(U noffic ial, P relimi nary D ata)

TE B Sept ember 1998

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	83	60	72		53.8		0		40	4	150	7	2.4	75	36	
2	80	61	71		60	0.13	0.22	RF	200	5.3	160	25	5.3	93	50	
3	80	57	69		57.5	0.01	0.01	FH	240	4.1	230	17	0.8	100	38	
4	82	63	73		59.6		0	FH	40	4.9	110	10	2.4	87	45	
5	81	62	72		50.1		0		330	8.1	340	21	0.6	70	31	
6	91	61	76		54.5		0		280	9	250	24	0	63	27	
7	88	65	77		62.5	0.16	0.51	RTF	230	6.1	350	58	* 3.7	93	45	
8	76	57	67		51.6	0.1	0.41	RF	350	8.4	340	22	3.6	93	38	
9	69	53	61	4	46.4		0		330	11.8	310	31	2.6	71	45	
10	72	55	64	1	45.1		0		330	9.9	330	22	1.3	72	36	
11	80	51	66		33.8	0 T		R	320	5.2	310	18	1.3	75	14	
12	89	58	74		56.4		0		270	4.6	240	15	1.9	83	36	
13	83	66	75		60.6		0		40	4.6	180	10	3.4	87	40	
14	84	64	74		64.8		0		210	7.1	150	23	6.7	90	60	
15	92*	67	80		66.4		0	H	230	8.5	200	22	1.7	87	52	
16	88	70	79		63.9	0.02	0.06	FH	50	6.3	50	13	6.1	90	35	
17	80	63	72		54.4		0		30	4.8	210	10	6	90	35	
18	75	60	68		56.5		0	F	120	6.4	120	21	2.7	100	55	
19	78	59	69		59.2	0 T		FH	220	4.6	180	9	2	90	50	
20	87	60	74		62.3	0 T		RFH	200	5.2	180	21	2.7	93	50	
21	85	66	76		66.7	0.04	0.04	RTFH	230	6.3	200	12	5.2	90	57	
22	75	60	68		63.7	0.04	0.07	RTFH	20	6.6	210	12	6.3	93	69	
23	67	48	58	7	32.7		0		360	8.5	10	22	0	75	19	
24	71	42*	57	8	36.9		0		200	5.2	190	14	0.7	73	25	
25	72	48	60	5	53.5	0.02	0.04	RF	240	3.7	240	15	6	90	57	
26	81	58	70		61.4		0	FH	230	3.7	240	9	4	93	54	
27	91	66	79		64	0.01	0.02	RTFH	250	7.7	270	30	1.4	90	41	
28	76	57	67		48.3	0.01	0.01		360	10.5	320	26	0.2	76	30	
29	75	44	60	5	30.2	0 T			220	4.4	180	17	0	82	19	
30	75	50	63	2	50.1	0 T		RH	220	4.6	190	17	6.4	90	25	
mo	80.2	58.4	69.3	32	54.2		1.39			6.3			2.9	85.13333	40.46667	

D aily C limate Data
(U noffic ial, P relimi nary D ata)

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE	B Octo	ber 19		98														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP	
1	76	50	63	2	44.9	0.03	0.15	RTFH	320	11.6	300	38	* 4.1	93	19			
2	67	45	56	9	28.8	0.01	0.01		310	9.3	320	30	0.6	51	24			
3	60	43	52	13	28.9	0.01	0.03	R	320	5	300	9	4.8	55	33			
4	58	49	54	11	38.6	0.01	0.08	RF	40	2.8	20	7	9.8	80	37			
5	71	49	60	5	40.1		0		30	5	20	12	3.3	77	26			
6	62	46	54	11	34.7		0		180	5.1		16	0.5	77	37			
7	65	46	56	9	46	0	T		190	6.4	200	13	8.7	75	58			
8	70	62	66		61	0.01	0.05	RF	190	5.7	190	24	9.8	97	65			
9	64	57	61	4	56.5	0.01	0.04	RF	50	8.3	40	17	10	93	78			
10	65	56	61	4	54.5	0.01	0.03	RFH	10	8.7	360	15	9.9	93	72			
11	74	58	66		51.7	0.01	0.03		10	10	360	18	5.1	78	51			
12	64	55	60	5	41.7	0.01	0.02	R	40	5.9	30	18	7.9	84	27			
13	64	57	61	4	49.1	0.13	0.19	RF	180	7.5	170	21	9.9	90	36			
14	68	51	60	5	48.1	0.2	0.37	RF	300	8.7	170	14	4.8	100	40			
15	64	44	54	11	33.2		0		350	7	320	18	3.2	83	30			
16	66	41	54	11	39.1	0	T		350	3.2	360	8	0.4	86	39			
17	66	44	55	10	32.5		0		210	4.9	200	10	1.6	89	24			
18	80*	49	65		46.9		0	FH	230	8.6	220	24	1.2	93	33			
19	73	49	61	4	45.3	0	T	R	360	8.4	320	22	1.8	78	30			
20	68	42	55	10	35.5		0		330	7.3	320	23	0	89	21			
21	58	43	51	14	36.1	0.02	0.02	R	310	8.2	290	26	5	73	49			
22	55	40	48	17	32		0		350	8.7	330	22	1.4	79	38			
23	64	35*	50	15	33.1	0	T		310	6	310	18	0	79	29			
24	74	44	59	6	39.9		0		270	7.2	300	12	0	73	31			
25	74	45	60	5	37.9		0		320	4.5	330	10	0.1	74	26			
26	62	48	55	10	45.5		0		140	4.5	110	9	1.9	86	46			
27	60	49	55	10	45.6	0	T	R	130	4.6	120	9	5.9	86	62			
28	64	44	54	11	50.5	0.07	0.15	RF	220	6.9	230	14	6.8	96	67			
29	57	44	51	14	36.9	0	0		350	10.4	330	28	2.7	90	38			
30	59	39	49	16	31.3		0		330	10.7	330	28	0	76	28			
31	59	37	48	17	34.6		0		350	8.7	330	20	0	89	42			
mo	65.5	47.1	56.3	263	41.3		1.17			7.1			3.9	82.64516	39.87097			
D	aily C	limate	Data															
(U	noffic	ial, P	relimi	nary D	ata)													

TE	B Nove	mber 1		998														
Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R	AvSLP	
1	57	35	46	19	36.8		0		350	7	340	22	4.3	92	49			
2	57	41	49	16	33.3		0		340	9.7	300	21	3.4	74	38			
3	53	33	43	22	26.1		0		340	7.1	330	17	0	78	35			
4	50	30	40	25	24.1		0		350	6.6	330	23	1.8	78	34			
5	52	24*	38	27	27.4	0	T		360	3.7	340	10	0	88	41			
6	49	31	40	25	26.6	0	T		360	7.7	330	20	0.5	85	39			
7	53	31	42	23	32.1	0	T		310	8.4	270	23	5.2	82	50			
8	49	38	44	21	33.6		0		320	6	290	9	8.7	82	52			
9	56	35	46	19	34		0		320	3.8	280	9	3.2	85	41			
10	57	35	46	19	43.2	0.02	0.04	R	160	8.3	150	23	6.8	100	74			
11	66*	46	56	9	45.1	0.1	0.32	RF	290	11.8	300	35	5.1	100	27			
12	54	37	46	19	30.3	0	T		280	9.2	280	20	0.4	70	39			
13	55	40	48	17	32.9		0		270	6.4	270	20	7.4	79	45			
14	59	41	50	15	44		0		180	4.6	180	16	4.3	100	60			
15	63	43	53	12	41.2		0		320	8.7	320	30	2.3	100	40			
16	54	34	44	21	36.3	0	T		220	5.7	270	9	3.3	89	52			
17	50	43	47	18	47.2	0.02	0.03	LRF	20	5.8	30	9	9.7	104	86			
20	64	48	56	9	53.6	0.03	0.09	RFH	350	5.1	340	20	9.3	100	87			
21	50	39	45	20	36.6	0	0		310	10.3	310	30	4.3	100	56			
22	49	28	39	26	32.8		0		220	6.3	330	24	1.4	96	53			
23	59	34	47	18	39.2		0	F	230	9.6	200	15	1.5	104	49			
24	59	41	50	15	35.8		0		330	10.8	300	31	3.3	77	36			
25	52	29	41	24	35.5		0		200	4.6	190	10	0.3	100	54			
26	55	43	49	16	47.4	0.21	0.63	RF	160	11.7	150	35	7.9	100	77			
27	50	40	45	20	35	0.01	0		320	11.3	320	37	* 3.4	100	50			
28	65	33	49	16	42.2		0		280	7.3	270	14	0	100	24			
29	63	38	51	14	45.1		0	F	80	2.4	130	8	1.7	100	53			
30	63	44	54	11	47.1		0	FH	100	4	90	7	6.1	100	60			
mo	55.8	36.9	46.4	516	37.3		1.11			7.3			3.8	91.53571	50.03571			
D	aily C	limate	Data															
(U	noffic	ial, P	relimi	nary D	ata)													

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B Dece MxT	mber 1 MnT	AvT	998 HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	61	37	49	16	33.2		0	F	330	10.4	310	36	1.3	100	25	
2	66	37	52	13	29		0		240	10.1	250	24	0	72	22	
3	71	46	59	6	44		0		230	9	240	21	0.1	100	36	
4	75	51	63	2	52.1		0	F	280	7.5	320	22	0	100	44	
5	56	48	52	13	43.3	0.03	0.05		70	2.9	10	6	7.1	100	49	
6	68	49	59	6	51.2	0 T		RFH	210	3.6	220	30	4.4	100	68	
7	77*	50	64	1	47.9	0.01	0.02	RF	220	10.2	280	35	3.6	100	23	
8	50	44	47	18	42.1	0.06	0.17	LRFH	70	5.9	120	13	9.8	100	54	
9	49	36	43	22	34.4	0.01	0.01		10	7.5	360	17	2.1	96	49	
10	50	28	39	26	33		0		260	4.3	230	17	0.4	100	56	
11	49	29	39	26	32.8	0 T			350	8.4	340	30	1.1	96	58	
12	48	25	37	28	28.3		0		240	5.7	230	16	3.1	100	47	
13	45	29	37	28	29.2		0		30	3.4	10	23	4.8	92	49	
14	45	28	37	28	19.5		0		30	9.2	10	23	0.4	61	33	
15	52	23	38	27	22.7		0		240	6.7	250	15	0	81	37	
16	54	30	42	23	26.7		0		240	2.6	220	6	2.9	79	40	
17	44	37	41	24	32.2	0.01	0.01	RF	320	6.6	290	16	6.7	86	52	
18	41	23	32	33	16.7		0		350	9.6	310	28	1.4	63	32	
19	49	25	37	28	27	T			230	5.4	230	17	5.2	70	47	
20	50	40	45	20	33.7	0 T		R	50	3.8	10	8	9.3	89	53	
21	54	44	49	16	43.9	0 T		FH	180	6.1	180	13	8.9	100	60	
22	63	21	42	23	30.4	0.03	0.06	RF	330	17.1	290	38	6.9	96	25	
23	28	17	23	42	5.2	0 T		S	360	5.8	330	18	4.2	74	28	
24	32	22	27	38	14.2	0.04	0.06	SFH	350	6	350	9	8.6	92	41	
25	35	13*	24	41	11.6	0 T			320	4.8	310	7	0	71	38	
26	33	14	24	41	15.5		0	H	260	2.3	120	9	1.3	88	49	
27	38	16	27	38	18.4		0		220	4.7	200	10	2.7	84	44	
28	45	33	39	26	31.7	0.01	0.01	R	30	3.8	20	10	8.2	100	58	
29	38	36	37	28	36.6	0.12	0.56	RFH	50	5.3	350	8	10	100	85	
30	38	16	27	38	13.6	0.02 T		R	350	12.8	330	38	* 5.3	100	34	
31	25	16	21	44	10.5		0		280	7.8	270	10	2.8	74	46	
mo	55.8	36.9	46.4	516	37.3		1.11			7.3			3.8	91.53571	50.03571	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B June MxT	1997 MnT	AvT	HrlyT	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	78	63	70	68.1	61.2	0	0	F	90	7	100	12	8	97	54	
2	69	59	64	61	56.9	0 T		RF	50	9.4	60	12	10	93	75	
3	63	50	56	55.6	44.2	0.09	0	R	60	8.8	100	14	9.1	86	46	
4	73	54	63	60.1	43.9	0 T			80	7.6	40	12	0.3	80	40	
5	77	50	63	62.1	45.5	0 T			200	7.2	190	14	0.3	74	38	
6	70	54	62	60.6	47.5		0		190	6.9	200	14	3.6	80	47	
7	66	54	60	58.5	46.3		0		70	5.6	70	10	5.9	80	48	
8	72	52	62	61.2	46.4	0 T			180	6.7	130	20	0	90	29	
9	79	49*	64	64.6	47.2		0		160	5	180	12	0.1	80	29	
10	90	55	72	75.3	53.2	0 T			320	5.5	300	18	0.2	80	28	
11	91	63	77	78.9	53.8		0		290	8	270	22	0	75	26	
12	92	68	80	78.6	54.4		0		250	9.6	230	27	1	80	15	
13	81	67	74	71.9	66.4	0.55	0.74	RTFH	200	7.7	200	24	5.2	100	62	
14	80	62	71	71.1	54.1		0	F	330	7.8	330	21	0.7	93	39	
15	76	51	63	65	44.2		0		180	7	210	14	0	74	33	
16	75	51	63	64	47.2		0		180	6.2	160	13	0	80	34	
17	79	54	66	65.5	55.9	0 T		F	160	5.3	190	10	4.6	90	51	
18	74	64	69	66.6	63.6	0.43	0.01	RTFH	100	5.9	140	10	9.9	100	78	
19	85	64	74	77.4	62.9	0.43	0.43	RF	340	7.8	320	15	3.1	100	44	
20	91	64	77	75.9	63.5		0	FH	240	6.3	200	12	0.1	87	48	
21	93	72	82	82.1	68.8		0	H	210	9.9	230	17	0.7	82	47	
22	93	74	83	82.5	71.2	0.23 T		RTFH	220	9.7	290	40	* 2.0	87	50	
23	93	69	81	79.2	55.4		0		350	10.5	330	26	0.5	64	34	
24	85	58	71	74.4	60.8	0 T			260	5.6	290	14	3.7	83	50	
25	95*	68	81	83.5	68.2		0	FH	280	7.6	300	24	0.2	87	41	
26	92	69	80	80.1	67.8	0 T		RH	320	8.7	20	35	1	84	47	
27	84	66	75	75.2	55.3		0		350	8.4	320	20	0	84	30	
28	86	60	73	74.2	53		0		220	6.3	150	12	0	78	32	
29	89	61	75	76.7	56	0 T			200	5.3		17	0.5	81	29	
30	88	65	76	77	59.1		0		220	7.3	180	22	2	73	37	
mo	82	60.3	71.2	70.9	55.8		1.18			7.4			2.4	84.06667	42.03333	
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE B July 1997

Dy	MxT	MnT	AvT	HrlyT	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	84	67	75	75.4	64		0		220	6.9	180	14	1.4	90	49	
2	79	69	74	73.4	67.1	0.03	0.04	R	220	5.7	200	12	8.5	93	66	
3	86	72	79	77.1	71.4	0.03	0.05	R	190	10.3	200	14	6.9	97	58	
4	86	70	78	78.5	63.7		0		300	12.4	290	34	0.4	93	35	
5	82	65	73	73.1	52.2		0		330	8.1	320	13	2.5	84	34	
6	84	59	71	72.8	55		0		210	6.3	200	18	1.1	76	35	
7	85	63	74	72.7	63.1	0.04	0.04	RWTH	220	6.1	190	20	2.3	87	51	
8	88	61	74	75.9	63		0	FH	200	6.9	180	15	1.1	97	46	
9	93	67	80	76.4	67.6	0.15	0.37	RTFH	220	10.4	320	44	* 4.8	97	44	
10	81	64	72	72.5	57.8		0		40	8.6	20	24	5	97	42	
11	85	62	73	74.5	55.1		0		40	6.1	40	11	0.3	72	36	
12	87	63	75	77.2	56.9	0	T		330	6.1	310	17	0	75	33	
13	92	65	78	80.8	63.2		0		320	6	260	19	0	84	41	
14	93	67	80	85.8	63.3		0		270	7.7	220	13	0	74	33	
15	1	74	37	85.4	71.4		0	FH	220	5.7	110	20	1.1	88	49	
16	93	73	83	81	74.4		0	FH	120	5.7	110	10	3	97	66	
17	98*	71	84	86	67.9		0	FH	260	7.8	270	19	0.1	97	33	
18	93	70	81	81	66.8	0.14	0.25	RTFH	290	8.4	280	38	2.3	93	35	
19	83	61	72	73.4	54.7	0.01	0		340	12.2	320	30	0	87	33	
20	81	56*	68	68.6	50.1		0		260	6.6		22	0	75	30	
21	88	59	73	74.3	64.1	0.23	0.58	RTFH	210	7.9	210	29	2.8	93	57	
22	85	64	74	70.8	61.8	0.35	0.32	RTF	40	7.1	20	22	4	100	47	
23	79	65	72	71.3	59.7		0		110	6		17	1.5	90	43	
24	67	59	63	62.3	59.7	1.18	5.16	RF	80	9.5	90	22	9.6	100	78	
25	82	59	70	69.7	59	1.18	1.16	RF	20	7.1	20	21	4.7	100	44	
26	86	61	73	74.7	61.2		0		220	5.1	220	11	0.6	93	37	
27	88	72	80	80.6	73.2	0	T	FH	220	6.8	180	13	3.9	91	68	
28	89	73	81	81.4	69.2	0	T	F	350	8.2	250	19	1.4	91	55	
29	82	65	73	74.5	52		0		10	8.9	20	22	0	76	26	
30	81	58	69	70.5	49.6		0		10	6.5	40	10	0.4	70	33	
31	88	61	74	75.3	57.4		0		250	4.8	250	11	0.2	78	36	
mo	82.9	65	73.9	75.7	61.8		7.97			7.5			2.3	88.22581	44.29032	

D aily C limate Data
(U noffic ial, P relimi nary D ata)

TE B Augu st 199 7

Dy	MxT	MnT	AvT	HrlyT	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	86	62	74	77.2	60		0		270	7.5	270	21	0	84	38	
2	87	71	79	79.6	64.2	0	T		280	10	250	24	1.6	79	48	
3	89	68	78	77.3	66.5	0	T	RFH	290	6.2	250	21	1.9	87	52	
4	89	65	77	72.4	62.4	0.03	0.08	RH	360	5.4	340	12	6.3	97	54	
5	80	62	71	69.2	61.6	0.16	0.26	RTF	350	5.1	70	18	6.3	100	52	
6	80	59	69	69.2	54.7	0	T		360	5.8	60	18	2.2	97	36	
7	83	58	70	70.2	54.2		T		30	5.2	250	20	0.4	87	33	
8	83	60	71	70.5	55.4	0	T		40	3.6	70	6	2.1	84	41	
9	89	63	76	76.8	60.7	0	T		240	5	300	18	1	84	39	
10	87	65	76	76.3	63.7	0	T	RH	210	8	190	14	0	84	48	
11	87	65	76	76.6	66.5		0	FH	220	8.1	180	14	0.7	93	53	
12	88	70	79	75.4	65.1	0	T	R	50	8.3	30	21	6.1	84	56	
13	83	71	77	76.4	71	0.02	0.03	RFH	220	8.2	180	12	8.6	94	74	
14	85	70	77	76.1	65.8		T		10	5.5	340	10	3.5	93	46	
15	84	67	75	74.9	67.9		0	FH	190	8	180	14	3.6	97	55	
16	95*	72	83	80	73.7	0.32	0.23	RTFH	230	9.2	290	52	* 5.7	100	52	
17	92	72	82	79.4	71.9	0.19	0.09	LRF	320	5.8	320	30	3.3	100	47	
18	79	63	71	69.4	60.6	0.13	0.48	RF	20	8	70	17	5.2	100	45	
19	76	57	66	67.2	54.8		0		10	4.1	40	9	0.4	84	48	
20	72	61	66	64.4	59.8	0.14	0.52	RF	110	6.3	100	20	5.1	100	61	
21	71	62	66	66	64.2	0.07	0.2	RF	80	9.5	80	25	7.4	100	81	
22	80	60	70	68.8	61.1	0	T	F	230	6.3	240	15	5.3	100	52	
23	75	57	66	66.9	57.1	0	T		320	8.6	330	21	2.5	90	57	
24	77	53*	65	66.9	55.9	0		0	350	4.7	350	10	0.7	96	48	
25	80	61	70	70.4	60		0		210	4.3	190	9	3.5	90	48	
26	81	62	71	71.2	61.8		0	F	220	4.7	200	12	1.6	97	52	
27	81	59	70	71.2	61.8		0	F	210	7.7	190	17	2.2	97	50	
28	73	65	69	69	65.4	0.19	0.37	RF	190	4.2	160	10	8.9	100	73	
29	80	65	72	70.5	64	0	T	RF	360	5.7	340	12	4.5	100	62	
30	81	61	71	71.4	60.7	0	T		30	4.7	360	9	1.5	90	42	
31	82	60	71	71.9	62.3	0	T	F	210	5.2	190	12	1.6	96	49	
mo	82.4	63.4	72.9	72.3	62.4		2.26			6.4			3.3	93.03226	51.35484	

D aily C limate Data
(U noffic ial, P relimi nary D ata)

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE Dy	B Sept MxT	ember MnT	AvT	HrlyT	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	83	67	75	73.7	68.9	0.07	0.15	RFH		210	3.5	160	11	5.7	100	65
2	87*	65	76	75.4	69.9		0	FH		240	6.6	250	20	3.5	100	63
3	76	54	65	66.9	53	0.01	0.01	RFH		350	11.9	330	26	1.9	93	39
4	71	51	61	59.6	42		0			350	10.3	360	25	0.3	77	32
5	76	48	62	63.5	47.4	0	T			310	6.6	300	19	0	83	34
6	79	55	67	67	55.9		0			220	4.3	180	13	0.3	93	43
7	82	56	69	70.2	60.4	0	T	FH		290	4.7	260	12	0.9	96	49
8	74	63	68	68.5	62.5	0	T	F		40	7.6	40	12	5.6	97	68
9	71	62	66	65.9	59.5	0	T	FH		80	7.3	80	17	6.5	90	70
10	69	60	64	65.6	59.6	0.01	0.15	RF		90	8.7	100	12	9.7	90	70
12	70	63	66	65.5	64.5		0	F		330	6.3	320	7	0	100	97
13	72	61	66	62.3	59.8		0	F			0.5		1	0	93	90
14	73	60	66	61.5	58.3		0			340	1.7	330	5	0	90	87
15	79	58	68	62	56.9		0	F		340	1.4	330	4	0	90	78
16	82	58	70	63.7	59.1		0	FH		340	2.2	330	6	0	93	76
17	79	59	69	64.8	59.2		0	F		240	4.2	220	11	0	93	62
18	81	60	70	70.2	61.6		0	FH		20	4.2	210	12	3	93	45
19	84	57	70	69.1	58.6	0	T			230	5.8	260	12	0	96	43
20	84	57	70	69.5	62.2	0.02	0.05	RTFH		250	12.3	260	33	4.7	97	63
21	64	49	56	56.3	40.9		0			360	10.5	340	26	0.4	77	41
22	70	40	55	56	44.7	0	T	R		240	5.6	230	25	0	93	39
23	64	53	58	59.5	53.7	0	T	R		250	8.7	280	13	4.1	93	69
24	60	47	53	53.2	41.7		T			350	7	320	10	0	86	44
25	68	39*	53	55.5	48.4	0	T	RF		220	5.7	210	22	2.2	100	56
26	73	48	60	61.1	51.1	0.01	0.01	F		350	8.3	360	30	1.1	100	46
27	69	45	57	56.6	49.7		0			20	4.7	20	10	0.7	100	56
28	71	51	61	60.8	58	0.37	0.83	RF		110	9.5	90	26	7.3	100	66
29	73	60	66	66.4	57	0.37	0.11	LRF		250	13.4	280	37	* 4.9	100	46
30	73	57	65	65	53.3	0	T	R		260	14.8	260	34	2.5	83	51
mo	74.4	55.3	64.8	64	55.8		1.31				6.8			2.3	92.96552	58.2069
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

TE Dy	B Octo MxT	ber 19 MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	60	43	52	13	40.8		0			360	10.3	340	25	3.2	90	45
2	61	33	47	18	38		0			320	5.6	260	11	2.4	92	46
3	66	48	57	8	50.3	0	T			200	5.5	210	11	5.7	90	60
4	71	56	64	1	58.5		0			190	5.2	180	12	5.7	97	66
5	81	58	70		61.7	0	T	RFH		220	4.3	280	10	2.9	100	47
6	87*	57	72		59.7		0	FH		330	6.1	330	21	0.8	100	37
7	79	53	66		49.6		0			20	4.6	350	9	0.9	87	32
8	74	59	67		54.5		0	F		50	5.1	210	11	5.1	96	38
9	80	55	68		61.8		0	FH		210	5.2	180	11	0.3	100	62
10	83	61	72		56.6	0.01	0.01	RFH		340	10.1	10	21	0.7	100	34
11	67	48	58	7	42		0			30	5.6	360	20	0	83	35
12	70	42	56	9	45		0	F		230	3.7	220	11	0	100	45
13	69	47	58	7	54.4		0	F		220	4.1	180	11	7	100	73
14	69	55	62	3	58.5	0	0.01	RF		180	5.4	190	12	9.2	100	70
15	61	52	57	8	52.3	0.12	0.46	RF		30	8.8	20	20	10	100	83
16	56	49	53	12	44.8	0.03	0.03	RH		40	7.8	20	12	9.7	90	56
17	60	40	50	15	36.9		0			40	6.7	30	11	1.2	80	40
18	62	47	55	10	41.1	0.01	0.01	R		40	5.7	10	10	3.7	89	48
19	55	47	51	14	44		0			30	8.5	30	19	2	93	61
20	66	42	54	11	39.8		0			360	9.7	340	28	1.4	89	29
21	58	42	50	15	34.7		0			270	9.2	340	21	0.1	76	41
22	53	36	45	20	27.1		0			310	10	310	30	0	76	28
23	51	28*	40	25	25.2	0	T			270	8.6	260	22	3.6	78	39
24	61	42	52	13	32.2	0.02	0.1	RF		220	5.1	230	10	6.8	100	31
25	51	43	47	18	45.4	0.09	0.54	RF		40	8.7	20	21	8.7	100	80
26	50	35	43	22	39.4	0.09	0.42	RF		90	5.6	100	13	5.2	96	63
27	60	46	53	12	53	0.09	0.27	RF		320	10.9	310	30	6.9	100	87
28	51	33	42	23	26.3		0			350	12	310	37	* 4.7	82	37
29	60	30	45	20	30.5		0			240	6.3	240	22	0	89	30
30	65	33	49	16	37.8	0	T	F		220	3.1	280	9	0	100	30
31	67	38	53	12	47.5		0	FH		40	5.1	160	22	3.4	100	52
mo	64.6	45.1	54.9	332	44.8		1.85				6.9			3.6	92.67742	49.19355
D	aily C	limate	Data													
(U	noffic	ial, P	relimi	nary D	ata)											

Appendix Q, Table 2
Teterboro Airport, Daily Climatic Conditions

TE B Nove mber 1 997

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	62	59	61	4	59.4	0.33	0.88	RF	110	8.9	90	33	9.4	100	90	
2	62	43	53	12	53.4	0.67	0.69	RTF	240	11.1	190	25	6.5	100	71	
3	65	37	51	14	43.4	0 T		FH	210	6.3	200	24	1	100	40	
4	62	40	51	14	44.7	T		F	290	7.6	250	26	2.7	100	62	
5	58	33	46	19	36.8	0 T			20	4.7	200	11	0	96	42	
6	55	36	46	19	38.7	T			80	7.7	60	14	3.2	100	47	
7	56	48	52	13	42.6	0 T		F	70	14.5	50	32	10	93	59	
8	49	46	48	17	46.4	0.25	0.86	RF	40	11.5	30	25	9.8	100	93	
9	50	46	48	17	46.4	0.17	0.46	LRF	30	9.1	20	21	9.7	100	76	
10	52	42	47	18	36.5		0		320	10.1	290	20	2.8	76	56	
11	51	38	45	20	31.8		0		330	8.5	320	22	3.1	79	47	
12	47	33	40	25	25		0		290	7.7	300	30	3.1	78	43	
13	42	28	35	30	22.2	0.05	0.09	R	70	6.2	60	18	4	89	36	
14	35	32	34	31	33	0.09	0.49	ZLRSF	40	10.9	60	26	10	100	85	
15	37	31	34	31	29.9	0 T		LSF	350	7.7	340	14	9.8	100	72	
16	39	30	35	30	25.9	0.01	0.01	SF	330	11.9	310	48 *	5.5	100	49	
17	41	24	33	32	24.4		0		270	9.8	250	25	1.5	92	56	
18	48	24	36	29	24.1	0 T			230	3.6	300	9	0	92	45	
19	49	24*	37	28	28.2	0 T		RFH	220	3.4	210	11	0.4	100	45	
20	50	28	39	26	30.4		0		350	5.2	320	21	0.3	96	50	
21	67*	29	48	17	37.2	0.06	0.23	RFH	210	4.8	200	12	3.3	100	51	
22	47	38	43	22	41.4	0.14	0.5	RF	60	7.8	20	18	10	100	89	
23	44	34	39	26	36.8	0 T		LF	50	3.9	20	9	8.6	100	82	
24	41	30	36	29	22.9	0.01	0.01	F	340	13.9	320	35	4.2	100	41	
25	42	27	35	30	17.5	0 T			250	10.6	240	24	2.6	60	42	
26	54	34	44	21	30.4	0.02	0.02	R	230	9.6	250	21	3.4	79	43	
27	50	35	43	22	23.9		0		350	15.5	310	45	1.7	76	31	
28	47	35	41	24	33	0.02	0.02	R	250	5.1	200	13	7.8	82	55	
29	53	35	44	21	31.4		0		340	4.7	320	11	1.1	80	32	
30	44	32	38	27	37.4	0.04	0.08	RF	20	3.2	360	7	8.5	100	75	
mo	50	35	42.5	668	34.5		4.34			8.2			4.8	92.26667	56.83333	

D aily C limate Data
(U noffic ial, P relimi nary D ata)

TE B Dece mber 1 997

Dy	MxT	MnT	AvT	HDDay	AvDP	1HrP	TPcpn	WxType	PDir	AvSp	Dir	MxS	SkyC	MxR	Mn	R AvSLP
1	46	34	40	25	27.6	0.01	0.02	RF	350	17.1	340	40 *	5.6	100	48	
2	42	33	38	27	19.9		0		330	15.3	320	36	0	59	41	
3	53	25	39	26	24.1	0 T		R	250	6.1	280	11	0.8	78	36	
4	54	39	47	18	40.6	0.07	0.1	RFH	240	5	210	10	9.8	100	57	
5	48	34	41	24	34.7	0.04	0.14	RF	310	7.6	290	20	8	96	64	
6	39	26	33	32	20.6		0		280	10.9	270	26	2.1	75	46	
7	40	29	35	30	23		0		310	11.1	310	22	5.9	69	50	
8	44	30	37	28	26.6		0		350	9.8	340	22	4.6	72	49	
9	40	24	32	33	24.9		0		40	2.4	360	6	2.4	85	57	
10	40	33	37	28	30.4	0.11	0.53	RSFH	50	4.5	40	10	10	100	64	
11	33	32	33	32	28.1	0.01	0.02	RSF	50	7.1	20	11	10	96	72	
12	40	31	36	29	31.2	0.05	0.15	RSF	40	4.8	10	7	7.7	100	78	
13	38	29	34	31	24.3		0		280	9.3	290	14	6.1	82	54	
14	43	28	36	29	16.5	0 T		RS	310	13	320	38	1.1	70	31	
15	42	19	31	34	18.2		0		240	8	240	15	0	75	35	
16	57*	26	42	23	24		0	F	230	3.8	190	7	0	85	32	
17	55	27	41	24	27.1		0	FH	350	5.1	330	14	0	88	35	
18	46	24	35	30	24.8		0		360	3.4	360	7	0	84	43	
19	50	32	41	24	28.7		0		260	7.9	260	17	2.5	78	42	
20	48	31	40	25	31.5	0 T		F	350	7.7	350	13	3.3	92	50	
21	38	26	32	33	15.2		0		10	7.8	330	15	0.8	63	35	
22	36	20	28	37	16.8	0.1	0.13	ZRSF	50	5.5	90	11	4.9	96	39	
23	40	34	37	28	31.3	0.18	0.55	RF	360	9.9	80	20	9.2	89	64	
24	40	35	38	27	29.1	0.07	0	RF	180	5.1	310	10	7.3	85	57	
25	50	37	44	21	40	0.21	0.77	RF	270	7.3	280	22	5.4	100	71	
26	49	33	41	24	32.3	0 T		R	280	11.2	290	27	6	89	51	
27	40	32	36	29	30.1	0.03	0.15	RSWF	40	5.9	30	13	7.9	100	59	
28	39	25	32	33	22.8	0 T		F	360	6.5	350	14	2.5	92	44	
29	42	23	33	32	28.3	0.37	1.14	RSTF	70	7.5	30	34	7.6	96	62	
30	38	34	36	29	29.5	0.19	0.02	RSF	270	15.2	280	36	8.2	96	54	
31	35	17*	26	39	10.3	0 T			320	14.7	300	34	3.5	63	44	
mo	43.4	29.1	36.2	884	26.2		3.72			8.3			4.6	85.58065	50.45161	

Source www.erh.noaa.gov/er/box

Appendix Q, Table 3
New Milford Precipitation Data

New Milford, NJ Cooperative Station
1992 - 2001 Precipitation Data (inches)

COOPID 286146 WBNID 99999 ELEM PRCP

YEARMO	DAY01	DAY02	DAY03	DAY04	DAY05	DAY06	DAY07	DAY08	DAY09	DAY10	DAY11	DAY12	DAY13	DAY14	DAY15	DAY16
199201	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.44	0.00	0.00
199202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.11	0.01	1.00	0.07
199203	0.00	0.00	0.00	0.00	0.00	0.04	0.44	0.04	0.00	0.55	0.75	0.00	0.00	0.00	0.00	0.00
199205	0.06	0.03	0.01	0.00	0.00	0.00	0.00	0.54	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.46
199206	0.00	0.00	0.00	0.00	1.58	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199207	0.00	0.00	0.10	0.09	0.00	0.06	0.00	0.14	0.73	0.00	0.00	0.28	0.02	0.18	0.25	0.09
199208	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.95	0.00	0.63	0.00	0.02	0.26	0.02	0.19
199209	0.00	0.00	3.63	0.00	0.00	0.00	0.00	0.01	0.00	0.36	0.15	0.00	0.00	0.00	0.00	0.01
199210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.05	0.05	0.02	0.00	0.09	0.00	0.04
199211	0.00	0.38	1.61	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.49	0.00	0.00	0.00
199212	0.00	0.13	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.44	2.14	0.60	0.00	0.00	0.00	0.00
199301	0.00	0.00	0.05	0.00	0.68	0.00	0.00	0.00	0.00	0.07	0.00	0.31	0.28	0.03	0.00	0.00
199302	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.99	0.13	0.00	0.00	0.76
199303	0.00	0.00	0.00	0.74	0.20	0.00	0.00	0.00	0.00	0.14	0.00	0.00	2.40	0.26	0.09	0.00
199304	1.26	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.25	0.00	0.00	0.01	0.00	0.58
199305	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
199306	0.05	0.00	0.00	0.08	0.17	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199307	0.00	0.32	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.13	0.00	0.00
199308	0.57	0.01	0.00	0.00	0.00	0.19	0.17	0.01	0.31	0.00	0.00	0.09	0.64	0.00	0.00	0.54
199309	0.00	0.02	0.04	0.24	0.01	0.00	0.00	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.58	0.29
199310	0.00	0.03	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51	0.01	0.00	0.01	0.00
199311	0.02	0.00	0.00	0.00	0.62	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
199312	0.00	0.00	0.00	0.66	1.30	0.00	0.00	0.00	0.00	0.21	0.38	0.00	0.00	0.00	0.02	0.00
199401	0.00	0.01	0.15	0.65	0.00	0.00	0.36	0.46	0.00	0.00	0.00	0.43	0.00	0.00	0.01	0.00
199402	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.44	0.00	0.15	0.00	0.00	0.00	0.00	0.00
199403	0.00	0.49	0.61	0.00	0.00	0.00	0.00	0.09	0.42	1.09	0.00	0.00	0.00	0.00	0.09	0.00
199404	0.00	0.00	0.03	0.00	0.00	0.10	0.19	0.00	0.00	0.15	0.00	0.46	0.65	0.00	0.00	0.35
199405	0.26	0.00	0.00	0.02	0.04	0.10	0.36	0.42	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.39
199406	0.00	0.00	0.00	0.00	0.00	0.09	0.02	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00
199407	0.07	0.00	0.00	0.00	0.00	0.06	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199408	0.00	0.00	0.06	0.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.39	0.00	0.00
199409	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.01	0.00	0.00	0.00	0.01	0.00	0.00
199410	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199411	0.43	0.01	0.01	0.00	0.00	0.04	0.00	0.00	0.03	0.45	0.45	0.00	0.00	0.00	0.00	0.00
199412	0.00	0.00	0.00	0.00	0.79	0.00	0.07	0.00	0.04	0.62	0.10	0.00	0.00	0.00	0.00	0.00
199501	0.23	0.23	0.00	0.00	0.00	0.17	0.44	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.02	0.33
199502	0.00	0.00	0.00	0.73	0.00	0.01	0.00	0.00	0.00	0.00	0.15	0.04	0.00	0.00	0.13	0.00
199503	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.69	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.04
199504	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.64	0.00	0.00	0.28	0.21	0.00	0.00	0.00
199505	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.01	0.02	0.00	0.00	0.03	0.00
199506	0.00	0.00	0.15	0.01	0.00	0.00	0.00	0.08	0.00	0.00	1.08	0.31	0.01	0.00	0.00	0.00
199507	0.17	0.01	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.03
199508	0.00	0.00	0.00	0.20	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199509	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.28	0.02	0.00	0.00
199510	0.00	0.00	0.00	0.02	1.31	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.11	0.00
199511	0.19	0.55	0.00	0.00	0.00	0.00	0.47	0.01	0.01	0.00	1.83	0.60	0.00	0.64	0.08	0.00
199512	0.00	0.00	0.03	0.01	0.14	0.10	0.00	0.00	0.46	0.07	0.00	0.00	0.00	0.25	0.00	0.15

Appendix Q, Table 3
New Milford Precipitation Data

YEARMO	DAY17	DAY18	DAY19	DAY20	DAY21	DAY22	DAY23	DAY24	DAY25	DAY26	DAY27	DAY28	DAY29	DAY30	DAY31	Monthly Totals	Yearly Totals
199201	0.00	0.00	0.00	0.01	0.00	0.00	0.74	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	1.73	
199202	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.03	0.32	0.31	0.00	0.00	0.00	0.00	0.00	1.97	
199203	0.00	0.03	0.68	0.00	0.00	0.19	0.00	0.00	0.00	1.20	0.12	0.00	0.00	0.08	0.10	4.22	
199205	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.05	0.00	0.00	0.00	0.05	2.41	4.10	
199206	0.00	0.00	0.57	0.01	0.00	0.00	0.00	0.40	0.00	0.00	0.54	0.00	0.00	0.00	0.00	3.11	
199207	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.40	0.00	0.00	0.11	0.00	0.68	3.77	
199208	0.71	0.42	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.29	0.19	0.00	0.00	0.00	3.92	
199209	0.00	0.00	0.00	0.00	0.08	0.36	0.00	0.00	0.14	0.40	0.25	0.00	0.00	0.00	0.00	5.39	
199210	0.11	0.02	0.01	0.00	0.00	0.00	0.02	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.04	1.33	
199211	0.00	0.00	0.00	0.00	0.03	0.90	1.52	0.06	0.05	0.30	0.00	0.00	0.00	0.00	0.00	6.00	
199212	0.59	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.40	0.00	4.50	40.04
199301	0.00	0.00	0.00	0.00	0.16	0.49	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.22	
199302	0.02	0.00	0.00	0.00	0.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	
199303	0.95	0.00	0.00	0.00	0.21	0.00	0.32	0.50	0.00	0.00	0.00	0.37	0.00	0.00	0.00	6.18	
199304	0.01	0.00	0.00	0.00	0.37	0.86	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	4.31	
199305	0.00	0.02	0.32	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	1.51	
199306	0.00	0.00	0.00	0.98	0.24	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.17	0.00	0.00	2.13	
199307	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.50	0.01	0.00	1.80	
199308	0.70	0.10	0.00	0.00	0.02	0.00	0.00	0.00	0.13	0.00	0.00	0.01	0.00	0.00	0.00	3.49	
199309	0.12	0.07	0.00	0.00	0.42	0.00	0.06	0.00	0.27	1.42	1.25	0.00	0.00	0.07	0.00	5.11	
199310	0.02	0.00	0.13	0.53	0.69	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.86	0.37	4.48	
199311	0.42	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12	0.00	0.00	0.00	3.26	
199312	0.00	0.03	0.19	0.00	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.03	0.00	4.54	41.36
199401	1.55	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.51	0.08	1.71	0.00	0.00	0.00	6.15	
199402	0.00	0.00	0.00	0.00	0.28	0.00	0.27	0.36	0.00	0.07	0.00	0.00	0.00	0.00	0.00	2.40	
199403	0.00	0.25	0.00	0.00	0.43	0.17	0.00	0.00	0.01	0.00	0.47	0.47	0.47	0.00	0.00	5.06	
199404	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.11	0.00	0.00	2.44	
199405	0.42	0.05	0.23	0.01	0.00	0.00	0.00	0.08	0.09	0.00	0.00	0.00	0.00	0.00	0.00	2.56	
199406	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.50	0.00	0.07	0.00	0.27	0.31	0.00	1.61	
199407	0.00	0.01	0.00	0.00	0.00	0.21	0.58	0.00	0.00	0.42	0.66	0.75	0.00	0.03	0.00	3.31	
199408	0.80	0.07	0.45	0.00	0.34	1.37	0.01	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	4.32	
199409	0.00	0.00	0.00	0.00	0.00	0.13	0.47	0.00	0.00	0.09	0.13	0.03	0.00	0.00	0.00	1.32	
199410	0.00	0.01	0.00	0.14	0.00	0.00	0.23	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	
199411	0.00	0.07	0.00	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.32	0.88	0.00	0.00	0.00	4.01	
199412	0.15	0.00	0.00	0.00	0.00	0.00	0.14	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.07	2.24	36.24
199501	0.00	0.00	0.00	1.15	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62	
199502	0.00	0.00	0.00	0.00	0.03	0.00	0.04	0.11	0.00	0.00	0.00	0.49	0.00	0.00	0.00	1.73	
199503	0.04	0.00	0.00	0.00	0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	1.00	
199504	0.00	0.00	0.07	0.00	0.05	0.00	0.00	0.01	0.00	0.00	0.00	0.15	0.00	0.32	0.00	1.87	
199505	0.14	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.20	0.51	0.00	0.06	0.01	0.00	0.00	1.54	
199506	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	
199507	0.32	0.41	0.00	0.00	0.00	0.00	0.31	0.10	0.00	0.53	0.00	0.20	0.00	0.01	0.00	2.40	
199508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.56	
199509	0.57	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.46	0.47	0.00	0.00	0.00	0.00	0.00	2.24	
199510	0.00	0.00	0.00	0.11	1.35	0.00	0.00	0.00	0.00	0.00	0.41	1.66	0.00	0.00	0.00	6.19	
199511	0.01	0.09	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.27	0.01	0.00	4.80	
199512	0.00	0.00	0.15	0.27	0.09	0.04	0.04	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	1.83	29.03

Appendix Q, Table 3
New Milford Precipitation Data

YEARMO	DAY01	DAY02	DAY03	DAY04	DAY05	DAY06	DAY07	DAY08	DAY09	DAY10	DAY11	DAY12	DAY13	DAY14	DAY15	DAY16
199601	0.00	0.15	0.07	0.01	0.03	0.01	0.59	0.77	0.02	0.04	0.00	0.68	0.06	0.00	0.01	0.00
199602	0.00	0.01	0.05	0.00	0.00	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.01	0.18	0.00	0.10
199603	0.00	0.27	0.05	0.00	0.06	0.79	0.31	0.30	0.00	0.10	0.00	0.01	0.00	0.00	0.18	0.00
199604	0.99	0.12	0.00	0.00	0.01	0.00	0.39	0.13	0.38	0.15	0.00	0.00	0.23	0.00	0.07	2.44
199605	0.00	0.00	0.14	0.00	0.02	0.13	0.04	0.01	0.02	0.03	0.58	0.26	0.08	0.00	0.00	0.54
199606	0.00	0.00	2.30	0.20	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.01	0.01	0.01	0.00
199607	0.00	0.00	0.94	0.02	0.00	0.00	0.00	0.81	0.05	0.00	0.00	0.01	2.17	0.43	0.46	0.00
199610	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89	0.04	0.36	0.00	0.00	0.01	0.00	0.00	0.00
199611	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.15	0.82	0.01	0.00	0.08	0.00	0.00	0.00	0.00
199612	1.16	1.25	0.00	0.07	0.00	1.32	1.22	0.10	0.00	0.00	0.15	0.03	0.06	1.29	0.00	0.01
199701	0.00	0.02	0.00	0.00	0.04	0.00	0.00	0.02	0.22	0.05	0.07	0.01	0.02	0.00	0.00	1.02
199702	0.00	0.00	0.01	0.15	0.83	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.56	0.13	0.00
199703	0.10	0.06	0.27	0.16	0.10	0.11	0.00	0.00	0.00	0.45	0.00	0.00	0.00	1.30	0.01	0.00
199704	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.75	0.02	0.00	0.00	0.00
199705	0.12	0.00	0.98	0.00	0.00	0.38	0.02	0.01	0.23	0.00	0.00	0.00	0.01	0.00	0.00	0.00
199706	0.00	0.90	0.12	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	1.40	0.00	0.00	0.00
199707	0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.01	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199708	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.47
199709	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00
199710	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.01
199711	1.23	1.36	0.00	0.00	0.00	0.00	0.00	0.99	0.61	0.00	0.00	0.00	0.08	0.63	0.01	0.01
199712	0.04	0.00	0.00	0.08	0.15	0.02	0.00	0.01	0.03	0.33	0.15	0.14	0.00	0.00	0.01	0.00
199801	0.02	0.00	0.00	0.00	0.00	0.02	0.77	0.06	0.05	0.00	0.00	0.00	0.03	0.00	0.56	0.18
199802	0.00	0.00	0.00	0.38	0.64	0.00	0.00	0.01	0.00	0.00	0.00	0.74	0.21	0.00	0.01	0.00	0.01
199803	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	1.47	0.01	0.01	0.01	0.00	0.20	0.02	0.01
199804	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.44	0.00	0.00	0.00	0.00	0.16	0.00
199805	0.36	0.24	0.00	0.05	0.47	0.01	0.00	0.11	1.37	1.58	0.69	0.00	0.00	0.00	0.00	0.00
199806	0.30	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	1.08	1.08	0.30	0.14	0.06
199808	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.30	0.06	0.00	0.00	0.00	0.00	0.00
199809	0.00	1.06	0.01	0.00	0.00	0.00	1.24	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199810	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.13	0.05	0.00	0.00	0.05	0.38	0.00	0.00
199811	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.29	0.00	0.00	0.00	0.00	0.00
199812	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.12	0.01	0.00	0.02	0.00	0.00	0.02	0.00	0.00
199901	0.01	0.03	2.11	0.00	0.01	0.01	0.07	0.11	0.58	0.03	0.06	0.01	0.02	0.03	1.26	0.13
199902	0.03	1.41	0.00	0.03	0.00	0.00	0.12	0.10	0.00	0.00	0.00	0.16	0.02	0.03	0.02	0.02
199903	0.19	0.01	0.43	0.22	0.00	0.35	0.15	0.00	0.00	0.00	0.02	0.00	0.03	0.22	0.88	0.00
199904	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.39	0.04	0.34	0.09	0.00	0.00	0.00	0.33
199905	0.00	0.00	0.03	0.45	0.00	0.00	0.03	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.00
199907	0.53	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
199908	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.63	0.00	0.29	1.36	0.07	0.00
199909	0.00	0.00	0.00	0.00	0.00	0.52	0.26	0.00	0.01	0.42	0.00	0.00	0.00	0.00	0.72	8.82
199910	0.00	0.00	0.00	0.63	0.11	0.00	0.00	0.00	0.00	0.49	0.01	0.00	0.00	0.11	0.00	0.00
199911	0.00	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199912	0.01	0.03	0.00	0.09	0.00	0.75	0.00	0.00	0.00	0.13	0.01	0.01	0.16	0.60	0.02	0.00

Appendix Q, Table 3
New Milford Precipitation Data

YEARMO	DAY17	DAY18	DAY19	DAY20	DAY21	DAY22	DAY23	DAY24	DAY25	DAY26	DAY27	DAY28	DAY29	DAY30	DAY31	Monthly	Yearly
199601	0.00	0.00	1.09	0.01	0.00	0.00	0.00	0.62	0.00	0.00	1.28	0.00	0.02	0.00	0.05	5.51	
199602	0.11	0.00	0.00	0.32	0.51	0.03	0.00	0.30	0.00	0.00	0.00	0.04	0.00	0.00	0.00	1.83	
199603	0.00	0.00	0.53	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.41	0.00	0.00	3.10	
199604	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.14	0.00	0.00	0.21	0.26	0.00	5.63	
199605	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.06	0.00	0.00	0.00	0.00	1.99	
199606	0.00	0.05	0.40	0.14	0.01	0.03	0.00	0.01	0.00	0.00	0.00	0.23	0.00	0.62	0.00	4.20	
199607	0.00	0.00	0.06	0.00	0.00	0.00	0.19	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.44	5.74	
199610	0.00	0.00	4.57	0.07	0.37	0.06	0.03	0.00	0.00	0.00	0.00	0.19	0.00	0.09	0.00	7.68	
199611	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.00	0.00	0.00	0.00	0.00	3.20	
199612	0.10	0.00	0.26	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.01	0.00	0.00	0.00	7.46	46.34
199701	0.04	0.00	0.00	0.00	0.00	0.08	0.00	0.38	1.45	0.00	0.17	0.56	0.00	0.00	0.06	4.21	
199702	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	1.76	
199703	0.00	0.01	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.36	0.00	0.00	0.04	0.00	2.65	5.72	
199704	0.39	0.14	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	1.16	0.00	0.00	0.00	2.93	
199705	0.00	0.00	0.70	0.07	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.00	0.00	0.05	0.00	3.19	
199706	0.00	0.52	0.45	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.49	
199707	0.00	0.23	0.00	0.00	0.01	0.85	0.00	1.73	1.43	0.00	0.00	0.00	0.00	0.00	0.00	5.14	
199708	0.68	1.11	0.00	0.27	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.01	0.00	0.00	3.76	
199709	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.79	0.00	0.00	1.64	
199710	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.28	0.34	0.00	0.00	0.00	0.00	1.46	
199711	0.00	0.01	0.01	0.00	0.09	0.49	0.00	0.03	0.00	0.01	0.01	0.06	0.00	0.05	0.00	5.68	
199712	0.00	0.00	0.00	0.00	0.00	0.08	0.52	0.03	0.60	0.00	0.15	0.00	1.22	0.03	0.01	3.60	42.58
199801	0.00	0.00	0.00	0.00	0.02	0.00	1.44	0.12	0.11	0.00	0.00	0.00	0.01	0.00	0.01	3.40	
199802	0.65	0.43	0.14	0.08	0.00	0.00	0.33	0.93	0.00	0.00	0.01	0.04	0.00	0.00	0.00	4.61	
199803	0.00	0.24	0.98	0.00	0.25	0.64	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.31	
199804	0.19	0.00	0.65	0.04	0.00	0.00	0.40	0.01	0.00	0.60	0.00	0.00	0.00	0.00	0.00	5.49	
199805	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.17	0.00	0.37	5.66	
199806	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.64	0.00	4.12	
199808	1.14	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.02	0.00	2.20	
199809	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	
199810	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.06	0.00	0.00	0.00	1.86	
199811	0.01	0.01	0.03	0.04	0.00	0.00	0.00	0.00	0.01	0.58	0.00	0.00	0.00	0.00	0.00	1.00	
199812	0.01	0.00	0.01	0.00	0.00	0.07	0.00	0.04	0.00	0.00	0.00	0.01	0.53	0.06	0.02	0.98	35.96
199901	0.10	0.72	0.00	0.00	0.15	0.01	0.03	0.88	0.14	0.00	0.03	0.00	0.02	0.01	0.06	6.62	
199902	0.02	0.93	0.04	0.00	0.01	0.02	0.03	0.03	0.04	0.04	0.00	1.25	0.00	0.00	0.00	4.35	
199903	0.00	0.00	0.00	0.00	0.82	0.75	0.00	0.01	0.00	0.00	0.07	0.27	0.01	0.00	0.00	4.43	
199904	0.00	0.00	0.00	0.37	0.00	0.02	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.06	
199905	0.00	0.05	1.36	0.00	0.00	0.00	0.30	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.92	
199906	0.09	0.00	0.02	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.01	0.00	1.26	
199907	0.00	0.00	0.21	0.01	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.86	
199908	0.00	0.00	0.00	0.29	0.06	0.00	0.00	0.00	0.01	2.33	0.00	0.00	0.00	0.00	0.00	5.20	
199909	0.00	0.00	0.00	0.00	0.31	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00	12.19	
199910	0.63	0.10	0.00	0.47	0.00	0.07	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	
199911	0.00	0.00	0.00	0.13	0.01	0.00	0.00	0.02	0.21	0.75	0.30	0.00	0.00	0.02	0.00	2.50	
199912	0.00	0.00	0.02	0.76	0.00	0.00	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.00	2.66	48.81

Appendix Q, Table 3
New Milford Precipitation Data

YEARMO	DAY01	DAY02	DAY03	DAY04	DAY05	DAY06	DAY07	DAY08	DAY09	DAY10	DAY11	DAY12	DAY13	DAY14	DAY15	DAY16
200001	0.00	0.00	0.00	0.61	0.01	0.00	0.01	0.00	0.02	0.68	0.00	0.00	0.01	0.03	0.00	0.03
200002	0.00	0.01	0.02	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.02	0.25	0.73	0.01	0.00
200003	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	0.22	0.00	0.00	0.00	0.28
200004	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.40	0.00	0.15	0.00	0.00	0.00	0.08	0.52
200005	0.00	0.05	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.45	0.00	0.08	0.43	0.00	0.04	0.00
200006	0.00	0.15	0.00	0.00	0.00	2.79	0.28	0.00	0.00	0.00	0.60	0.32	0.03	0.00	0.01	0.00
200007	0.00	0.00	0.40	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	1.49	0.00
200008	0.32	0.00	0.37	0.05	0.00	0.00	0.05	0.01	0.15	0.01	0.94	0.50	0.00	0.64	0.10	0.16
200009	0.19	0.35	0.92	0.49	0.00	0.00	0.00	0.00	0.52	0.02	0.00	0.00	0.31	0.00	0.79	0.00
200010	0.00	0.00	0.00	0.03	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
200011	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	1.32	0.01	0.00	0.00	0.44	0.00	0.00
200012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.41
200101	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00
200102	0.00	0.01	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.27
200103	0.00	0.01	0.00	0.05	0.20	0.06	0.00	0.00	0.26	0.00	0.00	0.00	0.79	0.00	0.00	0.03
200104	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.16	0.60	0.04	0.06	0.03	0.00	0.00	0.00	0.04
200105	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200106	0.74	1.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
200107	0.18	0.00	0.00	0.40	0.25	0.00	0.00	0.43	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00
200108	0.00	0.00	0.20	0.53	0.00	0.00	0.00	0.00	0.00	0.45	0.01	0.80	0.40	0.11	0.00	0.00
200109	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.00	1.21	0.00	0.00
200110	0.10	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.02
200111	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200112	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.39	0.07	0.00	0.00	0.00	0.00	0.08	0.00	0.00

Appendix Q, Table 3
New Milford Precipitation Data

YEARMO	DAY17	DAY18	DAY19	DAY20	DAY21	DAY22	DAY23	DAY24	DAY25	DAY26	DAY27	DAY28	DAY29	DAY30	DAY31	Monthly	Yearly
200001	0.00	0.08	0.00	0.06	0.02	0.02	0.02	0.01	0.18	0.15	0.04	0.00	0.01	0.00	0.68	2.67	
200002	0.00	0.28	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	1.84	
200003	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.13	0.00	0.92	0.00	0.00	0.00	3.16	
200004	0.40	0.08	0.00	0.00	1.42	0.06	0.16	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	3.62	
200005	0.00	0.68	0.51	0.31	0.02	0.01	0.11	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.18	
200006	0.00	0.38	0.00	0.00	0.22	0.10	0.00	0.00	0.00	0.00	0.13	0.03	0.15	0.00	0.00	5.19	
200007	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.06	0.01	0.00	1.77	0.01	6.63	
200008	0.00	0.07	0.01	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	3.72	
200009	0.00	0.00	1.50	0.02	0.00	0.00	0.04	0.03	0.03	0.43	0.00	0.00	0.00	0.00	0.00	5.64	
200010	0.02	0.32	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	
200011	0.00	0.00	0.00	0.00	0.00	0.06	0.13	0.00	0.04	1.23	0.00	0.00	0.09	0.01	0.00	3.55	
200012	0.91	0.00	0.00	0.08	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.03	2.60	42.34
200101	0.00	0.08	0.89	0.18	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	2.58	
200102	0.00	0.00	0.00	0.00	0.00	0.23	0.03	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	1.76	
200103	0.26	0.00	0.00	0.00	0.98	0.94	0.00	0.00	0.00	0.07	0.00	0.00	0.18	1.46	0.00	5.29	
200104	0.06	0.01	0.00	0.00	0.20	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	
200105	0.01	0.00	0.00	0.00	0.33	0.58	0.16	0.01	0.00	0.13	0.14	0.03	0.33	0.00	0.00	1.74	
200106	2.86	0.00	0.00	0.00	0.20	0.00	0.45	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	5.33	
200107	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	1.48	
200108	0.00	0.00	0.01	0.78	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.43	4.13	
200109	0.00	0.00	0.00	0.66	0.40	0.00	0.00	0.03	0.61	0.00	0.00	0.00	0.00	0.08	0.00	3.64	
200110	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	
200111	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.07	0.61	0.01	0.00	0.00	0.01	0.00	0.00	0.79	
200112	0.14	0.25	0.00	0.00	0.00	0.00	0.05	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51	30.22

Appendix Q, Table 4
Saddle Brook, Lodi, NJ, Surface Water Data

Saddle River at Lodi, NJ. Hydraulic Data.

Surface water measurements
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Further descriptions of the columns and codes used can be found at:
http://water.usgs.gov/nwis/help?streamflow_measurements_data
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Stations in this file include:
USGS 01391500 SADDLE RIVER AT LODI NJ
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					WIDTH	AREA	MEAN VEL	INSIDE GAGE HEIGHT	OUTSIDE GAGE HEIGHT	STM FLOW (CFS)	MS RATED	SECTS	GH CHANGE	GH CHANGE (FT)	MS TYPE (HR)	CONTROL
site_no	agency_cd	measurem	measurement_dt	party_nm	channel_ width_va	xsec_ area_va	velocity_ va	inside_ gage_va	outside_ gage_va	discharge_ 1	measured_ rating_diff	sections_ va	gage_va _change	gage_va _time	measurement _type_cd	control_ type_cd
15s	5s	5s	19d	12s	12s	12s	12s	12s	12s	12s	12s	2s	6s	6s	12s	12s
1391500	USGS	240	7/23/45	ACL				10		3480					0 INDIRECT	
1391500	USGS	241	7/24/45	ACL	80.5	543	4.75	7.42		2580	G				0	
1391500	USGS	242	7/24/45	ACL	80.5	489	4.59	6.54		2240	G				0	
1391500	USGS	243	7/24/45	ACL	80.5	399	4.19	5.45		1670	G				0	
1391500	USGS	333	4/3/70	GD	97	346	2.74	4.27		949	F				0 BRG CRANE	ICE COVER
1391500	USGS	344	8/26/71	RSC	55	38	0.57	1.78	1.78	21.7	G				0 WADING	MOD DEBRIS
1391500	USGS	345	10/19/71	RLW	58	55.5	1.17	2.13	2.14	64.7	G				0 WADING	LGT DEBRIS
1391500	USGS	346	1/25/72	RSC	58	60	1.3	2.2	2.21	78	G				0 WADING	CLEAR
1391500	USGS	347	5/11/72	JFK	63	70.8	2.09	2.56	2.56	148	G				0 WADING	CLEAR
1391500	USGS	348	6/19/72	JTF	117	593	3.49	6.2		2070	G				0 BRG CRANE	ICE COVER
1391500	USGS	349	11/18/72	RSC	55	45.8	0.85	1.93	1.94	39	G				0 WADING	MOD DEBRIS
1391500	USGS	350	11/22/72	RSC	61	80.1	1.74	2.47	2.48	139	G				0 WADING	CLEAR
1391500	USGS	351	1/15/73	RSC	59	73.3	1.38	2.3	2.34	101	G				0 WADING	CLEAR
1391500	USGS	352	2/28/73	RSC	60	71.2	1.42	2.32	2.35	102	G				0 WADING	LGT DEBRIS
1391500	USGS	353	4/16/73	RSC	61	86.6	1.66	2.5	2.55	145	G				0 WADING	CLEAR
1391500	USGS	354	6/28/73	RSC	61	65.2	1.04	2.18	2.2	69.5	G				0 WADING	LGT DEBRIS
1391500	USGS	355	8/24/73	RSC	61	56.6	0.75	1.96	1.97	43	G				0 WADING	MOD DEBRIS
1391500	USGS	356	10/15/73	RSC	51	73	0.26	1.71	1.71	19.3	G				0 WADING	LGT DEBRIS
1391500	USGS	357	1/4/74	GRM/RLW	63	62.1	1.92	2.37	2.4	119	G				0 WADING	CLEAR
1391500	USGS	358	2/21/74	RSC	58	73.4	1.55	2.39	2.41	114	G				0 WADING	CLEAR
1391500	USGS	359	4/12/74	TBW	56	71.9	2.29	2.53	2.53	165	G				0 BRG CRANE	CLEAR
1391500	USGS	360	6/4/74	TBW	54	48.7	1.38	2.1	2.1	67.2	G				0 BRG CRANE	CLEAR
1391500	USGS	361	9/12/74	KTM/EWM				2.05	2.05	56.2	G				0 WADING	CLEAR
1391500	USGS	362	12/2/74	KTM	44	139	3.07	3.21		427	F				0 BRG CRANE	CLEAR
1391500	USGS	363	1/6/75	KTM	57	60.5	0.76	2	2	46	G				0 WADING	CLEAR
1391500	USGS	364	2/26/75	KTM	62	74.2	2.27	2.57		168	G				0 WADING	CLEAR
1391500	USGS	365	4/10/75	EGD	57	47.8	2.1	2.3	2.3	101	E				0 WADING	CLEAR
1391500	USGS	366	6/3/75	KTM	62	46.2	1.55	2.14	2.14	71.5	G				0 WADING	CLEAR
1391500	USGS	367	7/17/75	KTM	56	78	3.45	2.83	2.83	269	G				0 WADING	CLEAR
1391500	USGS	368	8/18/75	KTM	55	52.7	1.1	2.09		57.9	G				0 WADING	CLEAR
1391500	USGS	369	9/27/75	EWM	79	481	3.76	6.01		1830	G				0 HANDLINE	ICE COVER
1391500	USGS	370	10/1/75	KTM	60	86.5	1.88	2.57	2.57	163	G				0 WADING	CLEAR
1391500	USGS	371	11/19/75	KTM	60	70.6	1.44	2.31	2.31	102	G				0 WADING	CLEAR
1391500	USGS	372	1/6/76	KTM	57	61.3	1.26	2.2	2.2	77.4	G				0 WADING	CLEAR
1391500	USGS	373	2/11/76	KTM	58	79	1.42	2.38	2.38	112	G				0 WADING	CLEAR
1391500	USGS	374	4/7/76	KTM	58	111	1.07	2.37	2.39	119	G				0	CLEAR
1391500	USGS	375	5/26/76	KTM	54	56.8	0.93	2.08	2.03	52.6	G				0 WADING	CLEAR
1391500	USGS	376	6/25/76	KTM	57	68.2	0.62	1.97	1.93	42.5	G				0 WADING	CLEAR
1391500	USGS	377	8/25/76	KTM	50	51.2	0.63	1.89		32.5	G				0 WADING	CLEAR

Appendix Q, Table 4
Saddle Brook, Lodi, NJ, Surface Water Data

USGS 01391500 SADDLE RIVER AT LODI NJ
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site_no	agency_cd	measurem	measurement_dt	party_nm	channel_width_va	xsec_area_va	velocity_va	inside_gage_va	outside_gage_va	discharge_1	measured_rating_diff	sections_va	gage_va_change	gage_va_time	measurement_type_cd	control_type_cd
15s	5s	5s	19d	12s	12s	12s	12s	12s	12s	12s	12s	2s	6s	6s	12s	12s
1391500	USGS	378	9/29/76	KTM	50	67	0.93	2.12	2.12	62.4	G				0 WADING	CLEAR
1391500	USGS	379	11/15/76	JBC	59.5	49.8	0.87	2.02	1.96	43.2	P				0 WADING	HVY DEBRIS
1391500	USGS	380	12/21/76	JBC	56	65.7	0.94	2.1	2.08	61.8	G				0 WADING	CLEAR
1391500	USGS	381	2/2/77	JBC	55.5	52.2	0.57	1.84		29.8	G				0 WADING	LGT DEBRIS
1391500	USGS	382	2/25/77	JBC/EWM	93	579	2.31	5.34		1340	G				0 BRG CRANE	ICE COVER
1391500	USGS	383	4/7/77	JBC	60	109	1.93	2.71		210	G				0 WADING	CLEAR
1391500	USGS	384	5/25/77	JBC	57	60.2	0.73	1.96		43.8	G				0 WADING	CLEAR
1391500	USGS	385	6/22/77	JBC	57	69.8	0.84	2.03		58.5	G				0 WADING	CLEAR
1391500	USGS	386	8/18/77	DWJ	56.4	66.8	0.83	1.44		55.6	G				0 WADING	LGT DEBRIS
1391500	USGS	387	11/8/77	RDS/JTF				12.36	12.42	4500	F				0 INDIRECT	
1391500	USGS	388	11/9/77	RSC	111	464	1.49	3.39		695	G				0 BRG CRANE	CLEAR
1391500	USGS	389	12/23/77	RSC	61	88.2	1.95	2.55		172	G				0 WADING	CLEAR
1391500	USGS	390	2/1/78	JTF	58	74.6	1.85	2.44	2.54	138	F				0 WADING	CLEAR
1391500	USGS	391	3/16/78	TVF	59	91.6	2.32	2.67	2.74	212	G				0 WADING	CLEAR
1391500	USGS	392	5/2/78	TVF	59	53.9	0.96	2.05	2.06	52.1	G				0 WADING	CLEAR
1391500	USGS	393	6/20/78	TVF	57	71.4	1.01	2.17	2.18	72.1	G				0 WADING	LGT DEBRIS
1391500	USGS	394	8/2/78	JBC/MAD	55	57.8	0.47	1.86	1.86	27.3	G				0 WADING	LGT DEBRIS
1391500	USGS	395	11/3/78	PJC	50	29.3	0.54	1.73		15.7	G				0 WADING	MOD DEBRIS
1391500	USGS	396	12/7/78	PJC	55	37.6	0.66	1.83		24.7	F				0 WADING	HVY DEBRIS
1391500	USGS	397	1/19/79	PJC	56	56.7	0.82	2.13		46.6	P				0 WADING	CLEAR
1391500	USGS	398	1/25/79	JTF	94	542	2.25	4.75		1220	F				0 BRG CRANE	ICE COVER
1391500	USGS	399	2/28/79	PJC	60	91.6	2.19	2.67		201					0 WADING	CLEAR
1391500	USGS	400	4/17/79	JTF	57	86.8	1.56	2.46	2.49	135	F				0 WADING	CLEAR
1391500	USGS	401	6/8/79	JTF	60	72.8	1.59	2.35	2.41	116	G				0 WADING	CLEAR
1391500	USGS	402	7/10/79	JTF	56	47.5	0.65	1.87	1.85	31	F				0 WADING	LGT DEBRIS
1391500	USGS	403	9/26/79	JTF	57	50	0.66	1.89	1.9	33	G				0 WADING	LGT DEBRIS
1391500	USGS	404	11/6/79	JTF	55	75.5	0.9	2.18	2.2	68.1	F				0 WADING	CLEAR
1391500	USGS	405	12/27/79	JTF	60	58.4	1.57	2.27	2.31	91.7	G				0 WADING	LGT DEBRIS
1391500	USGS	406	1/30/80	MJD/JFD	55	40.2	0.73	1.92	1.96	29.3	F				0 WADING	LGT DEBRIS
1391500	USGS	407	3/25/80	JTF	60	138	3.42	3.32	3.2	472	G				0 WADING	CLEAR
1391500	USGS	408	5/9/80	JTF	58	77.5	2.12	2.54	2.6	162	F				0 WADING	CLEAR
1391500	USGS	409	6/11/80	JTF	54	47.1	0.92	1.98	2	43.2	G				0 WADING	LGT DEBRIS
1391500	USGS	410	7/16/80	EWM/GJP	56	56	0.42	1.8		23.3	F				0 WADING	MOD DEBRIS
1391500	USGS	411	8/27/80	JTF	54	42.2	0.46	1.73	1.73	19.6	F				0 WADING	LGT DEBRIS
1391500	USGS	412	10/23/80	JTF	55	22.1	0.57	1.64	1.64	12.7	F				0 WADING	LGT DEBRIS
1391500	USGS	413	12/3/80	JTF	53	40.3	0.6	1.82	1.79	24	F				0 WADING	LGT DEBRIS
1391500	USGS	414	3/13/81	JTF	53	37.8	0.89	1.85	1.9	33.5	F				0 WADING	CLEAR
1391500	USGS	415	4/22/81	JTF	52	24.8	0.78	1.74	1.73	19.9	F				0 WADING	LGT DEBRIS
1391500	USGS	416	6/3/81	JTF	53	43.6	0.84	1.9	1.93	36.6	G				0 WADING	CLEAR
1391500	USGS	417	7/22/81	GJP	59	45.9	1.65	2.15		75.6	G				0 WADING	LGT DEBRIS
1391500	USGS	418	9/9/81	JTF	61	72	2.01	2.47	2.5	145	G				0 WADING	CLEAR
1391500	USGS	419	11/2/81	JTF	62	51.1	0.35	1.7	1.7	18	F				0 WADING	LGT DEBRIS
1391500	USGS	420	12/18/81	JTF	53	45	1.06	1.99	2	47.8	G				0 WADING	LGT DEBRIS
1391500	USGS	421	1/26/82	JTF/JFD	50	56	0.97	1.47	2.08	54.2	F				0 WADING	SHORE ICE
1391500	USGS	422	3/10/82	JTF	55	59.8	1.33	2.19	2.22	79.6	G				0 WADING	CLEAR
1391500	USGS	423	4/19/82	JTF	56	61.8	1.61	2.35	2.35	99.4	G				0 WADING	CLEAR

Appendix Q, Table 4
Saddle Brook, Lodi, NJ, Surface Water Data

USGS 01391500 SADDLE RIVER AT LODI NJ
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site_no	agency_cd	measurem	measurement_dt	party_nm	channel_width_va	xsec_area_va	velocity_va	inside_gage_va	outside_gage_va	discharge_1	measured_rating_diff	sections_va	gage_va_change	gage_va_time	measurement_type_cd	control_type_cd
15s	5s	5s	19d	12s	12s	12s	12s	12s	12s	12s	12s	2s	6s	6s	12s	12s
1391500	USGS	424	4/19/82	JTF	62	56.2	1.9	2.38	2.4	107	G			0	WADING	CLEAR
1391500	USGS	425	6/1/82	JTF	61	47.4	1.72	2.27	2.27	81.7	G			0	WADING	CLEAR
1391500	USGS	426	7/14/82	WRB/JTF	52	93.7	0.44	1.98	1.98	41.6	G			0	WADING	LGT DEBRIS
1391500	USGS	427	7/14/82	JTF/WRB	54	53.3	0.77	1.98	1.98	41.3	F			0	WADING	LGT DEBRIS
1391500	USGS	428	9/2/82	JTF	51.5	119	0.64	2.21	2.22	75.9	G			0	WADING	LGT DEBRIS
1391500	USGS	429	10/8/82	JTF	52	74	0.31	1.8	1.79	22.9	F	27	0	0.5	WADING	MOD DEBRIS
1391500	USGS	430	1/7/83	JTF	51	43.8	0.95	1.96	1.98	41.8	F	31	0	0.5	WADING	CLEAR
1391500	USGS	431	1/7/83	JTF	51.5	74.9	0.58	1.97	1.98	43.3	F	27	0	0.5	WADING	CLEAR
1391500	USGS	432	2/17/83	RSC	54	41.2	1.05	1.99	2.01	43.2	F	32	0.01	0.8	WADING	CLEAR
1391500	USGS	433	3/24/83	JTF	60	82.4	2.37	2.69	2.73	195	G	31	0	0.5	WADING	CLEAR
1391500	USGS	434	5/4/83	JTF	53	143	1.39	2.77	2.76	199	G	29	0.01	0.7	WADING	CLEAR
1391500	USGS	435	6/15/83	GJP/CMP	58.5	49.9	1.31	2.19	2.2	65.6	F	30	0.01	0.6	WADING	LGT DEBRIS
1391500	USGS	436	8/1/83	CEN/GJP	57.5	44.6	0.8	1.92	1.9	35.8	F	31	0.01	0.7	WADING	CLEAR
1391500	USGS	437	9/12/83	RSC	58	26.3	0.82	1.77	1.77	21.5	G	29	0	0.8	WADING	MOD DEBRIS
1391500	USGS	438	10/21/83	GJP	55	34.1	0.89	1.86	1.88	30.4	F	28	0.01	0.5	WADING	MOD DEBRIS
1391500	USGS	439	12/5/83	GJP	61	67.5	2.22	2.56	2.6	150	G	27	-0.02	0.5	WADING	LGT DEBRIS
1391500	USGS	440	1/17/84	RSC	60	54	1.36	2.2	2.22	73.3	G	26	0.01	0.6	WADING	CLEAR
1391500	USGS	441	2/28/84	GJP/MOP	61.5	94.1	2.52	2.84	2.88	237	G	29	0.13	0.5	WADING	CLEAR
1391500	USGS	442	4/12/84	GJP	62.5	87	2.57	2.79	2.81	224	G	30	0.01	0.6	WADING	CLEAR
1391500	USGS	443	5/25/84	GJP	60	56.4	1.98	2.38	2.42	112	G	30	0	0.6	WADING	LGT DEBRIS
1391500	USGS	444	6/28/84	RSC	57	59.1	1.5	2.28	2.3	88.5	G	29	0	0.7	WADING	CLEAR
1391500	USGS	445	7/7/84	JTF	93	867	3.2	8.27		2780	F	24	0.19	1	BRG CRANE	SUBMERGED
1391500	USGS	446	7/7/84	JTF	93	892	3.24	8.58		2890	G	27	0.04	1.2	BRG CRANE	SUBMERGED
1391500	USGS	447	8/15/84	GJP	53	43.1	1.55	2.14	2.2	66.7	F	31	0.01	0.8	WADING	MOD DEBRIS
1391500	USGS	448	10/5/84	JPC	55	46.2	0.8	1.95	1.98	37	F	26	0	0.5	WADING	MOD DEBRIS
1391500	USGS	449	11/6/84	JFD	58	54	1.79	2.28	2.29	96.8	F	26	-0.01	0.5	WADING	
1391500	USGS	450	12/20/84	JFD	56	41.9	1.1	1.98	2	46	F	25		0	WADING	LGT DEBRIS
1391500	USGS	451	2/12/85	RLU	56	34	1.02	1.93	1.96	34.6	G	29	0.01	0.5	WADING	LGT DEBRIS
1391500	USGS	452	5/10/85	RLU	54	24.5	1.3	1.85	1.86	32	G	26	0	0.5	WADING	LGT DEBRIS
1391500	USGS	453	6/11/85	RLU	53	30.9	1.19	1.83	1.85	36.8	P	28	0	0.5	WADING	
1391500	USGS	454	8/29/85	MOP	58	63	0.57	1.87	1.89	36.2	G	30	0	0.6	WADING	LGT DEBRIS
1391500	USGS	455	10/8/85	MOP	60	35.1	1.24	1.92	1.94	43.5	G	28	0	0.8	WADING	MOD DEBRIS
1391500	USGS	456	11/21/85	MOP/AS	60	46.7	1.13	2.01	2.06	52.6	F	21	0.02	0.6	WADING	MOD DEBRIS
1391500	USGS	457	2/12/86	MOP	63.5	52.2	1.68	2.22	2.26	87.5	G	30	0	0.7	WADING	CLEAR
1391500	USGS	458	4/4/86	RSC	60	48.4	1.54	2.19	2.23	74.6	F	30	0.02	0.8	WADING	CLEAR
1391500	USGS	459	5/6/86	MOP	61	57.1	1.28	2.13	2.17	73	G	33	0.01	0.8	WADING	LGT DEBRIS
1391500	USGS	460	6/18/86	MOP	57	48.9	0.98	1.96	1.99	48.1	G	29	0.02	0.8	WADING	LGT DEBRIS
1391500	USGS	461	7/29/86	RAG/EWM	59	38.9	0.98	1.91	1.93	38.1	G	31	0.01	0.8	WADING	MOD DEBRIS
1391500	USGS	462	9/9/86	MOP	55	30.8	1.27	1.92	1.96	39.1	F	29	-0.01	0.7	WADING	MOD DEBRIS
1391500	USGS	463	10/28/86	MOP	49	29.8	1.43	1.95	1.97	42.6	G	27	0.01	0.7	WADING	LGT DEBRIS
1391500	USGS	464	12/4/86	RGR	51.3	61.7	2.69	2.59	2.63	166	E	29	0	0.6	WADING	LGT DEBRIS
1391500	USGS	465	1/20/87	RGR	58	55.1	2.45	2.45	2.5	135	G	25	0	0.6	WADING	CLEAR
1391500	USGS	466	2/26/87	RSC	59	58.4	1.42	2.22	2.26	83.2	G	30	0	0.8	WADING	CLEAR
1391500	USGS	467	4/13/87	RGR	57.5	71.4	3	2.73	2.77	214	G	28	-0.02	0.5	WADING	CLEAR
1391500	USGS	468	6/30/87	RGR	51.5	35.5	1.39	1.98	2.01	49.2	G	27	0.01	0.4	WADING	CLEAR
1391500	USGS	469	9/23/87 9:33	RGR	54	36.8	1.93	2.14	2.16	71	G	27	0	0.5	WADING	CLEAR

Appendix Q, Table 4
Saddle Brook, Lodi, NJ, Surface Water Data

USGS 01391500 SADDLE RIVER AT LODI NJ
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site_no	agency_cd	measurem	measurement_dt	party_nm	channel_width_va	xsec_area_va	velocity_va	inside_gage_va	outside_gage_va	discharge_1	measured_rating_diff	sections_va	gage_va_change	gage_va_time	measurement_type_cd	control_type_cd
					WIDTH	AREA	MEAN VEL	INSIDE GAGE HEIGHT	OUTSIDE GAGE HEIGHT	STM FLOW (CFS)	MS RATED	SECTS	GH CHANGE	GH CHANGE (FT)	MS TYPE (HR)	CONTROL
15s	5s	5s	19d	12s	12s	12s	12s	12s	12s	12s	12s	2s	6s	6s	12s	12s
1391500	USGS	470	12/16/87 11:05	RGR	59	61.2	2.84	2.58	2.65	174	G	27	-0.02	0.5	WADING	CLEAR
1391500	USGS	471	2/29/88 14:51	RGR	53.5	43.5	2.29	2.33	2.34	99.8	G	28	0.02	0.5	WADING	CLEAR
1391500	USGS	472	6/2/88 10:03	RGR	60	51.5	2.08	2.35	2.38	107	G	27	0	0.4	WADING	CLEAR
1391500	USGS	473	7/12/88 15:30	RGR	54.5	28.2	1.28	1.9	1.91	36	G	28	-0.02	0.4	WADING	CLEAR
1391500	USGS	474	10/17/88 15:13	RGR	59	30.3	0.81	1.78	1.79	24.6	G	26	-0.01	0.4	WADING	LGT DEBRIS
1391500	USGS	475	11/14/88 10:41	NWL	55	61.1	1.46	2.26	2.31	89	F	23	0	0.7	WADING	CLEAR
1391500	USGS	476	11/28/88 14:03	RGR	57	136	2.98	3.28		405		30	-0.05	0.6	WADING	CLEAR
1391500	USGS	477	12/27/88 12:17	TJR	49.7	60.5	0.9	2.06	2.1	54.2	G	26	0	0.6	WADING	CLEAR
1391500	USGS	478	2/9/89 8:04	DSK	50	55.5	0.74	1.96	2.01	41.3	G	25	0.04	1.5	WADING	CLEAR
1391500	USGS	479	5/9/89 11:09	TJR	56	72	1.87	2.48	2.5	135	G	26	-0.01	0.5	WADING	CLEAR
1391500	USGS	480	5/11/89 13:00	TJR	78	279	1.84	3.47	3.48	510	G	24	-0.08	1.3	BRG CRANE	CLEAR
1391500	USGS	481	5/17/89 11:35	RGR/JDJ	93	743	2.97	6.95		2210	G	24	-0.14	1.8	BRG CRANE	SUBMERGED
1391500	USGS	482	7/27/89 10:45	TJR	53	64.2	1.03	2.14	2.16	66	G	27	0	0.5	WADING	LGT DEBRIS
1391500	USGS	483	9/6/89 16:53	TJR	51	55.8	0.87	2.03	2.04	48.5	G	27	0	0.5	WADING	LGT DEBRIS
1391500	USGS	484	11/29/89 12:40	JDJ	58.5	70.9	1.23	2.28	2.31	87.2	G	32	0	0.8	WADING	CLEAR
1391500	USGS	485	3/7/90 14:23	TJR	52	67.3	1.19	2.26	2.26	79.9	G	27	0.01	0.6	WADING	LGT DEBRIS
1391500	USGS	486	6/7/90 15:10	TJR	53	97.4	2.16	2.76	2.83	210	G	27	-0.03	0.6	WADING	LGT DEBRIS
1391500	USGS	487	9/14/90 16:23	TJR	56	47.2	1.25	2.09	2.09	58.8	G	26	0	0.6	WADING	CLEAR
1391500	USGS	488	10/29/90 11:57	TJR	56.5	49.7	1.36	2.15	2.15	67.7	G	26	-0.01	0.7	WADING	LGT DEBRIS
1391500	USGS	489	1/22/91 16:20	TJR	57	68.7	1.95	2.46	2.48	134	G	25	0	0.5	WADING	CLEAR
1391500	USGS	490	3/19/91 13:03	TJR	60	91.3	2.57	2.8	2.83	235	G	28	-0.02	0.6	WADING	CLEAR
1391500	USGS	491	5/16/91 18:20	TJR	57.5	59.7	1.61	2.29	2.29	96.3	F	26	-0.01	0.6	WADING	CLEAR
1391500	USGS	492	6/19/91 15:45	RSC	64	88.9	3.09	2.88	2.87	275	G	28	0.07	0.7	WADING	CLEAR
1391500	USGS	493	7/30/91 12:31	TJR	55	38	1.01	1.95	1.92	38.2	G	25	-0.01	0.5	WADING	CLEAR
1391500	USGS	494	10/8/91 13:21	TJR	55	41.1	0.98	1.95	1.93	40.1	G	26	0.02	2	WADING	LGT DEBRIS
1391500	USGS	495	11/12/91 15:45	TJR	55	38.6	0.98	1.95	1.93	37.7	G	26	0	1	WADING	LGT DEBRIS
1391500	USGS	496	12/17/91 12:48	TJR	56	47.2	1.23	2.07	2.07	58.1	G	28	0.01	1	WADING	CLEAR
1391500	USGS	497	2/5/92 12:49	TJR/TPS	55.5	41.8	1.07	1.97	1.95	44.7	G	28	0.01	1	WADING	LGT DEBRIS
1391500	USGS	498	3/24/92 10:12	TPS	56	44.6	1.08	2.01	2	48.1	G	28	0	0.7	WADING	CLEAR
1391500	USGS	499	4/29/92 11:23	TPS	63	34	1.98	2.15		67.4	G	29	0	0.7	WADING	CLEAR
1391500	USGS	500	6/11/92 12:35	TPS	59	62.5	1.38	2.27		86.1	G	28	0.01	0.8	WADING	CLEAR
1391500	USGS	501	7/27/92 17:18	TJR	51.5	41.8	2.37	2.33	2.35	98.9	G	28	-0.03	1	WADING	LGT DEBRIS
1391500	USGS	502	9/9/92 12:18	TJR/EWM	54	31.5	1.79	2.07	2.08	56.3	G	26	0.01	0.5	WADING	CLEAR
1391500	USGS	503	11/9/92 13:08	TJR	55	41	0.98	1.93	1.94	40	G	30	0.04	0.7	WADING	LGT DEBRIS
1391500	USGS	504	1/6/93 12:22	TJR	60	89.2	1.52	2.47	2.5	136	G	27	0.01	0.5	WADING	CLEAR
1391500	USGS	505	2/23/93 12:45	TJR	58	67.6	1.19	2.22	2.24	80.5	G	28	0.02	0.6	WADING	CLEAR
1391500	USGS	506	4/16/93 14:47	TJR	59	86.8	1.54	2.46	2.51	134	G	31	0	0.7	WADING	CLEAR
1391500	USGS	507	6/4/93 12:06	TJR	57.5	51.7	0.82	2	2.01	42.6	G	28	0	0.6	WADING	LGT DEBRIS
1391500	USGS	508	7/12/93 12:40	TJR	54.8	38.8	0.6	1.8	1.8	23.3	G	28	0.01	0.6	WADING	LGT DEBRIS
1391500	USGS	509	9/1/93 14:53	TJR	55	20.4	0.78	1.69	1.69	15.9	G	26	0.02	0.6	WADING	LGT DEBRIS
1391500	USGS	510	10/8/93 15:00	RSC	44	39.2	0.48	1.74		19	G	26	0	0.7	WADING	MOD DEBRIS
1391500	USGS	511	11/29/93 14:00	TJR	62	60	2.7	2.63	2.67	162	G	28	-0.01	0.6	WADING	CLEAR
1391500	USGS	512	2/4/94 11:45	JDJ	62	58.6	1.11	2.12	2.14	65.2	G	30	0.01	0.8	WADING	CLEAR
1391500	USGS	513	4/4/94 13:07	TJR	60	91.3	1.87	2.57	2.63	171	G	25	0	0.5	WADING	CLEAR
1391500	USGS	514	5/23/94 10:30	VC	60.5	64.2	1.33	2.25	2.24	85.7	F	35	0	0.8	WADING	MOD DEBRIS
1391500	USGS	515	9/14/94 13:24	TJR	55.5	40	0.73	1.88	1.89	29.2	G	27	0	0.6	WADING	LGT DEBRIS

Appendix Q, Table 4
Saddle Brook, Lodi, NJ, Surface Water Data

USGS 01391500 SADDLE RIVER AT LODI NJ
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site_no	agency_cd	measurem	measurement_dt	party_nm	WIDTH channel_width_va	AREA xsec_area_va	MEAN VEL velocity_va	INSIDE GAGE HEIGHT inside_gage_va	OUTSIDE GAGE HEIGHT outside_gage_va	STM FLOW (CFS) discharge_1	MS RATED measured_rating_diff	SECTS sections_va	GH CHANGE gage_va_change	GH CHANGE (FT) gage_va_time	MS TYPE (HR) measurement_type_cd	CONTROL control_type_cd
15s	5s	5s	19d	12s	12s	12s	12s	12s	12s	12s	12s	2s	6s	6s	12s	12s
1391500	USGS	516	11/3/94 14:50	VC	54	47.9	0.86	1.96	1.99	41.3	F	38	0	0.8	WADING	LGT DEBRIS
1391500	USGS	517	1/18/95 10:55	VC	50	61.5	1.03	2.15	2.17	63.4	F	36	0	0.6	WADING	LGT DEBRIS
1391500	USGS	518	3/1/95 10:40	VC	60	69.1	2.05	2.51	2.58	142	F	32	-0.01	0.6	WADING	
1391500	USGS	519	5/4/95 10:55	vc	49.5	53.6	0.73	1.96	1.97	39.2	F	35	0	0.5	WADING	CLEAR
1391500	USGS	520	7/18/95 11:20	VC/EWM	51	61.1	1.16	2.18	2.18	70.8	F	31	-0.02	0.5	WADING	CLEAR
1391500	USGS	521	9/20/95 10:09	VC	27	17.6	0.34	1.49	1.49	5.93	G	27	-0.01	0.5	WADING	LGT DEBRIS
1391500	USGS	522	11/1/95 14:09	GCS/EWM	60	46	1.64	2.2	2.2	75.6	G	31	0.02	0.6	WADING	CLEAR
1391500	USGS	523	1/27/96 12:05	GCS/RGR	81	273	1.8	3.16		492	P	27	0.44	1.5	BRG CRANE	CLEAR
1391500	USGS	524	1/27/96 14:45	GCS/RGR	95	553	2.28	4.6		1262	P	29	1.19	1.8	BRG CRANE	SUBMERGED
1391500	USGS	525	2/14/96 13:00	GCS	56	53.9	2.04	2.34	2.34	110	G	29	0	0.6	WADING	CLEAR
1391500	USGS	526	3/22/96 8:34	gcs	53	60.3	2.17	2.46	2.46	131	G	37	0	0.6	WADING	CLEAR
1391500	USGS	527	6/17/96 12:56	GCS	53	28	2.38	2.1	2.11	66.7	G	27	0	0.5	WADING	CLEAR
1391500	USGS	528	10/10/96 13:32	GCS	64	57.9	2.61	2.52	2.52	151	G	31	0	0.5	WADING	LGT DEBRIS
1391500	USGS	529	11/9/96 13:37	GCS	67	94.8	2.81	2.88	2.88	267	G	31	-0.02	0.6	WADING	CLEAR
1391500	USGS	530	11/18/96 13:23	GCS	60	34.2	1.83	2.08	2.08	62.9	G	30	0	0.5	WADING	LGT DEBRIS
1391500	USGS	531	2/24/97 12:03	GCS	60	44.4	2.12	2.23	2.22	94.6	F	29	0	0.5	WADING	CLEAR
1391500	USGS	532	3/4/97 10:04	GCS	60	43.7	2.47	2.32	2.32	108	G	30	0	0.5	WADING	CLEAR
1391500	USGS	533	3/4/97 10:44	GCS	60	44.6	2.43	2.32	2.32	108	G	30	0	0.5	WADING	CLEAR
1391500	USGS	534	6/9/97 12:10	GCS	58	35.5	1.42	2.06	2.05	50.6	F	29	0	0.5	WADING	MOD DEBRIS
1391500	USGS	535	7/24/97 14:30	gcs	66	73	3.05	2.55	2.55	223	G	24	0.03	0.5	WADING	CLEAR
1391500	USGS	536	7/24/97 15:34	gcs	66.5	79.8	3.03	2.6	2.6	242	G	22	0	0.4	WADING	CLEAR
1391500	USGS	537	7/25/97 9:50	gcs/jjs	95	288	1.62	3.65		468	F	22	-0.13	1	BRG CRANE	CLEAR
1391500	USGS	538	7/25/97 13:15	gcs/jjs	66	85.4	3.19		2.83	273	G	25	-0.01	0.5	WADING	CLEAR
1391500	USGS	539	7/25/97 14:15	gcs	66	78.9	3.1		2.76	245	G	25	-0.01	0.5	WADING	CLEAR
1391500	USGS	540	9/17/97 13:40	gcs	52.5	38.6	0.46	1.67	1.67	17.8	F	25	0	0.5	WADING	HVY DEBRIS
1391500	USGS	541	12/1/97 10:03	gcs	49.5	30.5	1.71	2.03	2.03	52.3	F	25	-0.02	0.5	WADING	LGT DEBRIS
1391500	USGS	542	12/30/97 10:30	gcs	95	293	1.45	3.24	3.24	426	F	22	-0.11	1	BRG CRANE	CLEAR
1391500	USGS	543	1/24/98 11:30	tjr	61	135	2.93	3.19	3.19	396	F	33	-0.03	0.5	WADING	CLEAR
1391500	USGS	544	1/24/98 12:06	tjr	61	130	2.98	3.16	3.16	388	F	23	-0.04	0.4	WADING	CLEAR
1391500	USGS	545	4/10/98 11:32	JFD	95	464	1.96	4.15		912	F	21	-0.22	0.8	BRG CRANE	SUBMERGED
1391500	USGS	546	4/10/98 13:00	JFD	95	420	1.77	3.78		747	F	20	-0.15	0.8	BRG CRANE	CLEAR
1391500	USGS	547	6/22/98 8:23	gcs	56.5	42.8	1.87	2.22	2.22	80.4	G	29	-0.01	0.5	WADING	LGT DEBRIS
1391500	USGS	548	10/1/98 8:03	gcs	39	19.6	0.91	1.69	1.69	17.8	F	25	0	0.5	WADING	LGT DEBRIS
1391500	USGS	549	11/17/98 9:45	gcs/ng	55	23.1	0.85	1.74	1.74	19.5	F	28	0	0.5	WADING	MOD DEBRIS
1391500	USGS	550	1/4/99 8:25	gcs	63	70.7	2.89	2.64	2.64	204	G	27	-0.01	0.5	WADING	CLEAR
1391500	USGS	551	3/4/99 13:00	ncg	66	82.2	3	2.75	2.76	247	F	28	-0.02	0.8	WADING	CLEAR
1391500	USGS	552	4/8/99 8:50	gcs/rlo	60	41.4	1.68	2.14	2.14	65	G	25	0	0.5	WADING	LGT DEBRIS
1391500	USGS	553	6/7/99 14:40	rlo	54.6	22.3	0.86	1.71	1.69	19.2	F	29	0	0.5	WADING	MOD DEBRIS
1391500	USGS	554	7/21/99 9:15	rlo	37	20.4	0.44	1.57	1.54	9.05	G	26	0	0.7	WADING	HVY DEBRIS
1391500	USGS	555	8/10/99 13:20	rlo/rwe	32.7	12.8	0.38	1.43	1.39	4.91	G	26	-0.02	0.5	WADING	MOD DEBRIS
1391500	USGS	556	9/10/99 10:00	rlo	59	38.1	1.62	2.13	2.11	61.7	P	26	0.01	0.6	WADING	CLEAR
1391500	USGS	557	9/10/99 11:52	rlo	57	51.2	1.47	2.18	2.16	75.8	G	25	0	0.5	WADING	CLEAR
1391500	USGS	558	11/3/99 13:10	rlo	58.1	81.5	2.49	2.77	2.84	203	P	30	-0.03	0.7	WADING	MOD DEBRIS
1391500	USGS	559	11/10/99 11:30	RLO/RWE	57.6	38.4	1.49	2.07	2.07	57.3	F	30	0.02	0.7	WADING	LGT DEBRIS
1391500	USGS	560	11/10/99 12:30	rlo	60.6	72.1	0.81	2.08	2.08	58.4	G	28	0.01	0.8	WADING	LGT DEBRIS
1391500	USGS	561	12/15/99 15:15	rlo	67.5	136	1.12	2.5	2.53	153	G	29	-0.01	0.6	WADING	CLEAR

Appendix Q, Table 4
Saddle Brook, Lodi, NJ, Surface Water Data

USGS 01391500 SADDLE RIVER AT LODI NJ
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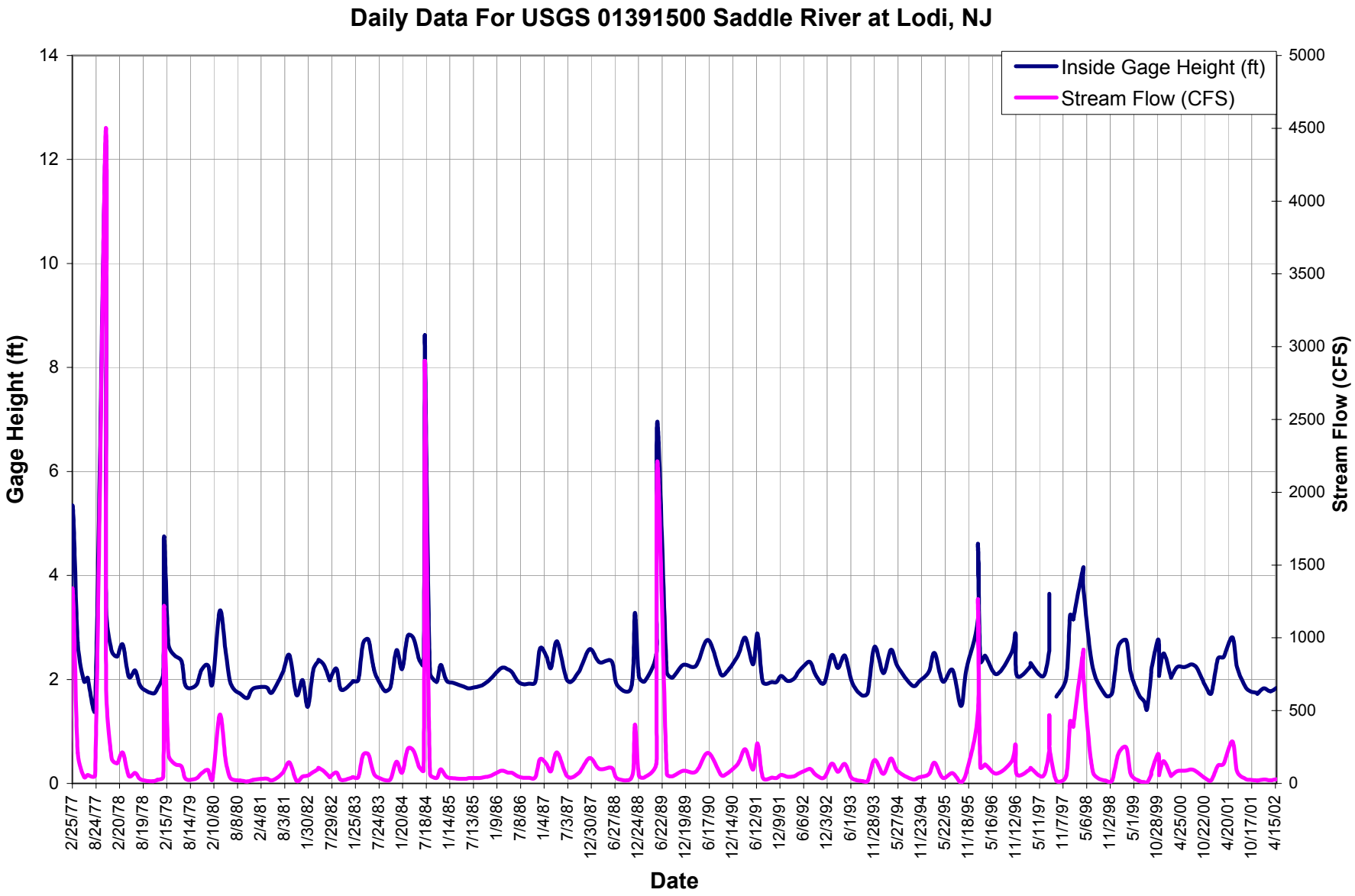
site_no	agency_cd	measureme	measurement _dt	party_nm	WIDTH channel_ width_va	AREA xsec_ area_va	MEAN VEL velocity_ va	INSIDE GAGE HEIGHT inside_ gage_va	OUTSIDE GAGE HEIGHT outside_ gage_va	STM FLOW (CFS) discharge_ 1	MS RATED measured_ rating_diff	SECTS sections_ va	GH CHANGE gage_va _change	GH CHANGE (FT) gage_va _time	MS TYPE (HR) measurement _type_cd	CONTROL control_ type_cd
15s	5s	5s	19d	12s	12s	12s	12s	12s	12s	12s	12s	2s	6s	6s	12s	12s
1391500	USGS	562	2/8/00 9:35	rlo	59	73.7	0.67	2.04	2.04	49.6	F	29	0	0.6	WADING	CLEAR
1391500	USGS	563	2/8/00 11:15	rlo	59	64.1	0.78	2.03	2.03	50	G	24	0	0.5	WADING	CLEAR
1391500	USGS	564	3/27/00 15:45	rlo	61.8	95.2	0.88	2.24	2.24	84.1	F	26	0	0.5	WADING	CLEAR
1391500	USGS	565	5/23/00 15:08	rlo	61.1	100	0.87	2.24	2.25	86.5	F	34	0	0.7	WADING	ALGAE
1391500	USGS	566	7/17/00 11:12	ABS	62	104	0.92	2.29	2.31	96.1	G	33	0	0.6	WADING	LGT DEBRIS
1391500	USGS	567	8/24/00 9:48	JAF/ABS	63	91.6	0.87	2.22	2.22	79.3	G	30	0	0.8	WADING	ALGAE
1391500	USGS	568	11/1/00 7:37	ABS	59	56.6	0.55	1.85	1.83	31.1	G	29	0	0.6	WADING	HVY DEBRIS
1391500	USGS	569	12/13/00 13:57	ABS	57	46.2	0.47	1.74	1.72	21.7	G	32	0	0.6	WADING	MOD DEBRIS
1391500	USGS	570	1/31/01 9:55	ABS	66	122	1	2.4	2.42	123	G	33	0	0.6	WADING	CLEAR
1391500	USGS	571	3/15/01 8:36	ABS	66.5	133	1	2.43	2.46	134	G	26	-0.01	0.6	WADING	CLEAR
1391500	USGS	572	5/22/01 11:38	ABS/BLW	68	196	1.48	2.81	2.9	289	G	27	0.16	1.1	WADING	CLEAR
1391500	USGS	573	6/27/01 12:02	ABS/VC	65	90.8	0.92	2.24	2.24	83.4	G	25	-0.01	0.5	WADING	ALGAE
1391500	USGS	574	8/28/01 11:05	ABS	60	43	0.73	1.86	1.84	31.2	G	25	-0.01	0.6	WADING	ALGAE
1391500	USGS	575	10/4/01 15:25	btw/elm	41.5	36.1	0.68	1.77	1.74	24.6	G	27	0	0.4	WADING	LGT DEBRIS
1391500	USGS	576	11/28/01 11:27	elm	51.7	32.2	0.62	1.74	1.71	20.1	G	25	-0.01	0.9	WADING	LGT DEBRIS
1391500	USGS	577	11/28/01 14:11	elm	51.7	39.1	0.49	1.72	1.7	19.2	G	28	0	0.8	WADING	LGT DEBRIS
1391500	USGS	578	1/16/02 9:57	afw/abs	61	47.3	0.57	1.83	1.8	26.8	G	30	0	0.6	WADING	MOD DEBRIS
1391500	USGS	579	3/7/02 11:55	afw	53	34.3	0.64	1.77	1.74	21.8	G	34	-0.02	0.7	WADING	MOD DEBRIS
1391500	USGS	580	4/24/02 12:42	afw	58	44.3	0.65	1.84	1.81	28.8	F	30	-0.01	0.6	WADING	LGT DEBRIS


Daily Data For USGS 01391500 Saddle River at Lodi, NJ
Inside Gage Height (ft)
Stream Flow (CFS)
Gage Height (ft)
Stream Flow (CFS)
Date
0
2
4
6
8
10
12
14
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
2/25/77
8/24/77
2/20/78
8/19/78
2/15/79
8/14/79
2/10/80
8/8/80
2/4/81
8/3/81
1/30/82
7/29/82
1/25/83
7/24/83
1/20/84
7/18/84
1/14/85
7/13/85
1/9/86
7/8/86
1/4/87
7/3/87
12/30/87
6/27/88
12/24/88
6/22/89
12/19/89
6/17/90
12/14/90
6/12/91
12/9/91
6/6/92
12/3/92
6/1/93
11/28/93
5/27/94
11/23/94
5/22/95
11/18/95
5/16/96
11/12/96
5/11/97
11/7/97
5/6/98
11/2/98
5/1/99
10/28/99
4/25/00
10/22/00
4/20/01
10/17/01
4/15/02

APPENDIX R
BATCH SORPTION RESULTS

1.0 Batch Sorption (Soil Distribution) Tests

Soil samples were collected from five locations which contained elevated levels of radiological contaminants and that consisted of varying soil types. The samples were collected from the MISS and were subjected to batch sorption (soil distribution (Rd/Kd)) tests. The purpose of the batch sorption tests was to determine the distribution coefficient (or partitioning coefficient) of the radiologic constituents (Ra-226, Th-232, and U-238) and metals (arsenic, chromium and lithium) between site soils and site groundwater. Four of the soil samples were obtained from the southwestern portion of the MISS, and one sample was obtained from the eastern portion of the MISS (see **Figure 4-14**). Soil samples were obtained from former PDI boring locations, 12B-039 (12B-022), 12B-042 (12B-021), 12B-070 (12B-023), 12B-085 (12B-024), and 12B-091 (12B-025). The first boring location cited was the boring identifier previously assigned to the PDI location and the parenthetical location was the identifier assigned to the batch sorption location. The samples were obtained from relatively shallow depths. The deepest sample was collected at Geoprobe boring 12B-022 where the sample was obtained from a depth of 4 to 6 feet below grade.

As previously indicated the locations of the batch sorption samples were chosen from areas of varied soil and elevated radiological concentrations/sums-of-ratio (SOR) values. In addition to being analyzed for radiological and chemical constituents, the samples were subjected to particle size/hydrometer testing and subsequently classified in accordance with the Unified Soil Classification System (USCS). Similarly, the soil samples were analyzed for total organic carbon (TOC). Soil samples 12B-023, 12B-024, and 12B-025 were classified as being a sandy silt (SM). Whereas, sample 12B-021 was classified as a well-sorted sand (SW), and sample 12B-022 was classified as a silty gravel (GM). **Attachment A** contains the Geotechnical results for the soil samples.

The batch sorption tests were conducted in accordance with ASTM Method D-4646. A copy of the method is provided as **Attachment B**. As outlined in the ASTM method, an aliquot of homogenized soil, 5 grams, was placed in a solution containing a known concentration of the chemical and radiological parameters. The sample aliquot was then shaken and allowed to equilibrate with the spiking solution for approximately 24 hours. The spiking solution was in contact with the soil for 24 hours and during which time it was assumed to have reached equilibrium with the soil.

Tables C-1, D-1 and E-1 present the initial "baseline" spiking solution concentrations, post contact solution concentrations, baseline soil concentrations, and amount of the analyte sorbed to the soil matrix for the radiological parameters. Similarly, **Tables F-1, G-1, and H-1** present the same information for the metals.

As previously indicated the concentration of the baseline spiking solution, post contacting solution, mass of soil tested and the volume of solution used is required to determine the Distribution Ratio (Rd). A 5-gram aliquot of soil was spiked with a 100-mL solution consisting of varying concentrations of radiological/chemicals of interest. Each soil sample was subjected to four increasingly elevated concentrations of the Chemicals of Concern (COC) identified as spiking levels A through D in the tables. Equation 10.1 from the D-4646 method, (refer to **Attachment B**) is presented as follows:

10.1 Calculate the distribution ratio as follows:

Rd = (A-B)*V/(Ms*B)

Where:

A = initial concentration of the spike solute, ug/mL

B = final concentration of the solute after 24 hours in contact with the geomedia, ug/mL

V = volume of the solution used, mL

Ms = mass of soil expressed on an oven-dried basis, g, and

Rd = distribution ratio, mL/g

In addition to determining the Distribution Ratio (Rd) as necessitated by the method, the Distribution Coefficient, Kd, was determined, where feasible, for each sample. As discussed in the GWRI Work Plan, a plot of the equilibrium concentration, C, of the spiking solution ("B" in Equation 10.1) versus the amount of the isotope/chemical sorbed, C*, is plotted in order to define the contaminants isotherm (Fetter 1994). The slope of the isotherm, if it is a straight line, is the distribution coefficient (Kd).

The concentration of the baseline spiking solution, post contacting solution, mass of soil tested and the volume of the spiking solution is needed to determine the Distribution Ratio (Rd). As depicted in the tables an individual Kd value is presented for a sample (e.g. 12B-021), whereas, Rd values were determined for each spiking solution concentration in accordance with the ASTM method. The plots of the isotherms and determination of the Rd/Kd values are presented in **Attachments C through H.**

1.1 RD/KD RESULTS FOR RA-226

For the five soil samples the distribution ratio (Rd) ranged from 225.43 mL/g to 1821.63 mL/g. The low concentration spike, approximately 35,000 pCi/L, had an average Rd value of approximately 1465 mL/g. The Rd value for the high concentration spike, approximately 695,000 pCi/L averaged approximately 255 mL/g.

Using the method described by Fetter (1994), the distribution coefficient (Kd) based on the isotherm method averaged approximately 400 mL/g, when all four equilibrium concentrations were used to define the isotherm. If the high concentration spike was excluded from the plot (3-point plot), the Kd averaged approximately 230 mL/g.

Attachment C presents the plots of the five soil samples along with the results of the linear regression analysis used to determine the slope of the isotherm, which is the Distribution Coefficient (Kd). The correlation coefficient and probability of occurrence is provided in **Attachment C, Table C-1.** As depicted in **Table C-1**, the correlation coefficients/probability values are similar for the 3 and 4-point plots. However, based on observations of RA-226 in groundwater, the Kd for the first three spiking concentrations may best represent the Kd for the various soil types encountered at the site.

Information presented in Charbeneau (2000) indicates that a Kd value for radium (non-isotope specific) in a sand matrix is 500 mL/g and for radium in a silt matrix may be as high as 36,000

mL/g. The Bechtel (1992) RI report cites the Kd for RA-226 to range from 60 mL/g to 2400 mL/g for soils having a pH ranging from 6.0 to 7.7 S.U. This implies that Kd is very sensitive to soil pH. Kd values determined from the isotherms appear to be fairly consistent with literature cited. However, none of the samples containing a high proportion of silt approached a Kd of 36,000 mL/g (L/Kg) as cited by Charbeneau.

1.2 RD/KD RESULTS FOR TH-232

For TH-232 the sorption capacity of the silty soils behaved differently than the coarser grained soils, refer to **Attachment D, Table D-1**. The distribution ratios (Rd) ranged from 2315.88 mL/g to 54,306.66 mL/g. The Rd values averaged approximately 10,500 mL/g for the low concentration spike associated with silty soils. The low concentration spike was approximately 7800 pCi/L. The Rd values associated with the low concentration spike averaged approximately 2350 mL/g for the coarser grained soils (12B-021 and 12B-022).

With respect to the high concentration spike, approximately 155,000 pCi/L, the Rd value averaged approximately 17,500 mL/g for the silty soils. Whereas, for the coarser grained soils the Rd value averaged approximately 5350 mL/g.

The Kd based on the isotherm method averaged approximately 7100 mL/g for the three silt samples (12B-023 to 12B-025), 5100 mL/g for the sandy soil (12B-021) and approximately 20,000 mL/g for the gravelly silt sample (12B-022). As depicted in **Attachment D, Table D-1** the statistical information was preferentially determined for the four-point analysis since the equilibrium concentration for the fourth spiking concentration was not that much greater than the equilibrium concentration for the 3 point analysis. Based on the probability of occurrence it is suggested that the four point data be used to determine the Kd of the soils.

Information presented in Charbeneau (2000) indicates that the Kd value for thorium (non-isotope specific) in a sand or silt matrix is approximately 3200 mL/g. The Bechtel (1992) RI report denotes the Kd for TH-232 may range from 3000 mL/g to 150,000 mL/g depending on the pH of the soil. **Attachment D** presents the plots of the isotherms and calculations used to determine the Rd/Kd values.

1.3 RD/KD RESULTS FOR U-238

For U-238 the sorption capacity of the silty material soils appeared to behave differently than the coarser grained soils, refer to **Attachment E, Table E-1**. The distribution ratio (Rd) ranged from 10.69 mL/g to 901.67 mL/g. With respect to the low concentration spike, 40 pCi/L, the Rd values ranged from approximately 40 mL/g to 140 mL/g for the silty soils. The Rd associated with the coarser grained soils (12B-021 and 12B-022) averaged approximately 17 mL/g.

With respect to the high concentration spike, approximately 775 pCi/L, the Rd value averaged approximately 60 mL/g for the silty soils. Whereas, the coarser grained soils had an Rd value of approximately 290 mL/g for sample 12B-021 (sand matrix) and approximately 75 mL/g for sample 12B-022 (gravelly silt).

The distribution coefficient (Kd) based on the isotherm method ranged from approximately 40 mL/g to 250 mL/g for the silty soils, whereas, the Kd determined for the well-sorted sand was approximately 80 mL/g. The Kd for the silty gravel was approximately 40 mL/g.

Statistical information presented in **Table E-1** appears to indicate that the correlation coefficients/probability of occurrence values are fairly consistent between three and four point plots. The one noted difference is that sample 12B-024 had a significantly greater Kd than did the other silt or coarser grained soils. Information presented in Charbeneau (2000) indicates that the Kd value for uranium (non-isotope specific) in a sand matrix is approximately 35 mL/g for uranium in sand and 15 mL/g for uranium in silt. The Bechtel (1992) RI report denotes the Kd for U-238 may range from 45 mL/g to 23,000 mL/g depending on the pH of the soil. Values determined from the batch sorption tests indicate that most values are consistent with literature cited data. **Attachment E** presents the plots of the isotherms and calculations used to determine the Rd/Kd values.

1.4 RD/KD RESULTS FOR LITHIUM

For the five soil samples subjected to distribution ratio (Rd) testing, the Rd value ranged from 0.75 mL/g to approximately 9.5 mL/g refer to **Attachment F, Table F-1.** The low concentration spike was 9880 ug/L, and had an average Rd value of approximately 6.4 mL/g. The high concentration spike, approximately 95,500 ug/L averaged approximately 1.10 mL/g for all soil samples tested.

Using the method described by Fetter (1994), the distribution coefficient (Kd) based on the isotherm method averaged 1.7 mL/g and 1.5 mL/g for the three and four data point analysis, respectively. However, the probability of occurrence was greater for the 3-point analysis. Therefore, greater weight is placed on the 3-point linear regression analysis. The Bechtel (1992) RI report cites Kd values for lithium to be 50 mL/g for sand and 500 mL/g for soils and clay, respectively. Based on Rd/Kd values determined for site-specific soils, it appears that lithium would preferentially be found in solution rather than sorbed to site soils. This is evident by a review of **Figures 5-6 and 5-17,** which depicts a large plume of lithium in overburden/bedrock groundwater. **Attachment F** presents the plots of the isotherms and calculations used to determine the Rd/Kd values.

1.5 RD/KD RESULTS FOR CHROMIUM

For the five soil samples subjected to distribution ratio (Rd) testing, the Rd values ranged from 3980 mL/g to 11,480 mL/g, refer to **Attachment G, Table G-1.** The low concentration spike was approximately 20,400 ug/L, and had an average Rd value of approximately 6900 mL/g. The high concentration spike, 102,000 ug/L had an average Rd value of approximately 8630 mL/g.

Using the method described by Fetter (1994), the distribution coefficient (Kd) based on the isotherm method averaged 9310 mL/g utilizing all four data points. The correlation coefficients/probability of occurrence suggested a linear trend of the data. The average Kd for the three silt samples were approximately 9,050 L/Kg. The well sorted sand was approximately 7450 L/Kg, and the silty gravel was 11,825 L/Kg.

Information presented in Charbeneau (2000) indicates that the Kd value for total chromium in a sand matrix is approximately 70 mL/g, and 30 mL/g for chromium in a silt matrix. The Bechtel (1992) RI report cites a Kd value for hexavalent chromium of 0.4 for sand and 4 mL/g for soils/clays, respectively. Based on Rd/Kd values determined for site-specific soils, it appears that chromium would preferentially sorb to site soils than be found in solution. **Appendix G** presents the plots of the isotherms and calculations used to determine the Rd/Kd values.

1.6 RD/KD RESULTS FOR ARSENIC

The soil sample obtained from Geoprobe location 12B-021 and subject to batch sorption testing had all post contacting solution concentrations (i.e., equilibrium concentration) as non-detect for the four spiking levels, refer to **Attachment H, Table H-1**. As a result Rd values could not be determined for this sample. With respect to the other soil samples, the Rd values ranged from approximately 305 mL/g to 5835 mL/g. The low concentration spike was 295 ug/L, and had an average Rd value of approximately 850 mL/g. The high concentration spike, 1200 ug/L had an average Rd value of approximately 3050 mL/g.

As a result of the post contacting liquid concentrations being non-detect for several aliquot fractions, it was not feasible to define the isotherms for arsenic in soil. It appears that the spiking concentrations for arsenic were not sufficiently high enough to define the isotherm since most of the post contacting concentrations were either non-detect or similar in concentration.

The Bechtel (1992) RI report cites a Kd value for arsenic of 0.3 mL/g for sand and 3 mL/g for soils/clays, respectively. Based on Rd values determined for site-specific soils, it appears that arsenic would preferentially sorb to site soils than be found in solution. **Attachment H** presents the calculations used to determine the Rd values

2.0 Conclusion

The results of the batch sorption tests indicate that the distribution coefficient is dependent upon the soil type and the pH of the soil as indicated by the range in Kd values cited in the literature. Additionally, the batch sorption tests had the minimal number of data points required to define the isotherm. The batch sorption tests did not have soil pH analyzed as a field/laboratory parameter, this information would be required for subsequent sorption tests. Although the Kd values determined from the isotherms had well defined correlation coefficients/probability values, it is evident that there were variations within the soil types. The reason for the variation of Kd within soil types may pertain to adsorption mechanism of the soil such as the cation exchange capacity (CEC). Based on the sorption tests for arsenic, it is evident that a greater initial spike concentration would be required to define the isotherm.

ATTACHMENT A

BATCH SORPTION - GEOTECHNICAL DATA

SPECIFIC GRAVITY
ASTM D 854

SPECIFIC GRAVITY TESTS ASTM D 854

CLIENT:	Stone & Webster	JOB NO.	2162-15
SOIL DESCR.		LOCATION	Maywood Superfund Site

BORING NO.	
DEPTH	24'
SAMPLE NO.	12b021226
DATE SAMPLED	12/6/00
DATE TESTED	12/30/00 CW
Pycnometer #	FF
Weight of oven dry soil (g) (Wo)	27.171
Weight of flask, soil, and water. (g) (Wb)	181.184
Temperature (deg. C) (Tx)	20.5
Weight of water & flask at Tx (from cal. curve)(Wa)	164.836
Specific Gravity*	2.51

*Specific Gravity = Wo/[Wo+(Wa-Wb)]

Data entry by: MC Date: 01/04/2001
Data checked by: DPM Date: 01/04/01
FileName: SOSG1266

ADVANCED TERRA TESTING, INC.

SPECIFIC GRAVITY TESTS ASTM D 854
CLIENT: Stone & Webster JOB NO. 2162-15
SOIL DESCR. LOCATION FUSRAP Maywood Superfund Site

BORING NO.				
DEPTH				
SAMPLE NO.	12b-021221	12b-021211	12b-021216	12b-021206
DATE SAMPLED	12-6-00			
DATE TESTED	1-11-01 DLC	1-11-01 DLC	1-11-01 DLC	1-11-01 DLC
Pycnometer #	DD	3	KK	6
Weight of oven dry soil (g) (Wo)	25.652	26.205	25.703	26.470
Weight of flask, soil, and water. (g) (Wb)	179.499	179.119	179.664	172.671
Temperature (deg. C) (Tx)	25.1	24.7	25.1	25.0
Weight of water & flask at Tx (from cal. curve)(Wa)	163.238	162.522	163.397	157.251
Specific Gravity*	2.73	2.73	2.72	2.40

*Specific Gravity = Wo/[Wo+(Wa-Wb)]

Data entry by: SR Date: 01/11/2001
Data checked by: [illegible] Date: 01/16/01
FileName: SOMD6215

ADVANCED TERRA TESTING, INC.

MOISTURE CONTENT & DENSITY
ASTM D 2216 & 2937

Moisture & Density Determinations
ASTM D 2216 & D 2937

CLIENT: Stone & Webster
LOCATION: FUSRAP Maywood Superfund Site

JOB NO.: 2162-15

BORING				
SAMPLE DEPTH				
SAMPLE NO.	12b-021211	12b-021216	12b-021206	12b-021221
DATE SAMPLED	12-6-00	12-6-00	12-6-00	12-6-00
DATE TESTED	1-4-01 KF	1-4-01 KF	1-3-01 KF	1-3-01 KF
SOIL DESCRIPTION	Proj. #085750502	Proj. #085750502	Proj. #085750502	Proj. #085750502
DENSITY DETERMINATIONS				
Sample Height (IN)	Density Not Possible	Density Not Possible	Density Not Possible	Density Not Possible
Sample Diameter (IN)				
Wt of Wet Soil (GMs)				
Sample Volume (CU Ft)				
WET DENSITY (PCF)				
DRY DENSITY (PCF)				
MOISTURE DETERMINATIONS				
Wt. of Wet Soil & Dish (gms)	81.44	88.90	99.09	92.85
Wt. of Dry Soil & Dish (gms)	59.76	51.15	86.65	57.54
Net Loss of Moisture (gms)	21.68	37.75	12.44	35.31
Wt. of Dish (gms)	8.15	8.45	8.07	8.27
Wt. of Dry Soil (gms)	51.61	42.70	78.58	49.27
Moisture Content (%)	42.0	88.4	15.8	71.7

Data entered by: SR/MC Date: 01/17/2001
Data checked by: [signature] Date: 1/18/01
FileName: SOMD050A

ADVANCED TERRA TESTING, INC.

MOISTURE CONTENT
ASTM D 2216

Moisture Content Determinations
ASTM D 2216

CLIENT: Stone & Webster
LOCATION: Maywood Superfund Site

JOB NO.: 2162-15

BORING	
SAMPLE DEPTH	24'
SAMPLE NO.	12b-021226
DATE SAMPLED	12/6/00
DATE TESTED	12/24/00 CW
SOIL DESCRIPTION	
MOISTURE DETERMINATIONS	
Wt. of Wet Soil & Dish (gms)	49.93
Wt. of Dry Soil & Dish (gms)	32.28
Net Loss of Moisture (gms)	17.65
Wt. of Dish (gms)	3.84
Wt. of Dry Soil (gms)	28.44
Moisture Content (%)	62.1

Data entered by: MC Date: 01/04/2001
Data checked by: MM Date: 01/04/01
FileName: SON01226

ADVANCED TERRA TESTING, INC.

HYDROMETER ANALYSIS

With Mechanical Grain Size Analysis

ASTM D 422

MECHANICAL ANALYSIS - SIEVE TEST DATA
ASTM D 422

CLIENT Stone & Webster

JOB NO. 2162-15

BORING NO.
DEPTH
SAMPLE NO. 12b-021216
SOIL DESCR.
LOCATION FUSRAP Maywood Superfund Site

SAMPLED 12/06/00
DATE TESTED 01/11/01 DPM
WASH SIEVE Yes
DRY SIEVE No

MOISTURE DATA

HYGROSCOPIC Yes

NATURAL No

Wt. Wet Soil & Pan (g)	41.24
Wt. Dry Soil & Pan (g)	38.92
Wt. Lost Moisture (g)	2.32
Wt. of Pan Only (g)	3.70
Wt. of Dry Soil (g)	35.22
Moisture Content %	6.6

Wt. Hydrom. Sample Wet (g)	58.27
Wt. Hydrom. Sample Dry (g)	54.67

WASH SIEVE ANALYSIS

Wt. Total Sample Wet (g)	58.27
Weight of + #10 Before Washing (g)	0.00
Weight of + #10 After Washing (g)	0.00
Weight of - #10 Wet (g)	58.27
Weight of - #10 Dry (g)	54.67
Wt. Total Sample Dry (g)	54.67
Calc. Wt. "W" (g)	54.67
Calc. Mass + #10	0.00

Sieve Number (Size)	Pan Weight (g)	Indiv. Wt. + Pan (g)	Indiv. Wt. Retain.	Cum. Wt. Retain.	Cum. % Retain.	% Finer By Wt.
3"	0.00	0.00	0.00	0.00	0.0	100.0
1 1/2"	0.00	0.00	0.00	0.00	0.0	100.0
3/4"	0.00	0.00	0.00	0.00	0.0	100.0
3/8"	0.00	0.00	0.00	0.00	0.0	100.0
#4	0.00	0.00	0.00	0.00	0.0	100.0
#10	0.00	0.00	0.00	0.00	0.0	100.0
#20	3.58	5.47	1.89	1.89	3.5	96.5
#40	3.80	6.89	3.09	4.98	9.1	90.9
#60	3.66	5.93	2.27	7.25	13.3	86.7
#100	3.64	5.55	1.91	9.16	16.8	83.2
#200	3.69	6.43	2.74	11.90	21.8	78.2

Data entered by: PHB/MC Date: 01/22/2001
Data checked by: SR Date: 1-23-01
FileName: SOM01216

ADVANCED TERRA TESTING, INC.

HYDROMETER ANALYSIS - SEDIMENTATION DATA

CLIENT	Stone & Webster	JOB NO.	2162-15
BORING NO.		SAMPLED	12/06/00
DEPTH		DATE TESTED	01/11/01 DPM
SAMPLE NO.	12b-021216	WASH SIEVE	Yes
SOIL DESCR.		DRY SIEVE	No
LOCATION	FUSRAP Maywood Superfund Site		

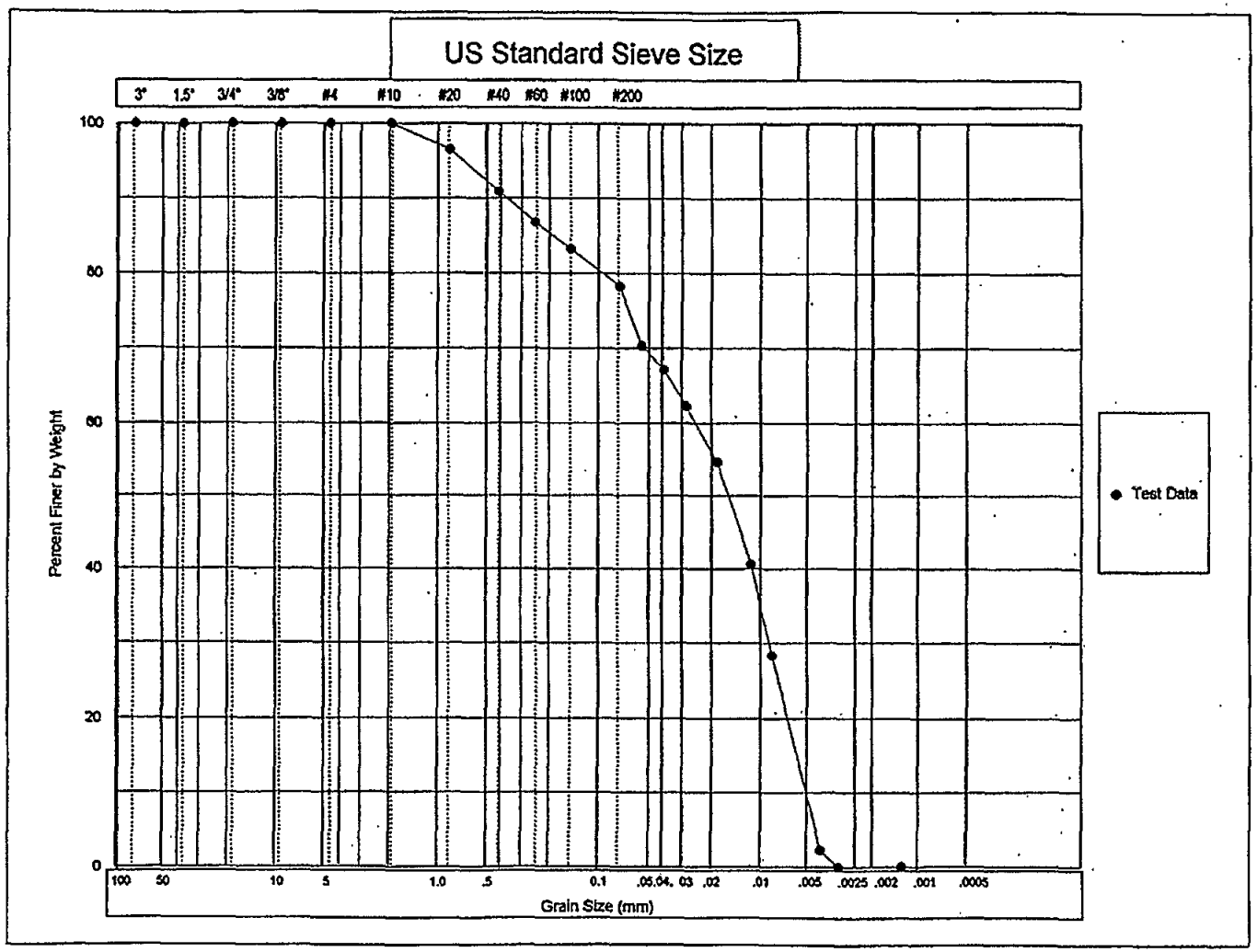
Hydrometer #	ASTM 152 H	Temp., Deg. C	23.2
Sp. Gr. of Soil	2.72	Temp. Coef. K	0.01287
Value of "alpha"	0.99	Wt. Dry Sample "W"	54.669
Deflocculant	Sodium Hexametaphosphate	% of Total Sample	100.0
Defloc. Corr'n	5.0		
Meniscus Corr'n	-1.0		

T Elapsed Time (min)	Hydrometer Reading Original	Corrected "R"	100Ra/W	% Total Sample	Effective Depth L	Grain Diameter (mm)
0.0	--	--	--	--	--	--
0.5	45.00	39.00	70.3	70.3	8.91	0.0543
1.0	43.25	37.25	67.2	67.2	9.20	0.0390
2.0	40.50	34.50	62.2	62.2	9.65	0.0283
5.0	36.25	30.25	54.6	54.6	10.35	0.0185
15.0	28.50	22.50	40.6	40.6	11.62	0.0113
30.0	21.75	15.75	28.4	28.4	12.72	0.0084
60.0	--	--	--	--	--	--
148.0	7.25	1.25	2.3	2.3	15.10	0.0041
250.0	6.00	0.00	0.0	0.0	15.31	0.0032
1536.0	6.00	0.00	0.0	0.0	15.31	0.0013

Grain Diameter = K*(SQRT(L/T))

Data entered by: PHB/MC Date: 01/22/2001
Data checked by: SR Date: 1-23-01
FileName: SOM01216

ADVANCED TERRA TESTING, INC.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	CRS	MEDIUM	FINE	

USCS

COBBLES	PEBBLE GRAVEL				SAND			SILT	CLAY
TO BOULDERS	COARSE	MED	FINE	GRAN	COARSE	MED	FINE		

WENTWORTH

Client: Stone & Webster

Boring No.:

Sample No.: 12b-021216

Depth:

Job Number: 2162-15

Classification:

Advanced Terra Testing, Inc.

MECHANICAL ANALYSIS - SIEVE TEST DATA
ASTM D 422

CLIENT Stone & Webster

JOB NO. 2162-15

BORING NO.
DEPTH
SAMPLE NO. 12b-021221
SOIL DESCR.
LOCATION FUSRAP Maywood Superfund Site

SAMPLED 12/06/00
DATE TESTED 01/11/01 DPM
WASH SIEVE Yes
DRY SIEVE No

MOISTURE DATA

HYGROSCOPIC Yes

NATURAL No

Wt. Wet Soil & Pan (g)	35.58
Wt. Dry Soil & Pan (g)	33.64
Wt. Lost Moisture (g)	1.94
Wt. of Pan Only (g)	3.66
Wt. of Dry Soil (g)	29.98
Moisture Content %	6.5
Wt. Hydrom. Sample Wet (g)	55.28
Wt. Hydrom. Sample Dry (g)	51.92

WASH SIEVE ANALYSIS

Wt. Total Sample Wet (g)	167.13
Weight of + #10 Before Washing (g)	0.68
Weight of + #10 After Washing (g)	0.44
Weight of - #10 Wet (g)	166.45
Weight of - #10 Dry (g)	156.56
Wt. Total Sample Dry (g)	157.00
Calc. Wt. "W" (g)	52.07
Calc. Mass + #10	0.15

Sieve Number (Size)	Pan Weight (g)	Indiv. Wt. + Pan (g)	Indiv. Wt. Retain.	Cum. Wt. Retain.	Cum. % Retain.	% Finer By Wt.
3"	0.00	0.00	0.00	0.00	0.0	100.0
1 1/2"	0.00	0.00	0.00	0.00	0.0	100.0
3/4"	0.00	0.00	0.00	0.00	0.0	100.0
3/8"	0.00	0.00	0.00	0.00	0.0	100.0
#4	0.00	0.00	0.00	0.00	0.0	100.0
#10	0.00	0.44	0.44	0.44	0.3	99.7
#20	2.29	3.08	0.79	0.79	1.8	98.2
#40	2.34	4.20	1.86	2.65	5.4	94.6
#60	2.37	4.30	1.93	4.58	9.1	90.9
#100	2.37	5.30	2.93	7.51	14.7	85.3
#200	2.33	8.43	6.10	13.61	26.4	73.6

Data entered by: PHB/MC Date: 01/22/2001
Data checked by: SK Date: 1-23-01
FileName: SOM01221

ADVANCED TERRA TESTING, INC.

HYDROMETER ANALYSIS - SEDIMENTATION DATA

CLIENT Stone & Webster

JOB NO. 2162-15

BORING NO.		SAMPLED	12/06/00
DEPTH		DATE TESTED	01/11/01 DPM
SAMPLE NO.	12b-021221	WASH SIEVE	Yes
SOIL DESCR.		DRY SIEVE	No
LOCATION.	FUSRAP Maywood Superfund Site		

Hydrometer #	ASTM 152 H	Temp., Deg. C	23.1
Sp. Gr. of Soil	2.73	Temp. Coef. K	0.01285
Value of "alpha"	0.98	Wt. Dry Sample "W"	52.069
Deflocculant	Sodium Hexametaphosphate	% of Total Sample	100.0
Defloc. Corr'n	5.0		
Meniscus Corr'n	-1.0		

T Elapsed Time (min)	Hydrometer Reading Original	Corrected "R"	100Ra/W	% Total Sample	Effective Depth L	Grain Diameter (mm)
0.0	--	--	--	--	--	--
0.5	43.00	37.00	69.9	69.9	9.24	0.0552
1.0	39.00	33.00	62.4	62.4	9.89	0.0404
2.0	33.50	27.50	52.0	52.0	10.80	0.0298
5.0	28.50	22.50	42.5	42.5	11.62	0.0196
15.0	19.25	13.25	25.0	25.0	13.13	0.0120
30.0	10.50	4.50	8.5	8.5	14.57	0.0090
60.0	8.00	2.00	3.8	3.8	14.98	0.0064
184.0	6.25	0.25	0.5	0.5	15.27	0.0037
250.0	6.00	0.00	0.0	0.0	15.31	0.0032
1570.0	6.00	0.00	0.0	0.0	15.31	0.0013

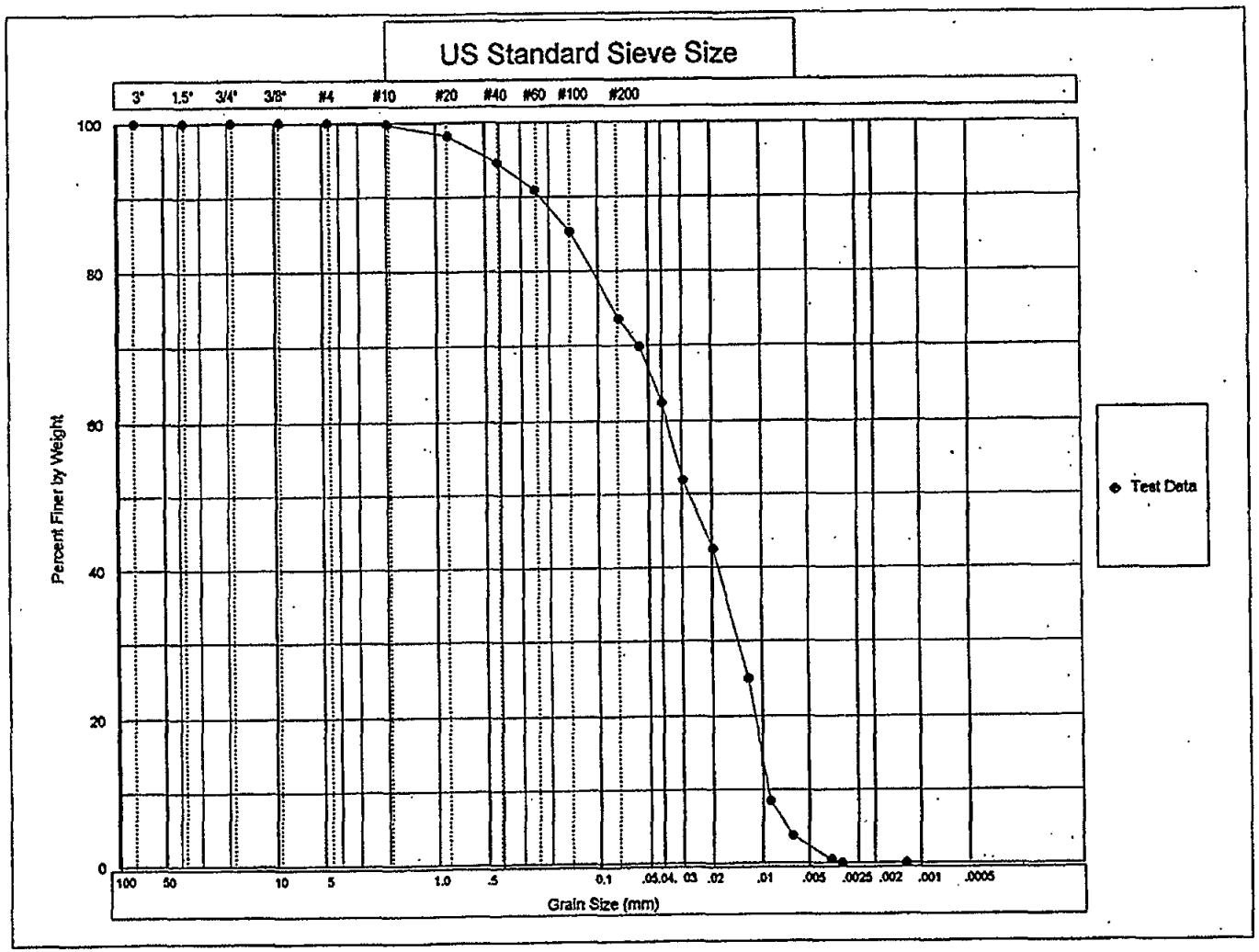
Grain Diameter = K*(SQRT(L/T))

Data entered by: PHB/MC Date: 01/22/2001

Data checked by: SR Date: 1-23-01

FileName: SOM01221

ADVANCED TERRA TESTING, INC.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	CRS	MEDIUM	FINE	

USCS

COBBLES	PEBBLE GRAVEL				SAND			SILT	CLAY
TO BOULDERS	COARSE	MED	FINE	GRAN	COARSE	MED	FINE		

WENTWORTH

Client: Stone & Webster
Depth:
Classification:

Boring No.:

Job Number: 2162-15

Sample No.: 12b-021221

Advanced Terra Testing, Inc.

MECHANICAL ANALYSIS - SIEVE TEST DATA
ASTM D 422

CLIENT Stone & Webster

JOB NO. 2165-15

BORING NO.
DEPTH
SAMPLE NO. 12b-021206
SOIL DESCR.
LOCATION FUSRAP Maywood Superfund Site

SAMPLED 12/6/00
DATE TESTED 01/11/01 DPM
WASH SIEVE Yes
DRY SIEVE No

MOISTURE DATA

HYGROSCOPIC Yes

NATURAL No

Wt. Wet Soil & Pan (g)	44.45
Wt. Dry Soil & Pan (g)	43.93
Wt. Lost Moisture (g)	0.52
Wt. of Pan Only (g)	2.00
Wt. of Dry Soil (g)	41.93
Moisture Content %	1.2
Wt. Hydrom. Sample Wet (g)	55.91
Wt. Hydrom. Sample Dry (g)	55.23

WASH SIEVE ANALYSIS

Wt. Total Sample Wet (g)	248.36
Weight of + #10 Before Washing (g)	115.14
Weight of + #10 After Washing (g)	108.18
Weight of - #10 Wet (g)	133.22
Weight of - #10 Dry (g)	138.46
Wt. Total Sample Dry (g)	246.64
Calc. Wt. "W" (g)	98.37
Calc. Mass + #10	43.15

Sieve Number (Size)	Pan Weight (g)	Indiv. Wt. + Pan (g)	Indiv. Wt. Retain.	Cum. Wt. Retain.	Cum. % Retain.	% Finer By Wt.
3"	0.00	0.00	0.00	0.00	0.0	100.0
1 1/2"	0.00	0.00	0.00	0.00	0.0	100.0
3/4"	0.00	7.62	7.62	7.62	3.1	96.9
3/8"	0.00	24.12	24.12	31.74	12.9	87.1
#4	0.00	35.12	35.12	66.86	27.1	72.9
#10	0.00	41.32	41.32	108.18	43.9	56.1
#20	3.62	13.61	9.99	9.99	54.0	46.0
#40	4.03	12.29	8.26	18.25	62.4	37.6
#60	3.70	9.06	5.36	23.61	67.9	32.1
#100	3.66	9.25	5.59	29.20	73.5	26.5
#200	3.66	10.34	6.68	35.88	80.3	19.7

Data entered by: PHB / MC Date: 01/22/2001
Data checked by: SR Date: 1-23-01
FileName: SOM01206

ADVANCED TERRA TESTING, INC.

HYDROMETER ANALYSIS - SEDIMENTATION DATA

CLIENT Stone & Webster

JOB NO. 2165-15

BORING NO.		SAMPLED	12/6/00
DEPTH		DATE TESTED	01/11/01 DPM
SAMPLE NO.	12b-021206	WASH SIEVE	Yes
SOIL DESCR.		DRY SIEVE	No
LOCATION	FUSRAP Maywood Superfund Site		

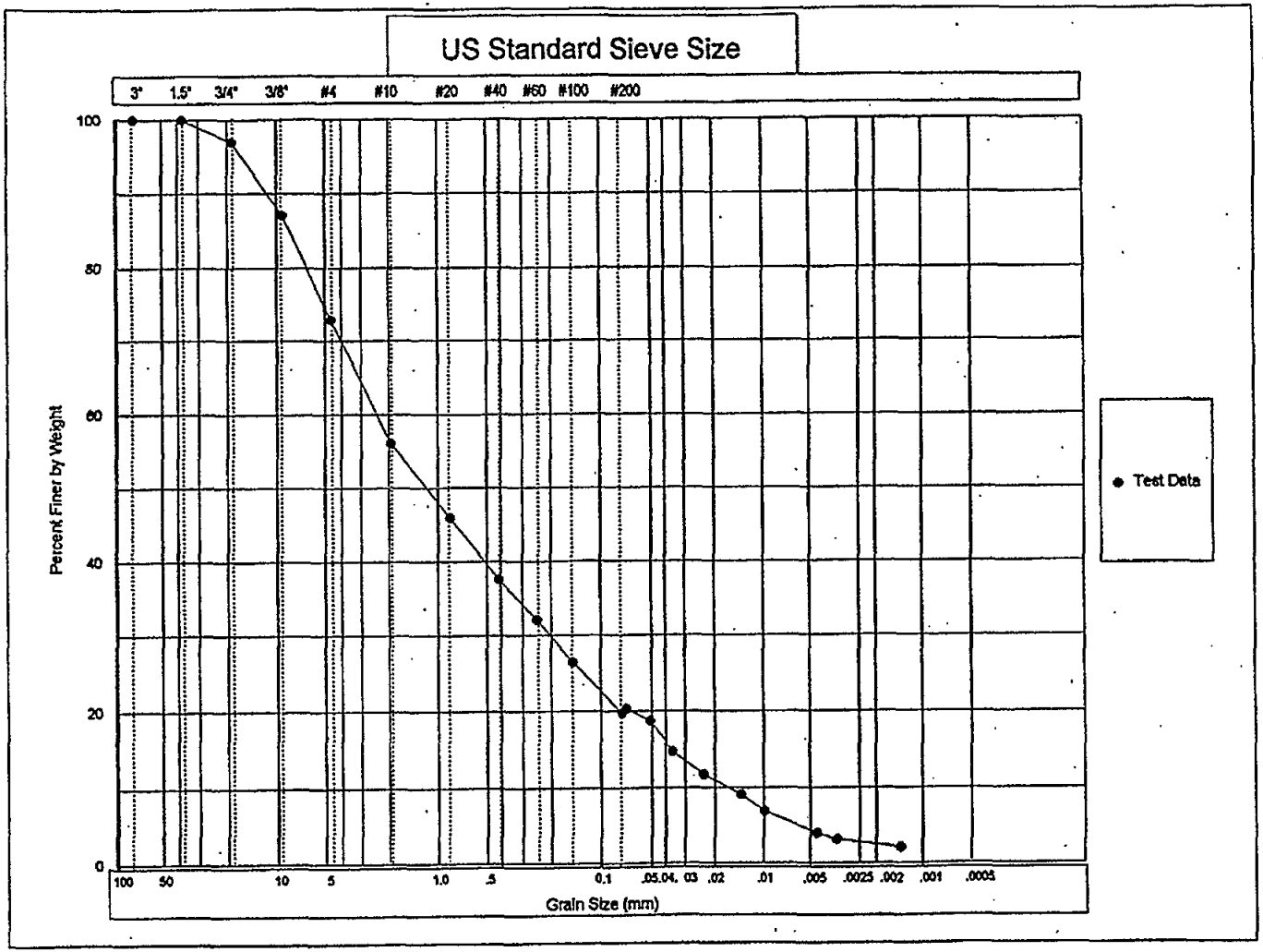
Hydrometer #	ASTM 152 H	Temp., Deg. C	23.3
Sp. Gr. of Soil	2.40	Temp. Coef. K	0.01422
Value of "alpha"	1.05	Wt. Dry Sample "W"	98.372
Deflocculant	Sodium Hexametaphosphate	% of Total Sample	100.0
Defloc. Corr'n	5.0		
Meniscus Corr'n	-1.0		

T Elapsed Time (min)	Hydrometer Reading Original	Corrected "R"	100Ra/W	% Total Sample	Effective Depth L	Grain Diameter (mm)
0.0	--	--	--	--	--	--
0.5	25.00	19.00	20.3	20.3	12.19	0.0702
1.0	23.50	17.50	18.7	18.7	12.44	0.0502
2.0	19.75	13.75	14.7	14.7	13.05	0.0363
5.0	17.00	11.00	11.7	11.7	13.50	0.0234
15.0	14.50	8.50	9.1	9.1	13.91	0.0137
30.0	12.50	6.50	6.9	6.9	14.24	0.0098
60.0	--	--	--	--	--	--
139.0	9.75	3.75	4.0	4.0	14.69	0.0046
250.0	9.00	3.00	3.2	3.2	14.81	0.0035
1529.0	8.00	2.00	2.1	2.1	14.98	0.0014

Grain Diameter = K*(SQRT(L/T))

Data entered by: PHB / MC Date: 01/22/2001
Data checked by: SA Date: 1-23-01
FileName: SOM01206

ADVANCED TERRA TESTING, INC.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	CRS	MEDIUM	FINE	

USCS

COBBLES	PEBBLE GRAVEL				SAND			SILT	CLAY
TO BOULDERS	COARSE	MED	FINE	GRAN	COARSE	MED	FINE		

WENTWORTH

Client: Stone & Webster
Boring No.:
Sample No.: 12b-021206
Depth:
Job Number: 2165-15
Classification:_____
Advanced Terra Testing, Inc.

MECHANICAL ANALYSIS - SIEVE TEST DATA
ASTM D 422

CLIENT Stone & Webster

JOB NO. 2162-15

BORING NO.
DEPTH
SAMPLE NO. 12b-021211
SOIL DESCR.
LOCATION FUSRAP Maywood Superfund Site

SAMPLED 12/06/00
DATE TESTED 01/11/01 DPM
WASH SIEVE Yes
DRY SIEVE No

MOISTURE DATA

HYGROSCOPIC Yes

NATURAL No

Wt. Wet Soil & Pan (g)	39.90
Wt. Dry Soil & Pan (g)	38.47
Wt. Lost Moisture (g)	1.43
Wt. of Pan Only (g)	3.59
Wt. of Dry Soil (g)	34.88
Moisture Content %	4.1
Wt. Hydrom. Sample Wet (g)	56.46
Wt. Hydrom. Sample Dry (g)	54.24

WASH SIEVE ANALYSIS

Wt. Total Sample Wet (g)	199.52
Weight of + #10 Before Washing (g)	72.85
Weight of + #10 After Washing (g)	67.37
Weight of - #10 Wet (g)	126.67
Weight of - #10 Dry (g)	126.95
Wt. Total Sample Dry (g)	194.32
Calc. Wt. "W" (g)	83.02
Calc. Mass + #10	28.78

Sieve Number (Size)	Pan Weight (g)	Indiv. Wt. + Pan (g)	Indiv. Wt. Retain.	Cum. Wt. Retain.	Cum. % Retain.	% Finer By Wt.
3"	0.00	0.00	0.00	0.00	0.0	100.0
1 1/2"	0.00	0.00	0.00	0.00	0.0	100.0
3/4"	0.00	24.39	24.39	24.39	12.6	87.4
3/8"	0.00	23.01	23.01	47.40	24.4	75.6
#4	0.00	12.34	12.34	59.74	30.7	69.3
#10	0.00	7.63	7.63	67.37	34.7	65.3
#20	2.36	4.58	2.22	2.22	37.3	62.7
#40	1.00	4.84	3.84	6.06	42.0	58.0
#60	0.96	4.11	3.15	9.21	45.8	54.2
#100	0.98	5.29	4.31	13.52	51.0	49.0
#200	0.99	6.97	5.98	19.50	58.2	41.8

Data entered by: PHB Date: 01/22/2001
Data checked by: Date: 1/29/01
FileName: SOM00212

ADVANCED TERRA TESTING, INC.

HYDROMETER ANALYSIS - SEDIMENTATION DATA

CLIENT	Stone & Webster	JOB NO.	2162-15
BORING NO.		SAMPLED	12/06/00
DEPTH		DATE TESTED	01/11/01 DPM
SAMPLE NO.	12b-021211	WASH SIEVE	Yes
SOIL DESCR.		DRY SIEVE	No
LOCATION	FUSRAP Maywood Superfund Site		

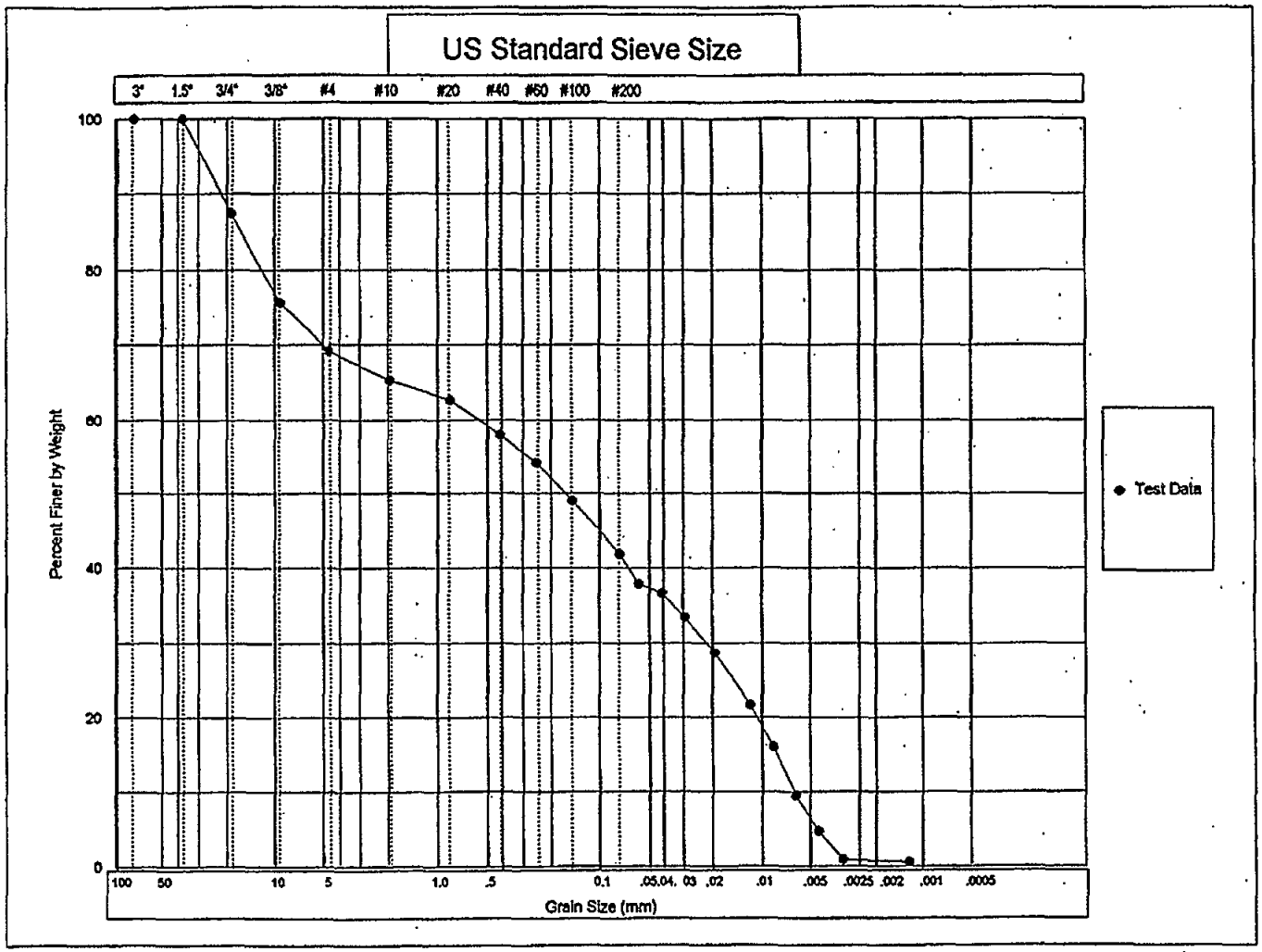
Hydrometer #	ASTM 152 H	Temp., Deg. C	23.0
Sp. Gr. of Soil	2.73	Temp. Coef. K	0.01286
Value of "alpha"	0.98	Wt. Dry Sample "W"	83.020
Deflocculant	Sodium Hexametaphosphate	% of Total Sample	100.0
Defloc. Corr'n	5.0		
Meniscus Corr'n	-1.0		

T Elapsed Time (min)	Hydrometer Reading Original	Corrected "R"	100Ra/W	% Total Sample	Effective Depth L	Grain Diameter (mm)
0.0	--	--	--	--	--	--
0.5	38.00	32.00	37.9	37.9	10.06	0.0577
1.0	37.00	31.00	36.7	36.7	10.22	0.0411
2.0	34.25	28.25	33.5	33.5	10.67	0.0297
5.0	30.25	24.25	28.7	28.7	11.33	0.0194
15.0	24.25	18.25	21.6	21.6	12.31	0.0117
30.0	19.50	13.50	16.0	16.0	13.09	0.0085
60.0	14.00	8.00	9.5	9.5	13.99	0.0062
120.0	10.00	4.00	4.7	4.7	14.65	0.0045
250.0	6.75	0.75	0.9	0.9	15.18	0.0032
1613.0	6.50	0.50	0.6	0.6	15.22	0.0012

Grain Diameter = K*(SQRT(L/T))

Data entered by: PHB Date: 01/22/2001
Data checked by: [signature] Date: 1/23/01
FileName: SOM00212

ADVANCED TERRA TESTING, INC.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	CRS	MEDIUM	FINE	

USCS

COBBLES	PEBBLE GRAVEL				SAND			SILT	CLAY
TO BOULDERS	COARSE	MED	FINE	GRAN	COARSE	MED	FINE		

WENTWORTH

Client: Stone & Webster Boring No.: Sample No.: 12b-021211

Depth: Job Number: 2162-15

Classification:_____

Advanced Terra Testing, Inc.

MECHANICAL ANALYSIS - SIEVE TEST DATA
ASTM D 422

CLIENT Stone & Webster

JOB NO. 2162-15

BORING NO.	
DEPTH	24
SAMPLE NO.	12b-021226
SOIL DESCR.	16 oz. jar
LOCATION	Maywood Superfund Site

SAMPLED	12/6/00
DATE TESTED	12/30/00 CW
WASH SIEVE	Yes
DRY SIEVE	No

MOISTURE DATA

HYGROSCOPIC	Yes
NATURAL	No

Wt. Wet Soil & Pan (g)	29.69
Wt. Dry Soil & Pan (g)	28.49
Wt. Lost Moisture (g)	1.20
Wt. of Pan Only (g)	3.92
Wt. of Dry Soil (g)	24.58
Moisture Content %	4.9

Wt. Hydrom. Sample Wet (g)	51.58
Wt. Hydrom. Sample Dry (g)	49.18

WASH SIEVE ANALYSIS

Wt. Total Sample Wet (g)	123.19
Weight of + #10 Before Washing (g)	11.27
Weight of + #10 After Washing (g)	10.96
Weight of - #10 Wet (g)	111.92
Weight of - #10 Dry (g)	107.01
Wt. Total Sample Dry (g)	117.97
Calc. Wt. "W" (g)	54.22
Calc. Mass + #10	5.04

Sieve Number (Size)	Pan Weight (g)	Indiv. Wt. + Pan (g)	Indiv. Wt. Retain.	Cum. Wt. Retain.	Cum. % Retain.	% Finer By Wt.
3"	0.00	0.00	0.00	0.00	0.0	100.0
1 1/2"	0.00	0.00	0.00	0.00	0.0	100.0
3/4"	0.00	0.00	0.00	0.00	0.0	100.0
3/8"	0.00	1.91	1.91	1.91	1.6	98.4
#4	0.00	5.46	5.46	7.37	6.3	93.7
#10	0.00	3.59	3.59	10.96	9.3	90.7
#20	1.00	3.04	2.05	2.05	13.1	86.9
#40	1.04	4.73	3.69	5.73	19.9	80.1
#60	1.02	4.93	3.92	9.65	27.1	72.9
#100	0.96	4.67	3.71	13.36	33.9	66.1
#200	1.05	6.00	4.95	18.30	43.1	56.9

Data entered by: MC Date: 01/04/2001
Data checked by: DM Date: 01/05/01
FileName: SOH01226

ADVANCED TERRA TESTING, INC.

HYDROMETER ANALYSIS - SEDIMENTATION DATA

CLIENT	Stone & Webster	JOB NO.	2162-15
BORING NO.		SAMPLED	12/6/00
DEPTH	24	DATE TESTED	12/30/00 CW
SAMPLE NO.	12b-021226	WASH SIEVE	Yes
SOIL DESCR.	16 oz. jar	DRY SIEVE	No
LOCATION	Maywood Superfund Site		

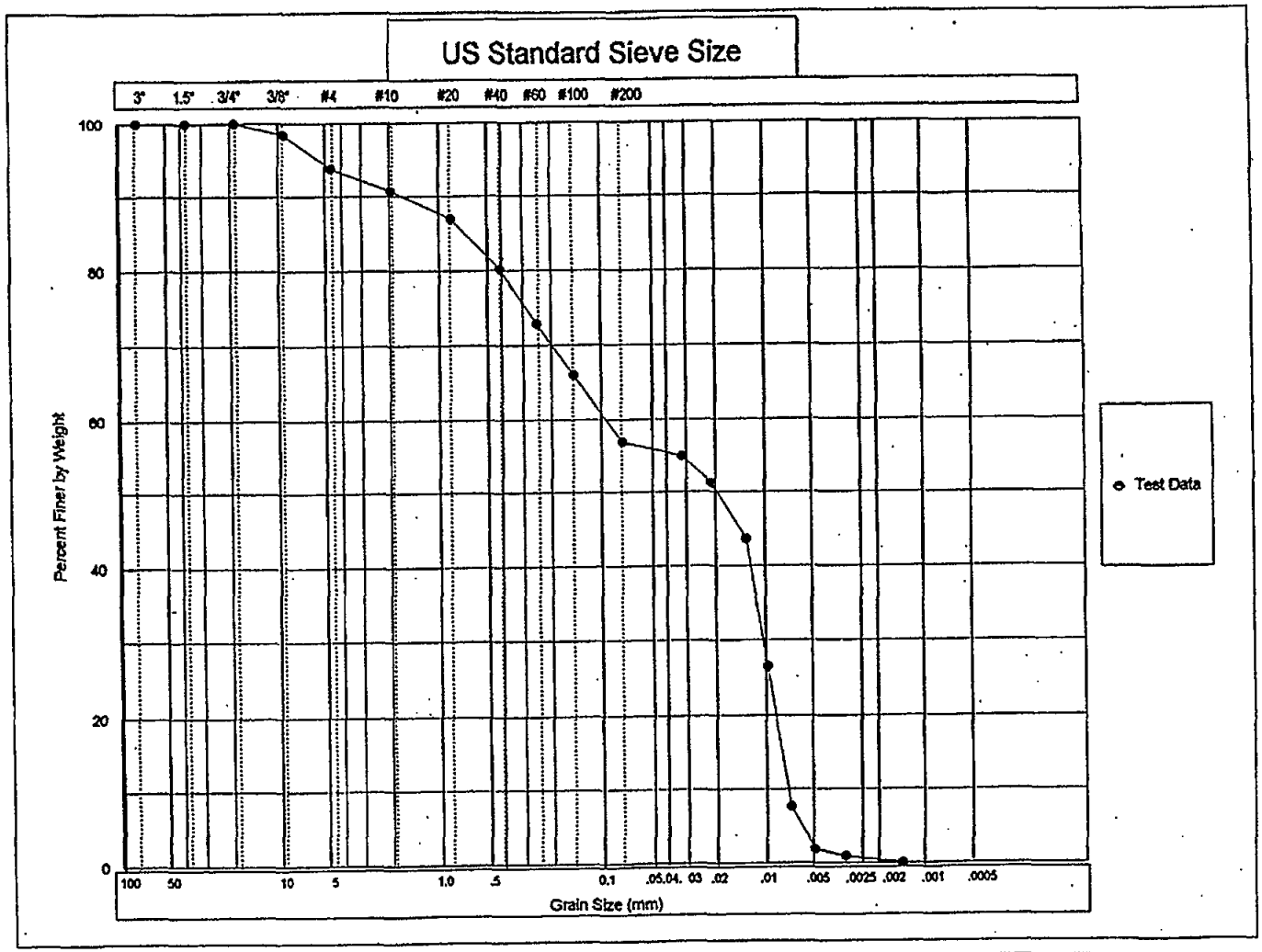
Hydrometer #	ASTM 152 H	Temp., Deg. C	21.8
Sp. Gr. of Soil	2.51	Temp. Coef. K	0.01396
Value of "alpha"	1.03	Wt. Dry Sample "W"	54.216
Deflocculant	Sodium Hexametaphosphate	% of Total Sample	100.0
Defloc. Corr'n	5.0		
Meniscus Corr'n	-2.0		

T Elapsed Time (min)	Hydrometer Reading Original	Corrected "R"	100Ra/W	% Total Sample	Effective Depth L	Grain Diameter (mm)
0.0	--	--	--	--	--	--
0.5	--	--	--	--	--	--
1.0	36.00	29.00	55.0	55.0	10.39	0.0450
2.0	34.00	27.00	51.2	51.2	10.71	0.0323
5.0	30.00	23.00	43.6	43.6	11.37	0.0210
15.0	21.00	14.00	26.5	26.5	12.85	0.0129
30.0	11.00	4.00	7.6	7.6	14.49	0.0097
60.0	8.00	1.00	1.9	1.9	14.98	0.0070
120.0	7.50	0.50	0.9	0.9	15.06	0.0049
290.0	7.00	0.00	0.0	0.0	15.14	0.0032
1478.0	7.00	0.00	0.0	0.0	15.14	0.0014

Grain Diameter = K*(SQRT(L/T))

Data entered by: MC Date: 01/04/2001
Data checked by:_____ Date:_____
FileName: SOH01226

ADVANCED TERRA TESTING, INC.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	CRS	MEDIUM	FINE	

USCS

COBBLES	PEBBLE GRAVEL				SAND			SILT	CLAY
TO BOULDERS	COARSE	MED	FINE	GRAN	COARSE	MED	FINE		

WENTWORTH

Client: Stone & Webster
Depth: 24
Classification:_____

Boring No.:

Job Number: 2162-15

Sample No.: 12b-021226

Advanced Terra Testing, Inc.

ATTACHMENT B

ASTM D-4646 METHOD

Designation: D 4646 – 87[ε1]

AMERICAN SOCIETY FOR TESTING AND MATERIALS
1916 Race St., Philadelphia, Pa. 19103
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Standard Test Method for 24-h Batch-Type Measurement of Contaminant Sorption by Soils and Sediments[1]

This standard is issued under the fixed designation D 4646; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

[ε1] NOTE—Title editorially corrected in June 1989.

1. Scope

1.1 This test method describes a procedure for determining the sorption affinity of waste solutes by unconsolidated geologic material in aqueous suspension. The waste solute may be derived from a variety of sources such as wells, underdrain systems, or laboratory solutions such as those produced by waste extraction tests like the Method D 3987 shake extraction method.

1.2 This test method is applicable in screening and providing relative rankings of a large number of geomedia samples for their sorption affinity in aqueous leachate/geomedia suspensions. This test method may not exactly simulate sorption characteristics that would occur in unperturbed geologic settings.

1.3 While this procedure may be applicable to both organic and inorganic constituents, care must be taken with respect to the stability of the particular constituents and their possible losses from solution by such processes as degradation by microbes, light, or hydrolysis. This test method should not be used for volatile chemical constituents (see 6.1).

1.4 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

D 1129 Definitions of Terms Relating to Water[2]

D 1193 Specification for Reagent Water[2]

D 2216 Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures[3]

D 3987 Test Method for Shake Extraction of Solid Waste with Water[4]

D 4319 Test Method for Distribution Ratios by the Short-Term Batch Method[3]

3. Terminology

3.1 *Definitions*—For definition of terms used in this test method refer to Definitions D 1129.

3.1.1 *solute*—chemical species (for example, ion, molecule, etc.) in solution.

3.1.2 *sorbate*—chemical species sorbed by a sorbent.

3.1.3 *sorbent*—a substance that sorbs the solute from solution (for example, soil, sediment, till, etc.).

3.1.4 *sorption*—depletion of an amount of solute initially present in solution by a sorbent.

3.1.5 *sorption affinity*—the relative degree of sorption that occurs by a geomedia.

3.1.6 *unconsolidated geologic material* (geomedia)—a loosely aggregated solid natural material of geologic origin (for example, soil, sediment, till, etc.).

3.2 *Descriptions of Terms Specific to This Standard:*

3.2.1 *distribution coefficient, K_d*—is defined identically to R_d, except it is considered to be an equilibrium value and independent of the concentration of solute (that is, linear sorption curve).

3.2.2 *distribution ratio (R_d)*—the ratio of the concentration of solute sorbed on the soil or other geomedia divided by its concentration in solution. A 24-h R_d is the analogous ratio evaluated after 24 h of contact of the solute with the geomedia. The R_d value is calculated as follows:

$$R_d = \frac{\text{(mass of solute sorbed per unit mass of geomedia)}}{\text{(mass of solute in solution per unit volume of solution)}} = \frac{\mu g/g}{\mu g/mL} = \frac{mL}{g}$$

The dimensions of R_d reduce to units of volume per mass. It is convenient to express R_d in units of millilitres (or cubic centimetres) of solution per gram of geomedia. Dissimilar R_d values may be obtained if different initial solute concentrations are used, depending on the sorption behavior of the solute and the properties of the geomedia (that is, nonlinear sorption curve). This concentration dependency may be absent where the solute concentrations are sufficiently low or the characteristics of the particular solute-sorbent combination yield R_d values that are independent of the concentration of solute (that is, linear sorption curve).

4. Summary of Test Method

4.1 Distilled water, natural water, waste leachate, or other

[1] This test method is under the jurisdiction of ASTM Committee D-34 on Waste Disposal and is the direct responsibility of Subcommittee D34.02 on Physical and Chemical Characterization.

Current edition approved March 3, 1987. Published April 1987. Originally published as ES 10 – 85. Last previous edition ES 10 – 85.

[2] *Annual Book of ASTM Standards*, Vol 11.01.

[3] *Annual Book of ASTM Standards*, Vol 04.08.

[4] *Annual Book of ASTM Standards*, Vol 11.04.

aqueous solution containing a known concentration of a solute is mixed with a known amount of unconsolidated geologic material (geomedia) for 24 h. Changes in solute concentrations are used to calculate a distribution ratio (R_d).

5. Significance and Use

5.1 This test method is meant to allow for a rapid (24 h) index of a geomedia's sorption affinity for given chemicals or leachate constituents. A large number of samples may be run using this test method to determine a comparative ranking of those samples, based upon the amount of solute sorbed by the geomedia, or by various geomedia or leachate constituents. The 24-h time is used to make the test convenient and also to minimize microbial degradation which may be a problem in longer-timed procedures. Due to this time constraint, the final (24-h) concentration should not be confused with that of an equilibrium or steady-state concentration. While R_d values are directly applicable for screening and comparative ranking purposes, their use in predictive field applications generally requires the assumption that $R_d = K_d$; the validity of this assumption must be carefully evaluated by qualified personnel.

5.2 While this test method may be useful in determining 24-h R_d values for nonvolatile organic constituents, interlaboratory testing has been carried out only for the nonvolatile inorganic species, arsenic and cadmium. However, the procedure has been tested for single laboratory precision with polychlorinated biphenyls (PCBs) and is believed to be useful for all stable and nonvolatile inorganic, and organic constituents. This test method is not considered appropriate for volatile constituents.

5.3 The 24-h time limit may be sufficient to reach a steady-state R_d. However, to report this determination as a steady-state R_d (that is, $R_d = K_d$), the relevant time studies must be carried out to document the development of steady-state conditions within the 24-h time period. Tests exceeding the 24-h time period are beyond the scope of this test method. Refer to Test Method D 4319, for an alternate procedure of longer duration.

6. Interferences

6.1 When dealing with solutes of unknown stability either in contact with the geomedia or when used as blanks, care must be taken to determine if volatilization, hydrolysis, photodegradation, microbial degradation, oxidation-reduction (that is, Cr^{3+} to Cr^{6+}) or other physicochemical processes are operating at a significant rate within the time frame of the procedure. The stability and hence loss from solution may affect the outcome of this procedure if the aforementioned reactions are significant. The compatibility of the method and the solute of interest may be assessed by determining the differences between the initial solute concentration (see 9.8) and the final blank concentration of the solute (see 9.15). If this difference is greater than the expected precision of the method (10 %), then the R_d value generated may be unreliable and must be carefully evaluated.

7. Apparatus

7.1 *Agitation Equipment*—The agitation equipment to be used is the rotary solid waste extractor[5] specified in Method D 3987.

7.2 *Phase Separation Equipment*—A filtration apparatus made of materials compatible with the solutions being filtered and equipped with a 0.45-μm pore size membrane filter, or a constant temperature centrifuge capable of separating particles with diameters greater than 0.1 μm (see Section 9). If organic compounds are being measured, the filtration apparatus, centrifuge tubes etc., should be compatible with the compounds being measured (that is, glass or stainless steel). Sorption of solute onto the filtration membrane may be significant for some solutes, and must be evaluated by the use of blanks through all steps of the procedure.

7.3 *Containers*—Round, wide-mouth bottles compatible with the rotary extractor (Method D 3987) and of composition suitable to the nature of the solute(s) under investigation and the analysis to be performed will be used. For nonvolatile inorganic constituents, high-density, linear polyethylene bottles should be used with the size of the bottle dictated by sample size, and the need for the solution to occupy 70 to 80 % of the container volume (that is, 125 mL, 250 mL, or 2-L bottles for sample sizes of 5, 10, or 70 g respectively). For nonvolatile organic constituents, TFE-fluorocarbon, glass bottles, or stainless steel containers with water-tight closures made of chemically inert materials should be used with size requirements being the same as for nonvolatile inorganics. Containers should be cleaned in a manner consistent with the analyses to be performed. Samples of the solutions to be analyzed should be stored in similar chemically compatible bottles.

7.4 *Balance*, having a minimum capacity of 70 g and a sensitivity of ±0.005 g shall be used.

8. Reagents

8.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the American Chemical Society, where such specifications are available.[6] Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

8.2 *Purity of Water*—Unless otherwise indicated, references to water shall be understood to mean Type IV reagent water of Specification D 1193.

9. Procedure

9.1 Geomedia samples are spread out on a flat surface, no more than 2 to 3 cm deep, and allowed to air dry for 7 days or until constant weight (a change that is less than 5 %/24-h period) is achieved (do *not* oven dry).

9.2 After the sample has air dried, it is passed through a

[5] Diamondstone, B. T., Burke, R. W., and Garner, E. L., "Improved Leach Measurements on Solid Wastes," *ASTM Standardization News*, June 1982, pp. 28–33.

[6] "Reagent Chemicals, American Chemical Society Specifications," Am. Chemical Soc., Washington, DC. For suggestions on the testing of reagents not listed by the American Chemical Society, see "Reagent Chemicals and Standards," by Joseph Rosin, D. Van Nostrand Co., Inc., New York, NY, and the "United States Pharmacopeia."

2-mm screen sieve. Large aggregates are to be crushed, without grinding, using a clean mortar and a rubber-tipped pestle.

9.3 Mix the sieved material until the sample is homogeneous. Use a riffle splitter, or other unbiased splitting procedure, to obtain subsamples of appropriate size.

9.4 Remove subsamples and determine the moisture content of the air-dried sample (refer to Method D 2216).

9.5 Determine the mass of geomedia sample, corrected for moisture content:

Determination of air-dried soil mass equivalent to the desired mass of oven-dried soil:

$$A = M_s[1 + (M/100)]$$

where:

A = air dry soil mass,
M_s = mass of oven-dried soil desired, and
M = moisture, %.

9.6 Place between 5 and 70 g (oven-dried basis) of the weighed air-dried sample into the appropriate container. The samples should be weighed to a minimum of three significant figures.

9.7 Add to the container an amount of solute solution necessary to yield a 1:20 soil-to-solution ratio. This is determined on the oven-dried basis:

Determination of solution volume needed per sample for a soil-to-solution ratio of 1:20:

$$V = (M_s \times 20)/\rho$$

where:

ρ = density of solution, g/cm^3,
V = volume of solution per sample, cm^3, and
M_s = mass of soil to be used, g, (oven-dried basis).

9.8 Retain a separate, appropriately preserved aliquot of the initial solute solution for analysis.

9.9 Close the container and place it on the rotary extractor (Method D 3987).

9.10 Agitate continuously for 24 ± 0.5 h at 29 ± 2 r/min at room temperature (22 ± 5°C).

9.11 Open the container. Note the temperature of the solution and any changes in the sample or solution (that is, color, odor, etc.).

9.12 Separate the solution phase from the majority of the solid phase by decantation.

9.13 Filter the solution phase through a 0.45-µm pore size membrane filter (see 7.2), or centrifuge a subsample at the predetermined rate of rotation and time for the centrifugation equipment employed at constant temperature (the temperature recorded after 24 h):

$$t = 9/2\left(\frac{\eta}{\omega^2 r_p^2(\rho_p - \rho)}\right)\ln(R_b/R_t)$$

where:

$\omega^2 = \frac{4_\pi{}^2(\text{r/min})^2}{60}$ = angular velocity,
r_p = particle radius, cm,
η = viscosity of water, 8.95×10^{-3} g/s-cm at 25°C,
ρ_p = particle density,
ρ = density of solution,
r/min = revolutions per minute,
R_t = distance from center of centrifuge rotor to top of solution in centrifuge tube, cm,

TABLE 1 Summary of Interlaboratory Testing for the 24-h Batch-Type R_d Determination

Initial Concentration, µg/mL	Soil 1 10	Soil 1 200	Soil 2 100	Soil 3 100	Soil 4 100
Cadmium Carbonate (as $CdCO_3$):					
$\bar{X}$ R_d, mL/g	1568	96.3	69.50	69.74	28.94
Standard deviation, mL/g	±156	±6.32	±7.73	±7.87	±2.64
Coefficient of variation, %	9.95	6.56	11.13	11.29	9.14
Number of replicates	12	12	10	12	9
Arsenic (as KH_2AsO_4):					
$\bar{X}$ R_d, mL/g	15.42	2.75	4.95	3.25	2.99
Standard deviation, mL/g	±0.92	±0.85	±0.27	±0.26	±0.20
Coefficient of variation, %	5.99	30.9	5.53	7.88	6.52
Number of replicates	12	12	12	12	12

R_b = distance from center of centrifuge rotor to bottom of centrifuge tube, cm, and
t = time, min.

To remove particles >0.1-µm radius and 2.65-g/cm^3 density from solution:

$$t = \left(\frac{3.71 \times 10^8}{(\text{r/min})^2}\right)\ln(R_b/R_t)$$

Note that if filtration is used, the affinity of the filtration membrane for the solute must be evaluated. Failure to do so, may lead to erroneous results.

9.14 After a clear solution has been obtained, place an aliquot in an appropriate container (see 7.3), and analyze or store in a refrigerator at 4 ± 2°C until analyzed.

9.15 Each geomedia sample is to be subjected to the procedure in three or more replicates. The number of blanks (that is, solute solution without geomedia) carried through all steps of the procedure should be a minimum of 5 % of the total number of geomedia samples, but not less than three.

10. Calculation

10.1 Calculate the distribution ratio as follows:

$$R_d = \frac{(A - B)V}{(M_s)B}$$

where:

A = initial concentration of the solute defined as the mean concentration of the blanks, µg/mL,
B = final concentration of the solute after 24 h in contact with the geomedia, µg/mL,
V = volume of solution used, mL,
M_s = mass of soil expressed on an oven-dried basis, g, and
R_d = distribution ratio, mL/g.

TABLE 2 Summary of Single Laboratory for an Organic Solute

Initial Concentration, µg/mL	Soil 1 [A] 0.216 (0 % Acetone)	Soil 1 [B] 0.187 (20 % Acetone)	Soil 2 [C] 0.216 (0 % Acetone)	Soil 2 [D] 0.187 (20 % Acetone)
PCBs (as Aroclor 1242):				
$\bar{X}$ R_d, mL/g	798	78.62	23.83	2.28
Standard deviation, mL/g	±18.41	±3.45	±1.48	±0.11
Coefficient of variation, %	2.31	4.39	6.21	4.82
Number of replicates	4	4	4	4

[A] Soil 1—Catlin silt loam.
[B] Soil 2—Sangamon paleosol.
[C] Soil 3—Kaolinite clay.
[D] Soil 4—Vandalia till, unaltered phase.

11. Report

11.1 The R_d value must be clearly marked as nonequilibrium 24-h distribution ratio.

11.2 Both the initial solute concentration (A in 10.1) and the final solute concentration (B in 10.1) must be reported.

11.3 The initial and final solute concentration for each blank (solution without geomedia) must be reported.

11.4 The mass of the sorbent (M_s in 10.1), volume of solution (V in 10.1), and the room temperature at which the rotary extractor was operated must be reported.

11.5 Report the temperature of the solution and any changes noted in 9.11.

11.6 Note and report negative R_d values when and if they occur. Negative R_d values may occur if the geomedia contains the test solute prior to the application of the method.

11.7 It is suggested that the pH of the sorbent-solute mixture be determined prior to separating the sorbent from the liquid and reported where feasible.

12. Precision and Bias

12.1 An interlaboratory round-robin test was conducted at a soil-to-solution ratio of 1:20 using 70.0 g of soil. Intralaboratory testing using a 1:20 soil-to-solution ratio was carried out with no significant loss of precision for soil masses of 5.00, 10.0, and 70.0 g. Therefore, it is specified that the soil-to-solution ratio be 1:20 with the working mass of soil (on an oven-dried basis) between 5 and 70 g.

12.2 *Precision:*

12.2.1 The precision of this test method is limited by the ability to obtain a homogeneous sample of geomedia, and the precision of the various methods used to carry out the procedure (that is, mass determinations, initial and 24-h concentration of constituents).

12.2.2 A comprehensive overall precision statement, covering all species, is not feasible. Interlaboratory testing of this procedure, using cadmium and arsenic as sorbates, with five independent laboratories, and single laboratory testing with PCBs indicated that a coefficient of variation of less than 10 % is obtainable.

12.2.3 For a summary of interlaboratory testing for the 24-h batch-type R_d determination see Table 1.

12.2.4 For a summary of single laboratory testing for an organic solute see Table 2.

12.3 *Bias*—A determination of the bias for this procedure is not possible since no standard soil or alternate technique exists.

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 1916 Race St., Philadelphia, PA 19103.

ATTACHMENT C

BATCH SORPTION PLOTS FOR RA-226

TABLE C-1

SUMMARY OF RADIUM - 226 DISTRIBUTION (Kd) AND RATIO DISTRIBUTION (Rd) COEFFICIENTS (L/Kg)

FUSRAP MAYWOOD SUPERFUND SITE, MAYWOOD, NJ

	A	B	C	D	E	F	I	O	T	U	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1	PDI Boring Locator	GWRI Boring Locator	Field Sample ID	Residue Solids Analytical Results, pCi/g	Spiking Matrix Identified to the Lab	Matrix Code	Analytical Results, Residue Solution, pCi/L	Analytical Results, Post Contacting Solution, C, pCi/L	Amount Sorbed per Gram during Test, pCi/g	Amount Sorbed to Test Plus Reactive Results, pCi/g, C* (1)	Distribution Ratio - Rd (L/Kg) (2)	Distribution Coefficient (Kd) determined from Isotherm Plot						Total Organic Carbon (mg/Kg) & Percent	USCS Classification Based on Grain Size Distribution
2												3 point Plot	Correlation Coefficient (r^2)	F Probability	4 point Plot	Correlation Coefficient (r^2)	F Probability		
3	128-042	128-021	12h-021203	59.49	Sand	A	2,067.88	24.51	40.85	100.34	1666.66	467	0.9826	0.0841	310	0.999	0.052	51400 (5.14%)	SW (Sand Well Sorted)
4	128-042	128-021	12h-021204	59.49	Sand	B	9,830.00	439.10	187.82	247.31	427.75								
5	128-042	128-021	12h-021205	59.49	Sand	C	72,860.00	881.19	439.58	492.87	498.90								
6	128-042	128-021	12h-021206	59.49	Sand	D	39,320.00	3074.00	724.92	784.41	235.82								
7																			
8	128-039	128-022	12h-021208	9.22	Silty	A	33,240.00	571.70	654.37	663.58	1254.30	422	0.999	0.0084	262	0.964	0.018	9400 (0.94%)	GM (Silty Gravel)
9	128-039	128-022	12h-021209	9.22	Silty	B	155,600.00	5892.00	2994.16	3,005.38	508.17								
10	128-039	128-022	12h-021210	9.23	Silty	C	354,300.00	15030.00	6783.40	6,792.62	451.92								
11	128-039	128-022	12h-021211	9.23	Silty	D	685,900.00	45060.00	12816.80	12,816.02	284.44								
12																			
13	128-070	128-023	12h-021213	0.87	Silty	A	33,240.00	376.70	657.27	658.14	1746.80	363	0.987	0.013	202	0.948	0.026	10900 (1.09%)	SM (Sandy Silt)
14	128-070	128-023	12h-021214	0.87	Silty	B	155,600.00	5002.00	3011.96	3,012.83	602.15								
15	128-070	128-023	12h-021215	0.87	Silty	C	354,280.00	16716.00	6749.80	6,750.67	403.94								
16	128-070	128-023	12h-021216	0.87	Silty	D	685,980.00	55788.00	12607.40	12,603.27	225.93								
17																			
18	128-045	128-024	12h-021218	1.04	Silty	A	33,240.00	506.50	654.66	655.70	1291.76	322	0.985	0.078	253	0.977	0.011	1540 (0.154%)	SM (Sandy Silt)
19	128-045	128-024	12h-021219	1.04	Silty	B	155,600.00	5563.00	3000.74	3,001.78	539.41								
20	128-045	128-024	12h-021220	1.04	Silty	C	354,300.00	18720.00	6709.60	6,710.64	358.42								
21	128-045	128-024	12h-021221	1.04	Silty	D	685,900.00	50190.00	12714.60	12,715.64	253.43								
22																			
23	128-091	128-025	12h-021233	23.83	Silty	A	33,240.00	517.10	654.46	678.28	1265.43	451	0.998	0.028	254	0.956	0.022	19900 (1.99%)	SM (Sandy Silt)
24	128-091	128-025	12h-021234	23.83	Silty	B	155,600.00	5290.00	3005.30	3,030.02	568.78								
25	128-091	128-025	12h-021235	23.83	Silty	C	354,200.00	16440.80	6795.20	6,819.02	410.58								
26	128-091	128-025	12h-021236	23.83	Silty	D	685,900.00	43890.80	12808.20	12,824.03	288.93								

27 Notes:

28 ND = Non - Detect

29 NC = Not Calculated

30 (1) = $C^* = \text{Amount Sorbed} \times (\text{Dwgt}/Q)^*(\text{Vkkl})$

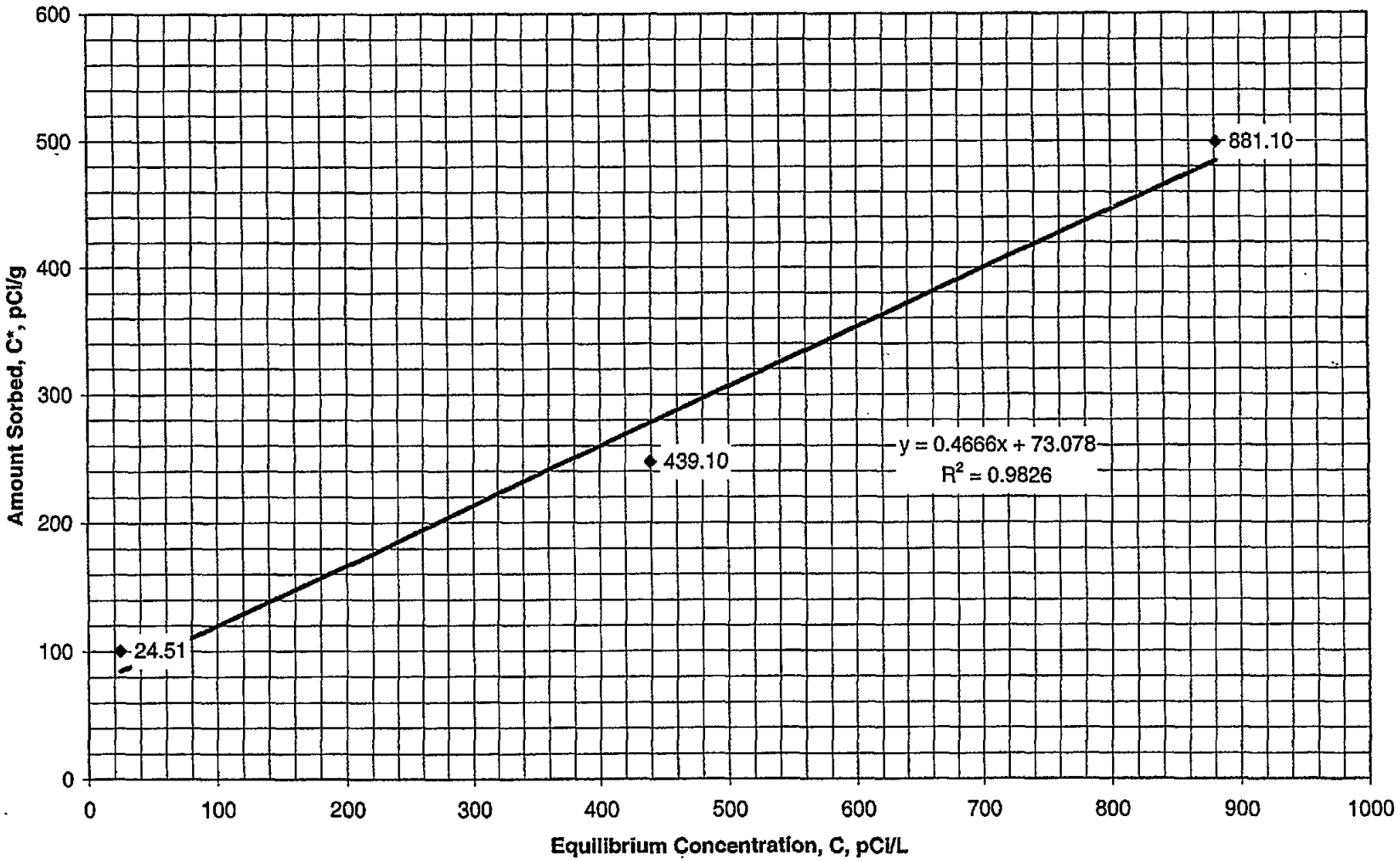
31 (2) = Rd=Distribution Ratio = (U-Q)*(Vkkl)*1kg

32 Where: D, I and Q denote unknown values

33 Vo Volume of Solution = 0.1 L.

34 Mo = Mass of Soil on Dry Weight Basis = 2 g

KD CALCULATION FOR RADIUM 226 - 12B-021
SAND (SW) - 3 pt



04/10/2002

ra-226isotherm.xls
3 pt Linear RA226 12B-021203

Sample 12B-021 - Well Sorted Sand
RA-226 3 pts

SUMMARY OUTPUT

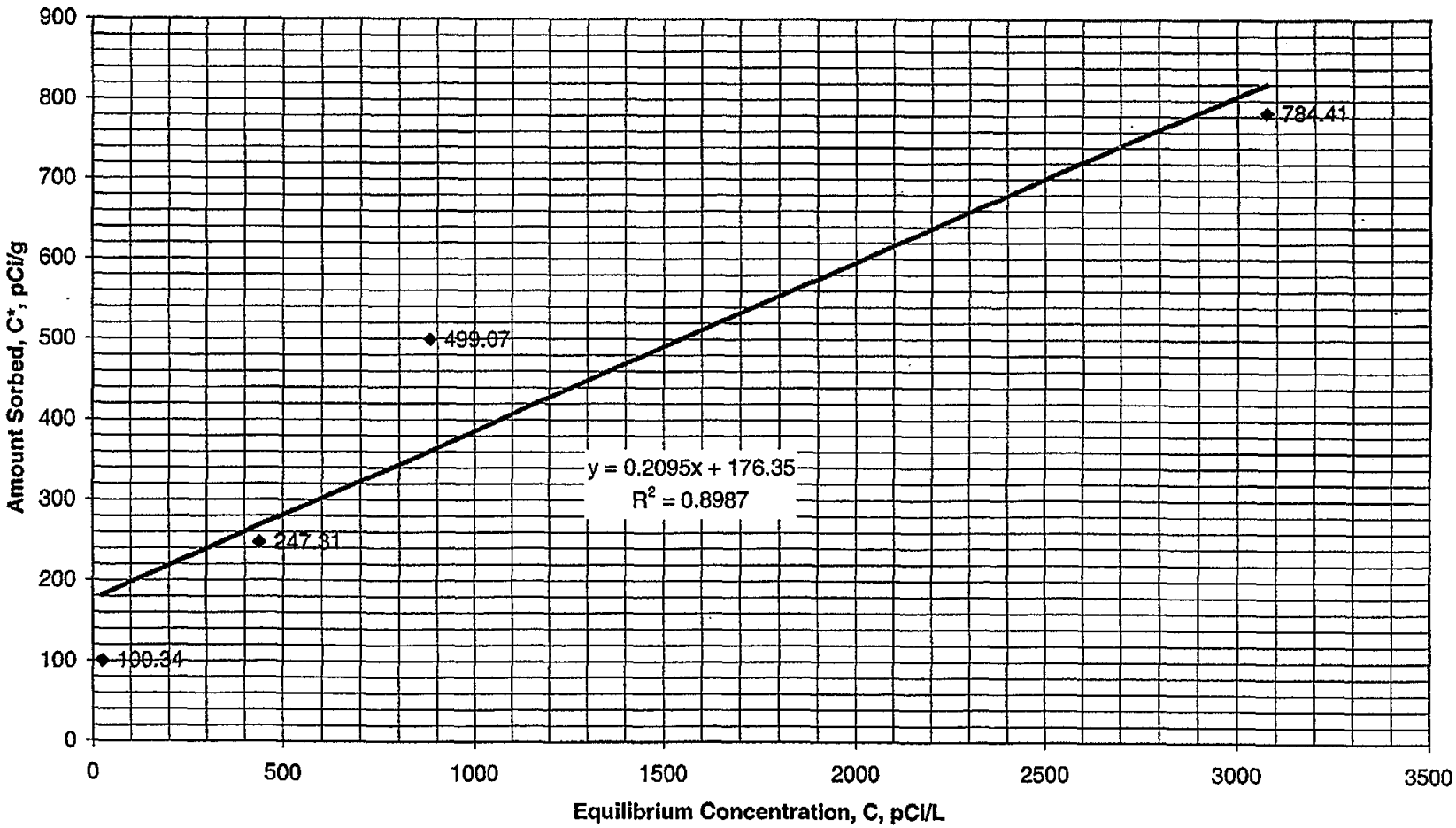
Regression Statistics	
Multiple R	0.9913
R Square	0.9826
Adjusted R Square	0.9653
Standard Error	*0.0000*
Observations	3.0000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.0000	0.0000	0.0000	56.6266	0.0841
Residual	1.0000	0.0000	0.0000		
Total	2.0000	0.0000			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0000	0.0000	2.0728	0.2862	0.0000	0.0000	0.0000	0.0000
X Variable 1	0.4666	0.0620	7.5251	0.0841	-0.3213	1.2545	-0.3213	1.2545

KD Calculation FOR RADIUM 226 - 12B-021
Sand (SW) - 4 pt



04/10/2002

ra-226isotherm.xls
4 pt Linear RA226 12B021203

Sample 12B-021 - Well Sorted Sand
RA-226 4 pts

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.947995914
R Square	0.898696253
Adjusted R Square	0.84804438
Standard Error	1.18345E-07
Observations	4

ANOVA

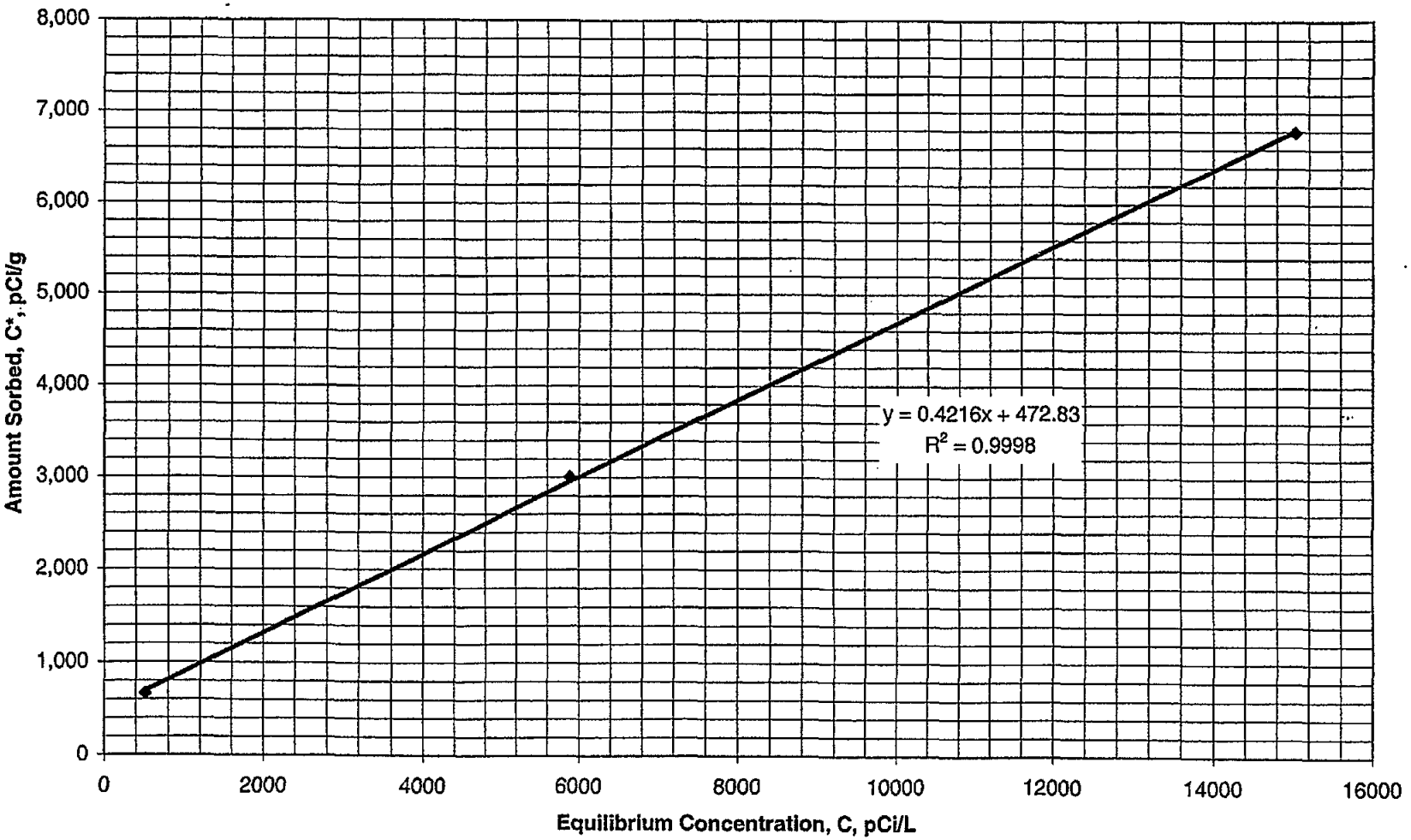
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.48493E-13	2.48493E-13	17.74260637	0.052004086
Residual	2	2.80109E-14	1.40054E-14		
Total	3	2.76504E-13			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.78316E-07	8.11635E-08	2.196999732	0.159144895	-1.70902E-07	5.27535E-07	-1.70902E-07	5.27535E-07
X Variable 1	0.209497122	0.049735828	4.212197333	0.052004086	-0.004499023	0.423493267	-0.004499023	0.423493267

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	1.83508E-07	-8.20522E-08
2	2.7133E-07	-2.12709E-08
3	3.64957E-07	1.39662E-07
4	8.29473E-07	-3.63386E-08

KD for Radium 226 - Sample 12B-022
Silty Gravel (GM) - 3 pt



04/10/2002

ra-226isotherm.xls
Linear 12B-021208 3 obs

Sample 12B-022 - Silty Gravel
RA-226 3 pts

SUMMARY OUTPUT

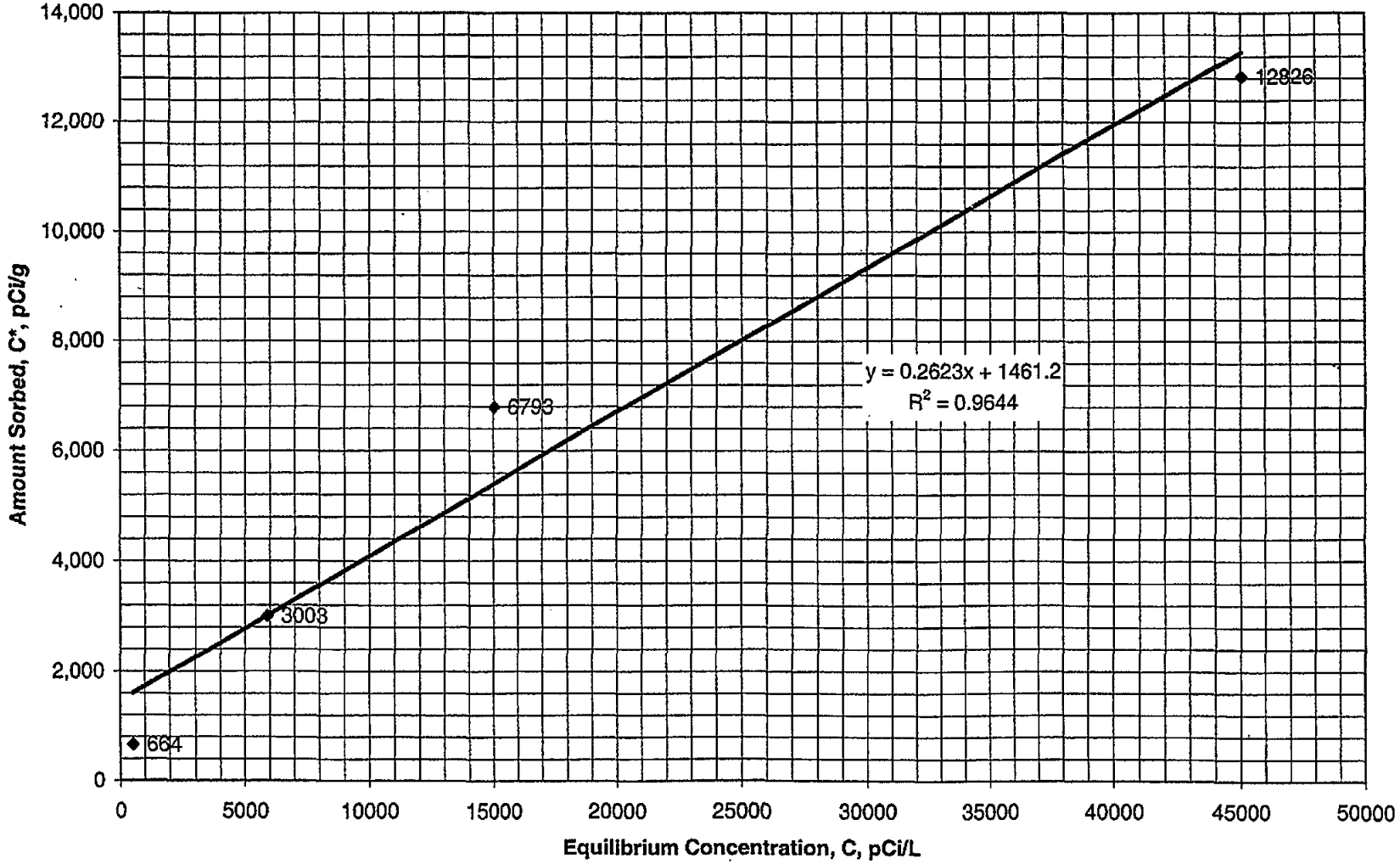
Regression Statistics	
Multiple R	0.999913836
R Square	0.99982768
Adjusted R Square	0.999655359
Standard Error	57.41908447
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	19129380.89	19129380.89	5802.142455	0.008357204
Residual	1	3296.951261	3296.951261		
Total	2	19132677.84			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	472.8250504	51.61718749	9.160224984	0.069224142	-183.0306919	1128.680793	-183.0306919	1128.680793
X Variable 1	0.421620282	0.005535123	76.17179567	0.008357204	0.351290174	0.491950391	0.351290174	0.491950391

KD for Radium-226 - Sample 12B-022
Silty Gravel (GM) - 4 pt



04/10/2002

ra-226isotherm.xls
Linear 12B-021208 4 obs

Sample 12B-022 - Silty Gravel
RA-226 4 pts

SUMMARY OUTPUT

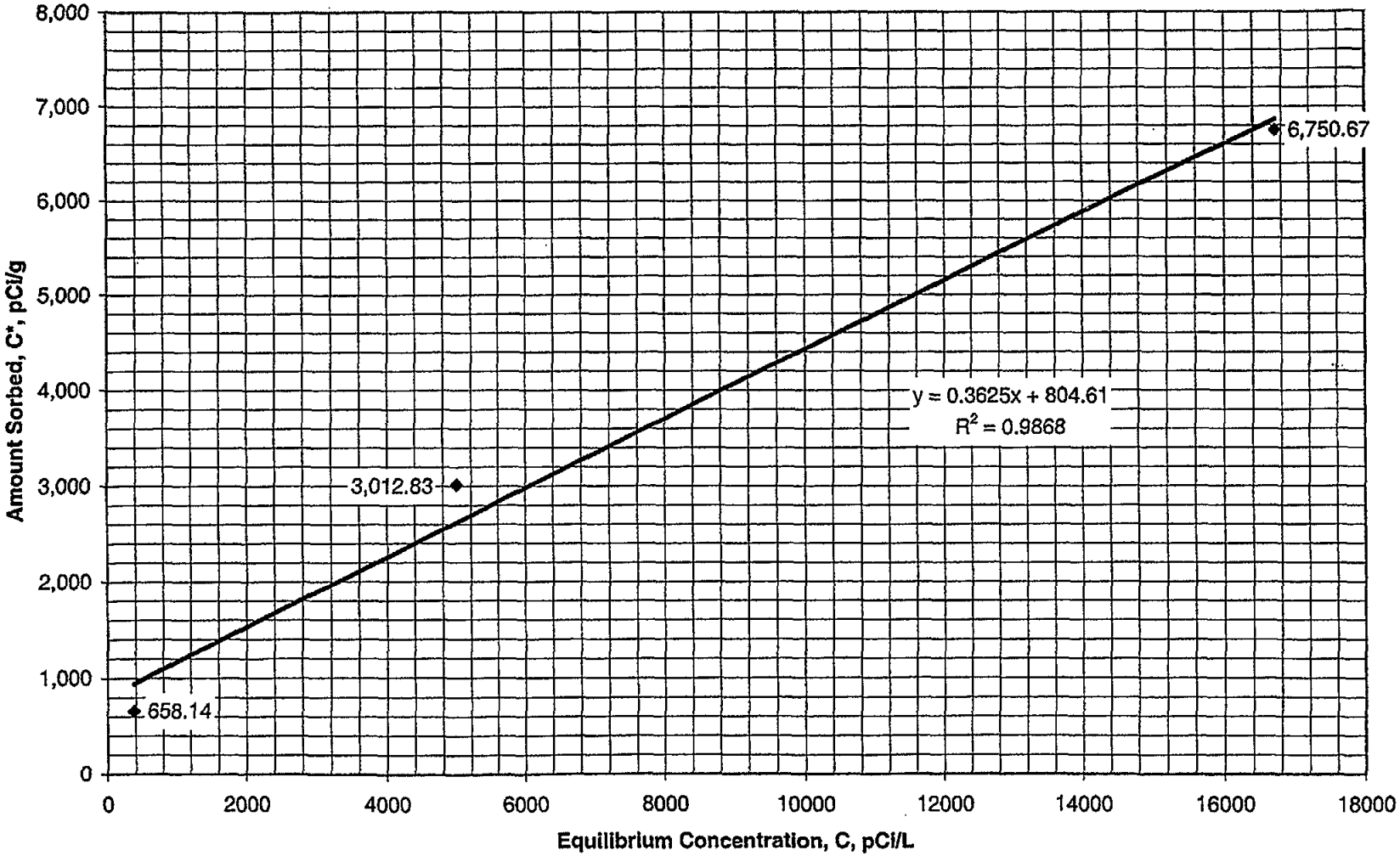
Regression Statistics	
Multiple R	0.982044043
R Square	0.964410502
Adjusted R Square	0.946615752
Standard Error	1226.615714
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	81543079.39	81543079.39	54.19835265	0.017955957
Residual	2	3009172.219	1504586.11		
Total	3	84552251.61			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1461.17121	852.6061041	1.713770524	0.228704688	-2207.299325	5129.641745	-2207.299325	5129.641745
X Variable 1	0.262254659	0.035623631	7.361817211	0.017955957	0.10897844	0.415530878	0.10897844	0.415530878

KD for Radium 226 - SAMPLE 12B-023
Sandy Silt (SM) - 3 pt



04/10/2002

ra-226isotherm.xls
Linear 12B-021213 3 obs

Sample 12B-023 - Sandy Silt
RA-226 3 pts

SUMMARY OUTPUT

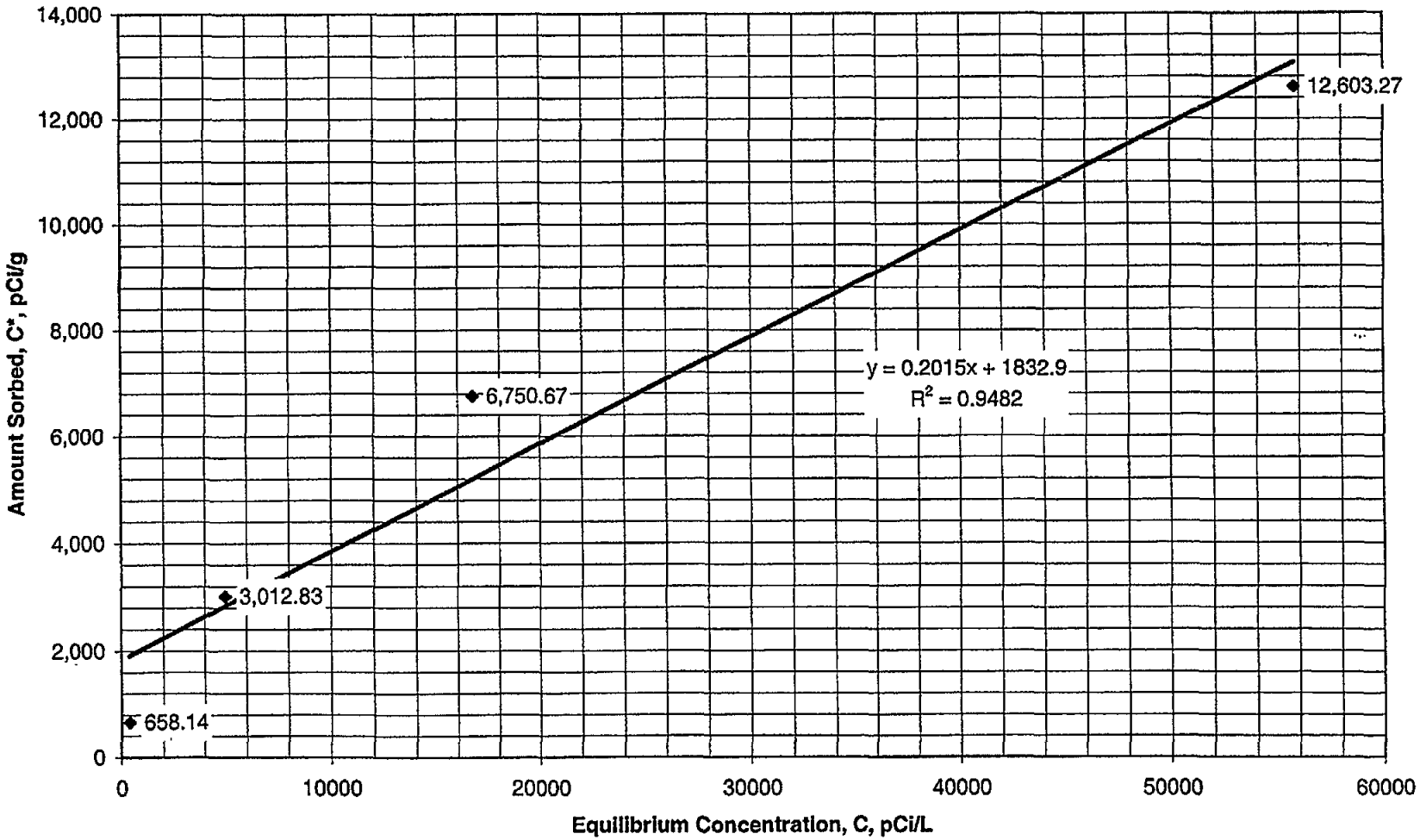
Regression Statistics	
Multiple R	0.993386138
R Square	0.986835887
Adjusted R Square	0.973671775
Standard Error	498.5143087
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	18629817.56	18629817.56	74.96410246	0.073203762
Residual	1	248516.5159	248516.5159		
Total	2	18878334.08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	804.608598	421.763663	1.907723848	0.307364987	-4554.383895	6163.601091	-4554.383895	6163.601091
X Variable 1	0.36253014	0.041871397	8.658161244	0.073203782	-0.169494118	0.894554398	-0.169494118	0.894554398

KD for Radium 226 - Sample 12B-023
Sandy Silt (SM) - 4 pt



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ra-226isotherm.xls
Linear 12B-021213 4 obs

Sample 12B-023 - Sandy Silt
RA-226 4 pts

SUMMARY OUTPUT

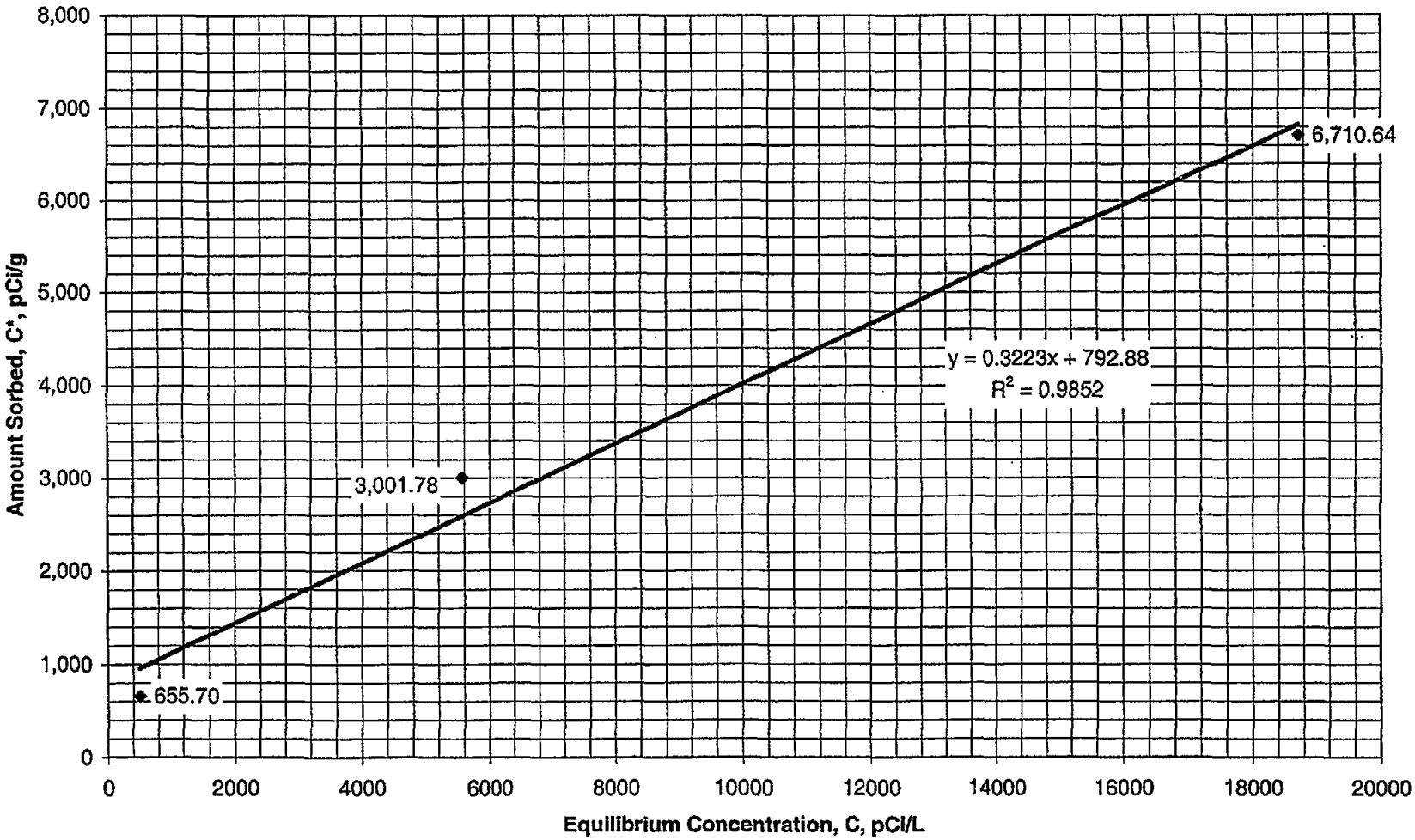
Regression Statistics	
Multiple R	0.973737895
Linear 12B-021213 4 obs	0.948165488
Adjusted R Square	0.922248232
Standard Error	1452.358485
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	77168983.33	77168983.33	36.58433169	0.026262105
Residual	2	4218690.339	2109345.17		
Total	3	81387673.67			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1832.873603	973.6953295	1.882389231	0.200493971	-2356.602181	6022.349387	-2356.602181	6022.349387
X Variable 1	0.201536997	0.033320171	6.0484983	0.026262105	0.058171773	0.344902222	0.058171773	0.344902222

KD ANALYSIS FOR RA-226 - SAMPLE 12B-024
Sandy Silty - 3 pt



Sample 12B-024
Sandy Silt - 3 pt

SUMMARY OUTPUT

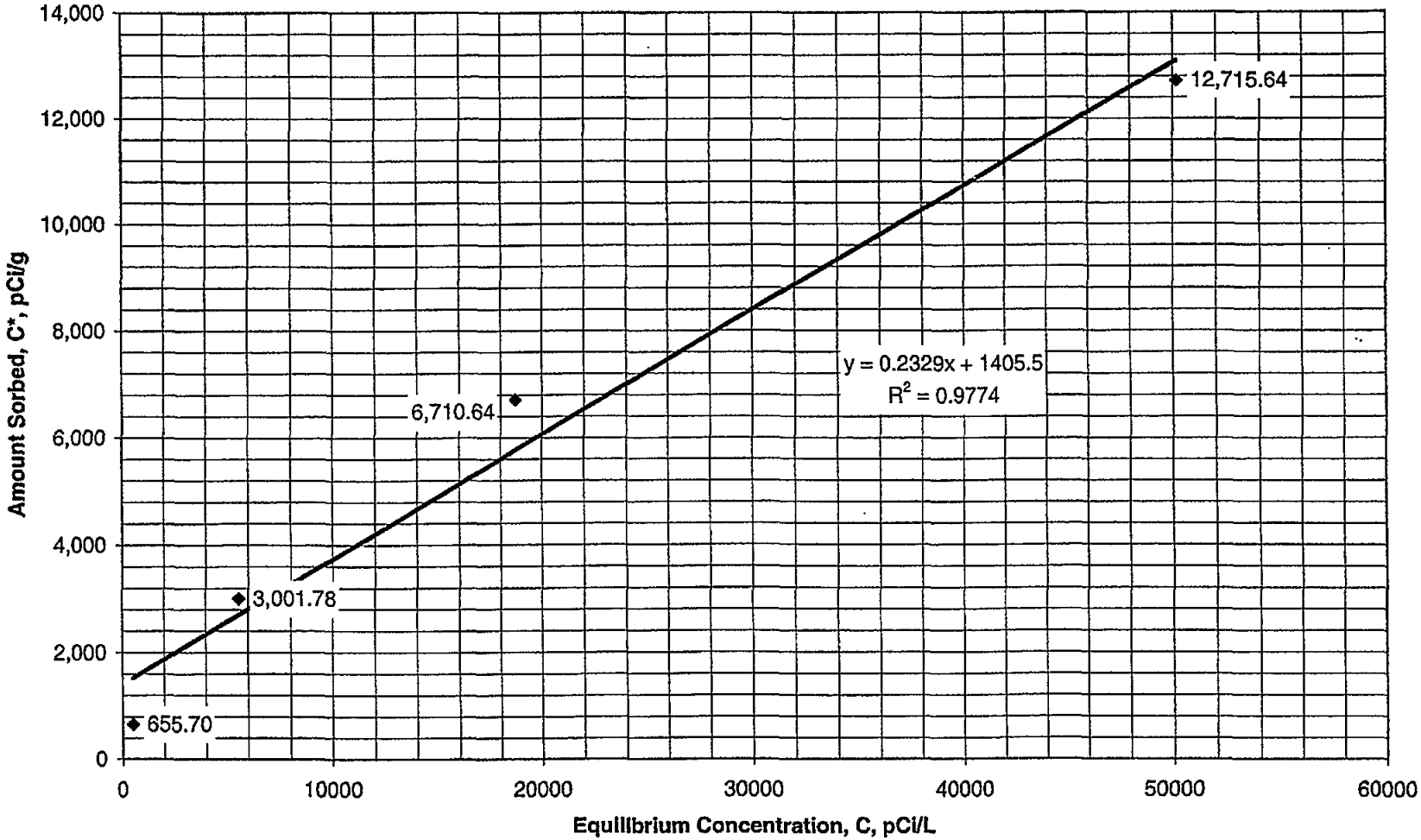
Regression Statistics	
Multiple R	0.992550121
R Square	0.985155742
Adjusted R Square	0.970311484
Standard Error	526.0291776
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	18363948.32	18363948.32	66.36611477	0.077757042
Residual	1	*276706.6957*	*276706.6957*		
Total	2	18640655.02			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	792.8814243	446.2100695	1.776924096	0.326327935	-4876.730785	6462.493633	-4876.730785	6462.493633
X Variable 1	0.322288632	0.039561413	8.146540049	0.077757042	-0.180384622	0.824961886	-0.180384622	0.824961886

KD ANALYSIS FOR RA-226 - SAMPLE 12B-024
SILTY SAND (SM) - 4 pt



Sample 12B-024
Sandy Silt - 4 pt

SUMMARY OUTPUT

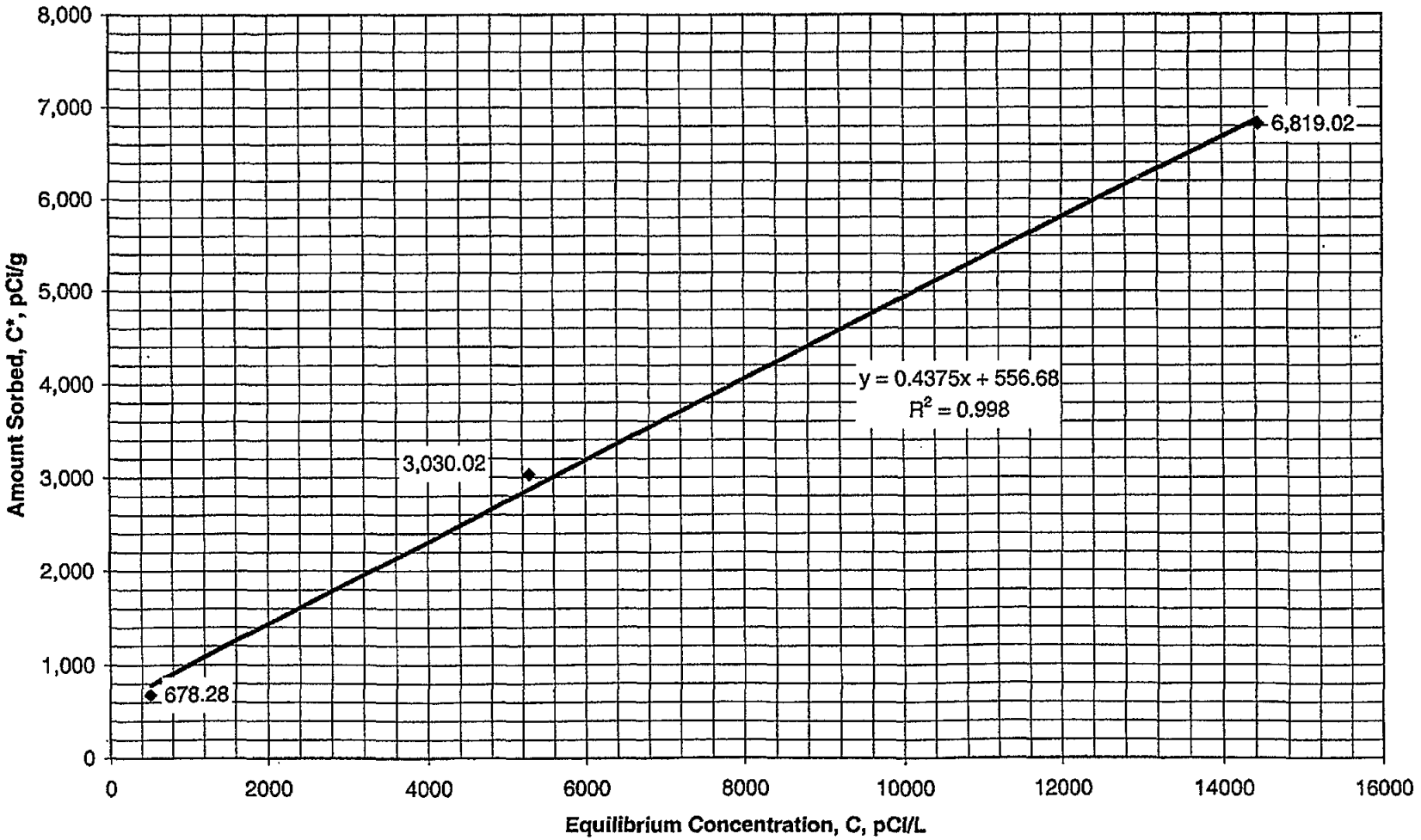
Regression Statistics	
Multiple R	0.988619216
R Square	0.977367954
Adjusted R Square	0.966051931
Standard Error	968.8221495
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	81068547.91	81068547.91	86.37026967	0.011380784
Residual	2	1877232.715	938616.3574		
Total	3	82945780.62			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1405.480539	674.7589764	2.08293715	0.172670401	-1497.775033	4308.736112	-1497.775033	4308.736112
X Variable 1	0.232949259	0.025065663	9.293560656	0.011380784	0.125100341	0.340798177	0.125100341	0.340798177

KD For Radium 226 - Sample 12B-025
Sandy Silt (SM) - 3 pt



04/10/2002

ra-226isotherm.xls
3 PT LINEAR 12B-021223

Sample 12B-025
Sandy Silt - 3 pt

SUMMARY OUTPUT

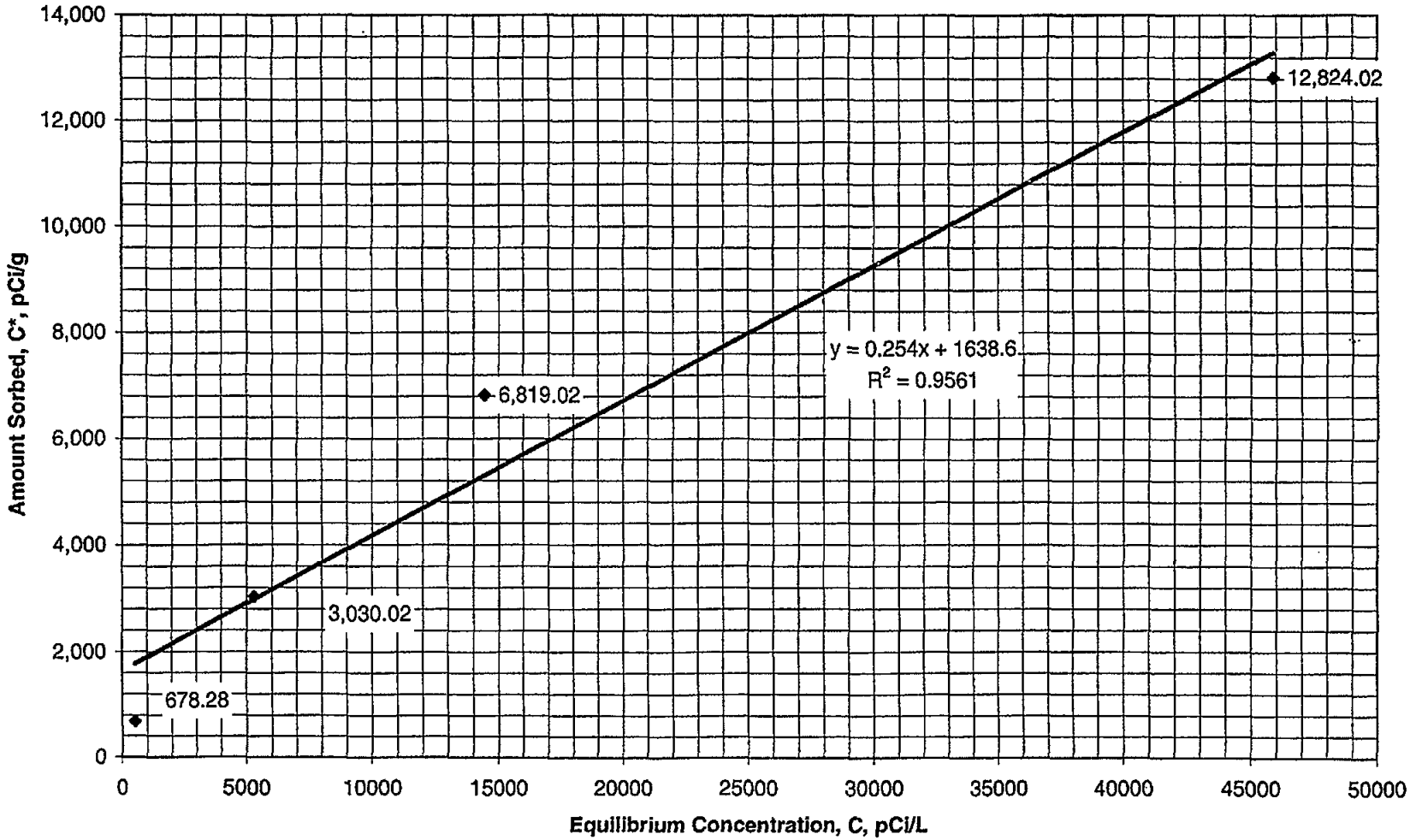
Regression Statistics	
Multiple R	0.998977003
R Square	0.997955052
Adjusted R Square	0.995910105
Standard Error	198.1419116
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	19159381.03	19159381.03	488.0100628	0.028798466
Residual	1	39260.21714	39260.21714		
Total	2	19198641.25			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	556.6804066	175.9224272	3.164351558	0.194862275	-1678.616395	2791.977208	-1678.616395	2791.977208
X Variable 1	0.437459033	0.019802636	22.09094979	0.028798466	0.185843766	0.689074299	0.185843766	0.689074299

KD for Radium 226 - Sample 12B-025
Sandy Silt (SM) - 4 pt



04/10/2002

ra-226isotherm.xls
4PT LINEAR 12B-021223

Sample 12B-025
Sandy Silt - 4 pt

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.977779327
R Square	0.956052412
Adjusted R Square	0.934078619
Standard Error	1360.818641
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	80570703.62	80570703.62	43.50875505	0.022220673
Residual	2	3703654.749	1851827.374		
Total	3	84274358.37			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1638.599018	931.7965963	1.758537243	0.220729841	-2370.600942	5647.798978	-2370.600942	5647.798978
X Variable 1	0.253971552	0.038503193	6.596116664	0.022220673	0.088305569	0.419637535	0.088305569	0.419637535

ATTACHMENT D

BATCH SORPTION PLOTS FOR TH-232

TABLE D-1

SUMMARY OF THORIUM- 232 DISTRIBUTION (Kd) AND RATIO DISTRIBUTION (Rd) COEFFICIENT VALUES

FUSRAP MAYWOOD SUPERFUND SITE, MAYWOOD, NJ

	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	PDI Boring Locator	GWRI Boring Locator	Field Sample ID	Baseline Solids Analytical Results, pCi/g	Matrix	Code	Analyte	Baseline Spiking Solution, pCi/L	Analytical Results, Post Contacting Solution, C, pCi/L	Amount Sorbed per Gram during Test, pCi/g	Amount Sorbed in Test Plus Baseline Results, pCi/g, C* (1)	Distribution Ratio - Rd (L/Kg) (2)	Distribution Coefficient (Kd) determined from Isotherm Plot						Total Organic Carbon (mg/Kg) & Percent	USCS Classification Based on Grain Size Distribution
2													3 point Plot (L/Kg)	Correlation Coefficient (r^2)	F Probability	4 point Plot (L/Kg)	Correlation Coefficient (r^2)	F Probability		
3	128-042	128-021	12b-021203	56.75	Sand	A	Th-232	5042.00	43.17	99.98	156.73	2315.88	7339	0.993	0.053	5105	0.992	0.0038	51400 (5.14%)	SW (Sand Well Sorted)
4	128-042	128-021	12b-021204	56.75	Sand	B	Th-232	23870.00	85.79	475.68	532.43	5544.75	[redacted]							
5	128-042	128-021	12b-021205	56.75	Sand	C	Th-232	46310.00	154.10	923.12	979.87	5990.58								
6	128-042	128-021	12b-021206	56.75	Sand	D	Th-232	144500.00	567.30	2874.65	2931.40	5067.26								
7																				
8	128-039	128-022	12b-021208	8.17	Silty	A	Th-232	4607.00	9.73	91.95	100.12	9446.76	10826	0.976	0.099	19661	0.681	0.175	9400 (0.94%)	GM (Silty Gravel)
9	128-039	128-022	12b-021209	8.17	Silty	B	Th-232	23480.00	40.24	568.80	576.97	14135.87	[redacted]							
10	128-039	128-022	12b-021210	8.17	Silty	C	Th-232	54970.00	99.97	1097.40	1105.57	10977.30								
11	128-039	128-022	12b-021211	8.17	Silty	D	Th-232	128200.00	99.51	2562.01	2570.18	25746.22								
12																				
13	128-070	128-023	12b-021213	1.21	Silty	A	Th-232	4607.00	17.16	91.80	93.00	5349.46	NC	NC	NC	5686	0.963	0.017	1990 (0.199%)	SM (Sandy Silt)
14	128-070	128-023	12b-021214	1.21	Silty	B	Th-232	23480.00	64.63	568.31	569.51	8793.24	[redacted]							
15	128-070	128-023	12b-021215	1.21	Silty	C	Th-232	54970.00	234.70	1094.72	1095.92	4674.28								
16	128-070	128-023	12b-021216	1.21	Silty	D	Th-232	128200.00	423.80	2555.52	2556.73	6030.02								
17																				
18	128-085	128-024	12b-021218	0.72	Silty	A	Th-232	4607.00	64.55	90.85	91.57	1407.42	NC	NC	NC	4353	0.944	0.028	1540 (0.154%)	SM (Sandy Silt)
19	128-085	128-024	12b-021219	0.72	Silty	B	Th-232	23480.00	32.17	568.96	569.67	17685.94	[redacted]							
20	128-085	128-024	12b-021220	0.72	Silty	C	Th-232	54970.00	222.10	1094.86	1095.58	4930.02								
21	128-085	128-024	12b-021221	0.72	Silty	D	Th-232	128200.00	552.20	2557.96	2558.67	4633.25								
22																				
23	128-091	128-025	12b-021223	41.32	Silty	A	Th-232	4607.00	23.47	91.67	132.99	3905.86	NC	NC	NC	11549	0.911	0.025	15900 (1.59%)	SM (Sandy Silt)
24	128-091	128-025	12b-021224	41.32	Silty	B	Th-232	23480.00	14.30	569.31	610.63	39813.17	[redacted]							
25	128-091	128-025	12b-021225	41.32	Silty	C	Th-232	54970.00	85.39	1097.69	1139.01	12851.04								
26	128-091	128-025	12b-021226	41.32	Silty	D	Th-232	128200.00	213.50	2559.73	2601.05	11989.37								
27	Notes:																			
28	ND - Non - Detect																			
29	NC - Not Calculated																			
30	(1) - C* = Amount Sorbed = Do((I-J)*V/Ms)																			
31	(2) - Rd=Distribution Ratio = (((I-J)* V)/(J*Ms)																			
32	Where D, I and J denote column value																			
33	Ve Volume of Solution = 0.1 L																			
34	Ms = Mass of Soil on Dry Weight Basis = 5 g																			

SUMMARY OF TH-232
DISTRIBUTION COEFFICENT, KD VALUES AND SAMPLE TOC/SOIL CLASSIFICATION

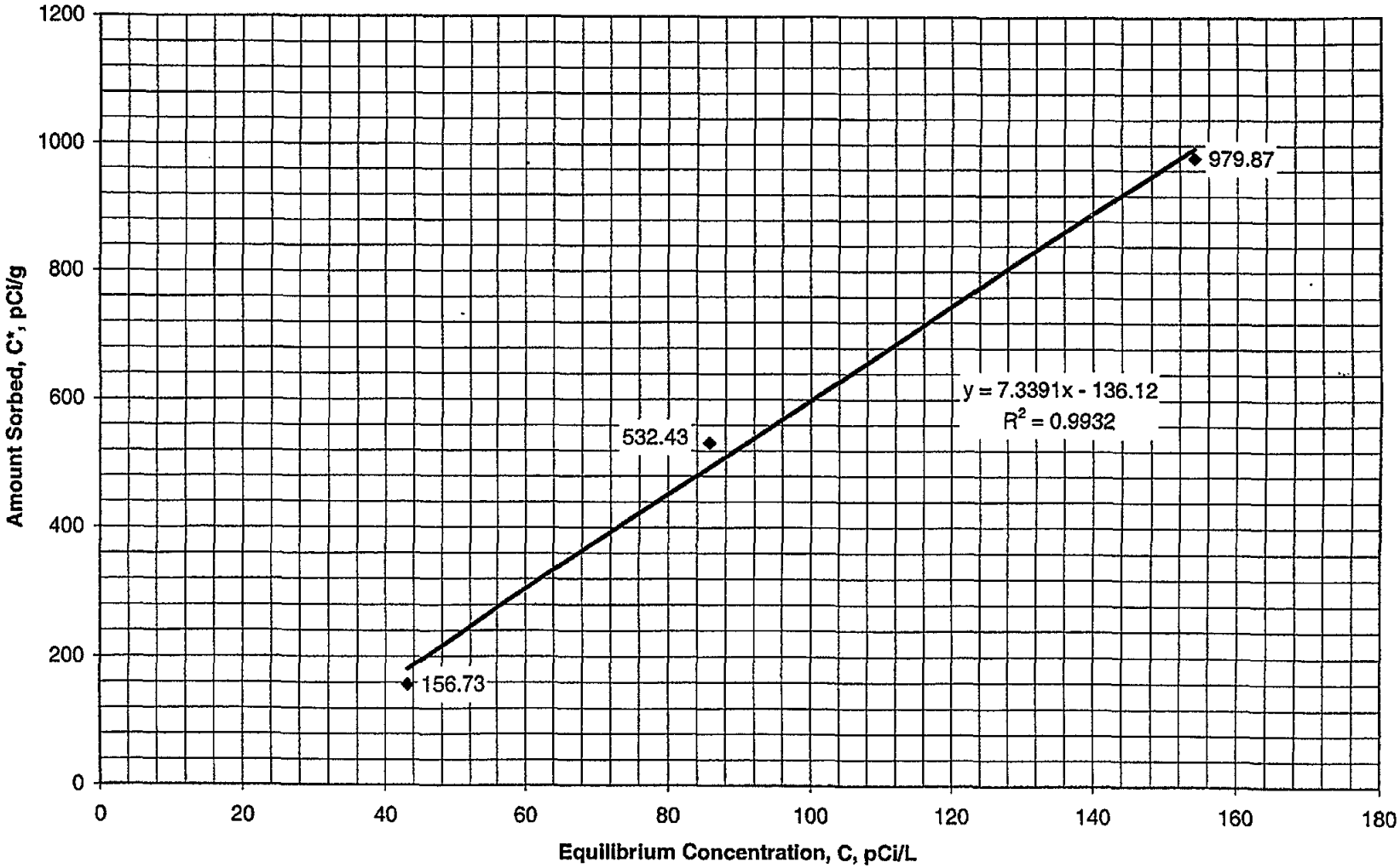
EUSBAP MAYWOOD SUPERFUND SITE, MAYWOOD, N.J.

PDI Boring Locator	GWRI Boring Locator	*Field Sample ID*	TH-232 Distribution Coefficient (Kd) Determined from Isotherm Plot		Total Organic Carbon (mg/Kg) & Percent	USCS Classification Based on Grain Size Distribution
			3 point Plot	4 point Plot		
12B-042	12B-021	12b-021203	7339	5105	51400 (5.14%)	SW (Sand Well Sorted)
12B-042	12B-021	12b-021204				
12B-042	12B-021	12b-021205				
12B-042	12B-021	12b-021206				
12B-039	12B-022	12b-021208	10826	19661	9400 (0.94%)	GM (Silty Gravel)
12B-039	12B-022	12b-021209				
12B-039	12B-022	12b-021210				
12B-039	12B-022	12b-021211				
12B-070	12B-023	12b-021213	NC	5686	1990 (0.199%)	SM (Silty Sand)
12B-070	12B-023	12b-021214				
12B-070	12B-023	12b-021215				
12B-070	12B-023	12b-021216				
12B-085	12B-024	12b-021218	NC	4353	1540 (0.154%)	SM (Silty Sand)
12B-085	12B-024	12b-021219				
12B-085	12B-024	12b-021220				
12B-085	12B-024	12b-021221				
12B-091	12B-025	12b-021223	NC	11349	15900 (1.59%)	SM (Silty Sand)
12B-091	12B-025	12b-021224				
12B-091	12B-025	12b-021225				
12B-091	12B-025	12b-021226				

Legend

NC - Not Calculated

KD for Thorium 232 - 12B-021
Sand (SW) - 3 pt



04/10/2002

thoriumbatch.xls
12b-021203 3 pts

Sample 12B-021 - Well Sorted Sand
3 Pt. TH-232 Statistics

SUMMARY OUTPUT

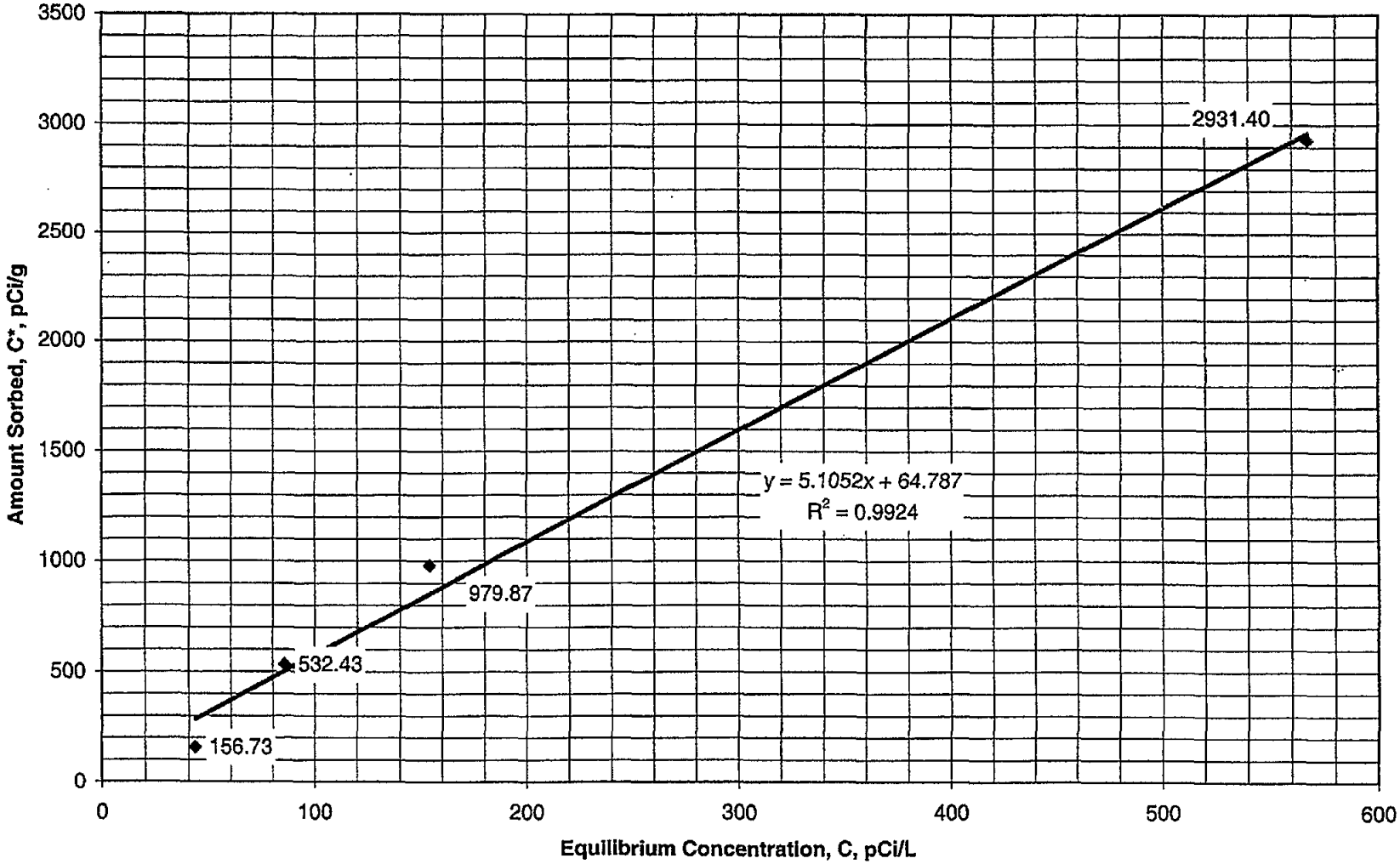
Regression Statistics	
Multiple R	0.996586229
R Square	0.993184111
Adjusted R Square	0.986368223
Standard Error	48.11379231
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	337323.3865	337323.3865	145.7160108	0.052618196
Residual	1	2314.937011	2314.937011		
Total	2	339638.3235			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-136.1234299	63.73664024	-2.13571706	0.278780597	-945.9707605	673.7239007	-945.9707605	673.7239007
X Variable 1	7.399076838	0.607977907	12.0712887	0.052618196	-0.385981829	15.0641355	-0.385981829	15.0641355

KD for Thorium 232 -12B-021
Sand (SW) - 4 pt



04/10/2002

thoriumbatch.xls
12b-021203 4 pts

Sample 12B-021 - Well Sorted Sand
4 Pt. TH-232 Statistics

SUMMARY OUTPUT

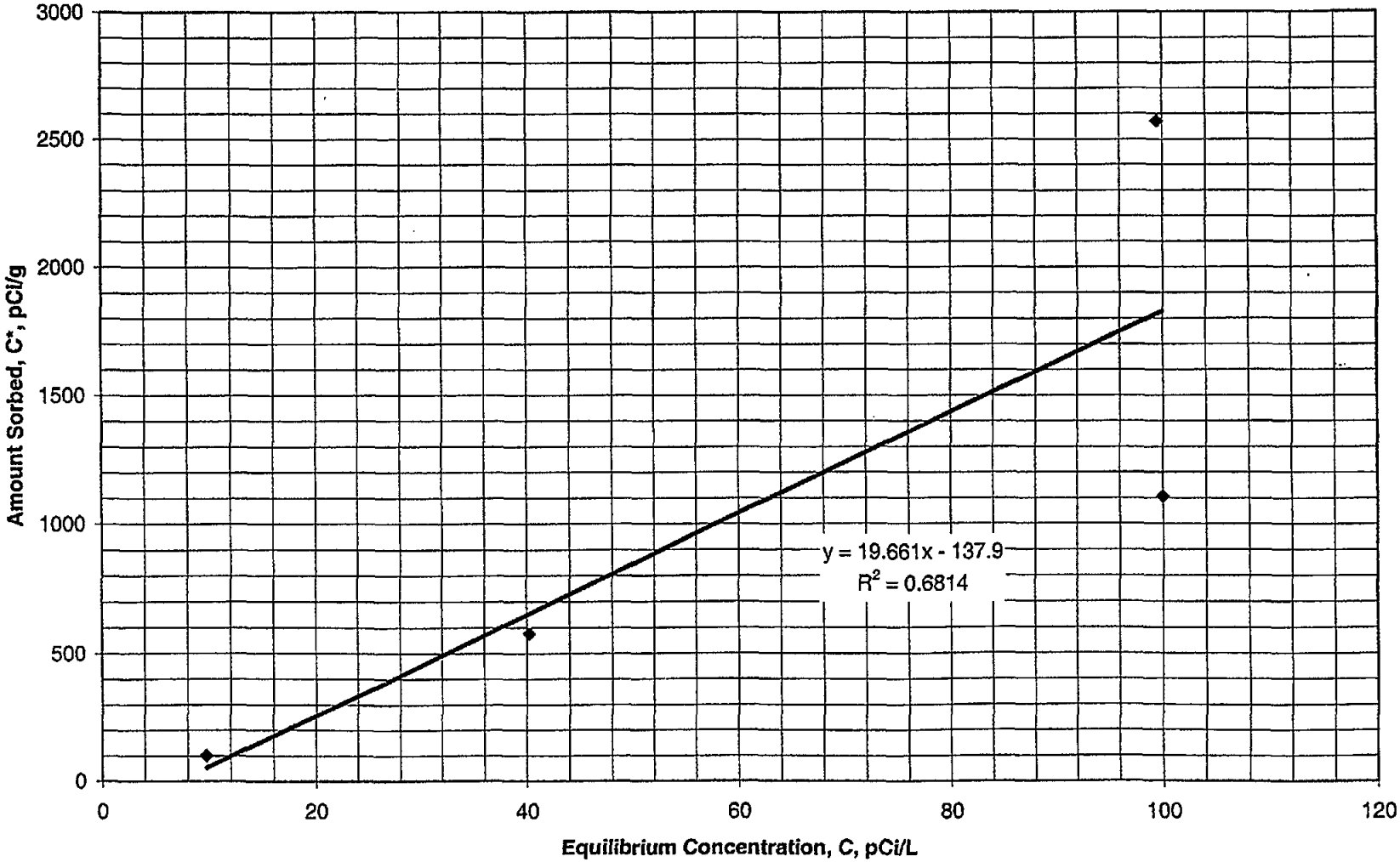
Regression Statistics	
Multiple R	0.996192907
R Square	0.992400307
Adjusted R Square	0.988600461
Standard Error	131.7821356
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	4535591.584	4535591.564	261.1685369	0.003807093
Residual	2	34733.06255	17366.53128		
Total	3	4570324.626			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	64.78728571	94.08416218	0.688609902	0.562218604	-340.0244733	469.5990447	-340.0244733	469.5990447
X Variable 1	5.105230323	0.315903845	16.16070988	0.003807093	3.746004835	6.46445581	3.746004835	6.46445581

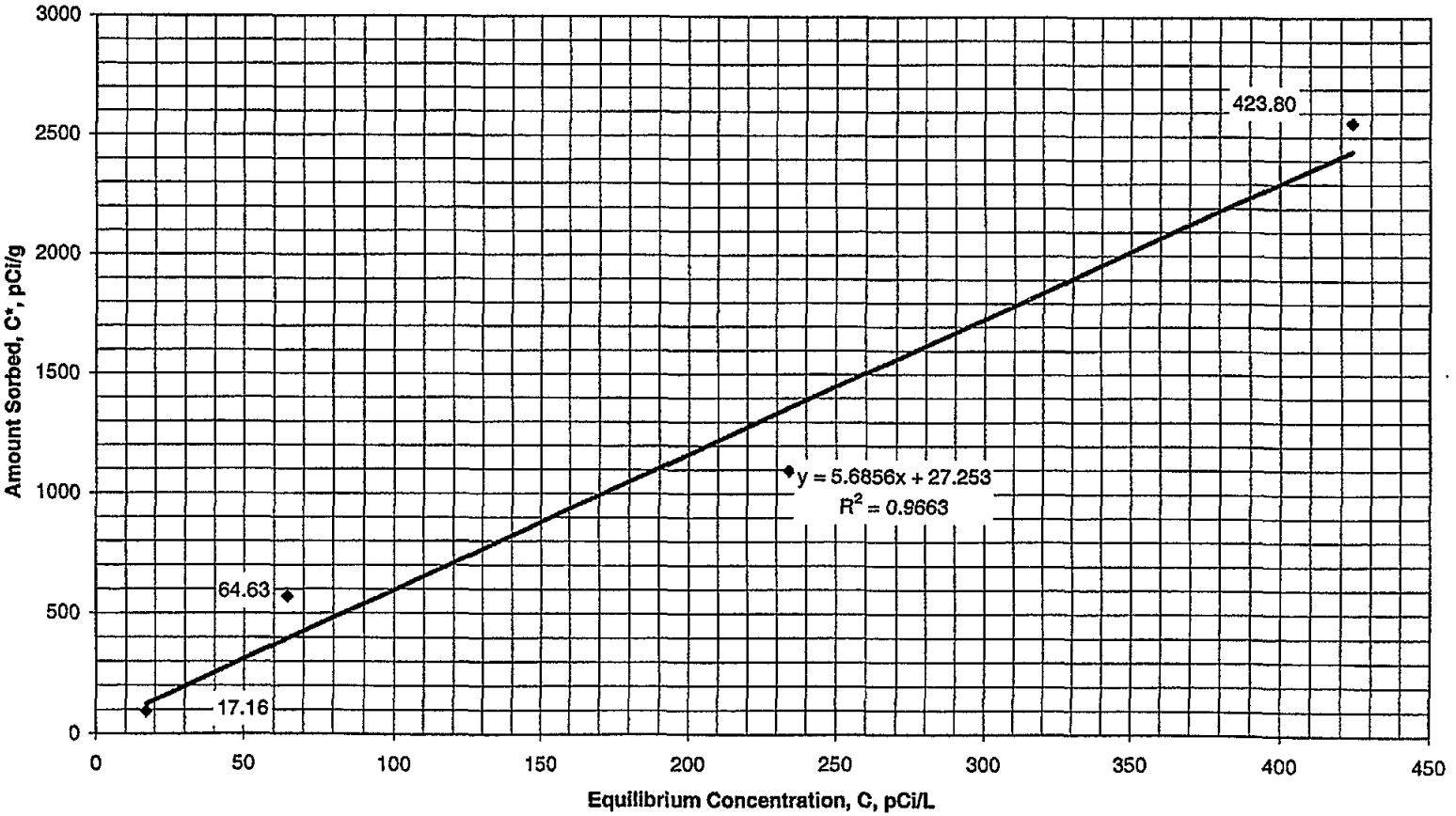
KD for Thorium 232 - 12B-022
Silty Gravel (GM) - 4 pts



04/10/2002

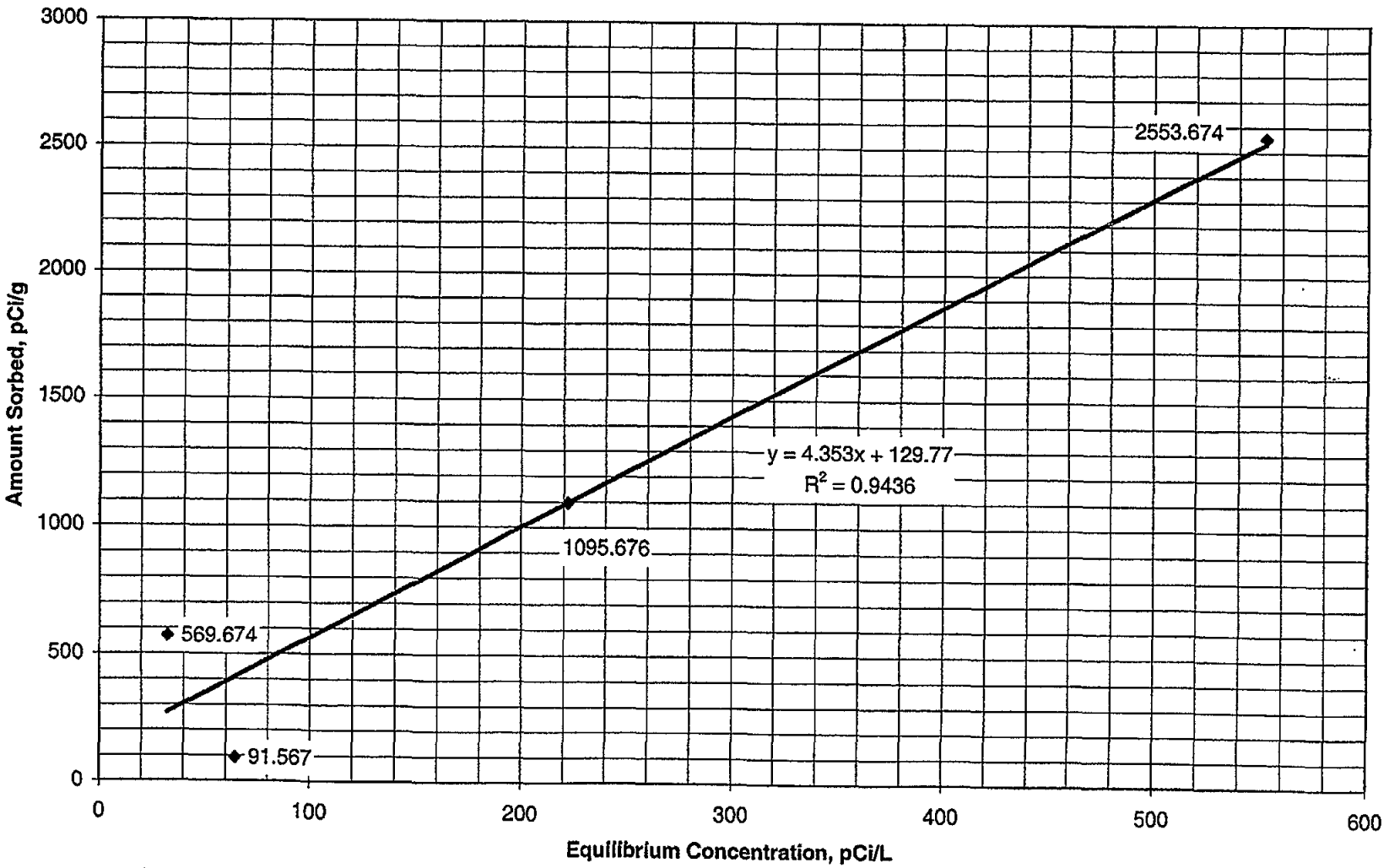
thoriumbatch.xls
12b-021208 4 pt

KD for Thorium 232 -12B-023
Sand (SW) - 4 pt



thoriumbatch.xls
12b-021213 4 pts

KD for Thorium 232 - 12B-024
Silty Sand (SM) - 4 pt



04/10/2002

thoriumbatch.xls
12b-021218 4 pt

Sample 12B-024 - Sandy Silt
4 Pt. TH-232 Statistics

SUMMARY OUTPUT

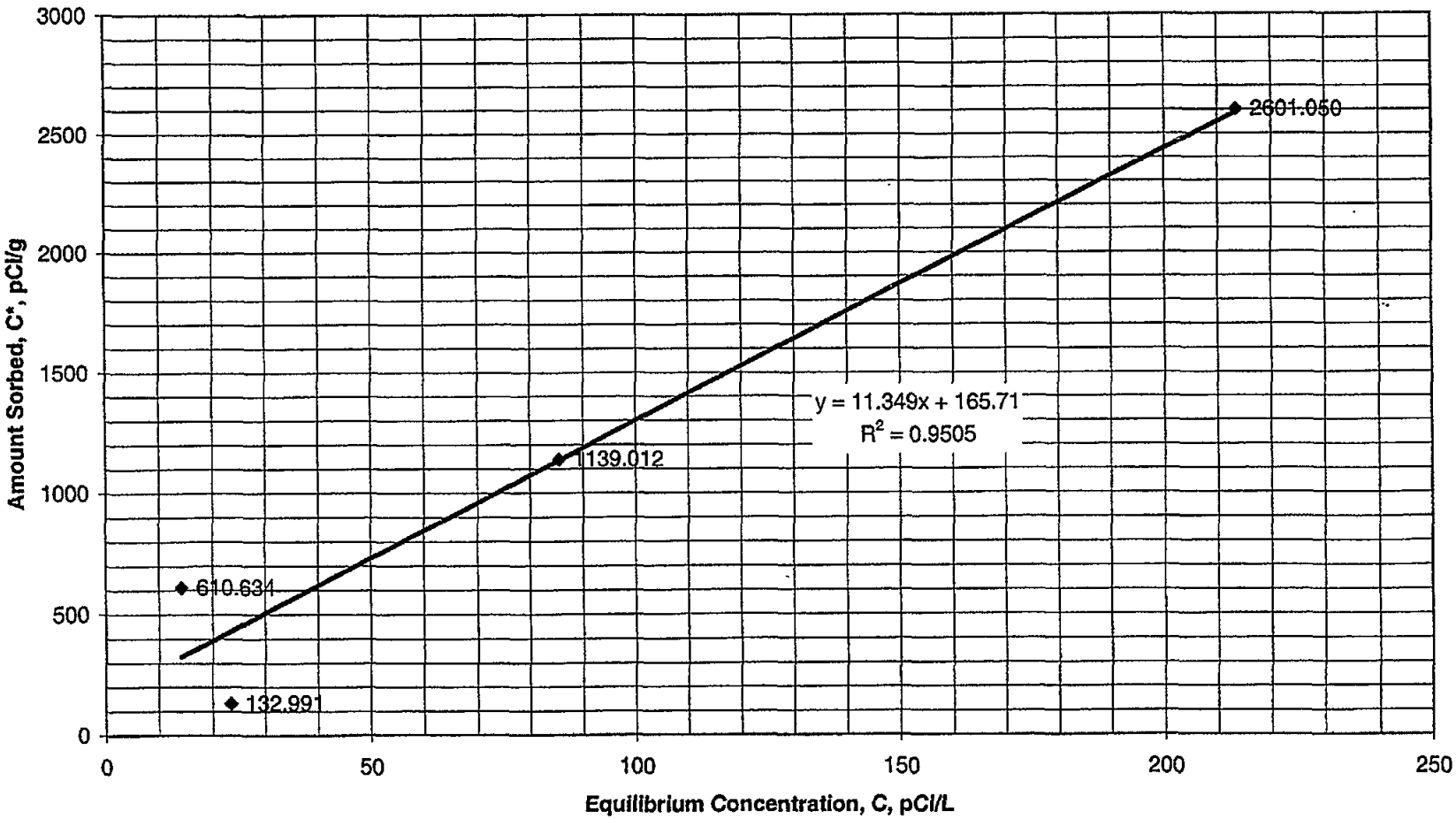
Regression Statistics	
Multiple R	0.971402483
R Square	0.943622785
Adjusted R Square	0.915434177
Standard Error	310.0087202
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3217159.662	3217159.662	33.47532439	0.028597517
Residual	2	192210.8132	96105.40662		
Total	3	3409370.475			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	129.7669082	225.5356933	0.575371935	0.623146448	-840.6355339	1100.16935	-840.6355339	1100.16935
X Variable 1	4.352968207	0.752355496	5.78578641	0.028597517	1.115841523	7.59009489	1.115841523	7.59009489

KD for Thorium 232 - 12B-025
Sandy Silt (SM) - 4 pt



Sample 12B-025 - Sandy Silt
4 Pt. TH-232 Statistics

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.974960024
R Square	0.950547049
Adjusted R Square	0.925820573
Standard Error	291.1188824
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3258008.038	3258008.038	38.44248032	0.025039976
Residual	2	169500.4074	84750.20371		
Total	3	3427508.446			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	165.7125635	211.9489294	0.781851383	0.516165844	-746.2307108	1077.655838	-746.2307108	1077.655838
X Variable 1	11.34924418	1.830464201	6.200200023	0.025039976	3.473386907	19.22510146	3.473386907	19.22510146

ATTACHMENT E

BATCH SORPTION PLOTS FOR U-238

TABLE E-1

SUMMARY OF URANIUM- 238 DISTRIBUTION (Kd) AND RATIO DISTRIBUTION (Rd) VALUES

FUSRAP MAYWOOD SUPERFUND SITE, MAYWOOD, NJ

	A	B	C	D	E	F	H	M	N	T	W	AA	AB	AC	AD	AE	AF	AG	AH	AI
54	PDI Boring Locator	GWEI Boring Locator	Field Sample ID	Bomhart Solids Analytical Results, pCi/g	Matrix	Code	Analytical Results, Baseline Solution, pCi/L	Analytical Results, Post Contacting Solution, pCi/L, C	Post Contact Solids Analytical Results, pCi/g	Amount Sorbed per Gram during Test, pCi/g	Amount Sorbed in Test Flux Baseline Results, pCi/g, C* (1)	Distribution Ratio - Rd (L/Kg) (2)	Distribution Coefficient (Kd) determined from Isotherm Plot						Total Organic Carbon (mg/Kg) & Percent	USCS Classification Based on Grain Size Distribution
55													3 point Plot	Correlation Coefficient (r^2)	F Probability	4 point Plot	Correlation Coefficient (r^2)	F Probability		
56	128-042	128-021	126-021305	19.78	Sand	A	63.99	25.21	18.15	0.78	20.556	30.77	156	0.999	0.005	65	0.965	0.018	53400 (5.34%)	SW (Sand With Some)
57	128-042	128-021	126-021306	19.78	Sand	B	193.95	41.63	23.79	3.04	22.823	73.15								
58	128-042	128-021	126-021305	19.78	Sand	C	387.90	66.77	23.67	6.42	26.203	96.19								
59	128-042	128-021	126-021306	19.78	Sand	D	774.70	159.50	33.91	12.40	33.184	77.77								
60																				
61	128-039	128-022	126-021308	11.61	Silty	A	38.03	13.36	10.76	0.49	12.105	36.93	52.4	0.936	0.162	39.6	0.586	0.111	9400 (0.94%)	GM (Silty Gravel)
62	128-039	128-022	126-021309	11.61	Silty	B	212.40	23.74	12.01	3.77	15.383	138.94								
63	128-039	128-022	126-021310	11.61	Silty	C	382.20	8.38	13.72	7.48	19.085	890.65								
64	128-039	128-022	126-021311	11.61	Silty	D	766.90	190.50	28.01	12.10	22.710	57.84								
65																				
66	128-030	128-023	126-021313	1.13	Silty	A	38.03	4.77	2.32	0.87	1.792	139.32	45.8	0.996	0.041	54.8	0.931	0.035	1900 (0.19%)	SM (Sandy Silt)
67	128-030	128-023	126-021314	1.13	Silty	B	212.40	19.35	3.77	3.86	4.968	199.53								
68	128-030	128-023	126-021315	1.13	Silty	C	382.20	43.72	8.20	6.57	7.997	99.96								
69	128-030	128-023	126-021316	1.13	Silty	D	766.90	139.90	13.66	18.34	12.467	63.04								
70																				
71	128-085	128-024	126-021318	0.65	Silty	A	38.03	17.65	1.56	0.41	1.058	33.09	721	0.972	0.107	252	0.665	0.184	1540 (0.154%)	SM (Sandy Silt)
72	128-085	128-024	126-021319	0.65	Silty	B	212.40	7.81	4.80	4.09	4.747	333.99								
73	128-085	128-024	126-021320	0.65	Silty	C	382.20	15.03	9.03	7.34	7.994	468.38								
74	128-085	128-024	126-021321	0.65	Silty	D	766.90	49.72	18.65	13.94	14.594	280.66								
75																				
76	128-091	128-025	126-021323	52.40	Silty	A	38.03	09.43	48.94	-0.65	52.400	-0.05	29.3	0.98	0.089	56.9	0.79	0.111	15900 (1.59%)	SM (Sandy Silt)
77	128-091	128-025	126-021324	52.40	Silty	B	212.40	55.30	53.84	5.13	55.534	56.37								
78	128-091	128-025	126-021325	52.40	Silty	C	382.20	186.50	55.37	5.51	57.814	51.77								
79	128-091	128-025	126-021326	52.40	Silty	D	766.90	267.10	71.46	9.80	61.990	35.99								

80 Notes:

81 ND = Non - Detect

82 NC - Not Calculated

83 (1) - C* = Asymptotic Residual = $[(M_o/V_o)-(M_e/V_e)]/(M_e/V_e)$

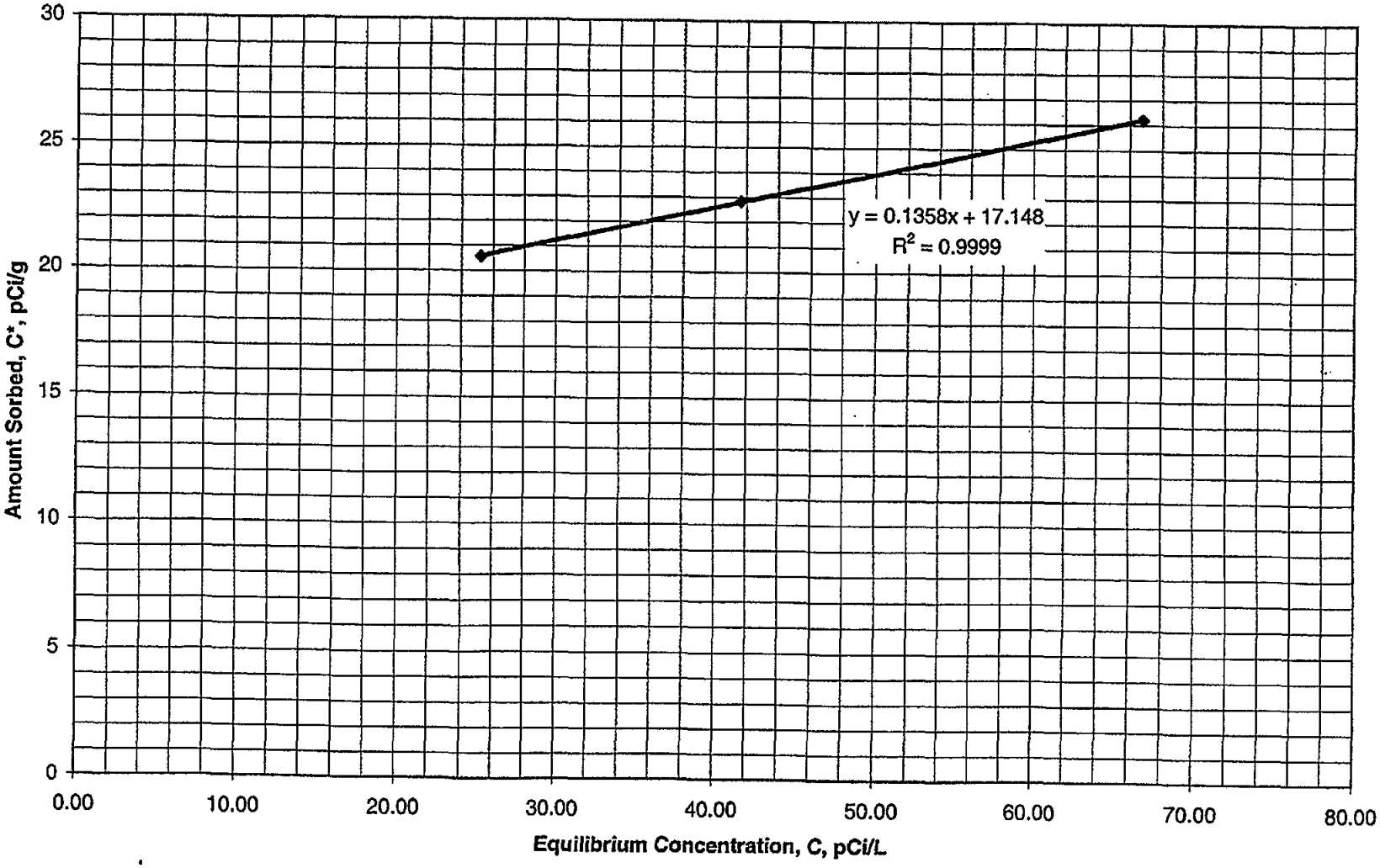
84 (2) - Rd=Distribution Ratio = $[(M_o/V_o)-(M_e/V_e)]/(M_s/V_e)$

85 Where M denotes unknown values

86 Vo Volume of Solution = 0.1 L

87 Ms = Mass of Soil on Dry Weight Basis = 5 g

KD for Uranium - Sample 12B-021
Sand Sample (SW) - 3 pt



04/09/2002

uraniumbatch.xls
12B-21203 3 pt

Sample 12B-021 - Well Sorted Sand
3 Pt. U-238 Statistics

SUMMARY OUTPUT

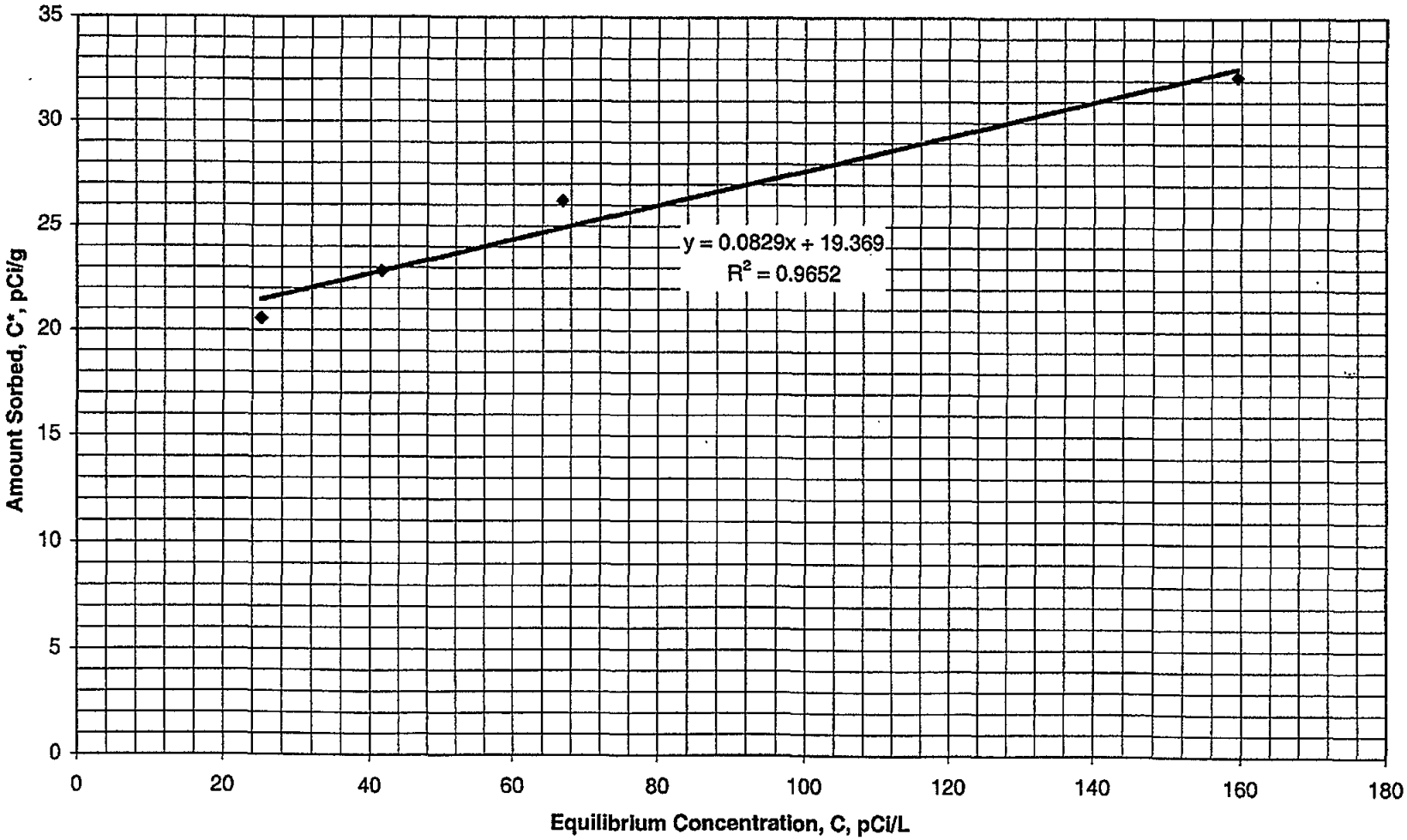
Regression Statistics	
Multiple R	1.000
R Square	1.000
Adjusted R Square	1.000
Standard Error	0.030
Observations	3.000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	16.149	16.149	18230.450	0.005
Residual	1.000	0.001	0.001		
Total	2.000	16.150			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	17.148	0.048	357.525	0.002	16.538	17.757	16.538	17.757
X Variable 1	0.136	0.001	135.020	0.005	0.123	0.149	0.123	0.149

KD for Uranium - 12B-021
Sand Sample (SW) -4 pt



Sample 12B-021 - Well Sorted Sand
4 Pt. U-238 Statistics

SUMMARY OUTPUT

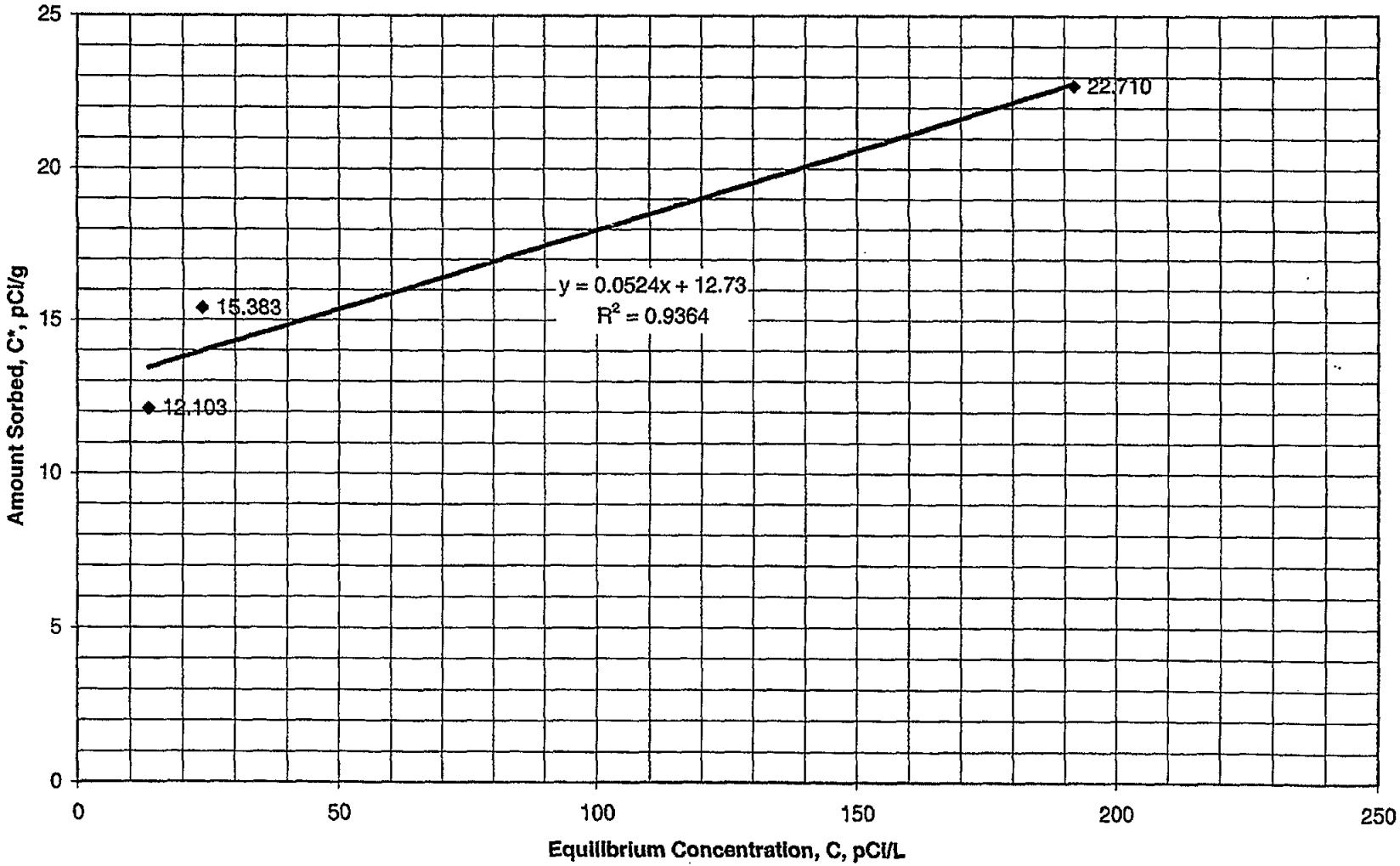
Regression Statistics	
Multiple R	0.982
R Square	0.965
Adjusted R Square	0.948
Standard Error	1.155
Observations	4.000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	74.099	74.099	55.551	0.018
Residual	2.000	2.668	1.334		
Total	3.000	76.767			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	19.369	0.999	19.394	0.003	15.072	23.666	15.072	23.666
X Variable 1	0.083	0.011	7.453	0.018	0.035	0.131	0.035	0.131

KD for Uranium - 12B-022
Gravelly Silt (GM) - 3 pt



04/09/2002

uraniumbatch.xls
12b-21208 3pt graph

Sample 12B-022 - Gravelly Silt
3 Pt. U-238 Statistics

SUMMARY OUTPUT

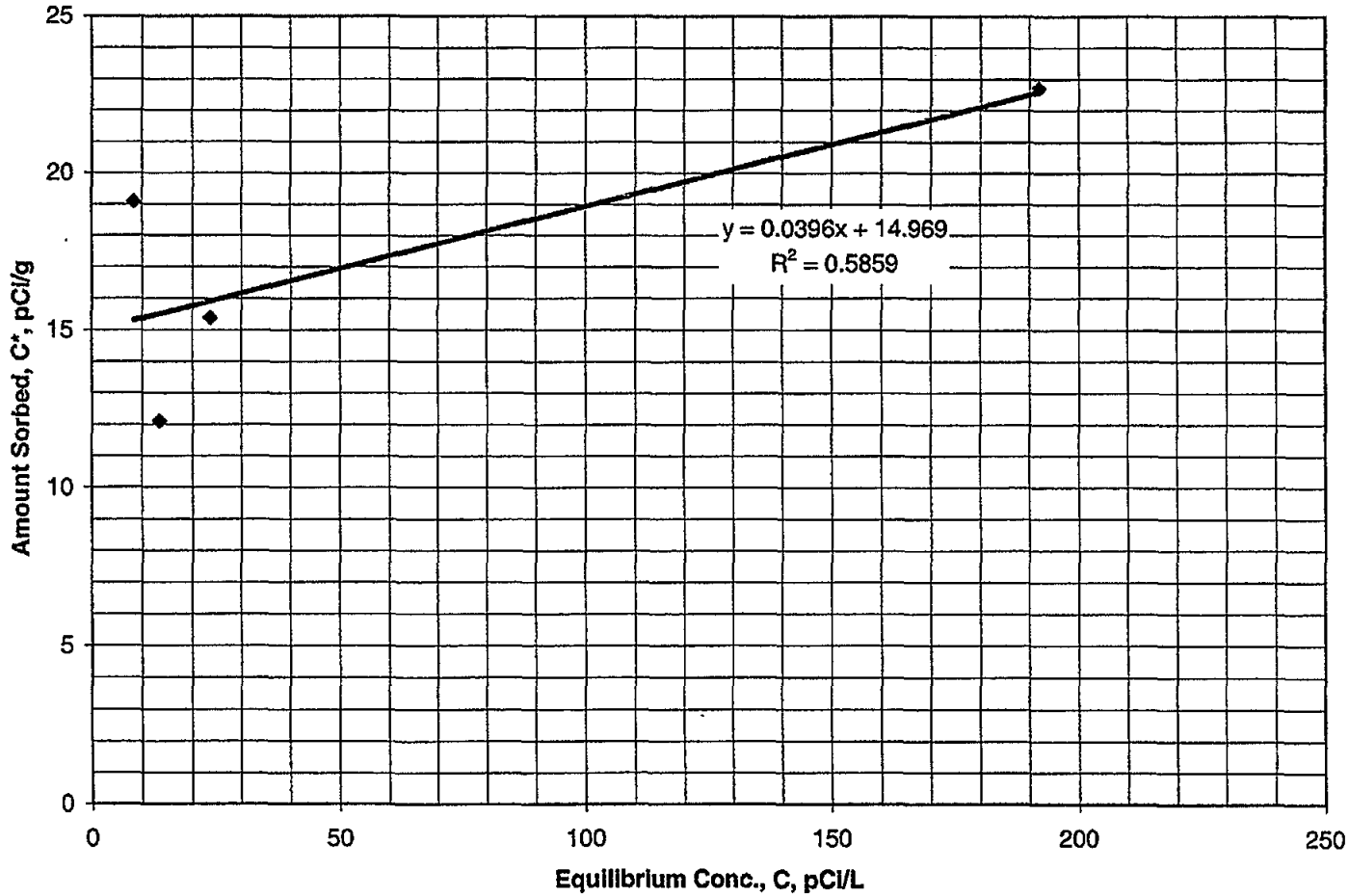
Regression Statistics	
Multiple R	0.968
R Square	0.936
Adjusted R Square	0.873
Standard Error	1.937
Observations	3.000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	55.228	55.228	14.721	0.162
Residual	1.000	3.752	3.752		
Total	2.000	58.980			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12.730	1.529	8.324	0.076	-6.702	32.161	-6.702	32.161
X Variable 1	0.052	0.014	3.837	0.162	-0.121	0.226	-0.121	0.226

KD for Uranium - 12B-022
Gravelly Silt (GM) - 4 pt



Sample 12B-022 - Gravelly Silt
4 Pt. U-238 Statistics

SUMMARY OUTPUT

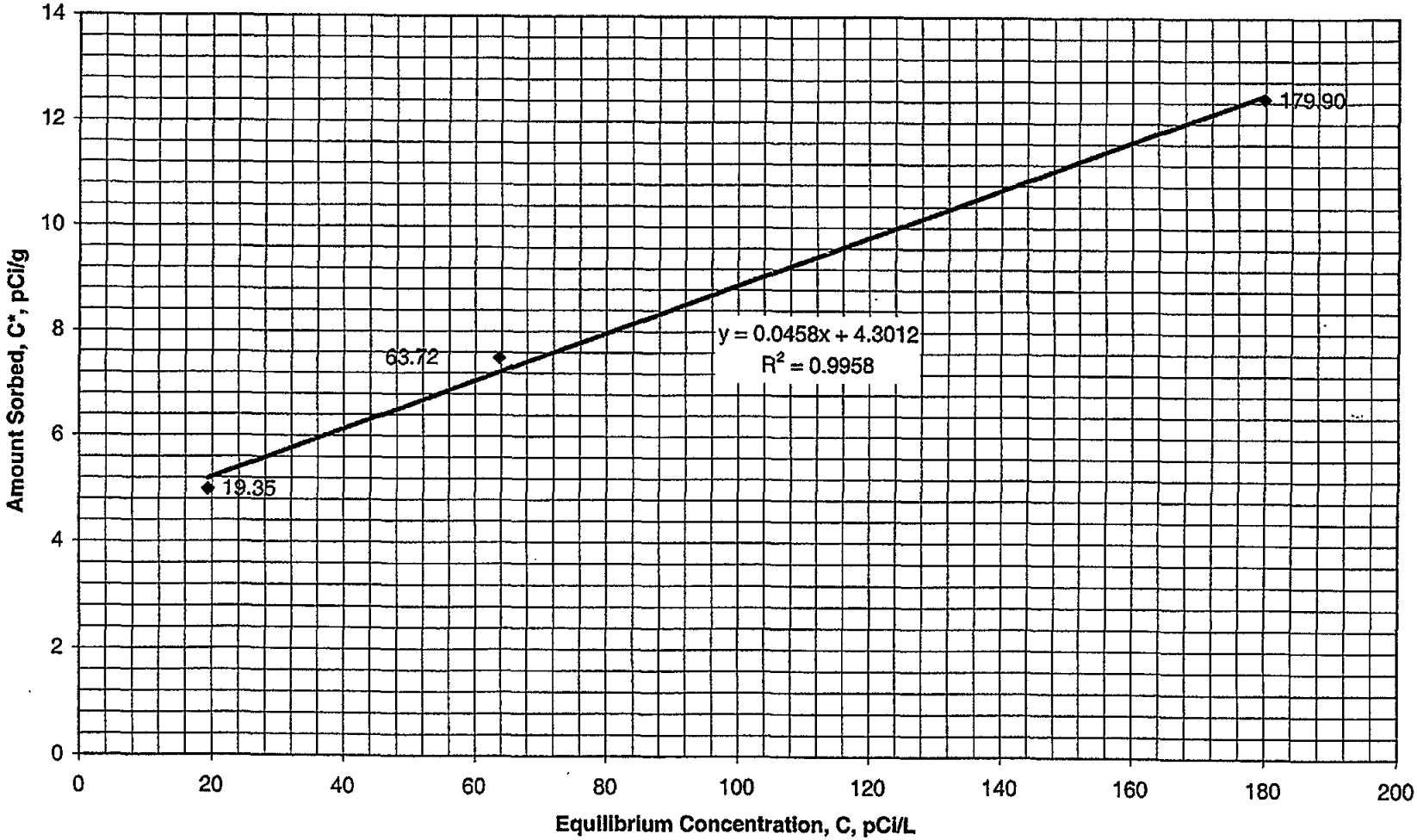
Regression Statistics	
Multiple R	0.889
R Square	0.790
Adjusted R Square	0.685
Standard Error	2.269
Observations	4.000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	38.801	38.801	7.536	0.111
Residual	2.000	10.298	5.149		
Total	3.000	49.098			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	52.354	2.026	25.846	0.001	43.639	61.070	43.639	61.070
X Variable 1	0.037	0.013	2.745	0.111	-0.021	0.095	-0.021	0.095

KD for Uranium - 12B-023
Sandy Silt - 3 pt



12B-023 - Sandy Silt
3 Pt. Statistics

SUMMARY OUTPUT

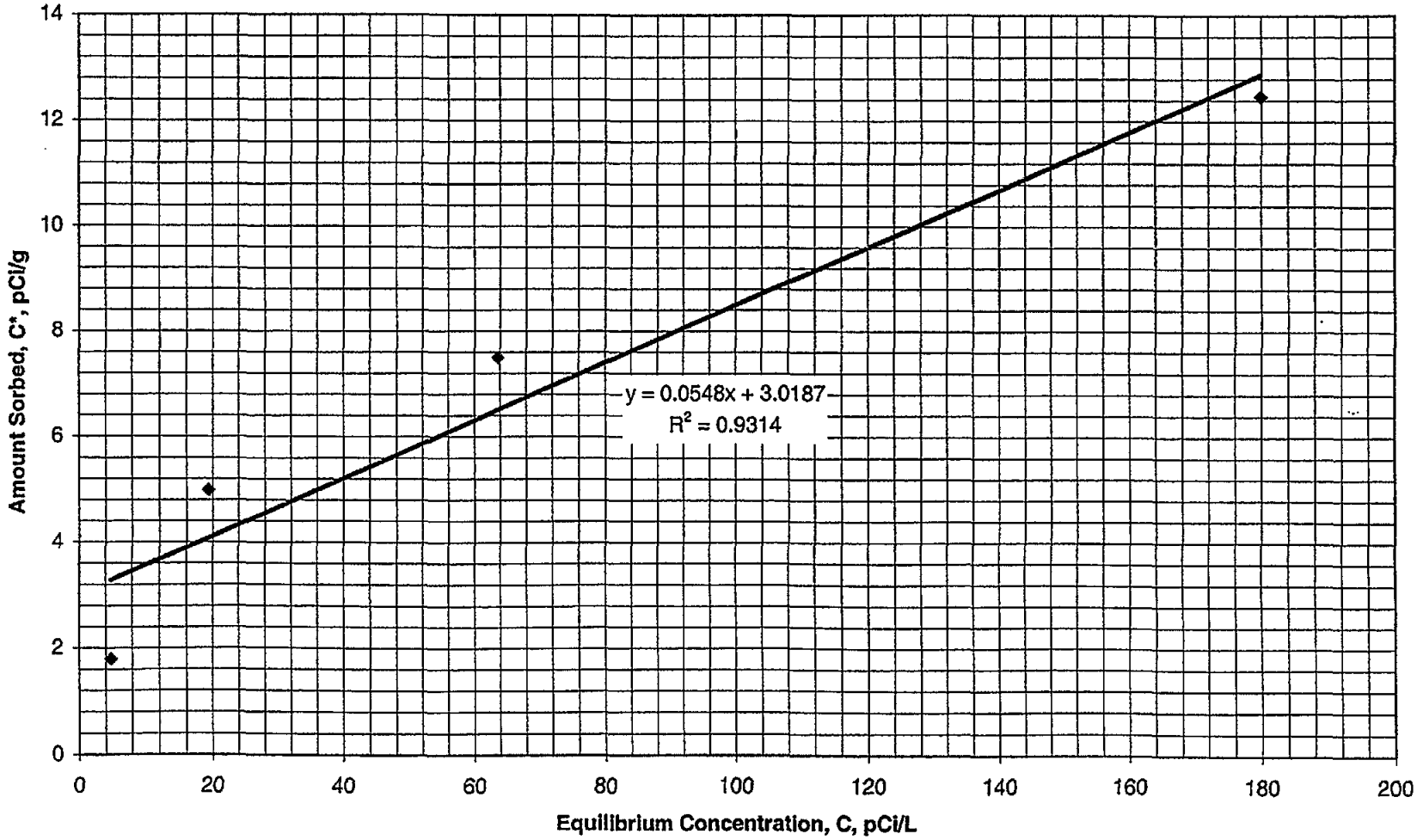
Regression Statistics	
Multiple R	0.998
R Square	0.996
Adjusted R Square	0.992
Standard Error	0.349
Observations	3.000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	28.856	28.856	236.666	0.041
Residual	1.000	0.122	0.122		
Total	2.000	28.978			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4.301	0.330	13.041	0.049	0.110	8.492	0.110	8.492
X Variable 1	0.046	0.003	15.384	0.041	0.008	0.084	0.008	0.084

KD for Uranium - 12B-023
Sandy Silt (SM) - 4 pt



04/09/2002

uraniumbatch.xls
12B-021213 4 PT

12B-023 - Sandy Silt
4 Pt. Statistics

SUMMARY OUTPUT

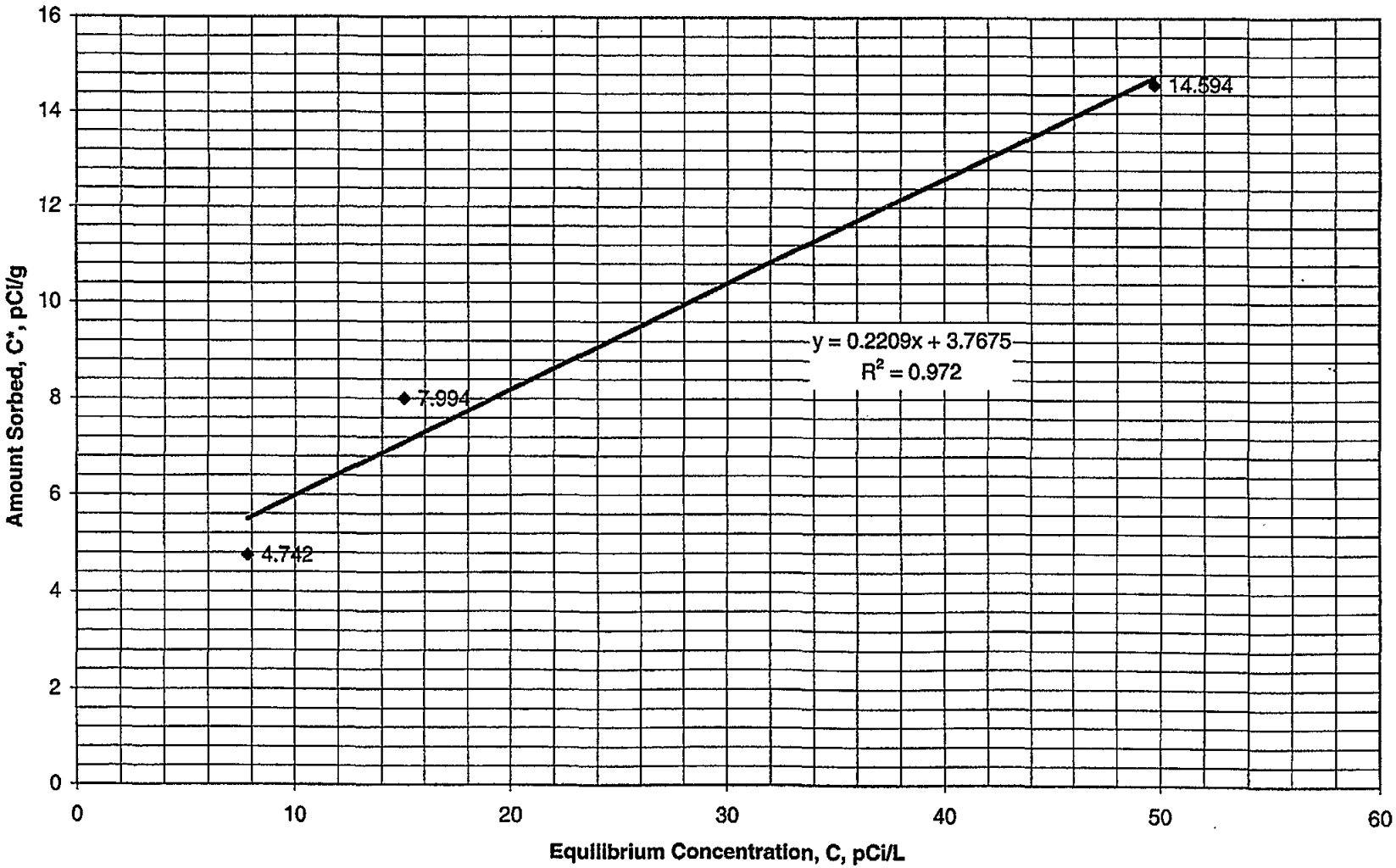
Regression Statistics	
Multiple R	0.9651
R Square	0.9314
Adjusted R Square	0.8970
Standard Error	1.4459
Observations	4.0000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.0000	56.7289	56.7289	27.1338	0.0349
Residual	2.0000	4.1814	2.0907		
Total	3.0000	60.9103			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.0187	1.0091	2.9915	0.0959	-1.3231	7.3606	-1.3231	7.3606
X Variable 1	0.0548	0.0105	5.2090	0.0349	0.0095	0.1000	0.0095	0.1000

KD for Uranium - 12B-024
Sandy Silt -3 pt



04/09/2002

uraniumbatch.xls
12b-021218 3pt

12B-024 - Sandy Silt
3 Pt. Statistics

SUMMARY OUTPUT

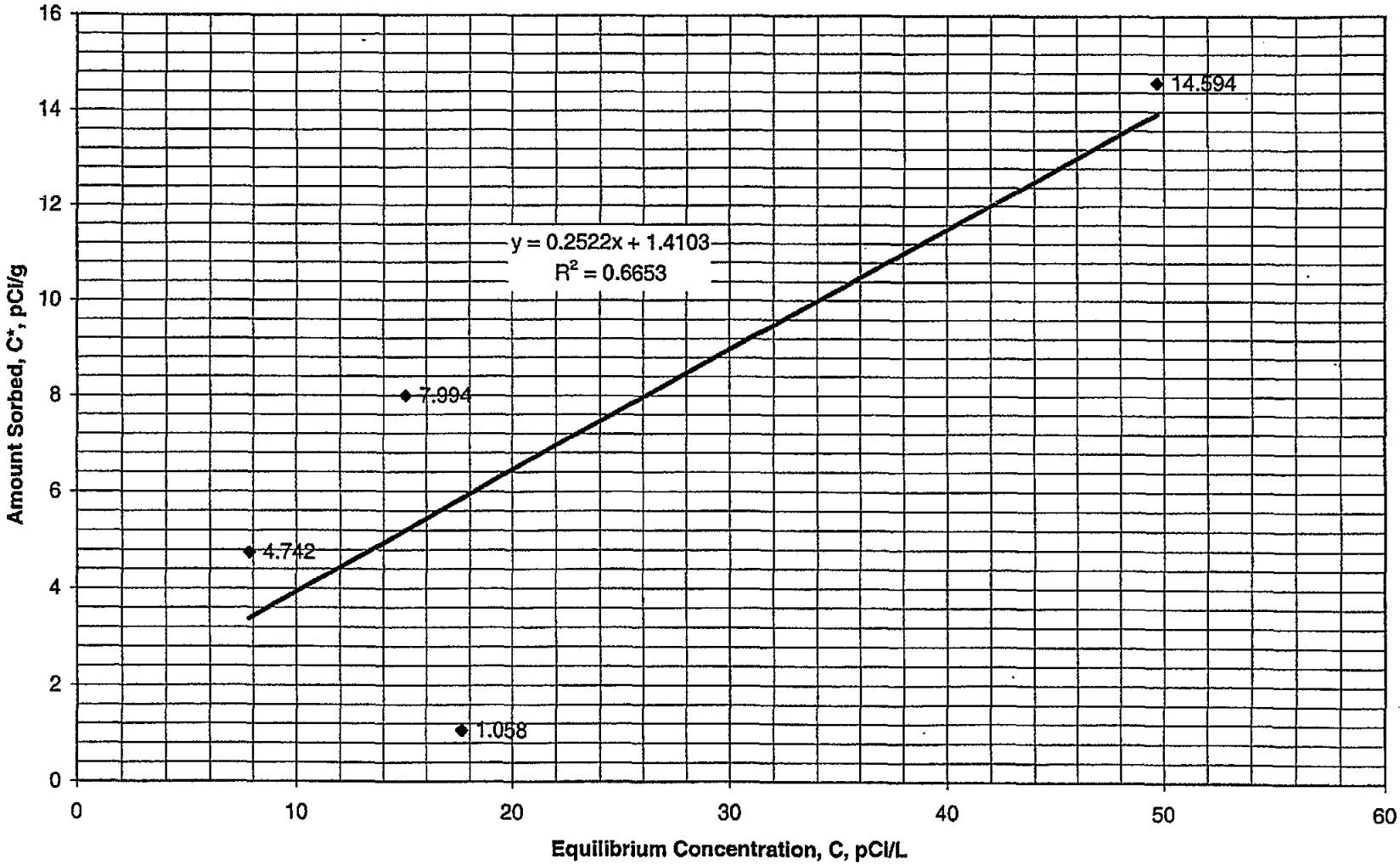
Regression Statistics	
Multiple R	0.986
R Square	0.972
Adjusted R Square	0.944
Standard Error	1.187
Observations	3.000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	48.989	48.989	34.778	0.107
Residual	1.000	1.409	1.409		
Total	2.000	50.398			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.767	1.136	3.317	0.186	-10.665	18.200	-10.665	18.200
X Variable 1	0.221	0.037	5.897	0.107	-0.255	0.697	-0.255	0.697

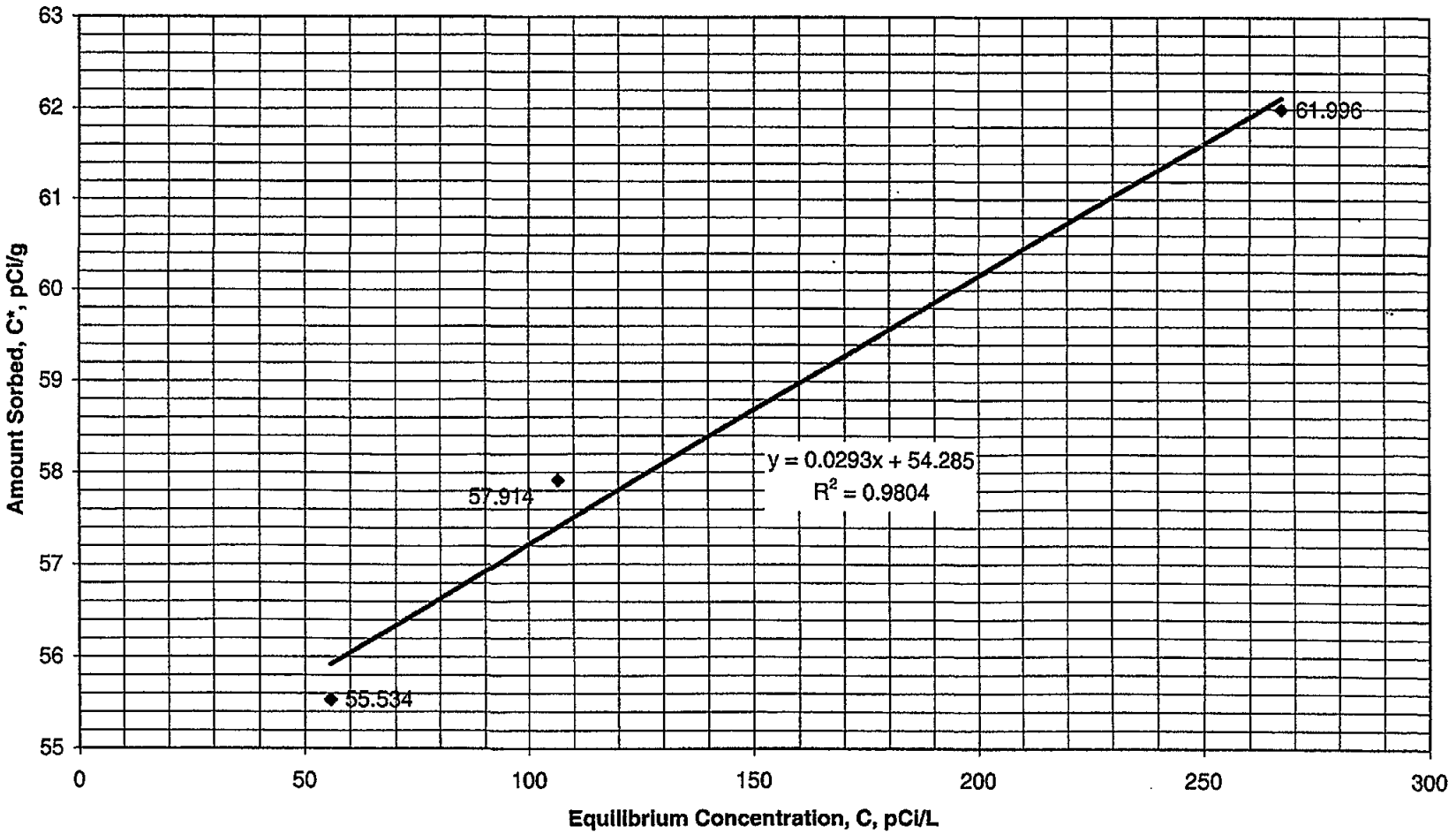
KD for Uranium - 12B-024
Sandy Silt (SM) - 4 pt



04/09/2002

uraniumbatch.xls
12B-021218 4 pt

KD for Uranium - 12B-025
Sandy Silt (SM) - 3 pt



04/09/2002

uraniumbatch.xls
12b-21223 3 pt

12B-025 - Sandy Silt
3 Pt. Statistics

SUMMARY OUTPUT

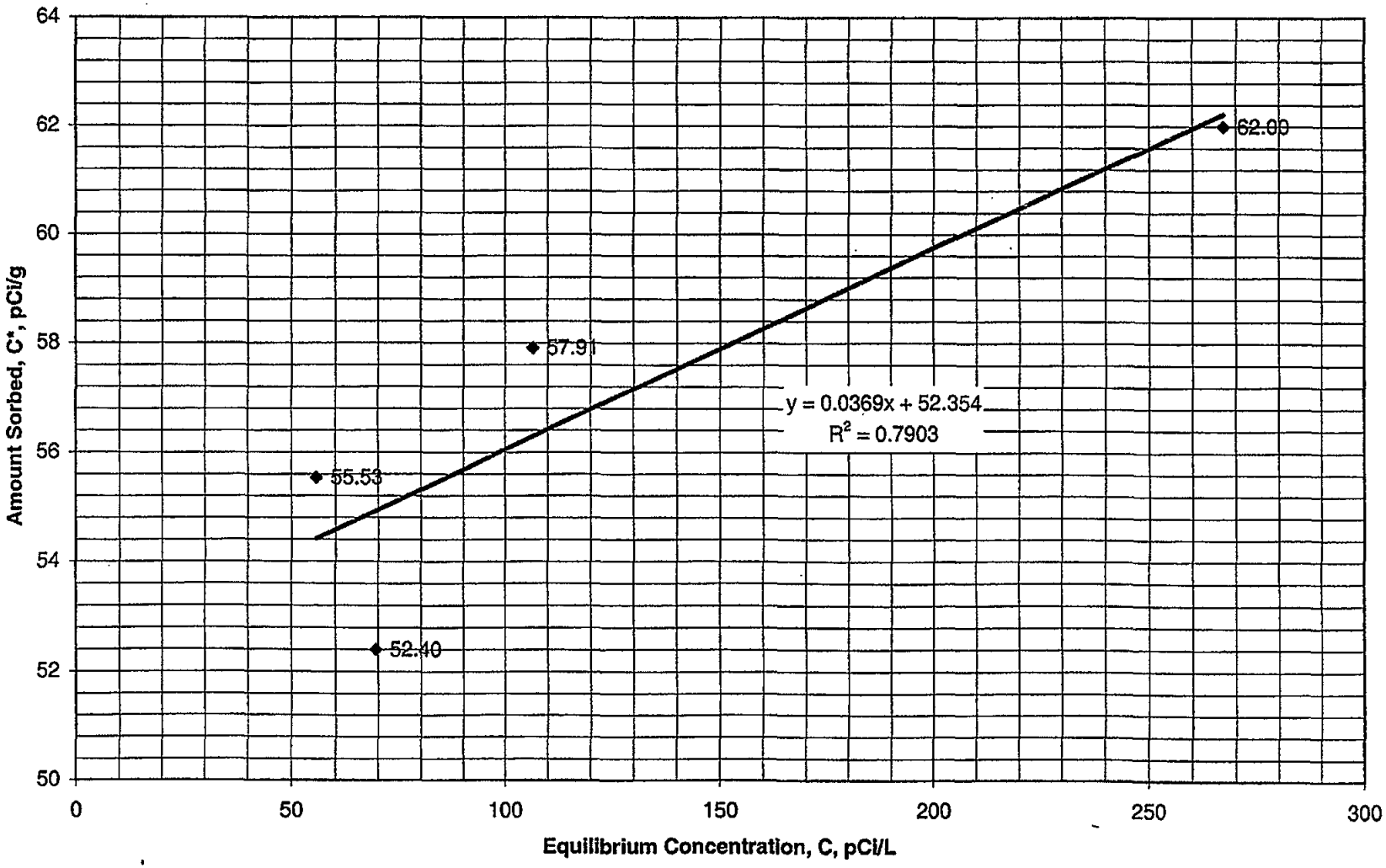
Regression Statistics	
Multiple R	0.990155894
R Square	0.980408693
Adjusted R Square	0.960817387
Standard Error	0.646915867
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	20.94302253	20.94302253	50.04304793	0.089400549
Residual	1	0.418500139	0.418500139		
Total	2	21.36152267			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	54.28498714	0.70098753	77.44073161	0.008220279	45.37813423	63.19184005	45.37813423	63.19184005
X Variable 1	0.029324572	0.004145337	7.074111105	0.089400549	-0.023346698	0.081995841	-0.023346698	0.081995841

KD for Uranium - 12B-025
Sandy Silt - 4 pt



12B-025 - Sandy Silt
4 Pt. Statistics

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.889
R Square	0.790
Adjusted R Square	0.685
Standard Error	2.269
Observations	4.000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	38.801	38.801	7.536	0.111
Residual	2.000	10.298	5.149		
Total	3.000	49.098			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	52.354	2.026	25.846	0.001	43.639	61.070	43.639	61.070
X Variable 1	0.037	0.013	2.745	0.111	-0.021	0.095	-0.021	0.095

ATTACHMENT F

BATCH SORPTION PLOTS FOR LITHIUM

ATTACHMENT F

BATCH SORPTION PLOTS FOR LITHIUM

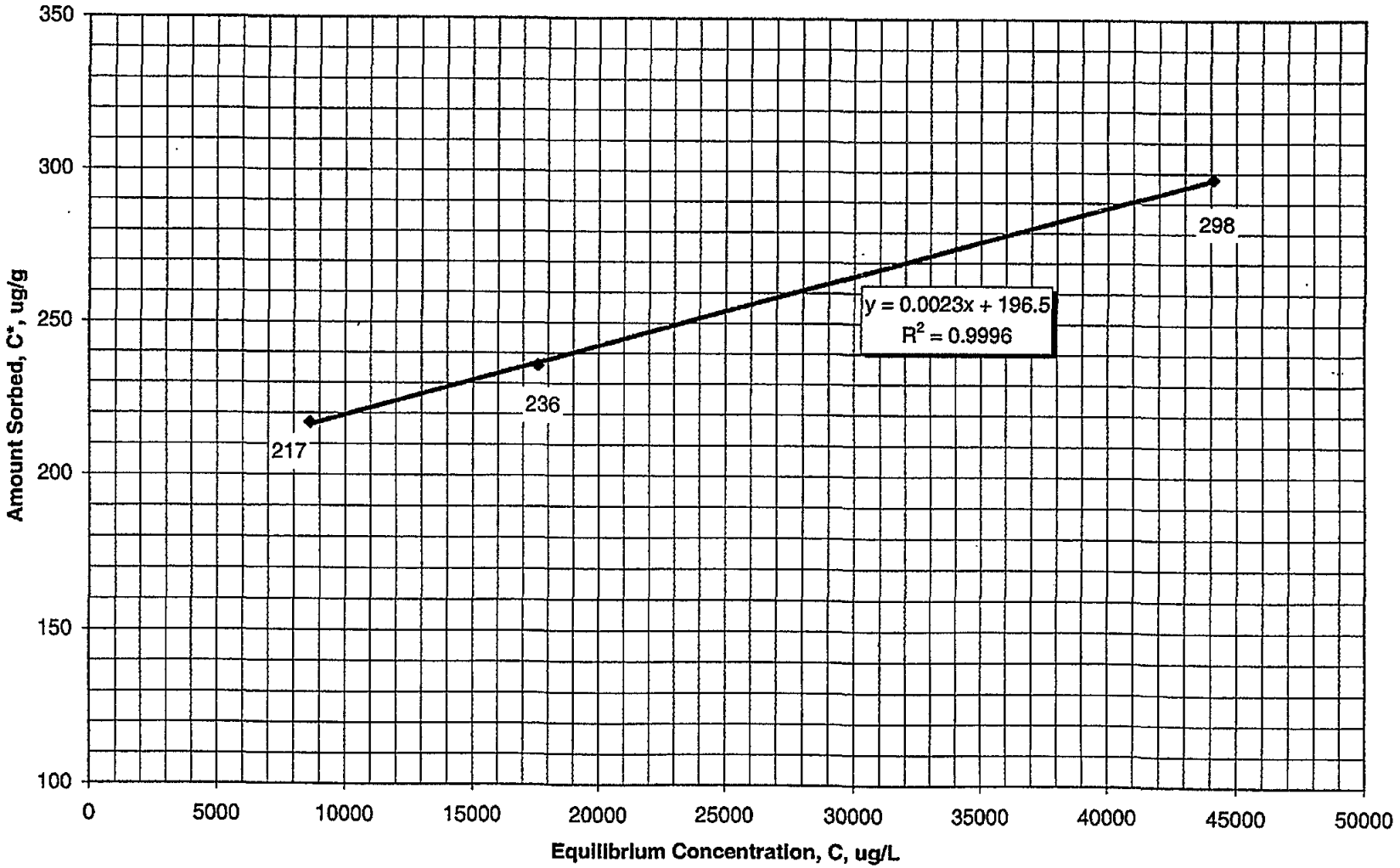
Table F-1

Summary of Lithium Distribution (Kd) and Ratio Distribution (Rd) Coefficients
FUSRAP Maywood Superfund Site, Maywood, NJ

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	PDI Boring Locator	GWRI Boring Locator	Field Sample ID	Baseline Solids Analytical Results, ug/g	Spiking Matrix Identified in the Lab	Matrix Code	Analytical Results, Baseline Solution, ug/L	Analytical Results, Post Contacting Solution, ug/L, C	Amount Sorbed per Gram during Test, ug/g	Amount Sorbed in Test Plot Baseline Results, ug/g, C* (L)	Post-Contacting Solids Results, ug/g	Distribution Ratio - Rd (L/Kg) (2)	Distribution Coefficient (Kd) determined from Isotherm Plot						Total Organic Carbon (mg/Kg) & Percent	USCS Classification Based on Grain Size Distribution
2													3 point Plot (L/Kg)	Correlation Coefficient (r^2)	F Probability	4 point Plot (L/Kg)	Correlation Coefficient (r^2)	F Probability		
3	128-042	128-021	128-021202	192	Sand								2.3	0.9996	0.012	0.5	0.2965	0.455	51400 (5.14%)	SW (Sand Well Sorted)
4	128-042	128-021	128-021203		Sand	A	9830	8430	25	217	216	2.90								
5	128-042	128-021	128-021204		Sand	B	19800	17600	44	336	234	2.50								
6	128-042	128-021	128-021205		Sand	C	49400	44100	106	298	296	2.48								
7	128-042	128-021	128-021206		Sand	D	96500	93000	70	262	387	0.75								
8																				
9	128-039	128-022	128-021307	1080	Silty								1.5	0.9993	0.016	0.8	0.8373	0.043	9400 (0.94%)	GM (Silty Gravel)
10	128-039	128-022	128-021308		Silty	A	9830	8300	53.5	1114	1270	4.15								
11	128-039	128-022	128-021309		Silty	B	19800	17500	46	1126	1480	2.63								
12	128-039	128-022	128-021310		Silty	C	49400	45000	88	1168	1640	1.96								
13	128-039	128-022	128-021311		Silty	D	96500	91400	182	1287	1670	1.72								
14																				
15	128-070	128-023	128-021212	1820	Silty								2.5	0.9961	0.0753	0.7	0.5064	0.248	1990 (0.199%)	SM (Sandy Silt)
16	128-070	128-023	128-021213		Silty	A	9830	6710	63.4	1883	2810	9.45								
17	128-070	128-023	128-021214		Silty	B	19800	16000	76	1896	3120	4.75								
18	128-070	128-023	128-021215		Silty	C	49400	43000	148	1968	2880	3.52								
19	128-070	128-023	128-021216		Silty	D	96500	90300	126	1946	2920	1.48								
20																				
21	128-045	128-024	128-021217	1130	Silty								0.9	0.9759	0.202	0.9	0.5214	0.278	1540 (0.154%)	SM (Sandy Silt)
22	128-045	128-024	128-021218		Silty	A	9880	6700	63.6	1184	1340	9.49								
23	128-045	128-024	128-021219		Silty	B	19800	16800	60	1130	1330	3.57								
24	128-045	128-024	128-021220		Silty	C	49400	41700	154	1274	1300	3.69								
25	128-045	128-024	128-021221		Silty	D	96500	89900	132	1252	1390	1.47								
26																				
27	128-091	128-025	128-021222	453	Silty								1.3	0.9692	0.085	0.3	0.334	0.45	13900 (1.39%)	SM (Sandy Silt)
28	128-091	128-025	128-021223		Silty	A	9830	7790	45.8	499	643	6.03								
29	128-091	128-025	128-021224		Silty	B	19800	17300	50	505	647	2.89								
30	128-091	128-025	128-021225		Silty	C	49400	44700	94	547	715	2.10								
31	128-091	128-025	128-021226		Silty	D	96500	92900	72	525	600	0.78								
32	Notes:																			
33	ND - Not - Detect																			
34	NC - Not Calculated																			
35	(1) - C* = Amount Sorbed = $D=((G-H)*V/Ms)$																			
36	(2) - Rd=Distribution Ratio = $((G-H)*V)/(H*Ms)$																			
37	Where D, G and H denote as known values																			
38	Vs= Volume of Solution = 0.1 L																			
39	Ms = Mass of Soil on Dry Weight Basis = 5 g																			

Whumbach.xls
Whumbach

KD for Lithium - 12B-021
Well Sorted Sand - 3 pt



lithiumbatch.xls
12b021

Sample 12B-021
Well Sorted Sand - 3 pts

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.999810808
R Square	0.999621652
Adjusted R Square	0.999243304
Standard Error	1.165231655
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3587.308902	3587.308902	2642.069434	0.01238378
Residual	1	1.357764809	1.357764809		
Total	2	3588.666667			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	196.4988225	1.244794856	157.8563902	0.004032851	180.682272	212.315373	180.682272	212.315373
X Variable 1	0.002296368	4.46755E-05	51.40106452	0.01238378	0.001728714	0.002864021	0.001728714	0.002864021

Sample 12B-021
Well Sorted Sand -4 pts

SUMMARY OUTPUT

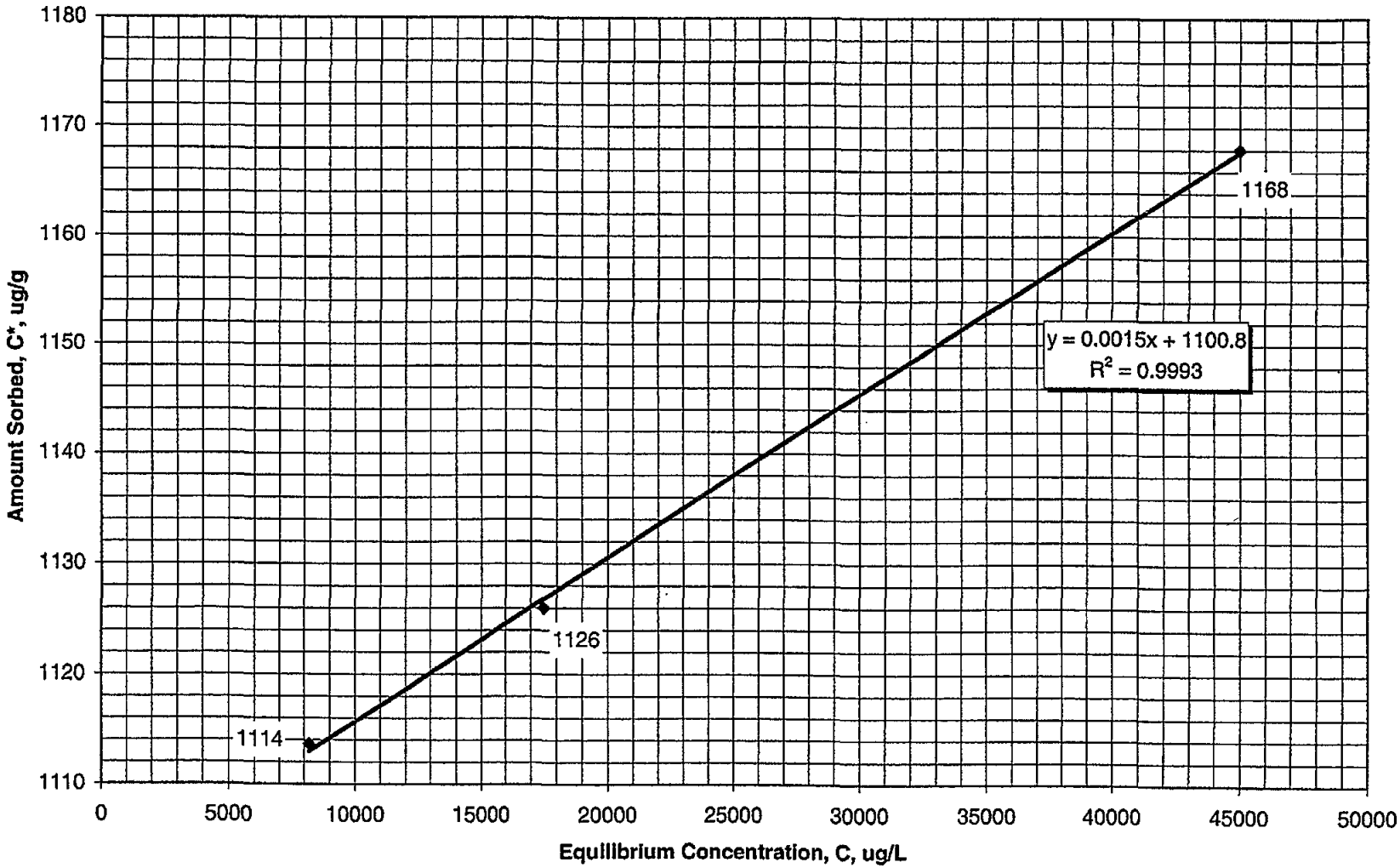
Regression Statistics	
Multiple R	0.544349799
R Square	0.296316703
Adjusted R Square	-0.055524945
Standard Error	36.03553196
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1093.630872	1093.630872	0.842187685	0.455650201
Residual	2	2597.119128	1298.559564		
Total	3	3690.75			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	232.6788098	28.75951458	8.090498508	0.014935983	108.9365197	356.4210998	108.9365197	356.4210998
X Variable 1	0.000503795	0.00054897	0.917707843	0.455650201	-0.001858237	0.002865826	-0.001858237	0.002865826

KD for Lithium - Sample 12B-022
Silty Gravel (GM) - 3 pts



lithiumbatch.xls
12b022

Sample 12B-022
Silty Gravel - 3 pts

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.999655539
R Square	0.999311197
Adjusted R Square	0.998622394
Standard Error	1.058202114
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1624.586875	1624.586875	1450.793799	0.016710041
Residual	1	1.119791714	1.119791714		
Total	2	1625.706667			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1100.765851	1.105667462	995.5668311	0.000639454	1086.717074	1114.814628	1086.717074	1114.814628
X Variable 1	0.001489426	3.91036E-05	38.08928719	0.016710041	0.000992571	0.001986282	0.000992571	0.001986282

Sample 12B-022
Silty Gravel - 4 pts

SUMMARY OUTPUT

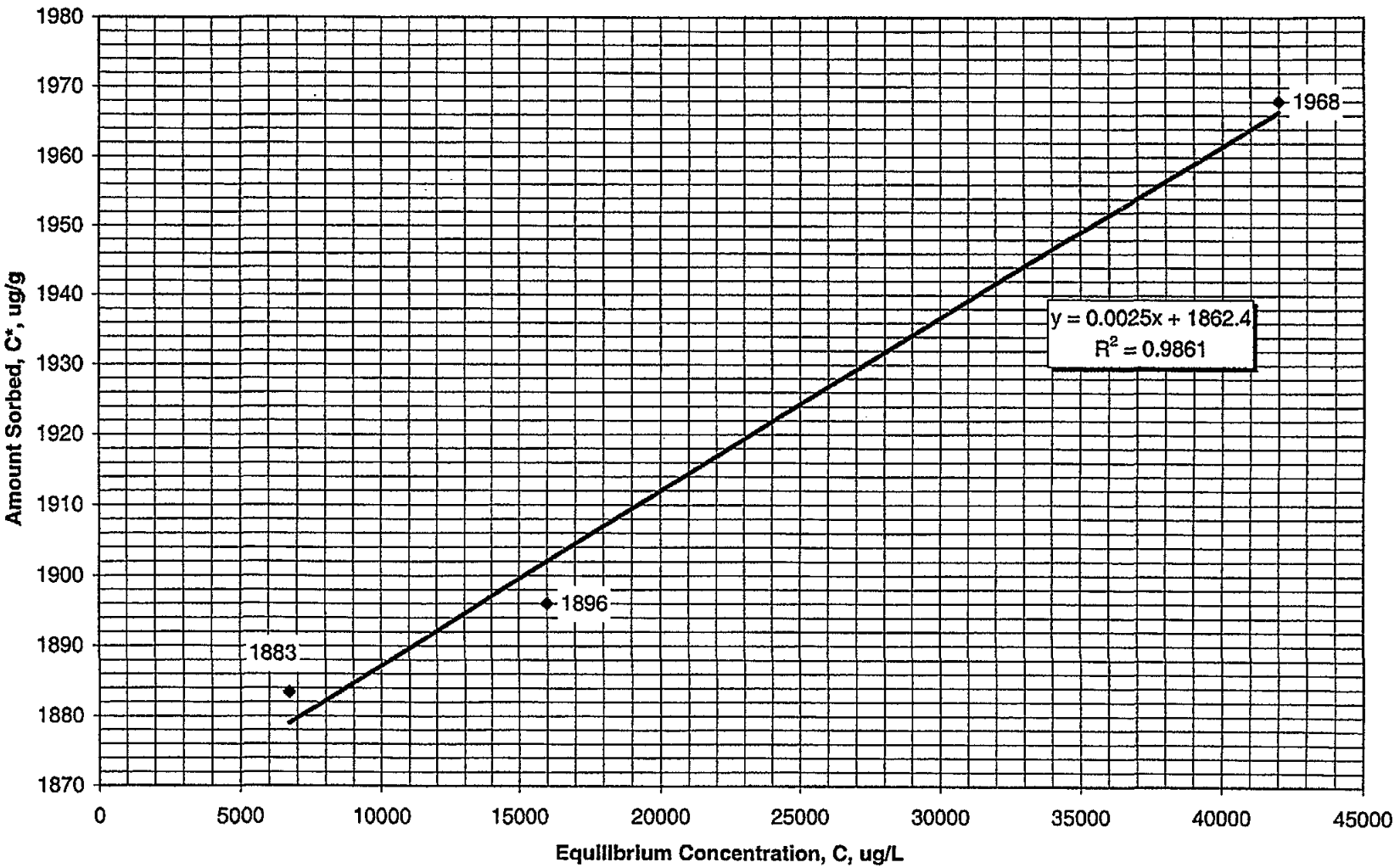
Regression Statistics	
Multiple R	0.93639424
R Square	0.876834172
Adjusted R Square	0.815251258
Standard Error	14.08599384
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2825.089555	2825.089555	14.23827024	0.06360576
Residual	2	396.8304447	198.4152224		
Total	3	3221.92			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1114.097475	11.29143772	98.66745963	0.000102703	1065.514306	1162.680644	1065.514306	1162.680644
X Variable 1	0.000821777	0.000217784	3.773363253	0.06360576	-0.000115271	0.001758826	-0.000115271	0.001758826

KD for Lithium - Sample 12B-023
Sandy Silt (SM) - 3 pt



lithiumbatch.xls
12b023

Sample 12B-023
Sandy Silt - 3 pts

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.993013992
R Square	0.986076788
Adjusted R Square	0.972153576
Standard Error	7.616627297
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	4108.626989	4108.626989	70.82250845	0.075294425
Residual	1	58.01301138	58.01301138		
Total	2	4166.64			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1862.354518	7.724620172	241.0933453	0.002640538	1764.204333	1960.504703	1764.204333	1960.504703
X Variable 1	0.002477769	0.000294425	8.415610997	0.075294425	-0.001263244	0.006218782	-0.001263244	0.006218782

Sample 12B-023
Sandy Silt - 4 pts

SUMMARY OUTPUT

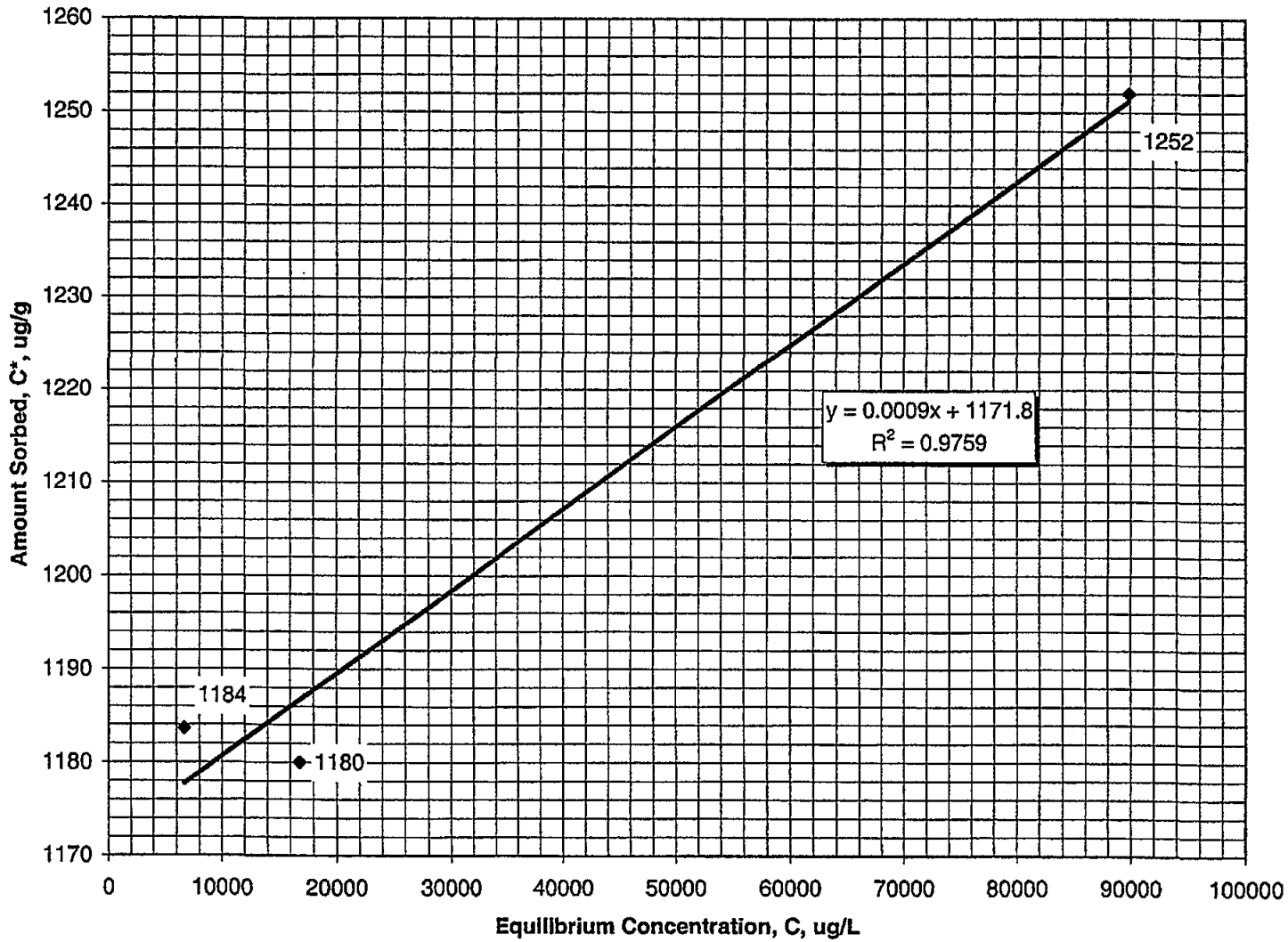
Regression Statistics	
Multiple R	0.711619146
R Square	0.506401809
Adjusted R Square	0.259602714
Standard Error	34.59972498
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2456.388063	2456.388063	2.051878708	0.288380854
Residual	2	2394.281937	1197.140968		
Total	3	4850.67			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1893.739146	26.95556063	70.25411832	0.000202546	1777.758649	2009.719643	1777.758649	2009.719643
X Variable 1	0.000764595	0.000533772	1.432438029	0.288380854	-0.001532041	0.003061231	-0.001532041	0.003061231

KD for Lithium - Sample 12B-024
Sandy Silt (SM) - 3 pt



lithiumbatch.xls
12b024

Sample 12B-024
Sandy Silt - 3 pts

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.949879017
R Square	0.902270148
Adjusted R Square	0.804540295
Standard Error	23.54762227
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5119.216152	5119.216152	9.232288052	0.202411764
Residual	1	554.4905145	554.4905145		
Total	2	5673.706667			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1151.494883	24.25655467	47.47149375	0.013408587	843.2874541	1459.702313	843.2874541	1459.702313
X Variable 1	0.002808518	0.00092432	3.038468044	0.202411764	-0.008936035	0.01455307	-0.008936035	0.01455307

Sample 12B-024
Sandy Silt - 4 pts

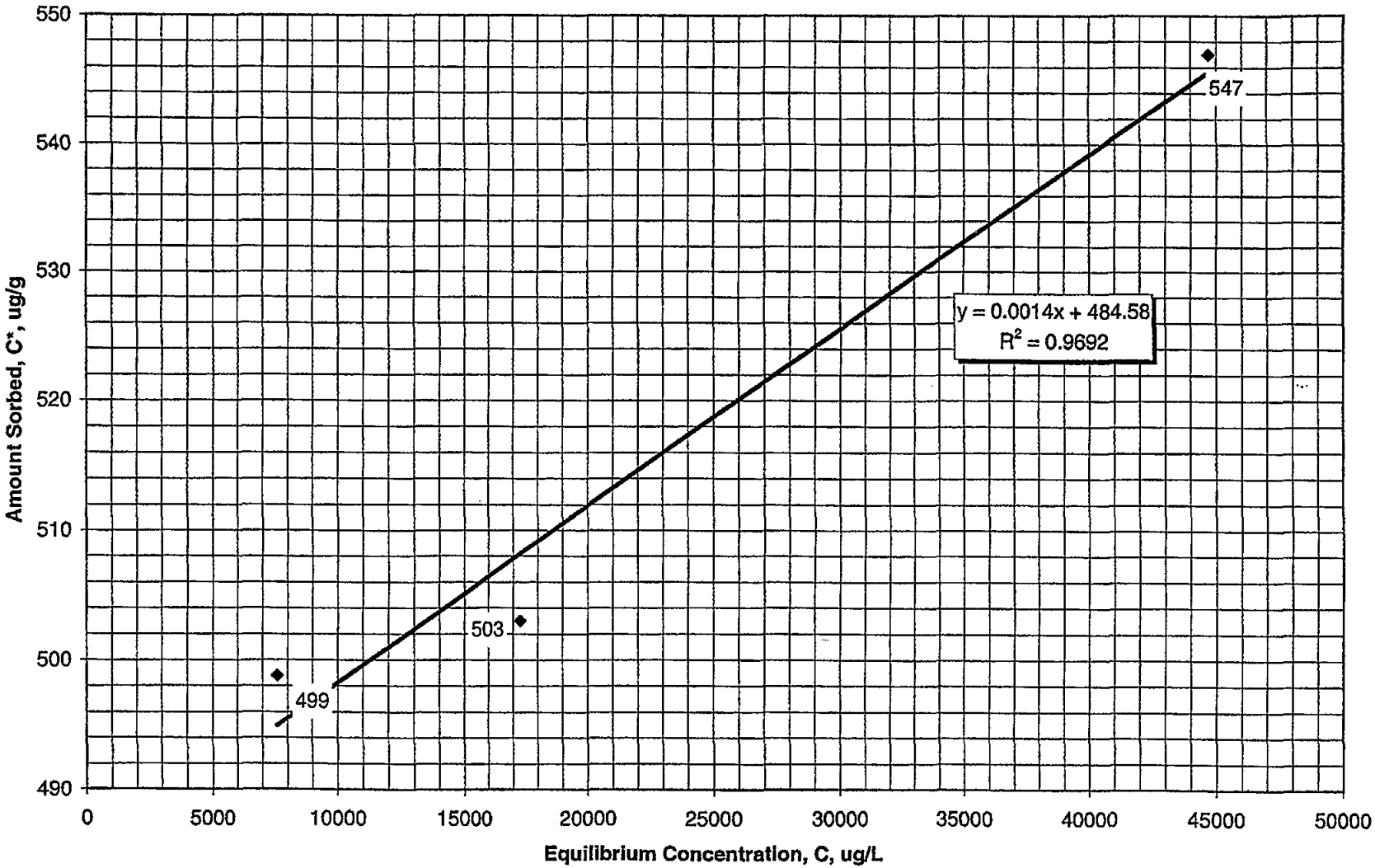
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.722120761
R Square	0.521458394
Adjusted R Square	0.28218759
Standard Error	40.46074262
Observations	4

		SS	*MS*	*F*	*Significance F*
Regression	1	3567.776613	3567.776613	2.179364915	0.277879239
Residual	2	3274.143387	1637.071694		
Total	3	6841.92			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1186.378321	31.69626174	37.42959755	0.000713025	1050.000219	1322.756423	1050.000219	1322.756423
X Variable 1	0.000928992	0.000629285	1.476267223	0.277879239	-0.001778603	0.003636588	-0.001778603	0.003636588

KD for Lithium - Sample 12B-025
Sandy Silt (SM) - 3 pt



lithiumbatch.xls
12b025

Sample 12B-025
Sandy Silt - 3 pts

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.991083011
R Square	0.982245535
Adjusted R Square	0.964491071
Standard Error	4.94129672
Observations	3

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1350.810253	1350.810253	55.32386096	0.085079999
Residual	1	24.41641328	24.41641328		
Total	2	1375.226667			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	485.678279	5.079001519	95.62475562	0.006657236	421.1437224	550.2128357	421.1437224	550.2128357
X Variable 1	0.001349333	0.000181411	7.43800114	0.085079999	-0.000955699	0.003654365	-0.000955699	0.003654365

Sample 12B-025
Sandy Silt - 4 pts

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.569176765
R Square	0.32396219
Adjusted R Square	-0.014056715
Standard Error	21.93966867
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	461.331877	461.331877	0.95841441	0.430823235
Residual	2	962.698123	481.3490615		
Total	3	1424.03			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	505.7884391	17.3516643	29.14927527	0.00117484	431.1302014	580.4466769	431.1302014	580.4466769
X Variable 1	0.000324196	0.000331155	0.97898642	0.430823235	-0.00110065	0.001749043	-0.00110065	0.001749043

ATTACHMENT G

BATCH SORPTION PLOTS FOR CHROMIUM

Table G-1

Summary of Chromium Distribution (Kd) and Ratio Distribution (Rd) Coefficients

PDI Boring Locator	GWRI Boring Locator	Field Sample ID	Baseline Solids Analytical Results, ug/g	Spiking Matrix Identified to the Lab	Matrix Code	Analytical Results, Baseline Solution, ug/L	Analytical Results, Post Contacting Solution, ug/L, C	Amount Sorbed per Gram during Test, ug/g	Amount Sorbed in Test Plus Baseline Results, ug/g, C* (1)	Post-Contacting Solids Results, ug/g	Distribution Ratio - Rd (L/Kg) (2)	Distribution Coefficient (Kd) determined from Isotherm Plot						Total Organic Carbon (mg/Kg) & Percent	USCS Classification Based on Grain Size Distribution
												3 point Plot (L/Kg)	Correlation Coefficient (r^2)	F Probability	4 point Plot (L/Kg)	Correlation Coefficient (r^2)	F Probability		
128-042	128-021	128-021202	70.8	Sand							NA	NC	NC	NC	7447	0.9736	0.0132	51400 (5.14%)	SW (Sand Well Sorted)
128-042	128-021	128-021203	[redacted]	Sand	A	20400	102	405.96	476.76	410	3980.00	[redacted]							
128-042	128-021	128-021204	[redacted]	Sand	B	41400	352	824.96	895.76	745	5427.37	[redacted]							
128-042	128-021	128-021205	[redacted]	Sand	C	62100	237	1237.26	1,308.06	966	5220.53	[redacted]							
128-042	128-021	128-021206	[redacted]	Sand	D	103000	310	2033.8	2,104.60	2205	6560.45	[redacted]							
128-039	128-022	128-021207	412	Silty							NA	NC	NC	NC	11F15	0.9863	0.0068	8400 (0.84%)	GM (Silty Gravel)
128-039	128-022	128-021208	[redacted]	Silty	A	20400	45.1	407.1	819.1	869	9074.56	[redacted]							
128-039	128-022	128-021209	[redacted]	Silty	B	41400	89.7	826.31	1,238.21	1300	9210.77	[redacted]							
128-039	128-022	128-021210	[redacted]	Silty	C	62100	108	1299.84	1,651.84	2010	11488.80	[redacted]							
128-039	128-022	128-021211	[redacted]	Silty	D	103000	185	2054.3	2,448.30	2940	11007.03	[redacted]							
128-070	128-023	128-021212	24.7	Silty							NA	NC	NC	NC	10153	0.9818	0.0091	1990 (0.199%)	SM (Sandy Silt)
128-070	128-023	128-021213	[redacted]	Silty	A	20408	54.6	406.91	431.61	487	7452.53	[redacted]							
128-070	128-023	128-021214	[redacted]	Silty	B	41400	110	825.8	850.5	992	7547.37	[redacted]							
128-070	128-023	128-021215	[redacted]	Silty	C	62100	154	1238.92	1,263.62	1570	8044.84	[redacted]							
128-070	128-023	128-021216	[redacted]	Silty	D	102000	215	2035.7	2,060.40	2260	9468.37	[redacted]							
128-085	128-024	128-021217	14.2	Silty							NA	NC	NC	NC	7504	0.9958	0.0031	1540 (0.154%)	SM (Sandy Silt)
128-085	128-024	128-021218	[redacted]	Silty	A	20400	46.3	407.07	421.27	519	8792.10	[redacted]							
128-085	128-024	128-021219	[redacted]	Silty	B	41400	102	825.96	840.16	765	8097.65	[redacted]							
128-085	128-024	128-021220	[redacted]	Silty	C	62400	144	1239.12	1,253.32	1970	8605.00	[redacted]							
128-085	128-024	128-021221	[redacted]	Silty	D	102000	267	2034.66	2,048.86	2000	7620.45	[redacted]							
128-091	128-025	128-021222	855	Silty							NA	NC	NC	NC	9744.6	0.9912	0.0034	15900 (1.59%)	SM (Sandy Silt)
128-091	128-025	128-021223	[redacted]	Silty	A	20400	77.4	406.45	1,261.45	1780	7351.92	[redacted]							
128-091	128-025	128-021224	[redacted]	Silty	B	41400	112	825.76	1,680.76	1580	7372.86	[redacted]							
128-091	128-025	128-021225	[redacted]	Silty	C	62100	168	1238.64	2,093.64	2570	7372.86	[redacted]							
128-091	128-025	128-021226	[redacted]	Silty	D	102000	240	2035.2	2,890.20	2588	8480.00	[redacted]							

Notes:

NA = Not Applicable

NC = Not Calculated

(1) - C* = Amount Sorbed in Dry(O-H)+VAb(g)

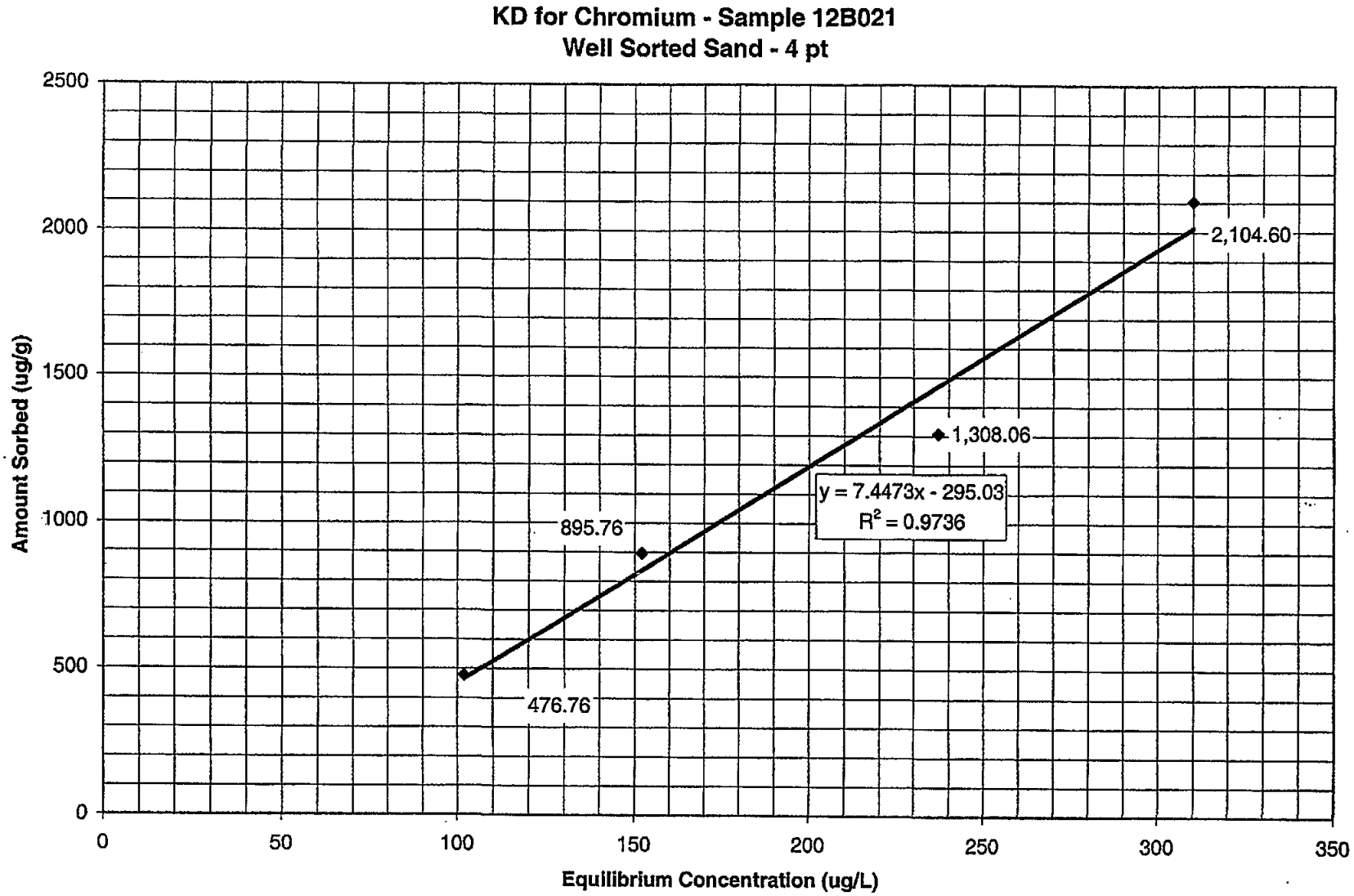
(2) - Rd=Distribution Ratio = ((C-X)*V)/(X*M)

Where D, C and H denote referee values

V= Volume of Solution = 0.1 L

Mg = Mass of Soil on Dry Weight Basis = 5 g

chromium_batch.xls
chromium



chromium_batch.xls
12B021

Sample 12B-021
Well Sorted Sand - 4 pt

SUMMARY OUTPUT

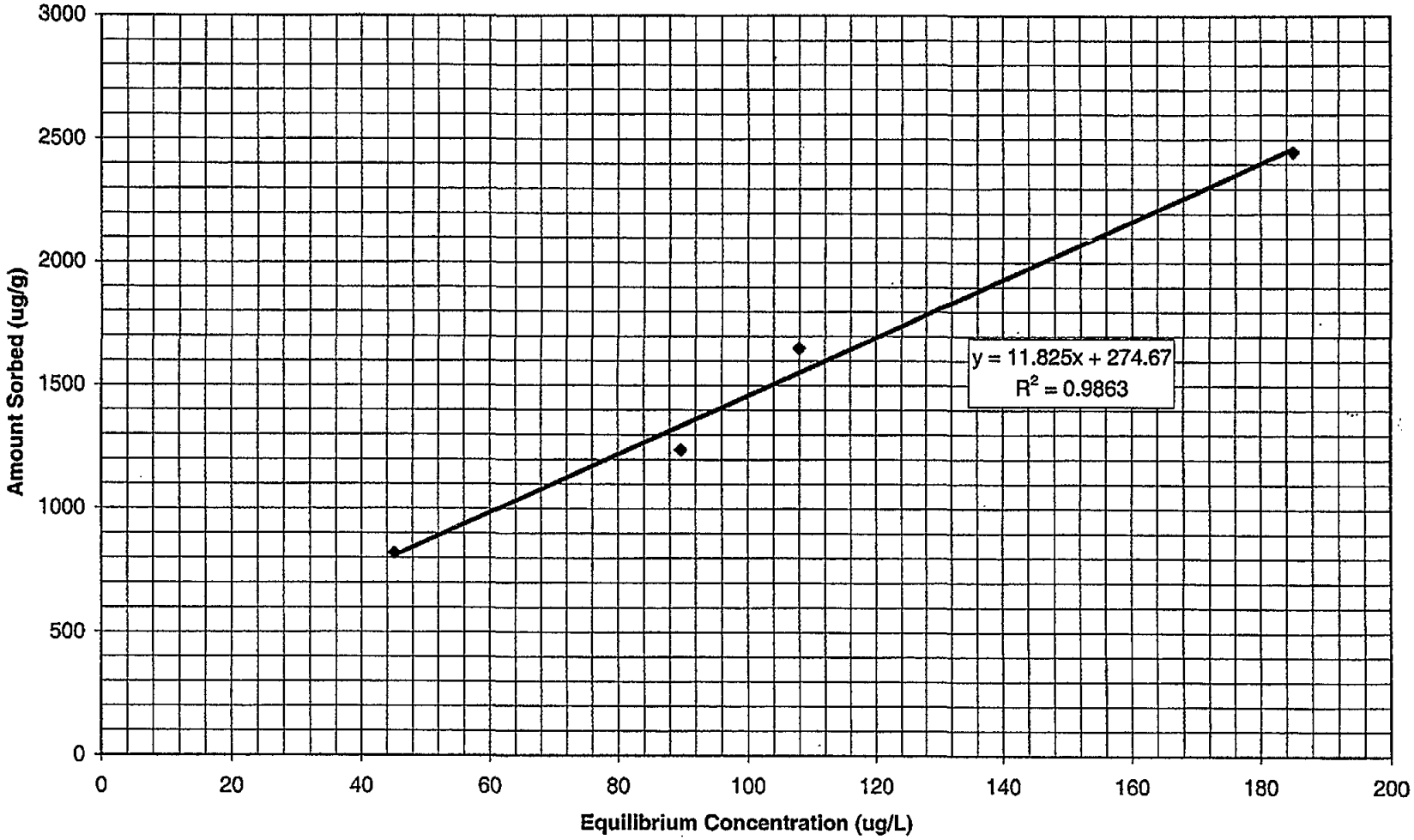
Regression Statistics	
Multiple R	0.986734222
R Square	0.973644426
Adjusted R Square	0.960466639
Standard Error	138.0191976
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1407462.693	1407462.693	73.88527525	0.013265778
Residual	2	38098.59781	19049.29891		
Total	3	1445561.291			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-295.0323071	186.7185537	-1.580091005	0.254863661	-1098.417961	508.3533468	-1098.417961	508.3533468
X Variable 1	7.447327376	0.866406093	8.59565444	0.013265778	3.719480242	11.17517451	3.719480242	11.17517451

KD for Chromium - Sample 12B-022
Silty Gravel - 4 pt



chromium_batch.xls
12B022

Sample 12B-022
Silty Gravel - 4 pt

SUMMARY OUTPUT

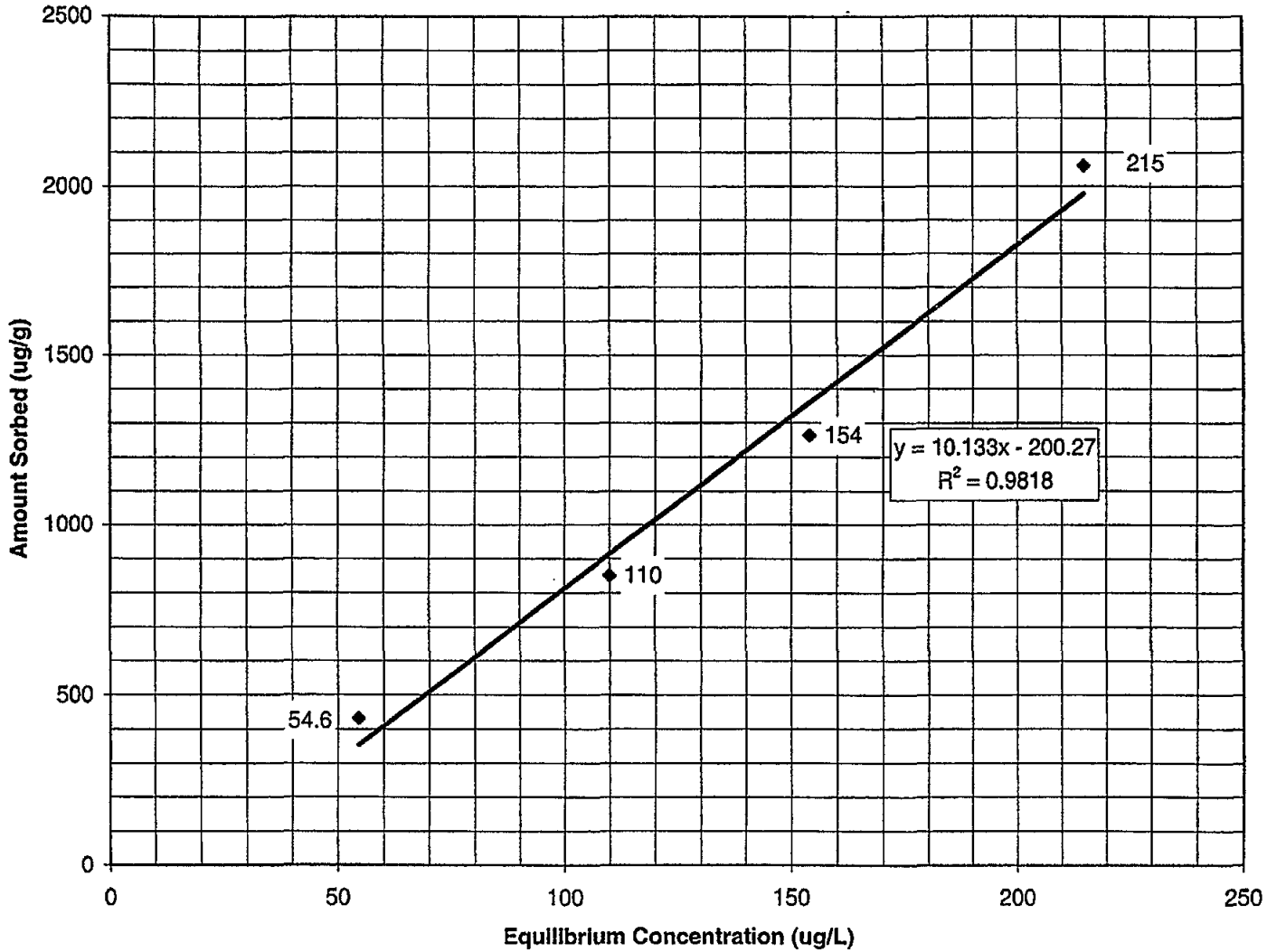
Regression Statistics	
Multiple R	0.99314982
R Square	0.986346565
Adjusted R Square	0.979519848
Standard Error	99.43371147
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1428515.338	1428515.338	144.483285	0.00685018
Residual	2	19774.12595	9887.062977		
Total	3	1448289.464			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	274.66943	116.3696458	2.36031852	0.142190163	-226.0290925	775.3679525	-226.0290925	775.3679525
X Variable 1	11.82508714	0.983774466	12.02012001	0.00685018	7.592244305	16.05792998	7.592244305	16.05792998

KD for Chromium - Sample 12B-023
Sandy Silt - 4 pt



chromium_batch.xls
12B023

Sample 12B-023
Sandy Silt - 4 pt

SUMMARY OUTPUT

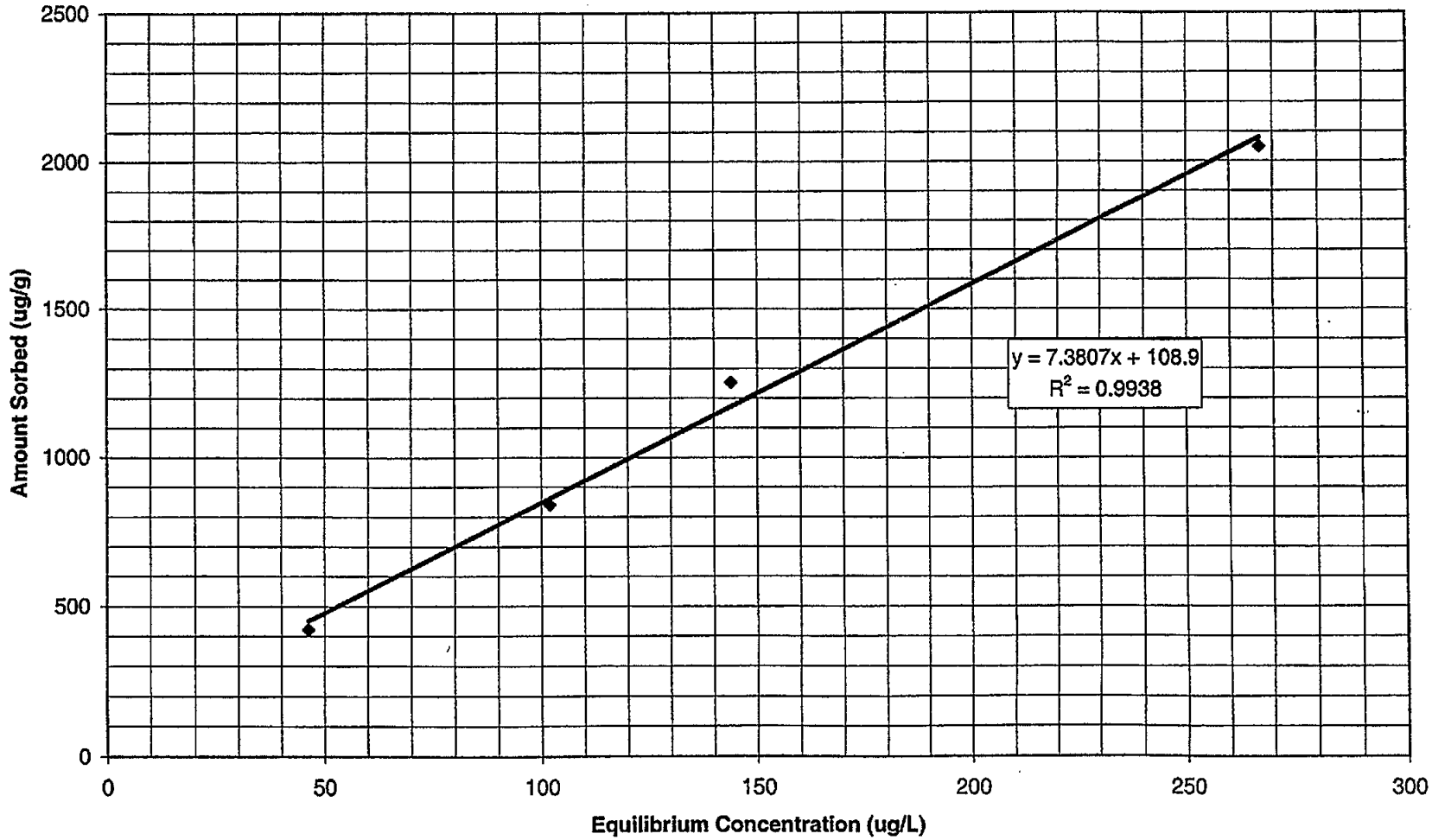
Regression Statistics	
Multiple R	0.990865015
R Square	0.981813477
Adjusted R Square	0.972720215
Standard Error	114.7284255
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1421187.489	1421187.489	107.9715432	0.009134985
Residual	2	26325.22324	13162.61162		
Total	3	1447512.712			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-200.2746137	142.180591	-1.408593201	0.294302505	-812.0287475	411.47952	-812.0287475	411.47952
X Variable 1	10.13348661	0.975223692	10.39093563	0.009134985	5.937434806	14.32953841	5.937434806	14.32953841

KD for Chromium - Sample 12B-024
Sandy Silt - 4 pt



chromium_batch.xls
12B024

Sample 12B-024
Sandy Silt - 4 pt

SUMMARY OUTPUT

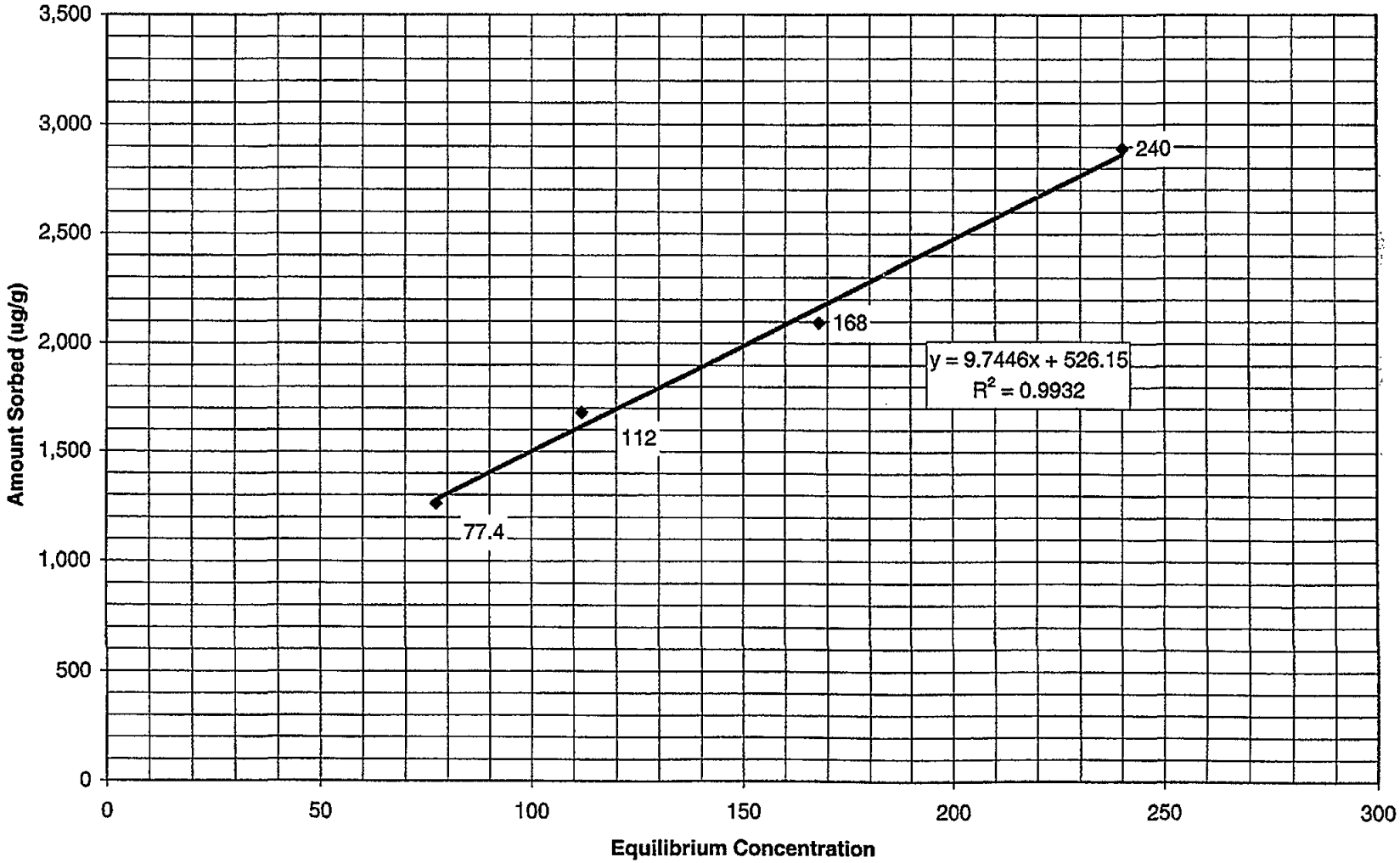
Regression Statistics	
Multiple R	0.996906936
R Square	0.993823439
Adjusted R Square	0.990735159
Standard Error	66.81032596
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1436414.263	1436414.263	321.8048073	0.003093064
Residual	2	8927.239311	4463.619656		
Total	3	1445341.502			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	108.8984207	66.52417027	1.636975256	0.243282694	-177.3321814	395.1290227	-177.3321814	395.1290227
X Variable 1	7.380683564	0.411434137	17.93891879	0.003093064	5.61042412	9.150943007	5.61042412	9.150943007

KD for Chromium - Sample 12B-025
Sandy Silt - 4 pt



chromium_batch.xls
12025

Sample 12B-025
Sandy Silt - 4 pt

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.996594077
R Square	0.993199755
Adjusted R Square	0.989799633
Standard Error	70.14806615
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1437386.117	1437386.117	292.1070509	0.003405923
Residual	2	9841.502368	4920.751184		
Total	3	1447227.619			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	526.1504697	92.0935581	5.713216869	0.029296806	129.9035947	922.3973447	129.9035947	922.3973447
X Variable 1	9.74464031	0.570157437	17.09113954	0.003405923	7.291449152	12.19783147	7.291449152	12.19783147

ATTACHMENT H

BATCH SORPTION PLOTS FOR ARSENIC

Table H-1

Summary of Arsenic Distribution Ratio/Distribution Coefficients (Rd/Kd)

PDI Boring Locator	GWRI Boring Locator	Field Sample ID	Baseline Solids Analytical Results, ug/g	Spiking Matrix Identified to the Lab	Matrix Code	Analytical Results, Baseline Solution, ug/L	Analytical Results, Post Contacting Solution, C, ug/L	Amount Sorbed per Gram during Test, ug/g	Amount Sorbed in Test Plus Baseline Results, mg/g, C* (1)	Distribution Ratio - Rd (L/Kg) (2)	Total Organic Carbon (mg/Kg) & Percent	USCS Classification Based on Grain Size Distribution
12B-042	12B-021	12b-021202	101	Sand								
12B-042	12B-021	12b-021203		Sand	A	295	ND	NA	NA	NC	51400 (5.14%)	SW (Sand Well Sorted)
12B-042	12B-021	12b-021204		Sand	B	603	ND	NA	NA	NC		
12B-042	12B-021	12b-021205		Sand	C	920	ND	NA	NA	NC		
12B-042	12B-021	12b-021206		Sand	D	1200	ND	NA	NA	NC		
12B-039	12B-022	12b-021207	147	Silty								
12B-039	12B-022	12b-021208		Silty	A	295	18.2	5.54	152.54	304.18	9400 (0.94%)	GM (Silty Gravel)
12B-039	12B-022	12b-021209		Silty	B	603	18.1	11.70	158.70	646.30		
12B-039	12B-022	12b-021210		Silty	C	920	17.8	18.04	165.04	1013.71		
12B-039	12B-022	12b-021211		Silty	D	1200	18.5	23.63	170.63	1277.30		
12B-070	12B-023	12b-021212	17.30	Silty								
12B-070	12B-023	12b-021213		Silty	A	295	4.4	5.81	23.11	1320.91	1990 (0.199%)	SM (Sandy Silt)
12B-070	12B-023	12b-021214		Silty	B	603	3.5	11.99	29.29	3425.71		
12B-070	12B-023	12b-021215		Silty	C	920	ND	NA	NA	NC		
12B-070	12B-023	12b-021216		Silty	D	1200	4.1	23.92	41.22	5833.66		
12B-085	12B-024	12b-021217	45.1	Silty								
12B-085	12B-024	12b-021218		Silty	A	295	11.2	5.68	50.78	506.79	1540 (0.154%)	SM (Sandy Silt)
12B-085	12B-024	12b-021219		Silty	B	603	11.6	11.83	56.93	1019.66		
12B-085	12B-024	12b-021220		Silty	C	920	8.8	18.22	63.32	2070.91		
12B-085	12B-024	12b-021221		Silty	D	1200	11.7	23.77	68.87	2031.28		
12B-091	12B-025	12b-021222	92.80	Silty								
12B-091	12B-025	12b-021223		Silty	A	295	4.6	5.81	98.61	1262.61	15900 (1.59%)	SM (Sandy Silt)
12B-091	12B-025	12b-021224		Silty	B	603	3.8	11.98	104.78	3153.68		
12B-091	12B-025	12b-021225		Silty	C	920	ND	NA	NA	NC		
12B-091	12B-025	12b-021226		Silty	D	1200	ND	NA	NA	NC		

Notes:

NA - Not Applicable

ND - Non - Detect

NC - Not Calculated

(1) - C* = Amount Sorbed = D+((G-H)*V/Ms)

(2) - Rd=Distribution Ratio = ((G-H)*V)/(H*Ms)

Where D, G and H denote column values

V= Volume of Solution = 0.1 L

Ms = Mass of Soil on Dry Weight Basis = 5 g

APPENDIX S
QA INFORMATION AND QC SUMMARY REPORT

Appendix S, Table 1
Summary of Trip Blank Data By Program

S&W Lab Sample ID	Parameters	Result (ug/L)	Result Qualifier	IDL (ug/L)	Program	Collection Date
06c-020755	2-Butanone	2	J	10	Geoprobe Phase I	03/27/2000
06c-020755	4-Methyl-2-pentanone	1	J	10	Geoprobe Phase I	03/27/2000
08a-020775	Acetone	2	J	10	Geoprobe Phase I	03/20/2000
05b-020754	Acetone	12		10	Geoprobe Phase I	03/23/2000
06C-020806	Acetone	49		10	Geoprobe Phase I	03/24/2000
06c-020755	Acetone	11		10	Geoprobe Phase I	03/27/2000
09a-020756	Acetone	14		10	Geoprobe Phase I	03/28/2000
10a-020757	Acetone	4	J	10	Geoprobe Phase I	03/29/2000
09a-020777	Acetone	28		10	Geoprobe Phase I	03/31/2000
02a-020778	Acetone	5	J	10	Geoprobe Phase I	04/03/2000
10a-020783	Acetone	3	J	10	Geoprobe Phase I	04/04/2000
12b-020784	Acetone	9	J	10	Geoprobe Phase I	04/05/2000
17a-020804	Acetone	6	J	10	Geoprobe Phase I	05/01/2000
14a-020858	Acetone	10		10	Geoprobe Phase I	08/11/2000
15a-020864	Acetone	8	J	10	Geoprobe Phase I	08/14/2000
17a-020804	Chloromethane	8	J	10	Geoprobe Phase I	05/01/2000
08a-020775	Methylene Chloride	14		5	Geoprobe Phase I	03/20/2000
10a-020757	Methylene Chloride	14		5	Geoprobe Phase I	03/29/2000
09a-020777	Methylene Chloride	18		5	Geoprobe Phase I	03/31/2000
14a-020858	Methylene Chloride	7		5	Geoprobe Phase I	08/11/2000
15a-020864	Methylene Chloride	32		5	Geoprobe Phase I	08/14/2000
12b-020863	Methylene Chloride	4	J	5	Geoprobe Phase I	08/17/2000
12b-020868	Methylene Chloride	13		5	Geoprobe Phase I	08/18/2000
12b-021628	Acetone	6	J	5	Geoprobe Phase II	12/13/2001
02b-021619	Chloroform	0.9	J	1	Geoprobe Phase II	08/22/2001
23b-021100	Chloromethane	1	J	10	Geoprobe Phase II	12/08/2000
13a-021192	Methylene Chloride	5	J	5	Geoprobe Phase II	12/04/2000

Appendix S, Table 1
Summary of Trip Blank Data By Program

S&W Lab Sample ID	Parameters	Result (ug/L)	Result Qualifier	IDL (ug/L)	Program	Collection Date
13a-021199	Methylene Chloride	3	J	5	Geoprobe Phase II	12/05/2000
02b-021619	Methylene Chloride	0.4	J	2	Geoprobe Phase II	08/22/2001
02b-021619	Toluene	0.5	J	1	Geoprobe Phase II	08/22/2001
12b-021628	Toluene	0.1	J	1	Geoprobe Phase II	12/13/2001
02b-021619	Total Xylene	0.1	J	1	Geoprobe Phase II	08/22/2001
20a-021095	Acetone	2	JB	5	Groundwater Sample - Phase II	11/01/2000
20a-021096	Acetone	3	JB	5	Groundwater Sample - Phase II	11/02/2000
12b-021305	Acetone	8		5	Groundwater Sample - Phase II	12/21/2000
000-021516	Acetone	3	J	5	Groundwater Sample - Phase II	03/12/2001
12b-021563	Acetone	2	J	5	Groundwater Sample - Phase II	06/04/2001
12b-021634	Acetone	6	J	5	Groundwater Sample - Phase II	01/02/2002
20a-021095	Carbon disulfide	0.3	J	1	Groundwater Sample - Phase II	11/01/2000
20a-021096	Carbon disulfide	0.2	J	1	Groundwater Sample - Phase II	11/02/2000
12b-021125	Carbon disulfide	0.3	J	1	Groundwater Sample - Phase II	11/06/2000
12b-021127	Carbon disulfide	0.3	J	1	Groundwater Sample - Phase II	11/07/2000
10a-021445	Carbon disulfide	0.1	J	1	Groundwater Sample - Phase II	02/05/2001
000-021454	Carbon disulfide	0.5	J	1	Groundwater Sample - Phase II	02/08/2001
000-021462	Carbon disulfide	0.9	J	1	Groundwater Sample - Phase II	02/12/2001
000-021479	Carbon disulfide	0.2	J	1	Groundwater Sample - Phase II	02/14/2001
000-021481	Carbon disulfide	2		1	Groundwater Sample - Phase II	02/15/2001
000-021493	Carbon disulfide	0.3	J	1	Groundwater Sample - Phase II	02/20/2001
000-021498	Carbon disulfide	2		1	Groundwater Sample - Phase II	02/21/2001
000-021501	Carbon disulfide	0.2	J	1	Groundwater Sample - Phase II	02/22/2001
000-021502	Carbon disulfide	1		1	Groundwater Sample - Phase II	02/26/2001
000-021508	Carbon disulfide	2		1	Groundwater Sample - Phase II	02/28/2001
000-021513	Carbon disulfide	2		1	Groundwater Sample - Phase II	03/01/2001
000-021516	Carbon disulfide	0.4	J	1	Groundwater Sample - Phase II	03/12/2001
000-021522	Carbon disulfide	0.9	J	1	Groundwater Sample - Phase II	03/13/2001
000-021525	Carbon disulfide	0.4	J	1	Groundwater Sample - Phase II	03/14/2001
000-021530	Carbon disulfide	0.3	J	1	Groundwater Sample - Phase II	03/15/2001
000-021537	Carbon disulfide	0.3	J	1	Groundwater Sample - Phase II	03/19/2001

Appendix S, Table 1
Summary of Trip Blank Data By Program

S&W Lab Sample ID	Parameters	Result (ug/L)	Result Qualifier	IDL (ug/L)	Program	Collection Date
000-021549	Carbon disulfide	1		1	Groundwater Sample - Phase II	04/19/2001
12b-021609	Carbon disulfide	0.1	J	1	Groundwater Sample - Phase II	08/14/2001
12b-021563	Chloroform	0.3	J	1	Groundwater Sample - Phase II	06/04/2001
12b-021609	Chloroform	1	J	1	Groundwater Sample - Phase II	08/14/2001
12b-021615	Chloroform	1	J	1	Groundwater Sample - Phase II	08/15/2001
12b-021617	Chloroform	0.9	J	1	Groundwater Sample - Phase II	08/16/2001
12b-021624	Chloroform	0.2	J	1	Groundwater Sample - Phase II	09/06/2001
19a-021145	Methylene Chloride	3	B	2	Groundwater Sample - Phase II	11/16/2000
000-021447	Methylene Chloride	2	B	2	Groundwater Sample - Phase II	02/06/2001
000-021449	Methylene Chloride	2	B	2	Groundwater Sample - Phase II	02/07/2001
000-021475	Methylene Chloride	2	J	2	Groundwater Sample - Phase II	02/13/2001
000-021479	Methylene Chloride	3		2	Groundwater Sample - Phase II	02/14/2001
000-021481	Methylene Chloride	3		2	Groundwater Sample - Phase II	02/15/2001
000-021508	Methylene Chloride	4	B	2	Groundwater Sample - Phase II	02/28/2001
000-021513	Methylene Chloride	5	B	2	Groundwater Sample - Phase II	03/01/2001
000-021522	Methylene Chloride	4		2	Groundwater Sample - Phase II	03/13/2001
000-021537	Methylene Chloride	6	B	2	Groundwater Sample - Phase II	03/19/2001
12b-021559	Methylene Chloride	0.9	J	5	Groundwater Sample - Phase II	05/29/2001
12b-021572	Methylene Chloride	0.6	J	2	Groundwater Sample - Phase II	06/12/2001
07a-021582	Methylene Chloride	6		5	Groundwater Sample - Phase II	06/26/2001
12b-021587	Methylene Chloride	1	J	2	Groundwater Sample - Phase II	07/09/2001
12b-021593	Methylene Chloride	0.6	J	2	Groundwater Sample - Phase II	07/12/2001
17a-021605	Methylene Chloride	0.2	J	2	Groundwater Sample - Phase II	07/24/2001
12b-021617	Methylene Chloride	0.7	J	2	Groundwater Sample - Phase II	08/16/2001
12a-021130	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/08/2000
20a-021132	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/09/2000
12b-021137	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/13/2000
10a-021466	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/14/2000
10a-021141	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/15/2000
19a-021145	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/16/2000
12b-021173	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/21/2000
10a-021176	Toluene	0.2	J	1	Groundwater Sample - Phase II	11/27/2000

Appendix S, Table 1
Summary of Trip Blank Data By Program

S&W Lab Sample ID	Parameters	Result (ug/L)	Result Qualifier	IDL (ug/L)	Program	Collection Date
10a-021180	Toluene	0.1	J	1	Groundwater Sample - Phase II	11/29/2000
10a-021445	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/05/2001
000-021447	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/06/2001
000-021449	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/07/2001
000-021462	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/12/2001
000-021475	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/13/2001
000-021481	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/15/2001
000-021501	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/22/2001
000-021503	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/27/2001
000-021508	Toluene	0.1	J	1	Groundwater Sample - Phase II	02/28/2001
000-021513	Toluene	0.2	J	1	Groundwater Sample - Phase II	03/01/2001
12b-021598	Toluene	0.1	J	1	Groundwater Sample - Phase II	07/19/2001
12b-021609	Toluene	0.5	J	1	Groundwater Sample - Phase II	08/14/2001
12b-021615	Toluene	0.5	J	1	Groundwater Sample - Phase II	08/15/2001
12b-021617	Toluene	0.4	J	1	Groundwater Sample - Phase II	08/16/2001
12b-021598	Total Xylene	0.2	J	1	Groundwater Sample - Phase II	07/19/2001
12b-021609	Total Xylene	0.1	J	1	Groundwater Sample - Phase II	08/14/2001
12b-021615	Total Xylene	0.1	J	1	Groundwater Sample - Phase II	08/15/2001
12b-021617	Total Xylene	0.1	J	1	Groundwater Sample - Phase II	08/16/2001
12a-021090	Methylene Chloride	2	JB	5	Overburden Monitoring Well Soil -	11/03/2000
09A-021108	Methylene Chloride	2	J	5	Phase II	11/28/2000

Notes:

J - Estimated Concentration

B - Present in either laboratory or trip blank

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
12b-020785	RA-226	1.04	J	0.5086	0.5357	Geoprobe Phase I	04/04/2000
17a-020805	RA-226	0.69	J	0.5489	1.0430	Geoprobe Phase I	05/01/2000
09a-020794	RA-226	0.24		0.2043	0.2824	Geoprobe Phase I	04/12/2000
11a-020758	RA-226	0.09	J	0.0843	0.1224	Geoprobe Phase I	03/29/2000
09a-020794	RA-228	0.44		1.4614	2.5480	Geoprobe Phase I	04/12/2000
12b-020785	TH-228	0.90	J	0.7177	0.9436	Geoprobe Phase I	04/04/2000
11a-020758	TH-228	0.52	J	0.3397	0.2634	Geoprobe Phase I	03/29/2000
12b-020785	TH-230	4.25	J	1.5830	0.6494	Geoprobe Phase I	04/04/2000
17a-020805	TH-230	1.44	J	0.7841	0.4997	Geoprobe Phase I	05/01/2000
09a-020794	TH-230	0.76		0.6364	0.8026	Geoprobe Phase I	04/12/2000
11a-020758	TH-230	0.72	J	0.3992	0.2251	Geoprobe Phase I	03/29/2000
12b-020786	TH-230	0.55	J	0.5203	0.7406	Geoprobe Phase I	04/05/2000
12b-020785	TH-232	1.16	J	0.7825	0.8366	Geoprobe Phase I	04/04/2000
09a-020794	TH-232	0.36		0.4444	0.7080	Geoprobe Phase I	04/12/2000
12b-020785	U-234	2.21	J	1.0980	0.5428	Geoprobe Phase I	04/04/2000
17a-020805	U-234	0.98	J	0.7201	0.6943	Geoprobe Phase I	05/01/2000
09a-020794	U-234	0.63		0.5052	0.5713	Geoprobe Phase I	04/12/2000
09a-020794	U-235	0.28		0.3758	0.5827	Geoprobe Phase I	04/12/2000
12b-020785	U-238	1.75	J	0.9583	0.3165	Geoprobe Phase I	04/04/2000
09a-020794	U-238	0.11		0.2511	0.5688	Geoprobe Phase I	04/12/2000
13a-021191	RA-226	1.14	J	0.5330	0.7311	Geoprobe Phase II	12/04/2000
09a-021442	RA-226	0.37	J	0.3198	0.5905	Geoprobe Phase II	02/05/2001
09a-021448	RA-226	0.27	J	0.1780	0.2782	Geoprobe Phase II	02/07/2001
09a-021444	RA-226	0.13		0.1710	0.4808	Geoprobe Phase II	02/06/2001
10a-021446	RA-226	0.12		0.1279	0.2723	Geoprobe Phase II	02/06/2001
02b-021618	RA-228	1.36		0.8691	0.9153	Geoprobe Phase II	08/22/2001
13a-021198	RA-228	0.81	J	0.7142	0.7629	Geoprobe Phase II	12/05/2000
10a-021446	TH-228	0.01		0.1525	0.4935	Geoprobe Phase II	02/06/2001

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
09a-021444	TH-230	1.21	J	0.6346	0.4997	Geoprobe Phase II	02/06/2001
09a-021443	TH-230	1.06	J	0.6475	0.6022	Geoprobe Phase II	02/05/2001
02b-021618	TH-230	1.03		0.6334	0.7700	Geoprobe Phase II	08/22/2001
09a-021441	TH-230	1.00	J	0.6854	0.8803	Geoprobe Phase II	02/05/2001
10a-021446	TH-230	0.65	J	0.5785	0.9808	Geoprobe Phase II	02/06/2001
13a-021191	TH-230	0.41	J	0.3643	0.5559	Geoprobe Phase II	12/04/2000
09a-021441	TH-232	0.50	J	0.4552	0.6131	Geoprobe Phase II	02/05/2001
09a-021444	TH-232	0.47	J	0.3954	0.4988	Geoprobe Phase II	02/06/2001
09a-021443	U-234	1.47		0.9082	0.8378	Geoprobe Phase II	02/05/2001
09a-021441	U-234	0.72	J	0.5353	0.7648	Geoprobe Phase II	02/05/2001
09a-021444	U-234	0.70	J	0.5252	0.5472	Geoprobe Phase II	02/06/2001
09a-021448	U-234	0.67	J	0.6175	0.9993	Geoprobe Phase II	02/07/2001
10a-021446	U-234	0.32	J	0.3165	0.4384	Geoprobe Phase II	02/06/2001
13a-021191	U-234	0.30	J	0.2834	0.4015	Geoprobe Phase II	12/04/2000
09a-021441	U-235	0.40	J	0.3828	0.3869	Geoprobe Phase II	02/05/2001
09a-021444	U-235	0.09		0.2100	0.4773	Geoprobe Phase II	02/06/2001
10a-021446	U-235	0.06		0.1573	0.3577	Geoprobe Phase II	02/06/2001
09a-021444	U-238	0.83		0.5828	0.6166	Geoprobe Phase II	02/06/2001
09a-021441	U-238	0.53	J	0.4461	0.6494	Geoprobe Phase II	02/05/2001
10a-021446	U-238	0.30		0.2855	0.2887	Geoprobe Phase II	02/06/2001
10a-020791	RA-226	0.67	J	0.3315	0.1841	Groundwater Sample - Phase I	04/06/2000
12b-020770	RA-226	0.25	J	0.1553	0.0628	Groundwater Sample - Phase I	03/29/2000
12b-020770	TH-230	0.42	J	0.2937	0.1277	Groundwater Sample - Phase I	03/29/2000
10a-020791	U-234	0.75	J	0.5340	0.4671	Groundwater Sample - Phase I	04/06/2000
12b-020770	U-234	0.42	J	0.3780	0.5631	Groundwater Sample - Phase I	03/29/2000
10a-020791	U-238	0.51	J	0.4293	0.2325	Groundwater Sample - Phase I	04/06/2000
12b-021571	GALPHA	1.14		5.6478	5.8533	Groundwater Sample - Phase II	06/12/2001
09a-021450	GALPHA	0.70		0.4650	0.5495	Groundwater Sample - Phase II	02/08/2001

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
12b-021571	GBETA	43.86		3.7346	2.8763	Groundwater Sample - Phase II	06/12/2001
12b-021586	GBETA	3.06	J	1.1561	1.5526	Groundwater Sample - Phase II	07/09/2001
09a-021461	GBETA	1.37	J	1.1100	1.6300	Groundwater Sample - Phase II	02/13/2001
12b-021623	GBETA	0.85		0.7367	0.7181	Groundwater Sample - Phase II	09/06/2001
12b-021179	RA-226	1.86		0.7207	0.7565	Groundwater Sample - Phase II	12/01/2000
22b-021122	RA-226	1.72		0.5847	0.4058	Groundwater Sample - Phase II	11/20/2000
12b-021174	RA-226	1.06	J	0.3137	0.1613	Groundwater Sample - Phase II	11/21/2000
12a-021098	RA-226	0.87	J	0.5396	0.9711	Groundwater Sample - Phase II	11/03/2000
12b-021124	RA-226	0.72	J	0.2222	0.1354	Groundwater Sample - Phase II	11/06/2000
23b-021103	RA-226	0.63	J	0.4199	0.7620	Groundwater Sample - Phase II	11/08/2000
12b-021126	RA-226	0.59	J	0.2505	0.2896	Groundwater Sample - Phase II	11/07/2000
09a-021297	RA-226	0.55		0.2909	0.3428	Groundwater Sample - Phase II	11/28/2000
01a-021118	RA-226	0.53	J	0.3805	0.6484	Groundwater Sample - Phase II	11/08/2000
20a-021093	RA-226	0.47	J	0.3061	0.5576	Groundwater Sample - Phase II	11/01/2000
12b-021150	RA-226	0.47	J	0.2158	0.3214	Groundwater Sample - Phase II	11/20/2000
23b-021101	RA-226	0.40	J	0.3162	0.4701	Groundwater Sample - Phase II	12/04/2000
10a-021140	RA-226	0.35	J	0.2095	0.2905	Groundwater Sample - Phase II	11/15/2000
10a-021589	RA-226	0.33		0.1791	0.2548	Groundwater Sample - Phase II	07/12/2001
12b-021571	RA-226	0.32	J	0.1949	0.3250	Groundwater Sample - Phase II	06/12/2001
07a-021580	RA-226	0.31		0.1853	0.2471	Groundwater Sample - Phase II	06/26/2001
12b-021578	RA-226	0.31		0.1984	0.2994	Groundwater Sample - Phase II	06/18/2001
05a-021111	RA-226	0.30	J	0.1939	0.1645	Groundwater Sample - Phase II	12/05/2000
12b-021606	RA-226	0.30	J	0.1828	0.2993	Groundwater Sample - Phase II	08/14/2001
10a-021175	RA-226	0.27	J	0.1814	0.2548	Groundwater Sample - Phase II	11/27/2000
10a-021146	RA-226	0.27	J	0.2472	0.4775	Groundwater Sample - Phase II	11/17/2000
23b-021484	RA-226	0.27	J	0.1600	0.1900	Groundwater Sample - Phase II	02/15/2001
12b-021595	RA-226	0.27		0.1537	0.1824	Groundwater Sample - Phase II	07/19/2001
01a-021142	RA-226	0.26	J	0.2196	0.4498	Groundwater Sample - Phase II	11/15/2000
12b-021623	RA-226	0.26	J	0.1614	0.2001	Groundwater Sample - Phase II	09/06/2001
23b-021105	RA-226	0.26		0.1612	0.1789	Groundwater Sample - Phase II	11/30/2000
23b-021492	RA-226	0.26	J	0.2007	0.2968	Groundwater Sample - Phase II	02/20/2001
20a-021094	RA-226	0.25	J	0.1418	0.1829	Groundwater Sample - Phase II	11/02/2000
10a-021138	RA-226	0.25	J	0.1504	0.1601	Groundwater Sample - Phase II	11/14/2000
19a-021144	RA-226	0.25	J	0.2108	0.4395	Groundwater Sample - Phase II	11/16/2000
10a-021453	RA-226	0.25	J	0.1900	0.3010	Groundwater Sample - Phase II	02/08/2001
10a-021452	RA-226	0.23	J	0.1722	0.2565	Groundwater Sample - Phase II	02/07/2001
02a-021113	RA-226	0.20	J	0.1850	0.3689	Groundwater Sample - Phase II	11/10/2000

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
08a-021109	RA-226	0.17	J	0.1490	0.2526	Groundwater Sample - Phase II	11/29/2000
12b-021136	RA-226	0.16	J	0.1375	0.2612	Groundwater Sample - Phase II	11/13/2000
23b-021099	RA-226	0.13	J	0.1264	0.2247	Groundwater Sample - Phase II	12/08/2000
12a-021526	RA-226	0.11	J	0.1121	0.1911	Groundwater Sample - Phase II	03/14/2001
23b-021511	RA-226	0.09	J	0.0900	0.1700	Groundwater Sample - Phase II	03/01/2001
19a-021144	RA-228	1.68	J	0.7966	0.8170	Groundwater Sample - Phase II	11/16/2000
12b-021595	RA-228	1.60		0.8212	0.8528	Groundwater Sample - Phase II	07/19/2001
10a-021146	RA-228	1.40	J	0.9094	0.9570	Groundwater Sample - Phase II	11/17/2000
12a-021526	RA-228	1.23		0.7795	0.8189	Groundwater Sample - Phase II	03/14/2001
02d-021116	RA-228	1.18	J	0.6970	0.7269	Groundwater Sample - Phase II	11/17/2000
10a-021589	RA-228	1.06		0.6950	0.7318	Groundwater Sample - Phase II	07/12/2001
05a-021111	RA-228	1.01	J	0.9063	0.9675	Groundwater Sample - Phase II	12/05/2000
12b-021560	RA-228	0.99	J	0.7412	0.7857	Groundwater Sample - Phase II	06/04/2001
22b-021495	RA-228	0.82	J	0.7080	0.7555	Groundwater Sample - Phase II	02/21/2001
20a-021094	RA-228	0.77	J	0.6008	0.6380	Groundwater Sample - Phase II	11/02/2000
12b-021571	RA-228	0.75		0.6249	0.6656	Groundwater Sample - Phase II	06/12/2001
12b-021150	TH-228	1.31		0.5668	0.2523	Groundwater Sample - Phase II	11/20/2000
12b-021623	TH-228	1.01	J	0.5959	0.5842	Groundwater Sample - Phase II	09/06/2001
12b-021614	TH-228	0.45		0.3672	0.4339	Groundwater Sample - Phase II	08/15/2001
10a-021175	TH-228	0.30	J	0.2775	0.3254	Groundwater Sample - Phase II	11/27/2000
12b-021174	TH-228	0.27	J	0.2667	0.3622	Groundwater Sample - Phase II	11/21/2000
09a-021297	TH-228	0.27		0.2367	0.2511	Groundwater Sample - Phase II	11/28/2000
10a-021140	TH-228	0.26	J	0.2526	0.2940	Groundwater Sample - Phase II	11/15/2000
12a-021547	TH-228	0.21	J	0.2071	0.2843	Groundwater Sample - Phase II	04/19/2001
23b-021492	Th-228	0.04		0.1631	0.4678	Groundwater Sample - Phase II	02/20/2001
20a-021094	TH-230	3.20		1.1400	0.4066	Groundwater Sample - Phase II	11/02/2000
20a-021093	TH-230	2.10	J	0.8301	0.5558	Groundwater Sample - Phase II	11/01/2000
12b-021124	TH-230	1.74	J	0.8545	0.6494	Groundwater Sample - Phase II	11/06/2000
23b-021511	TH-230	1.50	J	0.7500	0.4600	Groundwater Sample - Phase II	03/01/2001
12a-021129	TH-230	1.38	J	0.8103	1.0310	Groundwater Sample - Phase II	11/08/2000
12b-021586	TH-230	1.17		0.6587	0.5399	Groundwater Sample - Phase II	07/09/2001
08a-021109	TH-230	1.09	J	0.5000	0.4756	Groundwater Sample - Phase II	11/29/2000
12b-021560	TH-230	0.96		0.6075	0.5951	Groundwater Sample - Phase II	06/04/2001
23b-021515	TH-230	0.95		0.5318	0.3499	Groundwater Sample - Phase II	03/13/2001
10a-021504	TH-230	0.93		0.5460	0.4146	Groundwater Sample - Phase II	02/27/2001

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
20a-021131	TH-230	0.92	J	0.5087	0.4856	Groundwater Sample - Phase II	11/09/2000
02a-021113	TH-230	0.84	J	0.5251	0.4464	Groundwater Sample - Phase II	11/10/2000
12a-021526	TH-230	0.77	J	0.5382	0.5722	Groundwater Sample - Phase II	03/14/2001
12b-021126	TH-230	0.73	J	0.5807	0.8031	Groundwater Sample - Phase II	11/07/2000
09a-021461	TH-230	0.71	J	0.5300	0.7000	Groundwater Sample - Phase II	02/13/2001
22b-021495	TH-230	0.68	J	0.4903	0.5188	Groundwater Sample - Phase II	02/21/2001
23b-021484	TH-230	0.67	J	0.4600	0.4600	Groundwater Sample - Phase II	02/15/2001
10a-021477	TH-230	0.67	J	0.4578	0.4611	Groundwater Sample - Phase II	02/14/2001
10a-021175	TH-230	0.67	J	0.4159	0.3536	Groundwater Sample - Phase II	11/27/2000
10a-021146	TH-230	0.66	J	0.3840	0.3036	Groundwater Sample - Phase II	11/17/2000
06a-021470	TH-230	0.65	J	0.5400	0.6400	Groundwater Sample - Phase II	02/13/2001
23b-021103	TH-230	0.64	J	0.4122	0.5009	Groundwater Sample - Phase II	11/08/2000
12b-021616	TH-230	0.63	J	0.4225	0.3996	Groundwater Sample - Phase II	08/16/2001
23b-021105	TH-230	0.63	J	0.3924	0.4562	Groundwater Sample - Phase II	11/30/2000
01a-021118	TH-230	0.61	J	0.4144	0.5149	Groundwater Sample - Phase II	11/08/2000
10a-021589	TH-230	0.59	J	0.4217	0.4494	Groundwater Sample - Phase II	07/12/2001
09a-021297	TH-230	0.56	J	0.3693	0.4205	Groundwater Sample - Phase II	11/28/2000
12b-021636	TH-230	0.55	J	0.2900	0.2400	Groundwater Sample - Phase II	01/03/2002
23b-021492	Th-230	0.54	J	0.4558	0.5752	Groundwater Sample - Phase II	02/20/2001
19a-021144	TH-230	0.52	J	0.3902	0.5820	Groundwater Sample - Phase II	11/16/2000
25a-021244	TH-230	0.51	J	0.3110	0.1978	Groundwater Sample - Phase II	12/07/2000
23b-021509	TH-230	0.51	J	0.3950	0.4690	Groundwater Sample - Phase II	02/28/2001
22b-021120	TH-230	0.49	J	0.4086	0.6437	Groundwater Sample - Phase II	11/20/2000
10a-021452	TH-230	0.49	J	0.4875	0.7716	Groundwater Sample - Phase II	02/07/2001
12b-021150	TH-230	0.49	J	0.3695	0.5356	Groundwater Sample - Phase II	11/20/2000
23b-021101	TH-230	0.49	J	0.3520	0.3710	Groundwater Sample - Phase II	12/04/2000
12b-021179	TH-230	0.46	J	0.3115	0.3324	Groundwater Sample - Phase II	12/01/2000
22b-021500	TH-230	0.42	J	0.3701	0.4731	Groundwater Sample - Phase II	02/26/2001
05a-021546	TH-230	0.40	J	0.2846	0.3186	Groundwater Sample - Phase II	04/19/2001
02d-021488	TH-230	0.38	J	0.3600	0.4700	Groundwater Sample - Phase II	02/19/2001
12b-021637	TH-230	0.38	J	0.2600	0.3300	Groundwater Sample - Phase II	01/03/2002
10a-021138	TH-230	0.37	J	0.2934	0.2999	Groundwater Sample - Phase II	11/14/2000
10a-021140	TH-230	0.37	J	0.3609	0.6010	Groundwater Sample - Phase II	11/15/2000
12a-021098	TH-230	0.34	J	0.2905	0.4214	Groundwater Sample - Phase II	11/03/2000
12b-021136	TH-230	0.32	J	0.3146	0.5251	Groundwater Sample - Phase II	11/13/2000
22b-021122	TH-230	0.32	J	0.2932	0.4200	Groundwater Sample - Phase II	11/20/2000
23b-021099	TH-230	0.29	J	0.2738	0.4078	Groundwater Sample - Phase II	12/08/2000

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
20a-021093	TH-232	0.73		0.4454	0.4347	Groundwater Sample - Phase II	11/01/2000
23b-021511	TH-232	0.64		0.4800	0.5000	Groundwater Sample - Phase II	03/01/2001
12b-021126	TH-232	0.62	J	0.5212	0.7049	Groundwater Sample - Phase II	11/07/2000
23b-021484	TH-232	0.47		0.3800	0.4600	Groundwater Sample - Phase II	02/15/2001
12b-021179	TH-232	0.46	J	0.3110	0.3318	Groundwater Sample - Phase II	12/01/2000
23b-021099	TH-232	0.35	J	0.2905	0.3773	Groundwater Sample - Phase II	12/08/2000
20a-021094	TH-232	0.35	J	0.3425	0.4058	Groundwater Sample - Phase II	11/02/2000
10a-021477	TH-232	0.31	J	0.3015	0.3566	Groundwater Sample - Phase II	02/14/2001
23b-021492	Th-232	0.30		0.3580	0.6034	Groundwater Sample - Phase II	02/20/2001
12b-021616	TH-232	0.29		0.2784	0.2820	Groundwater Sample - Phase II	08/16/2001
10a-021146	TH-232	0.27	J	0.2542	0.3603	Groundwater Sample - Phase II	11/17/2000
12b-021595	U-234	9.80	J	2.2770	0.4387	Groundwater Sample - Phase II	07/19/2001
12b-021150	U-234	2.43	J	0.8374	0.5458	Groundwater Sample - Phase II	11/20/2000
10a-021175	U-234	2.27		0.7535	0.3106	Groundwater Sample - Phase II	11/27/2000
12a-021129	U-234	1.36	J	0.8052	0.8941	Groundwater Sample - Phase II	11/08/2000
02a-021113	U-234	1.31		0.5474	0.3227	Groundwater Sample - Phase II	11/10/2000
10a-021138	U-234	1.08		0.5438	0.4665	Groundwater Sample - Phase II	11/14/2000
12b-021124	U-234	1.02	J	0.6154	0.5801	Groundwater Sample - Phase II	11/06/2000
20a-021094	U-234	1.02	J	0.6643	0.7587	Groundwater Sample - Phase II	11/02/2000
23b-021515	U-234	0.93	J	0.5637	0.4972	Groundwater Sample - Phase II	03/13/2001
09a-021450	U-234	0.88	J	0.5598	0.5447	Groundwater Sample - Phase II	02/08/2001
01a-021142	U-234	0.84		0.4700	0.4136	Groundwater Sample - Phase II	11/15/2000
23b-021484	U-234	0.79	J	0.5300	0.5400	Groundwater Sample - Phase II	02/15/2001
02d-021488	U-234	0.65		0.5100	0.6000	Groundwater Sample - Phase II	02/19/2001
05a-021546	U-234	0.58	J	0.3224	0.2474	Groundwater Sample - Phase II	04/19/2001
12b-021578	U-234	0.55	J	0.4261	0.5446	Groundwater Sample - Phase II	06/18/2001
10a-021140	U-234	0.49		0.3844	0.3942	Groundwater Sample - Phase II	11/15/2000
12b-021179	U-234	0.47	J	0.2951	0.2196	Groundwater Sample - Phase II	12/01/2000
12b-021558	U-234	0.46		0.2975	0.3197	Groundwater Sample - Phase II	05/29/2001
08a-021109	U-234	0.45	J	0.2952	0.3301	Groundwater Sample - Phase II	11/29/2000
22b-021495	U-234	0.45	J	0.4253	0.5504	Groundwater Sample - Phase II	02/21/2001
23b-021511	U-234	0.44	J	0.3400	0.3500	Groundwater Sample - Phase II	03/01/2001
06e-021460	U-234	0.41	J	0.3800	0.5100	Groundwater Sample - Phase II	02/12/2001
10a-021477	U-234	0.41		0.3449	0.3809	Groundwater Sample - Phase II	02/14/2001
05a-021111	U-234	0.40	J	0.2736	0.2773	Groundwater Sample - Phase II	12/05/2000
23b-021492	U-234	0.40	J	0.3476	0.4162	Groundwater Sample - Phase II	02/20/2001
12b-021136	U-234	0.38		0.2948	0.3291	Groundwater Sample - Phase II	11/13/2000

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
09a-021461	U-234	0.36	J	0.3200	0.4100	Groundwater Sample - Phase II	02/13/2001
23b-021099	U-234	0.34	J	0.2799	0.4074	Groundwater Sample - Phase II	12/08/2000
10a-021504	U-234	0.34	J	0.3204	0.4164	Groundwater Sample - Phase II	02/27/2001
22b-021120	U-234	0.32	J	0.2802	0.4542	Groundwater Sample - Phase II	11/20/2000
02d-021116	U-234	0.32	J	0.2405	0.2536	Groundwater Sample - Phase II	11/17/2000
10a-021146	U-234	0.31	J	0.2784	0.3839	Groundwater Sample - Phase II	11/17/2000
23b-021103	U-234	0.31	J	0.2698	0.4032	Groundwater Sample - Phase II	11/08/2000
20a-021131	U-234	0.28	J	0.2402	0.2865	Groundwater Sample - Phase II	11/09/2000
23b-021101	U-234	0.22	J	0.1994	0.2554	Groundwater Sample - Phase II	12/04/2000
19a-021144	U-234	0.21	J	0.1999	0.2991	Groundwater Sample - Phase II	11/16/2000
20a-021094	U-235	0.58		0.5210	0.5595	Groundwater Sample - Phase II	11/02/2000
22b-021122	U-235	0.37	J	0.3311	0.4217	Groundwater Sample - Phase II	11/20/2000
12a-021547	U-235	0.31		0.2532	0.2515	Groundwater Sample - Phase II	04/19/2001
05a-021546	U-235	0.23		0.2131	0.1264	Groundwater Sample - Phase II	04/19/2001
12b-021595	U-238	2.87		0.9621	0.5090	Groundwater Sample - Phase II	07/19/2001
06e-021460	U-238	0.54	J	0.4300	0.5400	Groundwater Sample - Phase II	02/12/2001
20a-021094	U-238	0.54	J	0.4906	0.7049	Groundwater Sample - Phase II	11/02/2000
12b-021124	U-238	0.52		0.4240	0.4228	Groundwater Sample - Phase II	11/06/2000
12b-021616	U-238	0.51		0.3517	0.1536	Groundwater Sample - Phase II	08/16/2001
12a-021526	U-238	0.49	J	0.4213	0.5592	Groundwater Sample - Phase II	03/14/2001
12b-021586	U-238	0.49		0.3796	0.3915	Groundwater Sample - Phase II	07/09/2001
23b-021492	U-238	0.47	J	0.3710	0.3819	Groundwater Sample - Phase II	02/20/2001
02a-021113	U-238	0.46		0.3019	0.2352	Groundwater Sample - Phase II	11/10/2000
01a-021142	U-238	0.44	J	0.3500	0.4643	Groundwater Sample - Phase II	11/15/2000
23b-021484	U-238	0.42	J	0.4000	0.5600	Groundwater Sample - Phase II	02/15/2001
12b-021150	U-238	0.40	J	0.3549	0.5932	Groundwater Sample - Phase II	11/20/2000
23b-021105	U-238	0.38	J	0.2869	0.3753	Groundwater Sample - Phase II	11/30/2000
23b-021515	U-238	0.38	J	0.3573	0.4630	Groundwater Sample - Phase II	03/13/2001
12b-021136	U-238	0.35		0.2756	0.2825	Groundwater Sample - Phase II	11/13/2000
05a-021546	U-238	0.35		0.2613	0.3302	Groundwater Sample - Phase II	04/19/2001
23b-021511	U-238	0.31	J	0.3000	0.3800	Groundwater Sample - Phase II	03/01/2001
20a-021131	U-238	0.28		0.2390	0.2629	Groundwater Sample - Phase II	11/09/2000
06a-021470	U-238	0.27	J	0.2700	0.3600	Groundwater Sample - Phase II	02/13/2001
22b-021010	RA-226	1.44		0.4901	0.3863	Overburden Monitoring Well Soil - Phase II	10/30/2000
23a-020934	RA-226	1.26	J	0.6484	0.6527	Overburden Monitoring Well Soil - Phase II	10/24/2000
23b-020996	RA-226	1.16	J	0.4220	0.4571	Overburden Monitoring Well Soil - Phase II	10/27/2000

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
23b-020991	RA-226	0.52	J	0.4493	0.7868	Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020995	RA-226	0.48	J	0.2453	0.2034	Overburden Monitoring Well Soil - Phase II	10/26/2000
17a-021568	RA-226	0.36	J	0.2171	0.3863	Overburden Monitoring Well Soil - Phase II	06/12/2001
23b-020995	TH-228	0.40	J	0.3298	0.4595	Overburden Monitoring Well Soil - Phase II	10/26/2000
23a-020934	TH-228	0.23	J	0.2214	0.2584	Overburden Monitoring Well Soil - Phase II	10/24/2000
17a-021566	TH-230	1.11	J	0.6534	0.5853	Overburden Monitoring Well Soil - Phase II	06/11/2001
23b-020991	TH-230	0.92	J	0.4721	0.3789	Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020995	TH-230	0.90	J	0.4896	0.5106	Overburden Monitoring Well Soil - Phase II	10/26/2000
22b-021010	TH-230	0.70	J	0.4985	0.6234	Overburden Monitoring Well Soil - Phase II	10/30/2000
23b-020996	TH-230	0.64	J	0.3603	0.3338	Overburden Monitoring Well Soil - Phase II	10/27/2000
23a-020934	TH-230	0.41	J	0.2977	0.2878	Overburden Monitoring Well Soil - Phase II	10/24/2000
23b-020991	TH-232	0.45		0.3380	0.4263	Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020996	TH-232	0.33		0.2551	0.2866	Overburden Monitoring Well Soil - Phase II	10/27/2000
17a-021568	U-234	6.45		1.9420	0.7188	Overburden Monitoring Well Soil - Phase II	06/12/2001
23a-020934	U-234	0.45	J	0.2922	0.2995	Overburden Monitoring Well Soil - Phase II	10/24/2000
23b-020991	U-234	0.42	J	0.2794	0.3127	Overburden Monitoring Well Soil - Phase II	10/23/2000
17a-021568	U-238	4.14		1.4350	0.8124	Overburden Monitoring Well Soil - Phase II	06/12/2001
23b-020991	U-238	0.25	J	0.2003	0.1995	Overburden Monitoring Well Soil - Phase II	10/23/2000
23a-020932	RA-226	5.30	J	1.6670	1.5720	Sediment Sampling - Phase II	10/23/2000
25a-020937	RA-226	1.44		0.3915	0.3041	Sediment Sampling - Phase II	10/30/2000
24a-020935	RA-226	0.51	J	0.3521	0.7055	Sediment Sampling - Phase II	10/25/2000
22a-020929	TH-230	1.91	J	0.6961	0.3099	Sediment Sampling - Phase II	10/19/2000
23a-020936	TH-230	1.65	J	0.6724	0.4564	Sediment Sampling - Phase II	10/26/2000
24a-020935	TH-230	1.11	J	0.4953	0.3337	Sediment Sampling - Phase II	10/25/2000
25a-020937	TH-230	0.96	J	0.5425	0.6588	Sediment Sampling - Phase II	10/30/2000
23a-020932	TH-230	0.51	J	0.3968	0.5289	Sediment Sampling - Phase II	10/23/2000
25a-021243	TH-230	0.38	J	0.2988	0.3836	Sediment Sampling - Phase II	12/07/2000
22a-020929	TH-232	0.79		0.4056	0.2046	Sediment Sampling - Phase II	10/19/2000
23a-020936	TH-232	0.24	J	0.2400	0.3313	Sediment Sampling - Phase II	10/26/2000

Appendix S, Table 2
Summary of Radiological Parameters in Field/Equipment Blanks

S&W Lab Sample ID	Analyte	Analytic Result (pCi/L)	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Program	Date Collected
24a-020935	Total Uranium	0.01		0.0005	0.0203	Sediment Sampling - Phase II	10/25/2000
22a-020929	U-234	1.26	J	0.4753	0.2924	Sediment Sampling - Phase II	10/19/2000
25a-021243	U-234	0.44	J	0.3424	0.4761	Sediment Sampling - Phase II	12/07/2000

Notes:

J = Estimated Concentration

Appendix S, Table 3
Summary of VOCs in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
11a-020758	Acetone	5	10	J	Geoprobe Phase I	03/29/2000
12b-020786	Acetone	4	10	J	Geoprobe Phase I	04/05/2000
17a-020805	Acetone	2	10	J	Geoprobe Phase I	05/01/2000
14a-020861	Methylene Chloride	6	5		Geoprobe Phase I	08/11/2000
13a-021191	Methylene Chloride	3	5	J	Geoprobe Phase II	12/04/2000
12b-021629	Methylene Chloride	0.5	2	J	Geoprobe Phase II	12/13/2001
09a-021444	Toluene	1	1		Geoprobe Phase II	02/06/2001
09a-021443	Toluene	1	1	J	Geoprobe Phase II	02/05/2001
09a-021442	Toluene	1	1	J	Geoprobe Phase II	02/05/2001
09a-021441	Toluene	1	1	J	Geoprobe Phase II	02/05/2001
10a-021446	Toluene	1	1		Geoprobe Phase II	02/06/2001
09a-021448	Toluene	1	1		Geoprobe Phase II	02/07/2001
10a-021146	1,2-Dichloroethane	0.2	1	J	Groundwater Sample - Phase II	11/17/2000
19a-021144	1,2-Dichloroethane	0.2	1	J	Groundwater Sample - Phase II	11/16/2000
10a-021140	1,2-Dichloroethane	0.2	1	J	Groundwater Sample - Phase II	11/15/2000
10a-021175	1,2-Dichloroethane	0.2	1	J	Groundwater Sample - Phase II	11/27/2000
12b-021571	2-Butanone	5	5	J	Groundwater Sample - Phase II	06/12/2001
23b-021103	Acetone	200	10	J	Groundwater Sample - Phase II	11/08/2000
23b-021099	Acetone	97	10		Groundwater Sample - Phase II	12/08/2000
23b-021091	Acetone	34	10		Groundwater Sample - Phase II	11/01/2000
09a-021297	Acetone	29	10		Groundwater Sample - Phase II	11/28/2000
12a-021098	Acetone	9	10	J	Groundwater Sample - Phase II	11/03/2000
12a-021526	Acetone	8	5	J	Groundwater Sample - Phase II	03/14/2001
23b-021105	Acetone	7	10	JB	Groundwater Sample - Phase II	11/30/2000
08a-021109	Acetone	7	10	JB	Groundwater Sample - Phase II	11/29/2000
20a-021093	Acetone	6	5	B	Groundwater Sample - Phase II	11/01/2000
22b-021089	Acetone	6	10	J	Groundwater Sample - Phase II	11/01/2000
23b-021515	Acetone	5	5	J	Groundwater Sample - Phase II	03/13/2001
12b-021306	Acetone	4	5	J	Groundwater Sample - Phase II	12/21/2000
12b-021606	Acetone	4	5	JB	Groundwater Sample - Phase II	08/14/2001
12b-021558	Acetone	4	10	J	Groundwater Sample - Phase II	05/29/2001
12b-021623	Acetone	4	5	J	Groundwater Sample - Phase II	09/06/2001

Appendix S, Table 3
Summary of VOCs in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
10a-021589	Acetone	3	5	J	Groundwater Sample - Phase II	07/12/2001
20a-021094	Acetone	3	5	JB	Groundwater Sample - Phase II	11/02/2000
12a-021547	Acetone	2	5	J	Groundwater Sample - Phase II	04/19/2001
05a-021546	Acetone	2	5	J	Groundwater Sample - Phase II	04/19/2001
12b-021558	Benzene	0.5	5	J	Groundwater Sample - Phase II	05/29/2001
01a-021142	Bromodichloromethane	8	1		Groundwater Sample - Phase II	11/15/2000
01a-021142	Bromoform	0.3	1	J	Groundwater Sample - Phase II	11/15/2000
08a-021109	Carbon Disulfide	10	5		Groundwater Sample - Phase II	11/29/2000
01a-021142	Chloroform	13	1		Groundwater Sample - Phase II	11/15/2000
23b-021511	Chloroform	0.8	1	J	Groundwater Sample - Phase II	03/01/2001
23b-021509	Chloroform	0.6	1	J	Groundwater Sample - Phase II	02/28/2001
12a-021526	Chloroform	0.3	1	J	Groundwater Sample - Phase II	03/14/2001
05a-021546	Chloroform	0.3	1	J	Groundwater Sample - Phase II	04/19/2001
10a-021504	Chloroform	0.2	1	J	Groundwater Sample - Phase II	02/27/2001
10a-021467	Chloroform	0.1	1	J	Groundwater Sample - Phase II	11/14/2000
19a-021144	Chloroform	0.1	1	J	Groundwater Sample - Phase II	11/16/2000
10a-021146	Chloroform	0.1	1	J	Groundwater Sample - Phase II	11/17/2000
10a-021175	Chloroform	0.1	1	J	Groundwater Sample - Phase II	11/27/2000
12b-021578	Chloroform	0.1	1	J	Groundwater Sample - Phase II	06/18/2001
12b-021174	Chloroform	0.1	1	J	Groundwater Sample - Phase II	11/21/2000
10a-021140	Chloroform	0.1	1	J	Groundwater Sample - Phase II	11/15/2000
23b-021515	Chloroform	0.1	1	J	Groundwater Sample - Phase II	03/13/2001
12b-021578	Chloromethane	0.1	2	JJ	Groundwater Sample - Phase II	06/18/2001
01a-021142	Dibromochloromethane	3	1		Groundwater Sample - Phase II	11/15/2000
12a-021547	Ethylbenzene	0.1	1	J	Groundwater Sample - Phase II	04/19/2001
12a-021098	Methylene Chloride	4	5	JB	Groundwater Sample - Phase II	11/03/2000
09a-021297	Methylene Chloride	4	5	JB	Groundwater Sample - Phase II	11/28/2000
12b-021578	Methylene Chloride	1	2	J	Groundwater Sample - Phase II	06/18/2001
12b-021558	Methylene Chloride	1	5	J	Groundwater Sample - Phase II	05/29/2001

Appendix S, Table 3
Summary of VOCs in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
23b-021511	Tetrachloroethene	0.2	1	J	Groundwater Sample - Phase II	03/01/2001
09a-021450	Toluene	1	1		Groundwater Sample - Phase II	02/08/2001
12a-021129	Toluene	1	1	J	Groundwater Sample - Phase II	11/08/2000
20a-021131	Toluene	1	1		Groundwater Sample - Phase II	11/09/2000
06e-021460	Toluene	1	1		Groundwater Sample - Phase II	02/12/2001
10a-021452	Toluene	1	1		Groundwater Sample - Phase II	02/07/2001
23b-021515	Toluene	1	1		Groundwater Sample - Phase II	03/13/2001
10a-021453	Toluene	1	1	J	Groundwater Sample - Phase II	02/08/2001
23b-021509	Toluene	1	1	J	Groundwater Sample - Phase II	02/28/2001
12b-021136	Toluene	0.9	1	J	Groundwater Sample - Phase II	11/13/2000
10a-021175	Toluene	0.8	1	J	Groundwater Sample - Phase II	11/27/2000
12a-021526	Toluene	0.8	1	J	Groundwater Sample - Phase II	03/14/2001
10a-021140	Toluene	0.7	1	J	Groundwater Sample - Phase II	11/15/2000
23b-021484	Toluene	0.7	1	J	Groundwater Sample - Phase II	02/15/2001
19a-021144	Toluene	0.7	1	J	Groundwater Sample - Phase II	11/16/2000
12b-021174	Toluene	0.7	1	J	Groundwater Sample - Phase II	11/21/2000
10a-021146	Toluene	0.7	1	J	Groundwater Sample - Phase II	11/17/2000
12a-021547	Toluene	0.7	1	J	Groundwater Sample - Phase II	04/19/2001
10a-021467	Toluene	0.7	1	J	Groundwater Sample - Phase II	11/14/2000
12b-021306	Toluene	0.5	1	J	Groundwater Sample - Phase II	12/21/2000
12b-021586	Toluene	0.4	1	J	Groundwater Sample - Phase II	07/09/2001
10a-021589	Toluene	0.4	1	J	Groundwater Sample - Phase II	07/12/2001
01a-021142	Toluene	0.2	1	J	Groundwater Sample - Phase II	11/15/2000
22b-021495	Toluene	0.2	1	J	Groundwater Sample - Phase II	02/21/2001
09a-021461	Toluene	0.2	1	J	Groundwater Sample - Phase II	02/13/2001
22b-021500	Toluene	0.2	1	J	Groundwater Sample - Phase II	02/26/2001
12b-021636	Toluene	0.1	1	J	Groundwater Sample - Phase II	01/03/2002
12b-021578	Toluene	0.1	1	J	Groundwater Sample - Phase II	06/18/2001
23b-021492	Toluene	0.1	1	J	Groundwater Sample - Phase II	02/20/2001
23b-021515	Total Xylene	0.3	1	J	Groundwater Sample - Phase II	03/13/2001
12a-021547	Total Xylene	0.3	1	J	Groundwater Sample - Phase II	04/19/2001
12b-021586	Total Xylene	0.2	1	J	Groundwater Sample - Phase II	07/09/2001
23b-021509	Total Xylene	0.1	1	J	Groundwater Sample - Phase II	02/28/2001
06a-021470	Total Xylene	0.1	1	J	Groundwater Sample - Phase II	02/13/2001

Appendix S, Table 3
Summary of VOCs in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
10a-021589	Total Xylene	0.1	1	J	Groundwater Sample - Phase II	07/12/2001
12b-021636	Total Xylene	0.1	1	J	Groundwater Sample - Phase II	01/03/2002
06e-021460	Total Xylene	0.1	1	J	Groundwater Sample - Phase II	02/12/2001
17a-021568	2-Butanone	5	5	J	Overburden Monitoring Well Soil - Phase II	06/12/2001
22b-021010	Acetone	180	10		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Acetone	83	10	J	Overburden Monitoring Well Soil - Phase II	10/26/2000
23b-021087	Acetone	55	10		Overburden Monitoring Well Soil - Phase II	10/31/2000
17a-021566	Chloroform	0.3	1	J	Overburden Monitoring Well Soil - Phase II	06/11/2001
17a-021568	Chloromethane	0.2	2	J	Overburden Monitoring Well Soil - Phase II	06/12/2001
17a-021566	Chloromethane	0.1	2	J	Overburden Monitoring Well Soil - Phase II	06/11/2001
23b-020995	Methylene Chloride	10	5	B	Overburden Monitoring Well Soil - Phase II	10/26/2000
23b-020990	Methylene Chloride	6	5	B	Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020991	Methylene Chloride	6	5	B	Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020993	Methylene Chloride	3	5	JB	Overburden Monitoring Well Soil - Phase II	10/23/2000
17a-021566	Methylene Chloride	0.2	2	J	Overburden Monitoring Well Soil - Phase II	06/11/2001
17a-021568	Toluene	0.5	1	J	Overburden Monitoring Well Soil - Phase II	06/12/2001
17a-021566	Toluene	0.1	1	J	Overburden Monitoring Well Soil - Phase II	06/11/2001
17a-021568	Total Xylene	0.2	1	J	Overburden Monitoring Well Soil - Phase II	06/12/2001

Notes:

J = Estimated Concentration

B = Detected in method/field blank

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
12b-020785	Barium, Total	0.68	0.20		Geoprobe Phase I	04/04/2000
12b-020786	Barium, Total	0.36	0.20		Geoprobe Phase I	04/05/2000
17a-020805	Barium, Total	0.33	0.20		Geoprobe Phase I	05/01/2000
11a-020758	Barium, Total	0.33	0.20		Geoprobe Phase I	03/29/2000
11a-020758	Boron, Total	5.1	1.2		Geoprobe Phase I	03/29/2000
17a-020805	Boron, Total	3.7	1.2		Geoprobe Phase I	05/01/2000
12b-020785	Boron, Total	2.7	1.2		Geoprobe Phase I	04/04/2000
09a-020794	Boron, Total	2.2	1.2	J	Geoprobe Phase I	04/12/2000
12b-020786	Boron, Total	2	1 2		Geoprobe Phase I	04/05/2000
12b-020786	Calcium, Total	111	13.2		Geoprobe Phase I	04/05/2000
11a-020758	Calcium, Total	54.9	13.2		Geoprobe Phase I	03/29/2000
12b-020786	Chromium, Total	1	0.60		Geoprobe Phase I	04/05/2000
12b-020786	Iron, Total	16.5	14.6		Geoprobe Phase I	04/05/2000
12b-020786	Lithium, Total	1.7	0.10		Geoprobe Phase I	04/05/2000
12b-020785	Lithium, Total	1	0.10	J	Geoprobe Phase I	04/04/2000
09a-020794	Lithium, Total	0.71	0.10	J	Geoprobe Phase I	04/12/2000
12b-020786	Magnesium, Total	15.5	6.5		Geoprobe Phase I	04/05/2000
11a-020758	Magnesium, Total	14	6.5		Geoprobe Phase I	03/29/2000
12b-020786	Manganese, Total	0.61	0.10		Geoprobe Phase I	04/05/2000
12b-020786	Potassium, Total	26.1	19.7		Geoprobe Phase I	04/05/2000
12b-020786	Sodium, Total	49.4	2.4		Geoprobe Phase I	04/05/2000
11a-020758	Sodium, Total	21.4	2.4		Geoprobe Phase I	03/29/2000
12b-020786	Zinc, Total	1.6	0.80		Geoprobe Phase I	04/05/2000
11a-020758	Zinc, Total	1.1	0.80		Geoprobe Phase I	03/29/2000
09a-021444	Aluminum, Total	30	22.7		Geoprobe Phase II	02/06/2001
13a-021198	Aluminum, Total	26.2	22.7		Geoprobe Phase II	12/05/2000
10a-021446	Aluminum, Total	24.3	22.7		Geoprobe Phase II	02/06/2001

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
13a-021198	Barium, Total	0.29	0.20		Geoprobe Phase II	12/05/2000
09a-021444	Beryllium, Total	0.12	0.10		Geoprobe Phase II	02/06/2001
13a-021191	Boron, Total	8.2	2.7		Geoprobe Phase II	12/04/2000
13a-021198	Boron, Total	7.3	2.7		Geoprobe Phase II	12/05/2000
09a-021443	Boron, Total	6.3	2.7		Geoprobe Phase II	02/05/2001
09a-021444	Boron, Total	4.1	2.7		Geoprobe Phase II	02/06/2001
10a-021446	Boron, Total	3.5	2.7		Geoprobe Phase II	02/06/2001
09a-021441	Boron, Total	2.7	2.7		Geoprobe Phase II	02/05/2001
10a-021446	Calcium, Total	100	19.2		Geoprobe Phase II	02/06/2001
13a-021198	Calcium, Total	47.2	19.2		Geoprobe Phase II	12/05/2000
02b-021618	Calcium, Total	32.5	7.8	J	Geoprobe Phase II	08/22/2001
13a-021191	Calcium, Total	25	19.2		Geoprobe Phase II	12/04/2000
09a-021442	Chromium, Total	17.2	0.60		Geoprobe Phase II	02/05/2001
09a-021441	Chromium, Total	4.2	0.60		Geoprobe Phase II	02/05/2001
09a-021448	Chromium, Total	3	0.60		Geoprobe Phase II	02/07/2001
10a-021446	Chromium, Total	1.8	0.60		Geoprobe Phase II	02/06/2001
09a-021444	Chromium, Total	1.3	0.60		Geoprobe Phase II	02/06/2001
09a-021442	Copper, Total	1.8	0.90		Geoprobe Phase II	02/05/2001
09a-021444	Copper, Total	1.1	0.90		Geoprobe Phase II	02/06/2001
09a-021442	Iron, Total	92.5	21.8		Geoprobe Phase II	02/05/2001
09a-021441	Iron, Total	43.4	21.8		Geoprobe Phase II	02/05/2001
09a-021448	Iron, Total	35.2	21.8		Geoprobe Phase II	02/07/2001
09a-021444	Iron, Total	30.4	21.8		Geoprobe Phase II	02/06/2001
10a-021446	Iron, Total	23.9	21.8		Geoprobe Phase II	02/06/2001
09a-021444	Lithium, Total	1.2	0.20	J	Geoprobe Phase II	02/06/2001
13a-021191	Lithium, Total	1.1	0.20		Geoprobe Phase II	12/04/2000
10a-021446	Lithium, Total	0.74	0.20	J	Geoprobe Phase II	02/06/2001
09a-021448	Lithium, Total	0.57	0.20	J	Geoprobe Phase II	02/07/2001
09a-021443	Lithium, Total	0.43	UG/L	J	Geoprobe Phase II	02/05/2001
09a-021442	Lithium, Total	0.37	0.20	J	Geoprobe Phase II	02/05/2001
09a-021441	Lithium, Total	0.34	0.20	J	Geoprobe Phase II	02/05/2001
13a-021198	Lithium, Total	0.24	0.20		Geoprobe Phase II	12/05/2000
02b-021618	Magnesium, Total	11.6	8.0		Geoprobe Phase II	08/22/2001
13a-021198	Magnesium, Total	10.4	6.7		Geoprobe Phase II	12/05/2000
10a-021446	Manganese, Total	9.9	0.20		Geoprobe Phase II	02/06/2001
09a-021444	Manganese, Total	4.8	0.20		Geoprobe Phase II	02/06/2001
09a-021441	Manganese, Total	4.6	0.20		Geoprobe Phase II	02/05/2001
09a-021448	Manganese, Total	1.7	0.20		Geoprobe Phase II	02/07/2001

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
09a-021442	Manganese, Total	1.6	0.20		Geoprobe Phase II	02/05/2001
09a-021443	Manganese, Total	1.5	UG/L		Geoprobe Phase II	02/05/2001
02b-021618	Manganese, Total	0.23	0.10	J	Geoprobe Phase II	08/22/2001
13a-021191	Manganese, Total	0.21	0.20		Geoprobe Phase II	12/04/2000
09a-021442	Nickel, Total	14.2	0.90		Geoprobe Phase II	02/05/2001
09a-021441	Nickel, Total	4.6	0.90		Geoprobe Phase II	02/05/2001
09a-021444	Nickel, Total	4	0.90		Geoprobe Phase II	02/06/2001
09a-021448	Nickel, Total	2.5	0.90		Geoprobe Phase II	02/07/2001
10a-021446	Nickel, Total	1.7	0.90		Geoprobe Phase II	02/06/2001
09a-021442	Sodium, Total	118	4.1		Geoprobe Phase II	02/05/2001
09a-021444	Sodium, Total	72.3	4.1		Geoprobe Phase II	02/06/2001
13a-021191	Sodium, Total	69.3	4.1		Geoprobe Phase II	12/04/2000
10a-021446	Sodium, Total	68.1	4.1		Geoprobe Phase II	02/06/2001
13a-021198	Zinc, Total	1.7	0.40		Geoprobe Phase II	12/05/2000
12b-020770	Barium, Total	0.57	0.20		Groundwater Sample - Phase I	03/29/2000
09a-021297	Aluminum, Total	214	22.7		Groundwater Sample - Phase II	11/28/2000
22b-021500	Aluminum, Total	96.3	12.4		Groundwater Sample - Phase II	02/26/2001
06e-021460	Aluminum, Total	88.5	12.4		Groundwater Sample - Phase II	02/12/2001
23b-021099	Aluminum, Total	66.6	22.7		Groundwater Sample - Phase II	12/08/2000
01a-021142	Aluminum, Total	50.7	22.7		Groundwater Sample - Phase II	11/15/2000
23b-021515	Aluminum, Total	38.3	12.4		Groundwater Sample - Phase II	03/13/2001
02d-021488	Aluminum, Total	35.3	12.4		Groundwater Sample - Phase II	02/19/2001
12a-021129	Aluminum, Total	33.8	22.7		Groundwater Sample - Phase II	11/08/2000
25a-021244	Aluminum, Total	30.5	22.7		Groundwater Sample - Phase II	12/07/2000
12a-021526	Aluminum, Total	28.7	12.4		Groundwater Sample - Phase II	03/14/2001
22b-021495	Aluminum, Total	24.1	12.4		Groundwater Sample - Phase II	02/21/2001
23b-021509	Aluminum, Total	21.1	12.4		Groundwater Sample - Phase II	02/28/2001
23b-021511	Aluminum, Total	20.9	12.4		Groundwater Sample - Phase II	03/01/2001
23b-021492	Aluminum, Total	20.8	12.4		Groundwater Sample - Phase II	02/20/2001
05a-021546	Antimony, Total	1.9	1.9		Groundwater Sample - Phase II	04/19/2001
12b-021571	Barium, Total	74.2	0.20		Groundwater Sample - Phase II	06/12/2001
01a-021142	Barium, Total	60.9	0.20		Groundwater Sample - Phase II	11/15/2000
09a-021297	Barium, Total	7.5	0.20		Groundwater Sample - Phase II	11/28/2000
22b-021089	Barium, Total	6.2	0.20		Groundwater Sample - Phase II	11/01/2000
23b-021492	Barium, Total	5.3	0.20		Groundwater Sample - Phase II	02/20/2001
23b-021099	Barium, Total	1.3	0.20		Groundwater Sample - Phase II	12/08/2000
12a-021098	Barium, Total	0.95	0.20		Groundwater Sample - Phase II	11/03/2000
02d-021488	Barium, Total	0.6	0.20		Groundwater Sample - Phase II	02/19/2001
05a-021111	Barium, Total	0.56	0.20	I	Groundwater Sample - Phase II	12/05/2000
10a-021504	Barium, Total	0.52	0.20		Groundwater Sample - Phase II	02/27/2001
12b-021560	Barium, Total	0.48	0.20		Groundwater Sample - Phase II	06/04/2001
12b-021637	Barium, Total	0.46	0.10		Groundwater Sample - Phase II	01/03/2002

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
22b-021500	Barium, Total	0.45	0.20		Groundwater Sample - Phase II	02/26/2001
23b-021105	Barium, Total	0.41	0.20		Groundwater Sample - Phase II	11/30/2000
05a-021546	Barium, Total	0.4	0.20		Groundwater Sample - Phase II	04/19/2001
02a-021113	Barium, Total	0.36	0.20		Groundwater Sample - Phase II	11/10/2000
12a-021547	Barium, Total	0.35	0.20		Groundwater Sample - Phase II	04/19/2001
23b-021091	Barium, Total	0.35	0.20		Groundwater Sample - Phase II	11/01/2000
22b-021495	Barium, Total	0.35	0.20		Groundwater Sample - Phase II	02/21/2001
12b-021174	Barium, Total	0.34	0.20	J	Groundwater Sample - Phase II	11/21/2000
10a-021146	Barium, Total	0.32	0.20	J	Groundwater Sample - Phase II	11/17/2000
12b-021636	Barium, Total	0.32	0.10		Groundwater Sample - Phase II	01/03/2002
23b-021511	Barium, Total	0.27	0.20		Groundwater Sample - Phase II	03/01/2001
20a-021093	Barium, Total	0.25	0.20		Groundwater Sample - Phase II	11/01/2000
08a-021109	Barium, Total	0.22	0.20		Groundwater Sample - Phase II	11/29/2000
10a-021175	Barium, Total	0.21	0.20	J	Groundwater Sample - Phase II	11/27/2000
23b-021509	Barium, Total	0.2	0.20		Groundwater Sample - Phase II	02/28/2001
25a-021244	Beryllium, Total	0.18	0.10		Groundwater Sample - Phase II	12/07/2000
23b-021099	Beryllium, Total	0.16	0.10		Groundwater Sample - Phase II	12/08/2000
23b-021105	Beryllium, Total	0.12	0.10		Groundwater Sample - Phase II	11/30/2000
12b-021637	Beryllium, Total	0.1	0.10	J	Groundwater Sample - Phase II	01/03/2002
12b-021636	Beryllium, Total	0.1	0.10	J	Groundwater Sample - Phase II	01/03/2002
12b-021571	Boron, Total	304	2.1		Groundwater Sample - Phase II	06/12/2001
01a-021142	Boron, Total	49.2	2.7		Groundwater Sample - Phase II	11/15/2000
12b-021179	Boron, Total	10.3	2.7		Groundwater Sample - Phase II	12/01/2000
10a-021477	Boron, Total	10.2	2.1		Groundwater Sample - Phase II	02/14/2001
12b-021560	Boron, Total	9.5	2.1		Groundwater Sample - Phase II	06/04/2001
23b-021101	Boron, Total	8.2	2.7		Groundwater Sample - Phase II	12/04/2000
09a-021297	Boron, Total	7.4	2.7		Groundwater Sample - Phase II	11/28/2000
01a-021118	Boron, Total	7.4	2.7		Groundwater Sample - Phase II	11/08/2000
23b-021103	Boron, Total	6.1	2.7		Groundwater Sample - Phase II	11/08/2000
22b-021120	Boron, Total	5.8	2.7		Groundwater Sample - Phase II	11/21/2000
23b-021105	Boron, Total	5.4	2.7		Groundwater Sample - Phase II	11/30/2000
10a-021504	Boron, Total	5.1	2.1		Groundwater Sample - Phase II	02/27/2001
06a-021470	Boron, Total	5	2.1		Groundwater Sample - Phase II	02/13/2001
12b-021578	Boron, Total	4.3	2.1		Groundwater Sample - Phase II	06/18/2001
23b-021509	Boron, Total	4.2	2.1		Groundwater Sample - Phase II	02/28/2001
23b-021511	Boron, Total	4.2	2.1		Groundwater Sample - Phase II	03/01/2001
02a-021113	Boron, Total	4.1	2.7		Groundwater Sample - Phase II	11/10/2000
02d-021488	Boron, Total	4.1	2.1		Groundwater Sample - Phase II	02/19/2001
20a-021093	Boron, Total	3.8	2.7		Groundwater Sample - Phase II	11/01/2000
08a-021109	Boron, Total	3.8	2.7		Groundwater Sample - Phase II	11/29/2000
23b-021484	Boron, Total	3.6	2.1		Groundwater Sample - Phase II	02/15/2001
09a-021461	Boron, Total	3.6	2.1		Groundwater Sample - Phase II	02/13/2001
12b-021126	Boron, Total	3.4	2.7		Groundwater Sample - Phase II	11/07/2000
12b-021124	Boron, Total	3.4	2.7		Groundwater Sample - Phase II	11/06/2000
05a-021111	Boron, Total	3.3	2.7		Groundwater Sample - Phase II	12/05/2000
02d-021116	Boron, Total	3.1	2.7		Groundwater Sample - Phase II	11/17/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
12b-021560	Cadmium, Total	0.3	0.30	J	Groundwater Sample - Phase II	06/04/2001
23b-021099	Cadmium, Total	0.3	0.30		Groundwater Sample - Phase II	12/08/2000
12b-021571	Calcium, Total	212000	8.1		Groundwater Sample - Phase II	06/12/2001
01a-021142	Calcium, Total	34200	19.2		Groundwater Sample - Phase II	11/15/2000
09a-021297	Calcium, Total	542	19.2		Groundwater Sample - Phase II	11/28/2000
12a-021129	Calcium, Total	276	19.2		Groundwater Sample - Phase II	11/08/2000
23b-021484	Calcium, Total	177	11.4		Groundwater Sample - Phase II	02/15/2001
02d-021488	Calcium, Total	174	11.4		Groundwater Sample - Phase II	02/19/2001
20a-021094	Calcium, Total	165	19.2		Groundwater Sample - Phase II	11/02/2000
12b-021136	Calcium, Total	154	19.2		Groundwater Sample - Phase II	11/13/2000
05a-021111	Calcium, Total	117	19.2		Groundwater Sample - Phase II	12/05/2000
23b-021099	Calcium, Total	106	19.2		Groundwater Sample - Phase II	12/08/2000
23b-021492	Calcium, Total	96.1	11.4		Groundwater Sample - Phase II	02/20/2001
12b-021179	Calcium, Total	94	19.2		Groundwater Sample - Phase II	12/01/2000
12b-021124	Calcium, Total	92.3	19.2		Groundwater Sample - Phase II	11/06/2000
12b-021560	Calcium, Total	87.6	8.1		Groundwater Sample - Phase II	06/04/2001
12a-021526	Calcium, Total	86.7	11.4		Groundwater Sample - Phase II	03/14/2001
12b-021586	Calcium, Total	83.5	8.1		Groundwater Sample - Phase II	07/09/2001
20a-021131	Calcium, Total	82.7	19.2		Groundwater Sample - Phase II	11/09/2000
23b-021515	Calcium, Total	82.5	11.4		Groundwater Sample - Phase II	03/13/2001
12b-021306	Calcium, Total	73.8	19.2		Groundwater Sample - Phase II	12/21/2000
23b-021091	Calcium, Total	64.5	19.2		Groundwater Sample - Phase II	11/01/2000
10a-021504	Calcium, Total	63.9	11.4		Groundwater Sample - Phase II	02/27/2001
23b-021511	Calcium, Total	61.5	11.4		Groundwater Sample - Phase II	03/01/2001
23b-021509	Calcium, Total	59.3	11.4		Groundwater Sample - Phase II	02/28/2001
12b-021578	Calcium, Total	58.2	8.1		Groundwater Sample - Phase II	06/18/2001
19a-021144	Calcium, Total	57.3	19.2		Groundwater Sample - Phase II	11/16/2000
12b-021126	Calcium, Total	55.7	19.2		Groundwater Sample - Phase II	11/07/2000
20a-021093	Calcium, Total	52.1	19.2		Groundwater Sample - Phase II	11/01/2000
22b-021500	Calcium, Total	50.9	11.4		Groundwater Sample - Phase II	02/26/2001
10a-021467	Calcium, Total	48.6	19.2		Groundwater Sample - Phase II	11/14/2000
22b-021495	Calcium, Total	47.7	11.4		Groundwater Sample - Phase II	02/21/2001
22b-021089	Calcium, Total	39.8	19.2		Groundwater Sample - Phase II	11/01/2000
10a-021140	Calcium, Total	36.3	19.2		Groundwater Sample - Phase II	11/15/2000
10a-021589	Calcium, Total	36.3	8.1		Groundwater Sample - Phase II	07/12/2001
12b-021614	Calcium, Total	36.2	7.8	J	Groundwater Sample - Phase II	08/15/2001
12b-021174	Calcium, Total	32.5	19.2		Groundwater Sample - Phase II	11/21/2000
12b-021616	Calcium, Total	30	7.8	J	Groundwater Sample - Phase II	08/16/2001
10a-021146	Calcium, Total	28.2	19.2		Groundwater Sample - Phase II	11/17/2000
12b-021637	Calcium, Total	27.6	8.9		Groundwater Sample - Phase II	01/03/2002
10a-021175	Calcium, Total	27.6	19.2		Groundwater Sample - Phase II	11/27/2000
12b-021636	Calcium, Total	25.5	8.9		Groundwater Sample - Phase II	01/03/2002
23b-021101	Calcium, Total	20.6	19.2		Groundwater Sample - Phase II	12/04/2000
12a-021098	Calcium, Total	20.1	19.2		Groundwater Sample - Phase II	11/03/2000
12b-021606	Calcium, Total	9.5	7.8	J	Groundwater Sample - Phase II	08/14/2001

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
12b-021637	Chromium VI	0.02	0.020	J	Groundwater Sample - Phase II	01/03/2002
12b-021636	Chromium VI	0.02	0.020	J	Groundwater Sample - Phase II	01/03/2002
23b-021492	Chromium, Total	8.1	0.70		Groundwater Sample - Phase II	02/20/2001
20a-021094	Chromium, Total	6.2	0.60		Groundwater Sample - Phase II	11/02/2000
02d-021488	Chromium, Total	3.4	0.70		Groundwater Sample - Phase II	02/19/2001
10a-021452	Chromium, Total	2.9	0.60		Groundwater Sample - Phase II	02/07/2001
06a-021470	Chromium, Total	2.9	0.70		Groundwater Sample - Phase II	02/13/2001
12a-021129	Chromium, Total	2.7	0.60		Groundwater Sample - Phase II	11/08/2000
23b-021484	Chromium, Total	2.6	0.70		Groundwater Sample - Phase II	02/15/2001
10a-021477	Chromium, Total	2.5	0.70		Groundwater Sample - Phase II	02/14/2001
23b-021099	Chromium, Total	2.5	0.60		Groundwater Sample - Phase II	12/08/2000
09a-021461	Chromium, Total	1.7	0.70		Groundwater Sample - Phase II	02/13/2001
12b-021586	Chromium, Total	1.6	0.90		Groundwater Sample - Phase II	07/09/2001
22b-021495	Chromium, Total	1.5	0.70		Groundwater Sample - Phase II	02/21/2001
09a-021297	Chromium, Total	0.9	0.60		Groundwater Sample - Phase II	11/28/2000
22b-021500	Chromium, Total	0.85	0.70		Groundwater Sample - Phase II	02/26/2001
10a-021504	Chromium, Total	0.81	0.70		Groundwater Sample - Phase II	02/27/2001
01a-021118	Chromium, Total	0.77	0.60		Groundwater Sample - Phase II	11/08/2000
25a-021244	Chromium, Total	0.69	0.60		Groundwater Sample - Phase II	12/07/2000
12b-021586	Cobalt, Total	5.5	0.80		Groundwater Sample - Phase II	07/09/2001
06e-021460	Cobalt, Total	1.3	0.70		Groundwater Sample - Phase II	02/12/2001
12a-021526	Cobalt, Total	1.1	0.70		Groundwater Sample - Phase II	03/14/2001
05a-021546	Cobalt, Total	1	0.80		Groundwater Sample - Phase II	04/19/2001
01a-021142	Copper, Total	30.1	0.90		Groundwater Sample - Phase II	11/15/2000
22b-021089	Copper, Total	3.6	0.90		Groundwater Sample - Phase II	11/01/2000
09a-021450	Copper, Total	2.1	0.60		Groundwater Sample - Phase II	02/08/2001
12a-021526	Copper, Total	1.8	0.60		Groundwater Sample - Phase II	03/14/2001
12a-021098	Copper, Total	1.4	0.90		Groundwater Sample - Phase II	11/03/2000
23b-021091	Copper, Total	1.1	0.90		Groundwater Sample - Phase II	11/01/2000
23b-021511	Copper, Total	1.1	0.60		Groundwater Sample - Phase II	03/01/2001
02d-021488	Copper, Total	1.1	0.60		Groundwater Sample - Phase II	02/19/2001
23b-021509	Copper, Total	0.93	0.60		Groundwater Sample - Phase II	02/28/2001
23b-021492	Copper, Total	0.86	0.60		Groundwater Sample - Phase II	02/20/2001
22b-021500	Copper, Total	0.84	0.60		Groundwater Sample - Phase II	02/26/2001
10a-021504	Copper, Total	0.61	0.60		Groundwater Sample - Phase II	02/27/2001
12b-021571	Iron, Total	2160	15.7		Groundwater Sample - Phase II	06/12/2001
01a-021142	Iron, Total	1400	21.8		Groundwater Sample - Phase II	11/15/2000
09a-021297	Iron, Total	1160	21.8		Groundwater Sample - Phase II	11/28/2000
01a-021118	Iron, Total	228	21.8		Groundwater Sample - Phase II	11/08/2000
08a-021109	Iron, Total	187	21.8		Groundwater Sample - Phase II	11/29/2000
23b-021091	Iron, Total	172	21.8		Groundwater Sample - Phase II	11/01/2000
10a-021467	Iron, Total	109	21.8		Groundwater Sample - Phase II	11/14/2000
23b-021099	Iron, Total	103	21.8		Groundwater Sample - Phase II	12/08/2000
12a-021129	Iron, Total	92.7	21.8		Groundwater Sample - Phase II	11/08/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
22b-021089	Iron, Total	68.6	21.8		Groundwater Sample - Phase II	11/01/2000
23b-021492	Iron, Total	68.5	17.4		Groundwater Sample - Phase II	02/20/2001
23b-021105	Iron, Total	66.2	21.8		Groundwater Sample - Phase II	11/30/2000
09a-021450	Iron, Total	60.2	17.4		Groundwater Sample - Phase II	02/08/2001
20a-021094	Iron, Total	59.8	21.8		Groundwater Sample - Phase II	11/02/2000
10a-021477	Iron, Total	46.3	17.4		Groundwater Sample - Phase II	02/14/2001
12b-021136	Iron, Total	41.3	21.8		Groundwater Sample - Phase II	11/13/2000
05a-021111	Iron, Total	35.4	21.8		Groundwater Sample - Phase II	12/05/2000
23b-021484	Iron, Total	31.7	17.4		Groundwater Sample - Phase II	02/15/2001
02d-021488	Iron, Total	29.4	17.4		Groundwater Sample - Phase II	02/19/2001
12a-021098	Iron, Total	26.4	21.8		Groundwater Sample - Phase II	11/03/2000
12b-021578	Iron, Total	25.2	15.7	J	Groundwater Sample - Phase II	06/18/2001
12b-021124	Iron, Total	25.1	21.8		Groundwater Sample - Phase II	11/06/2000
12a-021526	Iron, Total	24.9	17.4		Groundwater Sample - Phase II	03/14/2001
12b-021586	Iron, Total	23.1	15.7		Groundwater Sample - Phase II	07/09/2001
23b-021511	Iron, Total	23.1	17.4		Groundwater Sample - Phase II	03/01/2001
20a-021131	Iron, Total	22.8	21.8		Groundwater Sample - Phase II	11/09/2000
10a-021140	Iron, Total	21.9	21.8		Groundwater Sample - Phase II	11/15/2000
06a-021470	Iron, Total	19.1	17.4		Groundwater Sample - Phase II	02/13/2001
12a-021098	Lead, Total	2.6	2.1		Groundwater Sample - Phase II	11/03/2000
10a-021140	Lead, Total	2.6	2.1		Groundwater Sample - Phase II	11/15/2000
12b-021571	Lithium, Total	2200	0.20		Groundwater Sample - Phase II	06/12/2001
01a-021142	Lithium, Total	2.8	0.20		Groundwater Sample - Phase II	11/15/2000
23b-021484	Lithium, Total	1	0.20	J	Groundwater Sample - Phase II	02/15/2001
12b-021179	Lithium, Total	0.94	0.20		Groundwater Sample - Phase II	12/01/2000
09a-021297	Lithium, Total	0.9	0.20		Groundwater Sample - Phase II	11/28/2000
12b-021124	Lithium, Total	0.82	0.20		Groundwater Sample - Phase II	11/06/2000
23b-021101	Lithium, Total	0.76	0.20		Groundwater Sample - Phase II	12/04/2000
12b-021126	Lithium, Total	0.61	0.20		Groundwater Sample - Phase II	11/07/2000
05a-021111	Lithium, Total	0.58	0.20		Groundwater Sample - Phase II	12/05/2000
12a-021129	Lithium, Total	0.48	0.20		Groundwater Sample - Phase II	11/08/2000
12b-021136	Lithium, Total	0.47	0.20		Groundwater Sample - Phase II	11/13/2000
19a-021144	Lithium, Total	0.46	0.20		Groundwater Sample - Phase II	11/16/2000
10a-021140	Lithium, Total	0.45	0.20		Groundwater Sample - Phase II	11/15/2000
10a-021452	Lithium, Total	0.43	0.20	J	Groundwater Sample - Phase II	02/07/2001
10a-021467	Lithium, Total	0.41	0.20		Groundwater Sample - Phase II	11/14/2000
20a-021093	Lithium, Total	0.35	0.20		Groundwater Sample - Phase II	11/01/2000
20a-021131	Lithium, Total	0.35	0.20		Groundwater Sample - Phase II	11/09/2000
23b-021099	Lithium, Total	0.31	0.20		Groundwater Sample - Phase II	12/08/2000
23b-021103	Lithium, Total	0.3	0.20		Groundwater Sample - Phase II	11/08/2000
25a-021244	Lithium, Total	0.27	0.20		Groundwater Sample - Phase II	12/07/2000
01a-021118	Lithium, Total	0.23	0.20		Groundwater Sample - Phase II	11/08/2000
12b-021606	Lithium, Total	0.22	0.10	J	Groundwater Sample - Phase II	08/14/2001
02a-021113	Lithium, Total	0.21	0.20		Groundwater Sample - Phase II	11/10/2000
12b-021571	Magnesium, Total	11500	8.8		Groundwater Sample - Phase II	06/12/2001

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
01a-021142	Magnesium, Total	7580	6.7		Groundwater Sample - Phase II	11/15/2000
12b-021136	Magnesium, Total	83.9	6.7		Groundwater Sample - Phase II	11/13/2000
09a-021297	Magnesium, Total	83.9	6.7		Groundwater Sample - Phase II	11/28/2000
23b-021099	Magnesium, Total	72.3	6.7		Groundwater Sample - Phase II	12/08/2000
23b-021484	Magnesium, Total	59.5	5.9		Groundwater Sample - Phase II	02/15/2001
23b-021492	Magnesium, Total	39	5.9		Groundwater Sample - Phase II	02/20/2001
12b-021637	Magnesium, Total	39	4.1		Groundwater Sample - Phase II	01/03/2002
02d-021488	Magnesium, Total	34.2	5.9		Groundwater Sample - Phase II	02/19/2001
20a-021094	Magnesium, Total	32.9	6.7		Groundwater Sample - Phase II	11/02/2000
12a-021129	Magnesium, Total	31.5	6.7		Groundwater Sample - Phase II	11/08/2000
12b-021560	Magnesium, Total	27.3	8.8		Groundwater Sample - Phase II	06/04/2001
10a-021146	Magnesium, Total	21.9	6.7		Groundwater Sample - Phase II	11/17/2000
12b-021578	Magnesium, Total	20.9	8.8		Groundwater Sample - Phase II	06/18/2001
12b-021614	Magnesium, Total	18.7	8.0		Groundwater Sample - Phase II	08/15/2001
12b-021124	Magnesium, Total	18.2	6.7		Groundwater Sample - Phase II	11/06/2000
12b-021616	Magnesium, Total	17.6	8.0		Groundwater Sample - Phase II	08/16/2001
10a-021140	Magnesium, Total	16.8	6.7		Groundwater Sample - Phase II	11/15/2000
20a-021131	Magnesium, Total	16.6	6.7		Groundwater Sample - Phase II	11/09/2000
12a-021526	Magnesium, Total	15.9	5.9		Groundwater Sample - Phase II	03/14/2001
02d-021116	Magnesium, Total	15	6.7		Groundwater Sample - Phase II	11/17/2000
19a-021144	Magnesium, Total	14.9	6.7		Groundwater Sample - Phase II	11/16/2000
23b-021105	Magnesium, Total	14.2	6.7		Groundwater Sample - Phase II	11/30/2000
23b-021509	Magnesium, Total	13.6	5.9		Groundwater Sample - Phase II	02/28/2001
12b-021126	Magnesium, Total	12.4	6.7		Groundwater Sample - Phase II	11/07/2000
08a-021109	Magnesium, Total	12.3	6.7		Groundwater Sample - Phase II	11/29/2000
12b-021636	Magnesium, Total	12	4.1		Groundwater Sample - Phase II	01/03/2002
23b-021515	Magnesium, Total	11.5	5.9		Groundwater Sample - Phase II	03/13/2001
10a-021467	Magnesium, Total	11.3	6.7		Groundwater Sample - Phase II	11/14/2000
12b-021306	Magnesium, Total	10.9	6.7		Groundwater Sample - Phase II	12/21/2000
22b-021495	Magnesium, Total	10.6	5.9		Groundwater Sample - Phase II	02/21/2001
10a-021504	Magnesium, Total	10.2	5.9		Groundwater Sample - Phase II	02/27/2001
22b-021500	Magnesium, Total	10.1	5.9		Groundwater Sample - Phase II	02/26/2001
22b-021120	Magnesium, Total	8.7	6.7		Groundwater Sample - Phase II	11/21/2000
12b-021174	Magnesium, Total	8.4	6.7		Groundwater Sample - Phase II	11/21/2000
10a-021175	Magnesium, Total	8.4	6.7		Groundwater Sample - Phase II	11/27/2000
23b-021511	Magnesium, Total	7.6	5.9		Groundwater Sample - Phase II	03/01/2001
02a-021113	Magnesium, Total	7.3	6.7		Groundwater Sample - Phase II	11/10/2000
12b-021571	Manganese, Total	690	0.10		Groundwater Sample - Phase II	06/12/2001
01a-021142	Manganese, Total	52.3	0.20		Groundwater Sample - Phase II	11/15/2000
09a-021297	Manganese, Total	36	0.20		Groundwater Sample - Phase II	11/28/2000
12a-021129	Manganese, Total	22.7	0.20		Groundwater Sample - Phase II	11/08/2000
09a-021450	Manganese, Total	11.7	0.20		Groundwater Sample - Phase II	02/08/2001
02d-021488	Manganese, Total	10.7	0.20		Groundwater Sample - Phase II	02/19/2001
06e-021460	Manganese, Total	5.9	0.20		Groundwater Sample - Phase II	02/12/2001
10a-021477	Manganese, Total	3.6	0.20		Groundwater Sample - Phase II	02/14/2001
23b-021091	Manganese, Total	3.2	0.20		Groundwater Sample - Phase II	11/01/2000
01a-021118	Manganese, Total	3.1	0.20		Groundwater Sample - Phase II	11/08/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
23b-021099	Manganese, Total	2.7	0.20		Groundwater Sample - Phase II	12/08/2000
08a-021109	Manganese, Total	2.6	0.20		Groundwater Sample - Phase II	11/29/2000
23b-021484	Manganese, Total	2.6	0.20		Groundwater Sample - Phase II	02/15/2001
10a-021467	Manganese, Total	2.3	0.20		Groundwater Sample - Phase II	11/14/2000
12b-021578	Manganese, Total	2.2	0.10		Groundwater Sample - Phase II	06/18/2001
10a-021452	Manganese, Total	1.9	0.20		Groundwater Sample - Phase II	02/07/2001
22b-021495	Manganese, Total	1.8	0.20		Groundwater Sample - Phase II	02/21/2001
12b-021126	Manganese, Total	1.7	0.20		Groundwater Sample - Phase II	11/07/2000
20a-021131	Manganese, Total	1.4	0.20		Groundwater Sample - Phase II	11/09/2000
05a-021111	Manganese, Total	1.3	0.20		Groundwater Sample - Phase II	12/05/2000
12b-021136	Manganese, Total	1.2	0.20		Groundwater Sample - Phase II	11/13/2000
23b-021492	Manganese, Total	1.1	0.20		Groundwater Sample - Phase II	02/20/2001
23b-021105	Manganese, Total	0.87	0.20		Groundwater Sample - Phase II	11/30/2000
23b-021511	Manganese, Total	0.82	0.20		Groundwater Sample - Phase II	03/01/2001
20a-021093	Manganese, Total	0.67	0.20		Groundwater Sample - Phase II	11/01/2000
12b-021179	Manganese, Total	0.64	0.20		Groundwater Sample - Phase II	12/01/2000
22b-021500	Manganese, Total	0.61	0.20		Groundwater Sample - Phase II	02/26/2001
20a-021094	Manganese, Total	0.61	0.20		Groundwater Sample - Phase II	11/02/2000
22b-021089	Manganese, Total	0.6	0.20		Groundwater Sample - Phase II	11/01/2000
10a-021140	Manganese, Total	0.51	0.20		Groundwater Sample - Phase II	11/15/2000
12b-021124	Manganese, Total	0.44	0.20		Groundwater Sample - Phase II	11/06/2000
10a-021504	Manganese, Total	0.39	0.20		Groundwater Sample - Phase II	02/27/2001
23b-021509	Manganese, Total	0.37	0.20		Groundwater Sample - Phase II	02/28/2001
12b-021306	Manganese, Total	0.36	0.20		Groundwater Sample - Phase II	12/21/2000
19a-021144	Manganese, Total	0.33	0.20		Groundwater Sample - Phase II	11/16/2000
12a-021098	Manganese, Total	0.31	0.20		Groundwater Sample - Phase II	11/03/2000
23b-021103	Manganese, Total	0.31	0.20		Groundwater Sample - Phase II	11/08/2000
25a-021244	Mercury, Total	0.16	0.10		Groundwater Sample - Phase II	12/07/2000
23b-021492	Nickel, Total	5.7	1.1		Groundwater Sample - Phase II	02/20/2001
12b-021586	Nickel, Total	2.8	1.2		Groundwater Sample - Phase II	07/09/2001
10a-021453	Nickel, Total	2.7	1.1		Groundwater Sample - Phase II	02/08/2001
12b-021126	Nickel, Total	2.7	0.90		Groundwater Sample - Phase II	11/07/2000
09a-021450	Nickel, Total	2.7	1.1		Groundwater Sample - Phase II	02/08/2001
02d-021488	Nickel, Total	2.7	1.1		Groundwater Sample - Phase II	02/19/2001
12a-021526	Nickel, Total	2.5	1.1		Groundwater Sample - Phase II	03/14/2001
22b-021495	Nickel, Total	2	1.1		Groundwater Sample - Phase II	02/21/2001
09a-021297	Nickel, Total	1.8	0.90		Groundwater Sample - Phase II	11/28/2000
01a-021118	Nickel, Total	1.8	0.90		Groundwater Sample - Phase II	11/08/2000
10a-021452	Nickel, Total	1.6	0.90		Groundwater Sample - Phase II	02/07/2001
23b-021515	Nickel, Total	1.3	1.1		Groundwater Sample - Phase II	03/13/2001
12a-021129	Nickel, Total	1.2	0.90		Groundwater Sample - Phase II	11/08/2000
02d-021116	Nickel, Total	1.1	0.90		Groundwater Sample - Phase II	11/17/2000
12b-021571	Potassium, Total	41300	35.3	J	Groundwater Sample - Phase II	06/12/2001
01a-021142	Potassium, Total	2080	303		Groundwater Sample - Phase II	11/15/2000
10a-021140	Potassium, Total	303	303		Groundwater Sample - Phase II	11/15/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
23b-021484	Potassium, Total	35.5	20.9	J	Groundwater Sample - Phase II	02/15/2001
12a-021526	Potassium, Total	33.5	20.9		Groundwater Sample - Phase II	03/14/2001
23b-021509	Potassium, Total	26.6	20.9		Groundwater Sample - Phase II	02/28/2001
10a-021477	Potassium, Total	22.3	20.9	J	Groundwater Sample - Phase II	02/14/2001
12b-021623	Potassium, Total	21.6	10.7	J	Groundwater Sample - Phase II	09/06/2001
09a-021450	Potassium, Total	21.4	20.9	J	Groundwater Sample - Phase II	02/08/2001
12b-021606	Selenium, Total	3.3	3.2		Groundwater Sample - Phase II	08/14/2001
08a-021109	Selenium, Total	3.3	3.3		Groundwater Sample - Phase II	11/29/2000
01a-021118	Selenium, Total	3.3	3.3		Groundwater Sample - Phase II	11/08/2000
12b-021571	Sodium, Total	40600	1.7		Groundwater Sample - Phase II	06/12/2001
01a-021142	Sodium, Total	34900	4.1		Groundwater Sample - Phase II	11/15/2000
12b-021124	Sodium, Total	175	4.1		Groundwater Sample - Phase II	11/06/2000
23b-021484	Sodium, Total	148	2.6		Groundwater Sample - Phase II	02/15/2001
12b-021623	Sodium, Total	145	1.6		Groundwater Sample - Phase II	09/06/2001
10a-021477	Sodium, Total	106	2.6		Groundwater Sample - Phase II	02/14/2001
02d-021488	Sodium, Total	95.7	2.6		Groundwater Sample - Phase II	02/19/2001
09a-021297	Sodium, Total	91.3	4.1		Groundwater Sample - Phase II	11/28/2000
12b-021136	Sodium, Total	91	4.1		Groundwater Sample - Phase II	11/13/2000
12b-021616	Sodium, Total	86.4	1.6	J	Groundwater Sample - Phase II	08/16/2001
22b-021495	Sodium, Total	79.9	2.6		Groundwater Sample - Phase II	02/21/2001
12b-021126	Sodium, Total	78.1	4.1		Groundwater Sample - Phase II	11/07/2000
06a-021470	Sodium, Total	77.1	2.6		Groundwater Sample - Phase II	02/13/2001
20a-021093	Sodium, Total	75.5	4.1		Groundwater Sample - Phase II	11/01/2000
23b-021492	Sodium, Total	73.2	2.6		Groundwater Sample - Phase II	02/20/2001
20a-021131	Sodium, Total	71.8	4.1		Groundwater Sample - Phase II	11/09/2000
05a-021111	Sodium, Total	62.9	4.1		Groundwater Sample - Phase II	12/05/2000
10a-021589	Sodium, Total	62	1.7	J	Groundwater Sample - Phase II	07/12/2001
12a-021526	Sodium, Total	58.1	2.6		Groundwater Sample - Phase II	03/14/2001
12a-021129	Sodium, Total	57.5	4.1		Groundwater Sample - Phase II	11/08/2000
20a-021094	Sodium, Total	53.7	4.1		Groundwater Sample - Phase II	11/02/2000
10a-021467	Sodium, Total	52.6	4.1		Groundwater Sample - Phase II	11/14/2000
12b-021586	Sodium, Total	51.1	1.7	J	Groundwater Sample - Phase II	07/09/2001
23b-021515	Sodium, Total	49.8	2.6		Groundwater Sample - Phase II	03/13/2001
22b-021089	Sodium, Total	49.5	4.1		Groundwater Sample - Phase II	11/01/2000
09a-021461	Sodium, Total	43.7	2.6		Groundwater Sample - Phase II	02/13/2001
12b-021560	Sodium, Total	42.9	1.7		Groundwater Sample - Phase II	06/04/2001
10a-021140	Sodium, Total	42.4	4.1		Groundwater Sample - Phase II	11/15/2000
19a-021144	Sodium, Total	41	4.1		Groundwater Sample - Phase II	11/16/2000
12b-021637	Sodium, Total	35.4	35.4		Groundwater Sample - Phase II	01/03/2002
12b-021306	Sodium, Total	35	4.1		Groundwater Sample - Phase II	12/21/2000
12b-021595	Sodium, Total	34.1	1.7	J	Groundwater Sample - Phase II	07/19/2001
12a-021098	Sodium, Total	31.9	4.1		Groundwater Sample - Phase II	11/03/2000
12b-021578	Sodium, Total	23.9	1.7		Groundwater Sample - Phase II	06/18/2001
23b-021091	Sodium, Total	17.1	4.1		Groundwater Sample - Phase II	11/01/2000
10a-021175	Sodium, Total	6.9	4.1		Groundwater Sample - Phase II	11/27/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
10a-021140	Thallium, Total	4.5	4.0		Groundwater Sample - Phase II	11/15/2000
10a-021453	Thallium, Total	4.4	3.0		Groundwater Sample - Phase II	02/08/2001
01a-021142	Thallium, Total	4	4.0		Groundwater Sample - Phase II	11/15/2000
23b-021484	Thallium, Total	3.1	3.0		Groundwater Sample - Phase II	02/15/2001
22b-021495	Thallium, Total	3	3.0		Groundwater Sample - Phase II	02/21/2001
12a-021526	Vanadium, Total	1.1	0.60		Groundwater Sample - Phase II	03/14/2001
06e-021460	Vanadium, Total	0.85	0.60		Groundwater Sample - Phase II	02/12/2001
12b-021571	Vanadium, Total	0.71	0.70	J	Groundwater Sample - Phase II	06/12/2001
10a-021175	Zinc, Total	25.7	0.40		Groundwater Sample - Phase II	11/27/2000
12b-021578	Zinc, Total	11.3	0.30		Groundwater Sample - Phase II	06/18/2001
12b-021586	Zinc, Total	11	0.30		Groundwater Sample - Phase II	07/09/2001
10a-021140	Zinc, Total	8.9	0.40	J	Groundwater Sample - Phase II	11/15/2000
12b-021560	Zinc, Total	7.9	0.30		Groundwater Sample - Phase II	06/04/2001
10a-021467	Zinc, Total	5.8	0.40	J	Groundwater Sample - Phase II	11/14/2000
23b-021103	Zinc, Total	5.8	0.40		Groundwater Sample - Phase II	11/08/2000
23b-021511	Zinc, Total	5.2	0.50		Groundwater Sample - Phase II	03/01/2001
19a-021144	Zinc, Total	5.1	0.40	J	Groundwater Sample - Phase II	11/16/2000
23b-021515	Zinc, Total	4.7	0.50		Groundwater Sample - Phase II	03/13/2001
12a-021526	Zinc, Total	4.5	0.50		Groundwater Sample - Phase II	03/14/2001
12b-021637	Zinc, Total	2.5	0.30		Groundwater Sample - Phase II	01/03/2002
20a-021131	Zinc, Total	2.4	0.40	J	Groundwater Sample - Phase II	11/09/2000
12b-021136	Zinc, Total	2.4	0.40	J	Groundwater Sample - Phase II	11/13/2000
12b-021306	Zinc, Total	1.2	0.40		Groundwater Sample - Phase II	12/21/2000
25a-021244	Zinc, Total	0.74	0.40		Groundwater Sample - Phase II	12/07/2000
23b-021099	Zinc, Total	0.67	0.40		Groundwater Sample - Phase II	12/08/2000
05a-021546	Zinc, Total	0.62	0.30		Groundwater Sample - Phase II	04/19/2001
23b-020995	Aluminum, Total	83	22.7		Overburden Monitoring Well Soil - Phase II	10/26/2000
22b-021010	Aluminum, Total	26.2	22.7		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020990	Aluminum, Total	22.7	10.6		Overburden Monitoring Well Soil - Phase II	10/23/2000
22b-021010	Barium, Total	180	0.20		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Barium, Total	3.1	0.20		Overburden Monitoring Well Soil - Phase II	10/26/2000
23b-021087	Barium, Total	0.22	0.20		Overburden Monitoring Well Soil - Phase II	10/31/2000
22b-021010	Boron, Total	56.3	2.7	J	Overburden Monitoring Well Soil - Phase II	10/31/2000
17a-021568	Boron, Total	8.3	2.1		Overburden Monitoring Well Soil - Phase II	06/12/2001
09A-021107	Boron, Total	6	2.7		Overburden Monitoring Well Soil - Phase II	11/22/2000
23b-020991	Boron, Total	5.6	2.1		Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020995	Boron, Total	5.5	2.7		Overburden Monitoring Well Soil - Phase II	10/26/2000
23b-020990	Boron, Total	3	2.1		Overburden Monitoring Well Soil - Phase II	10/23/2000
23a-020934	Boron, Total	2.7	2.1		Overburden Monitoring Well Soil - Phase II	10/24/2000
17a-021566	Boron, Total	2.3	2.1	J	Overburden Monitoring Well Soil - Phase II	06/11/2001
22b-021010	Calcium, Total	74700	19.2		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Calcium, Total	227	19.2		Overburden Monitoring Well Soil - Phase II	10/26/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
23b-020990	Calcium, Total	141	8.9		Overburden Monitoring Well Soil - Phase II	10/23/2000
17a-021566	Calcium, Total	69.5	8.1		Overburden Monitoring Well Soil - Phase II	06/11/2001
23a-020934	Calcium, Total	66.3	8.9		Overburden Monitoring Well Soil - Phase II	10/24/2000
23b-020991	Calcium, Total	44.7	8.9		Overburden Monitoring Well Soil - Phase II	10/23/2000
17a-021568	Calcium, Total	22.8	8.1		Overburden Monitoring Well Soil - Phase II	06/12/2001
23b-020995	Chromium, Total	1.6	0.60		Overburden Monitoring Well Soil - Phase II	10/26/2000
17a-021568	Chromium, Total	1	0.90	J	Overburden Monitoring Well Soil - Phase II	06/12/2001
22b-021010	Copper, Total	2.6	0.90		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Copper, Total	1.1	0.90		Overburden Monitoring Well Soil - Phase II	10/26/2000
17a-021568	Copper, Total	0.72	0.70	J	Overburden Monitoring Well Soil - Phase II	06/12/2001
23b-020995	Iron, Total	419	21.8		Overburden Monitoring Well Soil - Phase II	10/26/2000
22b-021010	Iron, Total	178	21.8		Overburden Monitoring Well Soil - Phase II	10/31/2000
17a-021568	Iron, Total	81.2	15.7		Overburden Monitoring Well Soil - Phase II	06/12/2001
23a-020934	Iron, Total	45.2	16.4		Overburden Monitoring Well Soil - Phase II	10/24/2000
23b-020990	Iron, Total	41.4	16.4		Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020991	Iron, Total	23.5	16.4		Overburden Monitoring Well Soil - Phase II	10/23/2000
17a-021566	Iron, Total	20.1	15.7	J	Overburden Monitoring Well Soil - Phase II	06/11/2001
23b-020995	Lead, Total	6.4	2.1		Overburden Monitoring Well Soil - Phase II	10/26/2000
22b-021010	Lithium, Total	8.5	0.20		Overburden Monitoring Well Soil - Phase II	10/31/2000
22b-021010	Magnesium, Total	21900	6.7		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Magnesium, Total	69	6.7		Overburden Monitoring Well Soil - Phase II	10/26/2000
23b-020991	Magnesium, Total	38.3	7.8		Overburden Monitoring Well Soil - Phase II	10/23/2000
23a-020934	Magnesium, Total	38.1	7.8		Overburden Monitoring Well Soil - Phase II	10/24/2000
23b-020990	Magnesium, Total	35.3	7.8		Overburden Monitoring Well Soil - Phase II	10/23/2000
17a-021566	Magnesium, Total	16.7	8.8	J	Overburden Monitoring Well Soil - Phase II	06/11/2001
09A-021107	Magnesium, Total	12.9	6.7		Overburden Monitoring Well Soil - Phase II	11/22/2000
22b-021010	Manganese, Total	157	0.20		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Manganese, Total	5	0.20		Overburden Monitoring Well Soil - Phase II	10/26/2000
23b-020990	Manganese, Total	0.77	0.20		Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020991	Manganese, Total	0.38	0.20		Overburden Monitoring Well Soil - Phase II	10/23/2000
23a-020934	Manganese, Total	0.25	0.20		Overburden Monitoring Well Soil - Phase II	10/24/2000
22b-021010	Nickel, Total	1.7	0.90		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Nickel, Total	1.1	0.90		Overburden Monitoring Well Soil - Phase II	10/26/2000
23b-020990	Nickel, Total	0.97	1.2		Overburden Monitoring Well Soil - Phase II	10/23/2000
22b-021010	Potassium, Total	2410	40.9		Overburden Monitoring Well Soil - Phase II	10/31/2000
22b-021010	Sodium, Total	35600	4.1		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020990	Sodium, Total	259	3.8		Overburden Monitoring Well Soil - Phase II	10/23/2000
23b-020995	Sodium, Total	79.1	4.1		Overburden Monitoring Well Soil - Phase II	10/26/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
17a-021566	Sodium, Total	76.6	1.7		Overburden Monitoring Well Soil - Phase II	06/11/2001
22b-021010	Vanadium, Total	1.6	0.80		Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020995	Zinc, Total	30.6	0.40	J	Overburden Monitoring Well Soil - Phase II	10/26/2000
22b-021010	Zinc, Total	17.8	0.40	J	Overburden Monitoring Well Soil - Phase II	10/31/2000
23b-020990	Zinc, Total	11.9	0.40	J	Overburden Monitoring Well Soil - Phase II	10/23/2000
17a-021568	Zinc, Total	2	0.30		Overburden Monitoring Well Soil - Phase II	06/12/2001
17a-021566	Zinc, Total	1.9	0.30		Overburden Monitoring Well Soil - Phase II	06/11/2001
25a-021243	Aluminum, Total	25.5	22.7		Sediment Sampling - Phase II	12/07/2000
25a-020937	Barium, Total	3	0.20		Sediment Sampling - Phase II	10/31/2000
24a-020935	Barium, Total	1.8	0.10		Sediment Sampling - Phase II	10/25/2000
22a-020929	Barium, Total	1.1	0.20		Sediment Sampling - Phase II	10/19/2000
25a-021243	Barium, Total	0.45	0.20		Sediment Sampling - Phase II	12/07/2000
25a-021243	Beryllium, Total	0.14	0.10		Sediment Sampling - Phase II	12/07/2000
25a-021243	Boron, Total	8.1	2.7		Sediment Sampling - Phase II	12/07/2000
23a-020932	Boron, Total	4.4	2.1		Sediment Sampling - Phase II	10/23/2000
25a-020937	Boron, Total	3.3	2.7	J	Sediment Sampling - Phase II	10/31/2000
22a-020929	Boron, Total	3.2	2.1	J	Sediment Sampling - Phase II	10/19/2000
24a-020935	Boron, Total	2.9	1.8	J	Sediment Sampling - Phase II	10/25/2000
25a-021243	Cadmium, Total	0.33	0.30		Sediment Sampling - Phase II	12/07/2000
25a-020937	Calcium, Total	184	19.2		Sediment Sampling - Phase II	10/31/2000
22a-020929	Calcium, Total	178	8.9		Sediment Sampling - Phase II	10/19/2000
23a-020936	Calcium, Total	165	19.2		Sediment Sampling - Phase II	10/26/2000
24a-020935	Calcium, Total	75.2	11.9		Sediment Sampling - Phase II	10/25/2000
23a-020932	Calcium, Total	53.6	8.9		Sediment Sampling - Phase II	10/23/2000
22a-020929	Chromium, Total	1.3	0.90	J	Sediment Sampling - Phase II	10/19/2000
25a-021243	Chromium, Total	1.2	0.60		Sediment Sampling - Phase II	12/07/2000
25a-020937	Chromium, Total	0.61	0.60		Sediment Sampling - Phase II	10/31/2000
24a-020935	Copper, Total	3.8	0.80		Sediment Sampling - Phase II	10/25/2000
22a-020929	Copper, Total	1.6	0.80		Sediment Sampling - Phase II	10/19/2000
25a-020937	Copper, Total	1.5	0.90		Sediment Sampling - Phase II	10/31/2000
25a-020937	Iron, Total	378	21.8		Sediment Sampling - Phase II	10/31/2000
24a-020935	Iron, Total	42.6	10.8		Sediment Sampling - Phase II	10/25/2000
23a-020932	Iron, Total	28.8	16.4		Sediment Sampling - Phase II	10/23/2000
24a-020935	Lithium, Total	0.69	0.20		Sediment Sampling - Phase II	10/25/2000
25a-020937	Lithium, Total	0.5	0.20		Sediment Sampling - Phase II	10/31/2000
25a-021243	Lithium, Total	0.44	0.20		Sediment Sampling - Phase II	12/07/2000

Appendix S, Table 4
Summary of Metals in Field/Equipment Blanks

S&W Lab Sample ID	Analysis Name	Result (ug/L)	IDL (ug/L)	Result Qualifier	Program	Collection Date
25a-020937	Magnesium, Total	88	6.7		Sediment Sampling - Phase II	10/31/2000
22a-020929	Magnesium, Total	62.8	7.8		Sediment Sampling - Phase II	10/19/2000
23a-020932	Magnesium, Total	30.4	7.8		Sediment Sampling - Phase II	10/23/2000
23a-020936	Magnesium, Total	29.6	6.7		Sediment Sampling - Phase II	10/26/2000
25a-020937	Manganese, Total	5.9	0.20		Sediment Sampling - Phase II	10/31/2000
22a-020929	Manganese, Total	1.4	0.20		Sediment Sampling - Phase II	10/19/2000
23a-020936	Manganese, Total	0.72	0.20		Sediment Sampling - Phase II	10/26/2000
23a-020932	Manganese, Total	0.35	0.20		Sediment Sampling - Phase II	10/23/2000
23a-020932	Nickel, Total	3	1.2		Sediment Sampling - Phase II	10/23/2000
25a-020937	Nickel, Total	1.1	0.90		Sediment Sampling - Phase II	10/31/2000
22a-020929	Potassium, Total	234	29.9		Sediment Sampling - Phase II	10/19/2000
24a-020935	Potassium, Total	44.7	18.6		Sediment Sampling - Phase II	10/25/2000
22a-020929	Silver, Total	1.3	1.1		Sediment Sampling - Phase II	10/19/2000
23a-020936	Sodium, Total	270	4.1		Sediment Sampling - Phase II	10/26/2000
22a-020929	Sodium, Total	142	3.8		Sediment Sampling - Phase II	10/19/2000
25a-020937	Sodium, Total	81.8	4.1		Sediment Sampling - Phase II	10/31/2000
24a-020935	Sodium, Total	75.1	3.1		Sediment Sampling - Phase II	10/25/2000
25a-021243	Vanadium, Total	1.1	0.80		Sediment Sampling - Phase II	12/07/2000
22a-020929	Zinc, Total	12.1	0.40	J	Sediment Sampling - Phase II	10/19/2000
23a-020936	Zinc, Total	7.8	0.40	J	Sediment Sampling - Phase II	10/26/2000
24a-020935	Zinc, Total	3.7	0.70	J	Sediment Sampling - Phase II	10/25/2000
25a-021243	Zinc, Total	1.5	0.40		Sediment Sampling - Phase II	12/07/2000

Notes:
J = Estimated Concentration

Appendix S, Table 5

Summary of Rejected Radiological Parameters in Water Samples

Property ID	Property Name	Well Type	GWRI Site ID#	Depth of Measure (ft bgs)	Analyte	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Date Collected
12a	NY, Susquehanna, & Western Railway	Bedrock	MW-20D	30'-55'	Gross Alpha	R	33.39	36.34	03/14/2001
09a	149-151 Maywood Avenue	Overburden	OBMW10	5'-15'	Gross Beta	R	396.45	395.85	02/20/2001
12b	100 West Hunter Avenue (MISS)	Bedrock	MW-24DD	80'-105'	Gross Beta	R	13.42	13.62	09/06/2001
08a	23 West Howcroft Road	Geoprobe	08a002	8'-12'	RA-226	R	0.18	0.30	03/30/2000
12b	100 West Hunter Avenue (MISS)	Geoprobe	12b019	3.5'-7.5'	RA-226	R	2.74	0.43	04/24/2000
02b	80 Hancock Street	Geoprobe	02b002	12'-16'	RA-226	R	1.70	2.17	08/22/2001
08a	23 West Howcroft Road	Overburden	B38W12A	7.4'-12.4'	RA-228	R	18.82	33.71	03/28/2000
12b	100 West Hunter Avenue (MISS)	Bedrock	MISS05B	25'-55'	RA-228	R	8.55	15.43	04/03/2000
09a	149-151 Maywood Avenue	Overburden	OBMW11	5'-10'	RA-228	R	0.95	1.09	02/13/2001
02b	80 Hancock Street	Geoprobe	02b002	12'-16'	RA-228	R	6.34	6.94	08/22/2001
12b	100 West Hunter Avenue (MISS)	Geoprobe	12b019	3.5'-7.5'	RA-228	R	2.11	2.30	04/24/2000
08a	23 West Howcroft Road	Geoprobe	08a002	8'-12'	RA-228	R	1.37	2.51	03/30/2000
06e	29 Essex Street	Geoprobe	06e001	8'-12'	RA-228	R	3.32	5.35	03/28/2000
09a	149-151 Maywood Avenue	Overburden	OBMW11	5'-10'	TH-228	R	0.08	0.65	02/13/2001
10a	100 West Hunter Avenue (Stepan)	Bedrock	B38W06B	15.9'-20.90'	TH-228	R	0.08	0.66	04/28/2000
19a	Parkway	Bedrock	B38W14D	46'-51.5'	TH-228	R	0.04	0.39	11/16/2000
10a	100 West Hunter Avenue (Stepan)	Overburden	WELL 5	5'-12'	TH-228	R	0.07	0.54	02/08/2001
06a	85-101 NJ Rt. 17 North	Bedrock	BRMW8	32'-42'	TH-228	R	0.07	0.56	02/13/2001
12b	100 West Hunter Avenue (MISS)	Geoprobe	12b010	13.5'-17.5'	TH-228	R	3.54	2.99	04/06/2000
12b	100 West Hunter Avenue (MISS)	Bedrock	MW-24D	45'-70'	TH-228	R	2.21	5.58	09/06/2001
10a	100 West Hunter Avenue (Stepan)	Bedrock	BRMW17	25'-35'	TH-228	R	0.07	0.57	02/06/2001
12b	100 West Hunter Avenue (MISS)	Bedrock	MW-24D	45'-70'	TH-230	R	3.54	4.43	09/06/2001
12b	100 West Hunter Avenue (MISS)	Geoprobe	12b010	13.5'-17.5'	TH-230	R	2.12	2.19	04/06/2000
24a	Saddle River		SR-2	0"-6"	TH-232	R	0.05	0.40	10/25/2000
12b	100 West Hunter Avenue (MISS)	Geoprobe	12bGWR010	13.5'-17.5'	TH-232	R	2.31	2.19	04/06/2000
23b	Westerly Brook Drainage Basin	Bedrock	MW-8D	27'-52'	TH-232	R	0.05	0.47	03/01/2001
23b	Westerly Brook Drainage Basin	Bedrock	MW-19DD	51'-76'	TH-232	R	0.11	0.80	03/01/2001
06e	29 Essex Street	Overburden	OBMW12	5'-15'	TH-232	R	0.09	0.67	02/12/2001
12b	100 West Hunter Avenue (MISS)	Bedrock	MW-24D	45'-70'	TH-232	R	2.86	5.23	09/06/2001
10a	100 West Hunter Avenue (Stepan)	Overburden	WELL 2	9'-19'	U-234	R	2.01	2.44	02/14/2001
12a	NY, Susquehanna, & Western Railway	Overburden	MW-20S	5'-15'	U-234	R	3.20	1.76	03/15/2001
12b	100 West Hunter Avenue (MISS)	Bedrock	BRPZ-7	84'-109'	U-234	R	1.42	0.54	06/04/2001

Appendix S, Table 5

Summary of Rejected Radiological Parameters in Water Samples

Property ID	Property Name	Well Type	GWRI Site ID#	Depth of Measure (ft bgs)	Analyte	Validator Qualifier	Measurement Error (pCi/L)	MDA (pCi/L)	Date Collected
07a	111 Essex Street	Geoprobe	07a003	11.5'-15.5'	U-235	R	0.20	0 14	11/30/2000
10a	100 West Hunter Avenue (Stepan)	Overburden	OBMW19	8.1'-15.40'	U-235	R	0.09	0.74	02/06/2001
13a	Transect H & I	Geoprobe	13a002	10'-14'	U-235	R	0.07	0.57	12/04/2000
10a	100 West Hunter Avenue (Stepan)	Overburden	OBMW18	6'-11'	U-235	R	0.07	0.65	02/12/2001
12b	100 West Hunter Avenue (MISS)	Geoprobe	12b020	14'-18'	U-235	R	0.22	0.17	12/01/2000
12a	NY, Susquehanna, & Western Railway	Overburden	MW-20S	5'-15'	U-235	R	0.63	1.44	03/15/2001
10a	100 West Hunter Avenue (Stepan)	Overburden	WELL 2	9'-19'	U-235	R	0.00	1.10	02/14/2001
10a	100 West Hunter Avenue (Stepan)	Bedrock	B38W07B	18.5'-28.8'	U-235	R	0.37	0.35	11/07/2000
10a	100 West Hunter Avenue (Stepan)	Overburden	WELL 2	9'-19'	U-238	R	2.55	2.15	02/14/2001
12a	NY, Susquehanna, & Western Railway	Overburden	MW-20S	5'-15'	U-238	R	2.95	1.64	03/15/2001

Notes:

pCi/L = picocuries per liter

Appendix S, Table 6

Summary of Rejected Chemical Parameters in Soil/Sediment and Water Samples

S&W Lab Sample ID	PropertyID	Property Name	Parameters	Parameter Type	Result Qualifier	Unit of Measure	Collection Date
02c-020510	02c	80 Industrial Road	Antimony, Total	Metals	R	mg/Kg	03/15/2000
02d-020512	02d	8 Mill Street	Antimony, Total	Metals	R	mg/Kg	03/15/2000
02d-020514	02d	8 Mill Street	Antimony, Total	Metals	R	mg/Kg	03/16/2000
05a-020526	05a	99 Essex Street	Antimony, Total	Metals	R	mg/Kg	03/22/2000
18a-020705	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/26/2000
18a-020696	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/26/2000
18a-020709	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/27/2000
18a-020697	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/26/2000
18a-020700	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/26/2000
18a-020704	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/26/2000
12b-020655	12b	100 West Hunter Avenue (MISS)	Boron, Total	Metals	R	mg/Kg	04/24/2000
12b-020654	12b	100 West Hunter Avenue (MISS)	Boron, Total	Metals	R	mg/Kg	04/24/2000
12b-020651	12b	100 West Hunter Avenue (MISS)	Boron, Total	Metals	R	mg/Kg	04/24/2000
12b-020650	12b	100 West Hunter Avenue (MISS)	Boron, Total	Metals	R	mg/Kg	04/24/2000
12b-020610	12b	100 West Hunter Avenue (MISS)	Boron, Total	Metals	R	mg/Kg	04/27/2000
18a-020708	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/27/2000
18a-020701	18a	Transect J	Boron, Total	Metals	R	mg/Kg	04/26/2000
23a-020909	23a	Westerly Brook	Cobalt, Total	Metals	R	mg/Kg	10/24/2000
23a-020901	23a	Westerly Brook	Copper, Total	Metals	R	mg/Kg	10/23/2000
22a-020887	22a	Lodi Brook	Copper, Total	Metals	R	mg/Kg	10/23/2000
22a-020889	22a	Lodi Brook	Copper, Total	Metals	R	mg/Kg	10/19/2000
22a-020895	22a	Lodi Brook	Copper, Total	Metals	R	mg/Kg	10/19/2000
22a-020897	22a	Lodi Brook	Copper, Total	Metals	R	mg/Kg	10/19/2000
22a-020899	22a	Lodi Brook	Copper, Total	Metals	R	mg/Kg	10/19/2000
23a-020905	23a	Westerly Brook	Copper, Total	Metals	R	mg/Kg	10/23/2000
23b-020956	23b	Westerly Brook Drainage Basin	Copper, Total	Metals	R	mg/Kg	10/26/2000
23a-020903	23a	Westerly Brook	Copper, Total	Metals	R	mg/Kg	10/23/2000
23b-020952	23b	Westerly Brook Drainage Basin	Copper, Total	Metals	R	mg/Kg	10/23/2000
07a-021581	07a	111 Essex Street	1,1-Dichloroethene	VOC	R	ug/Kg	06/26/2001
12b-020834	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/18/2000
12b-020819	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/17/2000
12b-020820	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/17/2000
12b-020822	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/17/2000

Appendix S, Table 6

Summary of Rejected Chemical Parameters in Soil/Sediment and Water Samples

S&W Lab Sample ID	PropertyID	Property Name	Parameters	Parameter Type	Result Qualifier	Unit of Measure	Collection Date
12b-020823	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/17/2000
12b-020826	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/17/2000
12b-020831	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/18/2000
12b-020831	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/18/2000
12b-020838	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/18/2000
12b-020837	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/18/2000
12b-020835	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/18/2000
12b-020827	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/Kg	08/17/2000
02a-020504	02a	100 Hancock Street	2,2'-oxybis(1-Chloropropane)	VOC	R	ug/Kg	
08a-020772	08a	23 West Howcroft Road	2,2'-oxybis(1-Chloropropane)	VOC	R	ug/Kg	
09a-020558	09a	149-151 Maywood Avenue	2,2'-oxybis(1-Chloropropane)	VOC	R	ug/Kg	
10a-020781	10a	100 West Hunter Avenue (Stepan)	2,2'-oxybis(1-Chloropropane)	VOC	R	ug/Kg	
07a-021581	07a	111 Essex Street	Benzene	VOC	R	ug/Kg	06/26/2001
07a-021581	07a	111 Essex Street	Chlorobenzene	VOC	R	ug/Kg	06/26/2001
12b-020830	12b	100 West Hunter Avenue (MISS)	Chloroform	VOC	R	ug/Kg	08/18/2000
07a-021581	07a	111 Essex Street	Toluene	VOC	R	ug/Kg	06/26/2001
07a-021581	07a	111 Essex Street	Trichloroethene	VOC	R	ug/Kg	06/26/2001
12b-021562	12b	100 West Hunter Avenue (MISS)	Aluminum, Total	Metals	R	ug/L	06/04/2001
12b-020732	12b	100 West Hunter Avenue (MISS)	Barium, Total	Metals	R	ug/L	04/10/2000
10a-021045	10a	100 West Hunter Avenue (Stepan)	Silver, Total	Metals	R	ug/L	11/27/2000
10a-021029	10a	100 West Hunter Avenue (Stepan)	Silver, Total	Metals	R	ug/L	11/29/2000
10a-021028	10a	100 West Hunter Avenue (Stepan)	Silver, Total	Metals	R	ug/L	11/17/2000
10a-021027	10a	100 West Hunter Avenue (Stepan)	Silver, Total	Metals	R	ug/L	11/17/2000
12b-021172	12b	100 West Hunter Avenue (MISS)	Silver, Total	Metals	R	ug/L	11/21/2000
10a-021044	10a	100 West Hunter Avenue (Stepan)	Silver, Total	Metals	R	ug/L	11/27/2000
12b-021556	12b	100 West Hunter Avenue (MISS)	Silver, Total	Metals	R	ug/L	05/29/2001
12b-021014	12b	100 West Hunter Avenue (MISS)	Silver, Total	Metals	R	ug/L	11/21/2000
12b-021013	12b	100 West Hunter Avenue (MISS)	Silver, Total	Metals	R	ug/L	11/21/2000

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Summary of Rejected Chemical Parameters in Soil/Sediment and Water Samples

S&W Lab Sample ID	PropertyID	Property Name	Parameters	Parameter Type	Result Qualifier	Unit of Measure	Collection Date
12b-021556	12b	100 West Hunter Avenue (MISS)	1,2-Dichloroethane	VOC	R	ug/L	05/29/2001
12a-021085	12a	NY, Susquehanna, & Western Railway	2-Butanone	VOC	R	ug/L	03/15/2001
12a-021543	12a	NY, Susquehanna, & Western Railway	2-Butanone	VOC	R	ug/L	04/19/2001
12b-021022	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	11/27/2000
23b-021059	23b	Westerly Brook Drainage Basin	2-Butanone	VOC	R	ug/L	02/28/2001
23b-021058	23b	Westerly Brook Drainage Basin	2-Butanone	VOC	R	ug/L	02/28/2001
12b-021014	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	11/21/2000
23b-021510	23b	Westerly Brook Drainage Basin	2-Butanone	VOC	R	ug/L	03/01/2001
22b-021063	22b	Lodi Brook Drainage Basin	2-Butanone	VOC	R	ug/L	03/13/2001
12b-021013	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	11/21/2000
23b-021054	23b	Westerly Brook Drainage Basin	2-Butanone	VOC	R	ug/L	03/12/2001
10a-021027	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/17/2000
23b-021083	23b	Westerly Brook Drainage Basin	2-Butanone	VOC	R	ug/L	02/28/2001
05a-021541	05a	99 Essex Street	2-Butanone	VOC	R	ug/L	04/19/2001
05a-021542	05a	99 Essex Street	2-Butanone	VOC	R	ug/L	04/19/2001
23b-021060	23b	Westerly Brook Drainage Basin	2-Butanone	VOC	R	ug/L	03/01/2001
08a-021069	08a	23 West Howcroft Road	2-Butanone	VOC	R	ug/L	03/13/2001
10a-021015	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/15/2000
10a-021016	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/13/2000
10a-021044	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/27/2000
10a-021026	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/16/2000
12a-021051	12a	NY, Susquehanna, & Western Railway	2-Butanone	VOC	R	ug/L	03/15/2001
10a-021028	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/17/2000
10a-021029	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/29/2000
10a-021042	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/15/2000
12a-021086	12a	NY, Susquehanna, & Western Railway	2-Butanone	VOC	R	ug/L	03/14/2001
10a-021043	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/15/2000
12b-021022	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	03/12/2001
10a-021045	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/27/2000
10A-021611	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	08/16/2001
10a-021018	10a	100 West Hunter Avenue (Stepan)	2-Butanone	VOC	R	ug/L	11/14/2000
22b-021062	22b	Lodi Brook Drainage Basin	2-Butanone	VOC	R	ug/L	03/19/2001
12b-021641	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	01/03/2002
12b-021597	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	07/19/2001
12b-021639	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	01/03/2002
12b-021603	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	07/24/2001

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Summary of Rejected Chemical Parameters in Soil/Sediment and Water Samples

S&W Lab Sample ID	PropertyID	Property Name	Parameters	Parameter Type	Result Qualifier	Unit of Measure	Collection Date
12b-021602	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	07/24/2001
12b-021632	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	01/02/2002
12b-021642	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	01/03/2002
12b-021596	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	07/19/2001
12b-021627	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	12/13/2001
17a-021604	17a	Transect G	2-Butanone	VOC	R	ug/L	07/24/2001
12b-021601	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	07/24/2001
12b-021626	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	12/14/2001
12b-021622	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	09/06/2001
12b-021583	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	06/28/2001
12b-021607	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	08/14/2001
12b-021133	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	11/13/2000
12b-021621	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	09/06/2001
19a-021033	19a	Parkway	2-Butanone	VOC	R	ug/L	11/16/2000
12b-021610	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	08/15/2001
12b-021608	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	08/14/2001
19a-021034	19a	Parkway	2-Butanone	VOC	R	ug/L	11/16/2000
12b-021172	12b	100 West Hunter Avenue (MISS)	2-Butanone	VOC	R	ug/L	11/21/2000
12b-021621	12b	100 West Hunter Avenue (MISS)	2-Hexanone	VOC	R	ug/L	09/06/2001
12b-021622	12b	100 West Hunter Avenue (MISS)	2-Hexanone	VOC	R	ug/L	09/06/2001
12b-021610	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	08/15/2001
10a-021015	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/15/2000
10a-021044	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/27/2000
10a-021016	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/13/2000
10a-021018	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/14/2000
10a-021026	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/16/2000
10a-021043	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/15/2000
12b-021627	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	12/13/2001
10a-021027	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/17/2000
10a-021042	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/15/2000
09a-021412	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/08/2001
10a-021028	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/17/2000
10a-021029	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/29/2000
12b-021632	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	01/02/2002
22b-021063	22b	Lodi Brook Drainage Basin	Acetone	VOC	R	ug/L	03/13/2001
23b-021510	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	03/01/2001

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Summary of Rejected Chemical Parameters in Soil/Sediment and Water Samples

S&W Lab Sample ID	PropertyID	Property Name	Parameters	Parameter Type	Result Qualifier	Unit of Measure	Collection Date
23b-021083	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/28/2001
23b-021061	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	03/01/2001
19a-021034	19a	Parkway	Acetone	VOC	R	ug/L	11/16/2000
06a-021416	06a	85-101 NJ Rt. 17 North	Acetone	VOC	R	ug/L	02/13/2001
06b-021405	06b	137 NJ Rt. 17 North	Acetone	VOC	R	ug/L	02/15/2001
06b-021405	06b	137 NJ Rt. 17 North	Acetone	VOC	R	ug/L	02/15/2001
06e-021417	06e	29 Essex Street	Acetone	VOC	R	ug/L	02/08/2001
06e-021422	06e	29 Essex Street	Acetone	VOC	R	ug/L	02/12/2001
20a-021035	20a	Grove	Acetone	VOC	R	ug/L	11/09/2000
09a-021420	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/13/2001
22b-021062	22b	Lodi Brook Drainage Basin	Acetone	VOC	R	ug/L	03/19/2001
09a-021424	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/07/2001
07a-021591	07a	111 Essex Street	Acetone	VOC	R	ug/L	07/11/2001
08a-021068	08a	23 West Howcroft Road	Acetone	VOC	R	ug/L	02/22/2001
08a-021069	08a	23 West Howcroft Road	Acetone	VOC	R	ug/L	03/13/2001
17a-021604	17a	Transect G	Acetone	VOC	R	ug/L	07/24/2001
09a-021066	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/12/2001
09a-021400	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/08/2001
09a-021401	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/07/2001
09a-021401	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/07/2001
10a-021403	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/06/2001
09a-021418	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/20/2001
09a-021421	09a	149-151 Maywood Avenue	Acetone	VOC	R	ug/L	02/13/2001
20a-021036	20a	Grove	Acetone	VOC	R	ug/L	11/09/2000
23b-021058	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/28/2001
22b-021065	22b	Lodi Brook Drainage Basin	Acetone	VOC	R	ug/L	02/21/2001
12b-021022	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	11/27/2000
19a-021033	19a	Parkway	Acetone	VOC	R	ug/L	11/16/2000
10a-021045	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	11/27/2000
12b-021172	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	11/21/2000
12b-021603	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	07/24/2001
12b-021014	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	11/21/2000
12b-021013	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	11/21/2000
12b-021583	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	06/28/2001
22b-021064	22b	Lodi Brook Drainage Basin	Acetone	VOC	R	ug/L	02/26/2001
12b-021601	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	07/24/2001
23b-021059	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/28/2001

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Summary of Rejected Chemical Parameters in Soil/Sediment and Water Samples

S&W Lab Sample ID	PropertyID	Property Name	Parameters	Parameter Type	Result Qualifier	Unit of Measure	Collection Date
12a-021085	12a	NY, Susquehanna, & Western Railway	Acetone	VOC	R	ug/L	03/15/2001
12b-021596	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	07/19/2001
23b-021057	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/21/2001
23b-021056	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/21/2001
23b-021055	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/15/2001
12b-021585	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	07/09/2001
23b-021053	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/20/2001
12b-021584	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	07/09/2001
23b-021052	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/20/2001
23b-021048	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/21/2001
23b-021047	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	02/26/2001
12b-021597	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	07/19/2001
10a-021436	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/14/2001
12a-021086	12a	NY, Susquehanna, & Western Railway	Acetone	VOC	R	ug/L	03/14/2001
10a-021403	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/06/2001
12b-021039	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	11/13/2000
10a-021404	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/05/2001
10a-021404	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/05/2001
10a-021419	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/14/2001
10a-021428	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/07/2001
10a-021429	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/07/2001
10a-021431	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/06/2001
10a-021432	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/07/2001
12b-021133	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	11/13/2000
10a-021435	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/08/2001
23b-021060	23b	Westerly Brook Drainage Basin	Acetone	VOC	R	ug/L	03/01/2001
10a-021438	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/12/2001
10a-021439	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/06/2001
10a-021463	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/12/2001
10a-021464	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/22/2001
10a-021505	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/27/2001
10a-021590	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	07/12/2001
10a-021592	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	07/12/2001
10A-021611	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	08/16/2001
12a-021051	12a	NY, Susquehanna, & Western Railway	Acetone	VOC	R	ug/L	03/15/2001
12b-021602	12b	100 West Hunter Avenue (MISS)	Acetone	VOC	R	ug/L	07/24/2001
10a-021433	10a	100 West Hunter Avenue (Stepan)	Acetone	VOC	R	ug/L	02/20/2001

Appendix S, Table 6

Summary of Rejected Chemical Parameters in Soil/Sediment and Water Samples

S&W Lab Sample ID	PropertyID	Property Name	Parameters	Parameter Type	Result Qualifier	Unit of Measure	Collection Date
12b-020641	12b	100 West Hunter Avenue (MISS)	Benzene	VOC	R	ug/L	04/24/2000
12b-021556	12b	100 West Hunter Avenue (MISS)	Bromomethane	VOC	R	ug/L	05/29/2001
12b-020641	12b	100 West Hunter Avenue (MISS)	Chlorobenzene	VOC	R	ug/L	04/24/2000
12b-021556	12b	100 West Hunter Avenue (MISS)	Chloroethane	VOC	R	ug/L	05/29/2001
12b-020641	12b	100 West Hunter Avenue (MISS)	Ethylbenzene	VOC	R	ug/L	04/24/2000
09a-021426	09a	149-151 Maywood Avenue	Methylene Chloride	VOC	R	ug/L	02/12/2001
09a-021427	09a	149-151 Maywood Avenue	Methylene Chloride	VOC	R	ug/L	02/12/2001
12b-020641	12b	100 West Hunter Avenue (MISS)	Styrene	VOC	R	ug/L	04/24/2000
12b-020641	12b	100 West Hunter Avenue (MISS)	Toluene	VOC	R	ug/L	04/24/2000
12b-020641	12b	100 West Hunter Avenue (MISS)	Total Xylene	VOC	R	ug/L	04/24/2000

Notes:
mg/Kg = milligrams per kilogram
ug/Kg = micrograms per kilogram
ug/L = micrograms per liter

Groundwater Remedial Investigation Report
Appendix S: Quality Control Summary Report

New York District
Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:
Stone & Webster, Inc.
100 West Hunter Ave.
Maywood, New Jersey 07607

for:
US Army Corps of Engineers - Kansas City District
Formerly Utilized Sites Remedial Action Program
Contract No. DACW41-99-D-9001

US Army Corps of Engineers®

April 2003, Revision 0

APPENDIX S
QUALITY CONTROL SUMMARY REPORT

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Quality Control Summary Report for the
Groundwater Remedial Investigation Report

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT NO. DACW41-99-D-9001

TASK ORDER 0001
WAD 05, WBS 10

Submitted to:

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza
New York, New York 10278

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
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Submitted by:

Stone & Webster, Inc.
100 West Hunter Avenue
Maywood, New Jersey 07607

April 2003
Revision 0

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QUALITY CONTROL SUMMARY REPORT FOR THE GROUNDWATER REMEDIAL INVESTIGATION REPORT

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT NO. DACW41-99-D-9001
TASK ORDER 0001
WAD 05, WBS 10

Submitted to:

Department of the Army
U.S. Army Engineer District, New York
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Submitted by:

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April 2003
Revision 0

Prepared by: _____ Date: _____

Brian Tucker
Project Chemist

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ATTACHMENTS

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Attachment B*	Data Validation Reports for the Chemical Sample Results
Attachment C	Chemical Parameter QC Exceedances
Attachment D	Nonconformance Report
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Attachment F*	GWRI Data Package Reports

Note: *Due to their size, Attachments A, B, and F are presented electronically on CD-ROM.

ACRONYMS AND ABBREVIATIONS

Am-241	Americium-241
Ba-133	Barium-133
Cs-137	Cesium 137
Co-60	Cobalt-60
COC	Chain of Custody
CDQMP	Chemical Data Quality Management Plan
CRI	Low-level standard check for the Inductively Coupled Plasma test method
EML	Environmental Measurements Laboratory
FMSS	FUSRAP Maywood Superfund Site
FUSRAP	Formerly Utilized Sites Remedial Action Program
GA/GB	gross alpha / gross beta
GWRI	Groundwater Remedial Investigation
J	Estimated value
LCS	Laboratory Control Sample
MBAS	Methylene Blue Activated Substances
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
MISS	Maywood Interim Storage Site
ml	milliliter
NAD	Normalized Absolute Difference
PCB	polychlorinated biphenyls
pCi	pico Curies
PDI	Pre-Design Investigation
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QCSR	Quality Control Summary Report
Ra-226	radium-226
Ra-228	radium-228
REE	rare earth element
RPD	Relative Percent Difference
RRF	Relative Response Factor
SDG	Sample Delivery Group
SEC	Safety and Ecology Corporation
SVOA	semi-volatile organics analysis
TAL	Target Analyte List
TCL	Target Compound List
Th-230	throrium-230
Th-232	thorium-232
U	Undetected
U-234	uranium-234
U-235	uranium-235
U-238	uranium-238

USACE	U.S. Army Corps of Engineers
VOC	Volatile Organic Compound
%D	Response Factor Percent Difference
%R	Percent Recovery

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1.0 INTRODUCTION

Stone & Webster, Inc. (Stone & Webster) conducted a Groundwater Remedial Investigation (GWRI) of commercial and government properties at the Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (FMSS). The purpose of the investigation is to augment information collected during the Historical Site Assessment, when historical data is insufficient to provide for decisions as to radiological and chemical status. A list of the properties that were investigated, along with their description, are provided in the Introduction of the Draft *Groundwater Remedial Investigation Report* (November 2002).

This *GWRI Quality Control Summary Report* (QCSR) addresses data from analysis of groundwater samples collected from March 2000 to February 2002. Traditionally, there is a project QCSR that is prepared at the end of the project. Such a report will be prepared at the conclusion of the project. The *GWRI QCSR* will support the preparation of the project QCSR. For radiological parameters, this report only addresses QC deviations for radium-226 (Ra-226) and radium-228 (Ra-228), uranium isotopes, and gross alpha / gross beta (GA/GB) for aqueous samples, and for Ra-226, thorium-232 (Th-232), and uranium-238 (U-238) for soil samples. For chemical parameters, QC exceedances are summarized in a spreadsheet provided as Attachment C to this QCSR and discussed in Section 6.3.

The QCSR is organized into seven sections as follows:

- Section 1.0, Introduction
- Section 2.0, Data Collection
- Section 3.0, Data Analysis and Validation
- Section 4.0, Data Summaries
- Section 5.0, System Audits
- Section 6.0, Analytical and Quality Assurance (QA) Problems Encountered
- Section 7.0, References

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2.0 DATA COLLECTION

GWRI data collection procedures were evaluated for any deviations / modifications that may have occurred in the areas of sample handling and custody, equipment calibration and maintenance, and analytical methods.

2.1 SAMPLE HANDLING AND CUSTODY

2.1.1 Radiological Analyses

There were no sample handling discrepancies noted by the off-site laboratory. All chains of custodies (COCs) received by the off-site laboratory were properly signed and dated and custody seals were present and intact. Internal custodies were maintained for all batches. The following exceptions are noted:

- For Sample Delivery Groups (SDGs) 00-10251, 00-10252, 00-11033, 00-11034, 00-11145, 00-12015, 01-02095, and 01-02146, the following problems were noted:
  1. Missing the "relinquished by" signature, or the laboratory "received by" signature
  2. The copier cut off the signatures
  3. Missing sampler signatures
- For SDG 00-04127, radium analyses were not requested on sample 12B-020636.
- For SDG 01-02095, the COC indicates that sample 06E-021416 was collected on February 13, 2001. This sample was collected from property 06A and therefore the sample identification number was incorrect. Stone & Webster contacted the laboratory on March 1, 2001 and requested that the 06E-021416 sample number be changed to 06A-021416. The Form 1 reports of analyses reflect this change. Raw data, sample preservation documents and instrument logs list this sample as 06E-021416.
- The sample time was missing for sample 12b-021562 in package 01-06029.

The sample receipt checklist indicated that the samples were properly preserved and received in good condition with the following exceptions:

- In packages 00-10212 (samples 23a-020991 and 23b-020990), 00-10252 (sample 23b-020996), and 00-04037 (sample 09a-020149) the sample pHs were 7. The lab acidified these samples to a pH of less than 2 at the time of sample receipt.
- Total uranium was the requested analyses for samples in SDG 00-10231, 00-10252, 00-10258, and 00-11034 but the laboratory analyzed them for isotopic uranium by Environmental Measurements Laboratory (EML) method Uranium-02 modified. The isotopic results were summed to obtain total uranium.
- The samplers submitted two samples with the sample ID 09a-021107 in SDG 00-12015. These samples were collected on November 22 and November 28, 2000. The laboratory notified Stone & Webster of this anomaly. The sample collected on November 28, 2000 was assigned the 09a-021297 identification. The COC was not corrected to display this change. The laboratory did not correct the raw data to display this change. The laboratory IDs for 09a-021107 and 09a-021297 were 0012015-08 and 0012015-09 respectively. The laboratory's Reports of Analyses did use the corrected sample identifiers.
- In SDG 01-07056, the sample receipt checklist was incomplete.

In some instances, the field equipment blanks associated with a given soil / sediment sample or group of soil / sediment samples were reported in separate packages than the soil samples themselves. This was the case because the laboratory would batch soil samples and water samples separately. The validator in all cases, however, associated the right equipment blank with the associated field samples in conducting their evaluation.

As per the COCs, the analytes of interest are total uranium, Ra-226, Ra-228, thorium-230 (Th-230), and Th-232 for aqueous samples and Ra-226, Th-232, and U-238 for soil / sediment samples. In the case where equipment blanks were collected for soil / sediment samples, as with 00-11015 and 00-11016, this posed a problem if the COC did not clearly state that these equipment rinseates were to be analyzed for sediment analytes instead of aqueous analytes. If the sediment equipment rinseates were mistakenly analyzed for aqueous parameters, there was effectively no concern because the sediment analytes are a subset of the aqueous analytes. Several batches of aqueous samples were originally analyzed for all isotopes except Ra-228. They were all subsequently reanalyzed for Ra-228.

2.1.2 Chemical Analyses

There were no sample handling discrepancies noted by the off-site laboratory. All chains of custodies (COCs) received by the off-site laboratory were properly signed and dated. The sample receipt checklist indicated that custody seals were present and unbroken. Internal custodies were maintained for all batches. The following exceptions are noted:

- For VOC package 201523, the COC lists a sample as 12b-0216663. The sample was reported as 12b-021663. It appears that an extra digit was added to the COC sample identity.
- For VOC sample 12b-021716 in package 201937, all results are reported as rejected. The sample cooler temperature at the time of laboratory receipt was 15°C. The acceptable temperature range is 2° to 6°C. For Maywood VOC samples, results are rejected if the samples are received at a temperature of greater than 9°C.
- The cooler temperature for the MBAS sample 12b-021551 (package 7001-1285A) was 11.5°C. The sample was analyzed immediately after receipt (the day after sample collection); therefore, no data was qualified.
- In package 0106L939, for elements analysis, the aqueous sample pHs were < 2, except for equipment rinsate blank sample 12b-021560. The laboratory acidified the sample to a $pH < 2$ with HNO_3 and allowed the acidified sample to sit for 16 hours prior to sample preparation. Also within this package, for the wet chemistry analysis, the COC and the cooler receipt forms indicate that the laboratory did not receive unpreserved samples for the anion analyses for samples 12b-021560 and 12b-021562. Therefore, the surfactant sample bottles were used for the anion analyses. Surfactants were not reported for samples 12b-021560 and 12b-021562.
- For package 02L920, volatile samples were qualified estimated J because the cooler temperature was 8°C. The acceptable temperature range is 2° to 6°C. As this is a small temperature deviation, no significant effect to the sample results is expected.
- The hexavalent chromium samples 22B-021063 and 22B-021521(package 03L249), 12A-021547, 12A-021546, 05A-021542, and 05A-021541 (package 04L570), and 10A-021018 and 10A-021038 (package 11L213) were received by the laboratory or prepared by the laboratory slightly out of hold time. The samples were prepared and analyzed within 36 hours of sampling. These sample results were qualified estimated J and are not expected to be affected by this small exceedance.

- For methane package 00-11L120, the hold time for sample 12B-021023 was exceeded by 2 days and the result has been qualified estimated J. Degradation or breakdown of methane is not expected so the result should not be biased.
- In package 11L208, the reanalysis of sample 01A-021118 was outside of hold time by 2 days. The sample was reanalyzed due to surrogate compound recovery outside of QC acceptance criteria. The initial analysis and reanalysis were non-detect for target compounds. The reanalysis results are qualified estimated J.
- In volatile package 11L235, several samples were received at 7°C and were qualified estimated J. The same is true for methane sample 10A-021029 and volatile samples 10A-021029 and 10a021180 in package 11L321.
- For package 12L607, the original COC was rewritten due to discrepancies between the COC and the sample labels.
- In package 12L448, sample 12A-021156 was received with headspace in the sample vial. Samples 12B-021159, -021156, 13A-020658, -020660, and -020661 were received with a pH greater than 2 (the case narrative reports pH 7) and samples were not analyzed within 7 days. Results for these samples were qualified estimated J.
- In package 05L153, all sample extraction and analyses holding time requirements were met for the samples, except for the method 8270C re-extracted equipment blank, 17A-020805RE, which was extracted on May 18, 2000, 17 days past the sampling date. It is recommended to estimate (UJ) all non-detects in this sample.
- In package 05L192, samples 10A-020781, 02A-020504, 09A-020588, and 08A-020772 were extracted after the holding times. Based upon these gross holding time violations, it is recommended that the semi-volatile organics analysis (SVOA) results, pesticide results, and polychlorinated biphenyl (PCB) results be rejected (R).
- In package 4L030W, due to the pH 7 result for sample 12B-020641 and the analysis date of May 3, 2000, 9 days after collection, it is recommended to reject the non-detects of the aromatic compounds benzene, toluene, chlorobenzene, ethylbenzene, styrene, and xylenes (total).

2.2 EQUIPMENT CALIBRATION AND MAINTENANCE

For the radiological analyses, no initial or continuing calibration information was submitted with the data packages (see Attachment F). Analyst run logs do indicate that the daily calibrations and blank checks were analyzed and all had satisfactory results. All total uranium instrument check standard recoveries were reported in packages 00-10231, 00-10252, 00-10258, 00-11015, 00-11016, and 00-11034 and were all acceptable.

For the chemical analysis, off-site laboratory calibration QC exceedances are described in Section 6.3 of this QCSR and summarized within Attachment C. There were no on-site laboratory or field equipment calibration QC concerns.

2.3 ANALYTICAL METHODS

Three laboratories were employed. The Maywood on-site laboratory analyzed approximately 100 soils for radiological parameters for screening purposes. Eberline Services Laboratory in Oak Ridge, Tennessee, a Subcontractor to Stone & Webster, analyzed groundwater and soil / sediment samples for the radioisotope contaminants of concern primarily using alpha spectroscopy by EPA Methods 903.0 modified for Ra-226, EML method Thorium-01 modified for thorium isotopes, and EML method

Uranium-02 modified for uranium isotopes. Eberline also analyzed about 10 soil samples by gamma spectroscopy to confirm the results obtained by the on-site laboratory. Lionville Laboratories in Lionville, PA analyzed groundwater and soil / sediment samples for possible chemical contamination. Lionville used SW-846 Methods 8260B for TCL volatile organic compounds (VOCs) plus 2-, 3-, and 4-chlorotoluene; 6010B for TAL metals (except mercury) plus lithium and boron, and rare earth elements (REEs); 7470A for mercury; 7196A for hexavalent chromium; and 8015A modified for methane. They also used EPA Methods for Chemical Analysis Method 300 for sulfate, chloride, and fluoride; method 353.2 for nitrate / nitrite; method 365.2 for total phosphate; method 160.1 for total dissolved solids; method 415.1 for dissolved organic carbon; and Standard Methods for the Examination of Water and Wastewater method 5540C for methylene blue activated substances (MBAS). There were no deviations / modifications in analytical methods from those specified in the GWRI Work Plan.

In addition, the deviations are noted in the Nonconformance Report / Corrective Action Request in Attachment C.

2.4 MODIFICATIONS TO THE WORK PLAN

There were no modifications to the radiation measurement techniques described in the *GWRI Work Plan* (GWRIWP).

3.0 DATA ANALYSIS AND VALIDATION

Kestrel Environmental Technologies and Diane Short & Associates, Inc. performed data evaluation of radiological data. They evaluated 100% of the off-site GWRI sample results. Data was evaluated using the USACE's Kansas City and St. Louis District *Radionuclide Data Quality Evaluation Guidance for Alpha and Gamma Spectroscopy*, and CENWK-EC-EF *Data Quality Evaluation Guidance* for chemical results, as presented in the *Chemical Data Quality Management Plan* (CDQMP) *Quality Assurance Project Plan* (QAPP), Appendix F. The data validation reports for the off-site laboratory radiological and chemical sample results are provided as Attachments A and B, respectively. The data packages themselves are presented on CD-ROM as Attachment F to this QCSR. Treatment of outliers was performed as per Section 3.1.3 of the *CDQMP QAPP* (Stone & Webster 2000).

Ten percent (10%) of the samples analyzed by the on-site laboratory, or nine samples, were also analyzed by an off-site laboratory, Thermoretec, now Eberline Services. Each sample was analyzed for the three parameters of interest: Th-232, Ra-226, and U-238. A data comparison was performed using the following equation in accordance with the USACE Kansas City and St. Louis *Radiological Data Evaluation Guidance* (January 2003 revision), which is contained within the FMSS CDQMP (Stone & Webster 2000):

$$\mathrm{N}AD = \frac{\left|Sample - Duplicate\right|}{\sqrt{\left|(\sigma_{Sample})^2 + (\sigma_{Duplicate})^2\right|}}$$

where:

Sample	=	first sample value (on-site lab concentration)
Duplicate	=	second sample value (Eberline concentration)
σ_{Sample}	=	2σ counting uncertainty of the sample
$\sigma_{Duplicate}$	=	2σ counting uncertainty of the duplicate

A table that shows the on-site and off-site laboratory results, as well as the normalized absolute difference (NAD) and the relative percent difference (RPD) between each result pair, is provided within Attachment E. The difference between the concentrations of the radionuclides of concern (ROC) measured in the on-site laboratory versus the concentrations measured at ThermoRetec should be within two standard deviations (95% confidence limit). When the 95% confidence limit is considered, the NAD as defined above should be less than 1.96. If the NAD was greater than 1.96, the RPD was calculated. If the RPD is less than 35%, the data is considered comparable. If 35 < RPD < 65, the data is considered estimated. If the RPD is greater than 65%, use of the data is questionable. Nine (9) of the 27 result pairs had NADs that were greater than 1.96. Of these, five had RPDs that were less than 35%; two had RPDs between 35% and 65%, and so should be considered estimated (one Ra-226 and one Th-232); and two had RPDs greater than 65%, and so should not be used (one Ra-226 and one Th-232). Discrepancies between data sets can be caused by operator-induced variables, or instrumentation-induced variables. Since a total of 23 of the 27 results are considered comparable (i.e., are not qualified), the overall comparability between on-site and off-site results are very good.

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4.0 DATA SUMMARIES

Data summaries for the off-site laboratory radiological and chemical data can be found in several tables within the *Draft Groundwater Remedial Investigation Report*, Volume 2, Section 4.0 Tables (Stone & Webster 2002).

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5.0 SYSTEM AUDITS

The radiological off-site laboratory utilized for testing of GWRI samples, Eberline Services, was audited by Stone & Webster in December, 2001. The MISS on-site laboratory was audited in June 2000 and December 2002. The MISS on-site laboratory June 2000 audit findings, and the Eberline audit findings can be found within the *Pre-Design Investigation Stepan Building Characterization Survey QCSR*, April 2002. The MISS on-site laboratory December 2002 findings are not yet available. Lionville Laboratories has not been audited by Stone & Webster.

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6.0 ANALYTICAL AND QUALITY ASSURANCE / QUALITY CONTROL (QA/QC) PROBLEMS ENCOUNTERED

6.1 OFF-SITE LABORATORY (RADIOLOGICAL)

This Section describes quality assurance / quality control (QA/QC) issues and data qualifications pertaining to blank, lab replicate, and field replicate sample results, as well as sample specific chemical and laboratory control standard (LCS) recoveries, radionuclide quantitation and detection limits, chemical separation specificity, target radionuclide list identification, and holding times. The quality control issues associated with 13 Phase I and 77 Phase II radiological packages were evaluated and summarized. Sample handling and custody, and instrument calibration are discussed in Section 2 of this QCSR.

6.1.1 Blanks

Preparation Blank Contamination

In those packages where there were positive preparation blank results, all preparation blank results were reported as estimated J because the result fell between the 2σ error and the MDA + the 2σ error, except for the following:

- Ra-226 in packages 00-10195, 00-10196, 00-10224, 00-10257, 00-11016, 00-11033, 00-11075, and 00-12027;
- Ra-228 in packages 01-01013, 01-01117, 01-03132, and 01-06029; U-234 in 00-04030, 00-04208, 00-10212, 00-10223, 00-10230, 00-10251, 00-11179, and 01-02057; and U-238 in package 01-08117.

Based upon the preparation blank results, one or more sample results were qualified in all packages, except for packages 00-04037, 00-4080, 00-04184, 00-04208, 00-05075, 00-06124, 00-11012, 00-12107, 00-12123, 01-02062, 01-02174, 01-03001, 01-03099, 01-05161, 01-06117, 01-06121, 01-06146, 01-06223, 01-07056, 01-07098, 01-07111, 01-07122, 01-08081, 01-08088, 01-08095, 01-08115, and 01-09032.

Equipment Blank Contamination

For all aqueous equipment blanks associated with sediment samples, the equipment blank results were converted to pico Curies (pCi) so they could be properly applied to the sediment results using USACE guidance. Unless noted otherwise, **Table 6-1** lists the parameters that were qualified estimated J because the NAD between sample and blank results was less than 2.58.

Table 6-1
Parameters Qualified Estimated J

Data Package	Equipment Blank Sample ID	Package with Equipment Blank	Parameter	Samples Qualified Estimated J
00-04008	12B-020770	00-04008	Ra-226	12B-020738, -020768 and 12B-020741
			U-234 and U-235	
	12B-020785	00-04030	U-238	10A-020723
00-04030	12B-020770	00-04008	Ra-226	08A-020714
			Ra-226 and U-234	08A-020715
	12B-020785	00-04030	Ra-226, U-234, U-238	12A-020735
00-04058	10A-020791	00-04058	Ra-226,	10A-020716, 10A-020717, 10A-020748, and 10A-020721
			U-234	10A-020716, 10A-020717, and 10A-020790
			U-238	10A-020790
00-04080	10A-020791	00-04058	Ra-226, U-234	10A-020725 and 12B-020733
			U-238	12B-020733
00-04127	09A-020794	00-04127	U-234	12B-020736, 09A-020573, 09A-020572, 20A-020746, 20A-020746REP, and 12B-020636
00-10195	22A-020929	00-10196	Th-232	All
			U-234	All
00-10211	23A-020991 and 23A-020990	00-10212	Th-232	23B-020952
	23A-020932	00-10226	Ra-226	22B-020887, 23A-020905, -020907, and -020903
00-10223	23A-020934	00-10224	Ra-226 and U-234	23A-020909 and 23A-020909LREP
00-10230	24A-020935	00-10231	Ra-226	24A-020879, -020879LREP, -020875, -020881, -020928, 020871, and -020873
00-10251	23B-020995	00-10252	Ra-226	23B-020956LREP
	23B-020996		Ra-226 and Th-232	23B-020996
00-10252	23A-020936	00-10252	Th-232	23A-020908 (UJ) [Note 1]
00-10257	22B-021010	00-10258	Ra-226	22B-020998
	25A-020937		Ra-226	25A-020925LREP, 25A-020925, and 25A-020921
00-11012	20A-021093	00-11012	Ra-226	20A-021038 and 20A-021038LREP
			Th-232	20A-021038
00-11015	23B-021091 and 22B-021089	00-11016	Ra-226	22B-020999
00-11033	12A-021098	00-11034	Ra-226	12A-021003 and 12A-021003LREP
00-11075	20A-021094, 12B-021124, 12B-021126, 12A-021129	00-11075	U-238	08A-021032 and 12B-021023
00-11145	20A-021131	00-11145	U-238	20A-021036
	12B-021136		U-238 and U-234	12B-021039 and 10A-021016
	10A-021138		U-234	10A-021018
	01A-021142		U-234	10A-021043
	10A-021140		U-234	10A-021042 and 10A-021015
00-11179	19A-021144	00-11179	Ra-228	19A-021034
	10A-021146		Th-232	10A-021027
	12B-021150		U-238	12B-021011 and -021021

Table 6-1
Parameters Qualified Estimated J

Data Package	Equipment Blank Sample ID	Package with Equipment Blank	Parameter	Samples Qualified Estimated J
	12B-021174		---	---
00-12027	10A-021175	00-12027	---	None
00-12033	02A-021113	00-11145	---	None
	02D-021116	00-11179	---	None
	13A-021191	00-12027	---	None
	05A-021111	01-01013	---	None
	13A-021198	01-01013	---	None
00-12107	23B-021103	00-12015	Ra-226	23B-020958
	01A-021118		---	None
	22B-021120		---	None
	22B-021122		---	None
	09A-021107		---	None
	09A-021297		Ra-226	09A-020970
	08A-021109		Ra-226	08A-021181
	23B-021105		---	None
	12B-021179		Ra-226	12B-021161
	25A-021243	01-01013	---	None
00-12123	23B-021103, 01A-021118, 22B-021120, and 22B-021122	00-12123	---	None
01-01013	25A-021244	01-01013	---	None
01-01026	23B-021099	01-01013	U-234	23B-021007LREP
01-01117 (Ra-228 only)	None	---	---	---
01-01127 (Ra-228 only)	None	---	---	---
01-02057	09A-021444	01-02057	Th-232, U-234	10A-021431
	10A-021446		---	None
01-02062	09A-021441	01-02062	U-234, U-238	10A-021404
	09A-021448		Ra-226, U-234	09A-021401 and 09A-021424
	10A-021452		Ra-226	10A-021432, 10A-021429, and 09A-021428
01-02072	10A-021453	01-02072	Ra-226	10A-021435, 10A-021417, and 10A-021459
	09A-021450		Gross alpha, U-234	09A-021400, 09A-021425, 09A-021412
01-02095	06E-021460	01-02095	U-234	09A-021426, 06E-021422, 06E-021422LREP, 10A-021438
			U-238	09A-021426, 10A-021438, and 09A-021066
01-02095	06A-021470	01-02095	U-238	06A-021416, 09A-021420, and 08A-021413
	09A-021461		Gross beta, U-234	06A-021415
01-02099	09A-021461	01-02095	Gross beta, U-234	10A-021436
	10A-021477	01-02099	U-234	10A-021419
01-02107	09A-021461	01-02095	U-234	06B-021405
	23B-021484	01-02107	Ra-226	22A-021080
			Th-232	23B-021055
			U-234	06B-021406 and 22B-021080

Table 6-1
Parameters Qualified Estimated J

Data Package	Equipment Blank Sample ID	Package with Equipment Blank	Parameter	Samples Qualified Estimated J
			U-238	06B-021406 and 22B-021080
01-02117	09A-021461	01-02095	U-234	02D-021074 and 01A-021076
	02D-021488	01-02117	U-234	22B-021081
01-02136	09A-021461	01-02095	U-234	10A-021418, 23B-021052
	23B-021492	01-02136	U-234, U-238	23B-021053
01-02146	09A-021461	01-02095	Gross beta	22B-021079
			U-234	23B-021497LREP, -021048, -021497, -021496, -021057, 021056, and 22B-021079
	22B-021495	01-02146	U-234	22B-021065
			Ra-228	01A-021077, -021499, and 22B-021065
01-02159	09A-021461	01-02095	Gross beta	10A-021464LREP, 10A-021464
			U-234	10A-021464LREP, 10A-021464, and 22B-021078
01-02167	09A-021461	01-02095	U-234	22B-021064
	22B-021500	01-02167	---	None
01-02174	09A-021461	01-02095	Gross beta	02A-021072LREP and 02A-021072
	10A-021504	01-02174	U-234	02A-021073 and 02A-021506
01-03001	23B-021509	01-03001	---	None
	09A-021461	01-02095	Gross beta, U-234	23B-021058
01-03016	09A-021461	01-02095	U-234	23B-021060 and 23B-021507
01-03016	23B-021511	01-03016	Ra-226, U-234	23B-021510 and 23B-021061
			U-238	23B-021061
01-03040	None	---	---	---
01-03041	None	---	---	---
01-03077	None	---	---	---
01-03086	23B-021515	01-03086	U-234	22B-020163, 08A-021069 and -021518
			U-238	22B-021521, 08A-021069 and -021518
01-03099	12A-021526	01-03099	Ra-226, Ra-228, U-238	12A-021086
01-03111	09A-021461	01-02095	U-234	12A-021051 and 12A-021529
01-03132	None	---	---	---
01-04124	12A-021547	01-04124	---	---
	12A-021546		U-234, U-238	05A-021541
01-05161	12B-021558	01-05161	U-234	12B-021556 and 12B-021557
01-06098	17A-021566	01-06097	U-238	17A-021564LREP and 17A-021564
01-06117	None (GA/GB pkg)	---	---	---
01-06121	None (GA/GB pkg)	---	---	---
01-06146	None (GA/GB pkg)	---	---	---
01-06156	12B-021578	01-06146	---	---
01-06223	None (GA/GB pkg)	---	---	---
01-07033	12B-021586	01-07033	Ra-226, U-238	12B-021584, -021585, and -021588

Table 6-1
Parameters Qualified Estimated J

Data Package	Equipment Blank Sample ID	Package with Equipment Blank	Parameter	Samples Qualified Estimated J
	12B-021578		Ra-226	12B-021575 and -021577
	12B-021571		Ra-226, U-238	12B-021570
			Ra-228	12B-021574
01-07056	12B-021589	01-07056	Note 2	---
01-07092	10A-021504	01-02174	---	---
	22B-021500	01-02167	---	---
	12A-021526	01-03099	---	---
	12A-021546, -021547	01-04124	---	---
01-07098	12B-021595	01-07098	---	---
01-07111	None (GA/GB pkg)	---	---	---
01-07117	None (isotopes pkg)	---	---	---
01-07121	12B-021589	01-07121	Ra-226	12B-021594 and -021590
			Ra-228	12B-021594 and -021592
	12B-021595		Ra-226, U-234, U-238	12B-021596 and -021597
			Ra-228	12B-021597
01-07122	12B-021578	01-07033	---	---
01-08081	12B-021606	01-08081	---	---
01-08088	12B-021614	01-08088	---	---
01-08095	12B-021616	01-08095	---	---
01-08096	12B-021606	01-08096	U-234	12B-021608
	12B-021614		---	---
	12B-021616		Ra-226	12B-021611
01-08115	None	---	---	---
01-08116	None	---	---	---
01-08117	02B-021618	01-08116	---	---
01-09032	12B-021623 (GA/GB)	01-09032	Gross beta	12B-021621 and -021621LREP
01-09033	12Bb-021623 (isotopes)	01-09033	Ra-226	12B-021621, -021622, and -021621LREP

Notes: 1. In package 00-10252, equipment blank 23a-020936 was collected with aqueous sample 23a-020908. Based upon the Th-232 blank result (0.24 ± 0.24), Th-232 is reported estimated non-detect, UJ, for sample 23a-020908.

2. The equipment blank for package 01-07056 is sample 12b-021589. The gross alpha and gross beta results for this sample were qualified UJ and R, respectively based upon the Radionuclide Quantitation and Detection Limit evaluation criterion. No 01-07056 samples were qualified based upon these rinseate blank results.

6.1.2 Sample Specific Chemical Recoveries

The laboratory did not tabulate the radioisotope quantities on a Form 3. The recoveries were presented on the data summary forms. The laboratory acceptance criteria for chemical tracers and gravimetric tracers are 20-110%. However, USACE Radiological Data Evaluation Guidance, Section IV.A.1 states that "Generally, recoveries of 50 to 100% are considered acceptable." Using this guidance, the data validator

and Shaw E&I Project Chemist considered the laboratory acceptance criteria of 20 to 110%, which is almost twice as large as the acceptance range of the USACE acceptance criteria, to be too broad. Therefore, the validator proceeded to follow the USACE guidance to qualify estimated J those recoveries between 20 and 50%. The laboratory uses Barium-133 (Ba-133) as the radiotracer for the Ra-226 analyses. The radiotracer recovery is determined by gamma spectroscopy rather than gravimetric methods. The laboratory uses 100% for tracer recoveries greater than 100%; i.e., results are not corrected for Ba-133 tracer recoveries when the recovery >100%. All radiotracer recoveries were within the laboratory's acceptance criteria in all packages with the following exceptions:

- In package 00-04008, ten U-234, U-235, and U-238 results were qualified either J or UJ due to U-232 tracer recoveries between 20 and 50%; the Ra-226 and Ra-228 results for 01A-020501 and 05A-020527 were qualified J and UJ respectively due to Ba-133 recoveries between 110 and 130%. Also, the Ba-133 chemical tracer recoveries for Ra-226 and Ra-228 were inconsistent for sample 05A-020771. The original recoveries were 62.85% and 131.34% respectively. The laboratory was requested to check these results. The 62.85% recovery was found to be correct. The Ra-228 result, error, and MDA were corrected and reported.
- In package 00-04009, Ra-226 and Ra-228 results for samples 06C-020537 and 09A-020561 are reported as estimated (J) due to Ba-133 recoveries outside of the 50-100% acceptance range, and the uranium isotope results for samples 07A-020545 DUP, 02D-020513, 03A-020519, 09A-020553, 02C-020511, 06B-020535, 06C-020539, 07A-020545, 08A-020551, 08A-020549, 08A-020774, 08A-020773, 09A-020559 06C-020537 and 02A-020503 are reported as estimated (J) or non-detected estimated (UJ) for the same reason.
- In package 00-04030, the uranium isotope results for samples 02D-020515, 09A-020557, 09A-020555, 08A-020714, 02A-020505, 10A-020591, 10A-020593, 10A-020780, 10A-020782, 12B-020785, 12B-020599 and 12B-020601 are reported as estimated (J) or non-detected estimated (UJ). The Ra-228 results for samples 08A-020714 and 12B-020735 are rejected (R). The laboratory did not submit reanalyzed results and the Ba-133 chemical tracer recoveries were <20%.
- In package 00-04058, the uranium isotope results for samples 12B-020603, 12B-020605, and 12B-020670 are reported as estimated (J) or non-detected estimated (UJ) due to low recoveries. The Ra-226 and Ra-228 results for sample 10A-020791 are reported as estimated (J) and non-detected estimated (UJ) respectively, based upon the Ba-133 recovery.
- In package 00-04080, the uranium isotope results for samples 10A-020720, 10A-020725, 12B-020734, 12B-020628, 12B-020624, 12B-020625, 12B-020632, 12B-020633 12B-020732 and 12B-020733 are reported as estimated (J) or non-detected estimated (UJ) due to low U-232 tracer recovery. The Ra-226 and Ra-228 results for sample 12B-020629 are reported as estimated (J) and non-detected estimated (UJ) respectively, due to high Ba-133 tracer results.
- Based upon the chemical tracer recoveries the uranium isotope results for samples 09A-020572 and 09A-020577 are reported as estimated (J) or non-detected estimated (UJ) in package 00-04127 due to low U-232 tracer recovery. The uranium isotope LCS results were rejected due to low U-232 recovery of 15%. No uranium sample results are qualified because the U-234 and U-238 LCS recoveries were 87 and 96%, respectively. Based upon the Ba-133 recoveries, the Ra-226 and Ra-228 results for sample 09A-020577 are reported as estimated (J) and non-detected estimated (UJ), respectively.
- In SDG 00-04184, the uranium isotope results for samples 15A-020675, 09A-020581, 12A-020729, 12A-020728, 15A-020676, 16A-020680, 12B-020640 and 12B-020641 are reported as estimated (J) or non-detected estimated (UJ) based upon the low U-232 tracer recoveries.

Based upon the high Ba-133 recoveries, the Ra-226 and Ra-228 results for samples 09A-020581, 12A-020728, 16A-020680 and 17A-020688 are reported as estimated (J) or non-detected estimated (UJ).

- In SDG 00-04232, the uranium isotope results for samples 12B-020645, 12B-020644, 12B-020649, 12B-020648, 12B-020656, 12B-020652, 16B-020686, 17A-020690, 18A-020702, and 14A-020668 are reported as estimated (J) or non-detected estimated (UJ) based upon the low U-232 tracer recoveries of 20 to 50%. Based upon the high Ba-133 recovery, the Ra-226 and Ra-228 results for sample 18A-020698 are reported as estimated (J).
- In package 00-05066, based upon the low U-232 tracer recoveries, the uranium isotope results for samples 10A-020722, 12B-020611, 17A-020694, 17A-020805 and 17A-020805DUP are reported as estimated (J) or non-detected estimated (UJ). Based upon the Ba-133 recoveries, the Ra-226 and Ra-228 results for samples 10A-020722, 17A-020692, 17A-020694, 17A-020805, and 10A-020722DUP are reported as estimated (J) or non-detected estimated (UJ).
- In package 00-06124, the uranium isotope results for sample 19A-020743 are reported as estimated (J) or non-detected estimated (UJ) based upon the low U-232 chemical tracer recovery. The Ra-226 and Ra-228 results for sample 20A-020744 are reported as estimated (J) based upon the high Ba-133 recovery of 115%.
- The Ba-133 tracer recovery for sample 13A-021165 in package 00-12033 was 5.3%. The sample and sample duplicate were reanalyzed and the recoveries were 89 and 100%, respectively. The reanalyses were reported.
- The Ba-133 recovery for sample 23A-020904 was 121% in package 01-01117. The result was not impacted by the high recovery.
- The Ba-133 recovery for sample 09A-021442 was 8.2% in package 01-02062. The sample was reanalyzed and the recovery was 101%. The reanalyzed result was reported for Ra-226 and Ra-228.
- The U-232 radiotracer recovery for sample 10A-021434 in package 01-02099 was 12.9%. The laboratory did not reanalyze the sample, so the U-238 result was reported as rejected for sample 10A-021434.
- In package 01-03111, the following samples had U-232 recoveries of less than 20%: 12A-021085LREP (19.73%), 12A-021085 (15.78%), and 12A-021534 (15.98%). The laboratory did not reanalyze the samples due to insufficient sample volume, so the uranium isotope results for these samples were qualified rejected (R).
- The Ba-133 recovery for sample 02B-020509 Total in package 01-08116 was 19.77%. No corrective action was taken, so the Ra-226 and Ra-228 results are reported as rejected (R).
- The Th-229 chemical tracer recovery for sample 12B-021621 in package 01-09033 was 8.7%. The thorium isotope results for sample 12B-021621 are reported as rejected (R). The laboratory analyzed this sample as the laboratory replicate sample. Thorium isotope results for 12B-021621 and 12B-021621LREP are statistically the same. Therefore, the laboratory did not reanalyze sample 12B-021621.

In the fourteen packages for which yttrium was used as a tracer (packages 00-04030, 00-04037, 00-04058, 00-04080, 00-04127, 00-04184, 00-04208, 00-04232, 00-05066, 00-05075, 00-06124, 00-12123, 01-01117, and 01-01127), the recoveries were within an acceptable range of 90 to 105%.

6.1.3 Laboratory Control Sample

All LCS recoveries were within the laboratory's acceptance criteria of 80 to 120% except for U-235 in several packages and other isotopes as noted below. Because the U-235 spike concentration was always very near its minimum detectable concentration (MDC) (typically the spike concentration was 2 to 3 times the MDC), no U-235 results were qualified based upon U-235 LCS results. Any qualification actions taken based upon the U-234 or U-238 LCS recoveries were also applied to the U-235 results.

In package 00-04058, the U-234 and U-238 LCS recoveries were 121.33 and 128.63%, respectively. Based upon these recoveries all positive U-234, U-235, and U-238 results are reported as estimated (J) and non-detected results are reported as non-detected estimated (UJ).

In package 00-12015, the U-234 and U-238 LCS recoveries were 127 and 125%, respectively. The LCS control limits are 80 to120%. Based upon the high biased LCS recoveries all positive U-234, U-235 and U-238 results are reported as estimated (J), as noted below.

The U-234 result for samples 23B-021103, 22B-021120, 09A-021107, 08A-021109, 12B-021160, 12B-021185, 12B-021179, 12B-021186, and 12B-021156 are reported as estimated (J).

The U-235 results for samples 22B-021122 and 12B-021186 are reported as estimated (J).

The U-238 results for samples 23B-021105, 12B-021160, 12B-021185, 12B-021186, and 12B-021156 are reported as estimated (J).

In package 01-02057, all LCS recoveries were within the laboratory's acceptance criteria of 80 to 120%, except for Ra-228. The Ra-228 recovery was 70.4%. Ra-228 results may be biased low. All Ra-228 results in 01-02057 were qualified either J, UJ, or R due to the Radionuclide Quantitation and Detection Limits evaluation criterion. No further qualification was applied due to the low Ra-228 LCS recovery.

In package 01-02062, the U-238 LCS recovery was 123%. Positive U-238 results may be biased high. The U-238 results for samples 09A-021441, 10A-021404, 10A-021432, 10A-021429, 09A-021401, and 09A-021424 were qualified estimated J. Since qualification actions based upon U-238 results are applied to U-235 results, the U-235 results for samples 09A-021401 and 09A-021441 were qualified estimated J.

In package 01-02095, the Ra-228 recovery was 76.7%. Ra-228 results may be biased low. Non-detected Ra-228 results are reported as non-detected estimated (UJ) and the positive Ra-228 results are reported as estimated (J) for samples 06E-02142, 09A-021426, and 08A-021413. A low bias is possible.

In package 01-02159, the U-234 LCS recovery was 122%. Positive U-234 results in this batch may be biased high. The positive U-234 results in samples 08A-021068LREP, 10A-021464, and 22B-021078 were qualified estimated J. In package 01-03132, the U-234 LCS recovery was 120.3%. The U-234 results for samples 22B-021062LREP and 22B-021062 were thus qualified estimated J due to the potential for a slight high bias.

In package 01-05161, the U-238 LCS recovery was 122%. The positive U-238 results for samples 12B-021556 and 12B-021557 were thus qualified estimated J and the non-detect result for sample 12B-021558 was qualified estimated non-detect UJ.

In package 01-07056, the gross alpha LCS recovery is 120.2%. All gross alpha results in package 01-07056 were reported as non-detected estimated (UJ) or estimated (J) since positive results may be biased slightly high.

In package 01-07122, the Th-232 LCS recovery was 123%, indicating a slight high bias. Th-232 results were therefore reported non-detected estimated, UJ, in samples 12B-021575LREP and 12B-021575.

In package 01-08117, the Ra-226 samples were reprepped and reanalyzed because the original LCS recovery was 150%. The reanalyzed LCS recovery was 91%. Only the reanalyzed results were reported.

6.1.4 Matrix Spike Sample Results

The laboratory does not routinely analyze matrix spike samples unless specifically requested. Isotopic tracer recoveries were used to evaluate potential matrix interferences. The LCS results were used to evaluate the analytical accuracy and the laboratory and field replicate results were used to evaluate the analytical precision.

6.1.5 Field Replicate

The following field replicate pairs were submitted.

Table 6-2
Field Replicate Pairs Submitted

22A-020889/22A-020891	10A-021026/10A-021143	23B-021048/23B-021497	22A-020890/22A-020892
10A-021045/10A-021177	23B-021496/23B-021057	24A-020875/24A-020928	08A-021182/08A-021181
23B-021060/23B-021507	24A-020876/24A-020927	10A-021430/10A-021459	22B-021063/22B-021521 (GA/GB)
12A-021025/12A-021128	10A-021419/10A-021478	08A-021069/08A-021518 (GA/GB)	12A-021051/12A-021529
12B-021556/12B-021557	12B-021585/12B-021588	12B-021592/12B-021594	02B-020509Total / 02B-021620Total
02B-020509 Dissolved / 02B-021620Dissolved	12B-020738/12B-020768	05A-020527/05A-020771	08A-020549/08A-020774
10A-020721/10A-020790	12B-020789/12B-020625	10A-020719/10A-020793	12B-020799/12B-020656
10A-021592/10A-021594	12B-021639/12B-021640		

All results for field replicate pairs were within the USACE acceptance criteria of within a factor of 4 of each other except for the following:

In package 00-04080, the U-238 results are reported as estimated due to poor field duplicate precision.

In package 00-04232, the validator rejected the Ra-226 and Ra-228 results based upon the field duplicate results for samples 12B-020799 and 12B-020656. The Ra-226 results were 1.43 and 16.73 (NAD of 5.41 and RPD of 168). The Ra-228 results were 1.05 and 13.43 (NAD of 4.88 and RPD of 171).

In package 00-10230, the Ra-226 field replicate results for samples 24A-020875 and 24A-020928, 0.36 and 1.51, respectively, differed by more than a factor of 4. Therefore, the Ra-226 results for samples 24A-020879LREP, 24A-020879, 24A-020875, 24A-020881, 24A-020928, 24A-020871, and 24A-020873 were qualified estimated J due to the field replicate precision. Likewise, in package 00-10231, the Ra-226 field replicate results for samples 24A-020876 and 24A-020927, 0.38 and 2.18, respectively, differed by more than a factor of 4. Therefore, the Ra-226 results for samples 24A-020880LREP, 24A-020880, 24A-020876, 24A-020882, 24A-020927, 24A-020827, 24A-020874 and 24A-020935 were qualified estimated J due to the field replicate precision.

In package 01-02072, the precision of the results for replicate pair 10A-021430 and 10A-021459 were evaluated. The Ra-228 result for 10A-021430 was non-detect, while the Ra-228 for 10A-021459 was

positive at 1.89 pCi/L. USACE guidance specifies that results are not to be qualified based upon field replicate precision alone. Since the other lab QC criteria were met for Ra-228 and the lab replicate NAD was less than 1.96, no Ra-228 results were qualified based upon the field replicate results. Likewise, in package 01-02099, the Ra-228 result for 10A-021419 was reported non-detect estimated (UJ), while the Ra-228 result for its field replicate 10A-021478, was positive at 1.11 pCi/L. Since the other lab QC criteria were met for Ra-228 and the lab replicate NAD was less than 1.96, no Ra-228 results were qualified based upon the field replicate results.

In package 01-03086, the gross beta results for aqueous replicate pair 08A-021069 and 08A-021518 differed by more than a factor of two (10.46 and 4.69, respectively). Since only two out of 14 gross beta replicate pairs exceeded precision acceptance criteria, no data was qualified.

In package 01-05161, the aqueous field replicate pair was samples 12B-021556 and 12B-021557. The U-235 result for 12B-021557 was non-detect, and for 12B-021556 was reported estimated J due to LCS results. The U-235 NAD between the results is 0.69 and the results are both near their respective MDAs, so no U-235 results are qualified due to field replicate precision. The Ra-228 field replicate results were 2.92 and 0.35 U. The NAD is 2.11 and the results differ by more than a factor of 2. The Ra-228 sample result for 12B-021556 is estimated J due to field replicate precision.

In package 01-07121, aqueous sample results for field replicate pair 12B-021592 and 12B-021594 were reported. The NAD between the U-234 results (2.71 and 0.07 pCi/L, respectively) was greater than 1.96, and the results differ by more than a factor of 2. Based upon the U-234 field replicate results and lab replicate results, all U-234 results were reported estimated J for detects and non-detected estimated UJ for non-detects.

In package 01-08115, the dissolved and total fractions for field samples 02B-020509 and 02B-021620 were analyzed as field replicate samples for Gross Alpha and Gross Beta. The total fraction results are summarized below.

Table 6-3
Field Replicate Sample Results for Gross Alpha and Gross Beta

Radionuclide	02B-020509 Total			02B-021620 Total		
	pCi/L	2 sigma error	MDA	pCi/L	2 sigma error	MDA
Gross Alpha	31.55	8.77	7.34	115.59	45.31	41.16
Gross Beta	29.57	5.03	4.47	225.04	35.08	30.27

The NADs for Gross Alpha and Gross Beta replicate results were 1.82 and 5.52. Due to the TSS/TDS results, the sample volumes for 02B-020509 Total and 02B-021620 Total were 80 mL and 10 mL, respectively. Due to the small sample volumes, the Gross Alpha MDA for 02B-021620 exceeds the New Jersey Groundwater Cleanup Criteria of 15 pCi/L. Based upon the field replicate results and the differences in sample volumes caused by the difference in TSS/TDS, the Gross Alpha and Gross Beta results for total samples 02B-020507, 02B-020509 and 02B-021620 were reported as estimated (J). For the dissolved fractions, 02B-020509Dissolved and 02B-021620Dissolved, the NAD for the two Gross beta results is 2.89, and the results differ by more than a factor of 2. Therefore, the gross beta results for dissolved samples 02B-020509 and 02B-021620 are reported estimated J.

Package 01-08116 contained the isotopic results for the same replicate pair, 02B-020509 and 02B-021620, both total and dissolved. Field replicate results for the total fraction differ by approximately 2X to 20X. The TSS/TDS results, reported in laboratory package 01-08115, for 02B-020509 Total and 02B-021620 Total are 1.18 mg/L and 8.54 mg/L. Corp Guidance notes that "The lack of agreement

between the sample and its replicate should only be used as evidenced by at least one other QC indicator." Sample homogeneity problems are indicated by the TSS/TDS results and the isotopic results. Based upon the field replicate results, Radium, Thorium and Uranium isotopic results for total (non-filtered) samples 02B-020507, 02B-020509, and 02B-021620 are reported as estimated (J) or non-detected estimated (UJ) (note that the Ra-226 and Ra-228 results for 02B-020509 Total are reported as rejected (R) since the chemical tracer recovery is less than 20%). Sample representatives may be a problem. For the dissolved fraction, all sample replicate NADs are less than 1.96 and the results are within the statistical uncertainty. Variability is due to analytical uncertainty near the MDA.

6.1.6 Laboratory Replicates

All laboratory replicate NADs were less than 1.96 and met all replicate precision criteria. The exceptions are addressed in the following paragraphs:

In package 00-10226, the Ra-226 lab replicate NAD was 2.07 and the two activities differed by between a factor of 3 and 4. Ra-226 is reported as estimated (J) for samples 23A-020932 and 23A-020932LREP, the only two samples within this package. The laboratory noted in the narrative that "The normalized difference was elevated for the replicate analysis and after examination of the samples it was determined that this was most likely due to the presence of high levels of suspended solids. Because of this condition it was quite difficult to obtain replicate aliquots from the sample." The sample was a field equipment blank.

In package 00-10251, the Ra-226 lab replicate NAD was 2.00 and the two activities differed by about a factor of 2.5. Ra-226 is reported as estimated (J) for samples 23B-020956LREP, 23B-020956, and 23B-020960.

In package 00-10252, the Ra-226 lab replicate NAD was 2.08 and the two activities for 23A-020936 and 23A-020936LREP differed by about a factor of 6 (0.14 ± 0.14 and 0.83 ± 0.30, respectively). The Ra-226 result for sample 23A-020936 is reported as non-detect estimated (UJ) and the Ra-226 results for samples 23A-020936LREP, 23A-020995, 23B-020996, and 23A-020908 are reported estimated J.

In package 00-11012, the NAD for the Total Uranium lab replicate pair was elevated. Since the Total Uranium results for the two samples within this batch were less than 1 µg/L, samples 20A-021038LREP, 20A-021038 and 20A-021093 Total Uranium results are reported as non-detected (U) at the method detection limit (MDL) of 1 µg/L.

In package 00-11015, the NAD for the Ra-226 lab replicate results is 1.964. Thus, the Ra-226 results for samples 22B-020999LREP, 22B-020999 and 23B-020986 are reported as estimated (J) due to the laboratory replicate precision.

In package 00-11016, the Total Uranium concentrations for lab replicate pair 23B-021091 and 23B-021091LREP were –0.33 and 0.05 µg/L, respectively. The narrative notes that all Total Uranium concentrations are below the method detection limit (MDL). The Total Uranium results for samples 23B-021091LREP, 23B-021091 and 22B-021089 are reported as non-detected (U) at the laboratory's MDL, 1 µg/L.

In package 01-02146, the 22B-021495 and 22B-021495LREP lab replicate pair results for Ra-228 were 0.82 ± 0.71 and -0.75 ± 1.01, respectively. Sample 22B-021495 is an equipment blank. The Ra-228 result for 22B-021495 is reported as estimated J due to method variability or blank (field or laboratory) contamination.

In package 01-03111, the Gross Beta NAD is 2.60 and the % RPD is 83.5% for the lab replicate pair results. The Gross Beta laboratory replicate results are summarized below.

Table 6-4
Gross Beta Laboratory Replicate Results

Radionuclide	12A-021051LREP			12A-021051		
	pCi/L	2 sigma error	MDA	pCi/L	2 sigma error	MDA
Gross Beta	20.70	7.26	6.82	49.74	8.47	7.52

Based upon the laboratory replicate precision, the positive Gross Beta results for samples 12A-021051LREP, 12A-021051 and 12A-021529 are reported as estimated (J).

In package 01-05161, samples 12B-021556 and 12B-021556LREP were the replicate pair. The NAD for the Ra-228 results was 1.95. Due to the laboratory and field replicate precision, the Ra-228 result for sample 12B-021556 is qualified estimated J. The result for 12B-021556LREP is qualified UJ because it is less than its 2 sigma error and the 2 sigma error times 1.65 is greater than its MDA.

In package 01-06029, the NAD is 2.65 and the % RPD is 106% between the lab replicate results for U-234. The U-234 results are summarized below.

Table 6-5
U-234 Results

Radionuclide	12B-021562LREP			12B-021562		
	pCi/L	2 sigma error	MDA	pCi/L	2 sigma error	MDA
U-234	13.76	3.31	0.86	4.20	1.42	0.54

The U-234 results for samples 12B-021562LREP and 12B-021562 were already reported as rejected (R) due to the equipment blank results.

In package 01-07121, the NAD for the U-234 laboratory replicate results, summarized below, exceeded 1.96.

Table 6-6
U-234 Laboratory Replicate Results

Radionuclide	12B-021592LREP			12B-021592		
	pCi/L	2 sigma error	MDA	pCi/L	2 sigma error	MDA
U-234	0.16	0.32	0.71	2.71	0.97	0.44

Based upon the laboratory replicate precision and the field replicate precision, all U-234 results are reported as estimated (J) or non-detected estimated (UJ).

In package 01-09032, the gross alpha results for the lab replicate pair 12B-021621LREP and 12B-021621 were -7.06 ± 17.14 and 23.31 ± 12.56 pCi/L, respectively. Based upon the lab replicate precision, the gross alpha result for 12B-021621 was reported estimated J.

In packages 01-02057, 01-02062, 01-02072, 01-02095, 01-02099, 01-02107, 01-02136, 01-02146, 01-02174, 01-03001, 01-03016, 01-03086, 01-05161, 01-07033, the field equipment blank was selected as the lab replicate sample. Although it is customary, in a package containing both blanks and regular field samples, to not select an equipment blank for lab QC, the equipment blank was not identified as such

on the chain-of-custody (COC) for all packages except 01-02095, 01-02107, 01-02136, 01-02146, 01-02174, 01-03016, 01-03086, 01-05161, 01-07033 and 01-02099 so the lab was unable to distinguish it.

Field QC samples should not be used for laboratory QC samples. In approximately one quarter of the data packages, equipment rinseate samples were used as laboratory replicates. This was due, in a few cases, to the field crew not designating the rinseate blank on the COC, but in most cases it was due to laboratory error.

6.1.7 Radionuclide Quantitation and Detection Limits

The laboratory used for analysis of GWRI samples for radiological analysis, Eberline Services, reported positive results that were less than the MDA + the 2 sigma error as estimated J. The validator retained this qualifier unless the data was qualified U, UJ or R for some other reason.

The low standard for Total Uranium analyses was 1 μg/L. Total Uranium results less than 1 μg/L were reported as non-detected (U) at 1 μg/L.

If a result was less than the MDA or the 2 sigma error, and the 2 sigma uncertainty times 1.65 was greater than the MDA, the result was flagged UJ. One or more sample results within the following packages were qualified for this reason.

Table 6-7
Packages with Results Qualified UJ

00-04030	00-04037	00-04058	00-04080	00-04127
00-04184	00-04232	00-05066		
00-10195	00-10196	00-10211	00-10212	00-10224
00-10226	00-10230	00-10231	00-10252	00-10257
00-10258	00-11012	00-11016	00-11033	00-11075
00-11145 (Note 1)	00-11179	00-12015	00-12027	00-12033
00-12107	00-12123	01-01013	01-01127	01-02057
01-02062	01-02072	01-02095	01-02099	01-02107
01-02117	01-02136	01-02146	01-02159	01-02167
01-02174	01-03001	01-03016	01-03040	01-03041
01-03077	01-03086	01-03099	01-03111	01-03132
01-04124	01-05161	01-06029	01-06098	01-06121
01-06146	01-06156	01-06223	01-07033	01-07056
01-07092	01-07098	01-07111	01-07117	01-07121
01-07122	01-08081	01-08088	01-08095	01-08096
01-08115	01-08116	01-08117	01-09032	01-09033

Note 1: The negative Th-228 results in package 00-11145, which normally would have been qualified non-detect U because the uncertainty is greater than the absolute value of the result, were qualified estimated non-detect (UJ) because of the poor lab replicate precision.

If a net negative result had a 2 sigma uncertainty smaller than the absolute value of the result, the result was qualified rejected, R. The following radiological packages had one or more results that were qualified in this manner.

Table 6-8
Packages with Results Qualified R

01-10231	00-10252	00-11075 (Note 1)	00-11179
00-12027 (Note 2)	01-01013	01-02057	
01-02062	01-02072	01-02095	01-02099
01-02107	01-02117	01-02136 (Note 3)	01-02146
01-02174	01-03016	01-03099 (Note 4)	01-07056
01-09032	01-09033		

Note 1: The U-235 result for sample 10A-021030 in package 00-11075 was qualified rejected because of possible improper background subtraction. The result and error were 0.26 ± 0.37 with an MDA of 0.35. The reported background was 0.00 counts/sec.

Note 2: One of the rejected results was U-235 in sample 07A-021154 in package 00-12027. The result and error were 0.20 ± 0.20 with an MDA of 0.14. The reported background was 0.00 counts/sec and the FWHMs for sample and background were 0.00.

Note 3: The negative Gross Beta result, -48.18 ± 396.45 with an MDA of 395.85, was rejected because the small sample aliquot of 1.0 ml, may not contain gross Beta activity that is representative of the submitted sample. The large error and MDA support this assertion.

Note 4: The non-detected (U) Gross Alpha result (-18.21 ± 22.39 with MDA of 36.34) for sample 12A-021086 is reported as rejected (R), due to possible sample representativeness problems because of the small sample aliquot of 10 ml. Due to the small sample aliquot the Gross Alpha MDA exceeds the New Jersey Groundwater cleanup criteria, 15 pCi/L.

If a negative result had a 2 sigma uncertainty larger than the absolute value of the result, the result was qualified non-detect, U (unless the 2 sigma uncertainty times 1.65 was greater than the MDA, in which case the result was qualified UJ; see UJ table above). The following radiological packages had one or more results that were qualified in this manner.

Table 6-9
Packages with Results Qualified U

00-10196	00-10212	00-10223	00-10224	00-10231
00-10252	00-11075	00-11145	00-11179	00-12015
00-12027	01-01013	01-02057	01-02062	01-02072
01-02095	01-02099	01-02107	01-02117	01-02136
01-02146	01-02159	01-02167	01-02174	01-03001
01-03016	01-03040	01-03041	01-03086	01-03099
01-03111	01-04124	01-06029	01-06117	01-07033
01-07056	01-07092	01-07111	01-07117	01-07121
01-08081	01-08088	01-08096	01-08115	01-08116

In package 01-02136, the Gross Alpha result for sample 10A-021418, 292.91 ± 131.71 with an MDA of 42.09, was qualified estimated J due to possible sample homogeneity problems because of the small sample aliquot.

In package 01-03099, the positive Gross Beta result for sample 12A-021086 is reported as estimated (J) due to the small sample aliquot of 10 ml. The small sample aliquot may not be representative of the actual radionuclide concentrations. Sample volumes are typically greater than 100 ml.

Small sample aliquots for the Gross Alpha and Gross Beta tests were used if the total dissolved solids for the sample were elevated. This often caused the gross alpha MDA to be elevated, often times above the New Jersey Groundwater cleanup criteria of 15 pCi/L.

6.1.8 Chemical Separation Specificity

All criteria were met for all packages except for package 01-03040. The Ra-226 keyline was not detected for sample 23B-021257. The Ra-226 result for sample 23B-021257 was therefore qualified estimated J.

6.1.9 Target Radionuclide List Identification

All criteria were met for all samples in all packages, i.e., the observed peak energies were each within 2 keV of their respective target energies. This only applies to samples analyzed by gamma spectroscopy

6.1.10 Holding Times

All sample analyses holding time requirements were met.

6.2 ON-SITE LABORATORY (RADIOLOGICAL)

Other than the comparison of the on-site laboratory data with the off-site laboratory data discussed in Section 3, the on-site laboratory data per se was not evaluated. This is because at the time the on-site laboratory data was generated, the laboratory was not certified and was considered a screening laboratory. Information on laboratory quality assurance and quality control can be obtained from the two on-site laboratory audit reports referenced in Section 5 of this QCSR.

6.3 OFF-SITE LABORATORY (CHEMICAL)

The off-site laboratory used for testing of GWRI samples for chemical parameters was Lionville Laboratory in Lionville, PA. Sixty-two GWRI chemical data package results were evaluated for this QCSR. Thirteen of the data packages were validated by Kestrel Environmental Technologies (Freeport, Maine) and 49 packages were evaluated by Diane Short & Associates (Denver, Colorado).

Attachment C, Chemical Parameter QC Exceedances, estimates the number of qualifications by package and qualification reason. The qualifier that is the most stringent or presents the greatest limitation on the data to be used by the project has been reported. It should be noted that one qualification reason may apply to more than one sample, so this analysis does not quantitate the actual number of samples that have been qualified. It does, however, provide a sense of which quality control parameters contribute the most to the qualification of data.

By far the most common qualification reason was blank contamination. Data in the majority of packages were qualified for this reason. While most data is qualified due to method blank or preparation blank contamination, we found a significant percentage of about 10 to 15% attributable to rinseate and field blank contamination. Also, 99% of the qualifiers applied for this reason are U, non-detect. There were however, two instances where samples were rejected due to gross preparation blank contamination, one for boron, and the other for barium.

The second most common reason for qualifying GWRI data was calibration exceedances. The reasons that data may be qualified due to calibrations are low relative response factors (RRFs), high percent relative standard deviations (%RSDs) for initial calibration data points, or high percent difference (%D) between the mean initial calibration RRF and the continuing calibration RRF. Approximately 42% of the data qualified for calibration exceedances was rejected. This occurs when the RRF for a parameter in the initial or continuing calibration is less than 0.05 and a sample result associated with that calibration is non-detect.

Due to the large number of samples analyzed, it is not uncommon to have data rejected for one reason or another. There were a total of 87 rejections reported by the validators, and of the 87 rejections, 54 are due to initial or continuing calibration errors, or a combination of both initial and continuing calibration errors. The main reason for data being rejected due to calibration is because of response factors for volatile ketones being less than 0.05, the minimum value required for a calibration response factor. The

reason for this is believed to be due to a reduction in ketone sparging efficiency due to a change in sparging volume from 5 ml to 25 ml. The volume change was implemented in order to lower the detection limit for selected volatile analytes. This issue has been discussed with the laboratory and USACE and data can be salvaged, even if response factors are less than 0.05, as long as the LCS recovery for the same analyte is acceptable. The data that was rejected may otherwise be useful as a screening tool for each of the rejected samples. The other 33 rejections, were assigned for several reasons and the number of rejections per reason is not uncommonly high due to the large number of samples analyzed.

Sample results that are between the MDL and reporting limit for organics, or between the IDL and 2 times the IDL for inorganics were reported estimated J by the laboratory. This qualifier was retained.

Other significant reasons for qualifying data were as follows:

- MS/MSD recoveries exceeding acceptance criteria (52 occurrences; 6 resulting in rejected data).
- Laboratory replicate pair RPDs exceeding control limits (40 occurrences, all affected data estimated J).
- Serial dilution result pairs differing by more than 15% (23 occurrences, all affected data estimated J).
- Surrogate recoveries higher or lower than the acceptance range (24 occurrences; 3 resulting in rejected data).
- Cooler temperature deviations (20 occurrences, 1 resulting in rejected data).
- Extraction and analysis holding time violations (16 occurrences, 4 resulting in rejected data).
- Laboratory Control Standard (LCS) or Laboratory Control Standard / Laboratory Control Standard (LCS/LCSD) percent recovery exceedances (13 occurrences, 8 resulting in rejected data; some of the rejections were caused by the laboratory not performing corrective action following an exceedance). In certain instances, if an LCS was missing from a batch of samples being tested for volatile organics, the results of the continuing calibration was used in lieu of the LCS.

There was a lower frequency of occurrence (seven occurrences or less) for poor CRI recoveries (seven occurrences), high pH (five occurrences), poor field duplicate precision (three occurrences), and low internal standard recovery (three occurrences).

7.0 REFERENCES

1. Stone & Webster, *Chemical Data Quality Management Plan*, prepared for U.S. Army Corps of Engineers-Kansas City District, February 2000 (presently under revision).

2. Stone & Webster, *Draft Groundwater Remedial Investigation Report,* November 2002.

3. Stone & Webster, *PDI Stepan Building Characterization Survey QCSR*, April 2002

4. USACE Kansas City and St. Louis District Radionuclide Data Quality Evaluation Guidance for Alpha and Gamma Spectroscopy, June 2001 (presently under revision).

5. USACE, CENWK-EC-EF Data Quality Evaluation Guidance, July 26, 1999.

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ATTACHMENT A
DATA VALIDATION REPORTS
FOR THE RADIOLOGICAL SAMPLE RESULTS

Note: Due to its size, Attachment A is presented electronically on CD-ROM.

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ATTACHMENT B
DATA VALIDATION REPORTS
FOR THE CHEMICAL SAMPLE RESULTS

Note: Due to its size, Attachment B is presented electronically on CD-ROM.

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ATTACHMENT C
CHEMICAL PARAMETER QC EXCEEDANCES

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GWRI QCSR ATTACHMENT C:
CHEMICAL PARAMETER QC EXCEEDANCES

Total number of packages:	66
Total number of qualification comments:	676
Number of qualification reasons:	62

Reason	No. Pkgs	Nondetect	Estimated Nondetect	Estimated	Rejected	*%Pkg**	*% Qualifiers***
Between MDL and 2X the MDL	1	0	0	1	0	***1.52***	***0.15***
I/C cal	8	0	9	6	4	***12.12***	***2.81***
LCS/LCSD recoveries	3	0	2	0	2	***4.55***	***0.59***
Less than 3X the IDL	1	0	0	2	0	***1.52***	***0.30***
MS recovery high	1	0	0	1	0	***1.52***	***0.15***
MS/ICP serial dilution results	2	0	0	2	0	***3.03***	***0.30***
Results between IDL and CRI	2	0	0	3	0	***3.03***	***0.44***
At lab reporting limit	1	2	1	0	0	***1.52***	***0.44***
Below CRDL	1	0	0	1	0	***1.52***	***0.15***
Between IDL and 2X the IDL	3	0	0	13	0	***4.55***	***1.92***
Blank Contamination	28	115	1	0	0	***42.42***	***17.16***
Calibration results	5	0	6	7	0	***7.58***	***1.92***
CCB & Prep blank results	1	0	0	0	1	***1.52***	***0.15***
CCV recovery high	1	0	0	1	0	***1.52***	***0.15***
Continuing Calibration	15	2	17	14	33	***22.73***	***9.76***
Cooler temp deviations	6	0	3	16	3	***9.09***	***3.25***
CRI recovery	4	0	3	3	1	***6.06***	***1.04***
Did not analyze closing standards	2	0	1	2	0	***3.03***	***0.44***
Elevated reporting levels	1	1	0	0	0	***1.52***	***0.15***
Equipment rinsate blank results	1	3	0	0	0	***1.52***	***0.44***
Exceed high calibration standard	1	0	0	1	0	***1.52***	***0.15***
Extraction holding time viloations	1	0	2	2	0	***1.52***	***0.59***
Field Blank Contamination	5	20	0	0	0	***7.58***	***2.96***
Field dup results	3	0	0	3	0	***4.55***	***0.44***
Field equip blank	1	1	0	0	0	***1.52***	***0.15***
High pH	1	0	0	5	0	***1.52***	***0.74***
High surrogate recovery	4	0	0	6	0	***6.06***	***0.89***
Analysis holding time violations	8	0	2	6	4	***12.12***	***1.78***
I/C cal & blank contamination	4	0	6	0	0	***6.06***	***0.89***
Initial Calibration	10	1	5	7	15	***15.15***	***4.14***
Internal standard recovery	1	0	0	1	0	***1.52***	***0.15***
Lab dup	8	0	2	11	0	***12.12***	***1.92***
LCS recovery	3	0	1	0	3	***4.55***	***0.59***
Less than lab reporting limit	4	0	0	15	0	***6.06***	***2.22***
Low bias	1	0	1	0	0	***1.52***	***0.15***
Low LCS recovery	1	0	0	0	1	***1.52***	***0.15***
Low MS recoveries	1	0	0	1	0	***1.52***	***0.15***
Low recoveries of internal standards	1	0	1	1	0	***1.52***	***0.30***
Low surrogate recovery	12	0	2	13	2	***18.18***	***2.51***
Matrix Spike	4	0	0	12	0	***6.06***	***1.78***
Method Blank	27	84	2	0	0	***40.91***	***12.72***
MS out of control	4	0	0	8	2	***6.06***	***1.48***
MS recovery low	4	0	3	6	0	***6.06***	***1.33***
MS/MSD recoveries	6	0	7	8	0	***9.09***	***2.22***
Near reporting limit	2	0	0	2	0	***3.03***	***0.30***
No data qualified	4	0	0	0	0	***6.06***	***0.00***
No MS/MSD	4	0	4	1	4	***6.06***	***1.33***
Out-of-control LCS recoveries	3	0	2	0	2	***4.55***	***0.59***
Percent difference between two columns	1	0	0	1	0	***1.52***	***0.15***
Positive matrix interference	2	0	0	2	0	***3.03***	***0.30***
Prep blank results	6	3	3	0	2	***9.09***	***1.18***
Prep/Equipment Blank or cal	1	7	0	0	0	***1.52***	***1.04***
Random lab contamination	1	0	0	1	0	***1.52***	***0.15***
Results between MDL and RL	5	0	0	18	0	***7.58***	***2.66***
Rinsate Blank Contamination	5	2	3	0	1	***7.58***	***0.89***
RPD results	10	0	0	27	0	***15.15***	***3.99***
RRF<0.05	2	0	0	0	6	***3.03***	***0.89***
Serial dilution results	15	0	0	23	0	***22.73***	***3.40***
Surrogate recovery	1	0	0	0	1	***1.52***	***0.15***
Trip blank result	2	2	0	0	0	***3.03***	***0.30***
Variability at the IDL	1	0	0	2	0	***1.52***	***0.30***
	Totals	***243***	***89***	***255***	***87***		
	% of Qual*	***35.95***	***13.17***	***37.72***	***12.87***		

* : The sum of the %Pkg entries will be greater than 100% because one package can have more than one qualification reason

** : The sum of the %Qualifiers entries may add up to greater than 100 due to rounding error

ATTACHMENT D
NON-CONFORMANCE REPORT

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STONE & WEBSTER
NONCONFORMANCE REPORT (NCR)

CLIENT	J.O.NO.
U.S. Army Corp of Engineers	085750501

SYSTEM OR PART NAME	MATERIAL LOCATION	DATE	NCR NO.
		8-10-00	1

SELLER NAME	P.O. NO. (S&W)	SHOP FIELD OTHER

SPECIFICATION VIOLATED	DRAWING VIOLATED ISS. ☐ SELLER ☐ S&W	CODE VIOLATED - NAME/SEC/PARA

MARK NO.	SYSTEM DESIGNATION	REJECT TAG	INITIATOR	DATE
			Michael R. Kulbersh	8-7-00

REQUEST DISPOSITION FROM	COMPLETION DEADLINE	INITIATION APPROVED	DATE APPROVED

CONDITION DETAILS

During the execution of Phase I Groundwater Remedial Investigation (GWRI) activities for the FUSRAP Maywood Superfund Site, FMSS, equipment rinseate blanks for soil and groundwater samples were not collected in accordance with the Chemical Data Quality Management Plan (CDQMP), February 2000. The Field Sampling Plan (FSP), which comprises a portion of the CDQMP, specifically states that equipment rinseate blanks are to be collected on a daily basis for equipment that requires decontamination (i.e., not disposable/not dedicated). It was the GWRI staffs interpretation that the following rationale would meet the substantive requirement of the CDQMP. The substituted rationale consisted of the following: 1) When soil samples were collected as part of the Geoprobe program, a Lot consisting of 25 bowls/mixing trowels (this Lot would have all been decontaminated at the same time and in the same manner) were to be brought on-site. Prior to the collection of the 25th soil sample, an equipment rinseate blank was to have been obtained "off" of the bowls/trowels. After the collection of the 25th soil sample, the bowls/trowels were to have been sent back to Malcolm-Pirnie's office for decontamination and another set of bowls/trowels were to have been brought to the site for use. Although, this is a deviation from the CDQMP, it appeared logical that if bowls/trowels were brought to the site in batches of 25, then there would not be a need for a daily rinseate blank, since a rinseate blank would be generated for each Lot, allowing the determination of the decontamination efficiency of each Lot. However, in reality, bowls were brought back and fourth between Malcolm-Pirnie's office and the site as needed. As such, it was not feasible to track which soil samples were collected using which lot of bowls/trowels. Therefore, the data validator was directed to assume that soil samples collected prior to obtaining a given rinseate blank were applicable (for assigning qualifiers) to that rinseate blank.

Similarly, with respect to the collection of groundwater samples obtained as part of the existing monitoring wells and as part of the Geoprobe sampling program, rinseate blanks were obtained, however, they were collected in accordance with the CDQMP/FSP (i.e., daily rinseate blanks). Rather, with respect to obtaining Geoprobe groundwater samples, disposable tubing was used in the housing and "downhole" when using the peristaltic pump, or a disposable bailer was used to collect the groundwater samples, and therefore, a rinseate blank was not required. With respect to collecting groundwater samples from existing monitoring wells, Stone & Webster used either a peristaltic or a submersible Grundfos pump. When the peristaltic pump was used, disposable tubing was used "downhole" and in the housing of the pump, and therefore, a rinseate blank was not required. However, with respect to using the Grundfos submersible pump, a daily rinseate blank was not collected. Rather, 5 submersible Grundfos pumps were used, and a decontamination event was performed on all submersible pumps. A rinseate blank was then obtained from one of the pumps following this decontamination event. Fourteen (14) groundwater samples were collected using the Grundfos submersible pumps, and a total of 3 rinseate blanks were collected.

DISPOSITION

DISPOSITION ASSIGNED TO	DATE	ACTION
		☒ ACCEPT AS IS ☐ REWORK ☐ RETURN TO SELLER ☐ SCRAP ☐ REPAIR 6

DISPOSITION DETAILS

See Corrective Action Request Form.

DISPOSITION BY	DATE	CONST./INSP. ACCEPTANCE	DATE
PROJECT ENGINEER	DATE	OTHER	DATE

PLANNED COMPLETION DATE	REWORK COMPLETE SIGNATURE	DATE COMPLETE

AUTHORIZED INSPECTOR	DATE	NCR CLOSED	DATE

Corrective Action Request

CAR NO. (3)_____
ISSUE DATE (3)_____
PAGE _____ OF _____

STONE & WEBSTER ENGINEERING CORPORATION

CONDITION DESCRIPTION (1)

During the execution of Phase I Groundwater Remedial Investigation (GWRI) activities for the FUSRAP Maywood Superfund Site, FMSS, equipment rinseate blanks for soil and groundwater samples were not collected in accordance with the Chemical Data Quality Management Plan (CDQMP), February 2000. The Field Sampling Plan (FSP), which comprises a portion of the CDQMP, specifically states that equipment rinseate blanks are to be collected on a daily basis for equipment that requires decontamination (i.e., not disposable/not dedicated). It was the GWRI staffs interpretation that the following rationale would meet the substantive requirement of the CDQMP. The substituted rationale consisted of the following: 1) When soil samples were collected as part of the Geoprobe program, a Lot consisting of 25 bowls/mixing trowels (this Lot would have all been decontaminated at the same time and in the same manner) were to be brought on-site. Prior to the collection of the 25th soil sample, an equipment rinseate blank was to have been obtained "off" of the bowls/trowels. After the collection of the 25th soil sample, the bowls/trowels were to have been sent back to Malcolm-Pirnie's office for decontamination and another set of bowls/trowels were to have been brought to the site for use. Although, this is a deviation from the CDQMP, it appeared logical that if bowls/trowels were brought to the site in batches of 25, then there would not be a need for a daily rinseate blank, since a rinseate blank would be generated for each Lot, allowing the determination of the decontamination efficiency of each Lot. However, in reality, bowls were brought back and fourth between Malcolm-Pirnie's office and the site as needed. As such, it was not feasible to track which soil samples were collected using which lot of bowls/trowels. Therefore, the data validator was directed to assume that soil samples collected prior to obtaining a given rinseate blank were applicable (for assigning qualifiers) to that rinseate blank.

Similarly, with respect to the collection of groundwater samples obtained as part of the existing monitoring wells and as part of the Geoprobe sampling program, rinseate blanks were obtained, however, they were not collected in accordance with the CDQMP/FSP (i.e., daily rinseate blanks). Rather, with respect to obtaining Geoprobe groundwater samples, disposable tubing was used in the housing and "downhole" when using the peristaltic pump, or a disposable bailer was used to collect the groundwater samples, and therefore, a rinseate blank was not required. With respect to collecting groundwater samples from existing monitoring wells, Stone & Webster used either a peristaltic or a submersible Grundfos pump. When the peristaltic pump was used, disposable tubing was used "downhole" and in the housing of the pump, and therefore, a rinseate blank was not required. However, with respect to using the Grundfos submersible pump, a daily rinseate blank was not collected. Rather, 5 submersible Grundfos pumps were used, and a decontamination event was performed on all submersible pumps. A rinseate blank was then obtained from one of the pumps following this decontamination event. Fourteen (14) groundwater samples were collected using the Grundfos submersible pumps, and a total of 3 rinseate blanks were collected.

IDENTIFIED	X INTERNAL	BY:		LOC:	Acting Project Hydrogeologist	DATE:	
	☐ EXTERNAL	BY:	(1)	LOC:	(1)	DATE:	(1)

REVIEW AND EVALUATION (2)
(COMMENTS)

BRIEF DESCRIPTION OF: (2)

CAUSE, CORRECTIVE ACTION, AND PREVENTIVE ACTION *(as required)*

With respect to further collection of soil/sediment samples, Stone & Webster Engineering proposes to obtain concurrence from the client that collection of daily rinseate blanks may not be necessary, if soil/sediment samples are collected using bowls/trowels in Lot sizes of approximately 25. It is proposed that bowls/trowels be decontaminated either on or off-site, and that a rinseate blank be obtained for each sampling lot. Furthermore, Form 1 attached to the Corrective Action Request report would be used to track which samples were associated with a specific lot of samples. This form would subsequently be given to the data validator for his use in applying blank contamination, if present, to the appropriate samples associated with each rinseate blank.

With respect to the collection of groundwater samples obtained using disposable equipment where a rinseate blank is not required pursuant to the FSP/CDQMP, it is recommended that a field blank be obtained at the frequency of one sample per lot. For example, if a micro-bailer comes in a case of 24, then 1 field blank would be obtained for that lot/case. Similarly, if polyethylene/tygon tubing is used in the collection of a groundwater sample via a peristaltic pump, then a field blank would be obtained for each roll used and tested for the parameters required for that particular (groundwater) sampling program.

With respect to the collection of groundwater samples using a submersible (Grundfos) pump, Stone & Webster Engineering, will recommend to the USACE that daily rinseate blanks not be collected. Rather after the pumps used for sample collection have been decontaminated (similar to the bowls/trowels), a rinseate blank will be obtained from one of the decontaminated pumps. The serial number of the pump having the rinseate blank will be recorded. Recording the serial number of the pump will prevent collecting subsequent rinseate blanks from the same pump. All attempts will be made not to collect subsequent rinseate blanks on the same pump, unless warranted (i.e., odors and/or visual signs of contamination).

Corrective Action Request

CAR NO. (3)_____
ISSUE DATE (3)_____
PAGE _____ OF _____

STONE & WEBSTER ENGINEERING CORPORATION

CORRECTIVE/PREVENTIVE ACTION AGREED COMPLETION DATE_9/1/00_____ BY_____

VERIFICATION REQUIREMENTS: (4)

☐ CORRECTIVE ACTION: BY_____ PROJ./OFFICE_____ DATE_____

☐ PREVENTIVE ACTION: BY_____ PROJ./OFFICE_____ DATE_____

INITIAL DISTRIBUTION: (3)

FINAL DISTRIBUTION (AFTER CLOSEOUT) (3)

CLOSEOUT (3) BY_____ DATE_____

LEGEND – NOTES
(1) ORIGINATOR
(2) PQSR AND PROJECT MANAGEMENT AS APPLICABLE
(3) PQSR
(4) PQSR OR PROJECT MANAGEMENT AS APPLICABLE, WHO DID NOT HAVE RESPONSIBILITY FOR CORRECTIVE/PREVENTIVE ACTION

FORM 1

FIELD QA/QC FORM

Sampling Equipment Type (e.g., peristaltic pump, submersible pump, bailer, bowl/trowel) _____
(if tubing specify type)

Serial Number and/or Lot No.: _____

Equipment Rinseate Blank or Field Blank _____

Equipment Rinseate Blank or Field Blank Laboratory Sample Number _____

Date of Blank Sample Collection _____

Parameters Tested (e.g., VOCs, RAD, metals) _____

Associated Field Samples covered by Equipment or Field Blank

Laboratory Sample Identifier	Date of Sample Collection

ATTACHMENT E
ON-SITE AND OFF-SITE LABORATORY RESULT COMPARISON TABLE

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ATTACHMENT E to the GWRI QCSR

Boring	Sample ID	Sample Type ID	Analyte	Analytical Result	NAD	MDA	Measurement Error	Validator Qualifier	Units of Measure
02a002	02A-020504	2	RA-226	4.75	0.39	0.71	0.18		pCi/g
02a002	02a-020808	R	RA-226	4.57		0.3966	0.426		pCi/g
02a002	02A-020504	2	TH-232	28.91	0.20	0.501	0.45		pCi/g
02a002	02a-020808	R	Th-232	29.18		0.6162	1.266		pCi/g
02a002	02A-020504	2	U-238	3.90	1.04	19.6	5.91	J	pCi/g
02a002	02a-020808	R	U-238	11.76		6.401	4.762		pCi/g
06d001	06d-020540	0	RA-226	32.55	4.42	0.762	0.56		pCi/g
06d001	06d-020807	R	RA-226	25.52		0.5099	1.489		pCi/g
06d001	06d-020540	0	TH-232	28.52	3.32	0.623	0.45		pCi/g
06d001	06d-020807	R	Th-232	24.45		0.7954	1.142		pCi/g
06d001	06d-020540	0	U-238	14.34	0.44	29.3	8.93	J	pCi/g
06d001	06d-020807	R	U-238	19.16		8.55	6.285		pCi/g
07a001	07a-020544	0	RA-226	40.99	1.66	2.25	0.85		pCi/g
07a001	07a-020809	R	RA-226	45.52		1.407	2.599		pCi/g
07a001	07a-020544	0	TH-232	254.00	4.24	1.56	2.88		pCi/g
07a001	07a-020809	R	Th-232	302.70		2.126	11.12		pCi/g
07a001	07a-020544	0	U-238	61.60	NC	61.6		U	pCi/g
07a001	07a-020809	R	U-238	31.25		19	14.55	J	pCi/g
08a002	08A-020550	0	RA-226	22.40	0.67	1.25	0.48		pCi/g
08a002	08a-020810	R	RA-226	21.46		0.7096	1.324		pCi/g
08a002	08A-020550	0	TH-232	79.07	0.24	0.886	1.04		pCi/g
08a002	08a-020810	R	Th-232	79.88		1.049	3.192		pCi/g
08a002	08A-020550	0	U-238	34.90	NC	34.9		U	pCi/g
08a002	08a-020810	R	U-238	17.90		10.45	7.832	J	pCi/g
09a002	09A-020554	0	RA-226	0.81	1.07	0.167	0.04		pCi/g
09a002	09a-020811	R	RA-226	0.65		0.1473	0.1523		pCi/g
09a002	09A-020554	0	TH-232	0.93	1.12	0.18	0.04		pCi/g
09a002	09a-020811	R	Th-232	0.79		0.232	0.1234		pCi/g
09a002	09A-020554	0	U-238	6.36	1.81	9.62	1.7	J	pCi/g
09a002	09a-020811	R	U-238	1.69		2.225	1.943	U	pCi/g
09a007	09a-020568	0	RA-226	27.33	2.34	0.9535	4.239		pCi/l
09a007	09a-020812	R	RA-226	17.02		0.8211	1.174		pCi/g
09a007	09a-020568	0	TH-232	17.43	13.56	0.5685	4.706		pCi/l
09a007	09a-020812	R	Th-232	101.00		1.25	3.979		pCi/g
09a007	09a-020568	0	U-238	12.32	0.40	0.5238	3.558		pCi/l
09a007	09a-020812	R	U-238	16.73		12.52	10.46	J	pCi/g
10a002	10A-020584	X	RA-226	1.48	6.50	0.307	0.04		pCi/g
10a002	10a-020813	R	RA-226	0.75		0.09949	0.1055		pCi/g
10a002	10A-020584	X	TH-232	1.25	2.35	0.146	0.03		pCi/g
10a002	10a-020813	R	Th-232	1.01		0.1569	0.09446		pCi/g
10a002	10A-020584	X	U-238	0.74	0.79	5.86	0.55	J	pCi/g
10a002	10a-020813	R	U-238	2.22		1.666	1.791	J	pCi/g
10a008	10A-020781	0	RA-226	0.61	1.15	0.0854	0.05		pCi/g
10a008	10a-020814	R	RA-226	0.47		0.1196	0.114	J	pCi/g
10a008	10A-020781	0	TH-232	0.68	2.49	0.133	0.04		pCi/g
10a008	10a-020814	R	Th-232	0.44		0.1712	0.08646		pCi/g
10a008	10A-020781	0	U-238	2.81	1.58	6.47	0.91	J	pCi/g
10a008	10a-020814	R	U-238	0.75		1.705	0.938	U	pCi/g
18a002	18a-020700	0	RA-226	3.07	1.40	1.09	0.29		pCi/g
18a002	18a-020817	R	RA-226	2.29		0.58	0.474		pCi/g
18a002	18a-020700	0	TH-232	67.34	2.19	0.778	0.95		pCi/g
18a002	18a-020817	R	Th-232	61.41		0.93	2.54		pCi/g
18a002	18a-020700	0	U-238	31.75	1.31	30.7	5.37		pCi/g
18a002	18a-020817	R	U-238	47.61		10.19	10.82		pCi/g

Legend

pCi/g = picocuries per gram
R = Confirmation Sample sent to Fixed Base Lab
0, 2 or X denotes sample analyzed by On-Site Lab
RPD = Relative Percent Difference
NC = Not Calculated
NAD = Normalized Absolute Difference

ATTACHMENT F
GWRI DATA PACKAGE REPORT

Note: Due to its size, Attachment F is presented electronically on CD-ROM.

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FUSRAP
Maywood Superfund Site



Groundwater Remedial Investigation Report

Volume 9
Supplemental Investigation Appendix Material

Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:

Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, New Jersey 07607

Prepared for:

US Army Corps
of Engineers®

Contract No. DACW41-99-D-9001

July 2005, Revision 4

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SUPPLEMENTAL INVESTIGATION APPENDIX MATERIAL

APPENDIX T1
RI ADDENDUM PROPOSED SOURCE AND PLUME DELINEATION WORK PLAN

RI ADDENDUM - PROPOSED SOURCE AND PLUME DELINEATION

Introduction

The USACE has completed the additional Phase II Field Activities and data evaluation as proposed in the September 24, 2001 Memo. Field activities included the installation and sampling of two bedrock wells (MW-25D and MW-26D) to delineate the benzene source area. Benzene (520 ppb) was detected at monitoring well MW-26D, and will require further upgradient source area delineation. The results of the Additional Phase II activities will be included in the Draft Remedial Investigation (RI), which is scheduled for submission to regulators in December 02/January 03.

The USEPA has since requested further source area and downgradient delineation of benzene contamination on the MISS and offsite properties. The following scope of work is prepared as an addendum to the Groundwater Remedial Investigation Work Plan, December 2000. In this addendum, the USACE proposes to install and sample additional bedrock monitoring wells to complete the delineation of both the benzene source area and downgradient plume. Bioremediation sampling is proposed, and will provide baseline data for evaluation of monitored natural attenuation and other remedial alternatives. The field program is expected to start in August 2002 and last approximately three (3) to four (4) months. Results of the field investigation would be presented in a RI Addendum.

Background

Elevated benzene concentrations on the MISS were first identified in May 2001, and have been partially delineated by sampling of former bedrock test wells and other monitoring wells. Benzene sampling results from the Phase II and Additional Phase II investigation is presented in Figure 1. Figure 1 shows benzene concentration isopleths superimposed over the December 2001 bedrock groundwater elevation data. As shown, a contiguous benzene plume is plotted on site, extending NE-SW from upgradient wells MW-26D to MISS-5B, which is located at the downgradient property boundary. Maximum detected benzene concentrations within the plume were recorded at wells BRPZ-5 (5000 ppb) and MISS-5B (3500 ppb). Benzene was also detected in deep packer samples collected at bedrock wells BRPZ-5 (480 ppb) and BRPZ-7 (270 ppb duplicate sample). The sampling results indicate that the highest benzene concentrations are found in shallow bedrock, and that benzene concentrations decrease roughly an order of magnitude between shallow (35 to 60 feet bgs open interval) wells and deep (90 to 115 feet bgs open interval) wells.

The upper portion of the plume appears to be aligned with local groundwater flow, however, this changes further downgradient as bedrock groundwater flow turns west. Benzene transport is therefore expected to shift further west with the prevailing groundwater flow at downgradient plume locations. Benzene transport may also be impacted (or controlled) by aquifer anisotropy in the Passaic Formation. Aquifer anisotropy and permeability are typically greatest along bedrock strike which locally

trends NNE. Both groundwater flow and potential aquifer anistropy elements were considered during selection of monitoring well locations.

Monitored natural attenuation (MNA) will be evaluated for remediation of the benzene plume. MNA is considered an attractive remedy because of (1) the low detected concentrations (<5ppm) of benzene, (2) distance (1750 feet) to the receptor (Saddle River), and (3) degradability of benzene in groundwater. The benzene source area will be delineated during the proposed investigation, with identification of any ongoing source areas. Bioremediation sampling is proposed to provide specific information about the utilization and availability of electron acceptors and nutrients in groundwater.

Recommendations for Additional Field Work

Installation of Source Area/Plume Delineation Wells MW-27D, MW-28D, MW-29D and MW-30D

Proposed bedrock well locations are shown in Figure 1. Bedrock well MW-27D (proposed) will be installed first and located approximately 200 feet northeast from well MW-26D, along the apparent plume axis. MW-28D (proposed) will be located approximately 160 feet northeast and upgradient (flow) of MW-26D. Screening VOC groundwater samples will be collected from each well during development and analyzed on an expedited turn around time (TAT). Based upon the screening results from MW-27D and MW-28D, wells Alt "A" and/or Alt "B" may be installed. For additional well installation data and rationale, see Table 1.

All source area wells will be inspected for product during installation and development. Prior to grouting the 6" well casing, the water column (within the bedrock or 10" drive casing) shall be inspected for product using a clear weighted bailer. This procedure would be repeated prior to and after well development.

Proposed downgradient well location MW-29D is located approximately 250 feet from MISS-5B and is oriented along the apparent plume axis. Proposed well MW-30D is located 160 feet northwest of MW-29D and 170 feet downgradient (flow) from MISS-5B. The relative concentrations of benzene at these locations, if present, may help determine the offsite plume orientation. If screening (VOC) groundwater samples detect benzene at MW-29D and/or MW-30D, a third well will be installed along the projected plume direction on Grove Ave. or other appropriate downgradient location.

All proposed wells will be installed using the air rotary method and will be completed as shallow bedrock wells with 25 feet of open borehole. Wells will be air developed by the rig for a minimum 45 minutes after completion to remove sediment and rock fragments from the bottom of the well. After a minimum 24 hour period, the wells will be developed by pumping until a minimum 50 NTU turbidity (and required 3X well volume evacuation) is achieved.

VOC and Bioremediation Sampling

Collection of a new round of VOC samples is proposed in the delineation study area. VOC sampling will be conducted at 20 bedrock wells and at all newly installed wells commencing early FY03. In addition, bedrock well VOC data collected during the Annual Environmental Sampling round (July 2002) will be utilized for plume delineation. Proposed sampling and compliance wells that will contribute to the VOC interpretation are listed in Table 2. As shown in Figure 2, all available bedrock wells in the plume and downgradient areas are proposed for sampling.

Bioremediation sampling is proposed at a total of eight bedrock monitoring wells (see Table 2) to determine the capacity of the bedrock aquifer to support intrinsic bioremediation. Proposed sampling wells are located within the mapped extent of the plume and projected downgradient areas. The bioremedial sampling parameters include dissolved oxygen, alternate electron acceptors (nitrate, manganese, iron, sulfate), nutrients and benzene degraders. The complete list of proposed sampling parameters and methods are shown in Table 3.

All wells would be sampled using the USEPA low flow sampling methodology and analyzed for VOCs using USEPA method 8260B. Quality assurance/quality control (QA/QC) samples will be collected as described in the Work Plan, excluding the bioremedial parameters.

Well Logging/Slug Testing

All new bedrock wells and three (3) existing wells (MW-26D, BRPZ-9 and MW-2D) shall be slug tested to measure bulk permeability. This data may be utilized in a groundwater flow and fate/transport numerical model. Borehole logging is proposed at five (5) new well locations, and would include caliper, SPR, SP, natural gamma, fluid temperature, fluid resistivity, acoustic televiewer and heat-pulse flowmeter logging. Evaluation of the data shall provide fracture orientations and determine distribution of water bearing fractures.

Water Level Measurements

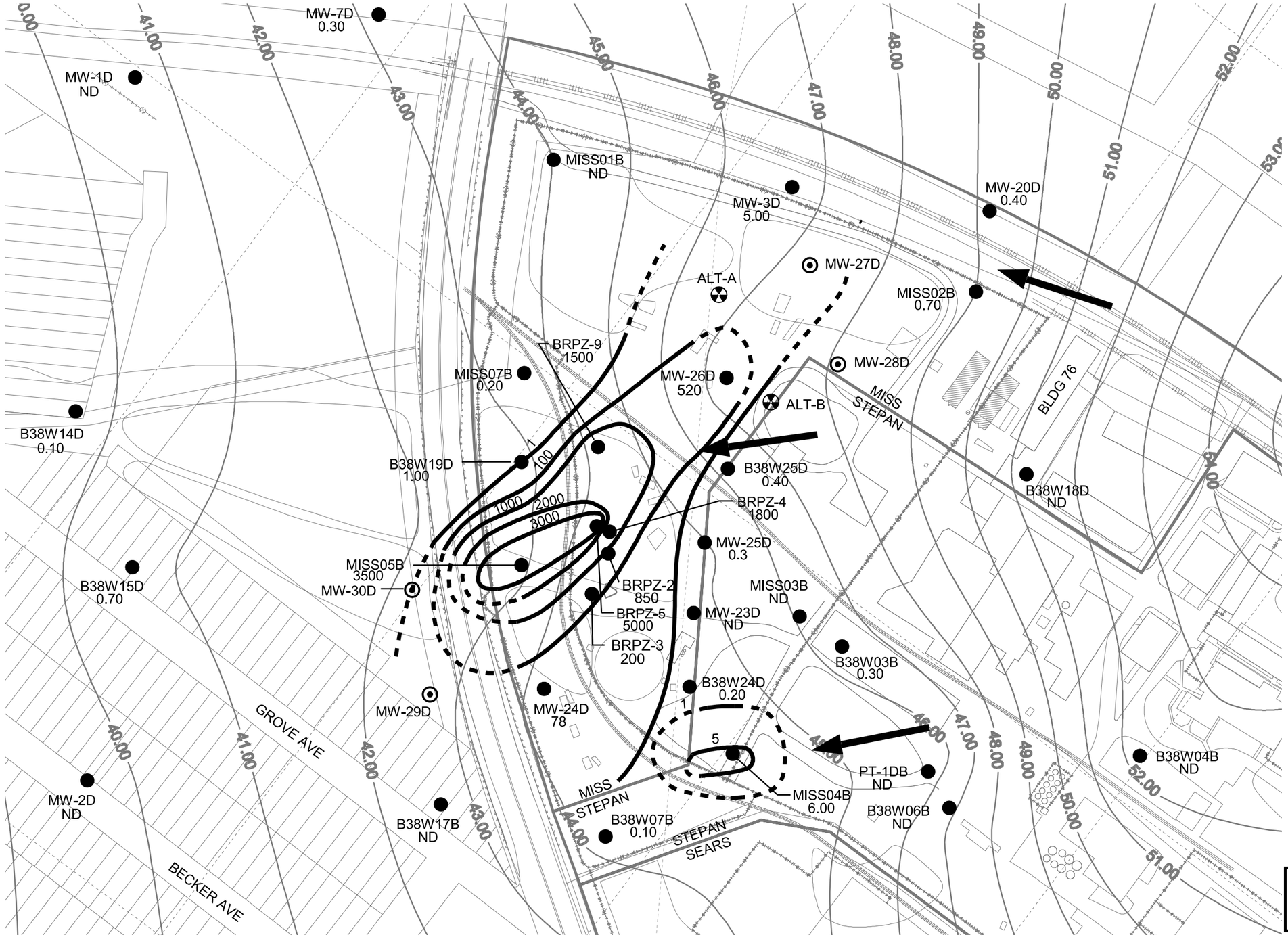
A partial synoptic water level round will be performed at 48 (existing) bedrock wells and five (5) or more newly installed bedrock wells. Proposed existing wells for measurement are listed in Table 4. As shown in Figure 2, all bedrock wells in and adjacent to the delineated/projected benzene plume are included for measurement. Deep bedrock monitoring wells PT-1DB, MW-23DD, MW-24DD, PW-1D and MW-19DD will be included in the synoptic round. All water level measurements will be conducted over a maximum eight (8) hour period to reduce the effect of water level changes on the data.

Data Evaluation and Report

All field data and laboratory data shall be presented in a stand-alone RI Addendum, which will include evaluation of the data, conclusions and recommendations.

Schedule

- Site Access and Mobilization - June and July 2002
- Annual Compliance Sampling - July 2002
- Well Installation and Development - August 2002
- Existing Monitoring Well and Newly Installed Well Sampling - September/October 2002
- Submittal to Regulators of Draft RI Addendum Report - April 2003



Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.

FIGURE 1
PROPOSED BEDROCK WELLS AND BENZENE RESULTS FOR BEDROCK MONITORING WELL GROUNDWATER SAMPLES (2000 - 2002)

US Army Corps of Engineers
FUSRAP Maywood Superfund Site
Shaw & Stone

\\Bosfs01\Maywood\Maywood\Task0510\drawings\Contours-Bedrock.apr LAYOUT: Benzene-Proposed-Bedrock-17x11 7 May 2002

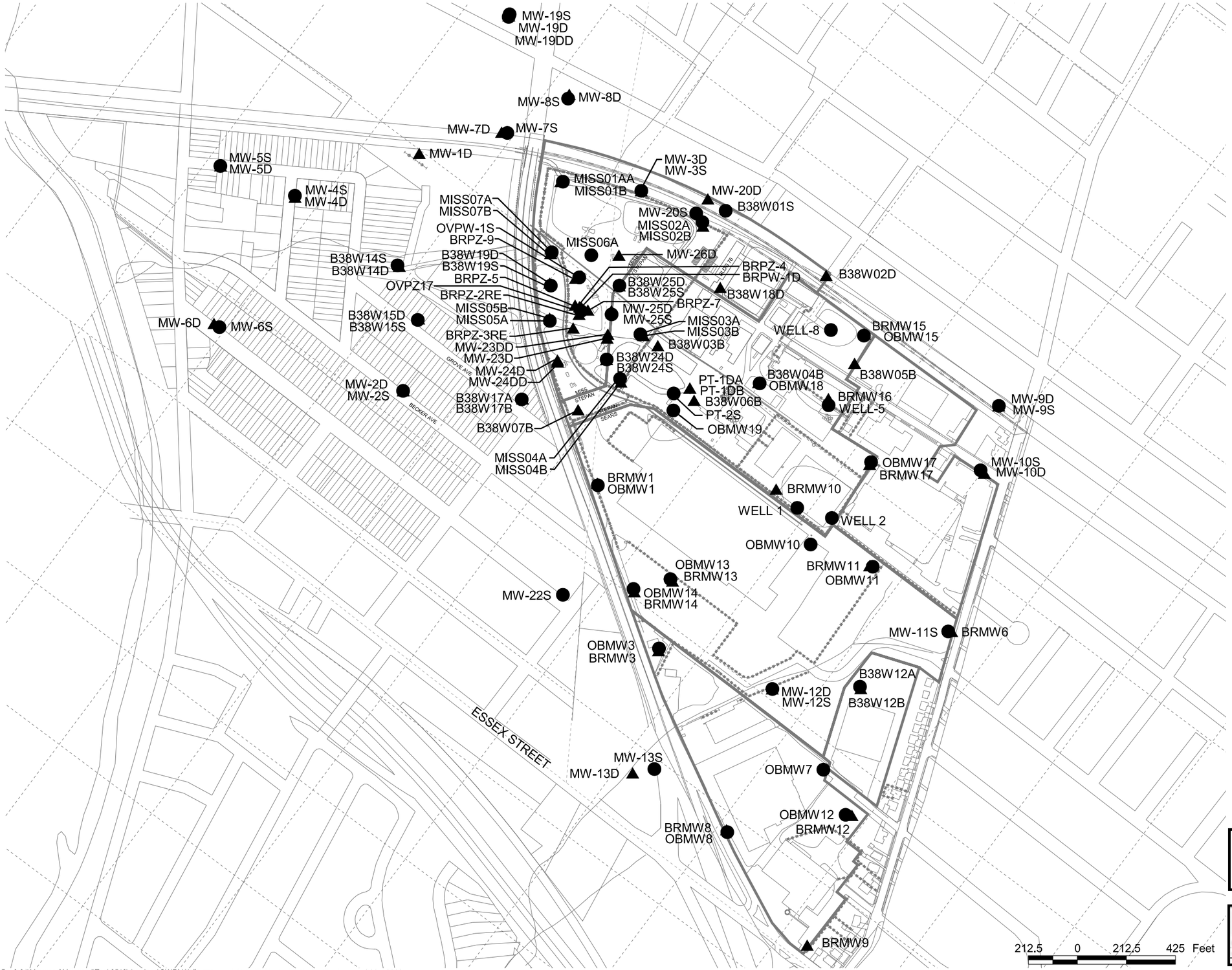
Well	Result (ug/L)	Date of Sample Collection
B38W02D	ND	7/17/02
B38W07B	ND	7/25/02
B38W14D	ND	7/24/02
B38W15D	ND	7/16/02
B38W17B	ND	7/2/02
B38W18D	ND	7/18/02
B38W19D	0.7	7/9/02
B38W24D	ND	7/15/02
B38W25D	ND	7/10/02
BRPW-1DRE	ND	8/13/02
BRPZ-3	130	8/13/02
BRPZ-4	760	8/6/02
BRPZ-5	9500	8/7/02
BRPZ-9	1800	8/7/02
MISS01B	ND	7/18/02
MISS02B	0.2	7/8/02
MISS03B	ND	7/29/02
MISS04B	5	7/29/02
MISS05B	680	7/31/02
MISS07B	ND	7/11/02
MW-20D	ND	8/5/02
MW-23D	ND	7/26/02
MW-24D	29	7/25/02
MW-24DD	9	7/25/02
MW-25D	0.4	7/26/02
MW-26D	180	8/15/02
MW-27D	2	8/15/02
MW-28D	ND	8/14/02
MW-29D	NA	NA
MW-29D (Alt)	NA	NA
MW-2D	ND	7/30/02
MW-30D	NA	NA
MW-30D (Alt)	NA	NA
MW-33D (Alt A)	8	9/16/02
MW-34D (Alt B)	17	9/17/02
MW-3D	25	8/8/02
MW-4D	ND	8/1/02
MW-5D	ND	8/2/02
MW-6D	ND	8/14/02
MW-7D	ND	8/5/02

753100
753000
751700
751600
751500
751400
751300
2163000
2163200
2163400
2163600
2163800
2164000
2164200
2164400
2164600
2164800
2165000
2165200
2165400

RI Addendum - Benzene Investigation

1" ≈ 200'

July - September 2002
Bedrock Monitoring Wells



LEGEND:

- MW-8S — OVERBURDEN GROUNDWATER WELL (INCLUDES A, AA, OR S SUFFIX AND OB PREFIX)
- MW-8D — BEDROCK GROUNDWATER WELL (INCLUDES B, D, DD, DA, OR DB SUFFIX AND BR PREFIX)

Note: The location and status of the vicinity properties shown on this map are for general reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have specific questions about a particular property, please contact the USACE Public Information Center at 75A West Pleasant Avenue, Maywood, New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site website at <www.fusrapmaywood.com>.

FIGURE 2
MONITORING WELL LOCATION MAP

US Army Corps of Engineers
FUSRAP Maywood Superfund Site
Shaw & Stone

\\Bosfs01\Maywood\Maywood\Task0510\drawings\GWRI-Wells.apr LAYOUT: Monitoring Wells 17x11 2 May 2002

TABLE 1
WELL CONSTRUCTION AND RATIONALE
MAYWOOD FUSRAP SITE

Well Identification/Description	Well Type	Depth (ft.bgs)	Borehole (ft.)	Rationale
Source Delineation Monitoring Wells				
MW-27D	Shallow Bedrock	47	25	Located 200' upgradient along plume axis from MW-26D. If high concentrations of benzene are detected, an additional upgradient well may be installed.
MW-28D	Shallow Bedrock	47	25	Located 160 feet upgradient (flow) from MW-26D and 125 feet South of MW-27D. If high concentrations of benzene are detected, another well may be installed at a further upgradient (ENE) location.
Alternative Well Location -"A"	Shallow Bedrock	47	25	May be installed to delineate a source area/plume northwest of well MW-26D. May be installed if benzene is not detected at MW-27D and MW-28D, or alternatively, if benzene is only detected at MW-27D.
Alternative Well Location -"B"	Shallow Bedrock	47	25	Located 100 feet east of MW-26D, and may be installed to delineate a potential offsite (Stepan) source. May be installed if no benzene is detected at wells MW-27D and Alt A, and ND or low concentration of benzene at MW-28D.
Downgradient Delineation Wells				
MW-29D	Shallow Bedrock	47	25	Located 250 feet downgradient from MISS-5B along the plotted benzene plume axis. An additional downgradient well will be installed if benzene is detected at this location.
MW-30D	Shallow Bedrock	47	25	Located 170 feet downgradient (flow) from MISS-5B. As noted with well MW-29D, an additional well will be installed downgradient if benzene is detected at this well.

TABLE 2

Summary of Bedrock Wells Sampled in Environmental Monitoring Program and Wells Recommended for Sampling as Part of RI Addendum

FUSRAP MAYWOOD SUPERFUND SITE, MAYWOOD, NJ

Well ID	Well Type	Current Bedrock Compliance Wells*	RI Addendum Sampling - VOCs	Proposed Bioremediation Sampling
B38W02D	Shallow Bedrock	√		
B38W07B	Shallow Bedrock		√	
B38W14D	Shallow Bedrock	√		
B38W15D	Shallow Bedrock	√		√
B38W17B	Shallow Bedrock	√		
B38W18D	Shallow Bedrock	√		
B38W19D	Shallow Bedrock	√		
B38W24D	Shallow Bedrock	√		
B38W25D	Shallow Bedrock	√		
BRPW-1D	Deep Bedrock		√	
BRPZ-4	Shallow Bedrock		√	√
BRPZ-3	Shallow Bedrock		√	
BRPZ-5	Shallow Bedrock		√	
BRPZ-9	Shallow Bedrock		√	
MISS01B	Shallow Bedrock	√		
MISS02B	Shallow Bedrock	√		
MISS03B	Shallow Bedrock		√	
MISS04B	Shallow Bedrock		√	
MISS05B	Shallow Bedrock	√		√
MISS07B	Shallow Bedrock	√		
MW-1D	Shallow Bedrock		√	
MW-2D	Shallow Bedrock		√	√
MW-3D	Shallow Bedrock		√	
MW-4D	Shallow Bedrock		√	
MW-5D	Shallow Bedrock		√	
MW-6D	Shallow Bedrock		√	
MW-7D	Shallow Bedrock		√	
MW-23D	Shallow Bedrock		√	
MW-24D	Shallow Bedrock		√	
MW-24DD	Deep Bedrock		√	
MW-25D	Shallow Bedrock		√	
MW-26D	Shallow Bedrock		√	√
Proposed MW-27D	Shallow Bedrock		√	√
Proposed MW-28D	Shallow Bedrock		√	
Proposed MW-29D	Shallow Bedrock		√	√
Proposed MW-30D	Shallow Bedrock		√	√
Proposed Alt-A	Shallow Bedrock		√	
Proposed Alt-B	Shallow Bedrock		√	

* - Parameter list for compliance wells are to consist of: Gross Alpha, Gross Beta RA-226, RA-228, isotopic thorium and isotopic uranium, TAL Metals, lithium, boron and TCL VOCs

TABLE 3
FIELD AND LABORATORY BIOREMEDIAL PARAMETERS
MAYWOOD FUSRAP SITE

PARAMETER	USEPA METHOD	DISCUSSION
FIELD PARAMETERS		
Dissolved Oxygen	N/A	Measured using a DO meter. Autocalibration to atmosphere.
Dissolved Oxygen	N/A	Test kit using the modified Winkler Method.
Oxidation Reduction Potential (ORP)	N/A	Measured using a ORP meter (multimeter). Calibrated against standard solution.
pH	N/A	Measured using a pH meter. Calibrated against standard solution.
LABORATORY PARAMETERS		
Nitrate-N	353.2	Alternative electron acceptor
Ammonia-N	350.1 OR 350.3	
Manganese (total)	6010A	Alternative electron acceptor
Manganese (dissolved)	6010A	
Iron (total)	6010A	Alternative electronic acceptor
Iron (dissolved)	6010A	
Sulfate	375.4	Alternative electronic acceptor
Sulfide	376.1	
Total Organic Carbon	415.1	
Phosphorus (total)	365.4	Limiting nutrient
Chemical Oxygen Demand (COD)	410.4	
Biological Oxygen Demand (BOD)	405.1	

APPENDIX T2
WELL PERMITS AND MONITORING WELL RECORDS

TABLE 4

Bedrock Monitoring Wells Proposed for Water Level Gauging

FUSRAP Maywood Superfund Site, Maywood, NJ

Well ID	Property	Well Owner
BRMW1	149-151 Maywood Ave.	Stepan
B38W03B	Stepan	USACE
B38W04B	Stepan	USACE
B38W05B	Stepan	USACE
B38W06B	Stepan	USACE
B38W07B	Stepan	USACE
B38W24D	Stepan	USACE
B38W25D	Stepan	USACE
MISS03B	Stepan	USACE
MISS04B	Stepan	USACE
BRMW10	Stepan	Stepan
BRMW15	Stepan	Stepan
BRMW16	Stepan	Stepan
BRMW17	Stepan	Stepan
PT-1DA	Stepan	Stepan
PT-1DB	Stepan	Stepan
B38W02D	NYS & WRR	USACE
MW-20D	NYS & WRR	USACE
MW-3D	NYS & WRR	USACE
B38W18D	MISS	USACE
B38W19D	MISS	USACE
MISS01B	MISS	USACE
MISS02B	MISS	USACE
MISS05B	MISS	USACE
MISS07B	MISS	USACE
BRPW-1D	MISS	USACE
BRPZ-2RE	MISS	USACE
BRPZ-3RE	MISS	USACE
BRPZ-4	MISS	USACE
BRPZ-5RE	MISS	USACE
BRPZ-9	MISS	USACE
MW-23D	MISS	USACE
MW-23DD	MISS	USACE
MW-24D	MISS	USACE
MW-24DD	MISS	USACE
MW-25D	MISS	USACE
MW-26D	MISS	USACE
B38W14D	90 Park Way	USACE
B38W15D	26 Grove Ave.	USACE
B38W17B	Grove Ave.	USACE
MW-1D	96 Park Way	USACE
MW-19D	Lincoln Ave.	USACE
MW-19DD	Lincoln Ave.	USACE
MW-2D	Becker Ave.	USACE
MW-5D	Park Way	USACE
MW-6D	Madison Ave.	USACE
MW-7D	141 W. Central Ave.	USACE
MW-8D	161 W. Central Ave.	USACE

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

RECEIVED
JUL 23 2002

MONITORING WELL PERMIT 34

Permit No. 266219

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 24 · 03 · 5 76

Owner DS 80A c/o The Shaw Group Inc. Driller B&B Drilling Inc

Address 100 W. Hunter Avenue Address P.O Box 80

Maywood NJ 07607 Netcong NJ 07857

Name of Facility Maywood Fisco Superfund Site

Address 100 W. Hunter Avenue

Maywood NJ 07607

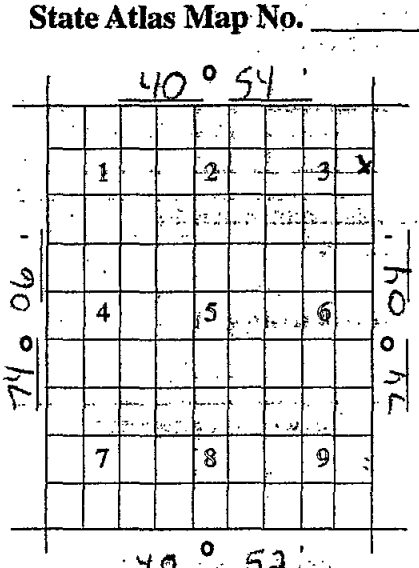
Diameter of Well(s)	6 Inches	Proposed Depth of Well(s)	50 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

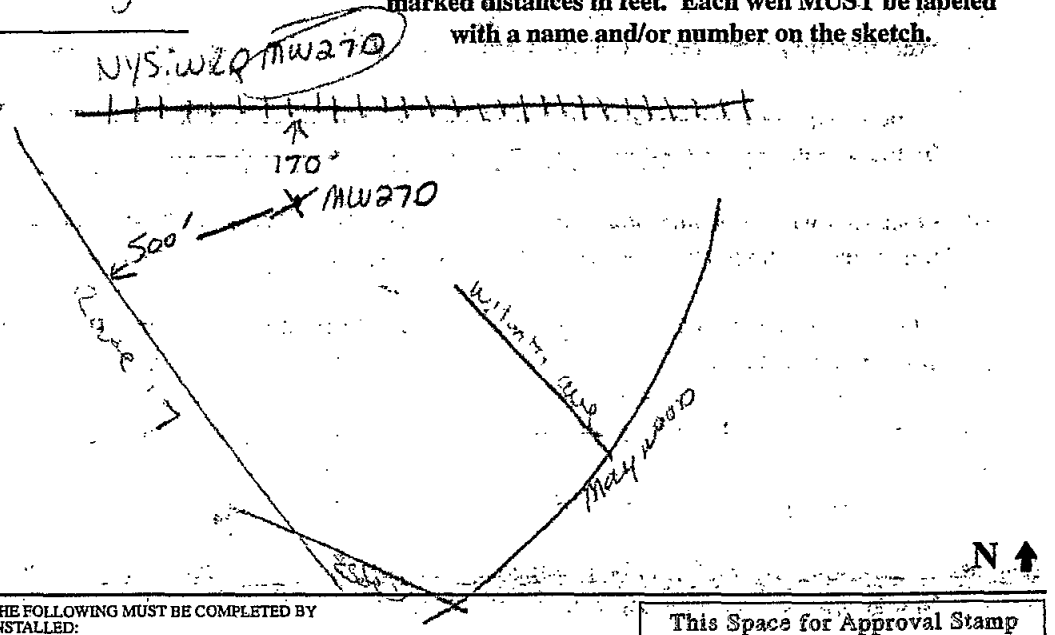
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
46	125	Maywood Boro	Bergen

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JUL 19 2002
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/15/02 Signature of Driller [signature] Registration No. M1277

Signature of Property Owner [signature] for owner/agent

COPIES: Water Allocation White Health Dept. Yellow Owner Blue Driller

DWR-138.M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 65219

Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner USEPA C/O SHAW GROUP INC
Address 100 W HUNTER AVE
City MAYWOOD State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 27D
County BERGEN Municipality MAYWOOD BORO Lot No. 46 Block No. 125
Address 100 W HUNTER AVE

DATE WELL STARTED 8/6/02
DATE WELL COMPLETED 8/9/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 58.5 ft.
Well finished to 58.5 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: ☒ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 2 ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 15.85 ft.

Water level was measured using _____

Well was developed for _____ hours at _____ gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+2	33.5	6	Steel	19#
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	0	21	10	Steel	sch 40
Open Hole or Screen (No. Used)	33.5	58.5	6	Rock	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	0	33.5	ann	Neat Cement Bentonite	1000 lbs. ___ lbs.

Grouting Method Pressure
Drilling Method air Rotary

Method of development _____

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid — Type of Rig IRT4W

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING, INC

Well Driller (Print) Douglas Myerchin

Driller's Signature Douglas Myerchin

Registration No. M1277 Date 9/21/02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-20' Tn. Brn F/C Sand, tr. Silt TR gravel

20-58.5' Bedrock - Silt, Sandstone

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

RECEIVED
JUL 23 2002

26 6 5220
26 6 5221

MONITORING WELL PERMIT 34

Permit No. _____

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26 .03 .5 36

Owner [illegible] The Shaw Group Inc.
Address 100 W. [illegible]
Maywood NJ 07607

Driller [illegible] Inc.
Address [illegible]
Netcong NJ 07857

Name of Facility [illegible]
Address 100 W. [illegible]
Maywood NJ 07607

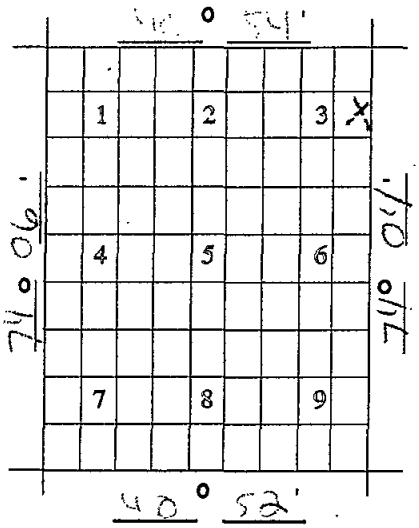
Diameter of Well(s)	6 Inches	Proposed Depth of Well(s)	50 Feet
# of Wells Applied for (max. 10)	2	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

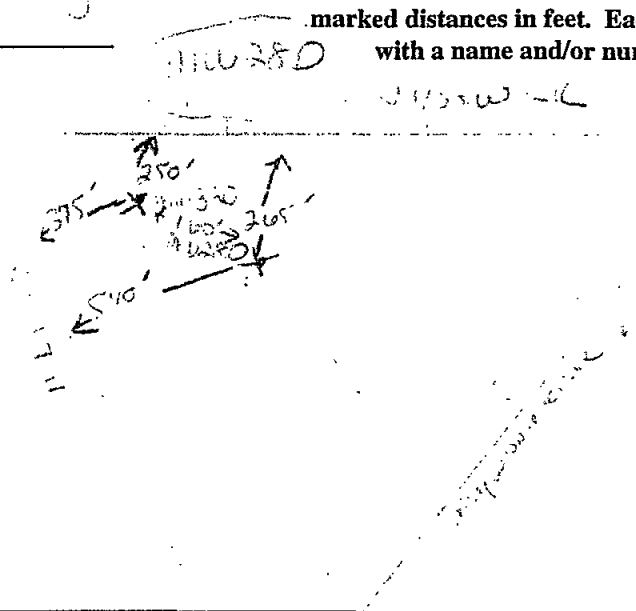
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
46	124	[illegible]	Bergen

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





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FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ *Spill Site*
- ☐ ISRA Site
- ☑ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JUL 19 2002
BUREAU OF WATER ALLOCATIC

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ _____
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/15/02 Signature of Driller [illegible] Registration No. M1377

Signature of Property Owner [illegible]

COPIES: Water Allocation - White Health Dept. Yellow Owner Blue Driller White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 26 - 65220

Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner USEPA C/O SHAW GROUP INC
Address 100 W HUNTER AVE
City MAYWOOD State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 28D
County BERGEN Municipality MAYWOOD BORO Lot No. 46 Block No. 134
Address 100 W HUNTER AVE

DATE WELL STARTED 8/7/02
DATE WELL COMPLETED 8/12/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 57 ft.
Well finished to 57 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: ☒ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 2 ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 30.82 ft.

Water level was measured using probe

Well was developed for _____ hours at _____ gpm

Method of development _____

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid — Type of Rig IR T4W

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+2.0	32	6	Steel	19#
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	0	22	10	Steel	sch 40
Open Hole or Screen (No. Used)	32	57	6	Bedrock	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	0	32	ann	Neat Cement Bentonite	1000 lbs. ____ lbs.

Grouting Method Pressure
Drilling Method air Rotary

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING INC
Well Driller (Print) Douglas Myerrum
Driller's Signature Douglas Myerrum
Registration No. 11276 Date 8/21/02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-20' Tan Brn. F/C Sand, trace silt, trace gravel
20-57' Brown Yellow Brn silt, some sand

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 65221

Atlas Sheet Coordinates 26 : 03 : 536

OWNER IDENTIFICATION - Owner USEPA C/O SHAW GROUP INC
Address 100 W HUNTER AVE
City MAYWOOD State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW330
County BERGEN Municipality MAYWOOD BORO Lot No. 46 Block No. 124
Address 100 W HUNTER AVE

DATE WELL STARTED 9/10/02
DATE WELL COMPLETED 9/12/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 68 ft.
Well finished to 65 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: ☑ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 2 ft.

Was steel protective casing installed? ☑ Yes ☐ No

Static water level after drilling _____ ft.

Water level was measured using _____

Well was developed for _____ hours at _____ gpm

Method of development _____

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid — Type of Rig HSA

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+2	45.5	2	PVC	Sch 40
Middle Casing (for triple cased wells only)	+2	38	6	Steel	19#
Outer Casing (largest diameter)	0	20	10	Steel	Sch 40
Open Hole or Screen (No. Used)	45.5	65.5	2	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece				PVC coup	
Gravel Pack	43	68	ann	Morie	#1
Grout	0/0	43/34	ann	Neat Cement Bentonite	40/100 lbs. 1 lbs.

Grouting Method Tremie
Drilling Method air rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-20 Fill crushed stone, brn f/c sand & silt, wood pcs.
20-25 f. ac sandstone, shale, silt stone
25-68 Conglom. - pebbles, silt stone

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING, INC
Well Driller (Print) Douglas M [illegible]
Driller's Signature [signature]
Registration No. M1277 Date 9/21/02

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

JAN 31 2003

MONITORING WELL PERMIT

Permit No. 26c.774

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.03.379

Owner [illegible]

Address [illegible]

Driller [illegible]

Address [illegible]

Name of Facility

Address above

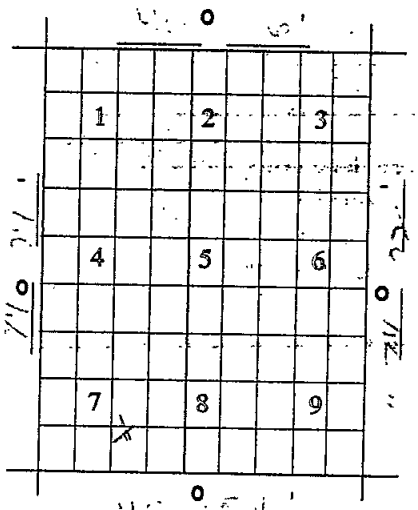
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)		If Yes, give pump capacity	cumulative GPM

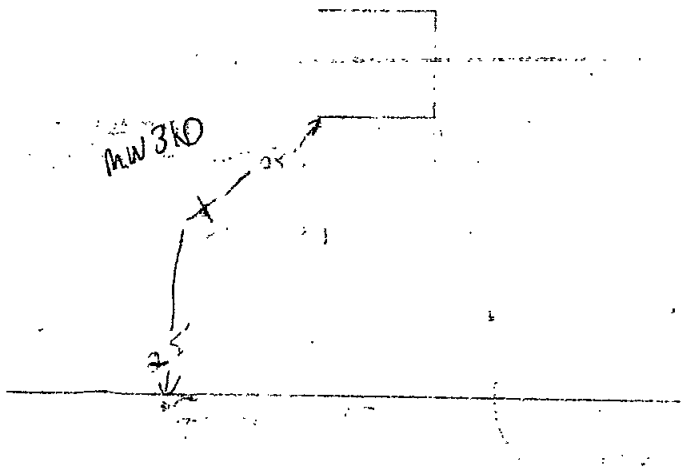
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
			Bergen

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





OR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JAN 28 2003
BUREAU OF WATER ALLOCATION

OR ☐ Issuance of this permit is subject to the conditions attached. (see next page)

.E.P. ☐ For monitoring purposes only

SE ☐

☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

E REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
ompliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

ite 1/23/03 Signature of Driller [illegible] Registration No. [illegible]

Signature of Property Owner [illegible]

LWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 66774

Atlas Sheet Coordinates 26 : 03 : 379

OWNER IDENTIFICATION - Owner NICHOLS, MICHAEL & LORIAN
Address 37 GROVE AVE
City ROCHELLE PARK State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 3 ID
County BERGEN Municipality MAYWOOD BORO Lot No. 15 Block No. 15
Address 37 GROVE AVE

DATE WELL STARTED 2/12/03
DATE WELL COMPLETED 2/14/03

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 45 ft.
Well finished to 45 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 7 ft.

Water level was measured using tape

Well was developed for _____ hours at _____ gpm

Method of development pump

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid — Type of Rig IRT4W

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	-3	20	6	Steel	19#
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	-3	15	10	Steel	Sch 40
Open Hole or Screen (No. Used)	20	45	6	Rock	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	0	20	ann	Neat Cement Bentonite	1000 lbs. ___ lbs.

Grouting Method Pressure
Drilling Method air Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-.5 Concrete base
.5-6 Tan IRD sandy silt
6-9 RD/Brn silt clay
9-10 Weathered rock
10-17 Red Brunswick shale
17-32 Fracture
32-45 Fracture

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING, INC

Well Driller (Print) Douglas Myerchin

Driller's Signature Douglas Myerchin

Registration No. M1277 Date 3/28/03

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __° __' __.__" LONGITUDE: __° __' __.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
11/01

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

34

MAR 2 2003

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. 2667268

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26.03.379

Owner: Scott Belvin
Address: 58 Grove avenue
Rochelle Park NJ

Driller: B & B Drilling Inc
Address: P.O. Box 8
Netcong NJ 07856

Name of Facility: Same
Address: as above
Maywood ~~Above~~ Borough

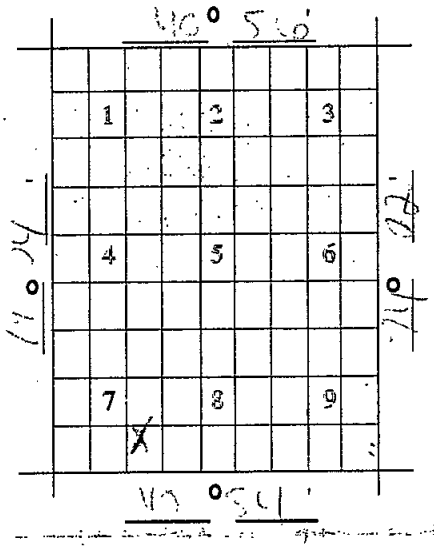
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	50 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

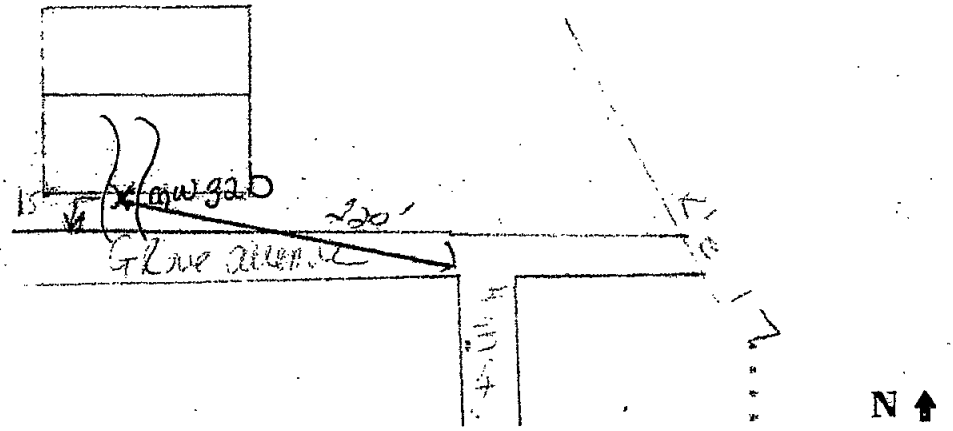
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
66	17.03	Maywood	Bergen

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ " __ ' __ __ " LONGITUDE: __ " __ ' __ __ "

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____
- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site

CASE I.D. Number _____

This Space for Approval Stamp
MAR 18 2003
BUREAU OF WATER ALLOC

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐ _____

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/13/03 Signature of Driller [illegible] Registration No. M1977

Signature of Property Owner [illegible]

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 26 ~~57268~~

Atlas Sheet Coordinates ~~26~~ : ~~03~~ : ~~379~~

OWNER IDENTIFICATION - Owner ~~BELVIN, SCOTT~~
Address ~~58 GROVE AVE~~
City ~~ROCHELLE PARK~~ State ~~NJ~~ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 32D
County BERGEN Municipality ~~MAYWOOD BORO~~ Lot No. ~~66~~ Block No. ~~17.03~~
Address 58 GROVE AVE

DATE WELL STARTED 5/2/03
DATE WELL COMPLETED 5/5/03

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 57 ft.
Well finished to 57 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: ☐ above grade
☑ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed?
☑ Yes ☐ No

Static water level after drilling ____ ft.

Water level was measured using

Well was developed for ____ hours at ____ gpm

Method of development

Note: Measure all depths – from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	32	6	Steel	18#
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	0	20	10	Steel	Sch 40
Open Hole or Screen (No. Used)	32	57	6	open hole	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	0	32	ann	Neat Cement Bentonite	1000 lbs. ____ lbs.

Grouting Method Pioneer
Drilling Method Air Rotary

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type:

Drilling Fluid Type of Rig CME 75

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company ~~P & P DRILLING, INC~~

Well Driller (Print) Douglas Myerchin

Driller's Signature Douglas Myerchin

Registration No. 21977 Date 6/5/03

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-5' concrete/base
.5-6' Sand/silt
6-9' S.H/clay
9-17' Brunswick Shale
17-57' S.A.A.

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: ___ ° ___ ' ___.___ " LONGITUDE: ___ ° ___ ' ___.___ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT 54

Permit No. 2665218

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 26 . 03 . 2 98

Owner: US EPA c/o The Shaw Group Inc
Address: 100 W. Hunter Avenue
Maywood NJ 07607

Driller: B & B Drilling Inc
Address: P.O. Box 8
Netcong NJ 07857

Name of Facility: Maywood Fisrap Superfund Site
Address: Grove Avenue
Rochelle Park NJ

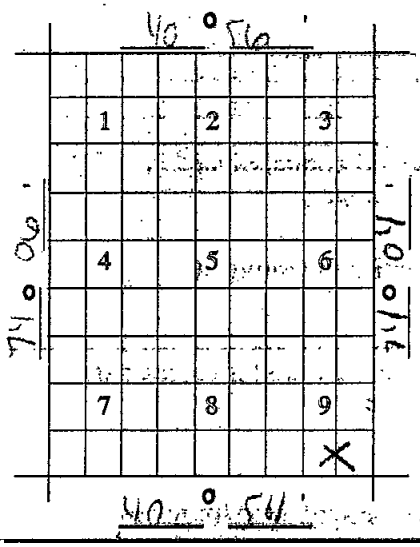
Diameter of Well(s)	6 Inches	Proposed Depth of Well(s)	50 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	——— cumulative GPM

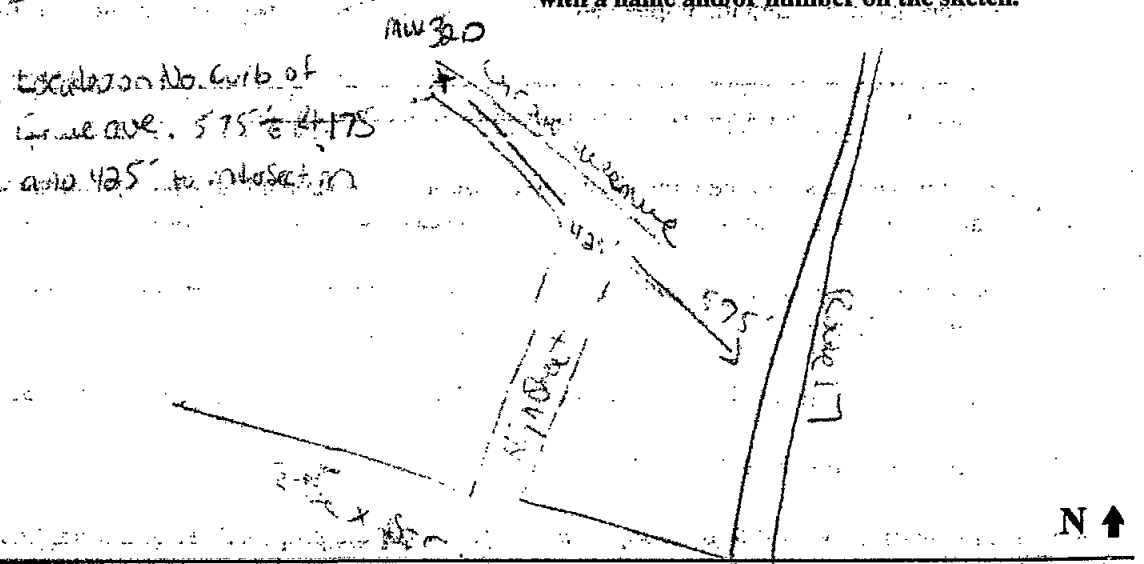
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
N/a	N/a	Rochelle Park	Bergen

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☒ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JUL 19 2002
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 7/15/02 Signature of Driller [signature] Registration No. M277

Signature of Property Owner [signature]

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 26 - 65218

Atlas Sheet Coordinates 26 : 03 : 298

OWNER IDENTIFICATION - Owner USEPA C/O SHAW GROUP INC
Address 100 W HUNTER AVE
City MAYWOOD State NJ Zip Code 07607

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW34D
County BERGEN Municipality ROCHELLE PARK T Lot No. N/A Block No. N/A
Address GROVE AVENUE

DATE WELL STARTED 9/12/02
DATE WELL COMPLETED 9/16/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 53 ft.
Well finished to 53 ft.

Borehole diameter:
Top 10 in.
Bottom 6 in.

Well was finished: [X] above grade [ ] flush mounted

If finished above grade, casing height (stick up) above land surface 2 ft.

Was steel protective casing installed? [X] Yes [ ] No

Static water level after drilling _____ ft.

Water level was measured using _____

Well was developed for _____ hours at _____ gpm

Method of development _____

Was permanent pumping equipment installed? [ ] Yes [X] No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid — Type of Rig IRTHW

Health and Safety Plan submitted? [X] Yes [ ] No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+2	28	6	Steel	19#
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)	0	18	10	Steel	sch 40
Open Hole or Screen (No. Used)	28	53	6	Bedrock	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack					
Grout	0	28	ann	Neat Cement Bentonite	900 lbs. ___ lbs.

Grouting Method Pressure
Drilling Method Air Rotary

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-6 Crushed Stone - mulch
6-18 F/C Sand, S.I. + clay
18-53 Bedrock - S.I. + Sandstone

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company B & B DRILLING, INC
Well Driller (Print) Douglas Myerchin
Driller's Signature Douglas Myerchin
Registration No. 1277 Date 9/21/02

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: ° ' " LONGITUDE: ° ' "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

APPENDIX T3
BORING LOGS AND MONITORING WELL CONTRUCTION LOGS

APPENDIX T3.1
BORING LOGS

HTRW DRILLING LOG	DISTRICT	HOLE NUMBER
	New York District	MW-27D
1. COMPANY NAME	2. DRILLING SUBCONTRACTOR	SHEET SHEETS
Stone & Webster	B & B Drilling	1 OF 3

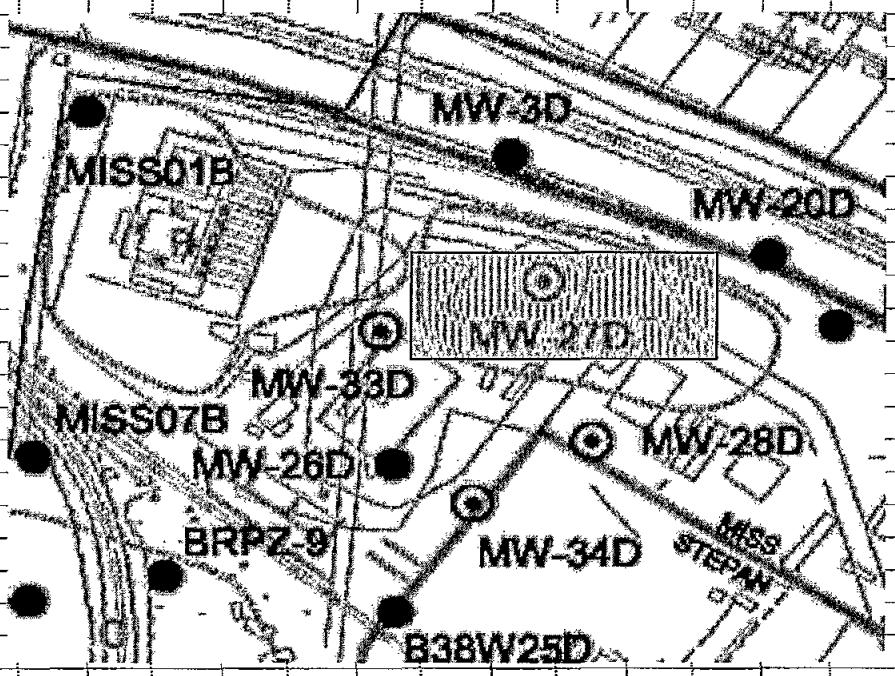
3. PROJECT	4. LOCATION	
Maywood	MISS	
5. NAME OF DRILLER	6. MANUFACTURERS DESIGNATION OF DRILL	
Doug Myerchin	T-4 Air Rotary Rig	
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 10" Air Hammer	8. HOLE LOCATION	
6" Air Hammer	Approximately 200' NE of MW-26D	
	9. SURFACE ELEVATION	
	62.68	
	10. DATE STARTED	11. DATE COMPLETED
	08/06/2002	08/09/2002
12. OVERBURDEN THICKNESS 20'	15. DEPTH GROUNDWATER ENCOUNTERED	
	Approx. 28-30' bgs in bedrock	
13. DEPTH DRILLED INTO ROCK 35.5'	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLINGCOMPLETED	
	18.45 (8-14-02)	
14. TOTAL DEPTH OF HOLE 58.5'	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
No			No

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	21. CORE RECOVERY %
Groundwater	Yes			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	SIGNATURE OF INSPECTOR
		Stickup		

LOCATION SKETCH / COMMENTS SCALE: 1" = 65'



PROJECT	HOLE NUMBER
MAYWOOD FUSRAP	MW-27D

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-27D

PROJECT Maywood

INSPECTOR Sal Kokol

SHEET 2 OF 3 SHEETS

ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX #	ANALYTICAL SAMPLE #	BLOW COUNTS	REMARKS
	0	Fill comprised of Gray, Brown, Black Sand, Silt, Gravel Sand is Coarse					
	5'	Brown, tan coarse to medium fine Sand & Silt					
		Occassional Gray/White clumps of Clay					Possibly ash material
	10'						
		Brown/Black silty Sand w/gray clumps					Moisture on rods noted
	15'						
	20'	Top of Rock @ 20'					
		Red/brown siltstone w/friable standstone					air hammer rate of 1 ft/2 min.
	25'						
	30'						
							Casing set @ 33.5' Open hole to 58.5'
	35'						
	40'	Red/Brown medium to fine grained sandstone & siltstone					
	45'						

PROJECT MAYWOOD FUSRAP

HOLE NUMBER MW-27D

HTRW DRILLING LOG (CONTINUATION SHEET)							HOLE NUMBER MW-27D
PROJECT Maywood			INSPECTOR Sal Kokol				SHEET 3 OF 3 SHEETS
ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX #	ANALYTICAL SAMPLE #	BLOW COUNTS	REMARKS
	45'						
	50'						
	55'						
		EOB @ 58.5'					
	60'						
	65'						
	70'						
	75'						
	80'						
	85'						
	90'						
PROJECT MAYWOOD FUSRAP							HOLE NUMBER MW-27D

HTRW DRILLING LOG	DISTRICT	HOLE NUMBER
	New York District	MW-28D
1. COMPANY NAME	2. DRILLING SUBCONTRACTOR	SHEET SHEETS
Stone & Webster	B & B Drilling	1 OF 2

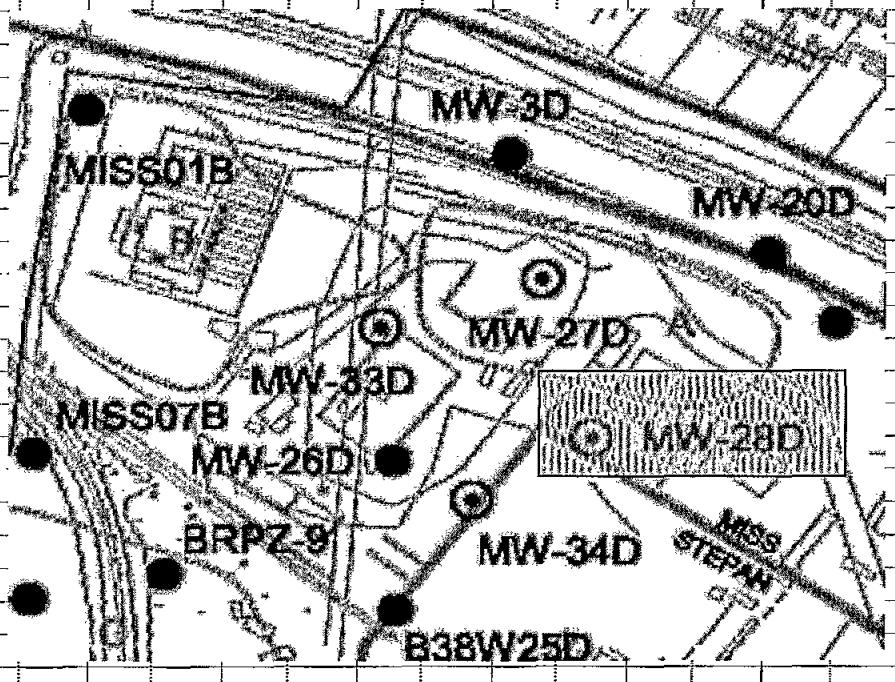
3. PROJECT	4. LOCATION
Maywood	MISS
5. NAME OF DRILLER	6. MANUFACTURERS DESIGNATION OF DRILL
Doug Myerchin	T-4 Air Rotary Rig
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 10" Air Hammer	8. HOLE LOCATION Apprximately 160' East of MW-26D
6" Air Hammer	9. SURFACE ELEVATION 61.9
	10. DATE STARTED 08/07/2002 / 11. DATE COMPLETED 08/12/2002
12. OVERBURDEN THICKNESS 20'	15. DEPTH GROUNDWATER ENCOUNTERED Approx. 47' bgs in bedrock
13. DEPTH DRILLED INTO ROCK 37'	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLINGCOMPLETED 18.45 (8-14-02)
14. TOTAL DEPTH OF HOLE 57'	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
No			No

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	21. CORE RECOVERY %
Groundwater	Yes			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	SIGNATURE OF INSPECTOR
		Stickup		

LOCATION SKETCH / COMMENTS SCALE: 1" = 65'



PROJECT	HOLE NUMBER
MAYWOOD FUSRAP	MW-28D

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-28D

PROJECT Maywood

INSPECTOR Sal Kokol

SHEET 2 OF 2 SHEETS

ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX #	ANALYTICAL SAMPLE #	BLOW COUNTS	REMARKS
	0	Ground Surface Fill: Crushed rock, mulch, sand, silt.					
	5'	Overburden Tan/brown cmf SAND, trace silt, trace gravel.					
	10'	Black/Brown SAND, w/clay clumps					
	15'	Red-brown dense sand & silt, tr. gravel					
	20'	Top of rock @ 20' bgs					Surfactant odor detected 22-32 feet bgs
	25'	Red/brown medium to fine grained SS/occasional silt stone					
	30'	fragments.					
	35'						Casing set @ 32' bgs Open hole to 57'
	40'	Red/Brown medium to fine grained sandstone & siltstone					
	45'						
	50'						First water @ 47'
	55'						
		E.O.B @ 57'					

PROJECT MAYWOOD FUSRAP

HOLE NUMBER MW-28D

HTRW DRILLING LOG	DISTRICT	HOLE NUMBER
	New York District	MW-31D
1. COMPANY NAME	2. DRILLING SUBCONTRACTOR	SHEET SHEETS
Shaw E&I	B & B Drilling	1 OF 2

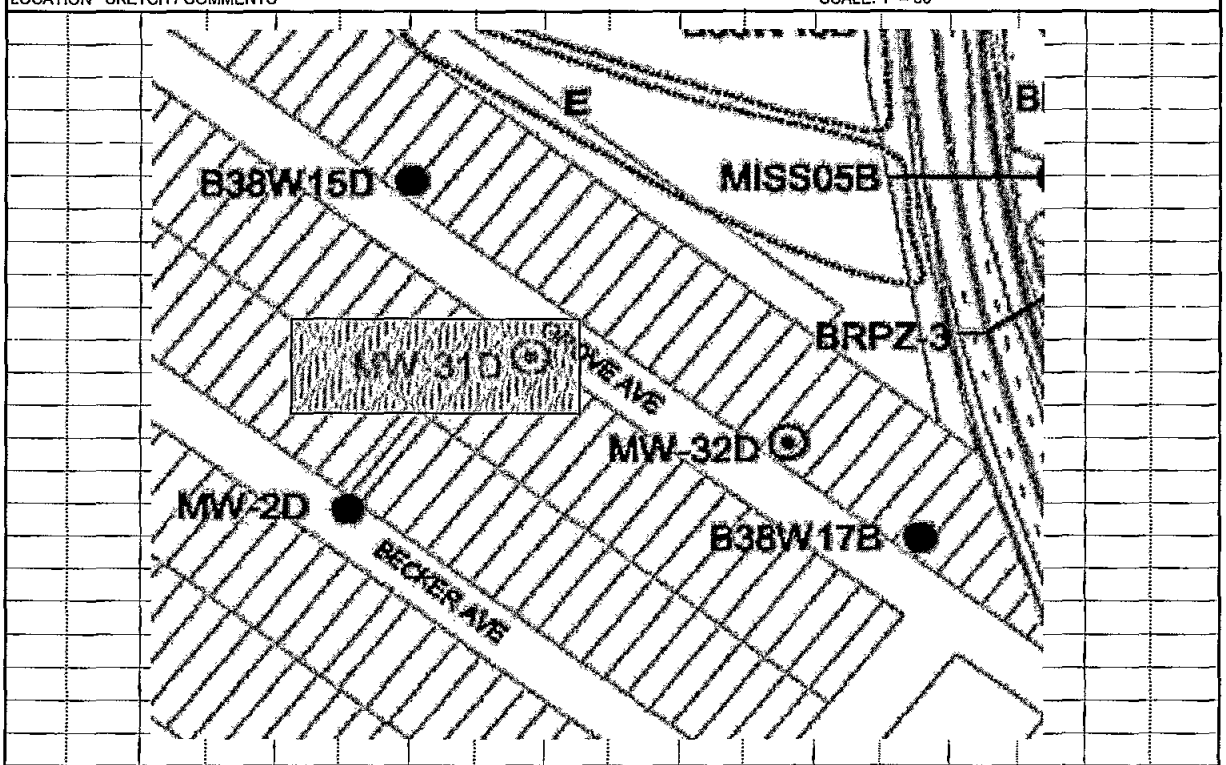
3. PROJECT Maywood	4. LOCATION 37 Grove Avenue, Rochelle Park
5. NAME OF DRILLER Doug Myerchin	6. MANUFACTURERS DESIGNATION OF DRILL T-4 Air Rotary Rig
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 10" Air Hammer 6" Air Hammer	8. HOLE LOCATION Appxximately 375' southwest of B38W17B
	9. SURFACE ELEVATION 49.08
	10. DATE STARTED 02/12/2003 / 11. DATE COMPLETED 02/14/2003
12. OVERBURDEN THICKNESS 10'	15. DEPTH GROUNDWATER ENCOUNTERED 8' bgs (2-14-03)
13. DEPTH DRILLED INTO ROCK 35'	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLINGCOMPLETED 6.70 (2/21/03)
14. TOTAL DEPTH OF HOLE 45'	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
No			No

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	21. CORE RECOVERY %
Groundwater	Yes			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	SIGNATURE OF INSPECTOR
		Flushmount		

LOCATION SKETCH / COMMENTS SCALE: 1" = 80'



PROJECT	HOLE NUMBER
MAYWOOD FUSRAP	MW-31D

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-31D

PROJECT Maywood

INSPECTOR Sal Kokol

SHEET 2 OF 2 SHEETS

ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX #	ANALYTICAL SAMPLE #	BLOW COUNTS	REMARKS
	0	Concrete and subbase veneer Brown/Reddish Brown, coarse to medium Sand, little silt, little gravel w/rock frag.					
	5'						
		medium to coarse Sand, gravel with tr. Silt and clay					
	10'	Top of rock @ 12' bgs Dark Brown/Red medium to fine grained sandstone					
							Fracture producing water @ 17'-18'
	20'						6-in. Casing set @ 20' bgs Open hole from 20'-45' bgs
	30'						Fracture producing water @ 32'-35' Well producing significant water from 35'-45'
	40						
		E.O.B @ 45'					
	50						

PROJECT MAYWOOD FUSRAP

HOLE NUMBER MW-31D

HTRW DRILLING LOG	DISTRICT	HOLE NUMBER
	New York District	MW-32D
1. COMPANY NAME	2. DRILLING SUBCONTRACTOR	SHEET SHEETS
Shaw E&I	B & B Drilling	1 OF 2

3. PROJECT Maywood	4. LOCATION Rochelle Park
5. NAME OF DRILLER Doug Myerchin	6. MANUFACTURERS DESIGNATION OF DRILL T-4 Air Rotary Rig
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 10" Air Hammer 6" Air Hammer	8. HOLE LOCATION Approximately 150 ' northwest of B38W17B
	9. SURFACE ELEVATION 49.18
	10. DATE STARTED 05/02/2003 / 11. DATE COMPLETED 05/05/2003
12. OVERBURDEN THICKNESS 18'	15. DEPTH GROUNDWATER ENCOUNTERED 8' bgs
13. DEPTH DRILLED INTO ROCK 39'	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLINGCOMPLETED 6.10 (5/5/03)
14. TOTAL DEPTH OF HOLE 57'	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
No			No

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	21. CORE RECOVERY %
Groundwater	Yes			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	SIGNATURE OF INSPECTOR
		Flushmount		

LOCATION SKETCH / COMMENTS — SCALE: 1" = 80'



PROJECT	HOLE NUMBER
MAYWOOD FUSRAP	MW-32D

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-32D

PROJECT Maywood

INSPECTOR Rob DeMott & Kevin Cote

SHEET 2 OF 2 SHEETS

ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX #	ANALYTICAL SAMPLE #	BLOW COUNTS	REMARKS
	0	Concrete and sub-base sand to 18"					
		Dry, Red-brown fine to medium sand and silt					
		Wet, medium to coarse red/brown sand w/some					
	10	silt					
		Top of Rock @ 18'					
	20	Red-brown siltstone and fine-grained sandstone					water encountered @ 20'
							Fracture @ 25'
							6" casing set @ 32' bgs
	30						Open hole to 57'
							From 35'-45' advanced
							approx. 1'/min.
	40						
							Fracture @ 47'
	50						50' -55' advanced
							approx. 1'/2 min.
		EOB @ 57'					
	60						

HTRW DRILLING LOG

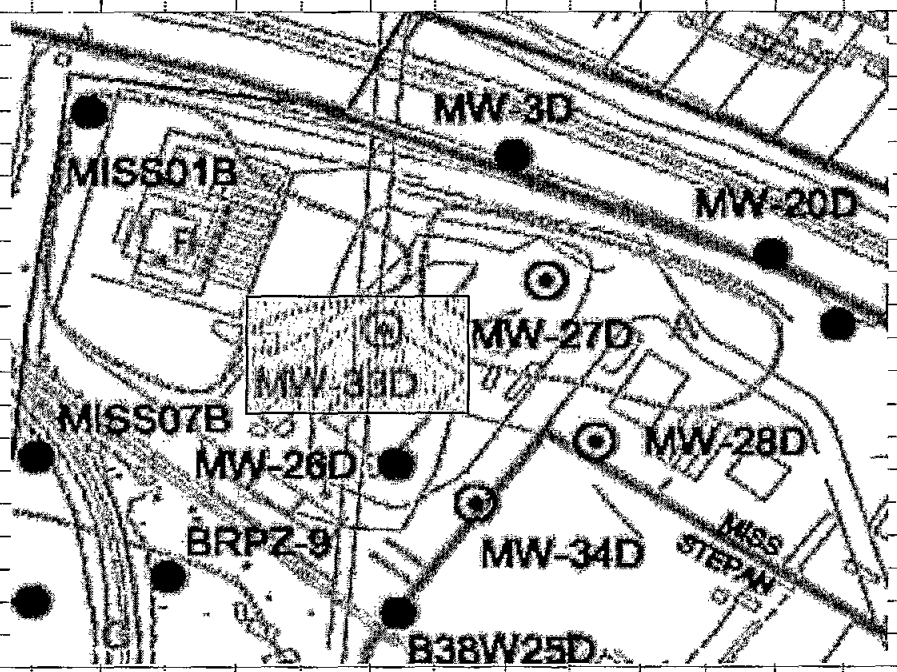
	DISTRICT New York District	HOLE NUMBER MW-33D
1. COMPANY NAME Stone & Webster	2. DRILLING SUBCONTRACTOR B & B Drilling	SHEET 1 OF SHEETS 3

3. PROJECT Maywood	4. LOCATION MISS
5. NAME OF DRILLER Doug Myerchin	6. MANUFACTURERS DESIGNATION OF DRILL T-4 Air Rotary Rig
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 10" Air Hammer 6" Air Hammer	8. HOLE LOCATION NE Corner of Temp. Building
	9. SURFACE ELEVATION 59.44
	10. DATE STARTED 09/10/2002 / 11. DATE COMPLETED 09/12/2002
12. OVERBURDEN THICKNESS 20'	15. DEPTH GROUNDWATER ENCOUNTERED Approximately 16'
13. DEPTH DRILLED INTO ROCK 48'	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLINGCOMPLETED 12.70 (9/13/02)
14. TOTAL DEPTH OF HOLE 68'	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES No	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES None

20. SAMPLES FOR CHEMICAL ANALYSIS Groundwater	VOC Yes	METALS	OTHER (SPECIFY)	21. CORE RECOVERY %
22. DISPOSITION OF HOLE BACKFILLED	MONITORING WELL Stickup		OTHER (SPECIFY)	SIGNATURE OF INSPECTOR

LOCATION SKETCH / COMMENTS — SCALE: 1" = 65'



PROJECT MAYWOOD FUSRAP	HOLE NUMBER MW-33D

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER MW-33D

PROJECT Maywood

INSPECTOR Sal Kokol

SHEET 2 OF 3 SHEETS

ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX #	ANALYTICAL SAMPLE #	BLOW COUNTS	REMARKS
	0	Ground Surface					
		Fill: Gravel, crushed rock.					
	5'						
		Color of sed. Black from 8'-21'					
	10'	Brown cmf SAND,silt, wood fragments from 10'-20'					Wood may be related to roots or old rail road ties.
	15'						Moist at 16'
	20'	Fractured Bedrock at 20'					Top of Rock
	25'	Competent bedrock at 25' Redish brown medium to fine grained SS					Upper bedrock section appears fractured.
	30'	Soft/fractured medium to fine grained sandstone, some siltstone (31'-38')					
	35'						
	40'	Soft medium to fine grained Sandstone					Set 6" ID casing in competent rock @ 38'

PROJECT MAYWOOD FUSRAP

HOLE NUMBER MW-33D

HTRW DRILLING LOG (CONTINUATION SHEET)							HOLE NUMBER MW-33D
PROJECT Maywood			INSPECTOR Sal Kokol				SHEET 3 OF 3 SHEETS
ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX #	ANALYTICAL SAMPLE #	BLOW COUNTS	REMARKS
	45'	Soft medium to fine grained Sandstone					
	50'						Fractured/soft fine SS/silt stone to 68'
		Soft fine Sandstone & Siltstone					Installed 2" PVC screen/ filter pack from 43 to 68'
	55'						
		Soft fine Sandstone & Siltstone					
	60'						
		Soft fine Sandstone & Siltstone					
	65'						
		E.O.B. @ 68'					
	70'						
PROJECT MAYWOOD FUSRAP							HOLE NUMBER MW-33D

HTRW DRILLING LOG	DISTRICT	HOLE NUMBER
	New York	MW-34D
1. COMPANY NAME	2. DRILLING SUBCONTRACTOR	SHEET SHEETS
Stone & Webster	B & B Drilling	1 OF 2

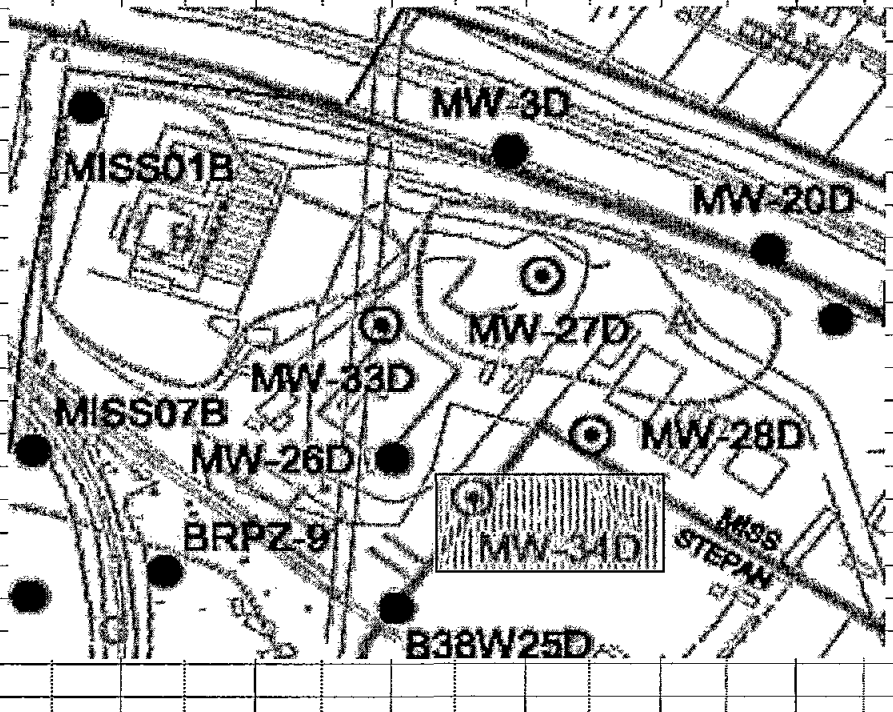
3. PROJECT	4. LOCATION
Maywood	MISS
5. NAME OF DRILLER	6. MANUFACTURERS DESIGNATION OF DRILL
Doug Myerchin	T-4 Air Rotary Rig
7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 10" Air Hammer	8. HOLE LOCATION Appxximately 60' East of MW-26D
6" Air Hammer	9. SURFACE ELEVATION 58.35
	10. DATE STARTED 09/12/2002 / 11. DATE COMPLETED 09/16/2002
12. OVERBURDEN THICKNESS 18'	15. DEPTH GROUNDWATER ENCOUNTERED Appxximately 14'
13. DEPTH DRILLED INTO ROCK 35'	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLINGCOMPLETED 10.04 (9/17/02)
14. TOTAL DEPTH OF HOLE 53'	17. OTHER WATER LEVEL MEASURMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES None

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	21. CORE RECOVERY %
GROUNDWATER	Yes			

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	SIGNATURE OF INSPECTOR
		Stickup		

LOCATION SKETCH / COMMENTS SCALE: 1' = 65'



PROJECT	HOLE NUMBER
MAYWOOD FUSRAP	MW-34D

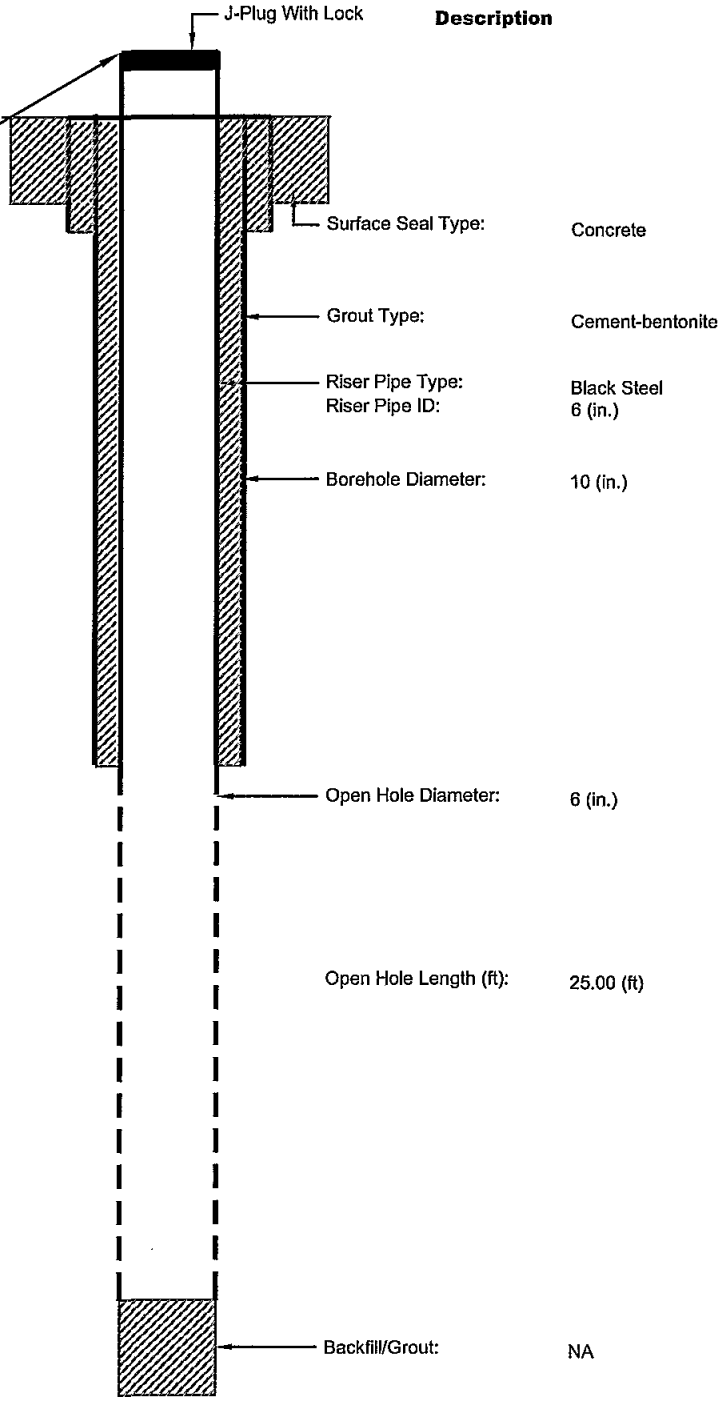
HTRW DRILLING LOG (CONTINUATION SHEET)							HOLE NUMBER	MW-34D
PROJECT	Maywood		INSPECTOR	Sal Kokol				
							SHEET	SHEETS
			FIELD	GEOTECH	ANALYTICAL		2 OF 2	
ELEV.	DEPTH	DESCRIPTION OF MATERIALS	SCREENING	SAMPLE OR	SAMPLE #	BLOW COUNTS	REMARKS	
			RESULTS	CORE BOX #				
	0	Ground Surface Fill: Crushed rock, mulch, sand, silt.						
	5'	Reddish brown cmf SAND, little silt, trace gravel, trace clay.						
	10'							
	15'							
		Gravel/weathered rock interface - angular c to med gravel (sandstone fragments) mixed w/sand & some silt					Top of Rock @ 18'	
		Competent bedrock at 19'						
		Red/Dk. Brn m-f grained Sandstone, possibly mixed w/silty Sandstone at different						
	20'	horizons						
		m-f Sandstone with finer sandy & silty horizons - finer w/depth						
	25'						Six-inch casing to 28'	
							Open rock hole to 53'	
	35'							
	45'							
		Silt and shale chips at 51'-52'						
		E.O.B @53'						
	55'							
PROJECT		MAYWOOD FUSRAP					HOLE NUMBER	MW-34D

APPENDIX T3.2
MONITORING WELL CONSTRUCTION LOGS

SHAW ENVIRONMENTAL & INFRASTRUCTURE

Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	**MW-27D**
Client:	Shaw Environmental & Infrastructure	**Date:** 08/6-8/9/02	**Subcontractor:** B&B Drilling
Drilling Method:	Air rotary	**Type of Measuring Point**	**Elevation (NGVD)**
Development Method:	Air & electrosubmersible pump	GROUND SURFACE:	62.68
Construction Dates:	08/06/02 **to** 08/9/02	TOP OF INNER CASING:	N/A
		TOP OF CASING (OUTER IF APPLICABLE):	65.16

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Top of Casing	+2.48	65.16
Grade	0.00	62.68
Top of Bedrock	20.00	42.68
Top of Open Hole	33.50	29.18
Base of Open Hole	58.50	4.18
Total Depth	58.50	4.18



Notes: Developed by airlifing, surge and pumping.

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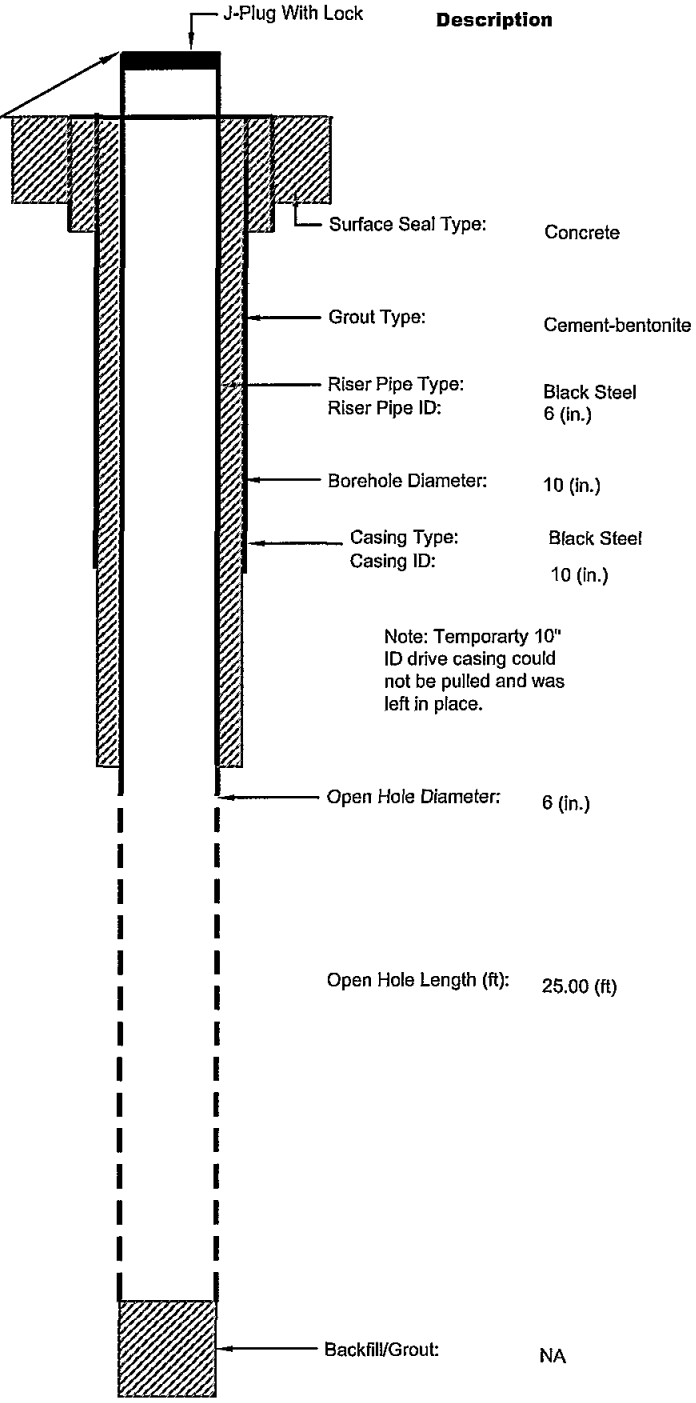
SHAW ENVIRONMENTAL & INFRASTRUCTURE

Project: FUSRAP MAYWOOD SUPERFUND SITE		**Job Number:**	**MW-28D**
Client: Shaw Environmental & Infrastructure		**Date:** 08/7-8/12/02	**Subcontractor:**
Drilling Method: Air rotary			**Type of Measuring Point** **Elevation (NGVD)**
Development Method: Air & electrosubmersible pump			GROUND SURFACE: 61.9
Construction Dates: 08/07/02	**to** 08/12/02		TOP OF INNER CASING: N/A
			TOP OF CASING (OUTER IF APPLICABLE): 64.5

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Top of Casing	+2.6	64.5
Grade	0.00	61.9
Top of Bedrock	20.00	41.90
Top of *Open Hole*	32.00	29.90
Base of Open Hole	57.00	4.9
Total Depth	57.00	4.9



Notes: Developed by airlifing, surge and pumping.

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SHAW ENVIRONMENTAL & INFRASTRUCTURE

Project: FUSRAP MAYWOOD SUPERFUND SITE

Job Number:

MW-31D

Client: Shaw Environmental & Infrastructure

Date: 02/12-2/14/03

Subcontractor: B&B Drilling

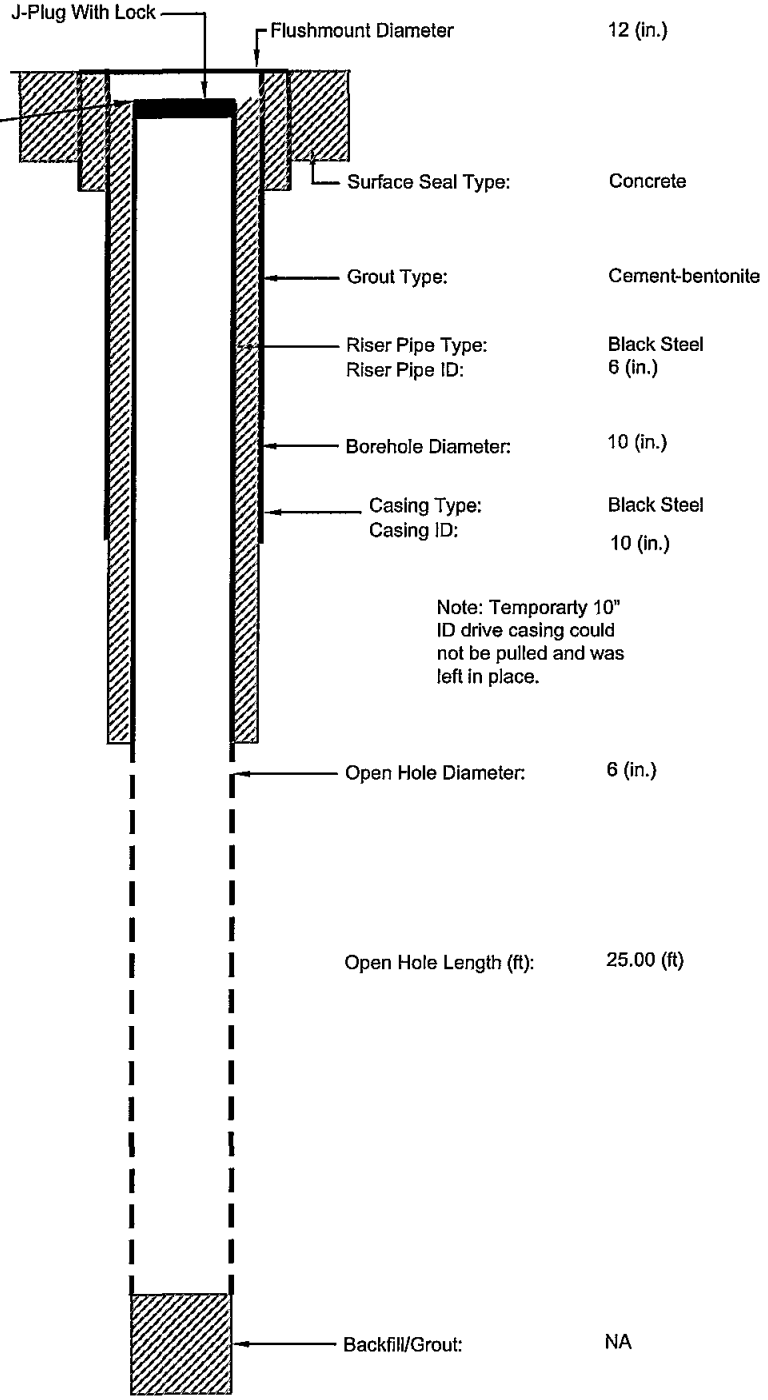
Drilling Method: Air rotary

Development Method: Air and electrosubmersible pump

Construction Dates: 02/12/03 **to** 02/14/03

Type of Measuring Point	Elevation (NGVD)
GROUND SURFACE:	49.08
TOP OF INNER CASING:	48.62
TOP OF CASING (OUTER IF APPLICABLE):	49.08

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade/Top of Casing (Outer)	0.00	49.08
Top of Inner Casing	0.46	48.62
Top of Bedrock	10.00	39.08
Top of Open Hole	20.00	29.08
Base of Open Hole	45.00	4.08
Total Depth	45.00	4.08



Notes: Developed by airlifing, surge and pumping.

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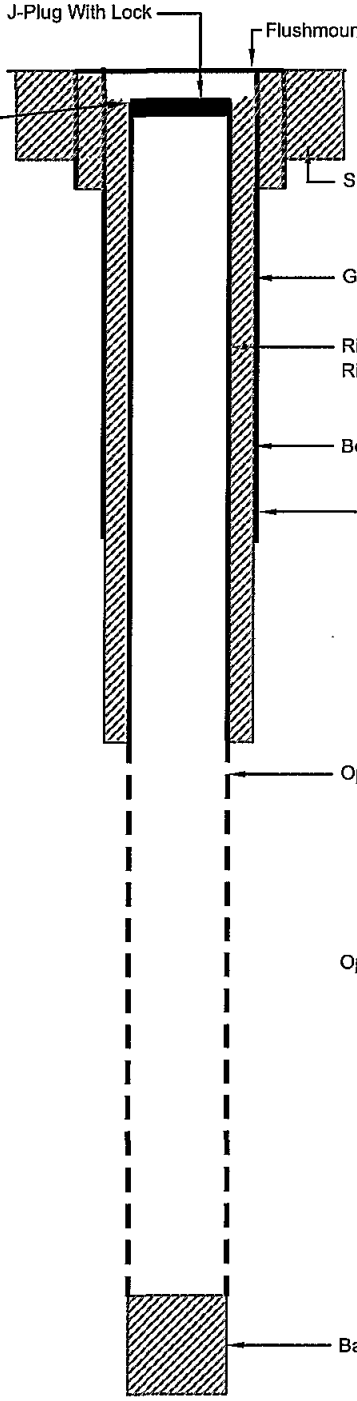
SHAW ENVIRONMENTAL & INFRASTRUCTURE

MW-32D

Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	
Client:	Shaw Environmental & Infrastructure	**Date:**	05/2-5/5/03
Subcontractor:	B&B Drilling		
Drilling Method:	Air rotary		
Development Method:	Air and electrosubmersible pump		
Construction Dates:	05/2/03 to 05/5/03		

Type of Measuring Point	**Elevation (NGVD)**
GROUND SURFACE:	49.18
TOP OF INNER CASING:	48.83
TOP OF CASING (OUTER IF APPLICABLE):	49.18

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Grade/Top of Casing (Outer)	0.00	49.18
Top of Inner Casing	0.35	48.83
Top of Bedrock	18.00	31.18
Top of Open Hole	32.00	17.18
Base of Open Hole	57.00	-7.82
Total Depth	57.00	-7.82



Notes: Developed by airlifing, surge and pumping.

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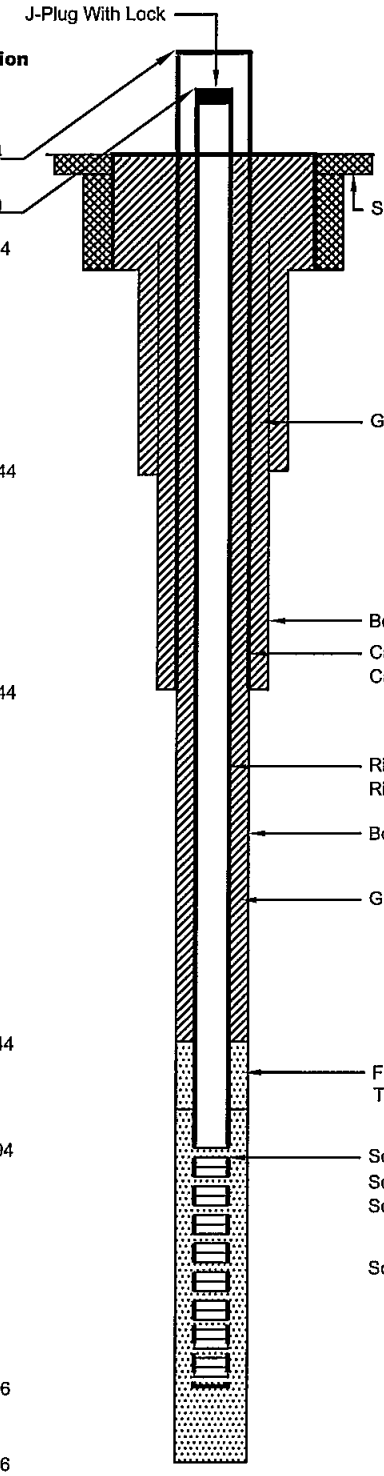
SHAW ENVIRONMENTAL & INFRASTRUCTURE

MW-33D

Project:	FUSRAP MAYWOOD SUPERFUND SITE	**Job Number:**	
Client:	Shaw Environmental & Infrastructure	**Date:**	09/10-9/12/02
Subcontractor:	B&B Drilling		
Drilling Method:	Air Rotary		
Development Method:	Surge & electrosubmersible pump		
Construction Dates:	09/10/02	**to**	09/12/02

Type of Measuring Point	Elevation (NGVD)
GROUND SURFACE:	59.44
TOP OF INNER CASING:	62.00
TOP OF CASING (OUTER IF APPLICABLE):	62.24

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Top of Casing (Outer)	+2.90	62.24
Top of Casing (Inner)	+2.56	62.00
Grade	0.00	59.44
Top of Bedrock	20.00	39.44
Base of 6-in. Casing	38.00	21.44
Top of Filter Pack	43.00	16.44
Top of Screen	45.50	13.94
Base of Screen	65.50	-6.06
Total Depth	68.00	-8.56



Description	
Surface Seal Type:	Concrete
Grout Type:	Cement-bentonite
Borehole Diameter:	10 (in.)
Casing Type:	Black Steel
Casing ID:	6 (in.)
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 (in.)
Borehole Diameter:	6 (in.)
Grout Type:	Cement-bentonite
Filter/Sand Pack Type:	#1 'Morie Sand'
Screen Type:	Schedule 40 PVC
Screen ID:	2 (in.)
Screen Slot Size:	10 (0.01-inch)
Screen Length (ft):	20.0

Notes: Developed by airlifing, surge and pumping.

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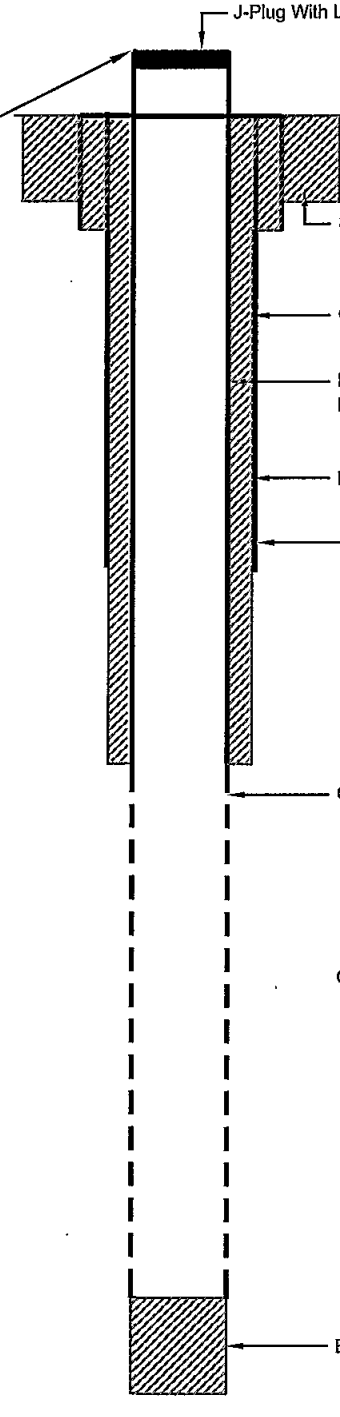
SHAW ENVIRONMENTAL & INFRASTRUCTURE

Project: FUSRAP MAYWOOD SUPERFUND SITE		**Job Number:**	**MW-34D**
Client: Shaw Environmental & Infrastructure		**Date:** 09/12-9/16/02	**Subcontractor:** B&B Drilling
Drilling Method: Air rotary		**Type of Measuring Point**	**Elevation (NGVD)**
Development Method: Air & electrosubmersible pump		GROUND SURFACE:	58.35
Construction Dates: 09/12/02 **to** 09/16/02		TOP OF INNER CASING:	N/A
		TOP OF CASING (OUTER IF APPLICABLE):	60.63

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Top of Casing	+2.28	60.63
Grade	0.00	58.35
Top of Bedrock	18.00	40.35
Top of Open Hole	28.00	30.35
Base of Open Hole	53.00	5.35
Total Depth	53.00	5.35



Description

Notes: Developed by airlifing, surge and pumping.

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APPENDIX T4
WELL DEVELOPMENT FORMS

Appendix D
Summary of Water Purged During Well Development and Specific Capacity Testing

	Volume Evacuated (gallon)	Note	Pump Rate (gpm)	Activity	Development Volume Required	Date of Measurement
/OOD SUPERFUND SITE,	65		0.25 - 0.5	Well Development	190	8/12/2002
MW-27D	65		0.25 - 0.5	Well Development		8/13/2003
MW-27D	40		0.25 - 0.5	Well Development		8/14/2002
MW-27D	20		0.25 - 0.5	Well Development		8/15/2002
MW-27D	5.3		0.04 - 0.055	Specific Capacity Test		8/15/2002
Total Volume Purged	195.3					
MW-28D	8		0.25 - 0.5	Well Development	190	8/12/2002
MW-28D	132		0.25 - 0.5	Well Development		8/13/2002
MW-28D	50		0.25 - 0.5	Well Development		8/14/2002
MW-28D	20		0.15-0.2	Specific Capacity Test		8/14/2002
Total Volume Purged	210					
MW-31D	125	NFC	12 - 15	Well Development	170	2/14/2003
MW-31D	350		5	Well Development/Specific Capacity		2/21/2003
Total Volume Purged	475					
MW-32D	240		>20	Well Development	230	5/5/2003
MW-32D	400		2.5 - 4	Specific Capacity Test		5/6/2003
Total Volume Purged	640					
MW-33D	65		1.25	Well Development	200(1)/22(2)	9/13/2002
MW-33D	115		1.25	Well Development		9/16/2002
MW-33D	99		0.8 - 1	Specific Capacity Test		9/16/2002
Total Volume Purged	279					
MW-34D	150	NFC	NR	Well Development	190	9/16/2002
MW-34D	55		0.25 - 0.75	Well Development		9/17/2002
MW-34D	60.6		0.375 - 0.5	Specific Capacity Test		9/17/2003
Total Volume Purged	265.6					

Legend -

(1) - MW-33D was initally drilled as a 6-inch open well and completed as 2-inch PVC Screened well.
NR - Not recorded.
NFC - No Field Form Completed for development activity

ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-27D

PROJECT: MAYWOOD	SITE:	Page 1 of
Project No:	Client:	
Contractor:		Ground Elevation:
Start Date/Time: 8/12/02	Completion Date/Time:	Well Diameter: 6" ϕ
Development Method/Equipment: Pumping - Whale pump		
Logged by: S.K.	Water Level (ft bgs): 15.85	Protection Level:

Pre-development DTW (PVC) (ft): 18.35 DTB (PVC) (ft): 58

Post-development DTW (PVC) (ft): N/A

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) = } 6" ϕ ⇒ 63.25 gal.

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) = 189.75

Development Purge/Discharge Rate (gpm): .5 - .25 gpm

Maximum Drawdown During Purging (ft): 27.01

Total Quantity Purged: 65 gallons

Disposition of Purge Water:

Hours of Development: 3.5 hrs *

Hours of Decon: N/A

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	DO	Remarks
12:30		18.35	Clear	—	—	—	—	—	— Start —
13:00		31.10	↓	15.9	6.96	5.05	48.2	.48	
13:20		36.10		16.1	7.06	5.01	36.—	.60	
13:55		38.90		16.8	7.18	4.97	24.—	1.08	
14:25		42.35		17.1	7.19	4.83	10.—	.75	
14:55		44.65		17.4	7.19	4.87	10.—	.56	
15:30		45.24		17.9	7.18	4.85	10.—	.49	
15:45		45.36		18.1	7.18	4.84	10.—	.33	

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

* To be continued next day.

ATTACHMENT G

VELOPMENT LOG
& WEBSTER ENGINEERING CORP.

WELL NO. MW-27D

t: MAYWOOD | SITE: | Page 1 of

t No: | Client:

ractor: | Ground Elevation:

art Date/Time: 8/13/02; 7:35 | Completion Date/Time: 8/13/02: 14:35 | Well Diameter: 6"

Development Method/Equipment: Pumping w/ whale pump

Logged by: S.K. | Water Level (ft bgs): | Protection Level:

Pre-development DTW (PVC) (ft): | DTB (PVC) (ft):

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) = ≈ 190 gallons

Development Purge/Discharge Rate (gpm): Varying rates 0.25 gpm - ≤0.10 gmp.

Maximum Drawdown During Purging (ft): 25.3'

l Quantity Purged: Approx. 65 gallons today; 130 gallons total

Disposition of Purge Water:

Hours of Development: 7 hrs.

Hours of Decon: N/A (dedicated disposable pump)

Hours of Standby: N/A

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	D.O.	Remarks
7:35		23.60	Clear	19.1	6.57	4.88	8	2.44	Sample Sprayed into container, aerated it.
8:30		33.80		20.4	7.02	4.84	0	1.02	
9:30		44.40		16.2	6.89	4.93	-10	0.27	
10:30		47.75		16.4	7.03	4.88	-10	0.53	
11:30		48.30		18.5	7.03	4.87	-10	0.52	- Stopped 11:45 - 12:45
12:45		45.50		17.8	7.02	4.85	-10	0.38	
13:40		48.80		17.6	7.02	4.85	-10	0.28	
14:35	≈65 gal 130 Total.	48.90		—	—	—	—	—	Stopped

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

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ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-27D
Page 1 of

PROJECT: MAYWOOD
SITE:
Project No:
Client:
Contractor:
Ground Elevation:
Start Date/Time: 8/14/02; 2:30
Completion Date/Time: 08/14/02;
Well Diameter: 6"
Development Method/Equipment: Pumping.
Logged by: S. K
Water Level (ft bgs):
Protection Level:
Pre-development DTW (PVC) (ft): 35.50
DTB (PVC) (ft):
Post-development DTW (PVC) (ft):
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft³
(2-inch well = 0.164 x (DTB-DTW)(ft)) =
(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =
Minimum Purge Volume (gal) (3 well volumes) = ~~190~~ 190 (approx. 130 removed already)
Development Purge/Discharge Rate (gpm): .5 - .25 variable
Maximum Drawdown During Purging (ft): 47.10
Quantity Purged:
Disposition of Purge Water: X
Hours of Development: 2
Hours of Decon: N/A
Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	DO.	Remarks
0735		35.50	Clear	16.5	7.08	4.96	8	.28	
				16.7	7.02	4.84	-10	.28	→ 4th drum.
0930		44.20	Clear						
0955		47.10	Not pumping out - stopped for recharge.						

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

ATTACHMENT G

..ELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-27D

PROJECT: MAYWOOD	SITE:	Page 1 of
Project No:	Client:	
Contractor:		Ground Elevation:
Start Date/Time: 8/15/02 0800	Completion Date/Time: 8/15/02	Well Diameter:
Development Method/Equipment: Pumping		
Logged by: S.K.	Water Level (ft bgs):	Protection Level:

Pre-development DTW (PVC) (ft): 20.35' DTB (PVC) (ft): 58'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft³

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) = ~190 gallons (170 gallons already removed)

Development Purge/Discharge Rate (gpm): ~0.08 gpm or 310 ml/min. - reduced to 270 ml/m at 10:40

aximum Drawdown During Purging (ft):

l Quantity Purged:

Disposition of Purge Water:

Hours of Development:

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	D.O.	Remarks
0800		20.35	Clear	16.4	6.85	5.03	-10	0.67	
0900		20.90	Clear	16.8	6.97	5.01	-10	0.58	
1000		23.35	Clear	20.0	7.00	5.05	-10	0.57	
10:40		24.50	Clear	—	—	—	—	—	reduced flow rate to 270 ml/
11:40		25.60	Clear	21.5	7.00	5.05	-10	0.46	
12:20		26.65	Clear	21.7	7.00	5.04	-10	0.38	
12:35		26.85	Clear	22.4	7.00	5.04	-10	0.36	→ End developing Start Test

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

ATTACHMENT G

..ELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-28D

PROJECT: MAYWOOD	SITE:	Page 1 of
Project No:	Client:	
Contractor:		Ground Elevation:
Start Date/Time: 8/12/02	Completion Date/Time:	Well Diameter: 6"
Development Method/Equipment: Pumping - Whale pump		
Logged by: S.K.	Water Level (ft bgs): 30.82	Protection Level:

Pre-development DTW (PVC) (ft): 30.82 DTB (PVC) (ft): 58

Post-development DTW (PVC) (ft): 31.8

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft³

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

} Based on general elevation of G.W. this should be ≈63.25

Minimum Purge Volume (gal) (3 well volumes) = 189.75

Development Purge/Discharge Rate (gpm): 0.5 - .25 gpm

Maximum Drawdown During Purging (ft): 1'

Quantity Purged: 7-8 gallons

Disposition of Purge Water:

Hours of Development: 23 minutes (*)

Hours of Decon: N/A

Hours of Standby: N/A

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	D.O.	Remarks
15:07		30.82	Clear	18.2	7.13	5.31	14.0	1.63	Start pumping.
15:30		31.80	Clear	18.4	7.17	5.28	10	1.02	

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well.
D (2-inch well) = 0.167 feet
D (2.5-inch well) = 0.208 feet

* To be continued next day.

ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-28D

PROJECT: MAYWOOD	SITE:	Page ____ of ____
Project No:	Client:	
Contractor:		Ground Elevation:
Start Date/Time: 8/12/02; 7:35	Completion Date/Time: 8/13/02: 15:30	Well Diameter: 6"
Development Method/Equipment: Pumping - Whale Pump.		
Logged by: S.K.	Water Level (ft bgs): ____	Protection Level:

Pre-development DTW (PVC) (ft): ____ DTB (PVC) (ft): ____

Post-development DTW (PVC) (ft): ____

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) = ____

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = ____

Minimum Purge Volume (gal) (3 well volumes) = ~190 gallons

Development Purge/Discharge Rate (gpm): 0.5 - 0.25 gpm Variable rates.

Maximum Drawdown During Purging (ft): 19'

Total Quantity Purged: 130-135 gallons today; 140 gallons total

Disposition of Purge Water: ____

Hours of Development: 8 hrs.

Hours of Decon: N/A - Disposable dedicated pump.

Hours of Standby: Ø

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	D.O.	Remarks
7:30		18.40	Clear, Slightly red/pink	19.1	6.57	4.88	8	2.44	First 2 D.O. readings are high due to sample spray into container and aerating the sample. Subsequently made a flow thru-cell to eliminate the problem.
8:30		32.40		19.8	7.01	4.38	8	1.64	
9:30		32.10		17.1	6.94	4.92	-10	0.27	
10:30		33.5		17.0	7.01	4.85	-10	0.34	
11:30		37.00		18.4	7.03	4.86	-10	0.28	
12:30		37.60		18.6	7.02	4.85	-10	0.28	
13:30		37.80		18.6	7.02	4.84	-10	0.25	
14:30		37.60		18.7	7.02	4.84	-10	0.25	
15:30		37.60		18.6	7.02	4.84			

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

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ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-28D

PROJECT: Maywood	SITE:	Page 1 of
Project No:	Client:	
Contractor:		Ground Elevation:
Start Date/Time: 08/14/02 730	Completion Date/Time: 08/14/02,	Well Diameter: 6"
Development Method/Equipment: Pumping		
Logged by: S.K.	Water Level (ft bgs):	Protection Level:

Pre-development DTW (PVC) (ft): 18.45 DTB (PVC) (ft):

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) = ≈190 (≈140 already purged)

Development Purge/Discharge Rate (gpm): ~.5gpm - variable

Maximum Drawdown During Purging (ft): 33.40

Total Quantity Purged:

Disposition of Purge Water:

Hours of Development: 6

Hours of Decon: N/A

Hours of Standby: 0

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	D.O.	Remarks
0730		18.45	clear	16.2	7.06	4.88	-10	.46	
08:30		32.26	Clear	16.4	7.02	4.84	-10	.28	→ 4th Drum
09:15		33.40	Clear	16.8	7.02	4.84	-10	.27	→ Stop.
10:00		29.20							
11:30		21.40	Clear	16.4	7.03	4.86	-10	.28	restart
12:30		23.90	Clear	18.4	7.03	4.14	-10	.40	
13:25		25.60		21.2	7.04	3.96	*3	.36	→ End develop.
13:30	→		→	Start	Specific Capacity Test				

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

~~WELL SAMPLING RECORD~~/FIELD WATER QUALITY SAMPLE AND ANALYSIS

58 WELL DEVELOPMENT

SITE Grove WBS _____ DATE 2/21/03

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: 3" Submersible Pump
YSI 1050 MDS & Sonde

SAMPLING METHOD Bailer

Well I.D MW-31D

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) TOS

WELL DEPTH (Ft. TOC) 45 feet

INNER CASING/OPEN HOLE DIAM (In) 6" ID

DEPTH TO TOP OF SCREEN (Ft TOC) 20 ft

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 35 ft, bags

1 LPM gallons

Sample Time (From/To)	Water Level (Ft TOR)	Discharge ~~(milliliters/minute)~~	Volume Purged ~~(ml)~~	Temp °C	Specific Cond. (mS/cm)	pH	ORP (mv)	DO(1) (mg/L)	Turbidity (NTU)
0930	6.70	0							
start → 1055	8.161	5		15.8	2.461	7.44	~~28~~ WR	3.7'	180
1103	8.70	5	40	16.06	0.021	7.51	~~-25~~ WR	2.11'	88.4
1110	8.70	5	75	15.77	1.321	7.46	~~-58~~ WR	2.10'	32.8
1120	8.65	5	125	15.67	2.464	WR	~~-54~~ WR	6.0'	13.7
1130	8.65	5	175	15.75	2.471	7.50	-26.0	3.32'	WR*
1140	8.66	5	225	15.85	2.469	7.55	-31.0	2.04'	WR*
1150	8.65	5	290	16.05	2.470	7.55	-31.5	2.43'	WR*
1205	8.65	5	350	16.05	2.468	7.55	-34.7	2.42'	2.5

NR = No reading, meter not functioning properly

(1) = DO readings are believed high due to high pumping rate and introduction of air.

APPEARANCE/COLOR clear

SAMPLED BY (PRINT) Robert Dallett

SIGNATURE Robert Dallett

WELL CAP REPLACED AND LOCKED BY _____

ODOR slight - organic

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-32D

PROJECT: Maywood (FMSS)	SITE:	Page 1 of 1
Project No:	Client: USACE	
Contractor: Shaw E&I		Ground Elevation: 49.18
Start Date/Time: 5/5/03 @1253	Completion Date/Time: 5/5/03 @1350	Well Diameter: 6" Open Hole
Development Method/Equipment: Submersible Pump		
Logged by: Kevin Cote	Water Level (ft bgs): 6.10	Protection Level: D

Pre-development DTW (PVC) (ft): 6.10 DTB (PVC) (ft): 57

Post-development DTW (PVC) (ft): 6.55

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft^3

6-inch well = 1.48 x (DTB-DTW)(ft)) = 75

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) = N/A

Minimum Purge Volume (gal) (3 well volumes) = 225 gallons

Development Purge/Discharge Rate (gpm): Typically 2.5 - 4 gpm, except 2 intervals of 12+ gpm over-shaft duration

Maximum Drawdown During Purging (ft): 2.66

Total Quantity Purged: 240 gallons

Disposition of Purge Water: Containerized

Hours of Development: 1 hour

Hours of Decon: N/A

Hours of Standby: N/A

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	Remarks
1253	—	6.10						START Development
1303	20	6.21						2 gpm
1310	65	8.76	Cloudy	16.93	7.94	2.70	127	3 gpm
1320	85	7.40	Red	15.41	7.62	2.70	430	3 gpm
1330	100	7.40	Cloudy	15.53	7.49	2.70	230	3 gpm
1335	170	7.48	Clear	15.58	7.48	2.70	27.0	4 gpm
1340	180	7.48	Clear	15.44	7.48	2.70	22.0	2.5+ gpm
1350	210	7.48	Clear	15.45	7.48	2.70	17.2	2.5 gpm
End	240							

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

D (6-in. well) = 1.48 gal/ft

ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP. MW-33D

WELL NO. MW-33D

PROJECT: HAYWOOD	SITE:	Page 1 of 2
Project No:	Client:	
Contractor:		Ground Elevation:
Start Date/Time: 9/13/02 14:00 - 15:00	Completion Date/Time: 9/16/02 9:15-11:30	Well Diameter: 2"
Development Method/Equipment: Whale Pump		
Logged by: S.K	Water Level (ft bgs): 12.7'	Protection Level: D

Pre-development DTW (PVC) (ft): 12.7 DTB (PVC) (ft): 68'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft³

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) = Due to well Constr. ~ 180 gallons.

Development Purge/Discharge Rate (gpm): 1.25 gpm

Maximum Drawdown During Purging (ft):

Total Quantity Purged:

Disposition of Purge Water: Drum

Hours of Development: 3 - 3.25

Hours of Decon:

Hours of Standby:

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	DO	Remarks
	X								
9:15		12.7	Clear	15.9	6.33	6.93	-10	1.69	@ 1.25 gpm
9:35		21.2	Clear	15.9	6.31	6.95	-10	.88	@ 1.25 gpm
9:55		22.05	Clear	15.2	6.39	6.93	-10	.54	@ 1.25 gpm
Stop @ 10. → need more drums →									
0:15		16.02	Clear	15.3	6.51	6.82	-10	.76	@ 1.25 gpm
0:30		22.05	Clear	15.3	6.45	6.77	-10	.45	@ 1.25 gpm
0:50		22.50	Clear	15.4	6.41	6.71	-10	.39	@ 1.25 gpm
1:00		22.55	Clear	15.4	6.40	6.70	-10	.39	@ 1.25 gpm

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP. mw-33D

WELL NO. MW

PROJECT: MAYWOOD	SITE:	Page 2 of 2
Project No:	Client:	
Contractor:		Ground Elevation:
Start Date/Time: 9/13/02	Completion Date/Time: 9/16/02 11:30	Well Diameter: 2"
Development Method/Equipment:		
Logged by: S.K.	Water Level (ft bgs):	Protection Level:

Pre-development DTW (PVC) (ft): 12.71 DTB (PVC) (ft): 68'

Post-development DTW (PVC) (ft):

Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft³

(2-inch well = 0.164 x (DTB-DTW)(ft)) =

(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =

Minimum Purge Volume (gal) (3 well volumes) = ~180 gallons needed.

Development Purge/Discharge Rate (gpm): 1.25 gpm

Maximum Drawdown During Purging (ft):

Quantity Purged:

Disposition of Purge Water:

Hours of Development: Total of 3.25 hrs.

Hours of Decon:

Hours of Standby:

Time (E.S.T.)	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	DO	Remarks Flow Rate (gpm)
11:15	-	22.71	Clear	15.4	6.45	6.70	-10	.37	1.25
11:30		22.77	Clear	15.3	6.45	6.70	-10	.37	1.25
12.00		22.85	Clear	15.6	6.48	6.69	-10	.43	1.25

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

ATTACHMENT G

WELL DEVELOPMENT LOG
STONE & WEBSTER ENGINEERING CORP.

WELL NO. MW-34D

PROJECT: MAYWOOD | SITE: | Page 1 of 1
Project No: | Client:
Contractor: | Ground Elevation:
Start Date/Time: 9/17/02 0815 | Completion Date/Time: 9/17/02 | Well Diameter: 6"
Development Method/Equipment: Whale Pump
Logged by: S.K. | Water Level (ft bgs): 10.04 | Protection Level: D+
Pre-development DTW (PVC) (ft): 10.04 | DTB (PVC) (ft): 55' from TOC
Post-development DTW (PVC) (ft):
Standing Well Volume (gal) = D^2(ft)/4 x π x (DTB-DTW)(ft) x 7.48 gal/ft³ ≈ 65 gallons
(2-inch well = 0.164 x (DTB-DTW)(ft)) =
(2.5-inch well = 0.255 x (DTB-DTW)(ft)) =
Minimum Purge Volume (gal) (3 well volumes) = 200 (Already purged for 150g)
Development Purge/Discharge Rate (gpm): 1.25gpm (started @ 0.5 gpm, opened full to get volume, naturally slowed to .75 gpm by the time develop. was done.)
Maximum Drawdown During Purging (ft):
Total Quantity Purged:
Disposition of Purge Water:
Hours of Development: 1.5 (+3.5hrs yesterday)
Hours of Decon: 1.0
Hours of Standby: —

Time	Volume Purged (gal)	DTW (ft) (PVC)	Clarity/ Color	Temp. (°C)	pH	Conductivity (mS/cm)	Turbidity	DO	Remarks
0815	~0.1/2gpm	10.04		15.7	5.65	359	-10	1.76	
0830	*	12.46		15.3	5.89	3.50	-10	.92	
0845	*	12.90		15.8	6.02	3.50	-10	.64	
0900	.25gpm	13.40		15.6	6.09	3.47	-10	.53	
0915		17.30		15.3	6.32	3.45	-10	.53	
0930		21.20		16.2	6.61	3.40	-10	.52	
	.75 Natural drop								
0945		23.66		16.4	6.62	3.10	-10	.50	→ STOP 55 ft's.

Notes: bgs = below ground surface; PVC = below top of PVC; D = well diameter; DTB = depth to bottom of well; D (2-inch well) = 0.167 feet; D (2.5-inch well) = 0.208 feet

APPENDIX T5
SPECIFIC CAPACITY FORMS

Appendix E
Transmissivity and Hydraulic Conductivity Results from Specific Capacity Tests
MW-27D

Date	Time	Elapsed Time (min)	W.L (Ft. BTOR)	Incremental Drawdown (ft)	Cumulative Drawdown (ft)	Discharge (mL/min)	Discharge (ft^3/day)	Transmissivity (ft^2/day)	Log Transmissivity (ft^2/day)	Specific Capacity (gpm/ft)
08/13/2002	0735	0	23.6	-	-	945	48.195			
08/13/2002	0830	55	33.8	10.2	10.2	945	48.195	95.10	1.98	0.02
08/13/2002	0930	115	44.4	10.6	20.8	945	48.195	59.00	1.77	0.01
08/13/2002	1030	175	47.75	3.35	24.15	945	48.195	53.38	1.73	0.01
08/13/2002	1130	235	48.3	0.55	24.7	945	48.195	52.58	1.72	0.01
08/13/2002	1245	310	45.5	-2.8	21.9	945	48.195	57.00	1.76	0.01
08/13/2002	1340	365	48.8	3.3	25.2	945	48.195	51.88	1.72	0.01
08/13/2002	1435	420	48.9	0.1	25.3	945	48.195	51.74	1.71	0.01
										Average Q/s
							Average "T"	60.62	59.02	0.01
							Thickness (ft)	25	25	
							Hydraulic Conductivity (ft/day)	2.42	2.36	
							Hydraulic Conductivity (cm/sec)	8.55E-04	8.33E-04	

T=33.6(Q/s)^0.67 : Method Razack and Huntley (1991) as cited in Fetter (Applied Hydrogeology, 1994, Section 7.6, page 256- 257, eq., 7-90b)
ft. BTOR = Feet Below Top of Riser
ft = Feet
T = Transmissivity
mL/min = Milliliters per Minute
gpm/ft = Gallons per Mintue per foot

Appendix E
Transmissivity and Hydraulic Conductivity determined from Specific Capacity Data - MW-27D

Date	Time	Elapsed Time (min)	W.L (Ft. BTOR)	Incremental Drawdown (ft)	Cumulative Drawdown (ft)	Discharge (mL/min)	Discharge (ft^3/day)	Transmissivity (ft^2/day)	Log Transmissivity (ft^2/day)	Specific Capacity (gpm/ft)
08/12/2002	1430	0	18.35	-	-	945	48.195			
08/12/2002	1500	30	31.1	12.75	12.75	945	48.195	81.90	1.91	0.02
08/12/2002	1520	50	36.1	5	17.75	945	48.195	65.61	1.82	0.01
08/12/2002	1555	85	38.9	2.8	20.55	945	48.195	59.48	1.77	0.01
08/12/2002	1625	115	42.35	3.45	24	945	48.195	53.61	1.73	0.01
08/12/2002	1655	145	44.65	2.3	26.3	945	48.195	50.42	1.70	0.01
08/12/2002	1730	180	45.24	0.59	26.89	945	48.195	49.67	1.70	0.01
08/12/2002	1743	193	45.36	0.12	27.01	945	48.195	49.53	1.69	0.01
										Average Q/s
							Average "T"	59.97	58.99	0.01
							Thickness (ft)	25	25	
							Hydraulic Conductivity (ft/day)	2.40	2.36	
							Hydraulic Conductivity (cm/sec)	8.46E-04	8.32E-04	

T=33.6(Q/s)^0.67 : Method Razack and Huntley (1991) as cited in Fetter (Applied Hydrogeology, 1994, Section 7.6, page 256- 257, eq., 7-90b)
ft. BTOR = Feet Below Top of Riser
ft = Feet
T = Transmissivity
mL/min = Milliliters per Minute
gpm/ft = Gallons per Mintue per foot

Appendix E
Transmissivity and Hydraulic Conductivity determined from Specific Capacity Data - MW-28D

Date	Time	Elapsed Time (min)	W.L (Ft. BTOR)	Incremental Drawdown (ft)	Cumulative Drawdown (ft)	Discharge (mL/min)	Discharge (ft^3/day)	Transmissivity (ft^2/day)	Log Transmissivity (ft^2/day)	Specific Capacity (gpm/ft)
08/12/2002	1330	0	25.6	-	-	800	40.8			
08/12/2002	1345	15	25.98	0.38	0.38	600	30.6	635.80	2.80	0.42
08/12/2002	1400	30	26.6	0.62	1	700	35.7	368.66	2.57	0.19
08/12/2002	1415	45	26.8	0.2	1.2	660	33.66	313.66	2.50	0.15
08/12/2002	1430	60	26.9	0.1	1.3	650	33.15	294.25	2.47	0.13
08/12/2002	1445	75	27.1	0.2	1.5	580	29.58	247.70	2.39	0.10
08/12/2002	1500	90	27.1	0	1.5	580	29.58	247.70	2.39	0.10
08/12/2002	1515	105	27.1	0	1.5	580	29.58	247.70	2.39	0.10
08/12/2002	1530	120	27.12	0.02	1.52	580	29.58	245.51	2.39	0.10
										Average Q/s
							Average "T"	325.12	307.87	0.16
							Thickness (ft)	25	25	
							Hydraulic Conductivity (ft/day)	13.00	12.31	
							Hydraulic Conductivity (cm/sec)	4.59E-03	4.34E-03	

T=33.6(Q/s)^0.67 : Method Razack and Huntley (1991) as cited in Fetter (Applied Hydrogeology, 1994, Section 7.6, page 256- 257, eq., 7-90b)
ft. BTOR = Feet Below Top of Riser
ft = Feet
T = Transmissivity
mL/min = Milliliters per Minute
gpm/ft = Gallons per Mintue per foot

Appendix E
Transmissivity and Hydraulic Conductivity determined from Specific Capacity Data - MW-31D

Date	Time	Elapsed Time (min)	Elapsed Time (min)	W.L (Ft. BTOR)	Incremental Drawdown (ft)	Cumulative Drawdown (ft)	Discharge (mL/min)	Discharge (ft^3/day)	Transmissivity (ft^2/day)	Log Transmissivity (ft^2/day)	Specific Capacity (gpm/ft)
02/21/2003	9:30	0	0	6.7	-	-	18900	963.9			
02/21/2003	10:55	0	85	8.61	1.91	1.91	18900	963.9	2174.44	3.34	2.62
02/21/2003	11:03	8	93	8.7	0.09	2	18900	963.9	2108.39	3.32	2.50
02/21/2003	11:10	15	100	8.7	0	2	18900	963.9	2108.39	3.32	2.50
02/21/2003	11:20	25	110	8.65	-0.05	1.95	18900	963.9	2144.46	3.33	2.56
02/21/2003	11:30	35	120	8.65	0	1.95	18900	963.9	2144.46	3.33	2.56
02/21/2003	11:40	45	130	8.66	0.01	1.96	18900	963.9	2137.12	3.33	2.55
02/21/2003	11:52	57	142	8.65	-0.01	1.95	18900	963.9	2144.46	3.33	2.56
02/21/2003	12:05	70	155	8.65	0	1.95	18900	963.9	2144.46	3.33	2.56
											Average Q/s
								Average "T"	2133.10	2133.05	2.55
								Thickness (ft)	25	25	
								Hydraulic Conductivity (ft/day)	85.32	85.32	
								Hydraulic Conductivity (cm/sec)	3.01E-02	3.01E-02	

T=33.6(Q/s)^0.67 : Method Razack and Huntley (1991) as cited in Fetter (Applied Hydrogeology, 1994, Section 7.6, page 256- 257, eq., 7-90b)
ft. BTOR = Feet Below Top of Riser
ft = Feet
T = Transmissivity
mL/min = Milliliters per Minute
gpm/ft = Gallons per Mintue per foot

Appendix E
Transmissivity and Hydraulic Conductivity determined from Specific Capacity Data - MW-32D

Date	Time	Elapsed Time (min)	W.L (Ft. BTOR)	Incremental Drawdown (ft)	Cumulative Drawdown (ft)	Discharge (mL/min)	Discharge (ft^3/day)	Transmissivity (ft^2/day)	Log Transmissivity (ft^2/day)	Specific Capacity (gpm/ft)
05/06/2003	9:50	0	4.62	-	-	15120	771.12	-	-	
05/06/2003	10:00	10	7.27	2.65	2.65	15120	771.12	1503.61	3.18	1.51
05/06/2003	10:10	20	8	0.73	3.38	15120	771.12	1277.43	3.11	1.18
05/06/2003	10:15	25	7.97	-0.03	3.35	15120	771.12	1285.08	3.11	1.19
05/06/2003	10:20	30	7.95	-0.02	3.33	15120	771.12	1290.25	3.11	1.20
05/06/2003	10:30	40	7.96	0.01	3.34	15120	771.12	1287.66	3.11	1.20
05/06/2003	10:40	50	7.97	0.01	3.35	15120	771.12	1285.08	3.11	1.19
05/06/2003	10:50	60	7.81	-0.16	3.19	15120	771.12	1327.92	3.12	1.25
05/06/2003	11:00	70	7.92	0.11	3.3	15120	771.12	1298.10	3.11	1.21
05/06/2003	11:10	80	7.93	0.01	3.31	15120	771.12	1295.47	3.11	1.21
05/06/2003	11:20	90	7.9	-0.03	3.28	15120	771.12	1303.39	3.12	1.22
05/06/2003	11:30	100	7.9	0	3.28	15120	771.12	1303.39	3.12	1.22
										Average Q/s
							Average "T"	1314.31	1312.99	1.24
							Thickness (ft)	29	29	
							Hydraulic Conductivity (ft/day)	45.32	45.28	
							Hydraulic Conductivity (cm/sec)	1.60E-02	1.60E-02	

T=33.6(Q/s)^0.67 : Method Razack and Huntley (1991) as cited in Fetter (Applied Hydrogeology, 1994, Section 7.6, page 256- 257, eq., 7-90b)
ft. BTOR = Feet Below Top of Riser
ft = Feet
T = Transmissivity
mL/min = Milliliters per Minute
gpm/ft = Gallons per Mintue per foot

Appendix E
Transmissivity and Hydraulic Conductivity determined from Specific Capacity Data - MW-33D

Date	Time	Elapsed Time (min)	W.L (Ft. BTOR)	Incremental Drawdown (ft)	Cumulative Drawdown (ft)	Discharge (mL/min)	Discharge (ft^3/day)	Transmissivity (ft^2/day)	Log Transmissivity (ft^2/day)	Specific Capacity (gpm/ft)
09/16/2002	1415	0	16.1	-	-	4000	204	-	-	
09/16/2002	1430	15	19.95	3.85	3.85	3000	153	396.12	2.60	0.21
09/16/2002	1445	30	20.85	0.9	4.75	3000	153	344.11	2.54	0.17
09/16/2002	1500	45	21.11	0.26	5.01	3000	153	332.04	2.52	0.16
09/16/2002	1515	60	21.15	0.04	5.05	3000	153	330.28	2.52	0.16
09/16/2002	1530	75	21.17	0.02	5.07	3000	153	329.40	2.52	0.16
09/16/2002	1545	90	21.18	0.01	5.08	3000	153	328.97	2.52	0.16
09/16/2002	1600	105	21.18	0	5.08	3000	153	328.97	2.52	0.16
09/16/2002	1615	120	21.18	0	5.08	3000	153	328.97	2.52	0.16
										Average Q/s
							Average "T"	339.86	339.21	0.16
							Thickness (ft)	22	22	
							Hydraulic Conductivity (ft/day)	15.45	15.42	
							Hydraulic Conductivity (cm/sec)	5.45E-03	5.44E-03	

T=33.6(Q/s)^0.67 : Method Razack and Huntley (1991) as cited in Fetter (Applied Hydrogeology, 1994, Section 7.6, page 256- 257, eq., 7-90b)
ft. BTOR = Feet Below Top of Riser
ft = Feet
T = Transmissivity
mL/min = Milliliters per Minute
gpm/ft = Gallons per Mintue per foot

Appendix E
Transmissivity and Hydraulic Conductivity determined from Specific Capacity Data - MW-34D

Date	Time	Elapsed Time (min)	W.L (ft. BTOR)	Incremental Drawdown (ft)	Cumulative Drawdown (ft)	Discharge (mL/min)	Discharge (ft^3/day)	Transmissivity (ft^2/day)	Log Transmissivity (ft^2/day)	Specific Capacity (gpm/ft)
09/17/2002	1015	0	13.6	-	-	2000	102	-	-	
09/17/2002	1030	15	15.6	2	2	2000	102	468.18	2.67	0.26
09/17/2002	1045	30	16.85	1.25	3.25	2000	102	338.17	2.53	0.16
09/17/2002	1100	45	17.75	0.9	4.15	2000	102	287.08	2.46	0.13
09/17/2002	1115	60	17.93	0.18	4.33	1500	76.5	230.12	2.36	0.09
09/17/2002	1130	75	17.85	-0.08	4.25	1500	76.5	233.01	2.37	0.09
09/17/2002	1145	90	17.8	-0.05	4.2	1600	81.6	245.24	2.39	0.10
09/17/2002	1200	105	17.75	-0.05	4.15	1600	81.6	247.22	2.39	0.10
09/17/2002	1215	115	17.75	0	4.15	1600	81.6	247.22	2.39	0.10
09/17/2002	1230	130	17.75	0	4.15	1600	81.6	247.22	2.39	0.10
										Average Q/s
							Average "T"	282.61	275.12	0.13
							Thickness (ft)	25	25	
							Hydraulic Conductivity (ft/day)	11.30	11.00	
							Hydraulic Conductivity (cm/sec)	3.99E-03	3.88E-03	

T=33.6(Q/s)^0.67 : Method Razack and Huntley (1991) as cited in Fetter (Applied Hydrogeology, 1994, Section 7.6, page 256- 257, eq., 7-90b)

ft. BTOR = Feet Below Top of Riser
ft = Feet
T = Transmissivity
mL/min = Milliliters per Minute
gpm/ft = Gallons per Mintue per foot

APPENDIX T6
MONITORING WELL ABANDONMENT FORMS

DWR-020
7/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: **Bureau of Water Allocation**
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-11379-1 of well sealed

DATE WELL SEALED 8/8/02

PROPERTY OWNER Stepan Chemical Plant

ADDRESS 100 W. Hunter ave, Maywood NJ

WELL LOCATION 100 W Hunter avenue, Maywood, Bergen County
Street & No., Township, County

B38W60 (Well No.) 10 (Lot No.) 124 (Block No.)

USE OF WELL PRIOR TO ABANDONMENT: monitor

REASON FOR ABANDONMENT: No Longer Required

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL

TOTAL DEPTH OF WELL	37.5'
DIAMETER	2"
CASING LENGTH	15.9'
SCREEN LENGTH	5'
NUMBER OF CASINGS	Unknown

MATERIAL USED TO DECOMMISSION WELL:

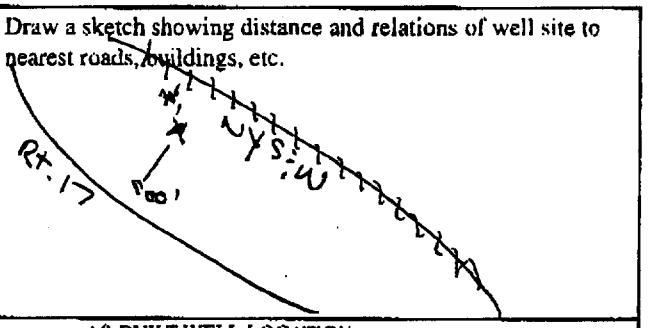
47	Gallons of Water
705	Lbs. of Cement
—	Lbs. of Bentonite
—	Lbs. of Sand/Gravel (none if well is contaminated)

FORMATION: ✓ Consolidated ☐ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLACE COORDINATE IN US SURVEY FEET

N

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ __ ' __ . __ " LONGITUDE: __ __ ' __ . __ "

To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: S.S.

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS:

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? ☐ YES ☒ NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Douglas Myerchin	P.O. Box 8 Netcong NJ 07857	8/8/02	
Performing Work (Print or Type) Name of NJ Licensed Well Driller	Address	Mailing Date	
Douglas Myerchin		M1277	
Signature of NJ Licensed Well Driller Performing Work		Registration #	

COPIES: *White - Water Allocation* *Yellow - Owner* *Pink - Health Dept.* *Goldenrod - Driller*

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

WELL PERMIT # 26-59180 of well sealed

MAIL TO: **Bureau of Water Allocation**
PO Box 426
Trenton, NJ 08625-0426

DATE WELL SEALED 8/1/02

PROPERTY OWNER Connie Tauber - Omni Assets

ADDRESS 2 La Journal Square, 11th Floor, Jersey City, NJ 07306

WELL LOCATION Maywood Chemical Superfund Site, Route 17, Rochelle Park, Bergen
Street & No., Township, County

MW15 (Well No.) | 1 (Lot No.) | 19.02 (Block No.)

USE OF WELL PRIOR TO ABANDONMENT: monitor

REASON FOR ABANDONMENT: No Longer Required

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL

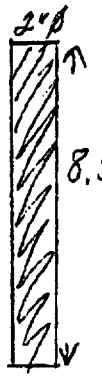
TOTAL DEPTH OF WELL 8.5'
DIAMETER 2"
CASING LENGTH 3.5'
SCREEN LENGTH 5'
NUMBER OF CASINGS

MATERIAL USED TO DECOMMISSION WELL:

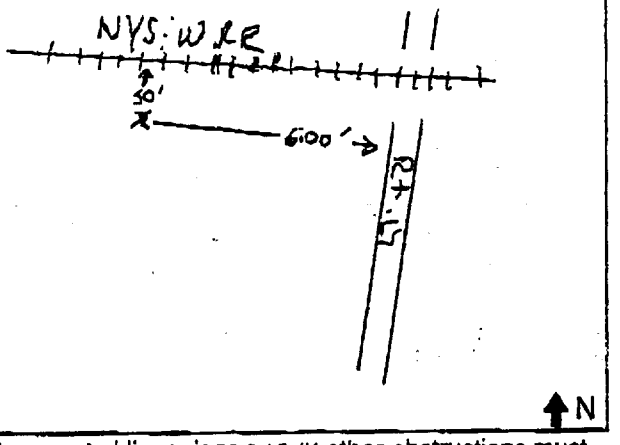
9L Gallons of Water
147 Lbs. of Cement
- Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ☑ Consolidated ☐ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS:

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Gordon Blewett — Performing Work (Print or Type) Name of NJ Licensed Well Driller

PO Box 8 Netcong NJ 07857 — Address

9/4/02 — Mailing Date

Gordon Blewett — Signature of NJ Licensed Well Driller Performing Work

T0002-1852 — Registration #

COPIES: *White - Water Allocation* *Yellow - Owner* *Pink - Health Dept.* *Goldenrod - Driller*

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

WELL PERMIT # 26-59181
of well sealed

MAIL TO: **Bureau of Water Allocation**
PO Box 426
Trenton, NJ 08625-0426

DATE WELL SEALED 8/1/02

PROPERTY OWNER Connie Tauber - Omni Assets

ADDRESS 216 Journal Square, 16th Floor, Jersey City NJ 07306

WELL LOCATION Maywood Chemical Superfund Site, Route 17, Rochelle Park, Ber
Street & No., Township, County

MW1D — Well No. | 1 — Lot No. | 19.02 — Block No.

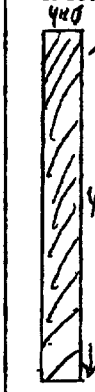
USE OF WELL PRIOR TO ABANDONMENT: Monitor

REASON FOR ABANDONMENT: No Longer Required

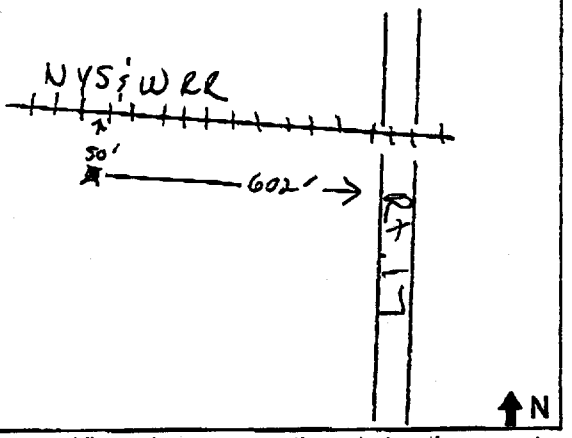
WAS A NEW WELL DRILLED? ☐YES ☒NO PERMIT # OF NEW WELL

TOTAL DEPTH OF WELL 46'
DIAMETER 4"
CASING LENGTH 21'
SCREEN LENGTH open hole
NUMBER OF CASINGS

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



MATERIAL USED TO DECOMMISSION WELL:

54 Gallons of Water
846 Lbs. of Cement
— Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ✓ Consolidated
Unconsolidated

To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒YES ☐ NO CASING MATERIAL: Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐YES ☒NO WHAT WERE THE OBSTRUCTIONS:

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? ☐ YES ☒NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Graham Blewett — Performing Work (Print or Type) Name of NJ Licensed Well Driller
PO Box 8 Netcong NJ 07857 — Address
9/4/02 — Mailing Date
Graham Blewett — Signature of NJ Licensed Well Driller Performing Work
JD002-1852 — Registration #

COPIES: *White - Water Allocation* *Yellow - Owner* *Pink - Health Dept.* *Goldenrod - Driller*

APPENDIX T7
BOREHOLE GEOPHYSICAL REPORT

Draft Borehole Geophysics Logging Report
MW-27D, -28D, -31D, -32D, & -34D
Maywood Chemical Superfund Site
Maywood, New Jersey

Prepared for
SHAW ENVIRONMENTAL
July 2003

GEOPHYSICAL APPLICATIONS
INCORPORATED

GEOPHYSICAL
APPLICATIONS
INCORPORATED

July 31, 2003

Mr. Michael Kulbersh
SHAW ENVIRONMENTAL
100 Technology Center Drive
Stoughton, MA 02072

Subject: Draft Borehole Geophysics Logging Report
MW-27D, MW-28D, MW-31D, MW-32D, & MW-34D
Maywood Chemical Superfund Site
Maywood, New Jersey

Dear Mr. Kulbersh:

Geophysical Applications has performed borehole geophysical logging at the above-noted five wells, to help Shaw Environmental characterize hydraulically-active bedrock fractures encountered by those boreholes.

The logging suite included conventional measurements (caliper, fluid temperature [FTemp], fluid resistivity [FRes], single-point resistance [SPR], spontaneous potential [SP], and natural gamma), acoustic televiewer [ATV], and heat-pulse flowmeter logging.

METHODS OF INVESTIGATION

Survey Control

All borehole logs were referenced to depths below ground surface. The geophysical logging winch contains an optical depth encoder that maintains depth measurements accurate within approximately ± 0.2 feet throughout each borehole.

Borehole Geophysical Logging

A Mount Sopris model 4MXB digital logging winch was used with Mount Sopris heat-pulse flowmeter, polygamma, and caliper probes to obtain the conventional geophysical log data.

The caliper probe includes a fluid resistivity/fluid temperature subassembly at the probe's bottom. Caliper, fluid temperature, fluid resistivity, SP, SPR, and natural gamma data were recorded at 0.1-foot depth increments, as determined by the logging winch's digital depth encoder. The fluid logs were recorded using a relatively slow speed of 3 to 4 feet per minute, to allow the thermistor to measure subtle temperature variations. The remaining conventional logs were recorded at higher logging speeds (typically 5 to 10 feet per minute).

Acoustic televiewer (ATV) data were recorded using Geophysical Applications' Advanced Logic Technologies (ALT) model ABI40 acoustic televiewer probe, with the Mount Sopris logging winch. This televiewer can adapt to a wide range of borehole diameters (up to 16-inch diameter), and is not hindered by suspended sediments in the water column. ATV data were recorded at 0.01-foot intervals, at a speed of approximately 1.3 feet per minute.

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The ABI40 probe contains a high-frequency sonic transducer, aimed upwards at a rotating mirror. This mirror is tilted approximately 45 degrees from the probe's vertical axis, to aim the sonic pulses at the borehole wall. The transducer divides each sweep around a borehole's circumference into 288 arc segments, and records two-way sonic travel time and reflected signal amplitude from the borehole wall for each arc segment.

Flowmeter data were recorded at specific depths, located approximately 5 feet apart, above and below possible bedrock fractures indicated by field plots of the caliper and fluid temperature/resistivity logs. Flow test depths were adjusted to avoid placing the probe at caliper enlargements that might cause water to flow around the diverter petals instead of through the probe's measurement chamber.

Flow data were recorded in ambient conditions on the downward run, to detect groundwater flow between fracture zones with differing hydraulic head. Flowmeter data were subsequently repeated under low-flow (approximately 0.15 to 0.5 gallons per minute, or gpm) pumping conditions, to help determine which fracture zones were providing significant recharge into the wells. Pumped fluids were temporarily stored on-site in 15-gallon carboys provided by Shaw Environmental, and subsequently transferred to 55-gallon steel drums.

All geophysical logs were recorded on a laptop computer's hard drive, and transferred to CD-ROM as a backup precaution.

Post-survey plot scales were adjusted to display as much detail as possible. All conventional logs from the same borehole were merged onto one log plot, to aid data correlation. Acoustic televiewer logs are presented on a separate page, for clarity. All geophysical log plots presented in this report were prepared using ALT's WellCAD software package, with a special image-processing module for the acoustic televiewer data.

Equipment Decontamination Procedures

Decontamination procedures consisted of an Alconox scrub and tap water rinse of logging cables and probes between logging runs.

SURVEY LIMITATIONS

Measured log depths are estimated to be accurate within $\pm$ 0.2 feet, allowing for some cable stretch and minor slippage of the winches' depth-measurement wheels.

The caliper-probe's arms can measure borehole diameters up to approximately 16 inches. Caliper logs can detect fractures that cross a borehole at moderate angles, typically less than approximately 70 degrees. Caliper logs may not detect near-vertical fractures.

The heat-pulse flowmeter is designed for relatively low-flow environments, typically less than 1.0 gpm. Higher flow rates may produce erroneous flow-rate data values.

Hydraulically-active fracture zones were inferred by correlating numerous geophysical logs. These interpretations are a subjective judgment based upon available data.

The ATV probe's specifications state that measured dip azimuths and dip angles are accurate within $\pm$5 degrees. However, down-dip compass azimuths for fractures with dip angles less than 10 degrees may have a greater possible margin of error.

Televiewer probes rely on a three-component magnetometer to orient the recorded images with respect to magnetic north. These images become distorted when the magnetometers approach the bottom of steel casing, typically beginning approximately 1 to 2.5 feet below the steel. This distortion was minimized by importing an unoriented section of the televiewer images (immediately below the steel casing), and rotating it to match a visible feature below the depth where magnetic interference began.

RESULTS

All geophysical logs described in this report are presented in Appendix A.

Interpreted fracture orientations based on the acoustic televiewer (ATV) data are provided in Appendix B. These summaries are Excel spreadsheets, presenting measured fracture depths ("depth" column), down-dip fracture azimuths ("azimuth" column), and fracture dip angles ("tilt" column) measured with the WellCAD software. The "category" column indicates whether the observed feature was judged to be open (category 105, or red), hydraulically conductive (category 107, or blue) or less-open (category 100, or black).

Strat logs (SP, SPR, and natural gamma) and fluid conductivity (FCond) data are presented in the two left-hand columns of each conventional log plot.

Caliper logs are presented in the middle of each conventional-log plot. Inflections to the right indicate borehole enlargements, for example where the drill bit passed through a fracture zone.

Fluid temperature (FTemp) and fluid resistivity (FRes) logs are presented in the next plot column. Localized inflections or changes in slope of either fluid log typically represent water entering or exiting the borehole.

Heat-pulse flowmeter data are presented on the caliper panel (ambient measurements) and on the FTemp/FRes panel (flow measurements while pumping). Shaded boxes to the left of centerline on either panel represent downwards water flow, with the box length indicating the flow magnitude in gpm. Shaded boxes to the right of a panel's centerline represent upwards water flow. Filled circles represent flow measurements that were less than the probe's minimum calibration limit of 0.02 gpm (nearly zero flow). Flowmeter test depths were selected using field plots of the caliper, fluid temperature, and fluid resistivity logs, and were positioned so as to avoid (to the extent possible) caliper enlargements that might adversely affect the flowmeter data.

Acoustic televiewer logs were evaluated using WellCAD's image-processing module, to measure planar-feature dip angles and down-dip azimuths. All inferred down-dip azimuths are referenced to magnetic north. Tadpole plots indicate measured fracture orientations, where the filled circles indicate dip angles (plotted on a graph that ranges between 0 and 90 degrees from left to right). Each tadpole tail points in the measured down-dip azimuth (i.e., perpendicular to the fracture strike direction), assuming that north is straight up on the printed page.

Red tadpoles and sine curves represent fractures judged to be "open", because they were evident on both the ATV traveltime and amplitude plots. Blue tadpoles and sine curves represent fractures judged to be hydraulically conductive, based on correlations with FTemp/FRes or heat-pulse flowmeter data. Black tadpoles and sine curves represent features judged to be "less-open", because they were primarily visible only on the ATV amplitude plots. The tadpoles are presented on both the ATV and conventional log plots, for the reader's convenience.

Stereoplots indicate the poles to inferred fracture planes. Each stereoplot is an equal-angle, southern hemisphere projection of: a) both the open and less-open (red and black) features, and b) interpreted hydraulically conductive (blue) features. Stereoplots often show distinct clusters of open and/or less-open poles, indicating numerous planar features with similar orientations. Each stereoplot is presented with magnetic north straight up on the printed page. The pole to a horizontal feature plots near a stereoplot's center. Poles for steeply dipping features plot near the diagram's outer edge, on the side of the diagram opposite the downdip compass azimuth.

Rose diagrams summarize the dominant down-dip fracture azimuths (a red rose plot for open fractures, black for less-open, and light grey for all interpreted features within a borehole). The rose diagrams are also presented with magnetic north straight up on the printed page.

The ATV plots include two colored panels, in addition to the rose and tadpole plots. The "traveltime" column presents two-way travel-time data between the probe and the borehole wall, and the "amplitude" column presents ATV reflection-amplitude variations at the borehole wall. Travel-time anomalies generally represent open fractures; amplitude variations can depict both open and less-open features. Note that these columns are oriented with respect to magnetic north, with numbers and vertical lines denoting the north (0), east (90), south (180), and west (270) positions. Each of these colored panels is a cylindrical projection, sliced along the north side, and flattened for presentation on a printed page. Each column therefore progresses from north at the left edge, through east, south, west, and back to north at the right edge.

Interpretations regarding hydraulically active zones are provided in the comments column of each conventional-log plot. All depth ranges described below, and shown on the logs in Appendix A and spreadsheets in Appendix B, are referenced (in units of feet) to the ground surface adjacent to each well.

Selected observations based on the recorded geophysical logs are listed below for each well (most interpretations described below are also shown on the conventional log plots).

MW-27D

This borehole's caliper log shows two enlargements, immediately below the casing bottom and near 50.5 feet deep. FRes and FTemp inflections near 37 to 37.5 feet deep are judged to represent a hydraulically active zone.

Ambient flowmeter tests did not disclose measurable flow. Pumping flow test data indicate that inflow originated greater than 52 feet deep (possibly from the west-dipping feature represented by a blue tadpole near 56 feet). A minor increase in upward flow while pumping apparently occurred between 34.5 and 39 feet deep (probably at the southwest dipping feature represented by a blue tadpole near 37 feet deep).

Most ATV-inferred features dip down towards the west, southeast, or east. The two interpreted hydraulically conductive features dip down gently towards the west and southwest.

MW-28D

Most caliper enlargements throughout this borehole are relatively small, with the largest located approximately 36.5 feet deep.

Subtle FTemp and FRes inflections near 37 to 37.5 feet deep are interpreted to represent a hydraulically active zone. A distinct FRes inflection near 56.5 feet deep may represent another hydraulically active zone (not corroborated by the flowmeter test results).

High gamma counts may represent radionuclides in soil, approximately 1 to 3 feet below ground surface at this borehole.

Ambient flowmeter tests showed water entering MW-28D between 49 and 56 feet deep, flowing upward, and exiting between the casing bottom and 34 feet deep. Pumping flow tests showed similar results, except with slightly higher flow rates and with some of the upward water flow exiting via the pump.

ATV-inferred planar features dip in a variety of azimuths, primarily ranging between west to north-northwest. The stereoplot shows most interpreted feature poles on the diagram's southeast quadrant, with dip angles less than 20 degrees from horizontal.

Discrete, hydraulically conductive planar features could not be confidently identified at this borehole, because of the large number of possible choices between 50 and 56 feet deep. The ambient and pumping inflow might have originated from a roughly horizontal granular bed visible on the ATV plot, centered near 53 feet deep.

MW-31D

A distinct caliper enlargement was observed near 29 feet deep, with smaller enlargements common at shallower depths. Relatively smooth borehole walls are evident greater than 30 feet deep.

Several step-wise FRes inflections suggest hydraulically active zones near 30, 34.5, and 39 feet deep. The FRes increase near 43 feet deep represents the upper surface of soft sediments that fill the lower portion of this borehole.

Ambient flowmeter measurements showed weak upward flow originating between 37 and 41 feet deep (probably near the 39-foot subtle FRes inflection), and exiting between 24.5 and 32 feet deep (probably at the 29-foot caliper enlargement and 30-foot FRes inflection).

Pumping flowmeter tests showed weak inflow beginning greater than 41 feet deep. The greatest increase in flow while pumping occurred between 24.5 and 32 feet (probably also at the 29-foot caliper enlargement). Additional inflow while pumping occurred between the casing bottom and 24.5 feet deep (probably immediately below the casing bottom, at a modest caliper enlargement).

Less-open features (black rose plot) dip down primarily towards the west-southwest and southeast. Open features (red rose plot) dip down primarily towards the northwest. Two of the three blue tadpoles representing interpreted hydraulically conductive features indicate the upper and lower surfaces of a nearly horizontal coarse-grained layer centered near 29.5 feet deep.

The ATV probe descended through soft sediments between 43 and 46.5 feet deep (represented by dark grey and dark red colored portions of the ATV image columns), but could not detect the borehole wall through those materials.

MW-32D

This caliper log detected a distinct enlargement near 45 feet deep, with minor diameter variations at shallower depths. A small enlargement is visible near 53 feet deep, but the borehole wall is mostly quite smooth below 46 feet deep. A slightly smaller drill bit appears to have been used below 53 feet deep.

A change in slope of the FRes plot near 41 feet deep probably represents a hydraulically active zone.

Ambient flowmeter tests showed weak upward flow (at the probe's lower measurement limit) at all but one test depth. If these observations are accurate (and not just thermal buoyancy of the warm water pulse), the ambient inflow occurs greater than 54 feet deep.

Weak upward flow was also observed originating greater than 54 feet deep during the pumping flowmeter tests. Most inflow while pumping occurred between 40.5 and 47 feet deep. The visibly open features dipping down steeply towards the southeast were interpreted to be the most likely source of this inflow.

Less open features dip down primarily towards the northwest, whereas interpreted open or hydraulically conductive features dip down towards the southeast.

MW-34D

This borehole showed only minor diameter, FTemp, and FRes variations throughout the uncased section.

Ambient flowmeter tests showed water entering greater than 49 feet deep, flowing upward, and exiting between 40 and 46.5 feet deep.

Pumping flow tests showed weak upward flow originating between 46.5 and 49 feet deep. Additional inflow occurred between the casing bottom and 35 feet deep; this interval provided most of the water that entered while pumping.

Less-open planar features dip down primarily towards the northwest and east-northeast. Open features dip down in widely varying directions that fall into two general groups: a) from southwest to northwest, and b) from northeast to southeast. The stereoplot shows a small group of feature poles clustered immediately southeast of the diagram's center (representing features that dip gently down towards the northwest).

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We appreciate this opportunity to provide geophysical services, and we welcome questions concerning this report. Please call the undersigned at 508/543-1388 if we may provide additional information that would benefit Shaw Environmental's project.

Sincerely,

GEOPHYSICAL APPLICATIONS, INC.

M. Blackey

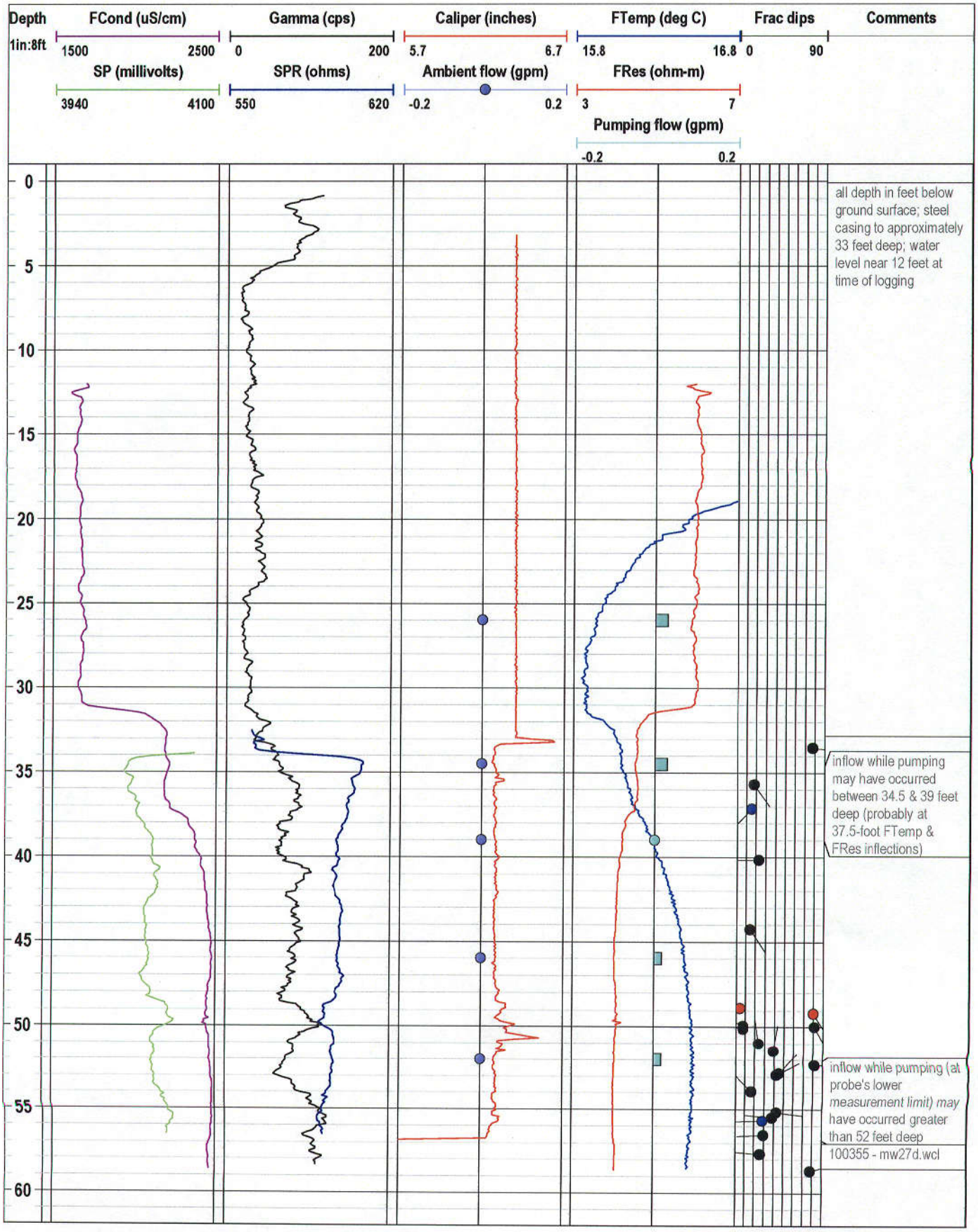
Mark E. Blackey
Principal and Geophysicist

100355 - 100355e.rpt

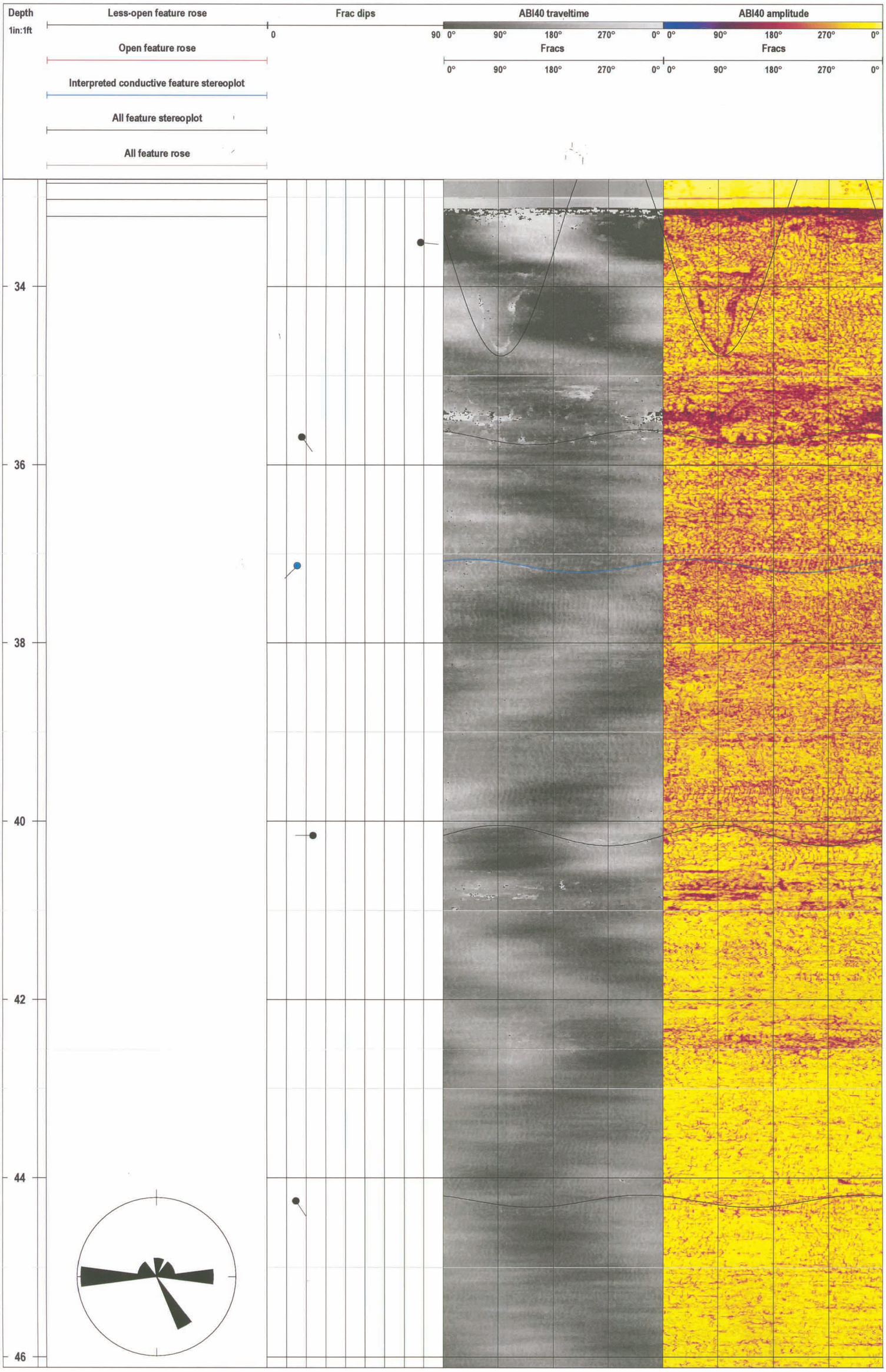
Appendix A

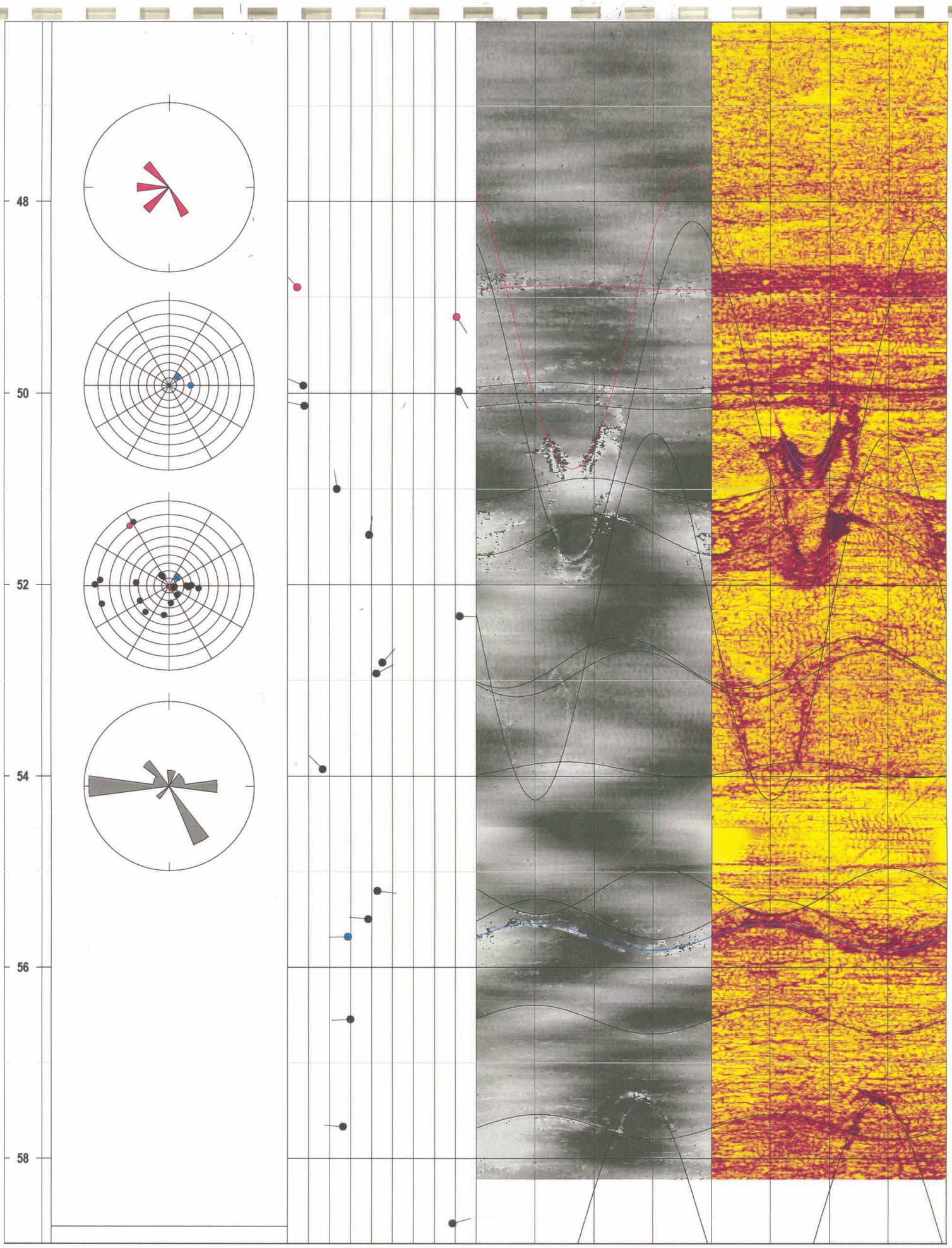
Borehole Geophysical Logs

Project - Well: Shaw Env'l/Maywood, NJ - MW-27D conventional logs



Project - Well: Shaw Env'l/Maywood, NJ - MW-27D acoustic televiewer log

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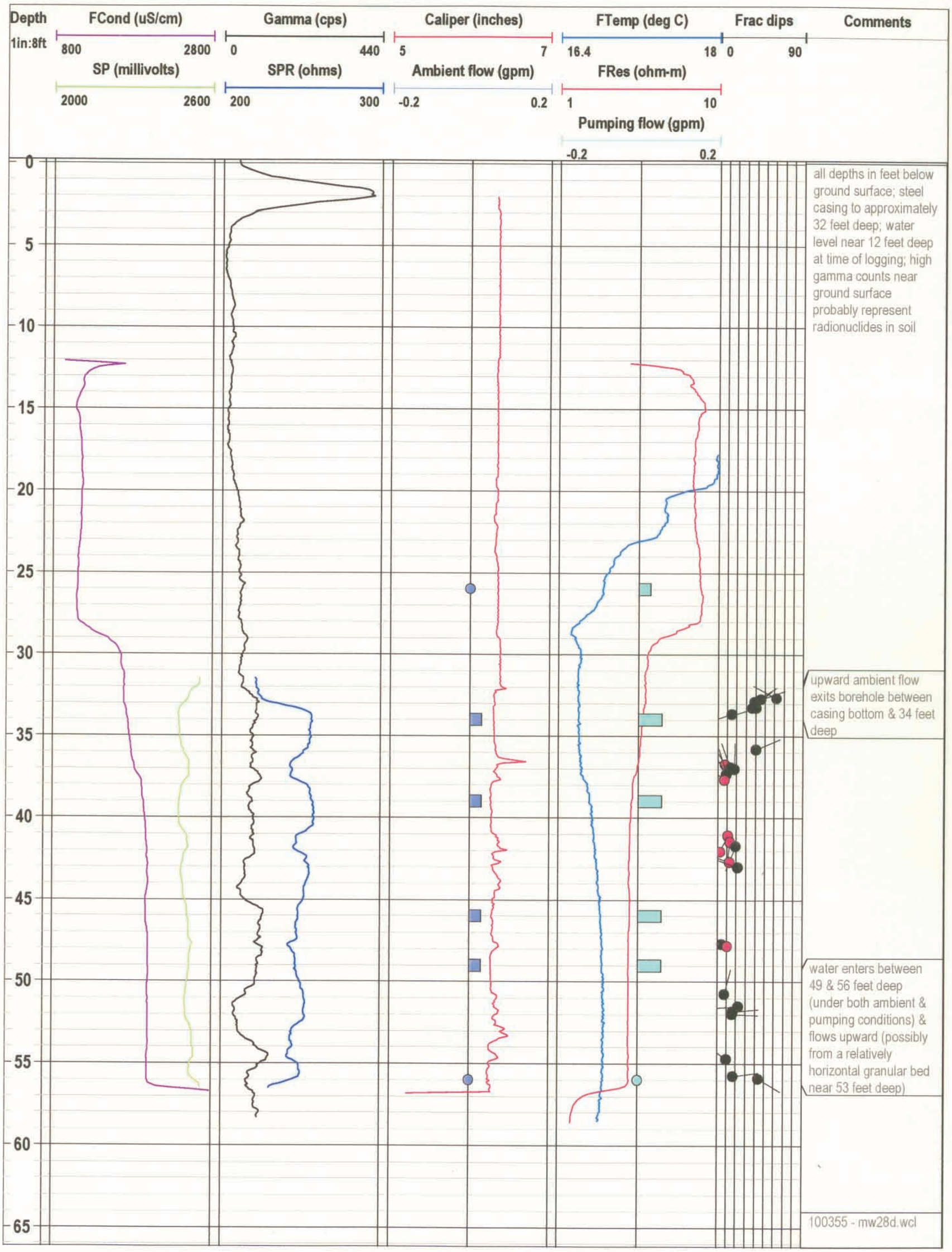
Project - Well: Shaw Env'l/Maywood, NJ - MW-28D conventional logs



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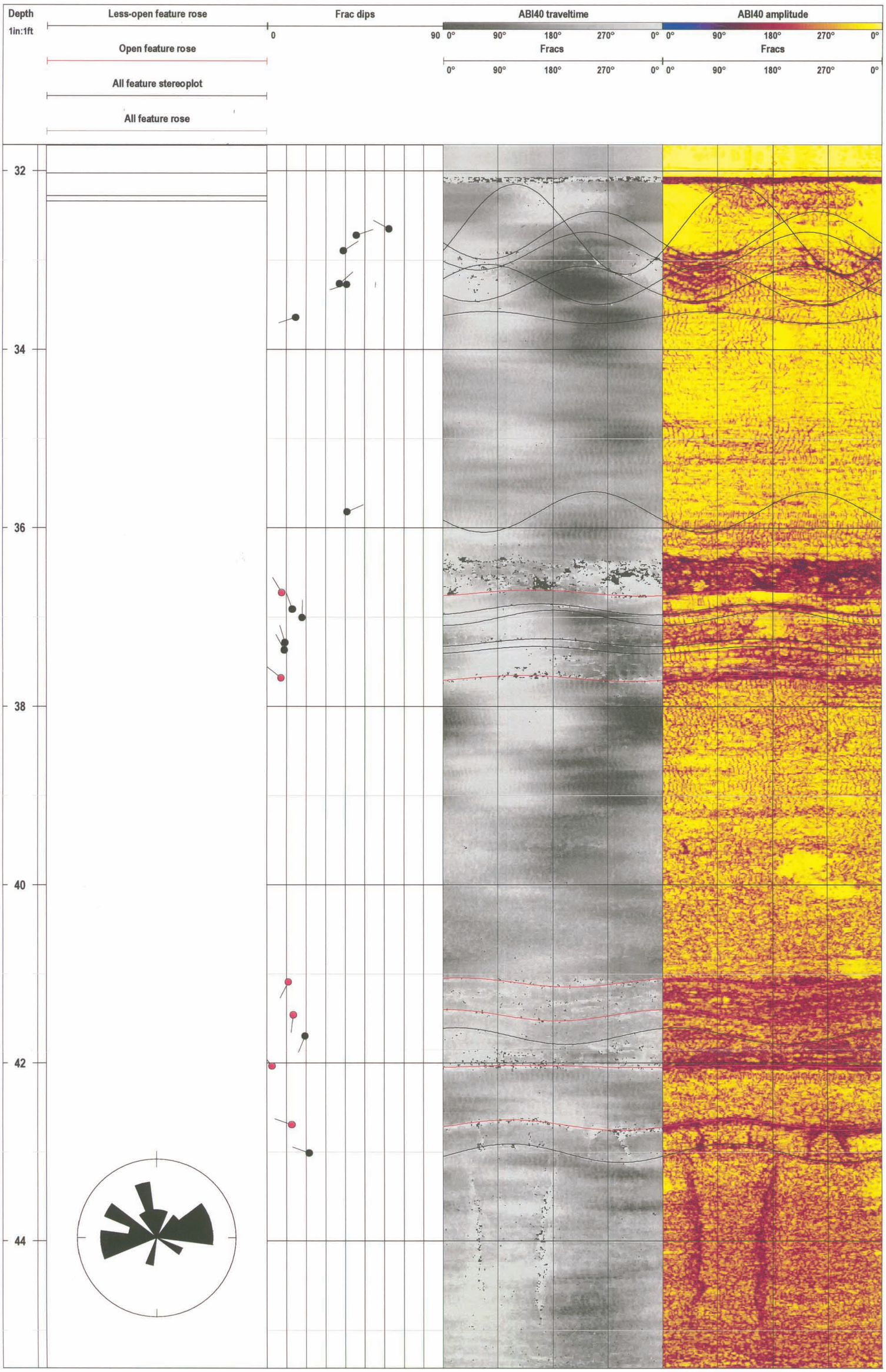

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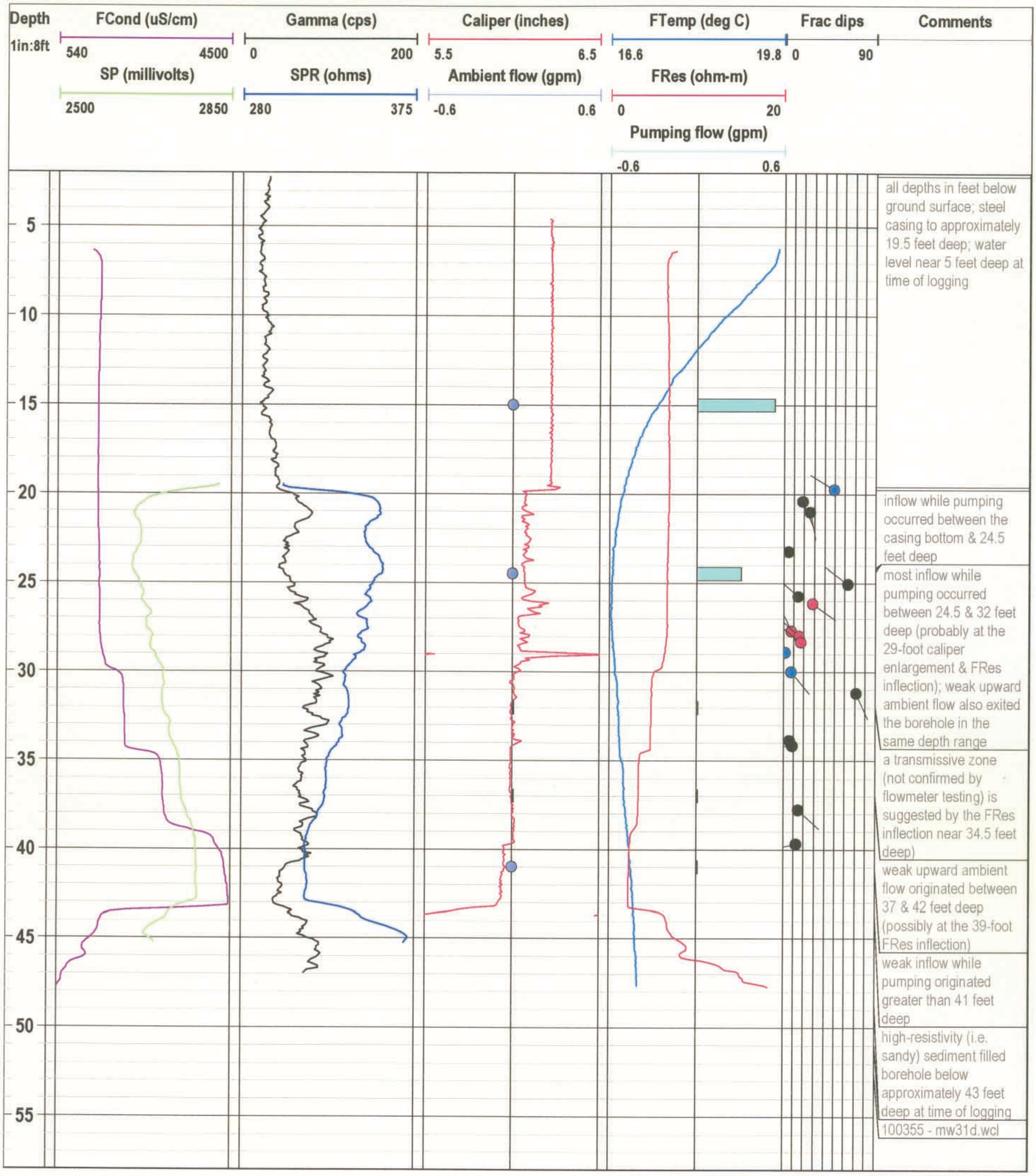
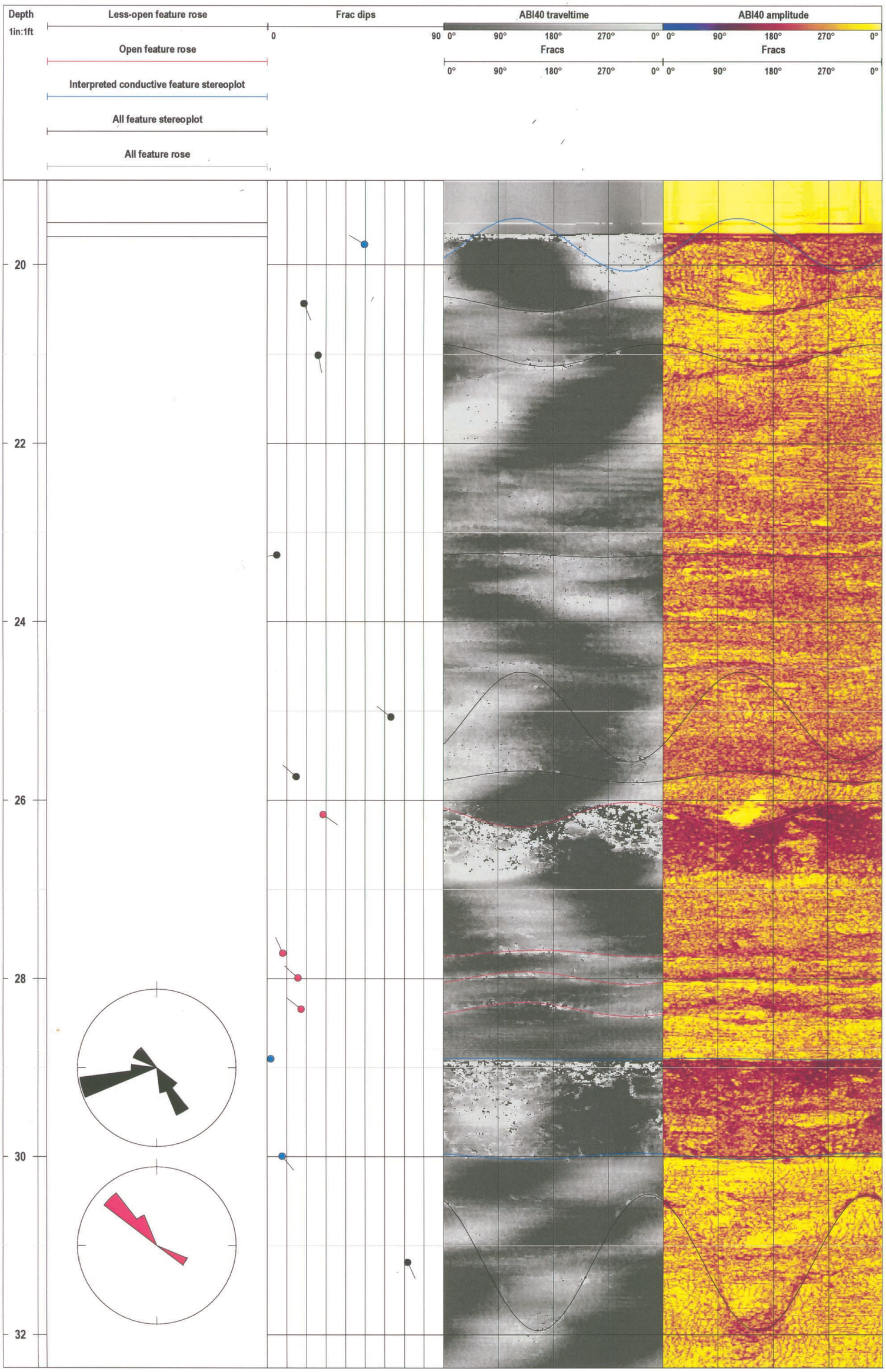
Project - Well: Shaw Env'l/Maywood, NJ - MW-31D conventional logs



Project - Well: Shaw Env'l/Maywood, NJ - MW-31D acoustic televiewer log



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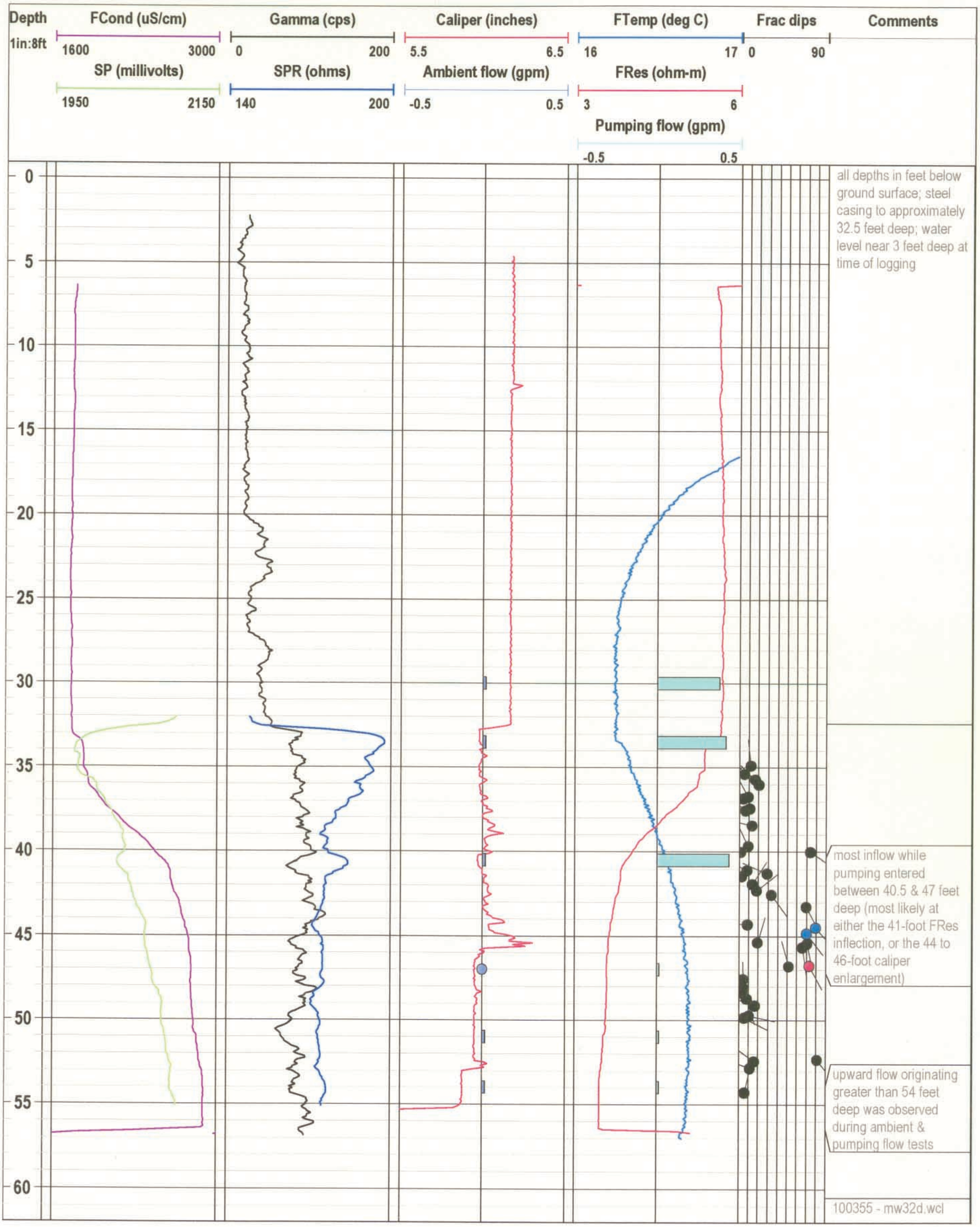
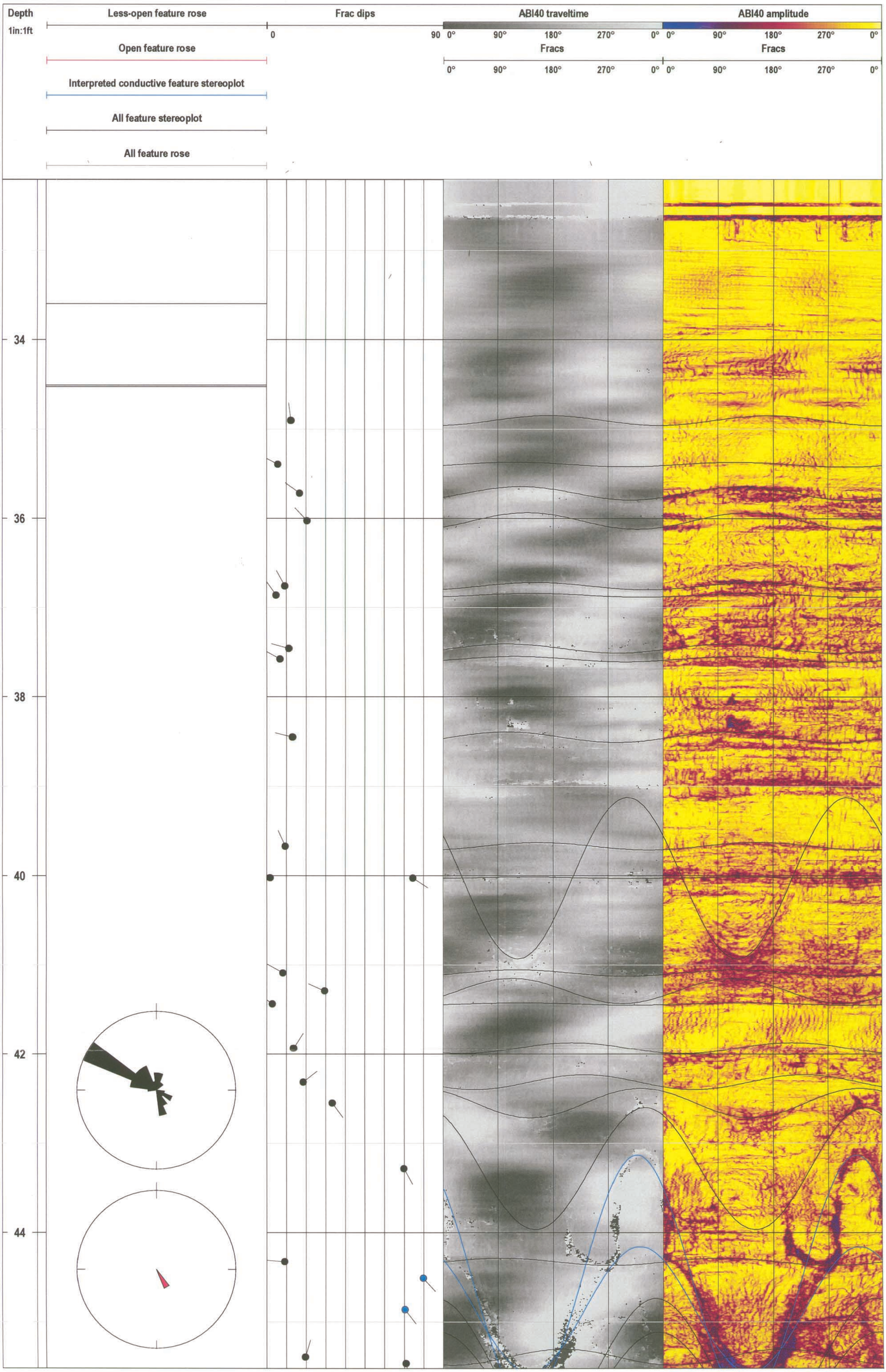
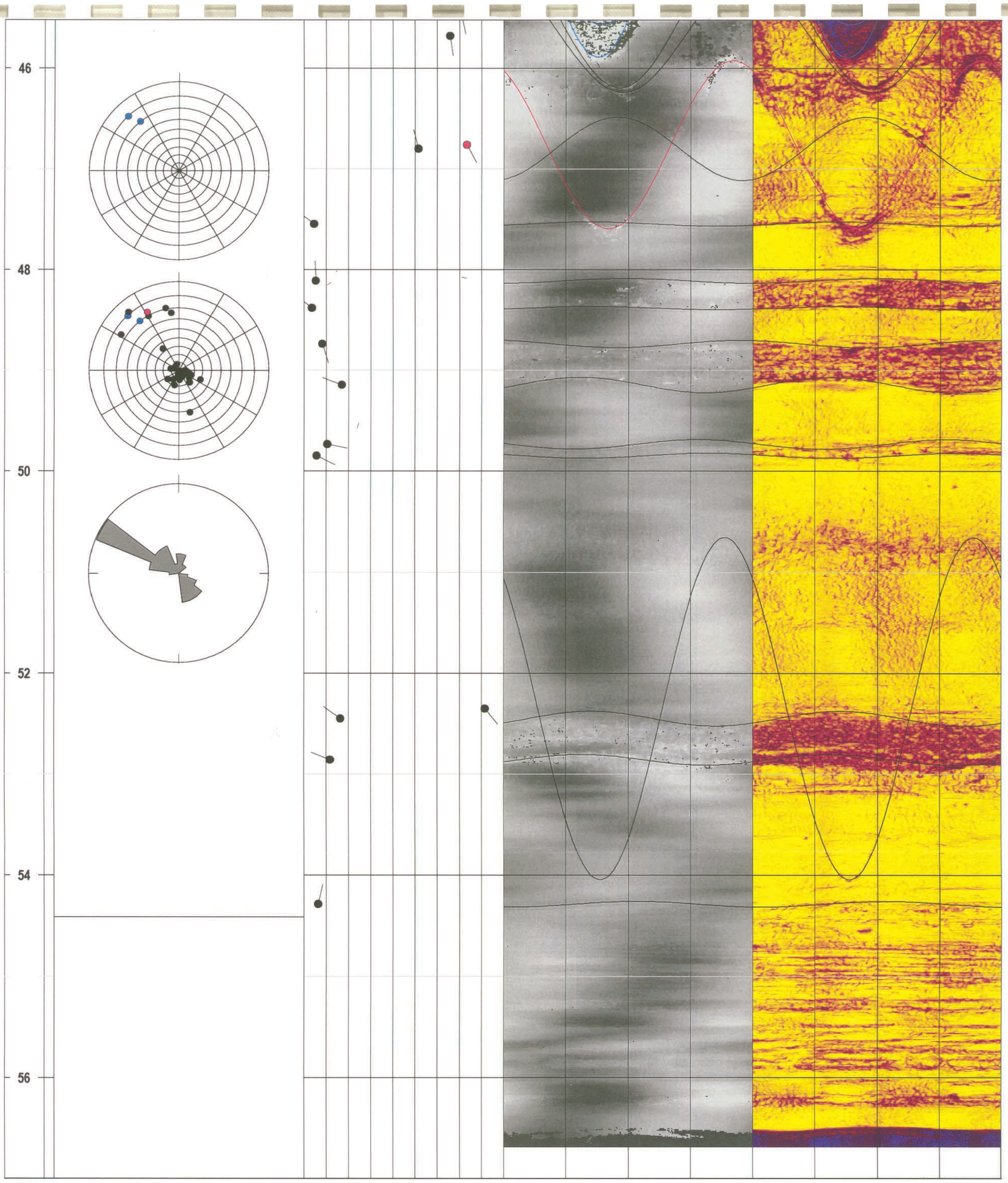
Project - Well: Shaw Env'l/Maywood, NJ - MW-32D conventional logs



Project - Well: Shaw Env'l/Maywood, NJ - MW-32D acoustic televiewer log

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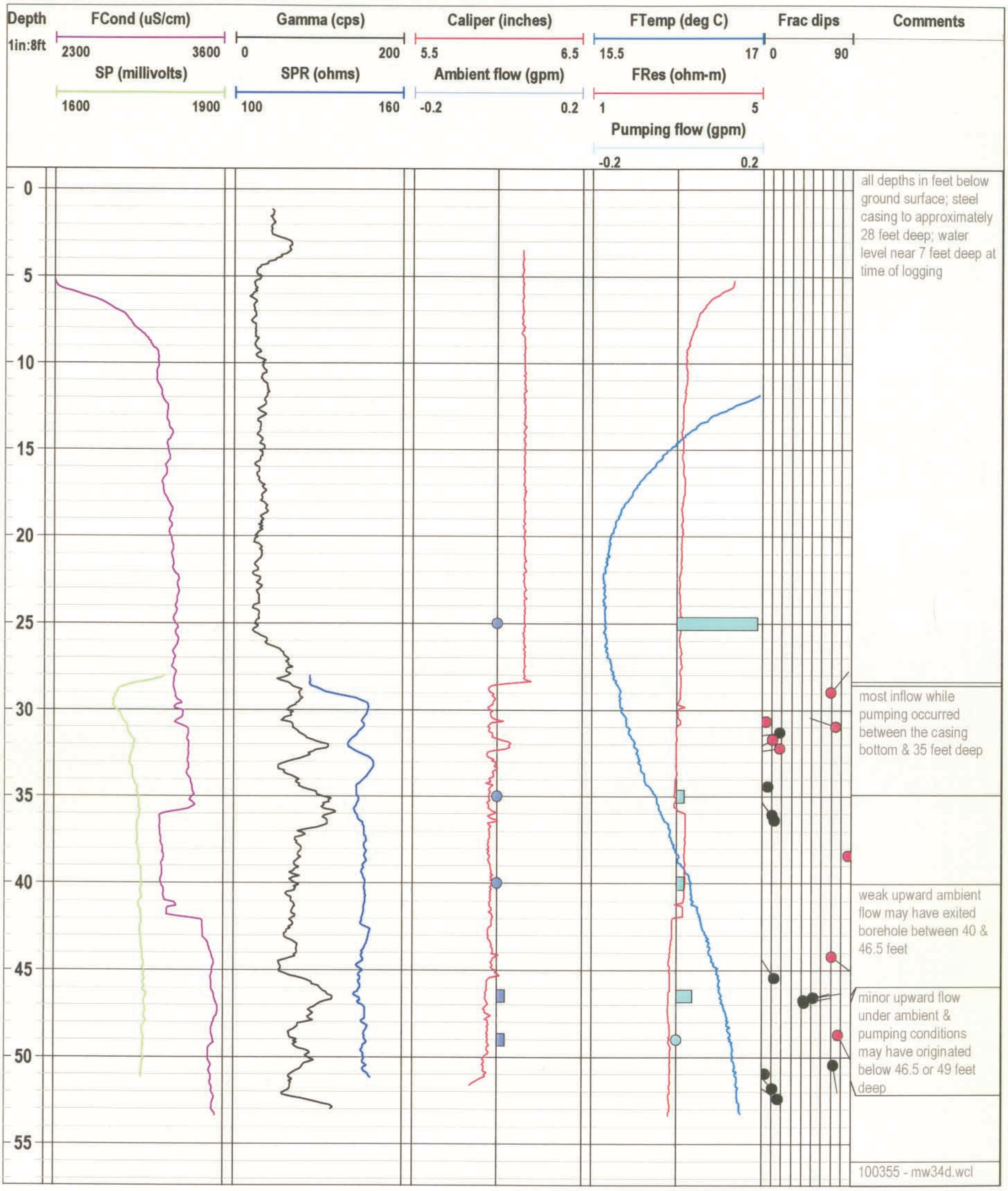
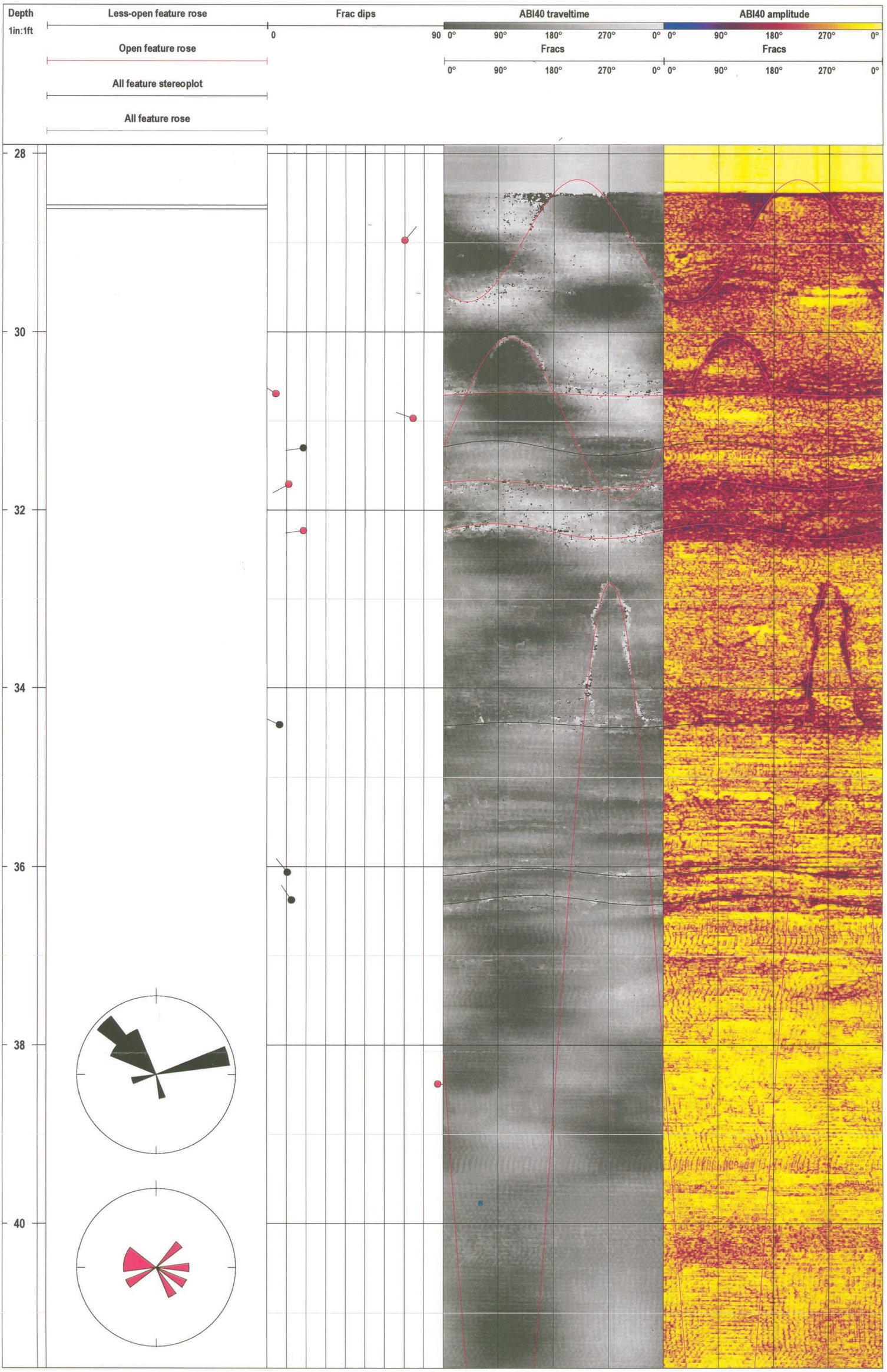
Project - Well: Shaw Env'l/Maywood, NJ - MW-34D conventional logs



Project - Well: Shaw Env'l/Maywood, NJ - MW-34D acoustic televiewer log



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Appendix B

Fracture Orientations Measured from Acoustic Televiewer Logs

Fracture Orientations Interpreted from MW-27D Acoustic Televiewer Log
Maywood Chemical Superfund Site
Maywood, New Jersey
Prepared for: Shaw Environmental
100355 - mw27di.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	fracture category (open = 105 less-open = 100 conductive = 107)
33.51	94.7	78.4	100
35.69	144.8	17.9	100
37.13	224.2	15.6	107
40.16	270.4	23.6	100
44.26	146.1	14.8	100
48.90	317.4	4.7	105
49.21	146.9	80.6	105
49.92	293.3	7.7	100
49.98	151.0	81.6	100
50.13	283.0	8.1	100
51.00	353.1	23.7	100
51.48	9.5	39.1	100
52.33	90.9	82.2	100
52.82	41.6	45.4	100
52.93	62.8	42.6	100
53.93	316.7	16.8	100
55.20	95.8	42.9	100
55.50	275.6	38.6	100
55.68	269.2	28.8	107
56.55	268.4	30.1	100
57.67	275.1	26.4	100
58.69	74.7	78.7	100

Note that down-dip compass azimuth is perpendicular to the strike direction.

Interpreted down-dip compass azimuths are with respect to magnetic north.

Fracture Orientations Interpreted from MW-28D Acoustic Televiewer Log
Maywood Chemical Superfund Site
Maywood, New Jersey
Prepared for: Shaw Environmental
100355 - mw28di.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	fracture category (open = 105 less-open = 100 conductive = 107)
32.65	298.4	62.5	100
32.72	71.6	45.7	100
32.90	57.2	39.1	100
33.26	49.2	37.1	100
33.27	253.4	40.8	100
33.64	252.3	14.8	100
35.83	66.5	41.1	100
36.73	328.8	7.8	105
36.92	340.4	13.2	100
37.01	1.7	18.0	100
37.29	342.7	9.5	100
37.37	332.3	9.1	100
37.68	309.9	7.2	105
41.09	207.5	11.1	105
41.46	186.6	13.5	105
41.69	201.6	19.5	100
42.04	322.0	2.8	105
42.69	289.9	12.8	105
43.01	290.3	21.7	100
47.69	265.5	4.5	100
47.83	276.5	10.9	105
50.74	14.4	8.2	100
51.51	267.2	22.5	100
51.80	85.8	16.8	100
51.97	92.2	16.1	100
54.70	307.0	9.9	100
55.74	82.3	17.2	100
55.91	119.6	44.2	100

Note that down-dip compass azimuth is perpendicular to the strike direction.

Interpreted down-dip compass azimuths are with respect to magnetic north.

Fracture Orientations Interpreted from MW-31D Acoustic Televiewer Log
Maywood Chemical Superfund Site
Maywood, New Jersey
Prepared for: Shaw Environmental
100355 - mw31di.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	fracture category (open = 105 less-open = 100 conductive = 107)
19.77	300.8	49.7	107
20.43	157.1	18.8	100
21.01	168.5	26.2	100
23.26	262.1	5.1	100
25.06	307.4	63.4	100
25.74	311.1	14.8	100
26.16	124.3	28.6	105
27.72	335.3	8.2	105
27.99	312.5	15.7	105
28.34	309.9	17.4	105
28.90	242.4	2.2	107
29.99	140.9	7.8	107
31.19	155.5	71.9	100
33.87	257.0	6.2	100
34.16	268.4	9.1	100
37.79	131.5	15.3	100
39.69	259.0	12.7	100

Note that down-dip compass azimuth is perpendicular to the strike direction.

Interpreted down-dip compass azimuths are with respect to magnetic north.

Fracture Orientations Interpreted from MW-32D Acoustic Televiewer Log
Maywood Chemical Superfund Site
Maywood, New Jersey
Prepared for: Shaw Environmental
100355 - mw32di.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	fracture category (open = 105 less-open = 100 conductive = 107)
34.90	353.1	12.5	100
35.39	297.6	5.8	100
35.72	307.3	16.8	100
36.03	318.1	20.5	100
36.76	332.0	9.4	100
36.86	324.8	4.9	100
37.46	285.0	11.5	100
37.57	298.4	6.9	100
38.45	283.8	13.2	100
39.67	335.4	9.6	100
40.02	312.2	1.8	100
40.03	121.9	74.6	100
41.09	299.6	8.3	100
41.29	293.5	29.5	100
41.44	306.7	2.9	100
41.93	32.0	13.8	100
42.31	51.3	18.6	100
42.55	143.4	33.5	100
43.28	150.8	70.0	100
44.32	275.1	9.3	100
44.51	137.0	79.8	107
44.86	141.8	70.5	107
45.39	16.5	19.7	100
45.46	168.1	71.1	100
45.68	172.4	66.1	100
46.76	151.6	73.4	105
46.80	345.0	51.7	100
47.55	306.7	4.7	100
48.11	358.1	5.5	100
48.38	307.9	3.6	100
48.74	162.2	8.3	100
49.14	291.3	16.9	100
49.73	101.2	10.8	100
49.84	116.8	5.8	100
52.35	139.5	81.7	100
52.45	306.3	16.4	100
52.86	292.6	11.9	100
54.28	12.6	6.5	100

Note that down-dip compass azimuth is perpendicular to the strike direction.

Interpreted down-dip compass azimuths are with respect to magnetic north.

Fracture Orientations Interpreted from MW-34D Acoustic Televiewer Log
Maywood Chemical Superfund Site
Maywood, New Jersey
Prepared for: Shaw Environmental
100355 - mw34di.xls

depth (feet)	down-dip compass azimuth (degrees)	dip angle (degrees)	fracture category (open = 105 less-open = 100 conductive = 107)
28.97	39.2	70.2	105
30.69	302.8	4.7	105
30.97	289.7	74.7	105
31.30	262.0	18.7	100
31.71	242.4	11.2	105
32.23	262.9	18.6	105
34.41	295.3	6.5	100
36.06	320.4	10.7	100
36.37	326.6	12.7	100
38.44	93.4	87.5	105
44.22	126.3	71.3	105
45.45	327.6	12.9	100
46.58	80.5	52.7	100
46.74	75.0	42.5	100
46.87	79.3	43.3	100
48.71	153.0	77.8	105
50.45	170.6	72.6	100
50.97	309.1	3.6	100
51.82	317.4	11.5	100
52.42	304.7	17.0	100

Note that down-dip compass azimuth is perpendicular to the strike direction.

Interpreted down-dip compass azimuths are with respect to magnetic north.

Appendix C

Daily Field Reports

Daily Field Report
Borehole Geophysics Logging Project
Maywood Superfund Site
Maywood, New Jersey
performed for
Stone & Webster, Inc.

Date: 6/23/03

Work location(s): MW-27d

Subcontractor: Geophysical Applications, Inc.

GeoApp Personnel: Mark Blackey

On-site work hours: 0800 → 1620

Standby hours: none

Work performed (borehole designations, logging runs):

MW-27d: fluid temperature, fluid resistivity, caliper, natural gamma, single-point resistance (SPR), spontaneous potential (SP), acoustic televiewer, heat-pulse flowmeter (ambient & pumping conditions)

Equipment used:

Mount Sopris 4MXA logging winch & electronics box	☑
Mount Sopris caliper/fluid temp/fluid resistivity probe	☑
Mount Sopris flowmeter probe	☑
Mount Sopris SP/SPR/gamma probe	☑
ALT acoustic televiewer probe (ABI40)	☑
ALT optical televiewer probe	☐
Laval borehole video system	☐

Problems or obstacles encountered:

none

Geophysicist's signature: M. Blackey

Daily Field Report
Borehole Geophysics Logging Project
Maywood Superfund Site
Maywood, New Jersey
performed for
Stone & Webster, Inc.

Date: 6/24/03

Work location(s): mw-28d, mw-31d

Subcontractor: Geophysical Applications, Inc.

GeoApp Personnel: Mark Blackey

On-site work hours: 0700 → 1650

Standby hours: none

Work performed (borehole designations, logging runs):

mw-28d: FTemp/FRes, caliper natural gamma, SP SPR, acoustic televiewer, heat-pulse flowmeter (ambient & pumping)

mw-31d: FTemp, FRes, caliper natural gamma SP SPR, acoustic televiewer, heat-pulse flowmeter (ambient & pumping)

Equipment used:

Mount Sopris 4MXA logging winch & electronics box	☑
Mount Sopris caliper/fluid temp/fluid resistivity probe	☑
Mount Sopris flowmeter probe	☑
Mount Sopris SP/SPR/gamma probe	☑
ALT acoustic televiewer probe CABI40	☑
ALT optical televiewer probe	☐
Laval borehole video system	☐

Problems or obstacles encountered:

none

Geophysicist's signature: M. Blackey

Daily Field Report
Borehole Geophysics Logging Project
Maywood Superfund Site
Maywood, New Jersey
performed for
Stone & Webster, Inc.

Date: 6/25/03

Work location(s): MW-34D, MW-32D

Subcontractor: Geophysical Applications, Inc.

GeoApp Personnel: Mark Blackey

On-site work hours: 0700 → 1650

Standby hours:

Work performed (borehole designations, logging runs):

MW-34d: FTemp, FRes, caliper natural gamma, SP, SPR, acoustic televiewer, heat-pulse flowmeter (ambient & pumping)

MW-32d: same as above

Equipment used:

- [x] Mount Sopris 4MXA logging winch & electronics box
- [x] Mount Sopris caliper/fluid temp/fluid resistivity probe
- [x] Mount Sopris flowmeter probe
- [x] Mount Sopris SP/SPR/gamma probe
- [x] ALT acoustic televiewer probe (ABI40)
- [ ] ALT optical televiewer probe
- [ ] Laval borehole video system

Problems or obstacles encountered:

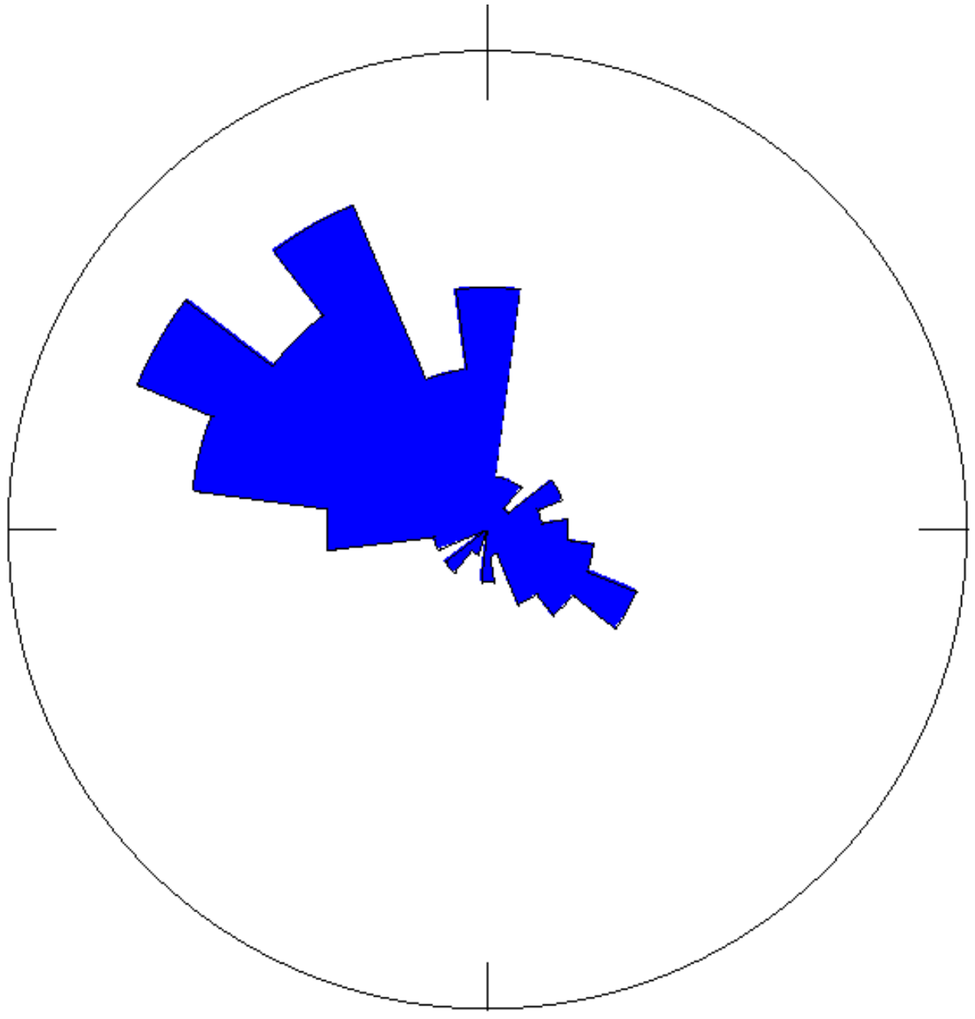
none

Geophysicist's signature: M. Blackey

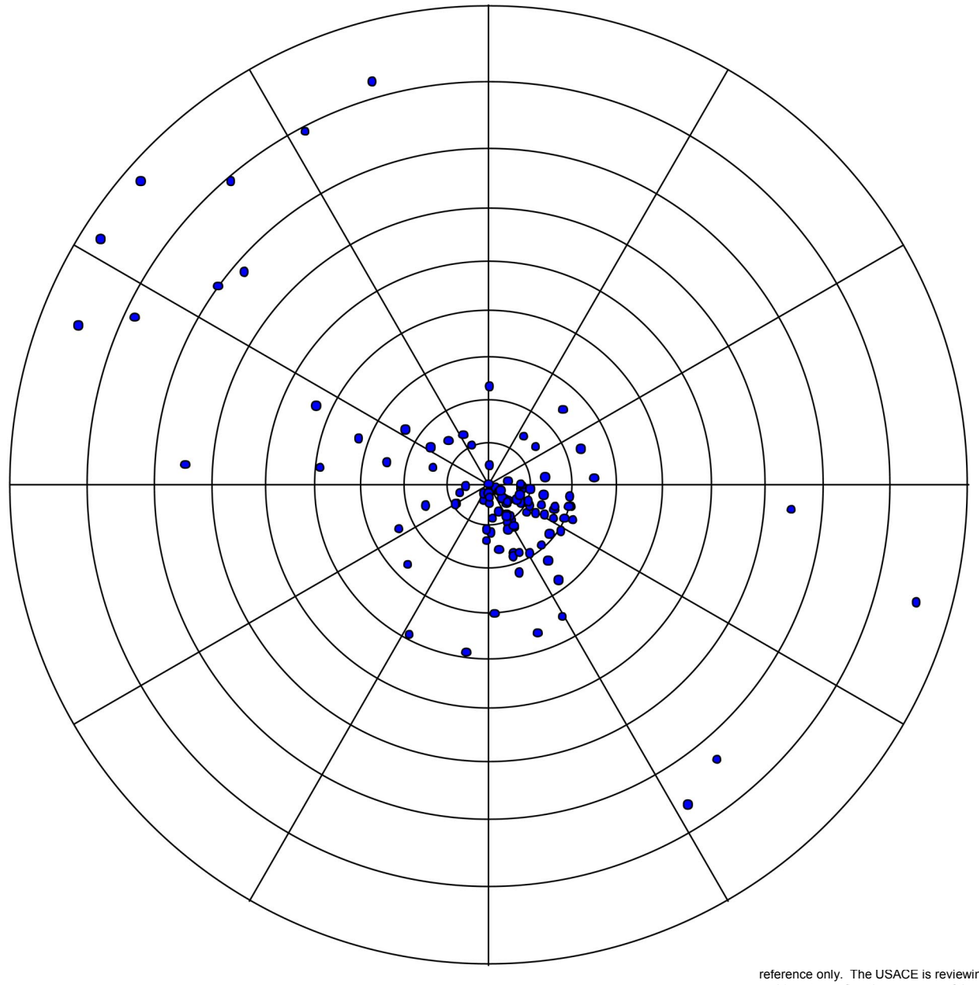
APPENDIX G.2

GWRI ROSE DIAGRAM/STEREONET PLOT OF WATER FILLED FRACTURES

(EXCERPTED FIGURE 3-12B, JUNE 2003)



Summary Rose Plot



Summary Stereonet

reference only. The USACE is reviewing historical archives to confirm the accuracy of the property locations and status depicted on the map. If you have a specific question about a particular property, please contact the USACE Public Information New Jersey or call 201-843-7466. Or, visit the FUSRAP Maywood Chemical Company Superfund Site at <www.fusrapmaywood.com>.

Legend:

Summary rose plot diagram displays the dominant down-dip fracture azimuth observed within borehole geophysical data in all FMSS boreholes logged. Summary stereonet is a lower hemisphere, equal angle, polar projection. **Summary stereonet diagram displays the dominant down-dip fracture azimuth and angle of fracture dip observed within borehole geophysical data in all FMSS boreholes logged. Black stereonet pole plots indicate less open fractures. Red stereonet pole plots indicate more open fractures. Blue stereonet pole plots indicate water filled fractures.**

Magnetic north is located to the top of each diagram.

Figure 3-12 b: Summation of Conductive Bedrock Fracture Orientations within FMSS based on Borehole Geophysics

US Army Corps of Engineers®

FUSRAP Maywood Superfund Site

Shaw Stone & Webster, Inc.

APPENDIX T8
MONITORING WELL CERTIFICATIONS – FORM B

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION – FORM B-
LOCATION CERTIFICATION

Name of Permittee: **STONE & WEBSTER**
Name of Facility: **FUSRAP Maywood Superfund Site**
Location: **Maywood, NJ 07607**

NJPDES Number: NJ _____

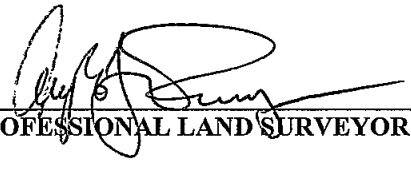
LAND SURVEYOR'S CERTIFICATION

Well Permit (As assigned by NJDEP's Water Allocation Section): 2 6-6 5 2 1 9-
This number must be permanently affixed to the well casing.

		NAD 83
Longitude (one-tenth of a second):	West	74-04-16.62
Latitude (one-tenth of a second):	North	40-53-55.12
Elevation of Top of Casing (cap off) (one-hundredth of a foot):		65.16 (NGVD 29)
Owner's Well Number (As shown on the application or plans):		MW-27D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

ANGELO J. FIORENZA
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

NJ LIC NO. 37586
PROFESSIONAL LAND SURVEYOR'S LICENSE#

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one hundredth of a second latitude and longitude. This shall not be considered to require a major modification of the NJPDES permit.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION – FORM B-
LOCATION CERTIFICATION

Name of Permittee: **STONE & WEBSTER**
Name of Facility: **FUSRAP Maywood Superfund Site**
Location: **Maywood, NJ 07607**

NJPDES Number: NJ _____

LAND SURVEYOR'S CERTIFICATION

Well Permit (As assigned by NJDEP's Water Allocation Section): 2 6- 6 5 2 2 0 -
This number must be permanently affixed to the well casing.

		NAD 83
Longitude (one-tenth of a second):	West	74-04-16.21
Latitude (one-tenth of a second):	North	40-53-53.63
Elevation of Top of Casing (cap off) (one-hundredth of a foot):		64.50 (NGVD 29)
Owner's Well Number (As shown on the application or plans):		MW-28D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

ANGELO J. FIORENZA
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

NJ LIC NO. 37586
PROFESSIONAL LAND SURVEYOR'S LICENSE#

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THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION – FORM B-
LOCATION CERTIFICATION

Name of Permittee: **STONE & WEBSTER**
Name of Facility: **FUSRAP Maywood Superfund Site**
Location: **Maywood, NJ 07607**

NJPDES Number: NJ _____

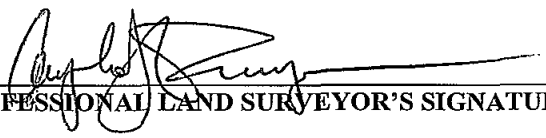
LAND SURVEYOR'S CERTIFICATION

Well Permit (As assigned by NJDEP's Water Allocation Section): 2 6-6 6 7 7 4-
This number must be permanently affixed to the well casing.

	NAD 83
Longitude (one-tenth of a second):	West 74-04-29.04
Latitude (one-tenth of a second):	North 40-53-48.96
Elevation of Top of Casing (cap off) (one-hundredth of a foot):	49.08 (NGVD 29)
Owner's Well Number (As shown on the application or plans):	MW-31D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

ANGELO J. FIORENZA **SEAL**
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

NJ LIC NO. 37586
PROFESSIONAL LAND SURVEYOR'S LICENSE#

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THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION – FORM B-LOCATION CERTIFICATION

Name of Permittee: **STONE & WEBSTER**
Name of Facility: **FUSRAP Maywood Superfund Site**
Location: **Maywood, NJ 07607**

NJPDES Number: NJ _____

LAND SURVEYOR'S CERTIFICATION

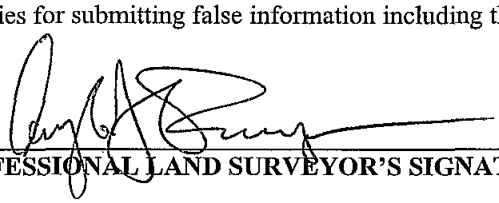
Well Permit (As assigned by NJDEP's Water Allocation Section): 2 6-6 7 2 6 8-
This number must be permanently affixed to the well casing.

NAD 83

Longitude (one-tenth of a second): West 74-04-25.82
Latitude (one-tenth of a second): North 40-53-48.06
Elevation of Top of Casing (cap off) (one-hundredth of a foot): 49.18 (NGVD 29)
Owner's Well Number (As shown on the application or plans): MW-32D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



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THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION – FORM B-
LOCATION CERTIFICATION

Name of Permittee: **STONE & WEBSTER**
Name of Facility: **FUSRAP Maywood Superfund Site**
Location: **Maywood, NJ 07607**

NJPDES Number: NJ _____

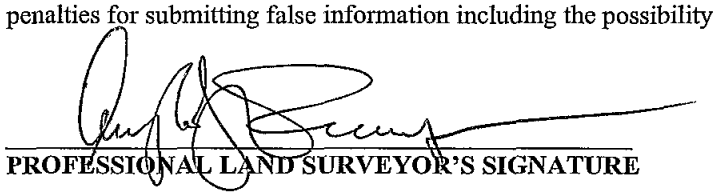
LAND SURVEYOR'S CERTIFICATION

Well Permit (As assigned by NJDEP's Water Allocation Section): 2 6- 6 5 2 2 1 -
This number must be permanently affixed to the well casing.

		NAD 83
Longitude (one-tenth of a second):	West	74-04-18.50
Latitude (one-tenth of a second):	North	40-53-54.48
Elevation of Top of Casing (cap off) (one-hundredth of a foot):		62.24 (NGVD 29)
Owner's Well Number (As shown on the application or plans):		MW-33D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



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ANGELO J. FIORENZA
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

NJ LIC NO. 37586
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THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION – FORM B- LOCATION CERTIFICATION

Name of Permittee: **STONE & WEBSTER**
Name of Facility: **FUSRAP Maywood Superfund Site**
Location: **Maywood, NJ 07607**

NJPDES Number: NJ _____

LAND SURVEYOR'S CERTIFICATION

Well Permit (As assigned by NJDEP's Water Allocation Section): 2 6- 6 5 2 1 8 -
This number must be permanently affixed to the well casing.

NAD 83

Longitude (one-tenth of a second): West 74-04-17.38
Latitude (one-tenth of a second): North 40-53-53.01
Elevation of Top of Casing (cap off) (one-hundredth of a foot): 60.63 (NGVD 29)
Owner's Well Number (As shown on the application or plans): MW-34D

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

ANGELO J. FIORENZA
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

NJ LIC NO. 37586
PROFESSIONAL LAND SURVEYOR'S LICENSE#

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one hundredth of a second latitude and longitude. This shall not be considered to require a major modification of the NJPDES permit.

APPENDIX T9
WELL SAMPLING RECORDS

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 7-2-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: YSI 650 MDS Grundfos pump; PID/O_2 H_2S; LEL meters; Water level indicator; generator

SAMPLING METHOD Low Flow

Well I.D B38W17B

SAMPLE I.D 20a-024645

MEAS. REF. POINT (Ft. AGS or BGS) BGS

WELL DEPTH (Ft. TOC) 10.58'/9.58' adjusted to meter

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 18.2'± 40.0'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft ~~TOC~~)	Discharge (milliliter/ minute)	Volume Purged ~~(GAL)~~ ML	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0945	~~10.11~~ 9.11	300	1500	18.85	~~2876~~ 3033	6.79	-4.0	18.81	6.3
0950	~~10.11~~ 9.11	180	2400	18.21	2007	6.77	-7.2	27.95	6.9
~~0955~~	9.61	480	4800	17.59	2004	6.76	-5.8	33.66	1.2
1000	9.61	540	7500	16.07	2327	6.74	-6.4	35.70	0.1
1005	9.62	600	~~10500~~	15.77	2319	6.75	-12.6	34.20	-0.2
1010	9.61	460	12900	16.03	2311	6.76	-15.8	34.83	-0.3
1015	9.61	240	14100	17.03	2308	6.76	-18.5	34.03	-0.2
1020	9.12	280	15300	17.55	2315	6.78	-19.8	33.02	3.1
1025	9.11	340	17200	17.46	2329	6.77	-21	35.72	-0.2
1030	9.11	380	18600	17.56	2317	6.78	-23.0	32.41	-0.3
1040	9.11	350	20350	17.50	2321	6.78	-21.7	33.63	0.2
1045	9.11			17.61	2322	6.78	-20.8	31.64	-0.3
1050	Sample								

APPEARANCE/COLOR SH. hazy / NA color

ODOR Slight odor

SAMPLED BY (PRINT) S. Hall / C. Kaszaw

SAMPLED BY _____

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY G. M.

DATE/TIME 7-2-02 1050

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-8-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: YSI; Horiba; PID, O_2, CO, LEL, H_2S meter; Water level indicator; Control box; submersible pump

SAMPLING METHOD Low flow

Well I.D MISS-02B

SAMPLE I.D 12b-024633

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) _____

INNER CASING/OPEN HOLE DIAM (la) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 28.5 (open hole)

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

used YSI 650 MDS for all readings

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	ORP Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1325	12.10	260	1300	15.89	5079	6.86	-44.0	10.17	16.3	Lt yellow Tint/Hazy
1330	12.10	240	2500	16.25	5069	6.78	-31.4	11.05	17.1	SL odor
1335	12.11	210	3550	16.64	5038	6.75	-26.1	10.75	16.8	" "
1340	12.15	420	5650	16.02	4988	6.72	-23.7	10.46	15.7	" "
1345	12.17	420	7750	16.17	4940	6.69	-23.5	10.53	12.6	" "
1350	12.20	420	9850	15.99	4932	6.69	-21.4	11.55	12.3	
1355	12.22	420	11950	16.16	4941	6.66	-23.7	11.70	12.2	
1400	12.21	420	14050	15.94	4919	6.65	-22.3	11.87	9.9	
1405	12.21	400	16050	15.86	4908	6.65	-22.1	11.95	8.7	
1410	12.21	420	18150	16.10	4889	6.64	-20.1	11.67	8.8	
1415	Sample Time									

APPEARANCE/COLOR Clear/Slt. yellow color

ODOR Slight odor

SAMPLED BY (PRINT) S. Hall

SAMPLED BY L. Kasser

SIGNATURE [signature]

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

DATE/TIME 7-8-02 1430

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-9-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID LEL O_2 CO & H_2S meter; Control box, submersible pump, YSI, Horiba; Water level indicator

2020 Turbid. meter

SAMPLING METHOD Low Flow

Well I.D B38W19D

SAMPLE I.D 12b-02468

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 50.2'

INNER CASING/OPEN HOLE DIAM (la) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 29'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1305	16.18	320	640	15.84	3847	6.67	27.4	13.64	0.00
1310	16.18	340	2340	16.01	3822	6.92	15.1	13.98	0.00
1315	16.18	110	2890	16.81	3764	6.43	12.7	13.14	0.00
1320	16.18	250	4140	16.57	3761	6.50	8.9	13.11	0.00
1325	16.17	250	5390	17.17	3749	6.52	5.2	12.89	0.00
1330	16.16	250	6640	17.02	3758	6.49	3.0	13.28	0.00
1335	16.17	240	7840	17.02	3749	6.30	1.3	12.90	0.00
1340	Sample well								

APPEARANCE/COLOR Clear/no color

ODOR Slight odor

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY Lance Knox

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 7-9-02

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-10-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: YSI 650 MDS; PID, O_2, CO, H_2S, LEL meter Submersible pump (6mm dia); Control box; water level indicator

SAMPLING METHOD Low

Well I.D B38W25D

SAMPLE I.D 126-024052

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 30.4'

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1050	7.78	1000	200	17.73	1154	6.43	-20.9	10.57	-1.5
1055	7.79	2000	200	17.73	1164	6.38	-19.4	7.66	-0.7
1100	7.79	3200	240	18.39	1158	6.37	-15.6	9.65	-0.8
1105	7.80	4850	330	17.22	1161	6.35	-15.2	11.81	-1.0
1110	7.82	6450	320	16.85	1160	6.34	-15.6	13.67	-1.1
1115	7.83	8150	340	16.77	1159	6.33	-15.4	14.17	-1.1
1120	7.83	9850	340	16.91	1160	6.33	-15.8	15.50	-1.2
1130	Sampled								

APPEARANCE/COLOR clear / no color

SAMPLED BY (PRINT) L. Kassner

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY SH

ODOR SH. odor

SAMPLED BY S. Hall

SIGNATURE _____

DATE/TIME 7-10-02 / 1145

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-11-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LFL, O_2, CO & H_2S meter; Water level indicator; Grundfos submersible pump; Control box

SAMPLING METHOD Low flow

Well I.D MISS-7B

SAMPLE I.D 126-24638

MEAS. REF. POINT (Ft. AGS or BGS) +2.0

WELL DEPTH (Ft. TOC) 51'

INNER CASING/OPEN HOLE DIAM (la) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
~~1320~~				error					
1315	11.39	300	1500	16.50	7753	6.92	-28.6	0.50	30.3
1320	11.37	180	1680	18.18	7745	6.92	-37.2	0.36	36.3
1325	11.42	260	2980	17.18	7748	6.91	-40.3	0.35	42.6
1330	11.43	260	4280	16.77	7740	6.91	-43.2	0.29	45.7
1335	11.40	240	5480	17.08	7745	6.92	-45.4	0.27	49.0
1340	11.36	200	6480	17.78	7748	6.93	-42.6	0.33	61.4
1345	11.36	200	7480	17.26	7786	6.92	-44.3	0.29	37.7
1350	11.38	200	8480	17.46	7776	6.91	-41.3	0.27	28.9
1355	11.38	210	9530	17.28	7786	6.91	-41.8	0.27	31.7
1400	11.38	210	10580	17.70	7785	6.91	-40.9	0.26	29.1
Stop & Sample									

APPEARANCE/COLOR Few (possible) past particles / no color

SAMPLED BY (PRINT) Shawn Hall

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY SH

ODOR No odor

SAMPLED BY Laura Kasson

SIGNATURE [signature]

DATE/TIME 7-11-02 / 1430

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-15-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, & H_2S meter; 6 multi submersible pump; water level indicator, control box, YSI 650 MDS

SAMPLING METHOD Low flow

Well I.D B38W24D

SAMPLE I.D 10A-024650

MEAS. REF. POINT (Ft. AGS or BGS) 0.0

WELL DEPTH (Ft. TOC) 28'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 22'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 24'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1005	9.18	270	1350	19.16	608	6.00	43.4	0.70	68.3
1010	9.18	240	2550	19.40	633	5.98	26.1	0.50	38.6
1015	9.18	230	3700	19.79	638	5.98	16.2	0.44	29.1
1020	9.18	260	5000	20.53	650	5.98	5.0	0.42	27.5
1025	9.20	220	6100	19.93	654	5.98	-1.0	0.41	18.6
1030	9.22	320	7700	19.62	674	5.96	-4.2	0.34	14.4
1035	9.25	380	9600	19.66	691	5.96	-8.8	0.32	8.9
1040	9.25	320	11200	19.64	709	5.96	-10.9	0.29	4.9
1045	9.25	320	12800	19.64	717	5.96	-15.4	0.28	2.2
Sampled									

APPEARANCE/COLOR SH hazy / MW color light brown ODOR NW odor

SAMPLED BY (PRINT) Shawn Hall SAMPLED BY Laura Kissam

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME 7-15-02 / 1055

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-17-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, O_2, H_2S meter, Water level indicator, control box; Grundfos submersible pump; YSI 650 MDS

SAMPLING METHOD Low flow

Well I.D B38W2P

SAMPLE I.D 12a-024639

MEAS. REF. POINT (Ft. AGS or BGS) +2.9'

WELL DEPTH (Ft. TOC) 45.91'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 39.9'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 42.5'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0920	21.81	210	1680	14.70	487	6.72	236.1	0.55	42.4
0925	21.84	200	2680	14.89	499	6.71	503 (161)	0.51	22.3
0930	22.10	200	3680	14.89	538	6.72	171.9	0.47	9.6
0935	22.17	200	4680	15.05	543	6.72	156.1	0.41	7.1
0940	22.45	200	5680	14.91	539	6.72	144.5	0.38	4.9
0945	22.79	280	7080	14.97	538	6.72	127.3	0.34	2.9
0950	22.87	240	8280	15.61	530	6.71	120.2	0.32	2.8
0955	22.88	200	9280	15.40	534	6.70	113.9	0.30	2.6
1000	Sample								

APPEARANCE/COLOR Hz Clear / No color ODOR No odor

SAMPLED BY (PRINT) S. Hall

SIGNATURE S. Hall

SAMPLED BY L. Kraw

SIGNATURE

WELL CAP REPLACED AND LOCKED BY SH

DATE/TIME 7-17-02 / 1020

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-18-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, CO, O_2 & H_2S meter; Grundfos submersible pump; control box generator YSI 650 MPS water level indicator

SAMPLING METHOD Low Flow

Well I.D B38W18D

SAMPLE I.D _____

MEAS. REF. POINT (Ft. ~~WGS~~ or BGS) ~~92.7~~ +2.1 0.0

WELL DEPTH (Ft. TOC) ~~92.7~~ 40.0

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) ~~37.1~~ 35.0

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~~39.6~~ 37.5

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0850	5.21	240	2400	19.38	668	5.73	367.9	0.47	13.8
0855	5.22	280	3800	19.83	696	5.86	349.2	0.48	12.7
0900	5.21	280	5200	20.15	691	5.86	340.6	0.52	12.1
0905	5.21	280	6600	20.14	696	5.85	337.0	0.55	11.8
0910	5.21	280	8000	20.21	711	5.84	334.6	0.52	11.2
0915	5.21	280	9400	20.29	724	5.84	332.6	0.50	10.9
0920	5.22	280	10800	20.21	737	5.83	331.6	0.47	10.6
0930	Sample		well						

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) L. Kassaw

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR NW odor

SAMPLED BY J. Nayes

SIGNATURE _____

DATE/TIME 7-18-02 / 0940

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-18-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL O_2, CO & H_2S meter; Water level indicator, YSI 650 MDS

SAMPLING METHOD Low flow

Well I.D MISS-1B

SAMPLE I.D 126-024631

MEAS. REF. POINT (Ft. AGS or BGS) (+) 1.4

WELL DEPTH (Ft. TOC) 54.9'

INNER CASING/OPEN HOLE DIAM (Ia) _____

DEPTH TO TOP OF SCREEN (Ft TOC) 24.4'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~~40'~~ (23') See field notes

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1355	16.71	220	2640	18.40	769	7.13	135.2	3.27	235.4	
1400	16.71	200	3640	19.57	783	7.06	77.1	2.03	164.0	*
1405	16.72	220	4740	19.42	785	7.07	78.3	1.89	146.2	
1410	16.71	220	5840	18.64	768	7.11	74.5	2.55	143.1	*
1415	16.71	200	6840	19.57	757	7.12	74.1	1.89	120.5	
1420	Adjusted pump.									
1425	16.71	200	7840	20.60	769	7.14	65.0	1.88	104.6	
1430	16.71	180	8740	20.50	672	7.25	75.0	2.34	153.0	
1435	16.71	180	9640	21.22	652	7.30	104.4	2.43	110.1	
1440	16.71	200	10640	20.93	647	7.31	112.6	2.50	105.1	
1445	16.71	200	11640	20.54	636	7.35	132.9	2.55	99.9	
1450	16.71	200	12640	20.69	638	7.35	143.8	2.43	94.5	
1455		200	13640	20.68	682	7.28	136.0	2.24	87.7	
1500	Sample									

APPEARANCE/COLOR Hazy / Lt. Brown

SAMPLED BY (PRINT) L. Kassaw

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR NV odor

SAMPLED BY J. Hayes

SIGNATURE _____

DATE/TIME 7-18-02

* Cleaned YSI 650 MDS of depre. (DO)

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-24-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, H_2S meter; Water level indicator; Grundfos submersible pump; control box; YSI 650 MDS

SAMPLING METHOD Low flow

Well I.D B38W14D

SAMPLE I.D 19a-024641

MEAS. REF. POINT (Ft. AGS or BGS) -0.5

WELL DEPTH (Ft. TOC) 51.5'

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 45.5'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 48.5'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1320	4.32	190	950	18.40	126	6.97	-23.8	1.14	84.0
1325	4.34	200	1950	18.70	128	6.69	-28.5	0.52	72.7
1330	4.29	200	2950	19.19	308	6.67	-35.8	0.49	54.2
1335	4.45	190	3900	17.42	997	6.84	-47.6	2.33	27.5 *
1340	~~4.26~~ 4.49	240	5100	18.37	1129	6.84	-47.8	0.35	29.0
1345	4.49	240	6300	18.29	1193	6.85	-42.2	0.35	21.5
1350	4.50	230	7450	18.18	1213	6.88	-35.8	0.34	13.1
1355	4.50	240	8650	16.92	1221	6.89	-27.2	0.32	10.2
1400	4.49	240	9850	18.01	1228	6.90	-19.4	0.31	4.9
1405	Sample								

APPEARANCE/COLOR Clear/Very light Yellow ODOR No odor

SAMPLED BY (PRINT) S. Hall

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY SH

SAMPLED BY L. Kassin

SIGNATURE [signature]

DATE/TIME 7-24-02 / 1430

* Cleaned flow-through cell of debre.

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-25-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID/LEL, O_2, CO, H_2S mtr; YSI 650 mps; Water level indicator; Submersible pump / Control box

SAMPLING METHOD Low flow

Well I.D MW 24D

SAMPLE I.D 12b-02164S

MEAS. REF. POINT (Ft. AGS or BGS) Not given (measurements are on well casing.)

WELL DEPTH (Ft. TOC) 68'

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 48'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 50'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0905	13.02	320	1600	14.42	4768	5.55	47.7	0.53	16.4
0910	13.76	270	2950	14.99	4777	6.50	-44.0	0.42	3.2
0915	13.72	270	4300	15.20	4777	6.56	-55.3	0.38	2.2
0920	13.64	250	5550	15.32	4786	6.58	-60.9	0.35	1.5
0925	13.64	240	6750	15.78	4818	6.57	-58.0	0.34	~~1.5~~ 1.4
0930	13.64	250	8000	15.96	4836	6.47	-45.8	0.34	1.3
0935	13.64	250	9250	15.74	4835	6.50	-39.7	0.34	1.2
0940	Sample								

APPEARANCE/COLOR clear/colorless

ODOR ~~Slt. odor~~ Slight odor

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY L. Kassam

SIGNATURE Shawn Hall

SIGNATURE L. Kassam

WELL CAP REPLACED AND LOCKED BY SH

DATE/TIME 7-25-02 / 0948

Collected duplicate ~~on~~ this well FD # 12b-02164S

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-25-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, & H_2S meter; Grundfos submersible pump; YSI 650 MDS; Controll box; Water level indicator

SAMPLING METHOD Low Flow

Well I.D MW 24 DD

SAMPLE I.D 12b-021646

MEAS. REF. POINT (Ft. AGS or BGS) Height of stickup is not given

WELL DEPTH (Ft. TOC) 105'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 80'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 95'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1000	12.53	200	1000	15.63	3629	7.10	-127.2	1.33	25.9
1005	12.66	220	2100	15.72	3654	7.02	-120.2	0.78	19.7
1010	12.63	200	3100	15.81	3656	7.00	-116.7	0.80	24.8
1015	12.63	210	~~4100~~ 4150	15.79	3658	6.98	-113.7	0.83	23.0
1020	12.63	190	5100	15.97	3672	6.96	-107.9	0.80	21.1
1025	12.67	240	6300	15.77	3685	6.94	-103.8	0.77	17.6
1030	Sample								

APPEARANCE/COLOR Clear / Colorless w/small amount of sediment

ODOR Yes

SAMPLED BY (PRINT) S. Hall

SAMPLED BY L. Kasson

SIGNATURE [signature]

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY SH

DATE/TIME 7-25-02 / 1040

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-25-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, H_2S meter; YSI 650 MDS; Water level indicator, Grundfos submersible pump; Control box

SAMPLING METHOD Low flow

Well I.D B38W07B

SAMPLE I.D 12b-021647

MEAS. REF. POINT (Ft. AGS or BGS) Not given

WELL DEPTH (Ft. TOC) 54.0

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 49'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1255	10.44	250	3750	15.12	400	6.57	165.9	0.69	44.1
1300	10.44	260	5050	15.48	390	6.48	162.2	0.54	27.7
1305	10.44	240	6250	15.52	398	6.51	156.9	0.47	15.2
1310	10.44	240	7450	15.51	404	6.54	151.1	0.42	11.2
1315	10.44	240	8650	15.36	413	6.55	146.7	0.39	6.9
1320	10.45	260	9950	15.44	416	6.57	143.6	0.36	5.5
1325	10.45	260	11250	15.79	420	6.58	139.7	0.36	3.8
1330	10.45	260	12550	15.73	422	6.59	137.0	0.35	3.1
1335	10.45	240	13750	15.57	427	6.60	133.4	0.32	2.2
1340	Sample								

APPEARANCE/COLOR Clear (some sediment)/no color ODOR SH odor

SAMPLED BY (PRINT) Shawn Hall SAMPLED BY L. Kassan

SIGNATURE [signature] SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY LK DATE/TIME 7-25-02 / 1348

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-26-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, & H_2S meter; Water level meter; YSI 650 MDS; Control box; Grundfos submersible pump

SAMPLING METHOD Low flow

Well I.D MW-23D

SAMPLE I.D 12b-021651

MEAS. REF. POINT (Ft. AGS or BGS) 0.0

WELL DEPTH (Ft. TOC) 71'

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 51'

WLL VOLUME (Gal) —

PUMP INTAKE (Ft. TOC) 55'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0825	11.45	190	760	17.26	2258	6.56	71.4	1.48	198.7
0830	11.74	200	1760	16.63	2291	6.56	-2.5	0.82	312.0
0835	11.84	200	2760	16.93	2284	6.59	-19.5	0.76	291.1
0840	12.02	200	3760	17.11	2272	6.60	-25.7	0.69	220.0
0845	12.13	190	4710	17.16	2240	6.60	-23.4	0.74	135.5
0850	12.28	200	5710	16.79	2226	6.58	-20.2	0.65	75.8
0855	12.42	220	6810	16.67	2212	6.59	-16.8	0.62	42.6
0900	12.48	200	7810	16.86	2205	6.59	-14.8	0.56	30.9
~~00~~ 0905	12.56	220	8910	16.64	2210	6.58	-12.7	0.50	24.9
0910	12.58	210	9960	16.96	2210	6.58	-12.6	0.48	34.0
0915	12.58	200	10960	17.25	2209	6.58	-12.0	0.47	19.0
0920	12.59	200	11960	17.09	2216	6.58	-10.9	0.46	16.5
0925	12.61	200	12960	17.02	2230	6.58	-10.3	0.44	15.0
0930	Sample								

APPEARANCE/COLOR Clear / No color

ODOR None detected

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY Laura Kassaw

SIGNATURE [signature]

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 7-26-02

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-26-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, O_2, CO, H_2S, LEL meter, Water level indicator, Control box, Grundfos submersible pump, YSI 650 MDS.

SAMPLING METHOD Low flow

Well I.D MW-25D

SAMPLE I.D 12b-021652

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 60.85'

INNER CASING/OPEN HOLE DIAM (Ia) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 55'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1000	13.24	210	2100	14.48	2314	7.48	-201.0	0.46	22.3
1005	13.30	200	3100	14.92	2311	7.46	-200.0	0.42	22.1
1010	13.41	240	4300	14.65	2311	7.48	-195.3	0.35	33.9
1015	13.49	210	5350	15.16	2312	7.49	-189.1	0.24	36.8
1020	13.56	250	6600	15.13	2310	7.51	-199.8	0.21	33.3
1025	13.65	280	8000	15.11	2309	7.51	-196.3	0.20	35.2
1030	13.65	200	9000	15.63	2308	7.48	-214.2	0.17	34.3
1035	13.65	200	10000	15.48	2305	7.49	-212.8	0.18	35.2
1040	Sample								
1045									
1050									
1055									
1100									

APPEARANCE/COLOR Clear / No color

ODOR No odor

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY Laura Kasuba

SIGNATURE Shawn Hall

SIGNATURE Laura Kasuba

WELL CAP REPLACED AND LOCKED BY SH

DATE/TIME 7-26-02 / 1045

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-29-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, & H_2S meter; YSI MDS 650; Grundfos submersible pump; Control box; Water Level indicator

SAMPLING METHOD Low flow

Well I.D MISS-4B

SAMPLE I.D 12b-021656

MEAS. REF. POINT (Ft. AGS or BGS) + ~1'

WELL DEPTH (Ft. TOC) ~47'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) not given

WLL VOLUME (Gal) —

PUMP INTAKE (Ft. TOC) ~40'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1020	11.89	300	300	16.38	1592	6.59	-70.0	1.18	16.3
1025	11.89	300	1800	16.38	1582	6.58	-69.3	0.61	35.0
1030	11.90	310	3350	16.26	1566	6.58	-68.0	0.60	68.0
1035	11.91	300	4850	16.22	1568	6.58	-71.0	0.39	78.8
1040	11.90	260	6150	16.66	1572	6.58	-71.2	0.37	61.1
1045	11.90	260	7450	16.61	1564	6.58	-71.6	0.35	60.3
1050	11.89	260	8750	16.63	1559	6.58	-70.4	0.33	46.0
1055	11.89	250	10000	16.86	1558	6.57	-70.1	0.32	37.6
1100	11.89	250	12500	16.97	1554	6.58	-70.7	0.32	41.2
1105	11.89	250	13750	16.73	1553	6.58	-70.8	0.31	37.0
1110	Sample								
1115									
1120									
1125									

→ Cleaned flow cell

APPEARANCE/COLOR Clear, small amount dk sed / no color ODOR Strong chemical smell

SAMPLED BY (PRINT) Shawn Hall

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY JH

SAMPLED BY Laura Kassaw

SIGNATURE [signature]

DATE/TIME 7-29-02 / 1117

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-29-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O2, CO, & H2S meter, YSI 650 MDS, Water level indicator, Control box Grundfos submersible pump.

SAMPLING METHOD Low flow

Well I.D MW55-3B

SAMPLE I.D 126-021655

MEAS. REF. POINT (Ft. AGS or BGS) TOC 1'

WELL DEPTH (Ft. TOC) 39.2'

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 35'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0915	11.23	400	800	15.17	1376	6.20	2.6	0.78	26.3
0920	11.23	350	2550	15.64	1367	6.22	0.4	0.50	21.1
0925	11.20	310	4100	16.22	1365	6.23	-1.7	0.38	18.0
0930	11.20	250	5500	16.22	1358	6.24	-2.6	0.36	15.8
0935	11.21	280	6900	16.21	1357	6.24	-3.2	0.32	13.7
0940	11.21	300	8400	16.30	1360	6.25	-3.5	0.31	12.4
0945	11.21	300	9900	16.46	1364	6.25	-3.8	0.30	11.8
0950	Sample								
0955									

APPEARANCE/COLOR Some sed. d/s Clear / No color

ODOR None noticed

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY Laura Kassow

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY SH

DATE/TIME 7-29-02 / 1000

MS/MSD collected w/ this sample.

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-30-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, H_2S, O_2 & CO meter; YSI 650 MDS; Water level meter; Grundfos submersible pump; Control box

SAMPLING METHOD Low flow

Well I.D MW-2D

SAMPLE I.D 23b-021661 & 23b-021662 (Filter)

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 48.5'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~~43.0'~~ 44.0

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1310	6.83	240	1920	18.56	1834	7.40	-39.2	0.49	85.1
1315	6.82	260	3220	18.60	1832	7.39	-58.6	0.42	91.1
1320	6.83	260	4520	18.64	1835	7.39	-73.6	0.35	98.2
1325	6.84	270	5870	18.12	1841	7.37	-68.9	~~0.~~ 1.05	90.0
1330	6.84	260	7170	19.28	1848	7.37	-80.6	0.30	84.9
1335	6.83	260	8470	19.20	1849	7.38	-82.0	0.29	80.7
1340	6.85	260	9770	19.43	1847	7.38	-82.9	0.27	77.3
1345	6.85	260	11070	19.29	1844	7.38	-82.9	0.26	68.4
1350	6.85	260	12370	19.09	1843	7.39	-82.4	0.26	62.7
1355	6.85	260	13670	19.55	1848	7.37	-78.2	0.28	69.2
1400	6.85	260	14970	18.82	1854	7.37	-78.2	0.25	63.2
1405	6.85	250	16220	18.72	1856	7.37	-78.1	0.23	56.1
1410	6.85	250	17470	18.84	1848	7.35	-77.8	0.22	50.1
1415	6.85	250	18720	19.33	1845	7.35	-77.1	0.22	48.8
1420	6.85	250	18960	18.72	1845	7.37	-77.0	0.21	48.3
1425	6.84	250	20210	18.61	1841	7.36	-76.6	0.20	42.5
1430	6.84	250	~~22~~ 21460	19.10	1840	7.35	-76.0	0.20	41.4
1435	6.85	260	22760	18.54	1837	7.35	-75.7	0.19	38.2
1440	6.85	260	24060	19.50	1838	7.34	-75.1	0.20	35.4
1445	6.85	210	25110	18.81	1834	7.35	-73.9	0.19	36.5
1450	6.83	180	26010	20.70	1830	7.34	-75.0	0.20	31.9

APPEARANCE/COLOR Clear / no color

ODOR None

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY Laura Kassaw

SIGNATURE [signature]

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 7-30-02 / 1525

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-30-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, H_2S, O_2 & CO meter; Grundfos submersible pump; Control box Water level indicator

SAMPLING METHOD _____

Well I.D MW-2D

SAMPLE I.D 23b-021661 & 23b-021662 (filtered)

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 48.5'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 44.0'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1455	6.84	180	26910	19.94	1835	7.35	-75.5	0.19	33.3
1500	6.85	200	27910	20.37	1831	7.33	-74.2	0.20	31.1
1505									

Sample

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-30-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, H_2S, CO, O_2 meter; YSI 650 MDS; Grundfos submersible pump; Water level indicator; Cooler Box

SAMPLING METHOD Low flow

Well I.D B38W17D

SAMPLE I.D 200-021659, 200-021660 (Filtered)

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) ≈ 15'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) unknown

WLL VOLUME (Gal) —

PUMP INTAKE (Ft. TOC) ~~13'~~ 19'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0945	10.18	440	2200	15.87	2815	6.79	-65.3	0.34	0.4
0950	10.18	340	3900	17.45	2807	6.82	-77.1	0.34	0.9
0955	10.17	380	5800	17.26	2814	6.85	-79.5	0.26	0.3
1000	10.18	380	7700	17.13	2812	6.86	-80.6	0.26	0.1
1005	10.18	360	9500	17.15	2818	6.86	-81.2	0.24	0.0
1010	10.18	380	11400	17.19	2810	6.87	-81.1	0.23	-0.1
1015	10.18	360	13200	17.13	2808	6.87	-81.6	0.23	-0.2
1020	10.18	370	15050	17.11	2804	6.87	-81.6	0.22	-0.3
1025	10.18	380	16950	17.17	2806	6.87	-82.7	0.22	-0.3
1030	10.18	380	18850	17.19	2804	6.87	-82.8	0.22	-0.3
1035	10.18	370	20700	17.24	2796	6.87	-82.8	0.22	-0.3
1040									
1045									

Sampled at 1045

APPEARANCE/COLOR Clear / No color

ODOR Moderate odor

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY Laura Kassan

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY SH

DATE/TIME 7-30-02 / 1125

* The depth to bottom indicated on well log does not reflect the actual well depth at present

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7-31-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, H_2S, CO, O_2 meter; Water level indicator; PSI 650MDS; Control Box; Grundfos submersible pump

SAMPLING METHOD Low flow

Well I.D MISS-5B

SAMPLE I.D 12b-024635 + 12b-0246

MEAS. REF. POINT (Ft. AGS or BGS) 2.3'

WELL DEPTH (Ft. TOC) 55'

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) 25'

WLL VOLUME (Gal) —

PUMP INTAKE (Ft. TOC) 42'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0930	16.63	500	2500	14.49	17,035	6.15	-25.7	0.36	8.0
0935	16.61	280	3900	15.61	16,823	6.17	-42.9	0.28	7.2
0940	16.62	280	5300	15.71	16652	6.18	-50.3	0.33	12.5
0945	16.62	300	6800	15.58	16380	6.17	-57.9	0.38	18.8
0950	16.63	300	8300	15.68	16280	6.17	-62.8	0.46	26.3
0955	16.62	240	9500	16.25	16024	6.17	-61.2	0.55	30.0
1000	16.62	240	10700	16.24	16163	6.17	-57.4	0.62	58.6
1005	16.63	240	11900	16.54	16058	6.17	-52.0	0.72	32.8
1010	16.62	240	13100	16.56	16340	6.16	-50.6	0.80	35.5
1015	16.61	220	18600	17.02	17509	6.15	-65.8	0.88	37.4
1020	16.61	300	20100	16.82	17797	6.13	-72.3	0.91	67.8
1025	16.61	240	21300	16.40	17544	6.14	-72.7	0.96	38.0
1030	16.62	240	22500	16.48	16929	6.14	-71.6	1.02	38.1
1035	16.62	260	23800	16.39	13886	6.18	-74.8	0.98	38.2
1040	16.62	270	25150	16.22	12131	6.23	-76.9	0.93	33.0
1045	16.62	280	26550	16.06	11406	6.25	-77.1	0.91	30.3
1050	16.62	300	28050	16.23	11004	6.27	-77.9	0.91	29.0
1055	16.63	310	29600	16.08	10922	6.26	-77.2	0.92	29.0
1100	16.63	230	30750	16.50	10638	6.27	-77.4	0.95	29.3
1105	16.62	220	31850	16.67	12389	6.20	-81.1	~~0.~~ 1.05	30.3
1110	16.62	200	32850	16.83	13102	6.20	-81.8	1.11	33.0 *

chard pulse 30.1 NTU

APPEARANCE/COLOR Clear/Light brown

ODOR Moderate

SAMPLED BY (PRINT) Shawn Hall

SAMPLED BY Laura Kassaw

SIGNATURE [signature]

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

DATE/TIME 7-31-02 / 1215

* Air bubbles in line

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 7-31-07

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

See Log Book

SAMPLING METHOD Low Flow

Well I.D MISS-5B

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) _____

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1115	16.62	200	33850	16.81	13366	6.19	-97.4	1.15	34.1
1120	16.62	200	34850	16.99	13976	6.17	-94.6	1.18	33.9
1125	16.61	370	36700	15.93	13395	6.15	-87.0	1.09	49.6
1130	16.62	260	38000	16.70	10226	6.28	-98.9	0.96	36.6
1135	16.62	220	39100	16.74	12542	6.20	-94.3	1.09	30.3
1140	16.62	230	40250	16.80	13017	6.19	-91.8	1.13	31.7
1145	16.62	220	41350	16.57	13128	6.18	~~-1.16~~ -88.9	~~-88.9~~ 1.16	31.6
~~1150~~									
1155									
1200									
1205									
1210									
1215									
1220									

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) Shawn A. Hall SAMPLED BY _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

A Change of flow through cell.

Shaw Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 8-1-07

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD Submersible Pump

Well I.D MW-4D

SAMPLE I.D 23b-021666

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 42.71

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 39'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1325	5.60	500	2500	16.96	563	7.12	-56.6	0.61	442.9	
1330	5.60	360	4300	18.04	561	7.08	-68.6	0.34	512.4	
1335	5.58	200	5300	19.39	547	7.11	-72.4	0.40	416.8	
1340	5.59	240	6500	20.20	558	7.11	-79.6	0.22	374.2	
1345	5.58	260	7800	18.52	556	7.08	-78.6	0.32	320.1	
1350	5.59	290	9250	18.42	556	7.05	-75.6	0.36	202.5	
1355	5.58	280	10650	18.42	556	7.03	-74.3	0.39	174.1	← Clean out Flow Through cell
1400	5.58	200	11650	17.58	573	7.04	-64.2	0.59	253	
1405	5.58	200	12650	19.54	576	7.03	-66.7	0.40	161.1	
1410	5.58	200	13650	19.79	581	7.04	-63.0	0.46	143.7	
1415	5.58	200	14650	19.66	580	7.02	-63.4	0.47	126.4	
1420	5.58	200	15650	19.68	580	7.02	-61.7	0.50	120.8	← Clean out Flow Through cell
1425	5.58	200	16650	18.59	587	7.03	-57.1	0.53	138.3	
1430	5.58	200	17650	19.70	591	7.02	-57.9	0.49	115.9	Had to increase Pump, Discharge was back → 200 ml/minute
1435	5.58	200	18650	19.90	592	7.02	-56.4	0.51	103.0	
1440	5.59	280	20050	19.08	589	7.02	-56.9	0.51	96.6	
1445	5.58	270	21400	18.55	589	7.02	-56.2	0.49	92.6	
1450	5.58	260	22700	19.54	588	7.00	-54.6	0.51	84.8	
1455	5.58	250	23950	18.62	588	7.00	-52.5	0.55	76.9	
1500	5.58	260	25250	18.51	588	7.00	-50.5	0.57	71.4	
1505	5.59	260	26550	18.51	588	7.00	-48.2	0.58	87.2	

APPEARANCE/COLOR Orange Brown Turbid → Clear w/ Floating Orange Particles ODOR _____

SAMPLED BY (PRINT) Shawn E. Hall

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY S. Hall

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 8-1-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD Submersible Pump

Well I.D MW-4D

SAMPLE I.D 236-021666

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) _____

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 39'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1510	5.59	260	27850	18.07	588	6.99	-46.2	0.60	66.3
1515	5.59	260	29150	18.11	587	6.99	-44.5	0.61	63.5
1520	5.59	260	30450	18.53	587	6.99	-42.6	0.64	57.0
1525	5.59	260	31750	18.34	587	6.99	-40.1	0.66	55.1
1530									
1535	← SAMPled								
	Spoke w/ Bob D.	Said	Take	The	Sample.				

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) Shawn E. Hall

SIGNATURE Shawn E Hall

WELL CAP REPLACED AND LOCKED BY S. Hall

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw · Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 8-2-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD Submersible Pump

Well I.D MW-5D

SAMPLE I.D 236-021667

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 51.87

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 45'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
0930	9.0	100	500	19.69	464	10.12	170.2	0.55	337.0	
0935	9.2	400	2500	18.51	493	10.20	155.8	0.47	373	
0940	9.16	240	3700	19.31	479	10.23	143.7	0.27	278.9	
0945	9.18	240	4900	19.41	477	10.28	126.1	0.25	209.2	
0950	9.18	240	6100	19.48	468	10.30	118.6	0.24	177.8	
0955	9.19	240	7300	19.48	453	10.33	105.5	0.24	135.0	
1000	9.19	230	8450	19.41	442	10.34	96.0	0.25	123.2	
1005	9.18	240	9650	19.41	434	10.31	88.3	0.28	114.3	← cleared out Flow Through Cell
1010	9.21	240	10850	18.93	419	10.22	113.0	0.47	114.0	
1015	9.19	240	12050	19.40	420	10.16	102.1	0.42	95.1	
1020	9.18	240	13250	19.25	416	10.06	96.0	0.51	84.3	
1025	9.18	260	14550	19.12	414	9.96	96.9	0.61	73.83	
1030	9.19	250	15800	19.09	414	9.85	91.2	0.71	70.0	
1035	9.19	250	17050	19.13	414	9.76	90.4	0.82	70.5	
1040	9.19	250	18300	19.00	417	9.65	90.0	0.94	68.8	
1045	9.18	250	19550	19.07	420	9.56	89.8	1.06	61.9	
1050	9.18	250	20850	19.06	423	9.47	90.4	1.19	59.2	
1055	9.18	260	22150	19.15	431	9.33	87.1	1.28	531	
1100	9.18	260	23450	19.17	435	9.27	89.6	1.48	52.3	
1105	9.19	260	24750	19.08	442	9.17	92.6	1.67	46.7	
1110	9.19	260	26050	19.14	446	9.08	95.2	1.79	44.6	

APPEARANCE/COLOR clear some floating Particulate ODOR _____

SAMPLED BY (PRINT) Shawn Hall

SIGNATURE Shawn E Hall

WELL CAP REPLACED AND LOCKED BY Shawn Hall

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw · Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 8-2-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD Submersable Pump

Well I.D MW-5D

SAMPLE I.D 23b-021667

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 51.87

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 45'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1115	9.19	260	27350	19.50	451	9.04	94.7	1.88	47.6
1120	— Changed Batteries NO Reading —								
1125	9.19	260	28650	19.44	469	8.79	95.6	2.17	37.0
1130	9.19	260	29950	19.64	478	8.66	107.6	2.46	-1.2
1135	9.19	260	31250	19.53	483	8.59	114.4	2.56	-1.4
1140	9.19	260	32550	19.61	488	8.50	120.8	2.64	29.9
1145	9.19	260	33850	19.71	494	8.41	129.5	2.72	29.1
1150	9.19	260	35150	19.79	499	8.32	137.6	2.79	29.8
1155	9.19	260	36450	19.76	508	8.17	146.2	2.96	26.0
1200	9.19	260	37750	19.66	514	8.11	151.8	3.01	24.2
1205	9.19	270	39100	19.80	520	7.99	159.7	3.11	25.6
1210	9.15	240	40300	20.12	524	7.90	158.9	3.20	21.5
1215	9.14	220	41400	20.13	527	7.86	163.9	3.22	21.8
1220	9.14	220	42500	20.12	534	7.79	168.3	3.28	28.9
1225	9.12	220	43600	20.27	537	7.72	169.4	3.38	19.0
1230	9.12	220	44700	20.21	541	7.68	169.2	3.46	18.4
1235	9.13	210	45750	19.97	492	7.61	168.7	3.51	32.8
1240	9.13	200	46750	20.41	548	7.57	170.6	3.56	31.0
1245	9.15	200	47750	20.41	551	7.53	169.7	3.62	21.0
1250	9.15	220	48850	20.26	554	7.49	165.0	3.71	22.5
1255	9.13	220	49950	20.31	556	7.44	161.6	3.74	20.7

2 hrs

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-2-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, H_2S, O_2 & CO meter; Control box; water level indicator; Submersible pump; YSI 650 MDS

SAMPLING METHOD Low flow

Well I.D MW-5D

SAMPLE I.D 23b-021607

MEAS. REF. POINT (Ft. AGS or BGS) ~~51.87'~~ emw

WELL DEPTH (Ft. TOC) 51.87'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1300		220	51050	20.30	558	7.44	161.2	3.76	20.9	
1305	09.14	230	52200	20.31	560	7.40	158.8	3.80	18.6	DO kit 3.6 mg/L
1310	09.12	221	53300	20.57	562	7.36	155.3	3.87	17.6	
1315	09.13	210	54350	20.37	567	7.34	152.9	3.97	14.7	
1320	09.13	210	55400	20.30	568	7.34	152.0	3.97	14.5	
1325	09.13	220	56500	20.29	570	7.31	151.2	3.98	14.2	
1330	09.13			20.49	572	7.30	149.3	4.02	12.6	
1336	SAMPLED									
		4 hour purge limit reached								

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-5-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID LEL, O_2, CO & H_2S meter; YSI 650 MDS; Grunetfos submersible pump; control box; generator; water-level indicator

SAMPLING METHOD Low flow

Well I.D MW-7D

SAMPLE I.D 2226-021669

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 45.4'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 40'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0740	10.18	240	1440	16.00	1437	6.82	-132.0	0.15	1827.9
0745	10.18	220	2540	16.28	1440	6.87	-137.0	0.11	1692.0
0750	10.19	240	3740	16.17	1441	6.91	-140.0	0.07	1360.0
0755	10.18	220	4840	16.47	1440	6.94	-139.7	0.10	698.3
0800	10.25	360	6640	16.08	1441	6.91	-118.9	0.17	526.0
0805	10.21	280	8040	16.25	1443	6.94	-125.0	0.13	379.5
0810	10.15	240	9240	16.65	1443	6.95	-123.2	0.13	348.2
0815	10.14	240	10440	16.52	1443	6.96	-126.5	0.13	337.0
0820	10.14	240	11640	16.54	1443	6.96	-124.1	0.12	296.5
0825	10.14	230	12790	16.52	1442	6.97	-122.7	0.13	273.9
0830	10.13	240	13990	16.50	1442	6.97	-120.9	0.12	275.0
0835	10.14	200	14990	16.44	1431	6.92	-112.1	0.27	336.3 *
0840	10.10	210	16040	16.52	1439	6.97	-124.1	0.14	270.3
0845	10.10	230	17190	16.58	1439	6.96	-124.2	0.13	261.2
0850	10.11	230	19490	16.44	1438	6.97	-123.0	0.11	288.3
0855	10.13	240	20690	16.40	1437	6.97	-123.9	0.10	266.4
0900	10.12	250	21940	16.44	1435	6.97	-123.0	0.10	222.3
0905	10.12	~~260~~ 310	22990	16.50	1435	6.97	-124.0	0.10	224.2
0910	10.12	210	24040	16.64	1436	6.96	-125.9	0.10	217.1
0915	10.15	220	25140	16.54	1431	6.93	-116.2	0.12	214.0
0920	10.13	230	26290	16.50	1436	6.95	-119.3	0.10	200.3

APPEARANCE/COLOR Hazy / light brown

ODOR None observed

SAMPLED BY (PRINT) S. Hall

SAMPLED BY C. Kassaw

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY SH

DATE/TIME 8-5-02 / 1104

* Cleaned flow-through cell.

Shaw - Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-5-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD _____

Well I.D MW-7D

SAMPLE I.D 23b-021669

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 45.4'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 40'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
0925	10.13	230	27440	16.44	1437	6.94	-118.8	0.10	189.2	
0930	10.13	230	28590	16.45	1435	6.94	-117.3	0.09	188.2	
0935	10.13	240	29790	16.44	1435	6.94	-116.8	0.09	192.2	
0940	10.13	240	30990	16.52	1435	6.92	-115.8	0.09	181.1	
0945	10.13	240	32190	16.50	1434	6.92	-114.8	0.09	175.7	
0950	10.13	230	33340	16.56	1433	6.90	-112.5	0.09	166.6	B
0955	10.15	220	34440	16.15	1425	6.85	-98.3	0.48	210.5	A
1000	10.15	220	35540	16.58	1424	6.86	-106.0	0.10	202.1	
1005	10.12	220	36640	16.42	1427	6.86	-107.6	0.10	155.9	
1010	10.12	220	37740	16.36	1429	6.85	-104.2	0.08	149.0	
1015	10.09	210	38790	16.69	1429	6.83	-103.9	0.09	144.0	
1020	10.11	220	39890	16.54	1427	6.81	-101.6	0.08	142.8	
1025	10.10	220	40990	16.51	1426	6.79	-98.6	0.08	135.7	
1030	10.10	200	41,990	16.64	1424	6.77	-96.0	0.08	130.9	
1035	10.11	200	42990	16.59	1423	6.75	-92.1	0.08	129.5	
1040	10.11	220	44090	16.66	1423	6.73	-89.7	0.08	125.2	
1045	10.11	220	45190	16.69	1422	6.72	-85.8	0.08	126.7	
1050	SAMPLED									
1055										
1100										
1105										

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

A Cleaned flow-through cell

Shaw - Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-5-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID LEL O_2, CO, & H_2S meter; YSI 650 MDS; Water level indicator; generator; Grundfos submersible pump; control box

SAMPLING METHOD Low flow

Well I.D MW-20D

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) 0.0

WELL DEPTH (Ft. TOC) 55'

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 50'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1255	10.25	180	1440	17.13	4189	6.83	-79.5	0.66	-5.6
1300	10.26	210	2490	16.02	4197	6.81	-75.8	0.58	-5.6
1305	10.26	220	3590	16.11	4197	6.80	-74.7	0.46	-5.6
1310	10.18	220	4690	16.33	4187	6.79	-75.6	0.37	-5.6
1315	10.27	220	5790	16.01	4190	6.79	-75.9	0.32	-5.6
1320	10.27	220	6890	16.19	4190	6.80	-75.8	0.30	-5.7
1325	10.27	220	7990	16.20	4180	6.79	-75.8	0.28	-5.6
1330	10.27	220	9090	16.14	4172	6.80	-75.6	0.25	-5.7
1335	10.27	240	10290	15.92	4192	6.80	-75.1	0.23	-5.6
1340	10.28	240	11490	16.16	4174	6.80	-75.4	0.21	-5.6
1345	10.28	240	12690	16.09	4185	6.80	-75.1	0.20	-5.6
1350	10.28	240	13890	15.92	4193	6.80	-75.1	0.18	-2.4
1355	10.28	240	15090	15.88	4190	6.80	-75.1	0.18	-6.0
1400	10.28	240	16290	15.90	4191	6.80	-75.3	0.17	-4.3
1405	10.28	220	17390	16.20	4191	6.80	-75.1	0.16	-0.6
1410	10.28	220	18490	15.90	4189	6.81	-75.2	0.16	0.0
1415	10.28	220	19590	16.04	4186	6.81	-75.3	0.16	-5.1
1420	10.28	220	20690	16.06	4192	6.81	-75.1	0.14	-5.4
1425	10.28	240	21890	16.00	4189	6.81	-75.4	0.13	-6.7
1430	10.29	240	23090	15.77	4157	6.82	-63.3	0.21	-5.0
1435	10.29	240	24290	15.72	4194	6.81	-69.8	0.11	-5.0

APPEARANCE/COLOR Clear except some black sediment / no color

ODOR Slt. odor

SAMPLED BY (PRINT) S. Hall

SAMPLED BY L. Kaspar

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 8-5-02

* Channel flow through cell.

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-5-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

See page 1 of 2

SAMPLING METHOD _____

Well I.D MW-20D

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 55'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 50'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1440	10.29	240	26690	15.66	4181	6.81	-71.3	0.10	-5.5
1445	10.29	240	27890	15.89	4184	6.81	-72.3	0.11	-5.6
1450	Sample								
1455									
1500									
			Collected MS/MSD/Split & Dupl. Sample						

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Page 2 of 2

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-6-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, & H_2S meter; YSI 650 MDS, Turbidimeter; Grundfos submersible pump; generator; water level indicator; control box

SAMPLING METHOD Low flow

Well I.D BRPZ-4

SAMPLE I.D 12b-021684

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 61.3'

INNER CASING/OPEN HOLE DIAM (In) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 56'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0930	10.80	180	1080	15.93	14192	5.97	-32.1	0.30	11.3
0935	10.85	200	2080	16.34	14256	6.03	-31.1	0.20	10.11
0940	10.85	240	3280	15.39	14259	6.04	-26.6	0.21	10.59
0945	10.90	270	4630	15.66	14432	6.05	-32.6	0.12	10.08
0950	10.91	260	5930	15.57	14503	6.05	-31.2	0.12	11.70
0955	10.92	260	7230	15.67	14350	6.05	-34.0	0.12	9.12
1000	10.91	240	8430	15.57	14517	6.05	-34.2	0.12	9.74
1005	10.93	230	9580	15.71	14520	6.04	-34.0	0.10	11.50
1010	10.94	240	10780	15.21	14607	6.02	-35.0	0.09	9.50
1015	10.94	230	11930	14.92	14992	6.01	-34.7	0.08	9.63
1020	10.94	230	13080	14.92	14770	6.01	-33.7	0.07	8.07
1025	10.94	240	14280	14.94	14537	6.01	-34.1	0.07	10.04
1030	10.94	240	15480	14.76	14885	6.01	-33.5	0.07	9.53
1035	10.94	250	16730	14.78	14900	6.00	-34.4	0.07	10.15
1040	10.94	240	17930	15.46	14798	6.01	-35.6	0.06	10.27
1045	10.94	240	19130	15.71	14837	6.00	-36.4	0.07	11.27
1050	10.94	230	20280	15.80	14647	6.00	-39.6	0.08	9.78
1055	10.94	250	21530	15.64	14536	6.00	-49.2	0.05	8.52
1100	10.94	240	22730	15.48	14400	6.00	-50.9	0.04	8.99
1105	10.94	240	23930	15.64	14309	6.01	-55.4	0.04	8.60
1110									

DO. kit is zero.

APPEARANCE/COLOR Clear w/ small Black Particulates

SAMPLED BY (PRINT) Shawn E. Hall

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY S.H.

ODOR Yes

SAMPLED BY S.H./L.K.

SIGNATURE _____

DATE/TIME 8-6-02 1255

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-7-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, $+H_2S$ meter, YSI 650 MDS, Control box, Grundfos submersible pump, Water level indicator,

SAMPLING METHOD Low Flow

Well I.D BRPZ-9

SAMPLE I.D 12b-021672

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 56.7

INNER CASING/OPEN HOLE DIAM (Ia) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) 32'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 40'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0845	11.47	100	800	14.83	9691	6.53	-101.7	0.55	12.4
0850	11.64	205	1825	15.10	9900	6.46	-91.3	0.38	12.2
0855	11.79	190	2775	15.48	9891	6.43	-91.1	0.30	15.0
0900	11.87	240	3975	15.22	9754	6.43	-87.1	0.30	13.8
0905	12.04	200	4975	15.53	9703	6.45	-93.4	0.23	8.54
0910	12.18	240	6175	15.27	9519	6.46	-95.4	0.21	8.05
0915	12.25	200	7175	15.36	9469	6.48	-98.3	0.16	9.47
0920	12.30	190	8125	15.43	9457	6.47	-96.0	0.16	9.77
0925	12.45	260	9425	15.19	9462	6.45	-88.4	0.15	10.01
0930	12.50	240	10625	15.50	9510	6.45	-88.6	0.13	9.42
0935	12.60	240	11825	15.33	9469	6.45	-89.7	0.13	8.64
0940	12.61	200	12825	15.52	9433	6.47	-91.9	0.12	11.50
0945	12.73	260	14125	15.25	9574	6.42	-86.9	0.10	7.30
0950	12.77	240	15325	15.39	9404	6.47	-90.6	0.11	8.63
0955	12.81	200	16325	15.46	9422	6.46	-92.6	0.10	12.00
1000	12.82	200	17325	15.56	9883	6.37	-85.8	0.09	7.35
1005	12.83	200	18325	15.82	10272	6.30	-81.7	0.09	6.50
1010	12.86	240	19525	15.46	10536	6.25	-78.3	0.09	7.67
1015	12.88	200	20575	15.64	10607	6.26	-78.8	0.09	6.69
1020	12.90	200	21575	15.66	10520	6.26	-77.5	0.08	9.06
1025	12.91	210	22625	15.84	10839	6.22	-72.8	0.07	6.08

APPEARANCE/COLOR Small amount black sediment/ no color

SAMPLED BY (PRINT) S. Hall

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY SH

ODOR None noticed

SAMPLED BY L. Kassaw

SIGNATURE _____

DATE/TIME 8/7/02 / 1243

Sample 1030

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-7-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, O_2, CO LEL H_2S meter, Water level indicator; Grundfos submersible pump; Control box; TSI 650; generator

SAMPLING METHOD Low flow

Well I.D BRPZ-5

SAMPLE I.D 126-021671

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 62'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 42'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 58'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1255	12.05	230	13800	15.00	20799	5.63	-54.3	1.21	1736.4	
1300	13.50	180	22800	16.77	21485	5.81	-128.7	3.61	1740.5	
1305	14.55	160	30800	17.47	22215	5.85	-218.4	6.02	1742.5	
1310	15.98	200	40800	15.95	22354	5.90	-253.0	5.90	1737.6	
1315	16.39	240	52800	16.58	22396	5.94	-276.7	4.79	344.1	
1320	16.70	200	62800	16.52	22360	5.94	-280.4	2.04	1739.3	
1325	16.90	200	72800	17.55	22746	5.94	-281.0	8.80	1456.5	
1330	17.01	180	82680	18.24	22591	5.96	-282.5	14.51	1717.9	
1335	-	-	-	18.53	22820	6.00	-264.0	1.94	203.7	&
1340	18.10	200	93680	18.15	22567	6.01	-272.2	1.90	410.1	
1345	18.18	200	104680	17.75	22411	5.96	-289.7	2.47	195.5	
1350	18.25	160	115480	17.10	22308	5.95	-293.8	2.76	120.3	
1355	18.42	180	126380	17.54	22424	5.95	-304.0	2.12	105.1	
1400	18.70	260	137680	16.74	22126	5.93	-315.0	2.03	73.0	
1405	17.90	210	148730	17.12	22070	5.87	-320.6	2.67	891.5	
1410	19.00	200	159730	17.62	22440	5.87	-278.2	1.52	1746.1	
1415	19.05	200	170730	18.61	22208	5.80	-304.9	1.53	1750.3	
1420	19.05	180	181630	18.81	22014	5.79	-329.3	1.73	733.7	
1425	19.60	240	192830	16.45	22087	5.75	-338.6	4.10	105.3	
1430	19.70	200	203830	18.96	21589	5.73	-347.5	4.17	259.3	
1435	19.77	200	214830	19.30	21383	5.71	-347.1	5.17	89.4	*

APPEARANCE/COLOR Clear/Dark gray to black

SAMPLED BY (PRINT) S. Hull

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY SH

ODOR Strong odor/sulfur-like

SAMPLED BY _____

SIGNATURE _____

DATE/TIME 8-7-02/1743

* Cleaned lines of air.

* For turbidity, used Turbidimeter 2020

Shaw - Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-7-02

WORK ORDER # \ NORFAS \

FIELD INSTRUMENTS: _____

See 1 of 3 page

SAMPLING METHOD Low flow

Well I.D M BRP2-5

SAMPLE I.D 126-021671

MEAS. REF. POINT (Ft. AGS or BGS) 0.0

WELL DEPTH (Ft. TOC) 62'

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 42'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 58'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1440	19.78	200	25830	18.33	21605	5.71	-348.3	1.56	61.6	
1445	19.75	190	26780	18.96	21806	5.70	-353.6	0.39	46.9	
1450	19.85	200	27780	19.09	21812	5.70	-355.2	0.99	32.1	
1455	19.90	190	28730	18.63	21819	5.72	-356.5	-0.65	25.3	
1500	19.90	300	30230	17.63	21650	5.73	-270.3	1.80	31.7	
1505	—	—	—	—	—	—	—	—	—	* Turbidmeter 17.8
1510	23.07	260	31530	18.27	21138	5.64	-316.8	3.74	96.6	*
1515	—	—	—	19.39	20990	5.79	-262.9	1.74	—	*
1520	—	—	—	—	—	—	—	—	—	*
1525	—	—	—	—	—	—	—	—	—	414
1530	21.70	230	32680	18.28	20383	5.62	-281.0	15.78	4.74	
1535	21.64	200	33680	18.99	20363	5.62	-283.7	18.87	294	
1540	21.63	200	34680	19.22	20425	5.65	-283.7	5.36	406	
1545	21.49	180	35580	19.03	20504	5.68	-285.1	3.79	114	
1550	21.35	220	36680	18.91	20629	5.66	-286.5	3.72	96.0	
1555	21.56	240	37880	18.99	20769	5.67	-288.8	4.68	71.3	
1600	21.70	260	38927	18.53	20802	5.65	-291.3	4.13	66.7	
1605	21.68	200	39927	19.08	21200	5.67	-294.2	3.96	46.9	
1610	21.59	180	40827	18.92	21437	5.66	-308.0	3.08	45.2	
1615	21.51	200	41827	19.42	21492	5.66	-317.2	3.65	36.9	
1620	21.41	220	42920	18.61	21658	5.65	-320.8	3.68	29.0	

* Changed pumps:

APPEARANCE/COLOR _____ ODOR _____

SAMPLED BY (PRINT) _____ SAMPLED BY _____

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____ DATE/TIME _____

* Adjusting Grundfos rate (pump). Rate continually dropping. Page 2 of 3

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 7 Aug 02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: SEE PAGE 1 OF

SAMPLING METHOD Low Flow

Well I.D BRPZ 5

SAMPLE I.D 12b-021671

MEAS. REF. POINT (Ft. AGS or BGS) 0.0

WELL DEPTH (Ft. TOC) 62

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 42'

WLL VOLUME (Gal) /

PUMP INTAKE (Ft. TOC) 58'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1625	21.59	220	44020	18.62	21598	5.65	-331.8	1.78	51.1
1630	21.56	200	45020	18.34	21576	5.65	-334.6	1.63	40.0
1635	21.59	220	46120	17.18	21646	5.65	-334.9	1.65	27.7
1640	21.59	220	47220	17.12	21581	5.64	-331.5	1.31	31.0
1645	21.58	200	48220	16.97	21583	5.65	-330.9	1.26	24.8
1650	21.59	200	49220	16.96	21590	5.65	-331.1	1.27	22.3
1655	21.58	200	50220	16.88	21458	5.66	-329.4	1.33	27.5
1700	21.42	200	51220	16.97	21606	5.66	-328.4	1.26	21.7
1705	21.42	200	52220	17.39	21510	5.66	-329.7	2.64	28.7
1710	21.43	240	53420	18.15	21501	5.68	-334.9	1.89	27.0
1715	21.49	200	54420	17.10	21636	5.68	-334.0	1.86	22.0
1720	21.22	200	55420	17.28	21693	5.68	-331.5	1.59	24.3
1725	21.22	200	56400	18.18	21809	5.68	-331.4	1.66	21.5
1730	21.16	200	57400	18.63	21948	5.69	-332.6	1.58	21.00

Sampled @ 1735

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-8-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, O_2, CO, N_2S, LEL meter; Grundfos submersible pump; water level indicator; water level meter; Grundfos control box; generator

SAMPLING METHOD Low flow

Well I.D MW-3D

SAMPLE I.D 12a-021605

MEAS. REF. POINT (Ft. AGS or BGS) 0.0

WELL DEPTH (Ft. TOC) 55'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 50'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1425	8.71	100	700	16.22	12532	6.53	-18.3	1.10	3.5
1430	8.81	140	1400	15.24	12452	6.35	-16.1	1.28	9.4
1435	8.96	200	2400	15.02	12386	6.35	-17.5	1.07	5.1
1440	9.15	180	3300	15.11	12271	6.38	-19.2	0.91	4.6
1445	10.45	320	4900	15.01	11568	6.38	-21.9	0.65	7.8
1450	9.36	160	5700	14.98	10417	6.37	-24.4	0.62	9.0
1455	9.41	240	6900	14.96	9671	6.38	-26.1	0.63	11.1
1500	9.41	260	8200	14.95	9149	6.37	-26.8	0.62	11.5
1505	9.43	220	9300	14.89	8807	6.37	-28.8	0.57	11.6
1510	9.43	240	10500	14.90	8632	6.37	-29.4	0.55	12.4
1515	9.43	230	11650	14.92	8559	6.37	-30.1	0.53	11.8
1520	9.43	220	12750	14.80	8517	6.37	-30.8	0.52	12.3
1525	9.43	220	13850	14.79	8473	6.37	-31.1	0.52	10.9
1530	9.43	220	14950	14.86	8458	6.37	-31.7	0.52	9.9
1535									

Sample Analysis

APPEARANCE/COLOR Clear / No color

ODOR None detected

SAMPLED BY (PRINT) S. Hall

SAMPLED BY L. Kassow

SIGNATURE _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

DATE/TIME 8-8-02

Shaw - Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-13-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO & H_2S meter; Grundfos submersible pump; Water level indicator; Control box; generator; YSI 650 MDS

SAMPLING METHOD Low flow

Well I.D BRPW-1D

SAMPLE I.D 12b-021664

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 110'

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 90'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 95'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1350	12.45	180	900	16.87	2823	6.90	63.3	1.42	26.4
1355	12.45	160	1700	16.97	2943	6.87	58.3	1.16	62.3
1400	12.45	160	2500	17.64	2966	6.84	19.2	1.24	519.6
1405	12.45	300	4000	16.21	2983	6.81	-71.2	1.05	33.8
1410	12.45	300	5500	15.91	2984	6.79	-356.2	0.96	19.7
1415	12.44	180	6400	17.61	2979	6.79	-357.0	0.95	24.0
1420	12.45	220	7500	16.39	2981	6.77	-316.2	0.83	23.7
1425	12.45	220	8600	16.27	2983	6.76	-290.9	0.84	18.8
1430	12.45	210	9650	16.25	2977	6.74	-273.5	0.82	23.4
1435	12.45	240	10850	16.33	2987	6.71	-265.7	0.75	22.1
1440	12.45	240	11050	16.44	2991	6.70	-262.1	0.74	23.4
1445	12.45	230	12200	16.33	2997	6.68	-262.0	0.73	24.9
1450	12.45	220	13300	16.15	3000	6.69	-256.3	0.71	21.4
1455	12.45	220	14400	15.82	3012	6.66	-254.6	0.68	21.2
1500	12.45	220	15500	16.10	3019	6.68	-259.6	0.68	25.1
1505	12.45	230	16650	16.16	3027	6.68	-254.7	0.64	25.2
1510									
1515									
1520									
1525									
1530									

Sampled

APPEARANCE/COLOR Clear/No color

SAMPLED BY (PRINT) Laura Kassow

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR None

SAMPLED BY Tom Hirsche

SIGNATURE _____

DATE/TIME 8-13-02 /

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-13-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO, + H_2S meter; YSI 650 MDS; 2020 Turbidimeter; generator; Water level indicator; control box; submersible pump

SAMPLING METHOD Low flow

Well I.D BRPZ 3

SAMPLE I.D 126-021670

MEAS. REF. POINT (Ft. AGS or BGS) 0.0

WELL DEPTH (Ft. TOC) 57'

INNER CASING/OPEN HOLE DIAM (Ia) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) —

PUMP INTAKE (Ft. TOC) 52'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
15 min 0940	12.20	280	4200	16.63	8364	6.07	-1.8	0.68	940
0945	12.19	260	5500	16.63	8011	6.11	-85.0	0.65	17.0
0950	12.19	280	6900	16.88	7602	6.14	-567.9	0.61	439
0955	12.17	250	8150	17.10	7303	6.16	-586.2	0.59	322
1000	12.12	200	9150	17.45	7132	6.17	-585.7	0.58	194
1005	12.13	190	10100	17.55	7056	6.18	-569.7	0.58	145
1010	12.14	220	11200	17.52	6872	6.17	-556.5	0.58	119
1015	12.14	220	12300	17.63	6799	6.17	-567.1	0.54	66.2
1020	12.12	200	13300	17.81	6835	6.17	-573.4	0.54	61.2
1025	12.12	200	14300	17.97	6834	6.17	-565.8	0.55	45.8
1030	12.19	240	15500	17.26	6708	6.16	-567.8	0.54	33.4
1035	12.18	240	16700	17.15	6707	6.05	-581.8	0.53	30.1
1040	12.19	260	18000	17.62	6697	6.16	-582.1	0.53	46.1
1045	12.18	240	19200	17.53	6644	6.14	-579.1	0.52	~~23.0~~ 46.0
1050	12.21	240	20400	17.31	6627	6.14	-578.6	0.48	91.7
1055	12.15	200	21400	18.05	6685	6.14	-578.0	0.48	43.2
1100									
1105									
1110									
1115									
1120									

Sampled @ 1100

APPEARANCE/COLOR Slt hazy / White (sed) to no color

ODOR Moderate odor

SAMPLED BY (PRINT) L. Kassaw

SAMPLED BY T. Hirsche

SIGNATURE [signature]

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY [signature]

DATE/TIME 8-13-02 / 1120

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-14-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, H_2S, O_2, CO meter; Grundfos submersible pump; control box; YSI 650MDS; Water level indicator; generator

SAMPLING METHOD Low-flow

Well I.D MW-6D

SAMPLE I.D 23b-021668

MEAS. REF. POINT (Ft. AGS or BGS) 0.0'

WELL DEPTH (Ft. TOC) 34.8'

INNER CASING/OPEN HOLE DIAM (In) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~30'

Vol Purged mL	Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)	
1400	1225	8.05	280	9200	20.38	853	7.40	37.0	1.33	49.1	
2800	1230	8.03	280	8400	20.66	851	7.48	-317.0	0.66	55.9	
4200	1235	8.05	280	12600	20.44	852	7.50	-581.8	0.62	61.0	
5500	1240	8.02	260	13900	20.26	849	7.50	-498.0	0.55	156.6	
6650	1245	7.90	230	15050	20.87	834	7.44	-623.3	0.63	1292.0	- Clean Line
150	1250	8.35	260	16350	17.23	749	7.58	-629.6	0.41	107.7	
9650	1255	8.30	340	18050	20.17	799	7.66	-634.0	0.42	180.2	- adjust
	1300	8.21	280	11050	19.95	835	7.64	-624.9	0.51	29.4	
	1305	8.10	300	12550	20.78	842	7.63	-635.6	0.46	278.4	
	1310	7.91	220	13650	22.04	834	7.50	-609.6	0.56	257.3	
	1315	7.91	240	14850	20.94	828	7.42	-607.8	0.53	296.3	
	1320	7.81	200	15850	22.29	828	7.47	-581.0	0.61	504.1	
	1325	8.40	220	16950	21.98	821	7.32	-420.3	0.45	756.0	
	1330	7.80	220	18050	22.01	823	7.32	-320.3	0.58	883.0	- Clean Line
	1335	8.10	220	19150	18.21	820	7.36	-640.5	0.43	470.6	
	1340	8.00	300	20650	21.33	814	7.23	-612.3	0.50	1726.7	
	1345	7.87	200	21650	21.80	816	7.21	-561.9	0.53	1441.8	
	1350	7.91	280	24050	22.32	816	7.21	-390.6	0.56	1082.8	
	1355	7.91	280	25450	21.50	828	7.20	-320.0	0.50	1012.9	
	1400	7.90	280	26850	21.33	824	7.23	-322.0	0.48	957.1	
	1405	7.91	260	27150	20.78	818	7.22	-302.3	0.54	891.7	

APPEARANCE/COLOR Cloudy/Med brown ODOR None noticed

SAMPLED BY (PRINT) L. Kassaw SAMPLED BY T. Hirsche

SIGNATURE _____ SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY LK DATE/TIME 8-14-02/

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE _____

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

See page 1 of 2

SAMPLING METHOD _____

Well I.D MW-6D

SAMPLE I.D 23b-021668

MEAS. REF. POINT (Ft. AGS or (BGS)) 0.0'

WELL DEPTH (Ft. TOC) 34.8'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~30'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1410	7.89	270	28650	21.15	820	7.23	-282.4	0.55	1021.4
1415	7.91	280	29050	20.87	820	7.22	-246.6	0.44	903.4
1420	7.91	270	30550	20.82	821	7.22	-215.4	0.42	798.0
1425	7.91	270	32050	20.82	820	7.23	-187.0	0.42	752.0
1430	7.91	260	33350	20.59	819	7.21	-164.7	0.56	1660.9
1435									
1440									
1445									
1450									
1455									
1500									

APPEARANCE/COLOR _____

SAMPLED BY (PRINT) _____

SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY _____

ODOR _____

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE Maywood WBS _____ DATE 8-15-02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: PID, LEL, O_2, CO_2, H_2S meter; Grundfos Submersible pump; Control box; YSI 650 MDS; Water level indicator; Generator

SAMPLING METHOD Low flow

Well I.D MD-26D

SAMPLE I.D 126-021703 / 126-021704

MEAS. REF. POINT (Ft. AGS or BGS) ~3'

WELL DEPTH (Ft. TOC) 53.41'

INNER CASING/OPEN HOLE DIAM (Ia) 4"

DEPTH TO TOP OF SCREEN (Ft TOC) Not given

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~41 8'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
1140	12.82	200	3000	18.03	8785	6.78	-258.4	1.42	6.7
1145	13.99	180	3900	19.08	8763	6.80	-350.1	1.14	10.3
1150	13.12	180	4800	19.05	8772	6.85	-520.9	1.21	13.4
1155	13.32	200	5800	18.95	8748	6.90	-541.3	1.25	7.7
1200	13.36	180	6700	18.88	8724	6.92	-544.2	1.31	8.1
1205	13.47	100	7200	19.73	8737	6.92	-552.4	1.39	7.8
1210	13.55	180	8100	19.51	8748	6.97	-545.8	1.43	9.3
1215	13.65	200	9100	20.08	8733	6.98	-550.1	1.52	11.8
1220	13.71	180	10000	19.74	8737	6.98	-535.9	1.51	9.2
1225	13.77	180	10900	19.90	8704	6.96	-528.3	1.57	9.7
1230	13.98	280	12300	17.89	8775	6.98	-497.8	1.43	5.8 *
1235	14.06	200	13300	19.12	8780	6.95	-562.1	1.55	4.1
1240	14.12	180	14200	20.77	8838	7.02	-497.2	1.75	3.7
1245	14.30	180	15100	21.19	8851	7.02	-535.4	1.80	6.2
1250	14.31	240	16300	20.58	8839	7.02	-533.1	1.67	6.1
1255	14.32	200	17300	19.43	8733	7.10	-525.9	1.69	7.6
1300	14.42	200	18300	20.42	8705	6.96	-525.8	1.75	3.4
1305	14.51	220	19400	19.62	8731	6.94	-506.1	1.56	7.6
1310	14.65	180	20300	20.45	8749	6.95	-577.6	1.78	2.6
1315	14.71	180	21200	20.01	8753	6.95	-590.6	1.85	4.3
1320	14.78	180	22100	20.26	8772	6.92	-594.5	1.83	8.9

APPEARANCE/COLOR Clear / lt gray

SAMPLED BY (PRINT) L. Kinsman

SIGNATURE L. Kinsman

WELL CAP REPLACED AND LOCKED BY _____

ODOR Slight

SAMPLED BY _____

SIGNATURE _____

DATE/TIME 8-15-02 / 1435

* Air bubble in line. Turned to rid of bubble. (Reason - DO mg/L was increasing

√

FUSRAP MAYWOOD
WELL SAMPLING

SITE _____ WBS _____ DATE 10/14/02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

YSI-6920

(YSI 650 MDS / 6920)

SAMPLING METHOD _____

Well I.D. MW-27D

SAMPLE I.D. _____

MEAS. REF. POINT (Ft. AGS or BGS) 15

WELL DEPTH (Ft. TOC) 61.55 / 15.55

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~58.5'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
13:35	15.55	220		15.18	3.607	6.76	-57.4	1.31	1008
13:45	20.55	260		15.41	3.613	6.80	-61.0	1.21	9.3
13:55	21.15	240		15.64	3.640	6.83	-64.5	1.17	8.3
14:15	22.60	Low-Flow-							
14:25	22.91	430		15.63	3.72	6.88	-70.1	1.14	8.5
14:40	23.51	440		15.87	3.77	6.86	-64.5	0.96	8.1
14:55	24.20	2.90		16.14	3.8	6.87	-63.7	.93	8.3
15:04	24.35	250		16.15	3.80	6.87	-63.5	.94	8.0
15:19	24.52	175		16.41	3.83	6.87	-63.1	.97	8.3
15:25	24.60	150		16.41	3.83	6.87	-63.1	.94	8.3
15:30	24.60	150		16.19	3.86	6.86	-66.5	.91	7.3
15:45	24.70	140		16.39	3.88	6.84	-64.7	.92	7.7
16:00	24.71	130		16.41	3.87	6.84	-64.5	.92	7.3
16:14	24.70	130		16.38	3.87	6.84	-64.4	.92	7.3
		Collected sample @ 16:15							

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) SAL KOKOL

SIGNATURE Sal Kokol

WELL CAP REPLACED AND LOCKED BY S.K.

ODOR —

SAMPLED BY _____

SIGNATURE _____

DATE/TIME 10/14/02; 1700

FUSRAP MAYWOOD SUPPLEMENTAL REMEDIAL INVESTIGATION
WELL SAMPLING FIELD MEASURED WATER QUALITY PARAMETERS

SITE _____ WBS _____ DATE 10/15/02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: YSI 650 MDS / 6920

SAMPLING METHOD _____

Well ID MW-28D

SAMPLE ID _____

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 61.20 / 16.15

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
0845	16.15								
0900	17.28	1000		14.39	2.66	6.78	-63.9	1.91	13.7
0915	18.32	780		14.90	2.66	6.56	-57.3	1.12	11.0
0930	19.06	320		15.10	2.68	6.65	-50.8	0.94	9.8
0945	19.54	560		15.29	2.71	6.78	-67.6	0.82	11.6
10:00	20.02	5.60		15.31	2.72	6.78	-69.3	0.74	10.4
10:20	20.55	560		15.48	2.74	6.78	-70.2	0.75	10.0
10:30	21.70	380		15.50	2.85	6.77	-70.7	0.75	9.0
10:35	21.71	300		15.49	2.84	6.77	-70.7	0.72	8.5
10:40	21.71	300		15.50	2.86	6.77	-71.0	0.72	8.3
10:45	21.71	300		15.53	2.88	6.75	-71.0	0.72	7.7
10:50	21.71	300		15.53	2.89	6.75	-71.0	0.73	7.8
10:55	21.71	300		15.7	2.89	6.75	-71.1	.73	7.7
11:00	→	115	Collect Samples @ 11: AM.						

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) Gal Kokol

SIGNATURE Gal Kokol

WELL CAP REPLACED AND LOCKED BY GK

ODOR —

SAMPLED BY _____

SIGNATURE _____

DATE/TIME 10/15/02

FUSRAP MAYWOOD
WELL SAMPLE

SITE _____ WBS _____ DATE 10-15-02 Well LD MW-33D

WORK ORDER # _____ NORFAS _____ SAMPLE LD _____

FIELD INSTRUMENTS: _____ MEAS. REF. POINT (Ft. AGS or BGS) _____

YSI 650 MDS / 6920 WELL DEPTH (Ft. TOC) 70.00 / 14.30 (11:45 AM

_____ INNER CASING/OPEN HOLE DIAM (In) _____

_____ DEPTH TO TOP OF SCREEN (Ft TOC) _____

SAMPLING METHOD _____ WLL VOLUME (Gal) _____

_____ PUMP INTAKE (Ft. TOC) _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
12:50	14:30	1500		14.38	8.91	6.64	-37.2	1.15	25.2
13:05	16.50	1500		14.58	8.62	6.57	-41.4	0.96	12.7
13:15	16.70	1500		14.80	8.29	6.53	-42.5	0.89	7.0
13:25	16.90	1500		14.76	8.05	6.50	-44.8	0.82	6.7
13:35	16.98	1500		14.77	8.07	6.49	-45.4	0.80	2.3
13:50	16.98	1500		14.74	8.09	6.49	-47.3	0.80	1.3
14:00	16.98	1500		14.72	8.10	6.49	-47.4	0.80	1.2
14:10	16.98	1500		14.76	8.11	6.49	-47.2	0.80	1.0
		Reduced flow to ~120 ml/m							
		Collected Sample @ 14:15							

APPEARANCE/COLOR Clear ODOR —

SAMPLED BY (PRINT) Sal Kowal SAMPLED BY _____

SIGNATURE Sal Kowal SIGNATURE _____

WELL CAP REPLACED AND LOCKED BY S.K DATE/TIME 10/15/02

[redacted]

FUSRAP MAYWOOD SUPER[redacted]ENVIRONMENTAL REMEDIATION
WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE _____
WORK ORDER # _____ NORFAS _____
FIELD INSTRUMENTS: _____
YSI 650 MDS/6920
_____
_____
SAMPLING METHOD _____
_____

Well I.D MW-34D
SAMPLE I.D _____
MEAS. REF. POINT (Ft. AGS or BGS) _____
WELL DEPTH (Ft. TOC) 55.5 / 09.98 (15:00)
INNER CASING/OPEN HOLE DIAM (In) _____
DEPTH TO TOP OF SCREEN (Ft TOC) _____
WLL VOLUME (Gal) _____
PUMP INTAKE (Ft. TOC) ~45'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
15:20	9.95	2100		14.89	4.11	7.23	-80.4	1.95	1.7
15.25	10.26	680		15 67	4.10	6.87	-78.2	0.81	1.8
15:35	10.70	650		15 98	4.11	6.76	-76.9	0.71	1.7
15:50	11.30	660		16.04	4.11	6.68	-74.6	0.61	1.5
16:10	12.60	660		16.11	4.11	6.67	-72.8	0.57	1.6
16:15	12.60	300		16.15	4.11	6.66	-71.8	0.58	1.7
16:20	12.61	300		16.16	4.11	6.66	-71.4	0.58	1.7
16:25	12.60	300		16.16	4.11	6.66	-71.3	0.58	1.7
16:30	12.61	300		16.20	4.11	6.66	-71.3	0.59	1.7
			Reduced flow to 110 ml/m						
			Collected Sample 16:40						

APPEARANCE/COLOR Gray/transparent
SAMPLED BY (PRINT) Sal Kahaj
SIGNATURE Sal Kahaj
WELL CAP REPLACED AND LOCKED BY S. Kahaj

ODOR Slight
SAMPLED BY _____
SIGNATURE _____
DATE/TIME 10-15-12

Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 10/17/02

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

YSI 650 MDS /

_____

_____

SAMPLING METHOD _____

_____

Well I.D BRP2-9

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 56.5' / 9.15 DTW

INNER CASING/OPEN HOLE DIAM (In) ~~9.15~~ '

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 50'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
12:05	9.15	2400		13.49	1.815	6.12	-43.3	1.98	49.0
12:20	11.44	2400		13.52	1.829	6.18	-43.5	1.36	41.0
12:35	13.81	2400		13.51	1.822	6.12	-43.7	1.22	34.0
12:55	15.45	2400		13.50	1.813	6.12	-46.4	1.19	27.0
13:15	16.67	1850		13.98	1.82	6.14	-48.0	1.19	22.6
13:25	16.85	330		14.20	1.66	6.17	-56.1	1.18	18.4
13:40	16.70	1900		13.61	1.85	6.26	-39	1.16	24.2
13:50	18.01	200		13.77	163	6.18	-54	1.13	~~24.0~~ 24.0
13:55	17.90	200		13.62	1.58	6.18	-56	1.11	21.0
14:00	17.85	200		13.70	1.76	6.17	-57.1	1.10	20.6
14:05	17.80	200		13.81	1.85	6.18	-58.-	1.11	21.3
14:10	17.75	200		13.94	1.88	6.16	-58.2	1.12	20.2
14:15	17.75	200		14.22	1.88	6.17	-58.1	1.11	20.1
14:20	17.75	200		14.21	1.87	6.18	-58.2	1.12	20.1
		Start Collecting @ 14:25							

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) SALKOKOL

SIGNATURE Sal Kokol

WELL CAP REPLACED AND LOCKED BY S.K.

ODOR Slight

SAMPLED BY _____

SIGNATURE _____

DATE/TIME _____

Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 10/17/02 (S.K.)

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

YSI 650 MDS / 6920

Well I.D MISS-5B

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 56.85 / 14.65 @ 15:20

INNER CASING/OPEN HOLE DIAM (In) _____

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) ~50'

SAMPLING METHOD _____

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
15:40	14.65	1800		12.50	2.69	6.70	-58.6	4.32	16.7
				~~2.69~~ (S.K.)					
15:50	(S.K.) ~~14.75~~ 15.75	1800		12.56	2.63	6.55	-68.9	2.01	8.3
15:55	15.80	1800		12.55	1.56	6.53	-71.3	1.09	6.3
16:00	15.80	1800		12.62	0.886	6.58	-78.8	0.80	4.4
16:10	15.80	1800		12.64	0.686	6.63	-81.3	0.68	1.6
16:20	15.80	1800		12.64	0.648	6.63	-79.5	0.65	1.2
16:30	15.80	1800		12.64	0.646	6.64	-79.4	0.65	1.2
16:40	15.80	1800		12.64	0.647	6.63	-79.4	0.65	1.2
			Collected samples @ 16:45						

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) SAL KAKOL

SIGNATURE Sal Kakol

WELL CAP REPLACED AND LOCKED BY S.K.

ODOR Slight odors

SAMPLED BY _____

SIGNATURE _____

DATE/TIME 10/16/02

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 3/13/03

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: Generator
YSI 650
Rediflow Control box

SAMPLING METHOD Grundfos Rediflow II

Well I.D MW-31D

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) (BGS)

WELL DEPTH (Ft. TOC) 45'

INNER CASING/OPEN HOLE DIAM (Ia) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) 20'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 40'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	~~Volume Purged~~ (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
10:25	6.02						(ORP)		
10:38	5.99	Pump In well							
10:40	~~6.98~~	950	(pH mV)	13.55	3.77	6.87	73.1	0.3	1200
10:45	~~5.98~~	600	↓	13.45	4.10	7.21	14.4	0.09	1400
10:50	6.02	370		13.36	4.09	7.27	-25.2	0.04	1049
10:55	6.02	350		13.74	4.09	7.31	-43.9	0.04	763
11:00	6.02	350		13.84	4.09	7.33	-54.7	0.04	420
11:05	6.02	270	-44.7	13.85	4.01	7.34	-59.6	0.03	326
11:10	6.02	270	-46.1	13.75	4.01	7.34	-60.0	0.03	281
11:15	6.02	270	-47.6	13.79	4.01	7.34	-61.3	0.03	192
11:20	6.02	270		13.77	4.01	7.35	-62.4	0.03	104
11:25	6.02	270		13.79	4.00	7.34	-66.6	0.03	148
11:30	6.02	270	-51.1	13.78	4.01	7.34	-66.8	0.03	90
11:35	6.02	270		13.84	4.00	7.35	-66.2	0.02	107
11:40	6.02	270		13.88	3.98	7.35	-66.4	0.02	91
11:45	6.02	270	-52.1	13.93	2.96	7.46	-60.7	0.02	80
11:50	6.02	270	-53.6	13.97	2.96	7.47	-67.5	0.02	62
11:55	6.02	270	-53.7	13.97	2.94	7.46	-68.3	0.03	61.7
12:00	6.02	270	-54.2	13.98	2.95	7.47	-68.6	0.02	54.7
12:15			-56.6	13.97	2.94	7.47	-71.4	0.02	38.4
12:30	602	270							34.4

APPEARANCE/COLOR Originally iron scum on surface

SAMPLED BY (PRINT) S.K.

SIGNATURE Sal Kakar

WELL CAP REPLACED AND LOCKED BY S.K.

ODOR NONE detected

SAMPLED BY S. K.

SIGNATURE Sal Kakar

DATE/TIME 3/13/03 ; 12:00-12:30

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE ____ WBS ____ DATE 3/18/03

WORK ORDER # ____ NORFAS ____

FIELD INSTRUMENTS: Groundfos Redflow II
Control box
Generator
YSI 650

SAMPLING METHOD Low Flow

Well I.D 838W-15D

SAMPLE I.D ____

MEAS. REF. POINT (Ft. AGS or BGS) ____

WELL DEPTH (Ft. TOC) 47.5

INNER CASING/OPEN HOLE DIAM (In) 2" ø

DEPTH TO TOP OF SCREEN (Ft TOC) ____

WLL VOLUME (Gal) ____

PUMP INTAKE (Ft. TOC) 44'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	~~Volume Purged (ml)~~ PH mV	Temp °C	Specific Cond, (mS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
11:45	3.38								
12:05	3:35		-94.3	12.78	1.227	8.11	248.4	0.17	6.3
12:15	4.38	370	-112.4	13.40	0.974	8.54	237.9	0.28	2.0
12:25	4.45	300	-82.3	13.93	1.32	7.88	237.7	0.13	1.0
12:30	4.05	240	-56.1	14:00	1.85	7.51	236.4	0.04	-1.2
12:35	4.01	240	-53.8	14.02	1.96	7.46	225.5	0.04	-1.2
12:40	4.00	240	-52.9	13.94	1.98	7.45	221.8	0.04	-1.3
12:45	4.00	240	-52.1	13.92	2.05	7.44	219.3	0.04	-1.2
12:50	4:00	240	-51.9	13.94	2.05	7.43	218.9	0.04	-1.2
12:55	4:00	240	-52.1	13.95	2.05	7.43	218.3	0.04	-1.4
		Stop purging @ 12:55							
		Collected 1 set of VOC samples							
		(3 x 40ml vials)							

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) SAL KOKOL

SIGNATURE Sal Kokol

WELL CAP REPLACED AND LOCKED BY S.K.

ODOR NONE DETECTED

SAMPLED BY SAL KOKOL

SIGNATURE Sal Kokol

DATE/TIME 3/18/03

Shaw · Stone & Webster, Inc.

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 5/28/03

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: _____

SAMPLING METHOD Low Flow

Well I.D MW-32D

SAMPLE I.D _____

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 57'

INNER CASING/OPEN HOLE DIAM (In) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 46'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	~~Volume~~ pH/mV	Temp °C	Specific Cond. (mS/cm)	pH	ORP (mv)	DO (mg/L)	Turbidity (NTU)
11:00	4.31								~~28.1~~
11:15	4.62		-48.2	14.26	3.47	7.22	40.3	0.82	28.1
11:20	4.68	300	-47.5	14.41	3.48	7.34	25.4	0.45	28.8
11:25	4.67	280	-46.9	14.42	3.47	7.32	20.2	0.21	20.2
11:30	4.67	280	-46.3	14.41	3.46	7.34	11.4	0.08	21.0
11:35	4.67	280	-46.4	14.42	3.46	7.33	2.9	0.06	19.2
11:40	4.65	260	-46.4	14.41	3.46	7.34	-12.3	0.05	18.0
11:45	4.67	260	-48.6	14.52	3.46	7.37	-58.3	0.05	18.2
11:50	4.67	210	-48.8	14.61	3.46	7.37	-61.7	0.05	16.9
11:55	4.68	210	-49.2	14.60	3.46	7.37	-64.2	0.05	16.5
12:00	4.68	210	-49.4	14.60	3.46	7.37	-68.3	0.05	14.2
					OK	OK	OK	OK	OK
	OK	OK	OK						
Final: 12:30	4:68	210	-50.7	14.62	3.46	7.37	-70.1	0.06	4.8

Stop purging @ 12:00

Start Collecting Samples.

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) SAL KOKOL

SIGNATURE Sal Kokol

WELL CAP REPLACED AND LOCKED BY _____

ODOR NONE

SAMPLED BY Sal Kokol

SIGNATURE _____

DATE/TIME 5/28/03

Shaw Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 7-1-03

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: YSI 650 SONDE 6820

SAMPLING METHOD Grundfos Low Flow

Well I.D B38W15D

SAMPLE I.D 20a-024737 / Filtered 20a-02479 SEH 7-1-03

MEAS. REF. POINT (Ft. AGS or BGS) 0.5 BGS

WELL DEPTH (Ft. TOC) 46.5

INNER CASING/OPEN HOLE DIAM (In) 2"

DEPTH TO TOP OF SCREEN (Ft TOC) 40'

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 42'

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
	3.59					3.62			
1107	4.1	210	210	15.42	1873	7.63	-20.0	3.07	3.3
1112	4.1	210	1060	15.36	1945	7.45	-29.7	0.75	4.6
1117	4.1	220	1160	15.49	1948	7.43	-40.4	0.51	5.4
1122	4.1	220	2260	15.50	2165	7.36	-42.0	0.45	2.8
1127	4.1	220	3360	15.60	2260	7.32	-42.7	0.40	1.3
1132	4.1	220	4460	15.71	2271	7.31	-43.8	0.35	0.9
1137	4.1	220	5560	15.59	2277	7.30	-46.4	0.33	0.8
1142	4.1	220		15.65	2282	7.30	-46.4	0.33	0.5
1147	4.1	220		15.74	2278	7.30	-45.2	0.31	0.5
1152	4.1	220		15.71	2276	7.29	-43.7	0.30	0.4
1200	NONFiltered Sample 20a-024737								
1205	Filtered Sample 20a-0247~~89~~ 90 SEH					for Fe+Mn			

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) Shawn Hall

SIGNATURE [signature]

WELL CAP REPLACED AND LOCKED BY [signature]

ODOR NONE

SAMPLED BY TODD K LIPPMAN

SIGNATURE Todd K Lippman

DATE/TIME 7-1-03 1200 + 1205

Stone & Webster, Inc

FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION

WELL SAMPLING RECORD/FIELD WATER QUALITY SAMPLE AND ANALYSIS

SITE _____ WBS _____ DATE 7-1-03

WORK ORDER # _____ NORFAS _____

FIELD INSTRUMENTS: YSI 650 SONDE 6820

SAMPLING METHOD Grundfos Lowflow

Well I.D MW 31D

SAMPLE I.D Filtered 20a-024789 Unfiltered 20a-024788

MEAS. REF. POINT (Ft. AGS or BGS) _____

WELL DEPTH (Ft. TOC) 50'

INNER CASING/OPEN HOLE DIAM (In) 6"

DEPTH TO TOP OF SCREEN (Ft TOC) _____

WLL VOLUME (Gal) _____

PUMP INTAKE (Ft. TOC) 35'

5.34

Sample Time (From/To)	Water Level (Ft TOR)	Discharge (milliliter/ minute)	Volume Purged (ml)	Temp °C	Specific Cond, (mS/cm)	pH	Eh (mv)	DO (mg/L)	Turbidity (NTU)
	5.34								
1347	5.35	290	290	16.92	2146	7.56	-189.7	2.02	11.8
1352	5.36	290	1640	15.99	2511	7.30	-140.8	0.66	4.0
1357	5.36	300	3140	16.31	2524	7.28	-138.1	0.45	6.2
1402	5.35	300	4640	16.33	2501	7.27	-136.1	0.39	6.4
1407	5.35	300	6140	16.37	2445	7.28	-136.4	0.33	7.3
1412	5.36	300	7640	16.37	2404	7.29	-134.6	0.30	8.3
1417	5.36	300	9140	16.31	2368	7.29	-134.8	0.27	8.5
1422	5.36	300	10640	16.39	2355	7.30	-134.5	0.25	8.7
1427	5.36	310	12190	16.06	2336	7.30	-137.7	0.24	8.3
1432				16.46	2313	7.30	-135.9	0.22	8.2
1440	SAMPLE TIME			NONE	Filtered		Fe + Mn only		20a-024788
1445	Filtered SAMPLE						Fe + Mn only		20a-024789

APPEARANCE/COLOR Clear

SAMPLED BY (PRINT) Shawn Hall

SIGNATURE Shawn Hall

WELL CAP REPLACED AND LOCKED BY S&H

ODOR None

SAMPLED BY TODD K LIPPMAN

SIGNATURE Todd K Lippman

DATE/TIME 7-1-03 1440/1445

APPENDIX T10
QUALITY CONTROL SUMMARY REPORT

Quality Control Summary Report (QCSR)

Groundwater Remedial Investigation Addendum Report

New York District
Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:

Shaw® Shaw Environmental, Inc.
100 West Hunter Ave.
Maywood, New Jersey 07607

for:
US Army Corps of Engineers - Kansas City District
Formerly Utilized Sites Remedial Action Program
Contract No. DACW41-99-D-9001

US Army Corps of Engineers®

March 2004, Revision 3

QUALITY CONTROL SUMMARY REPORT (QCSR) FOR THE GROUNDWATER REMEDIAL INVESTIGATION ADDENDUM REPORT

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT NO. DACW41-99-D-9001
TASK ORDER 0001
WAD 05, WBS 15

Submitted to:

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza
New York, New York 10278

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Submitted by:

Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, New Jersey 07607

March 2004
Revision 3

Issued to: _____ Date: _____

Copy No. _____ ☐ Controlled ☐ Uncontrolled

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QUALITY CONTROL SUMMARY REPORT (QCSR) FOR THE GROUNDWATER REMEDIAL INVESTIGATION ADDENDUM REPORT

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT NO. DACW41-99-D-9001
TASK ORDER 0001
WAD 05, WBS 15

Submitted to:

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza
New York, New York 10278

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Submitted by:

Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, New Jersey 07607

March 2004
Revision 3

Prepared by: _____ Date: _____

Brian Tucker
Project Chemist

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RECORD OF REVISIONS

Revision Number	Description of Revision	Date
Draft Revision 1	Initial electronic submittal to USACE for review and comment.	August 2003
Revision 2	Submittal to the USACE CX for review and comment	October 2003
Revision 3	Submittal to EPA and NJDEP for review and comment	March 2004

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Note: * Due to their size, Attachments A and B are presented electronically on CD-ROM.

** Due to regulatory requirements, the HAZSITE Deliverable portion of Attachment C is presented electronically on a CD-ROM

ABBREVIATIONS AND ACRONYMS

%D	response factor percent difference
%R	percent recovery
%RSD	percent relative standard deviation
BOD	Biological Oxygen Demand
BTEX	benzene, toluene, ethylbenzene, and xylenes
CCB	continuing calibration blank
CCC	continuing calibration compound
COC	Chain of Custody
COD	Chemical Oxygen Demand
CDQMP	Chemical Data Quality Management Plan
FMSS	FUSRAP Maywood Superfund Site
FUSRAP	Formerly Utilized Sites Remedial Action Program
GWRI	Groundwater Remedial Investigation
J	Estimated value
Kestrel	Kestrel Environmental Technologies, Inc.
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
µg/L	micrograms per liter
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
Paragon	Paragon Analytics, Inc.
PDI	Pre-Design Investigation
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QCSR	Quality Control Summary Report
RPD	Relative Percent Difference
RRF	Relative Response Factor
SDG	Sample Delivery Group
Shaw	Shaw Environmental, Inc. (formerly Stone & Webster, Inc., a Shaw Group Company)
SPCC	system performance check compound
STL-CT	Severn Trent Laboratories, Inc. of Shelton, CT
Stone & Webster	Stone & Webster, Inc., a Shaw Group Company (now Shaw Environmental, Inc.)
TCL	Target Compound List
TOC	total organic carbon
U	Undetected
USACE	U.S. Army Corps of Engineers
Validata	Validata Chemical Services, Inc.
VOC	Volatile Organic Compound

1.0 INTRODUCTION

Shaw Environmental, Inc. (Shaw), formerly Stone & Webster, Inc., a Shaw Group Company, conducted a Groundwater Remedial Investigation Addendum (GWRI Addendum) of commercial and government properties at the Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (FMSS). The purpose of the investigation is to augment information collected during the Groundwater Remedial Investigation (GWRI). The location of the wells sampled are presented in the *Draft Groundwater Remedial Investigation (GWRI) Addendum Report* (USACE 2003d).

This *GWRI Addendum Quality Control Summary Report* (QCSR) addresses data from analysis of groundwater samples collected from July 2002 to May 2003. The primary objective of the GWRI Addendum Investigation was to further define the extent and limit of benzene in the bedrock aquifer. Other parameters were studied to support evaluation of natural attenuation as a remedial alternative. The results of 11 samples collected as part of the Environmental Monitoring Program 2002 effort were also used for the *Draft GWRI Addendum Report*. Quality control considerations for these results are described within Appendix G of the *Annual Environmental Monitoring Report, 2002* (USACE 2003b). The *GWRI Addendum QCSR* will support the preparation of the project QCSR. GWRI Addendum samples were analyzed for volatile organic compounds, total and dissolved iron and manganese, and wet chemistry parameters. The wet chemistry parameters included methane, nitrate, sulfate, phosphorus, ammonia, sulfide, total organic carbon, biochemical oxygen demand (BOD), and chemical oxygen demand (COD). Additionally, samples from select monitoring wells were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) Degrader Heterotrophs and Total Heterotroph analysis. As part of Maywood's radiological dose assessment program, work area and personnel air samples were also collected and analyzed for radiological constituents of concern. BTEX Degrader Heterotrophs and Total Heterotroph data, and radiological air sample data were not validated, so that data is not discussed within this report.

The QCSR is organized into seven sections as follows:

- Section 1.0, Introduction
- Section 2.0, Data Collection
- Section 3.0, Data Analysis and Validation
- Section 4.0, Data Summaries
- Section 5.0, System Audits
- Section 6.0, Analytical and Quality Assurance / Quality Control (QA/QC) Problems Encountered
- Section 7.0, References
- Attachment A, Data Validation Reports
- Attachment B, Data Packages
- Attachment C, Site Remediation Program Electronic Data Interchange Manual

2.0 DATA COLLECTION

GWRI Addendum data collection procedures were evaluated for any deviations / modifications that may have occurred in the areas of sample handling and custody, equipment calibration and maintenance, and analytical methods.

2.1 SAMPLE HANDLING AND CUSTODY

There were no sample handling discrepancies noted by the off-site laboratory. All chain of custody forms (COCs) received by the off-site laboratory were properly signed and dated. The sample receipt checklist indicated that custody seals were present and unbroken for each cooler except for the volatile organic compound (VOC) sample cooler for Sample Delivery Group (SDG) 203763. No data qualification was required. Custody seals were not present on individual sample bottles. Internal custodies were submitted for all batches except for the two VOC SDGs submitted by Paragon Analytics, Inc. of Fort Collins, CO (Paragon). Submittal of internal custodies is not a SDG deliverable requirement. The following other exceptions are noted:

- For VOC SDG 201523, the COC lists a sample as 12b-0216663. The sample was reported as 12b-021663. It appears that an extra digit was added to the COC sample identity.
- For wet chemistry parameters SDG 201523, the analyses originally indicated for sample 12b-024721 were crossed out. Sample 12b-024721 was not analyzed for wet chemistry parameters. It appeared that these analyses were also crossed out for rinseate blank sample 12b-021657, however these analytes were reported for sample 12b-021657.
- In SDG 203763, the temperature of sample 23b-021741 was 6.7°C upon arrival at the laboratory, which exceeded the 6°C QC limit. Since the sample was a field rinsate blank, no action was taken.
- In SDG 203763, sample 23b-021743, the trip blank, was reported by the lab as having "headspace". Since this was the trip blank, no data qualification action was taken.
- In SDG 202237, the laboratory improperly identified sample 12b-021279 as 12b-011729. They were asked to correct this error.
- In data package 0302099 for VOCs, the sample cooler temperature was 9.2°C. The acceptance criteria is 2° to 6°C. All sample results for the one sample in this data package, 23b-021730, were qualified as estimated (J for detects and UJ for non-detects). There is potential for greater loss of VOCs and therefore a low bias.

2.2 EQUIPMENT CALIBRATION AND MAINTENANCE

For the chemical analysis, off-site laboratory calibration QC exceedances are described in Section 6.2.1 of this QCSR. There were no on-site laboratory or field equipment calibration QC concerns.

2.3 ANALYTICAL METHODS

A total of three laboratories were employed for chemical analysis.

Severn Trent Laboratories, Inc. in Shelton, CT (STL-CT) and Paragon analyzed groundwater samples. STL-CT and Paragon analyzed for the parameters (except for Total Heterotrophs and BTEX Degrader Heterotrophs) in **Table 2-1** using the indicated methods. New Jersey Analytical analyzed for Total Heterotrophs and BTEX Degrader Heterotrophs.

Table 2-1
GWRI Addendum Analytical Test Parameters and Methods

Parameter	Method
VOCs	SW-846 8260B
Iron and manganese, total and dissolved	SW-846 6010B
Methane	SW-846 8015A modified
Nitrate	MCA 300
Sulfate	MCA 300
Phosphorus	MCA 365.2
Ammonia	MCA 350.1
Sulfide	MCA 376.1
Total organic carbon	MCA 415.1
BOD	MCA 405.1
COD	MCA 410.4
BTEX Degrader Heterotrophs	SM9215M
Total Heterotrophs	SM9215B

Notes:
SW-846: EPA's Test Methods for Evaluating Solid Waste Physical / Chemical Methods
MCA: EPA's Methods for Chemical Analysis of Water and Wastes
SM: Standard Methods for the Examination of Water and Wastewater

There were no deviations / modifications in analytical methods from those specified in the *GWRI Addendum - Proposed Source and Plume Delineation Work Plan* (USACE, 2002).

2.4 MODIFICATIONS TO THE WORK PLAN

There were no modifications to the measurement techniques described in the *GWRI Addendum - Proposed Source and Plume Delineation Work Plan*.

3.0 DATA ANALYSIS AND VALIDATION

Kestrel Environmental Technologies, Inc. (Kestrel) and Validata Chemical Services, Inc. (Validata) performed data evaluation of all data. They evaluated 100% of the off-site GWRI sample results. Data was evaluated using the USACE's CENWK-EC-EF *Data Quality Evaluation Guidance* for chemical results, as presented in the *Chemical Data Quality Management Plan* (CDQMP) *Quality Assurance Project Plan* (QAPP), Appendix F (USACE 1999, USACE 2000). The data validation reports for the off-site laboratory chemical results are provided as Attachment A. The data packages themselves are presented on CD-ROM as Attachment B to this QCSR. Electronic deliverables were submitted in accordance with the New Jersey Department of Environmental Protection (NJDEP) required Site Remediation Program Electronic Data Interchange Manual (NJDEP 1999 and Attachment C). Within this manual, Option 2, Database Format, is used. Treatment of outliers was performed as per Section 3.1.3 of the *CDQMP QAPP* (USACE 2000).

4.0 DATA SUMMARIES

Data summaries for the laboratory data can be found on the Attachment B Data Packages CD-ROM.

5.0 SYSTEM AUDITS

The off-site laboratories utilized for testing of GWRI samples, STL-CT, New Jersey Analytical Laboratory, and Paragon have not been audited by Shaw.

6.0 ANALYTICAL AND QUALITY ASSURANCE / QUALITY CONTROL (QA/QC) PROBLEMS ENCOUNTERED AT OFF-SITE LABORATORIES

The off-site laboratories used for testing of GWRI samples for chemical parameters were STL-CT, New Jersey Analytical Laboratory, and Paragon. Twelve (12) GWRI chemical data package results were evaluated for this QCSR. All of the data packages, with the exception of that for SDG 203763, were validated by Kestrel. Validata validated the data package for SDG 203763.

6.1 CALIBRATION

Qualifications based upon calibration criteria exceedances were required only for VOCs. All other calibration results for other parameters were acceptable. For data packages with VOCs, calibration responses for all system performance check compounds (SPCCs) and continuing calibration compounds (CCCs) were within method acceptance criteria.

For VOC initial and continuing calibrations, if a relative response factor (RRF) was < 0.05, the percent relative standard deviation (%RSD) for initial calibrations exceeded 15%, and/or the percent difference (%D) between the average RRF of the initial calibration and the RRF of the continuing calibration exceeded 20%, results were estimated J for positive results and UJ for non-detects. Note that if the RRF < 0.05 for a given compound and the LCS for that compound was outside acceptance criteria, non-detect results for that compound were rejected. The following samples were qualified as noted for the specified parameters. As indicated in **Table 6-1**, benzene data was not affected by calibration issues.

Table 6-1
Calibration Qualifiers

SDG	Parameter	Qualifier	Reason for Qualification	Samples Affected
0302099	Acetone	J	RRF < 0.05, %RSD > 15%, and %D > 20%	23b-021730
0303084	Acetone	UJ	RRF < 0.05, %RSD > 15%, and %D > 20%	20a-021738 and 20a-021739
	2-butanone	UJ	%RSD > 15%	
203211	Bromomethane	UJ	%RSD > 15% and %D > 20%	20a-021731, -021732, and -021733; 23b-021734, -021735, and -021736
	Acetone	J (021733), UJ (021732 and 021736) R (021731 and 021734)	%RSD > 15% and %D > 20%	20a-021731, -021732, and -021733; 23b-021734, -021735, and -021736
	2-butanone	R for 021731, 34, and 35; UJ for 021732, 33, and 36	%RSD > 15% and %D > 20%	20a-021731, -021732, and -021733; 23b-021734, -021735, and -021736
	Methylene chloride	UJ	%RSD > 15%	20a-021731, -021732, and -021733; 23b-021734, -021735, and -021736
	Bromoform	UJ	%RSD > 15%	20a-021731, -021732, and -021733; 23b-021734, -021735, and -021736
	2-Hexanone	UJ	%RSD > 15% and %D > 20%	20a-021731, -021732, and -021733; 23b-021734, -021735, and -021736
	4-methyl-2-pentanone	UJ	%D > 20%	20a-021732 and 021733; 23b-021736
	1,1,2,2-tetrachloroethane	UJ	%D > 20%	20a-021732 and 021733; 23b-021736
203588	Acetone	R	RRF < 0.05	23b-021740
	2-butanone	UJ	%RSD > 15% and %D > 20%	
	Methylene chloride	UJ	%RSD > 15% and %D > 20%	
	2-hexanone	UJ	%D > 20%	
	1,1,2,2-tetrachloroethane	UJ	%RSD > 15%	
	Chlorobenzene	UJ	%RSD > 15%	
202204	Acetone	All R except 12b-021721 and -021724 which were J	Contin. Cal RRF < 0.05	All samples
	2-butanone	All UJ except 12b-021720 and -021724 which were J	%RSD > 15% and %D > 20%	
	Methylene chloride	UJ	%RSD > 15% and %D > 20%	
	4-methyl-2-pentanone	All UJ except 12b-021723, which was J	%RSD > 15%	
	Chloromethane	UJ	%RSD > 15%	
	Bromomethane	UJ	%RSD > 15%	
	Chloroethane	UJ	%RSD > 15%	
	Cis-1,3-dichloropropene	UJ	%D > 20%	
201924	Acetone	R for TRIP BLANK, and J for 12b-021715 and -021717	RRF < 0.05	All samples
	2-butanone	R	RRF < 0.05	All samples

SDG	Parameter	Qualifier	Reason for Qualification	Samples Affected
201523	Acetone	All GWRI samps are J except 23b-021661, UJ	RRF < 0.05, %RSD > 15%, and %D > 20%	All samples
	2-butanone	UJ	%RSD > 15% and %D > 20%	All samples
	Methylene chloride	All GWRI samps are UJ except 12b-021663 is J	%RSD > 15%	All samples
	Chloromethane	UJ	%D > 20%	All samples. Except 23b-021661
	Bromomethane	UJ	%RSD > 15% and %D > 20%	All samples
201638	Acetone	J	RRF < 0.05; RSD > 15%	12b-021708, -021710, -021711, 021714, and -021
		UJ		12b-021664, -021670, -021699, -021700, -021701, -021702, and 23b-021668
	2-butanone	UJ	RRF < 0.05; RSD > 15%; %D > 20%	All samples
	Methylene chloride	J 12b-021702 and -021714; UJ 23b-021668, 12b-021699, -021700, 021701, and -021708	%RSD > 15%	23b-021668, 12b-021702, -021714, -021699, 021700, 021701, and -021708
	Bromomethane	UJ	%RSD > 15%	All samples
201507	Acetone	UJ	RRF < 0.05; %D > 20%	All samples
	Bromomethane	UJ	%RSD > 15% and %D > 20%	All samples
	2-butanone	UJ	%D > 20%	12b-021651 and -021652
	Methylene chloride	UJ	%RSD > 15%	All samples
	Chloromethane	UJ for all except J for 12b-021649	%D > 20%	All samples
203763	Bromomethane	UJ	%D > 20%	All samples
	2-butanone	UJ	%RSD > 15% and %D > 20%	All samples
	Methylene chloride	UJ	%RSD > 15% and %D > 20%	All samples
	2-hexanone	UJ	%D > 20%	All samples

6.2 BLANKS

6.2.1 Wet Chemistry Parameters

Several samples were analyzed for the wet chemistry parameters nitrate, sulfate, sulfide, ammonia, BOD, COD, methane, total organic carbon (TOC), and total phosphorus.

SDG 202237

Based upon the method blank results and equipment blank results, the total phosphorus result for 12b-021729 was reported as non-detected (U) at the reported concentration.

SDG 203211

Due to the method blank and continuing calibration blank (CCB) results (highest value was 0.306 milligrams per liter [mg/L]), the sulfate result for sample 23b-021735 (0.33 mg/L) was qualified as non-detected (U) at the reported concentration.

Due to the phosphorus CCB result of 0.0043 mg/L, the phosphorus result for sample 20a-021733 (0.0166 mg/L) was qualified as non-detected (U) at the reported concentration.

The TOC result for sample 20a-021733 (0.55 mg/L), 23b-021734 (0.78 mg/L), and 23b-021735 (0.80 mg/L), were qualified as non-detected (U) at the reported concentration due to method blank and CCB results.

SDG 201523

The BOD result for sample equipment blank 12b-021657 was reported as non-detected at the reported concentration due to a method blank BOD level of 0.40 mg/L.

The TOC results for samples 12b-021657, 20a-021659 and 23b-021661 were reported as non-detected at the reported concentration due to a TOC initial calibration blank result of 0.54 mg/L.

Based upon the nitrate rinseate blank result of 0.031 mg/L, nitrate was reported as non-detected (U) at the reported concentration for sample 23b-021661.

SDG 203763

There was either no blank contamination or sample concentrations were greater than blank action levels so that no qualifications were required based upon blank contamination.

6.2.2 Elements

All initial and continuing calibration blank results for iron and manganese were reported as non-detected for the ICP analyses and all preparation blank results were reported as non-detected (U) for SDGs 202237, 203211, and 203763.

6.2.3 Volatile Organic Compounds

All the field and/or laboratory blanks were non-detect for benzene. The following discussion summarized those compounds present in field and laboratory blanks.

SDG 201507

There was no contamination in the method blanks. Based upon the rinseate and trip blank contamination, the following qualifications were made:

Chloromethane (maximum blank concentration of 0.6 micrograms per liter [µg/L] in the rinseate blank) - qualified UJ in 12b-021651 and -021652;

Toluene (maximum blank concentration of 0.2 µg/L in the trip blank) - qualified U in 12b-021652;

Acetone (maximum blank concentration of 19 µg/L in the rinseate blank) - all results qualified UJ;

Methylene chloride (maximum blank concentration of 0.5 µg/L in the trip blank) - all results qualified UJ.

SDG 201638

This SDG contained four method blanks, four trip blanks, and two rinseate blanks There was methylene chloride detected in the method blanks, trip blanks, and rinseate blanks. Acetone and toluene were detected in the trip blanks and rinseate blanks, and chloroform was detected in one trip blank only. Qualifications made based upon the maximum concentration of each parameter in any of the blanks are given in **Table 6-2**.

Table 6-2
Qualifications Based upon the Maximum Concentration of Each Parameter in any of the Blanks

Parameter	Maximum Blank Concentration	Action Level	Sample Qualifiers
Methylene chloride	5	50	Non-detect U in 12b-021708DL, -021670, -021711, -021702, -021714, and 23b-021668
Acetone	240	2400	Estimated non-detect, UJ, at the reported concentrations for samples 12b-021670, -021701, and -021699.
Toluene	0.2	1.0	No data validation qualifiers *
Chloroform	0.1	1.0	Non-detect U in sample 12b-021664

Notes: *Data is reported as estimated J for results falling between the MDL and reporting limit.

SDG 201924

There was one trip blank and no equipment rinseate. Only methylene chloride was detected in the method and trip blanks at a maximum concentration of 0.5 µg/L. The trip blank result was qualified non-detect due to the method blank result of 0.4 µg/L. Methylene chloride was not detected in field samples 12b-021715 and -021717 so qualifications were required.

SDG 202204

The results of two equipment rinseates and two trip blanks were evaluated for this SDG. The trip blank and rinseate blank methylene chloride results were qualified non-detect, U, due to the methylene chloride concentration in the method blank. Based upon the methylene chloride method blank results, methylene chloride results in non-blank field samples 12b-021719, -021720, -021723, and -021724 were qualified non-detect, U. These qualifiers were changed to estimated non-detect (UJ) based upon initial and continuing calibration results.

SDG 203588

There were no equipment blanks or trip blanks reported with this SDG. Therefore, only method blank contamination was evaluated. The methylene chloride result for sample 23b-021740 was qualified as non-detected (U) at the reported concentration due to contamination at 0.48 µg/L in the method blank. This qualifier was changed to estimated non-detect (UJ) based upon initial and continuing calibration results.

SDG 0302099

There were no equipment blanks or trip blanks reported with this SDG. The one reported laboratory method blank showed no contamination. Therefore, no qualifications were required.

SDG 0303084

There were no equipment blanks and one trip blank reported with this SDG. Neither the trip blank nor the one reported laboratory method blank showed any contamination. Therefore, no qualifications were required.

SDG 203211

No equipment rinseate blanks, one trip blank, and one laboratory method blank were reported with this SDG. Methylene chloride results in the trip blanks, as well as in field samples 20a-021733 and 23b-021735 were qualified non-detect U at the reported concentration due to contamination of 0.5 to 0.8 µg/L in the two method blanks. The methylene chloride results for these samples were later qualified as non-detected estimated (UJ) due to initial calibration %RSD results. Acetone reported in one of the method blanks required qualification of the acetone result in sample 23b-021735 as non-detect. This qualifier was changed to rejected (R) due to acetone LCS/LCD results.

SDG 201523

There were two equipment rinseate blanks, two trip blanks, and four laboratory method blanks associated with this SDG. Only toluene was detected in the method blanks at 0.12 µg/L, and that concentration represented the maximum toluene concentration in any of the blanks. All samples associated with that blank were non-detect for toluene so qualifiers were required. Acetone and methylene chloride were detected in both the rinseate and trip blanks at maximum levels of 7 and 0.6 µg/L, respectively. All positive acetone results and the methylene chloride result in sample 23b-021661 were qualified estimated non-detect (UJ) due to rinseate blank contamination and initial and continuing calibration results.

SDG 203763

Methylene chloride was detected in the trip and rinseate blanks, but these results were qualified non-detect due to methylene chloride contamination (maximum level of 0.64 µg/L) in the method blanks. The non-blank field sample result for methylene chloride in this SDG sample was non-detect, so no qualification was required. Acetone was detected in both the trip and rinseate blanks so the acetone result in 23b-021742 was qualified undetected (U) at the reported concentration. Chloroform was detected in the rinseate blank at 0.2 µg/L but was non-detect in the non-blank field sample so no qualification was required.

TOC was reported at 2.1 mg/L in field rinsate blank 23b-021741. The positive result for TOC in the only non-blank SDG sample 23b-021742, which was less than 5X the blank amount, was flagged as undetected (U).

6.3 MATRIX SPIKE (MS) AND MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

In SDGs 201523, 203211, 203763, and 202237, only non-Maywood samples were used as matrix spikes for iron and manganese. Iron and manganese met acceptance criteria of 75 to 125% spike recovery in those SDGs.

For wet chemistry parameters, all spike recoveries were within acceptance limits for SDG 201523, 202237, and 203763. In SDG 203211, all MS results met laboratory acceptance criteria for percent recovery, except one of the four COD MS. The non-compliant MS result was analyzed using a non-Maywood sample that had an inherently high COD result. The Maywood samples were all reported by the laboratory as non-detected (U) for COD. The Maywood sample results for COD were therefore evaluated against the other three COD MS, some of which were analyzed using samples with lower native COD values. No Maywood COD values were qualified due to MS results.

For VOCs, no MS/MSD sample pair was submitted for SDGs 203211, 203588, and 201924. Accuracy could not be evaluated in the sample matrix but was evaluated for the method from the LCS and LCSD. Non-Maywood samples were analyzed as MS/MSD pairs in SDGs 202204, 201638, and 201507. MS/MSD recoveries were within limits for all spike compounds. .For SDGs 203763, 0303084, and 201523, Maywood samples were used to generate MS/MSD QC samples. All spike recovery acceptance criteria were met for MS/MSD results in these SDGs. In SDG 0303084, spike compound 1,1-dichloroethene was substituted for cis-1,2-dichloroethene and trans-1,2-dichloroethene. Shaw was notified of this discrepancy at the time of analysis and instructed the laboratory to continue with the analysis. No qualifications were made to cis-1,2-dichloroethene and trans-1,2-dichloroethene results based upon this substitution.

6.4 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD)

All LCS/LCSD percent recoveries (%Rs) and relative percent differences (RPDs) between %Rs were within acceptance criteria except for the following:

In VOC SDG 203211, the RPDs between LCS and LCSD %Rs were 31, 30, and 63%, for 1,1-dichloroethene, acetone, and 2-butanone, respectively. The maximum acceptable RPD is 20%. USACE guidance states that the sample results associated with these outside of criteria LCSs are to be rejected; so, the 1,1-dichloroethene, acetone, and 2-butanone results were rejected in samples 20a-021731, 23b-021734, and 23b-021735.

In VOC SDG 203588, the acetone LCS and LCSD recoveries were 146 and 182%, respectively, and the RPD between these recoveries was 22%. The acetone result for sample 23b-021740, the lone sample comprising this SDG, was rejected as per USACE guidance.

In SDG 203763, the 2-hexanone LCS %R was 22%, slightly higher than the 20% maximum criterion. The validator did not qualify the 2-hexanone results since 2-hexanone is not a usual spike compound and only the RPD exceeded limits.

The impacts of the rejected data to the investigation is inconsequential since benzene data was not impacted due to poor LCS/LCSD data.

6.5 SURROGATE RECOVERIES

All surrogate recoveries for the VOC analyses were within acceptance criteria with the following exceptions:

In SDG 203763, the %R of toluene-d8 was 214% for sample 23b-021742, which exceeded the 70-127% QC limits. The Case Narrative states that these sample results exhibited "suppression of internal standard areas, a surrogate recovery out of criteria and high TIC peaks." This sample was reanalyzed at a 2 times dilution with acceptable surrogate recoveries. For SDG 201638, the toluene-d8 recovery in sample 12b-021708 was 50% (acceptance criteria 70-127%). No corrective action was taken; therefore, all VOC results in sample 12b-021708, a rinseate blank, were rejected.

6.6 FIELD AND LABORATORY DUPLICATES

In SDG 201924 for VOCs, samples 12b-021715 and 12b-021717 were a field duplicate pair. All precision criteria were met for the two sample results. No other field duplicate pairs were submitted for VOCs. The project-required field duplicate collection percentage is 5%. One VOC field duplicate was collected for 18 non-blank field samples, a percentage of 5.5%; therefore the duplicate percentage requirement was met.

There were no field duplicates submitted with any of the 11 non-blank field samples for iron and manganese and wet chemistry parameters; therefore the duplicate percentage requirement was not met for these parameters.

Laboratory duplicates were analyzed with every batch for iron and manganese and wet chemistry parameter batches. All precision criteria were met.

6.7 ICP INTERFERENCE CHECK SAMPLE AND SERIAL DILUTION RESULTS (ELEMENTS ONLY)

All ICP interference check sample criteria were met. In SDG 202237 for iron and manganese total and dissolved analyses, sample 12b-021729 was analyzed as the ICP serial dilution sample. The iron and manganese ICP serial dilution results differed by 11.6 and 15.3% from the original analysis for iron and manganese, respectively (acceptance criterion maximum is 10%). The iron and manganese results for sample 12b-021729, total and dissolved, were reported as estimated (J).

6.8 HOLDING TIMES

All sample analyses holding time requirements were met.

7.0 REFERENCES

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ATTACHMENT A*
DATA VALIDATION REPORTS

Note: *Due to its size, Attachment A is presented electronically on a CD-ROM.

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ATTACHMENT B*
DATA PACKAGES

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ATTACHMENT C**
SITE REMEDIATION PROGRAM ELECTRONIC DATA INTERCHANGE MANUAL AND HAZSITE DELIVERABLE

Note: **Due to regulatory requirements, the HAZSITE Deliverable portion of Attachment C is presented electronically on a CD-ROM

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