



Final Maywood Interim Storage Site 2016 Long-Term Groundwater Monitoring Data Report

**Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site**



**US Army Corps
of Engineers®**

Contract No. W912DQ-13-D-3016

October 2018

FINAL
MAYWOOD INTERIM STORAGE SITE
2016 LONG-TERM GROUNDWATER MONITORING DATA REPORT
FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

CONTRACT NO. W912DQ-13-D-3016

Prepared for:

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ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
bgs	below ground surface
cm/s	centimeters per second
COC	contaminant of concern
COD	chemical oxygen demand
CRDL	Contract-Required Detection Limit
DL	detection limit
DO	dissolved oxygen
DOE	U.S. Department of Energy
EDD	Electronic Data Deliverable
EMP	Environmental Monitoring Program
EPA	U.S. Environmental Protection Agency
FMSS	FUSRAP Maywood Superfund Site
ft	feet/foot
ft/ft	feet per foot
ft/day	feet per day
FUSRAP	Formerly Utilized Sites Remedial Action Program
GFPC	gas-flow proportional counting
gpd/ft	gallons per day per foot
GPM	gallons per minute
GW OU	groundwater operable unit
GWRI	Groundwater Remedial Investigation
HSA	hollow stem auger
HPLC	High Purity Liquid Chromatographic
ICP-AES	inductively-coupled plasma atomic emission spectrometer
ICP-MS	inductively-coupled plasma mass spectrometer
ID	inside diameter
LCS	laboratory control standards
LTM	Long-Term Monitoring
LTGWMP	Long-Term Groundwater Monitoring Plan
LUC	land use control
µg/L	micrograms per liter
MCL	maximum contaminant level
MCW	Maywood Chemical Works
MD	matrix duplicate
MDA	method detection activity
MDC	method detection concentration
MISS	Maywood Interim Storage Site

Acronyms and Abbreviations (continued)

mL	milliliter(s)
mL/min	milliliters per minute
MNA	Monitored Natural Attenuation
MS	matrix spike
MSD	matrix spike duplicate
NJDEP	New Jersey Department of Environmental Protection
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
NTU	nephelometric turbidity unit
OP	operating procedure
ORP	oxidation-reduction potential
OU	Operable Unit
pCi/L	picocuries per liter
pH	hydrogen ion concentration
PID	photoionization detector
POTW	publicly-owned treatment works
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
QCSR	Quality Control Summary Report
redox	oxidation-reduction
RI	Remedial Investigation
RL	reporting limit
ROD	Record of Decision
SDG	Sample Delivery Group
SGS	SGS Drilling, Inc.
UFP-QAPP	Uniform Federal Policy-Quality Assurance Project Plan
UFML	USACE FUSRAP Maywood Laboratory
USACE	U. S. Army Corps of Engineers
VOC	volatile organic compounds

1.0 INTRODUCTION

This Groundwater Data Report presents the 2016 field program and sampling data results for the Maywood Formerly Utilized Sites Remedial Action Program (FUSRAP) site (Site) located at 100 West Hunter Avenue in the Borough of Maywood, Bergen County, New Jersey. This report has been prepared on behalf of the U.S. Army Corps of Engineers (USACE) by Cabrera Services, Inc. (Cabrera) under USACE Contract No. W912DQ-13-D-3016.

Cabrera performed this work in accordance with the *Draft Final Long-Term Groundwater Monitoring Plan* (LTGWMP) (USACE, 2016a), and *Maywood FUSRAP Groundwater Record of Decision* (ROD) (USACE, 2012) (Groundwater ROD). The data report herein presents the results of the first comprehensive sampling event with our new well network of monitoring wells installed since submittal of the LTGWMP and Groundwater ROD documents. This new array of overburden and bedrock monitoring wells are intended to document baseline conditions prior to remediation being completed.

Remediation of soil and groundwater contaminant of concern (COC) source areas is currently ongoing at the Maywood Interim Storage Site (MISS) pursuant to the *Draft Final Groundwater Remedial Design/Remedial Action Work Plan* (USACE 2016b), Groundwater ROD (USACE, 2012), and *Maywood FUSRAP Buildings and Soil Record of Decision* (USACE, 2003) (Soils and Buildings ROD). Remediation of all accessible groundwater COCs and radiologically impacted soils on the MISS is scheduled for September 2021. Annual groundwater monitoring and data reporting is scheduled through 2021 or completion of MISS soil remediation. Once MISS soil remediation is completed, quarterly groundwater sampling will be conducted for a two year period as described in the LTGWMP, and reported via Quarterly Data Reports and Annual Long-Term Monitoring (LTM) Reports.

1.1 PURPOSE AND SCOPE

The purpose of this annual Groundwater Data Report is to document baseline site conditions for groundwater COCs, radiological parameters, and geochemical parameters at LTM wells and surface water monitoring locations.

The scope of this Groundwater Data Report is included under the report sections as follows:

- **Section 1.0 Introduction:** Site History, Site Description, Site Soil/Buildings ROD and Groundwater ROD, Summary and Findings of the Groundwater Site Investigations, and Nature and Extent of Contamination.
- **Section 2.0 Implementation of the 2016 LTM Program:** Summary of Field Activities, Well Repair and Modifications, Existing Well Re-development, Well Installation and Development, Groundwater Elevation Monitoring, Groundwater and Surface Water Sampling, Laboratory Analysis and Reporting, and Deviations to the LTGWMP.
- **Section 3.0 Results of LTM Groundwater and Surface Water Sampling:** Groundwater Flow Conditions, Arsenic Groundwater Sampling Results, Lithium Groundwater Sampling Results, Benzene Groundwater Sampling Results, Radiologic Groundwater Sampling Results, and Surface Water Sampling Results.

- **Section 4.0 Data Validation/Quality Control Summary Report:** LTM Quality Assurance/Quality Control (QA/QC) Sampling Program and Sampling Results, Sample Management and Data Validation, Electronic Data Deliverable (EDD), and Quality Control Summary Report (QCSR).

1.2 SITE HISTORY

The original plant on what is now the FUSRAP Maywood Superfund Site (FMSS) was constructed in 1895 and became known as the Maywood Chemical Works (MCW) in 1918. Principal products manufactured by the MCW included aromatics (mainly for the soap industry), flavorings, lithium (in 30 different forms), pharmaceuticals (quinine, cocaine, and caffeine among others), protein (extracted from leather), and rare earth salts (for the glass industry). Starting in 1916, portions of the facility were used to extract thorium and rare earth metals from monazite sands. The extracted thorium was then sold to other companies for use in manufacturing industrial products, such as mantles for gas lanterns. The wastes from this process were pumped as slurry to holding ponds.

In 1932, the disposal areas were partially covered by the construction of New Jersey State Route 17. Thorium extraction at the MCW ended in 1956 after approximately 40 years of production. The MCW property was subsequently sold to the Stepan Company, Inc. in 1959. Wastes from the various manufacturing processes were generally stored in open piles and retention ponds. Some of the process wastes were removed for use as mulch and fill on nearby properties, thereby contaminating those properties with radioactive thorium.

The U.S. Environmental Protection Agency (EPA) listed the MCW on the Superfund National Priorities List (NPL). In late 1983, Congress assigned a research and development project to the U.S. Department of Energy (DOE) to clean up the radioactive wastes at the MCW. The DOE then placed the Site in the FUSRAP Program. In 1985, the Federal Government acquired an 11.7-acre portion of the Stepan Company property to temporarily store soils excavated by the DOE from offsite properties until a suitable permanent storage site was identified. The 11.7-acre site became known as the Maywood Interim Storage Site (MISS).

In 1992, the DOE completed a remedial investigation (RI) that defined the nature and extent of soil, sediment, and groundwater contamination. The DOE RI Report (DOE, 1992) concluded that information regarding the nature and extent of groundwater contamination was incomplete and that further investigation was required. A focused FMSS Groundwater RI was conducted by USACE from 2000 to 2004. The results of the field investigations were reported in the *Final Groundwater Remedial Investigation Report*, FUSRAP Maywood Superfund Site (USACE, 2005) (GWRI).

The Soils and Buildings ROD was published in 2003. This ROD has been implemented and the associated remedial action is currently ongoing. The Groundwater ROD was approved by EPA in July 2012 and addresses the source area removal. The final remedy for groundwater as presented in the Groundwater ROD (USACE, 2012) is summarized in Section 1.4 of this document. The EPA has conducted two Five-Year Reviews of the Maywood FUSRAP Site associated with the Soils and Buildings ROD.

1.3 SITE DESCRIPTION

The FMSS is located in a highly developed area of northeastern New Jersey located in the Boroughs of Maywood and Lodi, and the Township of Rochelle Park (Figure 1-1). It is located approximately 12 miles north-northwest of New York City, New York and 13 miles northeast of Newark, New Jersey. The FMSS is listed on the EPA Superfund NPL. The Comprehensive Environmental Response, Compensation, and Liability Information System identification number is NJD980529762. USACE was delegated authority for the FUSRAP by the Energy and Water Development Appropriations Act of 1998, and subsequent appropriations acts. The FMSS consists of 92 designated industrial, residential, commercial and government properties contaminated by former thorium processing activities at the MCW (Figure 1-2).

The MISS (a portion of the FMSS) is an 11.7-acre fenced lot that was previously part of a 30-acre property owned by the Stepan Company. The Federal Government acquired the MISS from the Stepan Company in 1985. The water reservoir, Pump House, and one of the railroad spurs are still in use by the Stepan Company. The MISS is bounded on the west by NJ State Route 17; on the north by a New York, Susquehanna & Western Railway line; and on the south and east by Stepan Company property. Residential properties are located north of the railroad line and within 75 yards of the northern MISS boundary. The property is enclosed by a chain-link fence, and access to known or potentially hazardous areas is restricted.

1.4 SITE SOILS/BUILDING ROD and GROUNDWATER ROD

Contamination on the FMSS is being addressed in three separate operating units (OUs), which are coordinated by EPA Region 2. These include:

- OU 1: Soils and Buildings OU at the MISS, Stepan Company, and the 22 commercial and Government Vicinity Properties. This OU includes soil, buried bulk wastes (including the NRC-licensed burial pits), and buildings (all contaminated buildings are located on the Stepan Company property and the MISS).
- OU 2: The USACE GW OU includes groundwater impacted by FUSRAP waste and contaminated groundwater at the MISS.
- OU 3: Non-FUSRAP chemical wastes (addressed by Stepan Company).

The Soils and Buildings ROD addresses the OU 1 radiologically and chemically contaminated soil, debris (e.g., buried drums), and building materials defined as FUSRAP waste at the former MCW and commercial/government properties in the vicinity of the site, including the Stepan Company burial pits that are licensed and regulated by the NRC. The Groundwater ROD (USACE, 2012) presents the selected remedial actions for OU 2 groundwater at the MISS and adjacent properties.

The major components of the Groundwater ROD include the following:

- Removal and off-site disposal of non-radiological contaminated soil (lithium, arsenic, and benzene soils with concentrations above the cleanup levels defined by the Groundwater ROD) on the MISS, to include pond sludge on the MISS.
- Monitored Natural Attenuation (MNA) of arsenic, lithium, and benzene (groundwater COCs) in overburden and shallow bedrock groundwater. MNA refers to the process of documenting the progress and effectiveness of natural attenuation through a defined monitoring program. Natural attenuation is the combination of physical, chemical, and biological processes that result in reasonably predictable reductions in contaminant concentrations over time.
- Continued groundwater monitoring of radiological parameters at former Environmental Monitoring Program (EMP) monitoring wells.
- Land Use Controls (LUC) that will include use restrictions applicable to site groundwater. LUCs will be utilized, as appropriate, to limit potential future on-site and downgradient off-site public and construction worker exposure to groundwater contaminants until target cleanup goals are achieved.

The groundwater remedial action will be considered complete and will be discontinued when:

- Non-radiological source soils that result in groundwater contamination above cleanup levels are removed from the MISS.
- Groundwater monitoring indicates that COCs and radiologic concentrations are at, or below, cleanup levels on the MISS and at FUSRAP-impacted offsite locations west of Route 17. Former Stepan Company properties (i.e. MCW) west of Route 17 are expected to impact groundwater as well.

1.5 GROUNDWATER CLEANUP LEVELS

The Groundwater ROD identified the COCs and groundwater cleanup levels for LTM, which includes the following (see Table 1-1):

- Arsenic – 3 micrograms per liter ($\mu\text{g/L}$)
- Lithium – 730 $\mu\text{g/L}$
- Benzene – 1 $\mu\text{g/L}$.

Total uranium, total radium, gross alpha, and gross beta were not identified as groundwater COCs due to the low detected activity and low human health risk. However, the Groundwater ROD includes groundwater monitoring of radiological constituents to ensure the protectiveness of the Soil and Buildings OU remediation. Radiological groundwater monitoring was conducted at 28 LTM wells in 2016, and is continued as part of the LTM program.

The regulations in 40 Code of Federal Regulations 141 set maximum permissible levels of radiological contaminants in groundwater by specifying the Federal Safe Water Drinking Act Maximum Contaminant Levels (MCL) for each parameter. Pertinent MCLs have been promulgated for total uranium, total radium, and gross alpha. The New Jersey Department of

Environmental Protection (NJDEP) has adopted the Federal MCLs. Table 1-1 summarizes cleanup criteria for groundwater on the MISS.

1.6 SUMMARY AND FINDINGS OF GROUNDWATER SITE INVESTIGATIONS

The site characteristics summarized in the sections to follow are described in the GWRI (2005), *Phases 16 and 19 Construction Dewatering Monitoring Plan* (USACE, 2011), and the LTGWMP (USACE, 2016a).

1.6.1 Regional Geology

The FMSS and MISS are located in the Piedmont Physiographic Province within the U.S. Geological Survey Hackensack Quadrangle. The Piedmont Province in New Jersey is located within the Newark Basin, a northeast trending half-graben that extends southwest from the Hudson River Valley in New York to southeastern Pennsylvania.

The Newark Basin is primarily composed of a sequence of sedimentary rocks and intrusive igneous rocks, commonly referred to as the Brunswick Group. The sedimentary rocks within the Brunswick Group consist of sandstones, shales, mudstones, and conglomerates having strike orientations ranging from N20E to N35E, and dipping between 7 and 15 degrees to the northwest.

The sedimentary rocks of the Brunswick Group are divided into three formations: a lower unit, the Stockton Formation; a middle unit, the Lockatong Formation; and an upper unit, the Passaic Formation. The FMSS and MISS are underlain by the Passaic Formation Sandstone Member which is described as an interbedded grayish red to brownish red, medium to fine grained, medium to thick bedded sandstone and brownish to purplish red, coarse grained siltstone; the unit is planar to ripple cross laminated, fissile, locally calcareous containing desiccation cracks, and root casts. Upward fining cycles are 6 to 15 feet (ft) thick. Maximum thickness is approximately 3,600 ft.

Groundwater beneath the FMSS and MISS occurs in shallow and deep bedrock and locally in overburden deposits. The term shallow bedrock as used here describes the interval typically extending 10 to 35 ft below the top of bedrock and deep bedrock refers to the interval extending from approximately 35 to 70 ft below the bedrock surface. Figure 1-3 provides a generalized cross-section of the region's geological units which comprise the regional aquifer.

Groundwater within the FMSS and MISS is classified as Class II groundwater. Class II groundwater has a designated use of potable groundwater with conventional water supply treatment, either at its current water quality (Class II-A) or subsequent to enhancement or restoration of regional water quality, so that the water will be of potable quality with conventional water supply treatment (Class II-B). Existing and potential potable water uses are both included in the designated use.

1.6.2 Site Overburden Hydrogeology

Saturated, laterally continuous overburden deposits were mapped in parts of the FMSS and comprise the local overburden aquifer. Overburden material typically consists of a lower

undifferentiated till and gravel unit (on bedrock), overlain by gravel, upper undifferentiated till and sand, and an upper sand unit. In most FMSS areas, the sand unit is covered by fill of varying thickness. The highest aquifer permeability and porosity (and groundwater yield) is typically encountered in stratified drift (well sorted glacial outwash deposits composed of sand, gravel, silt, and clay laid down by glacial melt water in a river flood plain and in glacial lake deltas and alluvial fans), and is expected in the mapped gravel and sand units. Stratified drift deposits are usually laterally extensive within a paleodrainage, but can vary in composition, permeability, and well yield. The reported yield of stratified deposits in the Hackensack Quadrangle ranges from one to several hundred gallons per minute (GPM); however, local wells are expected to yield from 0.5 to 5 GPM. The gravel and/or sand units are mapped in all overburden aquifer areas, and are expected to transmit the majority of groundwater in the overburden aquifer.

MISS overburden groundwater flow direction is west to southwest with an average horizontal gradient of 0.0076 feet per foot (ft/ft) to 0.0111 ft/ft.

1.6.3 Site Bedrock Hydrogeology

Groundwater in bedrock occurs under confined and unconfined conditions within a network of interconnected bedrock joints (fractures) and open bedding fractures in the Passaic Formation. The permeability of the Passaic Formation is fracture controlled, with the exception of some sandstone aquifer units. Regionally, the Passaic Formation provides a major source of groundwater in the Newark Basin, and locally to a number of water districts in Bergen County. The bedrock aquifer is layered (heterogeneous), typically consisting of a series of alternating aquifers and aquitards several tens of ft thick.

The water bearing fractures of each aquifer are more or less continuous, but hydraulic connection between individual aquifers is poor. These aquifers generally dip downward for a few hundred ft, and are continuous along the strike for thousands of feet. Shallow bedrock, the depth of most interest, generally extends 10 to 35 ft below the bedrock surface. Shallow bedrock monitoring wells' yield on the FMSS range from 0.5 to 50 GPM with most wells producing 0.5 to 2.0 GPM. Shallow bedrock yields have been measured locally in three wells during short-term pumping tests (2 to 72 hours), with average flows of 10.5, 16, and 17 GPM. Based on computer modeling, long-term pumping rates from single wells located on the MISS are expected to be less than 5 GPM.

Shallow bedrock groundwater flow at the MISS is generally towards the west and the Saddle River. However, some groundwater flows to the northwest and southwest due to influence of a bedrock high to the east of the MISS. Shallow bedrock groundwater flow in the westerly direction across the Site had an average horizontal gradient of 0.0075 ft/ft to 0.0109 ft/ft.

1.6.4 Groundwater – Surface Water Interaction

The upstream portion of Westerly Brook is conveyed by culvert pipe under the MISS, New Jersey Route 17 and 96 Park Way, Rochelle Park, and opens to a channel at St. Ann Place in Rochelle Park (Figure 2-1).

A video survey conducted by USACE in 2000 found that both the north-south and east-west sections of the Westerly Brook culvert leak heavily at open and cracked joints. Invert elevations for the Westerly Brook culvert pipe show that the pipe is partially below the seasonal low

groundwater table and in some locations was installed on the top of bedrock. These data suggest that groundwater from the MISS is infiltrating into Westerly Brook through open joints in the pipe. The areas of groundwater infiltration are indicated on Figure 2-1.

1.7 NATURE AND EXTENT

Groundwater COCs (arsenic, lithium, and benzene) and non-COC (radiological) groundwater sampling was conducted at all USACE and available Stepan Company monitoring wells in 2000-2002 as part of the GWRI. Annual radiological groundwater sampling has been conducted at 24 monitoring wells as part of the EMP since 1999. A later comprehensive round of groundwater COCs (arsenic, lithium, and benzene) samples were collected from 84 overburden and shallow bedrock monitoring wells in 2011 as part of the approved *Phases 16 and 19 Construction Dewatering Work Plan* (USACE, 2011).

Five potential MISS groundwater source areas, or areas of concern (AOC), were identified in the GWRI. The location of MISS AOCs is shown on Figure 1-4. Arsenic and lithium contamination in AOCs 1 and 2 involve both the overburden and shallow bedrock aquifers, whereas benzene contamination in AOCs 6 and 7 is limited to the shallow bedrock and overburden aquifers, respectively. Historic radium exceedances were detected in bedrock well B38W18D, which defines AOC 5. The distribution of arsenic, lithium, benzene, and radium in each AOC (by aquifer) is summarized below:

- Overburden Aquifer

AOC 1 (Former Retention Pond A) – arsenic, lithium

AOC 2 (Former Retention Pond C) – arsenic, lithium

AOC 7 – benzene

- Shallow Bedrock Aquifer

AOC 1 (Former Retention Pond A) – arsenic, lithium

AOC 2 (Former Retention Pond C) – arsenic, lithium

AOC 5 - radium

AOC 6 – benzene.

It is noted that historic total radium exceedances in AOC 5 (bedrock well B38W18D) may have been attributed to the incorrect installation (and screening) of that well into radiologically - impacted overburden sludge and saprolite. Radiologically impacted overburden material was remediated from the area of AOC 5 (well B38W18D) in 2015, resulting in damage to that well. Well B38W18D was replaced in 2016 by bedrock well B38W18DR in accordance with the LTGWMP. Sampling results for that well are provided in Section 3.2.4.

2.0 IMPLEMENTATION OF THE 2016 LTM PROGRAM

2.1 SUMMARY OF THE 2016 LTM FIELD AND ANALYTIC PROGRAM

The Draft Final LTGWMP was submitted to the EPA for review in February 2016. LTM field activities were commenced on March 15, 2016 and completed on September 22, 2016. The 2016 field tasks were completed as listed below:

1. Redevelopment of 40 existing LTM wells – March 15 to August 22, 2016
2. Repair and Modifications of 16 existing LTM wells – April 25 to May 4, 2016
3. Installation of 20 onsite and 8 offsite LTM wells – May 9 to September 6, 2016
4. Development of 28 newly-installed LTM wells – June 14 to September 8, 2016
5. Conducted groundwater sampling at 66 overburden and bedrock LTM wells and two LTM surface water locations – August 8 to September 6, 2016.
6. Sampled an additional 3 new LTM wells (MW-52S/D and MISS04AR) on September 21 and 22, 2016.
7. Measurement of groundwater water levels (81 wells) – September 14, 2016
8. Surveyed newly-installed and modified wells – September 14 to 19, 2016.

Analysis of groundwater and surface water samples was conducted at two off-site laboratories and on-site USACE FUSRAP Maywood Laboratory (UFML). Off-site laboratory analysis was conducted during the period August 8 to November 21, 2016. Data validation was completed for all groundwater COC and radiological groundwater and surface water samples. Data validation of laboratory deliverables was conducted during the period August 19 to December 21, 2016.

2.2 WELL REPAIRS/MODIFICATIONS, WELL DEVELOPMENT, AND INSTALLATION OF NEW WELLS

Well repairs and modifications, well development, and new well installations are presented in the sections to follow.

2.2.1 Well Repair and Modifications

Sixteen LTM monitoring wells were repaired and/or modified in 2016. Well repairs included basic well pad, outer protective casing, and road box replacements/repairs that did not involve modifications to the subsurface well components or riser elevations. A total of nine wells were modified, which required new NJDEP well permits and permit numbers. LTM wells BRPZ2, BRPZ3, BRPZ4, BRPZ5, BRPZ9 and MW34D were converted from flush mount to stickup configuration. LTM flush-mount wells B38W14S and B38W14D were elevated and required reconstruction of the road box, pad, and riser. LTM bedrock well MW6D was flushed out and reconstructed as a screened well (from open borehole). LTM well construction data are provided in Table 2-2. NJDEP well permits, well records, and survey forms (Form B) for modified LTM

wells are provided in Appendix A. Well construction diagrams for LTM wells are shown in Appendix B.

2.2.2 Existing Well Redevelopment

A total of 41 existing LTM wells were redeveloped to remove accumulated sludge/sediment and minimize the turbidity of groundwater samples. Prior to development, the well headspace was field screened for volatile organic compounds (VOC) with a photoionization detector (PID), and the depth to water and depth to bottom were measured with a water level indicator to calculate the volume of water in the well. This and other well construction data were entered on the well development data form, and the minimum development purge volume was calculated. A minimum three purge volumes were pumped from each well during development. All well development activities were conducted in accordance with detailed procedures described in the LTGWMP and Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), Operating Procedure (OP)-338M3 (Monitoring Well Construction and Well Development).

Water quality parameters including hydrogen ion concentration (pH), temperature, conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured in regular five or ten minute intervals using a calibrated YSI 6820 multi-meter (or equivalent) equipped with a flow-through cell. Regular water quality parameter measurements were recorded on a well development log sheet, along with time, depth to water, discharge flow rate, volume discharged and VOC (PID) measurements. All wells were developed to achieve the lowest possible turbidity measurements, and meet the turbidity goal of 50 nephelometric turbidity units (NTU) or less.

All existing wells were initially developed by overpumping and surging for repeated cycles until the development discharge was clear of sediment. A decontaminated Grunfos® submersible pump was used to pump wells, and surging in 2-inch inside diameter (ID) screen wells was accomplished by rapid vertical movement of the Grunfos® pump across the well screen interval while pumping. Open borehole 4-inch ID and 6-inch ID wells were surged across the open interval using a decontaminated Grunfos® pump with cooling shroud to increase the pump diameter. Surging was continued until all sediment and sludge was removed from the base of the well (if any), and the discharge was sediment free.

Well development was completed by a final period of overpumping at a lower sustained rate. Discharge was monitored for water quality parameters using the flow-through cell until the turbidity goal and borehole purge volumes were met. During sustained pumping, water levels were kept above the top of screen or open borehole to allow the accurate measurement of water quality parameters. The goal of 50 NTU was met in all existing LTM wells, except for well MW39S. Nearby USACE overburden well MW8S was successfully redeveloped, and replaced well MW39S in the 2016 LTM sampling program. Well development data forms for all LTM wells are provided in Appendix C.

In accordance with the LTGWMP, development water was contained in drums, and off-site development water was transported to the MISS on a daily basis for disposal. Development water was treated by the onsite treatment system and discharged to the local publicly owned treatment works (POTW) in accordance with the work plans.

2.2.3 Monitoring Well Installation and Development

A total of 28 monitoring wells were installed and developed in accordance with the LTGWMP. Installed well locations are shown in Figure 2-1. Prior to drilling activities, all sites were checked for utilities and underground obstructions by a geophysical contractor using electromagnetic methods, Ground Penetrating Radar, and a Public Utilities Locator. A NJDEP well drilling permit and New Jersey One-Call ticket were obtained in advance by SGS Drilling (SGS), a New Jersey-licensed drilling contractor. Each drilling location was hand dug to 5 ft below ground surface (bgs) prior to drilling.

Prior to entering the work site, drill rigs and all downhole equipment and materials were decontaminated with a steam cleaner on the MISS. A geologist supervised site mobilization, well installation and development activities, and logged well drilling and construction details. The Geologist prepared well boring logs and well construction logs for each well, which are provided in Appendix B. All monitoring wells were constructed in a stick up or flush mount configuration, and include a cement well pad, locking J-Plug and lock, and a tag with well identification and NJDEP permit numbers. All wells were developed by pumping to remove sediment and to meet the turbidity goal of 50 NTUs or less. Well development data sheets for all new LTM wells are provided in Appendix C.

Wells were surveyed by Layout Design PC, a New Jersey-licensed surveyor. The surveyor provided the horizontal control and elevation of ground, and top of outer and inner casing to an accuracy of 0.01 ft. A summary of survey data for the newly installed and modified wells is provided in Table 2-1. The surveyor completed a NJDEP Form B for each new well as provided in Appendix A.

Specific installation and development activities for overburden and shallow bedrock monitoring wells are described in the following paragraphs.

Overburden Monitoring Well Installation

A total of 16 overburden LTM wells were installed in 2016 as part of the LTGWMP. The wells were installed using the hollow stem auger (HSA) drilling method, and were augered to the top of bedrock (typically 10 to 20 ft bgs) using a 7-1/8-inch outside diameter bit. Continuous split spoon sampling was conducted from the base of the 5 ft hand dug interval to bedrock or refusal using a 140-pound hammer. Each split spoon sample was monitored for organic vapors, and logged by the geologist. The overburden wells were constructed with a 2-inch ID Schedule 40 polyvinyl chloride (PVC) riser and screen, using a Morie #1 or equivalent filter sand. A 5-ft length of 10 slot (0.010 inch) screen and Morie #1 filter pack (or equivalent) was constructed from the base of the aquifer, with the top of screen set below the water table where possible to minimize aeration during sampling.

In accordance with the NJDEP Field Sampling Procedures Manual (NJDEP, 2011), wells were constructed with a minimum 1.0 ft interval of Morie #1 well filter pack from the top of screen, and was topped with a 2.0 ft thick layer of #00 Morie filter sand (or equivalent) to limit the seepage of cement grout into the filter pack. The wells were grouted with cement to the surface for completion. Well boring logs and construction diagrams were prepared for each overburden well, and are provided in Appendix B. Well construction information is summarized in Table 2-2.

It is noted that installation of two proposed LTM offsite overburden/bedrock well clusters was delayed in 2016, and are planned for installation in 2017. These overburden wells will be installed as proposed in the approved LTGWMP.

Shallow Bedrock Monitoring Well Installation

A total of 12 new shallow bedrock LTM wells were installed by air rotary drilling in 2016 as part of the LTGWMP. A 10-inch ID temporary drive casing was driven to top of rock to seal off the overburden aquifer from the deeper bedrock aquifer. A nominal 10-inch ID borehole was drilled to a minimum of 10 ft into competent bedrock, and a 6-inch ID steel casing was centered at the base of the borehole. The annular space was tremie grouted with Portland Type III (high early strength) cement to the surface and allowed to cure overnight. A nominal 6-inch ID borehole was drilled 25 ft below the casing, completing the borehole.

All but one bedrock well was completed with a 25 ft length or less of 6-inch ID open borehole, as specified in the LTGWMP. The open borehole of LTM well MW54D was advanced beyond 25 ft in a low yielding formation to obtain additional water, so the base of the open borehole was screened with a 20 ft length of 2-inch PVC screen in compliance with NJDEP regulations. Well MW54D was constructed with a 10-slot PVC screen and Morie #1 filter sand. The Morie #1 well filter pack extends two ft from the bottom and top of screen, and was topped with a 2-ft thick layer of #00 Morie filter sand to limit the seepage of cement grout into the filter pack. The well was completed with a 2-inch ID PVC riser and cement grout to the surface. LTM well construction data is provided in Table 2-2. Bedrock well boring logs and construction diagrams are provided in Appendix B.

Note that installation of two proposed LTM offsite overburden/bedrock well clusters was delayed in 2016, and is planned for 2017. These bedrock wells will be installed as proposed in the approved LTGWMP.

New Monitoring Well Development

Development procedures for new installed overburden LTM wells is similar to that performed at existing overburden wells, except that initial development activities were conducted by the driller. Overburden wells were over-pumped and surged for repeated cycles by the driller using a decontaminated Whale® pump until the discharge was clear of sediment. The volume of water purged was recorded on the well development data sheet by the Geologist. Well development was completed by a final period of overpumping at a lower sustained rate. Discharge was monitored for water quality parameters using a calibrated YSI multi-meter and flow through cell until the turbidity goal and borehole purge volumes were met.

Development of new bedrock open borehole wells involved the following steps: (1) initial rig development, (2) over-pumping and surging with a submersible pump, and (3) over-pumping by submersible pump and measurement of environmental parameters. Completed boreholes were initially developed by the drill rig using air displacement of water from the borehole and surging of the borehole by vertical movement of the drill bit. Rig development was continued for a minimum one hour period to remove rock fragments and coarse sediment from the well. The volume of water purged by the drill rig was recorded on the well development data sheet by the Geologist. Once rig development was completed, each well was then over-pumped and surged by the driller using a decontaminated submersible pump, which was moved vertically within the

open borehole portion of the well. Over-pumping and surging was continued until the discharge was visibly clear of free sediment. The volume of purge water was recorded on the well development data sheet by the Geologist.

Well development was completed by a final period of over-pumping with a decontaminated submersible at a high sustained rate. Discharge was monitored for water quality parameters using a calibrated YSI multi-meter and flow-through cell until the turbidity goal and borehole purge volumes were met. Development of the screened shallow bedrock well (MW54D) is similar to that described for overburden wells, except for the greater well depth and length of screen. The goal of 50 NTUs was met at all new installed bedrock LTM wells. Well development forms for all new LTM wells are provided in Appendix C.

2.3 GROUNDWATER AND SURFACE WATER SAMPLING

2.3.1 Groundwater Elevation Monitoring

Groundwater level measurements were conducted on September 14, 2016 at a total 81 wells, including 69 LTM wells, ten USACE monitoring wells, and two Stepan Company monitoring wells. The locations of overburden and bedrock water level monitoring wells are shown on Figures 3-1 and 3-2, respectively. All water level measurements were completed in a one day period to provide a snapshot of groundwater elevations and were measured to an accuracy of 0.01 ft from the well top of the inner casing (TIC) using a water level indicator. Once the field measurement was recorded, the well was secured by replacing the compression cap and lock. Field groundwater measurements were tabulated and converted to groundwater elevation data, as summarized in Table 2-3. Groundwater elevation data were plotted on separate overburden and shallow bedrock maps, which are shown on Figures 3-1 and 3-2, respectively. Groundwater flow conditions are addressed in Section 3.1.

2.3.2 Groundwater and Surface Water Sampling Locations and Parameters

A total of 69 groundwater monitoring wells and two surface water locations were sampled in 2016 as part of the LTGWMP. LTM groundwater and surface water sampling locations are shown on Figure 2-1. All groundwater monitoring wells were sampled for groundwater COCs (arsenic, lithium, and benzene), with radiologic and biogeochemical sampling performed at selected wells. The rationale for selected radiologic and biogeochemical sampling at LTM wells is provided in the LTGWMP (Table 3 and Sections 2.2.3 and 2.2.4.). The sampling parameters for LTM wells are shown in Table 2-4. Surface water sampling was conducted at two locations at Westerly Brook (SW-003 and SW-004), and samples were collected/analyzed for groundwater COCs and radiological parameters.

2.3.3 Groundwater and Surface Water Sampling Procedures

Prior to sampling each well, the well compression cap was removed, and VOC vapor concentrations were recorded using a calibrated PID. Well headspace monitoring was conducted during sampling in accordance with the LTGWMP. The EPA low-flow sampling method (EPA, 2011) described in the LTGWMP and OP-355M (Low-Flow Groundwater Sampling) was applied for purging and collecting of all groundwater samples.

Purging and Sampling of Groundwater Monitoring Wells

Groundwater monitoring wells were purged and sampled using a decontaminated QED MicroPurge® bladder pump. Pumps were decontaminated following the EPA/NJDEP procedures for sampling metals, radiological constituents, and VOCs. A new Teflon® bladder was installed in the pumps prior to each use.

After an initial water-level measurement, the QED pump was connected to new Teflon®-lined tubing and lowered to a predetermined depth in the screened interval. Once the pump was set, the pump cord and tubing were secured to the top of the well, and the pump discharge tubing was connected to the multi-meter flow-through cell with a disposable fitting. Purged water from the flow-through cell was discharged through tubing into a 5-gallon bucket for later disposal on the MISS. Each well was purged and sampled at a steady pumping rate of 50 to 250 milliliters per minute (mL/min), with an average flow rate of approximately 175 mL/min. The purge flow rate was measured every five minutes by discharge into a 250- or 500-milliliter (mL) graduated cylinder, which was initially adjusted to minimize well drawdown and to stabilize the water level. Wells were sampled by disconnecting the Teflon®-lined tubing from the flow-through cell fitting and directly filling sample bottles. VOC, methane, and radon groundwater samples were collected first, followed by metals, radiological, and biogeochemical samples.

A calibrated YSI 6820 or 6920 multi-meter connected to the flow-through cell was used to measure temperature, pH, conductivity, DO, ORP, and turbidity. A calibrated Hanna 2020E turbidity meter was used as a backup for turbidity measurements during purging as needed if the YSI turbidity probe malfunctioned or if questionable readings were observed. Readings were recorded every five minutes on a purge data sheet and continued until stability of the water quality parameters. Stabilization was achieved after three consecutive readings under the following criteria (EPA, 2010):

- Temperature within 3 percent (degrees)
- Specific Conductivity within 3 percent $\mu\text{S}/\text{cm}$
- pH within 0.1 standard units
- ORP within 10 millivolts
- DO within 10 percent mg/L
- Turbidity within 10 percent NTUs.

Wells were purged to achieve the lowest possible turbidity values and meet the turbidity goal of 50 NTUs or less. Other recorded information included measurement time, pumping rate, and well drawdown position. Purge flow rates were initially adjusted to minimize well drawdown and stabilize the water level prior to sampling. Overburden and shallow bedrock wells are typically purged a minimum of 45 minutes, and often go for longer periods in turbid or very low yielding wells. Final well purge water quality data for each well are summarized in Table 2-5. As shown, the turbidity goal of 50 NTUs was achieved in all sampled wells, and 38 of 69 wells showed a final turbidity measurement of 10 NTUs or less. Well purge data sheets for each well are provided in Appendix D.

Each sample bottle had an affixed sample identification label showing the sample date and time. Sample bottles were placed in an iced cooler during field work and prior to final packaging for shipment to the laboratory for analyses.

Surface Water Sampling Method

Two surface water samples were collected from Westerly Brook on September 7, 2016 in conjunction with the groundwater LTM sampling effort. Surface water grab samples were collected using a disposable sampling cup at locations SW003 and SW004 (**Figure 2-1**). Sample SW003 was collected from the open channel located adjacent to West Central Avenue in Maywood, New Jersey. Sample SW004 was collected from the stormwater manhole located on Park Way in Rochelle Park, New Jersey.

Water quality parameters (i.e., temperature, pH, conductivity, DO, ORP, and turbidity) were measured immediately prior to sampling using a calibrated YSI multi-meter. Field parameters were recorded on a data form, along with sample date and time. Each sample bottle had an affixed sample identification label displaying the sample data and time. Sample bottles were placed in an iced cooler during field work and prior to final packaging for shipment to the laboratory for analyses. Data sheets for each surface water sample are provided in Appendix D.

2.3.4 Sample Labeling, Packing, and Shipping

Sample identification numbers were assigned by the electronic sample database, and LTM groundwater and surface water sample identification labels were prepared in advance of sampling. Sample identification labels were affixed to sampling containers, and the sampling date and time were entered in the field at the time of sampling. Once samples were collected, they were placed in an iced cooler until the completion of field work for that day. Prior to sample packaging, each sample identification number and collection date/time was cross-checked with the prepared laboratory chain-of-custody for accuracy and QC. Each glass bottle was packaged in bubble wrap to prevent breakage, and each sample bottle was secured in a Zip-loc® plastic bag to ensure that any broken sample bottle did not leak into the cooler during shipping. A completed (signed and dated) laboratory chain-of-custody form was attached to the inside lid of the cooler prior to shipping. The outside lid of the cooler was then secured with two signed chain-of-custody seals and clear packing tape. The sample container was then shipped for next-day priority delivery to the laboratory.

2.3.5 Laboratory Analysis and Reporting

Groundwater COC (Arsenic, Lithium and Benzene) Sample Analysis

Arsenic, lithium, and benzene sampling was conducted at each of the 69 LTM groundwater wells and two surface water sampling locations. Analytes, chemical analysis methods, bottle and preservation requirements, and holding times are summarized in Table 2-6. All samples were analyzed by Accutest Laboratory, a New Jersey-certified laboratory located in Dayton, New Jersey.

Radiologic Sample Analysis

Radiologic sampling was conducted at 27 LTM wells and two surface water locations. The LTM radiologic groundwater sampling program is summarized in Table 2-4. Radiologic groundwater samples were analyzed using alpha spectroscopy for gross alpha, gross beta, radium-226, radium-228, thorium-228, thorium-230, thorium-232, uranium-234, uranium-235, and uranium-238. Radon was collected to assist in determining impacts to specific wells. Potassium was also collected to provide adjustment of gross beta data. Analyte sample analysis methods, bottle and preservation requirements, and holding times are summarized in Table 2-6. Four New Jersey-certified laboratories were used during 2016 for LTM for radiological analysis. The UFML on-site laboratory was used to analyze all groundwater and surface water radiological samples for primary parameters. Radon-222 samples were analyzed by GEL Laboratories, in Dayton, Ohio. Potassium samples were analyzed by Accutest Laboratory in Dayton, New Jersey. Test America in St. Louis, Missouri analyzed the USACE Quality Assurance (QA) split samples.

Biogeochemical Analysis

Biogeochemical sampling was conducted at 26 wells to characterize redox and other conditions in the overburden and shallow bedrock aquifers, and to monitor changes that may impact the attenuation and fate and transport of COCs. The biogeochemical sampling program was specifically focused on arsenic and benzene AOCs and plume areas in both the overburden and shallow bedrock. The LTM biogeochemical groundwater sampling program is summarized in Table 2-4.

The biogeochemical sampling protocol includes chemical oxygen demand (COD), nutrients, and alternative electron acceptors. COD is a measure of the oxygen required to oxidize all compounds in water, both organic and inorganic, to carbon dioxide. COD is also used to assess the ORP of groundwater, where increasing COD values correspond to reduced redox conditions. The essential microbial nutrients (nitrogen, phosphorus, and carbon) are also tested. The alternate electron acceptors (other than oxygen) were analyzed to identify available acceptors, and to provide data for characterization of the aquifers. Reduced electron acceptor species/compounds were also tested to provide evidence of specific acceptor utilization.

Biogeochemical sample analysis methods, bottle and preservation requirements, and holding times are summarized in Table 2-6. The biogeochemical samples were analyzed by Accutest Laboratory, a New Jersey-certified laboratory chosen in accordance with the FUSRAP Maywood UFP-QAPP.

2.4 DEVIATIONS TO THE LTGWMP

2.4.1 Groundwater Monitoring

Groundwater elevation monitoring was proposed at all LTM wells in the LTGWMP. Existing LTM monitoring wells MW-40 S/D could not be monitored due to property access issues. An additional 12 existing USACE and Stepan Company wells were added to the monitoring network in 2016 to provide better groundwater elevation control along the north and southern boundaries of the FMSS. The added overburden and bedrock cluster wells include OBMW1/BRMW1, MW4S/D, MW5S/D, MW7S/D, MW8S/D, and MW19S/D. The added well locations are shown in Figure 3-1 (overburden) and 3-2 (bedrock).

2.4.2 Well Installation

A total 33 new LTM wells were proposed for installation in the LTGWMP. Five LTM wells were not installed in 2016, with the additional installation of two replacement LTM wells. Wells MW49S, MW49D, MW50S and MW50D were proposed for installation at 96 Park Way, Borough of Rochelle Park, as shown in Figure 2-1. Both clusters were not installed in 2016 due to property access delays. Installation of those wells is planned in 2017, pending site access.

Installation of overburden well MW45S was canceled due to the detection of thick sludge material at that location, and likelihood that the well would be screened in unstable sludge material. There were no suitable (remediated) alternate locations for installation of that well. Bedrock well MW45D was successfully installed at that location by the use of a temporary conductor casing to top of rock and casing off of the overburden aquifer with permanent steel casing.

Existing overburden monitoring wells MISS4A and MISS7A could not be redeveloped due to persistent low water levels, and were replaced by new overburden wells. Both wells showed a history of low water levels or dry conditions, and were not suitable for sampling. Replacement wells MISS04AR and MIS07AR were installed adjacent the former wells and completed (deepened) to top of bedrock to increase well yield. The replacement wells were successfully developed to meet the 50 NTU goal.

2.4.3 Well Sampling

A total of 69 LTM wells were sampled in 2016, from 76 wells planned in the LTGWMP. Five LTM monitoring wells were not installed (Section 2.4.1), and two existing wells (MW40S/D) were not sampled in 2016 due to property access issues. Existing overburden well MW39S could not be re-developed to meet the 50 NTU turbidity goal, and was replaced by nearby overburden well MW8S for sampling purposes. Well MW39S was utilized for water level measurements in 2016.

3.0 RESULTS OF LTM GROUNDWATER AND SURFACE WATER SAMPLING

3.1 GROUNDWATER FLOW CONDITIONS

Synoptic water levels were measured on September 14, 2016 at 81 LTM, USACE, and Stepan Company monitoring wells. Field data measurements were tabulated and converted to groundwater elevation data, which is summarized in Table 2-3. Groundwater elevation data was plotted on separate overburden and bedrock aquifer maps, which are shown on Figures 3-1 and 3-2, respectively.

Figure 3-1 shows that the overburden groundwater flow direction on the MISS and downgradient areas in Rochelle Park is west toward the Saddle River. Groundwater contours at the southern boundary of the MISS wrap around a bedrock high that extends west from the Stepan Company property and forms a groundwater divide. Groundwater flow direction across the divide is toward the south. The hydraulic gradient in the overburden on the MISS is approximately 0.011 ft/ft, and is approximately 0.006 ft/ft to the west in Rochelle Park.

As shown on Figure 3-2, groundwater flow direction in bedrock on the MISS is also generally west toward the Saddle River, but locally varies between a northwest and southwest flow direction. The hydraulic gradient in bedrock on the MISS is approximately 0.005 ft/ft, and approximately 0.006 ft/ft to the west in Rochelle Park.

3.2 GROUNDWATER AND SURFACE WATER SAMPLING RESULTS

Arsenic, lithium, benzene, radiological, and biogeochemical sample results are presented in the following sections. Groundwater sampling results for overburden and bedrock wells are presented in Tables 3-1 and 3-2, respectively. Surface water sampling results are presented in Table 3-3. The data tables include LTM well ID, sample ID number, analytical result, qualifiers, method detection concentration (MDC) and ROD-required cleanup level. Exceedances of the ROD cleanup levels are shown in bold-face text. Duplicate sample results are included in Tables 3-1, 3-2, and 3-3. Note that the greater of either the original or duplicate sample concentration (or radiological activity level) was used in the groundwater and surface water results figures. Arsenic, lithium, and benzene concentration data were plotted on overburden and shallow bedrock monitoring well maps, and isopleth maps were prepared for each groundwater COC. Overburden and bedrock isopleth maps are presented on Figures 3-3 through 3-8.

3.2.1 Arsenic Groundwater Sampling Results

Overburden arsenic concentration data and contours are shown for 30 sampled wells on Figure 3-3. There are 12 exceedances of the 3.0 µg/L arsenic cleanup level in overburden groundwater samples, with a maximum detected concentration of 395 µg/L of arsenic at well MW3SR. The plotted arsenic plume extends approximately 550 ft west to southwest west from well MISS02AR on the MISS. The source of the arsenic plume is AOC 1 (former Retention Pond A) on the MISS. Seven isolated, low-level arsenic exceedances are plotted on the MISS and to the west in the Township of Rochelle Park.

Bedrock arsenic concentration data and contours are shown for 39 sampled wells on Figure 3-4. There are ten exceedances of the 3.0 µg/L arsenic cleanup level in bedrock groundwater samples, with a maximum detected concentration of 214 µg/L at well MW47D. The plotted arsenic plume in bedrock extends approximately 350 ft southwest from well MW47D on the MISS. The source of the arsenic plume is AOC 1 (former Retention Pond A) on the MISS. Six isolated, low-level arsenic exceedances are plotted on the MISS and to the west in the Township of Rochelle Park.

3.2.2 Lithium Groundwater Sampling Results

Overburden lithium concentration data and contours are shown for 30 sampled wells on Figure 3-5. There are 15 exceedances of the 730 µg/L lithium cleanup level in overburden groundwater samples, with a maximum detected concentration of 12,900 µg/L at well MW33S. The plotted lithium plume in overburden groundwater extends approximately 1,300 ft southwest from well MW33S on the MISS. The sources of the lithium plume are AOC 1 (former Retention Pond A) and AOC 2 (former Retention Pond C) on the MISS.

Bedrock lithium concentration data and contours are shown for 39 sampled wells on Figure 3-6. There are 22 exceedances of the 730 µg/L lithium cleanup level in bedrock groundwater samples, with a maximum detected concentration of 14,600 µg/L at well MW47D. The plotted lithium plume in bedrock groundwater extends approximately 1,275 ft southwest from well MW47D on the MISS. The sources of the lithium plume are AOC 1 (former Retention Pond A) and AOC 2 (former Retention Pond C) on the MISS. The bedrock lithium plume shows an overall southwest transport direction, which deviates from the plotted westerly groundwater flow direction. Bedrock lithium transport may be controlled by a combination of regional westerly groundwater flow and local flow along NNE-SSW trending fractures.

3.2.3 Benzene Groundwater Sampling Results

Overburden benzene concentration data and contours for 30 sampled wells are shown on Figure 3-7. There are two exceedances of the 1.0 µg/L benzene cleanup level, with a maximum detected concentration of 47.2 µg/L at well MW33S. Two isolated benzene plumes in the overburden groundwater are plotted on the MISS. The probable source of the benzene plumes are AOC 6 on the MISS as shown on Figure 1-4.

Bedrock benzene concentration data and contours for 39 sampled wells are shown on Figure 3-8. There are 12 exceedances of the 1.0 µg/L benzene cleanup level, with a maximum detected concentration of 2,510 µg/L at well BRPZ5. The plotted benzene plume in bedrock groundwater extends approximately 800 ft southwest from well MW46D on the MISS. The probable source of the benzene plume is AOC 6 on the MISS. Like the bedrock lithium plume described in Section 3.2.2, the bedrock benzene plume shows an overall southwest transport direction, which deviates from the plotted westerly groundwater flow direction. This may be attributed to a combination of regional westerly groundwater flow and local flow along NNE-SSW trending fractures.

3.2.4 Radiological Groundwater Sampling Results

A total 27 radiological samples were collected at LTM wells, including 13 overburden and 14 bedrock wells. Overburden and bedrock well radiologic data are summarized in Tables 3-1 and 3-2. In those tables, adjusted gross alpha, adjusted gross beta, total radium, total thorium and total uranium values are compared to available Federal/NJDEP MCLs and screening criteria. Additional overburden and bedrock groundwater radiologic data is provided in Appendix E (Tables E-1 and E-2), which includes gross alpha and beta (unadjusted), isotopic radium, isotopic thorium and isotopic uranium results, along with the associated method detection activity (MDA) and error for each parameter. Gross alpha and gross beta activity results were adjusted for K-40 and uranium isotope activity, respectively, which is shown in Appendix E (Tables E-4 and E-5).

The total uranium activity concentration (pCi/L) values in Tables 3-1 and 3-2 are converted to total uranium by dividing by the specific activity of U-238 (0.3365 pCi/ug), which represents 99.27% of total naturally-occurring uranium by mass. This is the NJDEP preferred conversion method, and is designated Method 1. A second approach (Method 2) has been added for conversion of activity concentration uranium values to mass concentration uranium values in Tables E-1, E-2 and E-3 of Appendix E. Method 2 is a weighted approach calculation which sums the three quotients of each result by its respective specific activity; i.e., Total Uranium (ug/L) = (U-238 Result (pCi/L) / 0.3365 pCi/ug) + (U-235 Result (pCi/L) / 2.2 pCi/ug) + (U-234 Result (pCi/L) / 6200 pCi/ug).

It should be noted that for the current data, the relative percent difference (RPD) values between the total uranium calculated using U-238 only and the weighted approach is less than 3% relative for total uranium values greater than 1.0 pCi/L. Long-Term Groundwater Sampling is scheduled for 2021, at which time the USACE will likely switch to the EPA-approved Standard Test Method ASTM D5174, Trace Uranium in Water using Pulsed Laser Phosphorimetry.

Adjusted gross alpha, adjusted gross beta, total radium, total thorium, and total uranium data are presented for sampled overburden and bedrock wells on Figures 3-9 and 3-10, respectively. These figures include MCLs and gross beta screening criteria for comparison. Figure 3-9 shows the radiological sampling results for 13 LTM overburden wells, including three duplicate samples. There are no radiological exceedances detected at overburden wells during the 2016 sampling event. Figure 3-10 shows the radiological results for 14 sampled LTM bedrock wells, including three duplicate samples. There is one radiologic exceedance of the gross beta screening level (50 pCi/L) at bedrock well B38W25DR (57.68 pCi/l). There is no elevated activity or exceedances of any isotopic radiological constituent at this well to support the detected value. The adjusted gross beta exceedance at B38W25DR and net negative values reported at some wells are attributed to uncertainties associated with the high detected potassium concentrations and gross beta analysis results.

3.2.5 Biogeochemical Groundwater Sampling Results

A total 26 biogeochemical samples were collected from overburden and bedrock LTM wells. Biogeochemical sample results for overburden and bedrock wells are presented in Tables 3-1 and 3-2, respectively. Biogeochemical sample data from this sampling event and subsequent events

will be evaluated collectively in the 2021 LTM Monitoring Report to confirm the character of aquifer redox conditions and to evaluate data trends.

3.2.6 Surface Water Sampling Results

Surface water samples were collected at two locations on Westerly Brook (SW003 and SW004), and analyzed for arsenic, lithium, benzene, and radiologic parameters. Sampling results are summarized in Table 3-3. Arsenic, lithium, benzene and radiological surface water concentrations are plotted on corresponding COC overburden groundwater Figures 3-3 (arsenic), 3-5 (lithium), 3-7 (benzene) and 3-9 (radiological). Figure 3-3 shows an arsenic exceedance at downstream sample location SW004 (7.7 µg/L). There are no surface water lithium, benzene, or radiological exceedances at SW003 or SW004.

4.0 DATA QUALITY CONTROL

This section addresses the 2016 LTM QA/QC sampling program, sample management/data validation, EPA Region 2 and NJDEP EDDs, and QCSR. These topics are addressed in the sections to follow.

4.1 QA/QC SAMPLING

This section presents a summary of the QCSR for the 2016 groundwater LTM event. It addresses groundwater and surface water samples collected for analysis between August 7, 2016 and September 21, 2016. The complete QCSR was prepared at the conclusion of the 2016 LTM sampling program, and is provided in Appendix F. The contents of the QCSR include laboratory data package and data validation documentation, and discussion of all data that may have been compromised or influenced by aberrations in the sampling and analytical processes. Both field and laboratory sampling and analysis QC activities are summarized, and relevant daily QC information is consolidated.

4.1.1 Field Quality Control Sampling

Field QC sampling was conducted as part of the 2016 groundwater and surface water LTM program. Field QC sampling included the collection of trip blanks, field blanks, equipment rinsate blanks, and USACE split samples. Results of the QA/QC sampling analysis are provided in Appendix E, Tables E-6, E-7 and E-8. Field QC sampling included the following elements:

- **Trip Blanks** were included in each cooler with VOC samples to test for contamination during transport of the sample cooler. The trip blanks are provided by the laboratory and consist of High Purity Liquid Chromatographic (HPLC)-grade water. The trip blanks remain in the cooler during the trip from the laboratory to the Site for sampling, as well as on the return trip to the laboratory for analysis. Trip blanks are analyzed for the program VOC analyte (i.e., benzene) at the laboratory. A total 16 groundwater trip blank samples and one surface water trip blank were collected and analyzed by Accutest Laboratory.
- **Field Blanks** are utilized to assess whether disposable equipment or material such as Teflon[®]-lined tubing, silicon tubing, and disposable bailers are free of contamination. New lots of tubing and bailers were evaluated by pouring laboratory supplied HPLC-grade water through the equipment and analyzing the rinsate for program analytes. Information obtained from the field blank data was tracked and used during data validation to confirm that consumable materials are free from contamination. Field blank samples were analyzed for the same parameters as the groundwater samples. One groundwater field blank sample and surface water field blank sample were collected and sent to the on-site UFML and sent offsite to Accutest Laboratories for analysis.
- **Equipment Rinsate Blanks** are used to assess potential cross contamination from reusable equipment, including QED Micropurge[®] bladder pumps. Rinsate samples were collected by pouring an aliquot of HPLC-grade water through each type of equipment after decontamination. This blank type tests whether the decontamination procedure was successful in removing contaminants from the equipment. Information obtained from the

equipment rinsate blank data was also tracked and evaluated during the data validation process. Rinsate blank samples were analyzed for the same parameters as the field samples. Thirteen rinsate blank samples were collected and sent to the UFML and offsite Accutest Laboratories for analysis.

- **USACE Split Samples** were submitted to the USACE QA laboratory for testing, as required by the UFP-QAPP. This testing was in addition to standard laboratory duplicate sample analysis. The purpose of the USACE split sample analysis was to evaluate the performance of the field crew and inter-laboratory variability. Four QA split groundwater samples and one surface water split sample was collected and sent to an independent laboratory, Test America-St. Louis, which performed the same chemical and radiological analysis as the samples analyzed by the UFML. The frequency of split sample collection (5.8 percent for groundwater samples and 50 percent for surface water samples) met the project required 5 percent frequency for split samples for radiological parameters, metals, and organic analytes.

4.1.2 Laboratory QA/QC Sampling

Laboratory QA/QC sampling was conducted as part of the 2016 groundwater and surface water LTM program. Laboratory QA/QC sampling included the collection of field duplicate and matrix samples. Laboratory QA/QC samples included the following types:

- **Field Duplicates** were used for radiological parameters, metals and organics to provide a measure of analytical precision. Field duplicate samples were collected at a frequency of 10 percent for chemical and radiological parameters. Eight field duplicate groundwater samples and one surface water field duplicate sample were collected and analyzed for the same groundwater COCs and radiological parameters. The frequency of field duplicate sample collection (11.6 percent for groundwater samples and 50 percent for surface water sample) met the 10 percent project requirement.
- **Matrix Samples** included matrix spike (MS), matrix spike duplicate (MSD), and matrix duplicate (MD) samples. MS/MSD (for organics) and MS/MD (for inorganics) samples were used to measure the effect of the matrix on the accuracy of the analytical process. Four groundwater MS/MSD samples and one surface water MS/MSD were collected. The frequency of MS/MSD sample collection (5.8 percent for groundwater samples and 50 percent for surface water samples) met the 5 percent project requirement.

4.2 FIELD DATA COLLECTION AND LABORATORY PREPARATION

LTM data collection procedures were evaluated for any deviations or modifications that may have occurred in the areas of sample handling and custody, equipment calibration and maintenance, and analytical methods. Within this report, the terms batch, package, and Sample Delivery Group (SDG) are synonymous. A SDG is a data report that contains the various test results of one or more sample batches plus associated QC data such as calibrations, blank spike and MS results, blanks, etc.

There were no sample collection anomalies during the 2016 sampling effort.

4.2.1 Sample Handling and Custody - Radiological

For the on-site laboratory, sample handling and custody procedures differ from those employed for the off-site laboratory. These are: 1) custody seals are not required on the sample coolers provided to the on-site radiological laboratory since they were hand-delivered to the laboratory on the sampling date, and 2) the on-site laboratory does not generate condition upon receipt forms. All on-site laboratory chain-of-custody forms were properly signed and dated. All chain-of-custody forms indicated that aqueous sample pH readings were less than 2 standard units as required. Additionally as required all water samples for radiological analysis were preserved with nitric acid.

4.2.2 Sample Handling and Custody – Chemical Analysis

All off-site chemical laboratory chain-of-custodies were properly signed and dated and all samples were received in good condition. Custody seals were present on the sample coolers. The sample receipt checklist indicated that samples were received in good shape and were shipped on ice. Sample pH readings were all less than 2 standard units as required. There were no off-site laboratory data package anomalies.

4.2.3 Equipment Calibration and Maintenance

Field Instrument Measurement and Calibration

Field measurements were made for DO, ORP, turbidity, temperature, specific conductivity, and pH in the 69 groundwater and two surface water samples. There were no discrepancies observed in the area of field equipment calibration and measurement for the 2016 Long-Term Groundwater Monitoring Program.

On-site Laboratory – Radiological Analysis

For radiological analyses conducted at the on-site laboratory, all criteria were met for initial and continuing instrument calibrations.

Off-site Laboratory – Chemical Analysis

For elements, the laboratory provided initial calibration data for both the inductively-coupled plasma mass spectrometer (ICP-MS) analyses and the inductively-coupled plasma atomic emission spectrometer (ICP-AES) analyses. Initial calibration verification results were submitted. All acceptance criteria were between 90 to 110 percent for all analyses. All ICP-MS and ICP-AES bracketing continuing calibration results supplied by the laboratory also met acceptance criteria for elemental analyses.

For elements, the laboratory analyzed an elements standard at or near 2 times the laboratory's reporting limit (Contract Required Detection Limit [CRDL] standard). The CRDL recoveries were between 70 to 130 percent for all data packages.

For VOC benzene analysis, all system performance check compound (SPCC) and calibration check compound (CCC) results were within the method acceptance criteria for both initial and continuing calibrations. In addition, all percent relative standard deviation values for initial calibration response factors and percent difference values between the continuing calibration

response factor and the initial calibration mean response factor were less than 20 percent with one exception. For Data Package JC28136 closing continuing calibration, the benzene result had a percent difference value of 24.6 percent. For the closing continuing calibration, the percent difference limit is ± 50 percent. Therefore, no data were qualified.

4.3 ANALYTIC LABORATORIES AND METHODS, DATA ANALYSIS, AND VALIDATION

4.3.1 Laboratories and Analytical Methods

The UFML, operated by Cabrera Services, Inc., analyzed all groundwater and surface water samples using alpha spectroscopy and gas-flow proportional counting (GFPC). The groundwater and surface samples were analyzed using EPA Method 903.0 modified for Radium-226, EPA Method 904.0 for Radium-228, isotopic uranium by SM-7500-U, isotopic thorium by HASL-300 using alpha spectroscopy, gross alpha/gross beta by EPA Method 900.0 modified (for low total solids samples), and gross alpha by GFPC, SM 7110C (for high total solids samples).

Test America in St. Louis, Missouri, analyzed the USACE QA split samples for the same radiological parameters analyzed by the UFML as well as the groundwater chemical COCs. The QA split sample collection frequency was at least 5 percent. GEL Laboratories, LLC, analyzed all groundwater samples for Radon-222 using Standard Method 7500 Rn-B.

Accutest Laboratory analyzed groundwater samples for the groundwater COCs (arsenic, benzene, and lithium) and potassium. Accutest analyzed samples for arsenic using ICP/MS method SW-846 6020A, for lithium and potassium using SW-846 6010C, and for benzene using SW-846 method 8260B with a 25 mL purge. Accutest also analyzed selected groundwater samples for bioremediation parameters, which are described in Section 2.3.5 and Table 2-4. Bioremediation parameter analytical methods are further addressed in the QCSR (Appendix E). A table listing the laboratories and each specific analytical method employed can be found in the QCSR in Appendix E.

There were no modifications to the radiation measurement techniques or analytical methods described in the LTGWMP (USACE 2016a), General Environmental Protection Plan (USACE, 2014), and UFP-QAPP (USACE, 2015).

4.3.2 Data Analysis and Validation

The Project Chemist reviewed the data packages for completeness and the case narratives to identify major issues. Radiological and chemical laboratory data packages are provided in Appendix G (QCSR Attachments A and B). All radiological and chemical data packages were submitted to Kestrel Environmental Technologies, Inc. for data validation. Kestrel evaluated 100 percent of the on-site laboratory radiological sample results and off-site laboratory chemical COC (arsenic, lithium, and benzene) results. Off-site laboratory results for potassium, radon, and bioremediation parameters were not validated.

Radiological data were evaluated using the USACE's Radionuclide Data Quality Evaluation Guidance (USACE, 2009), and chemical data were validated using the EPA Region II Standard Operating Procedure for ICP-AES Data Validation (EPA, 2012). In those instances where

professional judgment was used by the data validator, the Maywood project's Chemical QC Coordinator concurs with the data qualifications performed. Data validation packages are provided in Appendix E (QCSR Attachment C). The validator assigned the following qualifiers for all field and QA/QC samples/blanks:

Data Qualifier	Definition
U	A normal, non-detected result i.e., < critical value (radiological) or < method detection level (MDL) (chemical)
J	An uncertain or estimated result
R	A rejected result: the problems (quantitative or qualitative) are severe; rejected data may still be usable depending upon the intended use of the data and the reason for data rejection
UJ	A non-detect result that has an uncertain MDA value (for radiological results) or MDL value (for chemical results)

4.4 DATA SUMMARIES

Data summaries for groundwater and surface water chemical and radiologic data are presented in Tables 3-1, 3-2 and 3-3. More detailed analytical data tables including isotopic radiological data, MDA and measurement error are provided in Appendix E, Tables E-1 (bedrock GW), E-2 (overburden GW) and E-3 (surface water GW). QA/QC data tables are provided in Appendix E, tables E-6 (trip blanks), E-7 (field blanks) and E-8 (rinsate blanks).

4.5 EPA REGION 2 and NJDEP ELECTRONIC DATA DELIVERABLE

EPA Region 2 and NJDEP require EDD submissions for laboratory data. An EDD for EPA Region 2 is prepared in accordance with EPA's *Comprehensive EDD Specification Manual 3.0, August 2016* (EPA, 2016). NJDEP EDD files are checked using the NJDEP Electronic Data Quality Submittal (EDSA7) software to verify format and completeness. The EDDs are provided in Appendix F (on compact disk).

4.6 SUMMARY

All data, except as noted in Section 4.3, was validated by an independent third party validator. All data was generated using methods acceptable to the NJDEP as evidenced by current laboratory certification for these methods. The results of the validation indicate that 100 percent of the data was acceptable, i.e., not rejected.

5.0 REFERENCES

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- USACE, 2015. *Uniform Federal Policy, Quality Assurance Project Plan, Revision 1*. Prepared by Cabrera Services, Inc., September 2015.
- USACE, 2016a. *Draft Final Long-Term Groundwater Monitoring Plan*. Prepared by Cabrera Services, Inc., February 2016.
- USACE, 2016b. *Draft Final Groundwater Remedial Design/Remedial Action Work Plan*. Prepared by Cabrera Services, Inc., February 2016.

TABLES

**Table 1-1
Groundwater Cleanup Levels
FUSRAP Maywood Superfund Site**

Groundwater COC Criteria	
Constituent	Cleanup Level (µg/L)
Arsenic	3 ^a
Benzene	1 ^a
Lithium	730 ^b
Groundwater Radiologic Criteria	
Constituent	MCL or NJGWQS (pCi/L), except total uranium (µg/L)
Gross Alpha	15 ^c
Gross Beta	50 ^d
Total Radium (Ra-226 and Ra-228)	5 ^e
Total Uranium (U-234, U-235, and U-238)	30 ^f

Notes:

a - The lowest of the Federal MCLs (40 CFR Part 141) or NJGWQS or higher PQL (NJAC 7:9C).

b - Since ARARs are not available for lithium in groundwater, a risk-based cleanup level was derived for lithium based on ingestion of groundwater.

c - 15 pCi/L, but excluding radon and uranium (40 CFR 141.66).

d - If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present (40 CFR 141.26). Naturally occurring potassium-40 (K-40) beta particle activity may be excluded from the calculation of gross beta activity per Federal Register Vol. 65 No. 236.

e - MCL/NJGWQS for the combined concentration of Ra-226 and Ra-228 in drinking water.

f - NJDEP has established an MCL/GWQS for total uranium in drinking water of 30 µg/L. The reported U-238 concentration in pCi/L was divided by the specific activity of U-238 (0.3365 pCi/µg) to obtain the total uranium and then compared to the equivalent NJDEP MCL/GWQS for total uranium in drinking water of 30 µg/L.

Key:

ARAR = applicable or relevant and appropriate requirements

COC = contaminant of concern

MCL = maximum contaminant level

µg/L = micrograms per liter

NJDEP = New Jersey Department of Environmental Protection

NJGWQS = New Jersey Groundwater Quality Standard

pCi/L = picocuries per liter

pCi/µg = picocuries per microgram

PQL = practical quantitation limit

**Table 2-1
New and Modified LTM Well Survey Data - 2016
FUSRAP Maywood Superfund Site**

LTM Well ID	New Well	Modified Well	Well Permit Number	Aquifer	NAD 83 Northing	NAD 83 Easting	NAD 27 Northing	NAD 27 Easting	TIC Elevation (ft msl)	TOC Elevation (ft msl)	Ground Elevation (ft msl)
B38W14S		X	E201604771	OB	752328.56	609536.42	752602.12	2163385.86	44.17	44.72	44.54
B38W14D		X	E201604770	BR	752324.83	609543.09	752598.40	2163392.53	44.45	44.77	44.53
B38W18DR	X		E201605161	BR	752234.33	610938.01	752510.54	2164787.74	56.65	57.13	56.99
B38W25SR	X		E201605089	OB	752242.53	610493.88	752517.90	2164343.56	55.04	55.44	53.16
B38W25BR	X		E201605090	BR	752247.23	610497.67	752522.61	2164347.34	55.55	55.93	53.68
MISS01AR	X		E201605165	OB	752667.89	610237.91	752942.81	2164086.76	52.79	53.54	51.72
MISS01BR	X		E201605156	BR	752512.40	610856.90	752788.48	2164706.10	53.6	54.29	51.79
MISS02AR	X		E201605096	OB	752666.06	610244.94	752940.99	2164093.79	57.37	58.06	57.85
MISS02BR	X		E201605097	BR	752508.50	610865.60	752784.60	2164714.81	57.68	58.12	58.12
MISS04AR	X		E201610593	OB	751829.83	610505.43	752105.18	2164355.90	55.39	55.73	53.41
MISS07AR	X		E201608024	OB	752350.20	610200.41	752625.02	2164049.86	53.79	54.1	51.2
BRPZ2		X	E201604681	BR	752114.41	610322.64	752389.44	2164172.55	54.62	53.28	53.28
BRPZ3		X	E201604691	BR	752054.51	610297.94	752329.49	2164147.96	54.91	55.25	53.22
OVPZ17R	X		E201605108	OB	752147.21	610318.96	752422.24	2164168.81	54.49	54.84	52.77
BRPZ4		X	E201604693	BR	752146.10	610324.53	752421.14	2164174.38	55.11	55.39	53
BRPZ5		X	E201604695	BR	752153.78	610305.23	752428.78	2164155.07	54.15	54.33	52.02
OVPW1S			26-60703	OB	752274.18	610323.90	752549.23	2164173.51	53.06	53.43	51.54
BRPZ9		X	E201604708	BR	752269.85	610308.11	752544.87	2164157.72	53.21	53.53	51.47
MW3SR	X		E201605094	OB	752625.90	610590.28	752901.48	2164439.24	57.18	57.68	57.68
MW3DR	X		E201605095	BR	752622.93	610598.66	752898.53	2164447.63	57.14	57.62	57.62
MW6D		X	E201608290	BR	752078.22	608739.38	752350.24	2162589.23	41.62	42.01	42.01
MW28S			E201109552	OB	752422.63	610668.64	752698.35	2164517.99	61.85	62.17	60.45
MW34D		X	26-65218	BR	752347.85	610577.34	752623.39	2164426.83	59.13	59.52	57.25
MW42D			E201110050	BR	752321.45	611080.45	752597.94	2164930.03	61.33	62.77	60.72
MW43SR	X		E201605111	OB	752515.10	610256.63	752790.04	2164105.77	51.99	52.45	50.59
MW43D			E201110054	BR	752509.62	610255.91	752784.56	2164105.06	52.70	52.97	50.67
MW44S	X		E201605095	OB	752569.69	610721.95	752845.52	2164571.03	57.07	57.62	57.62
MW45D	X		E201605158	BR	752388.68	610394.59	752663.87	2164243.98	57.55	57.86	55.89
MW46S	X		E201605091	OB	752398.21	610766.88	752674.11	2164616.29	62.01	62.1	60.26

**Table 2-1
New and Modified LTM Well Survey Data - 2016
FUSRAP Maywood Superfund Site**

LTM Well ID	New Well	Modified Well	Well Permit Number	Aquifer	NAD 83 Northing	NAD 83 Easting	NAD 27 Northing	NAD 27 Easting	TIC Elevation (ft msl)	TOC Elevation (ft msl)	Ground Elevation (ft msl)
MW46D	X		E201605092	BR	752390.45	610762.09	752666.34	2164611.51	62.1	62.89	60.22
MW47S	X		E201605110	OB	752567.91	610404.96	752843.14	2164254.01	53.56	53.89	51.94
MW47D	X		E201605159	BR	752559.75	610401.82	752834.97	2164250.89	53.17	53.73	51.7
MW48S	X		E201605155	OB	752705.45	610334.94	752980.56	2164183.72	58.45	59.72	57.37
MW48D	X		E201605154	BR	752702.93	610345.16	752978.06	2164193.95	59.39	60.83	57.75
MW51S	X		E201607079	OB	751580.67	609137.49	751853.41	2162988.32	54.41	54.81	54.77
MW51D	X		E201607077	BR	751578.76	609140.41	751851.50	2162991.24	54.27	54.66	54.66
MW52S	X		E201609990	OB	752005.09	609281.16	752278.14	2163131.19	43.96	44.34	44.34
MW52D	X		E201609991	BR	752009.06	609276.39	752282.10	2163126.41	43.7	44.19	44.19
MW53S	X		E201698452	OB	753042.15	610698.56	753317.98	2164546.74	51.86	52.18	52.18
MW53D	X		E201608451	BR	753037.14	610694.60	753312.96	2164542.79	51.92	52.23	52.23
MW54S	X		E201608454	OB	752774.12	611177.38	753050.83	2165026.11	54.25	54.57	54.57
MW54D	X		E201608453	BR	752769.99	611174.34	753046.70	2165023.07	54.17	54.42	54.42

Key:

BR = bedrock

ft msl = feet above mean sea level

ID = identification

LTM = long-term monitoring

NAD = North American Datum

OB = overburden

TIC = top of inner casing

TOC = top of outer casing

Table 2-2
USACE Monitoring Well Construction Data (LTM and Non-LTM Wells)
September 2016
FUSRAP Maywood Superfund Site

Well ID	LTM Well	Well Permit Number	Well Surface Design	Well Riser Diameter (inches)	Screen Slot Size (or open borehole)	Well Riser Material	Well Depth (ft bgs)	Ground Elevation (ft msl)	Top of Inner Casing Elevation (ft msl)	Screen Length (ft)	Screen Interval (ft bgs)		Screen Interval (ft msl)	
											Top	Bottom	Top	Bottom
Bedrock Wells														
MISS1BR	X	E201605156	Stick-up	6.00	open	Steel	61.50	51.79	53.60	23.50	38.00	61.50	13.79	-9.71
MISS2BR	X	E201605097	Flush	6.00	open	Steel	62.00	58.12	57.68	24.00	38.00	62.00	20.12	-3.88
MISS4B	X	26-07174-6	Stick-up	4.00	open	Steel	47.00	55.38	56.96	30.00	17.00	47.00	38.38	8.38
MISS5BR	X	E201204875	Stick-up	6.00	open	Steel	55.00	52.79	54.58	23.50	25.50	49.00	27.29	3.79
MISS7B	X	26-07180-1	Stick-up	4.00	open	Steel	49.00	53.99	55.77	36.00	13.00	49.00	40.99	4.99
B38W02D	X	26-14082-9 26-14081-1	Stick-up	2.00	10 slot	SS	43.00	74.94	78.04	5.00	37.00	42.00	37.94	32.94
B38W03B	X	26-14082-9	Stick-up	2.00	10 slot	SS	40.50	56.93	58.27	9.70	29.80	39.50	27.13	17.43
B38W04B		26-14082-9 26-11380-5	Stick-up	2.00	10 slot	SS	36.30	62.71	65.64	5.00	22.70	27.70	40.01	35.01
B38W05B		26-14082-9 26-11389-9	Flush	2.00	10 slot	SS	44.50	68.26	67.97	10.30	22.70	33.00	45.56	35.26
B38W07B	X	26-14082-9 26-11402-0	Stick-up	2.00	10 slot	SS	39.20	52.59	54.98	10.30	18.50	28.80	34.09	23.79
B38W12B		26-11401-1	Stick-up	2.00	10 slot	SS	50.30	47.15	49.64	10.40	34.50	44.90	12.65	2.25
B38W14D	X	E201604770 26-14042-0	Flush	2.00	10 slot	SS	51.90	44.53	44.45	5.50	46.40	51.90	-1.87	-7.37
B38W15D	X	26-14040-3	Flush	2.00	10 slot	SS	46.00	47.47	47.04	5.00	41.00	46.00	6.47	1.47
B38W17B	X	26-14040-3	Stick-up	2.00	10 slot	SS	44.40	50.68	53.28	10.30	18.70	29.00	31.98	21.68
B38W18DR	X	E201605161	Flush	2.00	10 slot	PVC	71.00	56.99	56.65	25.00	46.00	71.00	10.99	-14.01
B38W24D	X	E201412041	Stick-up	2.00	10 slot	SS	28.00	54.35	56.16	5.00	22.00	27.00	33.29	28.29
B38W25BR	X	E201605090	Stick-up	6.00	open	Steel	58.00	53.68	55.55	25.00	33.00	58.00	20.68	-4.32
BRPW1D		26-60704	Stick-up	2.00	10 slot	PVC	110.00	56.42	56.30	20.00	90.00	110.00	-33.58	-53.58
BRPZ2	X	E201604681 26-61466	Stick-up	2.00	10 slot	PVC	59.40	53.28	54.62	20.00	39.40	59.40	13.88	-6.12
BRPZ3	X	E201604691 26-61467	Stick-up	2.00	10 slot	PVC	53.30	53.22	54.91	20.00	33.30	53.30	19.92	-0.08
BRPZ4	X	E201604693 26-60716	Stick-up	6.00	open	Steel	58.70	53.00	55.11	21.00	37.70	58.70	15.30	-5.70
BRPZ5	X	E201604695 26-60717	Stick-up	2.00	10 slot	PVC	58.80	52.02	54.15	20.00	38.80	58.80	13.22	-6.78

Table 2-2
USACE Monitoring Well Construction Data (LTM and Non-LTM Wells)
September 2016
FUSRAP Maywood Superfund Site

Well ID	LTM Well	Well Permit Number	Well Surface Design	Well Riser Diameter (inches)	Screen Slot Size (or open borehole)	Well Riser Material	Well Depth (ft bgs)	Ground Elevation (ft msl)	Top of Inner Casing Elevation (ft msl)	Screen Length (ft)	Screen Interval (ft bgs)		Screen Interval (ft msl)	
											Top	Bottom	Top	Bottom
BRPZ9	X	E201604708 26-61469	Stick-up	6.00	10 slot	PVC	51.40	51.47	53.21	24.00	27.40	51.40	24.07	0.07
MW2D	X	26-58959	Flush	4.00	open	Steel	48.50	47.16	46.91	27.00	21.50	48.50	25.66	-1.34
MW3DR	X	E201605095	Flush	6.00	open	Steel	63.00	57.62	57.14	25.00	38.00	63.00	19.62	-5.38
MW4D	X	26-59011	Flush	4.00	open	Steel	43.00	44.04	43.82	25.00	18.00	43.00	26.04	1.04
MW5D	X	26-58961	Flush	4.00	open	Steel	52.00	45.43	45.15	20.00	32.00	52.00	13.43	-6.57
MW6D	X	E201608290 26-58962	Flush	1.00	10 slot	PVC	52.00	42.01	41.62	10.00	42.00	52.00	0.01	-9.99
MW7D		26-58964	Flush	4.00	open	Steel	46.00	53.99	53.73	25.00	21.00	46.00	32.99	7.99
MW8D		26-59013	Flush	4.00	open	Steel	52.00	54.34	54.15	25.00	27.00	52.00	27.34	2.34
MW9D		26-59043	Flush	4.00	open	Steel	47.00	69.79	69.65	25.00	22.00	47.00	47.79	22.79
MW10D		26-59045	Flush	4.00	open	Steel	46.00	62.90	62.56	25.00	21.00	46.00	41.90	16.90
MW12D		26-60358	Stick-up	4.00	open	Steel	53.00	44.85	46.32	25.00	28.00	53.00	16.85	-8.15
MW13D		26-59048	Flush	4.00	open	Steel	50.00	46.30	46.12	25.00	25.00	50.00	21.30	-3.70
MW14D		26-59049	Flush	4.00	open	Steel	52.00	39.60	39.58	25.00	27.00	52.00	12.60	-12.40
MW15D		26-59096	Flush	4.00	open	Steel	61.00	34.56	34.44	25.00	36.00	61.00	-1.44	-26.44
MW18D		26-59103	Flush	4.00	open	Steel	57.00	35.05	34.73	22.00	35.00	57.00	0.05	-21.95
MW19D		26-59105	Flush	4.00	open	Steel	42.00	56.17	55.96	25.00	17.00	42.00	39.17	14.17
MW19DD		26-59106	Flush	4.00	open	Steel	76.00	56.14	55.81	24.50	51.50	76.00	4.64	-19.86
MW23D	X	26-61567	Flush	2.00	10 slot	PVC	71.00	56.11	56.19	20.00	51.00	71.00	5.11	-14.89
MW23DD		26-61566	Flush	2.00	10 slot	PVC	102.00	56.98	56.85	20.00	82.00	102.00	-25.02	-45.02
MW24D	X	26-61564	Stick-up	2.00	10 slot	PVC	67.70	55.03	57.28	20.00	47.70	67.70	7.33	-12.67
MW24DD		26-61565	Stick-up	4.00	open	Steel	105.00	55.07	57.08	25.00	80.00	105.00	-24.93	-49.93
MW25D	X	26-63146	Stick-up	6.00	open	Steel	59.00	56.11	58.13	25.00	33.00	58.00	23.11	-1.89
MW28D		26-65220	Stick-up	6.00	open	Steel	58.50	61.90	64.50	25.00	33.50	58.50	29.90	4.90
MW31D	X	26-66774	Flush	6.00	open	Steel	45.00	49.08	48.62	25.00	20.00	45.00	29.08	4.08
MW32D	X	26-67268	Flush	6.00	open	Steel	57.00	49.18	48.83	25.00	32.00	57.00	17.18	-7.82
MW33D		26-65221	Stick-up	2.00	10 slot	Steel	68.00	59.44	61.64	20.00	48.00	68.00	45.50	-6.06
MW34D	X	E201604710 26-65218	Stick-up	6.00	open	Steel	51.90	57.25	59.13	25.00	26.90	51.90	30.35	5.35
MW39D	X	E201110880	Flush	6.00	open	Steel	50.00	52.57	52.17	25.00	25.00	50.00	27.57	2.57
MW40D	X	E201110882	Flush	6.00	open	Steel	53.50	52.41	52.07	25.00	28.50	53.50	23.91	-1.09
MW42D	X	E201110050	Stick-up	6.00	open	Steel	44.90	60.72	61.33	25.00	19.90	44.90	40.82	15.82

Table 2-2
USACE Monitoring Well Construction Data (LTM and Non-LTM Wells)
September 2016
FUSRAP Maywood Superfund Site

Well ID	LTM Well	Well Permit Number	Well Surface Design	Well Riser Diameter (inches)	Screen Slot Size (or open borehole)	Well Riser Material	Well Depth (ft bgs)	Ground Elevation (ft msl)	Top of Inner Casing Elevation (ft msl)	Screen Length (ft)	Screen Interval (ft bgs)		Screen Interval (ft msl)	
											Top	Bottom	Top	Bottom
MW43D	X	E201110054	Stick-up	6.00	open	Steel	45.40	50.67	52.70	25.00	20.40	45.40	30.27	5.27
MW45D	X	E201605158	Stick-up	6.00	open	Steel	63.00	55.89	57.55	25.00	38.00	63.00	17.89	-7.11
MW46D	X	E201605092	Stick-up	6.00	open	Steel	57.00	60.22	62.10	25.00	32.00	57.00	28.22	3.22
MW47D	X	E201605159	Stick-up	6.00	open	Steel	63.00	51.70	53.17	25.00	38.00	63.00	13.70	-11.30
MW48D	X	E201605154	Stick-up	6.00	open	Steel	63.00	57.75	59.39	25.00	38.00	63.00	19.75	-5.25
MW51D	X	E201607077	Flush	6.00	open	Steel	54.00	54.66	54.27	25.00	29.00	54.00	25.66	0.66
MW52D	X	E201609991	Flush	6.00	open	Steel	62.00	44.19	43.70	25.00	37.00	62.00	7.19	-17.81
MW53D	X	E201608451	Flush	6.00	open	Steel	62.00	52.23	51.92	20.00	42.00	62.00	10.23	-9.77
MW54D	X	E201608453	Flush	6.00	10 slot	PVC	78.50	54.42	54.17	20.00	58.50	78.50	-4.08	-24.08
Overburden Wells														
MISS1AR	X	E201605165	Stick-up	2.00	10 slot	PVC	14.00	51.72	52.79	5.00	9.00	14.00	42.72	37.72
MISS2AR	X	E201605096	Flush	2.00	10 slot	PVC	19.00	57.85	57.37	5.00	14.00	19.00	43.85	38.85
MISS4AR	X	E201610593	Stick-up	2.00	10 slot	PVC	15.00	53.41	55.39	5.00	10.00	15.00	43.41	38.41
MISS5AR	X	E201202878	Stick-up	2.00	10 slot	PVC	15.30	52.58	55.09	10.00	5.00	15.00	47.58	37.58
MISS7AR	X	E201608024	Stick-up	2.00	10 slot	PVC	12.50	51.20	53.79	5.00	7.50	12.50	43.70	38.70
B38W01S	X	26-14081-1	Stick-up	2.00	10 slot	SS	23.00	53.92	56.57	5.00	17.00	22.00	36.92	31.92
B38W12AR		26-77909	Stick-up	2.00	10 slot	PVC	14.00	47.20	49.90	5.00	8.00	13.00	39.20	34.20
B38W14S	X	E201604711 26-14043-8	Flush	2.00	10 slot	SS	14.40	44.54	44.17	5.00	8.90	13.90	35.64	30.64
B38W15S	X	26-14041-1	Flush	2.00	10 slot	SS	16.50	47.40	46.75	5.00	10.50	15.50	36.90	31.90
B38W17A	X	26-14040-3	Stick-up	2.00	10 slot	SS	14.10	50.70	53.24	5.00	7.60	12.60	43.10	38.10
B38W24S	X	26-32906	Stick-up	2.00	10 slot	SS	15.60	54.98	56.94	4.80	10.40	15.20	44.98	40.18
B38W25SR	X	E201605089	Stick-up	2.00	10 slot	PVC	12.40	53.16	55.04	5.00	7.40	12.40	45.76	40.76
MW2S	X	26-58834	Flush	2.00	10 slot	PVC	13.00	47.08	46.70	8.00	5.00	13.00	42.08	34.08
MW3SR	X	E201605094	Flush	2.00	10 slot	PVC	19.00	57.68	57.18	5.00	14.00	19.00	43.68	38.68
MW4S		26-59010	Flush	2.00	10 slot	PVC	9.00	44.10	43.96	5.00	4.00	9.00	40.10	35.10
MW5S		26-58960	Flush	2.00	10 slot	PVC	15.00	45.40	45.23	10.00	5.00	15.00	40.40	30.40
MW6S		26-58835	Flush	2.00	10 slot	PVC	17.00	43.00	42.68	10.00	5.00	15.00	38.00	28.00
MW7S		26-58963	Flush	2.00	10 slot	PVC	15.00	53.81	53.69	10.00	5.00	15.00	48.81	38.81
MW8S	X	26-59012	Flush	2.00	10 slot	PVC	15.00	54.27	54.00	10.00	5.00	15.00	49.27	39.27
MW9SR		26-76628	Flush	2.00	10 slot	PVC	13.00	70.71	70.36	8.00	5.00	13.00	65.71	57.71
MW10S		26-59044	Flush	2.00	10 slot	PVC	10.00	62.56	62.26	5.00	5.00	10.00	57.56	52.56
MW11S		26-59046	Flush	2.00	10 slot	PVC	8.50	48.06	47.92	5.00	3.50	8.50	44.56	39.56

Table 2-2
USACE Monitoring Well Construction Data (LTM and Non-LTM Wells)
September 2016
FUSRAP Maywood Superfund Site

Well ID	LTM Well	Well Permit Number	Well Surface Design	Well Riser Diameter (inches)	Screen Slot Size (or open borehole)	Well Riser Material	Well Depth (ft bgs)	Ground Elevation (ft msl)	Top of Inner Casing Elevation (ft msl)	Screen Length (ft)	Screen Interval (ft bgs)		Screen Interval (ft msl)	
											Top	Bottom	Top	Bottom
MW13S		26-59052	Flush	2.00	10 slot	PVC	14.75	46.27	45.97	7.00	4.00	11.00	42.27	35.27
MW14SR		26-77910	Flush	2.00	10 slot	PVC	21.00	39.71	39.50	15.00	5.00	20.00	34.71	19.71
MW15S		26-59095	Flush	2.00	10 slot	PVC	19.00	34.92	34.97	15.00	4.00	19.00	30.92	15.92
MW18S		26-59102	Flush	2.00	10 slot	PVC	16.80	35.20	35.07	13.00	3.80	16.80	31.40	18.40
MW19S		26-59104	Flush	2.00	10 slot	PVC	12.00	56.26	55.93	7.00	5.00	12.00	51.26	44.26
MW21S		26-61750	Flush	2.00	10 slot	PVC	14.00	38.92	38.28	10.00	4.00	14.00	34.92	24.92
MW22S		26-61464	Flush	2.00	10 slot	PVC	10.50	46.22	45.87	8.00	2.00	10.00	44.22	34.22
MW24S	X	E201109669	Flush	2.00	10 slot	PVC	16.00	53.61	57.39	5.00	10.60	15.60	43.01	38.01
MW25S	X	26-63145	Stick-up	2.00	10 slot	PVC	18.50	56.11	58.85	10.00	6.00	16.00	50.11	40.11
MW28S	X	E201109552	Stick-up	2.00	10 slot	PVC	17.10	60.45	61.85	10.00	7.10	17.10	53.35	43.35
MW33S	X	E201109553	Stick-up	2.00	10 slot	PVC	20.00	59.98	61.64	5.00	14.60	19.60	45.38	25.78
MW39S		E201110879	Flush	2.00	10 slot	PVC	14.00	52.46	52.19	5.00	8.00	13.00	44.47	39.47
MW40S	X	E201110881	Flush	2.00	10 slot	PVC	14.80	52.46	52.07	10.00	4.80	14.80	47.66	37.66
MW43SR	X	E201605111	Stick-up	2.00	10 slot	PVC	8.30	50.59	51.99	5.00	3.30	8.30	47.29	42.29
MW44S	X	E201605095	Flush	2.00	10 slot	PVC	14.00	57.62	57.07	5.00	9.00	14.00	48.62	43.62
MW46S	X	E201605091	Stick-up	2.00	10 slot	PVC	17.50	60.26	62.01	5.00	12.50	17.50	47.76	42.76
MW47S	X	E201605110	Stick-up	2.00	10 slot	PVC	12.00	51.94	53.56	5.00	7.00	12.00	44.94	39.94
MW48S	X	E201605155	Stick-up	2.00	10 slot	PVC	19.00	57.37	58.45	5.00	14.00	19.00	43.37	38.37
MW51S	X	E201607079	Flush	2.00	10 slot	PVC	19.00	54.77	54.41	10.00	9.00	19.00	45.77	35.77
MW52S	X	E201609990	Flush	2.00	10 slot	PVC	11.00	44.34	43.96	5.00	6.00	11.00	38.34	33.34
MW53S	X	E201698452	Flush	2.00	10 slot	PVC	16.00	52.18	51.86	5.00	11.00	16.00	41.18	36.18
MW54S	X	E201608454	Flush	2.00	10 slot	PVC	10.50	54.57	54.25	5.00	5.50	10.50	49.07	44.07
OVPW1S	X	26-60703	Stick-up	4.00	20 slot	PVC	19.10	51.54	53.06	15.00	4.10	19.10	47.44	32.44
OVPZ17R	X	E201605108	Stick-up	2.00	10 slot	PVC	18.00	52.77	54.49	5.00	13.00	18.00	39.77	34.77
BP31		P200908457	Flush	2.00	10 slot	PVC	18.00	59.16	58.92	10.00	7.50	17.50	51.66	41.66
BP32		P200908458	Flush	2.00	10 slot	PVC	18.50	58.97	58.78	10.00	8.20	18.20	50.77	40.77
BP33		P200908459	Flush	2.00	10 slot	PVC	21.00	59.19	58.85	10.00	10.10	20.10	49.09	39.09
BP34		P200908467	Flush	2.00	10 slot	PVC	15.50	62.25	62.00	10.00	4.20	14.20	58.05	48.05
BP35		P200908460	Flush	2.00	10 slot	PVC	20.00	60.47	60.21	10.00	9.60	19.60	50.87	40.87
BP36		P200908461	Flush	2.00	10 slot	PVC	10.50	58.56	58.26	5.00	5.50	10.50	53.06	48.06
BP37		P200908462	Flush	2.00	10 slot	PVC	20.00	58.70	58.43	10.00	9.50	19.50	49.20	39.20
BP38		P200909010	Flush	2.00	10 slot	PVC	12.50	49.76	49.40	5.00	7.00	12.00	42.76	37.76
BP39		P200908463	Flush	2.00	10 slot	PVC	24.80	56.34	56.11	15.00	8.00	23.00	48.34	33.34

Table 2-2
USACE Monitoring Well Construction Data (LTM and Non-LTM Wells)
September 2016
FUSRAP Maywood Superfund Site

Well ID	LTM Well	Well Permit Number	Well Surface Design	Well Riser Diameter (inches)	Screen Slot Size (or open borehole)	Well Riser Material	Well Depth (ft bgs)	Ground Elevation (ft msl)	Top of Inner Casing Elevation (ft msl)	Screen Length (ft)	Screen Interval (ft bgs)		Screen Interval (ft msl)	
											Top	Bottom	Top	Bottom
BP310		P200908464	Flush	2.00	10 slot	PVC	20.00	57.36	57.07	10.00	9.00	19.00	48.36	38.36
BP311		P200908465	Flush	2.00	10 slot	PVC	17.70	58.19	57.79	10.00	7.40	17.40	50.79	40.79
BP312		P200909011	Flush	2.00	10 slot	PVC	11.50	46.80	46.56	5.00	6.00	11.00	46.80	41.80
BP313		P200908466	Flush	2.00	10 slot	PVC	19.20	60.49	60.22	10.00	8.70	18.70	51.79	41.79

Key:

ft bgs = feet below ground surface

ft msl = feet above mean sea level

LTM = long-term monitoring

PVC = polyvinyl chloride

SS = stainless steel

**Table 2-3
LTM Groundwater Elevation Measurements - September 14, 2016
FUSRAP Maywood Superfund Site**

LTM Well ID	Owner	Property	Aquifer	TIC (ft msl)	Measured Depth to Water from TIC (ft)	Groundwater Elevation (ft msl)	Comments
B38W01S	USACE	NYS & WRR	OB	44.17	7.14	37.03	
B38W02D	USACE	NYS & WRR	BR	78.04	21.23	56.81	
B38W03B	USACE	STEPAN	BR	58.27	11.62	46.65	
B38W07B	USACE	STEPAN	BR	54.98	10.77	44.21	
B38W14S	USACE	90 Park Way, Rochelle Park	OB	44.17	5.13	39.04	
B38W14D	USACE	90 Park Way, Rochelle Park	BR	44.45	4.17	40.28	
B38W15S	USACE	26 Grove Avenue, Rochelle Park	OB	46.75	6.05	40.70	
B38W15D	USACE	26 Grove Avenue	BR	47.04	5.34	41.70	
B38W17A	USACE	Grove Avenue, Rochelle Park (billboard)	OB	53.24	9.93	43.31	
B38W17B	USACE	Grove Avenue, Rochelle Park (billboard)	BR	53.28	9.90	43.38	
B38W18DR	USACE	MISS	BR	56.65	9.25	47.40	
B38W24S	USACE	MISS	OB	56.94	11.96	44.98	
B38W24D	USACE	MISS	BR	56.16	11.31	44.85	
B38W25SR	USACE	MISS	OB	55.04	7.42	47.62	
B38W25BR	USACE	MISS	BR	55.55	10.85	44.70	
MISS01AR	USACE	MISS	OB	52.79	8.57	44.22	
MISS01BR	USACE	MISS	BR	53.6	8.71	44.89	

**Table 2-3
LTM Groundwater Elevation Measurements - September 14, 2016
FUSRAP Maywood Superfund Site**

LTM Well ID	Owner	Property	Aquifer	TIC (ft msl)	Measured Depth to Water from TIC (ft)	Groundwater Elevation (ft msl)	Comments
MISS02AR	USACE	MISS	OB	57.37	7.38	49.99	
MISS02BR	USACE	MISS	BR	57.68	10.33	47.35	
MISS04AR	USACE	MISS	OB	55.39	11.35	44.04	
MISS04B	USACE	MISS	BR	56.96	12.21	44.75	
MISS05AR	USACE	MISS	OB	55.09	11.54	43.55	
MISS05BR	USACE	MISS	BR	54.58	11.05	43.53	
MISS07AR	USACE	MISS	OB	53.79	10.66	43.13	
MISS07B	USACE	MISS	BR	55.77	11.53	44.24	
BRPZ2	USACE	MISS	BR	54.62	10.40	44.22	
BRPZ3	USACE	MISS	BR	54.91	10.73	44.18	
BRPZ4	USACE	MISS	BR	55.11	10.78	44.33	
BRPZ5	USACE	MISS	BR	54.15	10.20	43.95	
BRPZ9	USACE	MISS	BR	53.21	8.85	44.36	
OVPZ17R	USACE	MISS	OB	54.49	10.09	44.40	
OVPW1S	USACE	MISS	OB	53.06	7.86	45.20	
MW2S	USACE	Becker Avenue, Rochelle Park	OB	46.7	6.22	40.48	
MW2D	USACE	Becker Avenue, Rochelle Park	BR	46.91	6.16	40.75	
MW3SR	USACE	MISS	OB	57.18	10.93	46.25	
MW3DR	USACE	MISS	BR	57.14	10.68	46.46	
MW6S	USACE	Madison Avenue, Rochelle Park	OB	42.68	7.38	35.30	

**Table 2-3
LTM Groundwater Elevation Measurements - September 14, 2016
FUSRAP Maywood Superfund Site**

LTM Well ID	Owner	Property	Aquifer	TIC (ft msl)	Measured Depth to Water from TIC (ft)	Groundwater Elevation (ft msl)	Comments
MW6D	USACE	Madison Avenue, Rochelle Park	BR	41.62	6.58	35.04	
MW23D	USACE	MISS	BR	56.19	11.14	45.05	
MW24S	USACE	MISS	OB	57.39	13.28	44.11	
MW24D	USACE	MISS	BR	57.28	12.67	44.61	
MW25S	USACE	MISS	OB	58.85	11.64	47.21	
MW25D	USACE	MISS	BR	58.13	13.04	45.09	
MW28S	USACE	MISS	OB	64.87	13.46	51.41	
MW31D	USACE	58 Grove Avenue, Rochelle Park	BR	48.62	6.86	41.76	
MW-32D	USACE	37 Grove Avenue, Rochelle Park	BR	48.83	5.64	43.19	
MW33S	USACE	MISS	OB	61.64	15.20	46.44	
MW34D	USACE	MISS	BR	59.13	11.35	47.78	
MW39S	USACE	163 Central Avenue, Rochelle Park	OB	52.19	6.24	45.95	
MW39D	USACE	163 Central Avenue, Rochelle Park	BR	52.17	6.06	46.11	
MW40S	USACE	200 Central Avenue, Maywood	OB	52.07	NR	-	No Access
MW40D	USACE	200 Central Avenue, Maywood	BR	52.07	NR	-	No Access
MW42D	USACE	MISS	BR	61.33	12.29	49.04	

**Table 2-3
LTM Groundwater Elevation Measurements - September 14, 2016
FUSRAP Maywood Superfund Site**

LTM Well ID	Owner	Property	Aquifer	TIC (ft msl)	Measured Depth to Water from TIC (ft)	Groundwater Elevation (ft msl)	Comments
MW43SR	USACE	MISS	OB	51.99	7.89	44.10	
MW43D	USACE	MISS	BR	52.7	8.72	43.98	
MW44S	USACE	MISS	OB	57.07	8.22	48.85	
MW45D	USACE	MISS	BR	57.55	13.50	44.05	
MW46S	USACE	MISS	OB	62.01	12.07	49.94	
MW46D	USACE	MISS	BR	62.1	14.22	47.88	
MW47S	USACE	MISS	OB	53.56	7.97	45.59	
MW47D	USACE	MISS	BR	53.17	8.46	44.71	
MW48S	USACE	MISS	OB	58.45	13.66	44.79	
MW48D	USACE	MISS	BR	59.39	14.54	44.85	
MW51S	USACE	61 Madison Avenue (adjacent West End St.), Rochelle Park).	OB	54.41	15.26	39.15	
MW51D	USACE	61 Madison Avenue (adjacent West End St.), Rochelle Park).	BR	54.27	14.83	39.44	
MW52S	USACE	Becker Avenue, Rochelle Park	OB	43.96	5.70	38.26	
MW52D	USACE	Becker Avenue, Rochelle Park	BR	43.7	3.89	39.81	
MW53S	USACE	Eccleston Place, Maywood	OB	51.86	5.53	46.33	
MW53D	USACE	Eccleston Place, Maywood	BR	51.92	5.38	46.54	

**Table 2-3
LTM Groundwater Elevation Measurements - September 14, 2016
FUSRAP Maywood Superfund Site**

LTM Well ID	Owner	Property	Aquifer	TIC (ft msl)	Measured Depth to Water from TIC (ft)	Groundwater Elevation (ft msl)	Comments
MW54S	USACE	Hergesell Avenue, Maywood	OB	54.25	4.01	50.24	
MW54D	USACE	Hergesell Avenue, Maywood	BR	54.17	0.00	54.17	
MW7S	USACE	Central Avenue (Machionne)	OB	53.69	9.95	43.74	Monitored Non-LTM well
MW7D	USACE	Central Avenue (Machionne)	BR	53.73	9.96	43.77	Monitored Non-LTM well
MW8S	USACE	Central Avenue (Stavola)	OB	54	7.85	46.15	Monitored Non-LTM well
MW8D	USACE	Central Avenue (Stavola)	BR	54.15	8.10	46.05	Monitored Non-LTM well
MW19S	USACE	Lincoln Drive Roadway, Rochelle Park	OB	55.93	11.76	44.17	Monitored Non-LTM well
MW19D	USACE	Lincoln Drive Roadway, Rochelle Park	BR	55.96	10.64	45.32	Monitored Non-LTM well
MW4S	USACE	St. Anne Place Roadway, Rochelle Park	OB	43.96	5.72	38.24	Monitored Non-LTM well
MW4D	USACE	St. Anne Place Roadway, Rochelle Park	BR	43.82	5.29	38.53	Monitored Non-LTM well
MW5S	USACE	Park Way Roadway, near Rochelle Ave. Rochelle Park	OB	45.23	11.86	33.37	Monitored Non-LTM well

Table 2-3
LTM Groundwater Elevation Measurements - September 14, 2016
FUSRAP Maywood Superfund Site

LTM Well ID	Owner	Property	Aquifer	TIC (ft msl)	Measured Depth to Water from TIC (ft)	Groundwater Elevation (ft msl)	Comments
MW5D	USACE	Park Way Roadway, near Rochelle Ave. Rochelle Park	BR	45.15	8.99	36.16	Monitored Non-LTM well
OBMW1	STEPAN	SLS Property, Maywood, NJ	OB	48.82	6.51	42.31	Monitored Non-LTM well
BRMW1	STEPAN	SLS Property, Maywood, NJ	BR	49.08	6.91	42.17	Monitored Non-LTM well

Key:

BR = bedrock

ID = identification

ft = feet

ft msl = ft above mean sea level

LTM = long-term monitoring

MISS = Maywood Interim Storage Site

OB = overburden

TIC = top of inner casing

USACE = U.S. Army Corps of Engineers

**Table 2-4
2016 LTM Well Sampling Parameters
FUSRAP Maywood Superfund Site**

Item	LTM Well ID	Owner	Property	Well Type	GW COCs (Arsenic, Lithium, Benzene)	Radiological Parameters ¹	Biogeochemical Parameters (e-acceptors) ²	Biogeochemical Parameters (nutrients) ³
1	B38W01S	USACE	NYS & WRR	OB	X	X		
2	B38W02D	USACE	NYS & WRR	BR	X	X		
3	B38W03B	USACE	STEPAN	BR	X	X		
4	B38W07B	USACE	STEPAN	BR	X			
5	B38W14S	USACE	90 Park Way, Rochelle Park	OB	X	X		
6	B38W14D	USACE	90 Park Way, Rochelle Park	BR	X	X		
7	B38W15S	USACE	26 Grove Avenue, Rochelle Park	OB	X	X		
8	B38W15D	USACE	26 Grove Avenue	BR	X	X	X	X
9	B38W17A	USACE	Grove Avenue, Rochelle Park	OB	X	X	X	X
10	B38W17B	USACE	Grove Avenue, Rochelle Park	BR	X	X	X	X
11	B38W18DR	USACE	MISS	BR	X	X		
12	B38W24S	USACE	MISS	OB	X	X		
13	B38W24D	USACE	MISS	BR	X	X		
14	B38W25SR	USACE	MISS	OB	X	X		
15	B38W25BR	USACE	MISS	BR	X	X		
16	MISS01AR	USACE	MISS	OB	X	X	X	

**Table 2-4
2016 LTM Well Sampling Parameters
FUSRAP Maywood Superfund Site**

Item	LTM Well ID	Owner	Property	Well Type	GW COCs (Arsenic, Lithium, Benzene)	Radiological Parameters ¹	Biogeochemical Parameters (e-acceptors) ²	Biogeochemical Parameters (nutrients) ³
17	MISS01BR	USACE	MISS	BR	X	X		
18	MISS02AR	USACE	MISS	OB	X	X	X	X
19	MISS02BR	USACE	MISS	BR	X	X		
20	MISS04AR	USACE	MISS	OB	X			
21	MISS04B	USACE	MISS	BR	X			
22	MISS05AR	USACE	MISS	OB	X	X	X	
23	MISS05BR	USACE	MISS	BR	X	X	X	X
24	MISS07AR	USACE	MISS	OB	X	X		
25	MISS07B	USACE	MISS	BR	X	X	X	X
26	BRPZ2	USACE	MISS	BR	X			
27	BRPZ3	USACE	MISS	BR	X			
28	OVPZ17R	USACE	MISS	OB	X		X	X
29	BRPZ4	USACE	MISS	BR	X		X	X
30	BRPZ5	USACE	MISS	BR	X		X	X
31	OVPW1	USACE	MISS	OB	X			
32	BRPZ9	USACE	MISS	BR	X		X	X
33	MW2S	USACE	Becker Avenue, Rochelle Park	OB	X			

**Table 2-4
2016 LTM Well Sampling Parameters
FUSRAP Maywood Superfund Site**

Item	LTM Well ID	Owner	Property	Well Type	GW COCs (Arsenic, Lithium, Benzene)	Radiological Parameters ¹	Biogeochemical Parameters (e-acceptors) ²	Biogeochemical Parameters (nutrients) ³
34	MW2D	USACE	Becker Avenue, Rochelle Park	BR	X			
35	MW3SR	USACE	NYS & WRR	OB	X	X	X	X
36	MW3DR	USACE	NYS & WRR	BR	X	X	X	X
37	MW6S	USACE	Madison Avenue, Rochelle Park	OB	X			
38	MW6D	USACE	Madison Avenue, Rochelle Park	BR	X			
39	MW8S	USACE	163 Central Avenue, Rochele Park	OB	X			
40	MW23D	USACE	MISS	BR	X			
41	MW24S	USACE	MISS	OB	X	X		
42	MW24D	USACE	MISS	BR	X	X	X	X
43	MW25S	USACE	MISS	OB	X			
44	MW25D	USACE	MISS	BR	X		X	X
45	MW28S	USACE	MISS	OB	X	X		
46	MW31D	USACE	58 Grove Avenue, Rochelle Park	BR	X			
47	MW32D	USACE	37 Grove Avenue, Rochelle Park	BR	X			
48	MW33S	USACE	MISS	OB	X			

**Table 2-4
2016 LTM Well Sampling Parameters
FUSRAP Maywood Superfund Site**

Item	LTM Well ID	Owner	Property	Well Type	GW COCs (Arsenic, Lithium, Benzene)	Radiological Parameters ¹	Biogeochemical Parameters (e-acceptors) ²	Biogeochemical Parameters (nutrients) ³
49	MW34D	USACE	MISS	BR	X			
50	MW39D	USACE	163 Central Avenue, Rochelle Park	BR	X			
51	MW42D	USACE	MISS	BR	X		X	X
52	MW43S	USACE	MISS	OB	X			
53	MW43D	USACE	MISS	BR	X		X	X
54	MW44S	USACE	MISS	OB	X		X	X
55	MW45D	USACE	MISS	BR	X		X	X
56	MW46S	USACE	MISS	OB	X		X	X
57	MW46D	USACE	MISS	BR	X			
58	MW47S	USACE	MISS	OB	X		X	X
59	MW47D	USACE	MISS	BR	X			
60	MW48S	USACE	NYS & WRR	OB	X		X	
61	MW48D	USACE	NYS & WRR	BR	X			
62	MW51S	USACE	West End Street, Rochelle Park	OB	X			
63	MW51D	USACE	West End Street, Rochelle Park	BR	X			
64	MW52S	USACE	Becker Avenue, Rochelle Park	OB	X			

**Table 2-4
2016 LTM Well Sampling Parameters
FUSRAP Maywood Superfund Site**

Item	LTM Well ID	Owner	Property	Well Type	GW COCs (Arsenic, Lithium, Benzene)	Radiological Parameters ¹	Biogeochemical Parameters (e-acceptors) ²	Biogeochemical Parameters (nutrients) ³
65	MW52D	USACE	Becker Avenue, Rochelle Park	BR	X			
66	MW53S	USACE	Eccleston Place, Maywood	OB	X			
67	MW53D	USACE	Eccleston Place, Maywood	BR	X			
68	MW54S	USACE	Hergesell Avenue, Maywood	OB	X			
69	MW54D	USACE	Hergesell Avenue, Maywood	BR	X			

Notes:

¹ Groundwater Radiological Parameters include the following: Gross Alpha, Gross Beta, Ra-226, Ra-228, Th-228, Th-230, Th-232, U-234, U-235, U-238, Rn-222, and Potassium.

² Biogeochemical Parameters (chemical oxygen demand [COD] and alternate electron acceptors) include the following: COD, nitrate/ammonium ($\text{NO}_3^-/\text{NH}_4^+$), manganese ($\text{Mn}^{4+}/\text{Mn}^{2+}$), ferric/ferrous iron ($\text{Fe}^{3+}/\text{Fe}^{2+}$), sulfate/sulfide ($\text{SO}_4^{2-}/\text{S}^{2-}$), and methane (CH_4).

³ Biogeochemical Parameters (nutrients) include the following: total phosphorus (TP) and total organic carbon (TOC).

Key:

BR = bedrock

COC = contaminant of concern

GW = Groundwater

ID = identification

LTM = long-term monitoring

MISS = Maywood Interim Storage Site

OB = overburden

USACE = U.S. Army Corps of Engineers

Table 2-5
2016 LTM Final Well Purge Environmental Data
FUSRAP Maywood Superfund Site

LTM Well ID	Date Sampled	Aquifer	Flow Rate (mL/min)	Temp. (°C)	pH	Specific Cond. (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Purge Duration (min)	Drawdown (ft)	Final PID (VOC in ppm)
B38W01S	8/22/2016	OB	200	15.96	6.62	2.052	-58.8	0.81	33.7	70	0.12	0
B38W02D	8/22/2016	BR	110	14.67	6.91	0.569	56.7	0.26	6.2	65	2.56	0
B38W03B	8/16/2016	BR	230	19.10	6.68	1.620	-61.6	0.06	3.0	50	0.13	0
B38W07B	8/16/2016	BR	190	16.58	6.60	1.663	318.7	0.14	1.9	65	0.12	0
B38W14S	8/17/2016	OB	200	17.74	7.06	2.183	143.4	0.02	0.0	72	0.01	0.2
B38W14D	8/17/2016	BR	175	17.00	7.46	1.357	88.4	0.02	9.4	129	0.38	3.8
B38W15S	8/17/2016	OB	200	19.10	7.34	1.896	-41.9	0.42	0.0	35	0.10	0
B38W15D	8/17/2016	BR	250	17.78	7.36	1.667	376.1	0.30	15.3	55	0.32	0
B38W17A	8/29/2016	OB	200	21.51	6.99	1.539	90.6	1.79	0.1	55	0.46	0
B38W17B	8/29/2016	BR	250	15.83	6.74	8.441	-73.8	0.26	0.0	50	0.00	0
B38W18DR	8/9/2016	BR	235	16.20	7.50	0.808	-107.6	0.77	15.1	53	0.37	0
B38W24S	8/9/2016	OB	190	23.38	5.99	3.540	9.4	0.52	7.7	61	0.16	0.1
B38W24D	8/9/2016	BR	165	18.79	6.09	1.799	-52.9	0.53	7.0	50	0.08	0.1
B38W25SR	8/8/2016	OB	165	17.81	6.55	3.261	-67.9	0.98	9.7	60	0.17	0
B38W25DR	8/8/2016	BR	165	18.69	6.64	4.854	-55.6	0.58	1.0	57	0.73	0
MISS01AR	8/10/2016	OB	165	19.51	7.35	2.129	-94.2	0.39	9.4	85	0.07	0
MISS01BR	8/10/2016	BR	200	18.71	7.43	0.925	160.4	1.10	4.5	103	0.01	0.5
MISS02AR	8/10/2016	OB	200	19.98	7.76	4.155	-137.5	1.06	21.6	65	0.25	0
MISS02BR	8/10/2016	BR	210	19.08	7.00	3.468	-59.3	0.39	2.4	53	0.11	0.5
MISS04AR	9/22/2016	OB	200	19.89	6.75	2.426	-95.9	1.07	14.0	70	0.18	1.0
MISS04B	8/18/2016	BR	250	18.32	6.59	1.370	-45.5	0.35	8.5	75	0.00	0
MISS05AR	8/15/2016	OB	200	22.73	7.08	1.883	-134.5	0.39	3.0	50	0.15	0
MISS05BR	8/15/2016	BR	250	19.26	6.08	14.93	-82.6	0.74	7.5	50	0.00	0
MISS07AR	8/16/2016	OB	200	17.79	6.83	1.860	-74.6	0.04	47.1	65	0.06	0
MISS07B	8/16/2016	BR	225	18.87	6.96	5.878	5.0	0.99	6.7	94	0.24	0
BRPZ2	8/17/2016	BR	210	17.28	6.77	6.428	-44.4	0.13	18.5	64	0.13	0
BRPZ3	8/17/2016	BR	250	16.30	6.35	5.045	-0.2	1.20	8.1	80	0.23	0
BRPZ4	9/1/2016	BR	250	18.01	5.97	10.30	-51.7	1.41	12.3	50	0.15	0
BRPZ5	8/8/2016	BR	150	20.85	5.94	16.37	-16.2	2.87	42.2	190	6.35	0
BRPZ9	8/9/2016	BR	225	18.73	6.53	11.84	-27.6	0.41	2.2	50	0.85	0
OVPZ17R	8/31/2016	OB	150	18.69	6.39	3.572	-94.7	3.15	8.4	55	0.13	0
OVPW1S	8/15/2016	OB	200	18.39	6.99	1.456	-51.5	0.09	1.0	41	0.00	0

Table 2-5
2016 LTM Final Well Purge Environmental Data
FUSRAP Maywood Superfund Site

LTM Well ID	Date Sampled	Aquifer	Flow Rate (mL/min)	Temp. (°C)	pH	Specific Cond. (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Purge Duration (min)	Drawdown (ft)	Final PID (VOC in ppm)
MW2S	8/18/2016	OB	150	22.51	7.26	1.777	-64.0	0.39	11.6	88	0.14	0
MW2D	8/18/2016	BR	195	19.54	7.43	1.805	-93.5	0.50	5.1	51	0.08	0
MW3SR	8/31/2016	OB	50	21.69	7.40	2.318	-64.6	2.10	30.7	145	1.43	0
MW3DR	8/16/2016	BR	180	19.22	7.43	4.567	-183.1	0.00	0.0	60	1.03	0
MW6S	8/30/2016	OB	200	21.63	6.94	4.491	-54.2	0.07	11.0	95	0.49	0
MW6D	8/30/2016	BR	50	23.61	7.62	0.981	121.5	0.26	0.0	50	0.07	0
MW8S	9/8/2016	OB	200	20.11	6.57	1.425	169.6	0.98	20.2	50	0.31	0
MW23D	8/22/2016	BR	120	21.63	6.60	2.411	-8.2	1.04	44.1	95	0.39	0.4
MW24S	8/15/2016	OB	180	20.48	6.59	1.219	-70.0	0.00	23.5	57	0.04	0
MW24D	8/15/2016	BR	190	20.75	6.53	3.666	62.4	0.12	9.2	59	0.52	0
MW25S	9/1/2016	OB	125	24.60	6.00	1.371	100.6	1.77	26.0	95	0.47	0
MW25D	8/10/2016	BR	250	21.41	7.29	2.757	-121.6	1.57	21.5	50	0.49	0
MW28S	8/8/2016	OB	175	17.82	6.48	3.093	-59.4	0.93	26.7	83	0.00	0
MW31D	8/18/2016	BR	170	20.15	7.52	2.659	-78.3	0.43	22.7	64	0.00	0
MW32D	8/23/2016	BR	225	17.79	7.09	4.945	-48.5	0.60	17.3	65	0.04	0
MW33S	8/18/2016	OB	95	19.44	7.07	9.488	-83.0	1.95	12.8	52	0.88	0.1
MW34D	8/15/2016	BR	90	21.57	6.90	4.415	-163.5	0.00	4.6	110	1.26	7.8
MW39D	8/30/2016	BR	230	21.10	7.63	0.981	-30.4	0.01	30.7	75	0.03	0
MW42D	8/9/2016	BR	200	21.22	7.65	1.268	-93.6	0.53	3.3	50	0.44	0
MW43SR	8/24/2016	OB	60	28.64	7.16	1.342	208.8	3.37	12.9	73	1.10	NA
MW43D	8/9/2016	BR	225	20.61	8.00	2.519	-41.4	0.63	36.4	50	0.05	0
MW44S	8/16/2016	OB	100	23.93	7.11	1.807	-32.9	0.15	0.0	40	0.28	0
MW45D	8/18/2016	BR	200	17.71	6.35	8.041	-14.8	0.33	5.2	60	0.44	1.1
MW46S	8/11/2016	OB	185	17.91	6.49	2.181	-68.9	0.40	1.1	72	0.70	0.4
MW46D	8/11/2016	BR	225	17.14	6.90	3.087	-107.7	0.52	18.9	54	0.22	0.1
MW47S	8/11/2016	OB	200	21.43	7.10	2.419	-90.4	0.28	-2.9	48	0.09	0.1
MW47D	8/11/2016	BR	250	18.01	7.38	11.58	-108.7	2.31	3.3	50	0.28	0
MW48S	8/11/2016	OB	150	23.16	6.96	1.483	35.4	6.91	8.6	85	0.12	0
MW48D	8/11/2016	BR	200	18.01	7.12	3.858	-2.7	2.71	20.9	50	0.14	0.3
MW51S	8/23/2016	OB	70	17.15	5.52	5.432	243.6	4.89	32.1	55	0.91	0
MW51D	8/23/2016	BR	170	16.29	7.02	0.775	-23.6	3.68	44.3	90	0.36	0
MW52S	9/21/2016	OB	210	24.05	6.99	2.231	56.1	0.67	6.1	60	0.05	0.1

Table 2-5
2016 LTM Final Well Purge Environmental Data
FUSRAP Maywood Superfund Site

LTM Well ID	Date Sampled	Aquifer	Flow Rate (mL/min)	Temp. (°C)	pH	Specific Cond. (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Purge Duration (min)	Drawdown (ft)	Final PID (VOC in ppm)
MW52D	9/21/2016	BR	225	19.11	7.41	1.032	-19.2	0.49	1.0	55	0.01	0
MW53S	8/24/2016	OB	180	23.23	6.78	1.588	-101.6	0.42	8.0	55	0.00	0.8
MW53D	8/24/2016	BR	245	21.83	7.32	0.752	-48.6	0.28	25.2	70	0.00	0.5
MW54S	8/25/2016	OB	190	19.82	6.85	0.528	228.9	1.09	16.6	105	0.06	0.1
MW54D	8/25/2016	BR	95	22.15	7.77	0.505	332.3	4.79	19.3	90	0.00	0

Note:

Final well purge environmental data was collected immediately prior to sample collection.

Key:

- BR = bedrock
- °C = degrees Celsius
- ft = feet
- ID = identification
- LTM = long-term monitoring
- mg/L = milligrams per liter
- min = minutes
- mL/min = milliliter per minute
- µS/cm = microsiemens per centimeter
- mV = millivolt
- NA = not available
- NTU = Nephelometric Turbidity Units
- OB = overburden
- ORP = oxidation-reduction potential
- PID = photoionization detector
- ppm = parts per million
- VOC = volatile organic compound

**Table 2-6
2016 LTM Analytical Methods and Requirements
FUSRAP Maywood Superfund Site**

Analyte	Description	Method	Bottle Requirements	Preservation	Holding Time	Comments
Contaminants of Concern						
Arsenic	GW ROD COC	EPA 6020 (ICP-MS)	250 or 500 ml polyethylene	HNO ₃ to pH < 2; cool to 2-6 °C	6 months	
Lithium	GW ROD COC	EPA 6020A (ICP-MS)	250 or 500 ml polyethylene	HNO ₃ to pH < 2; cool to 2-6 °C	6 months	
Benzene	GW ROD COC	SW-846 8260B	Three 40 ml vials with Teflon-lined lids	HCl to pH < 2; cool to 2-6 °C	14 days	
Radiological Parameters						
Gross Alpha	EMP Radiological Sampling Parameters	EPA 900.00 (by GFPC)	4 L container	HNO ₃ to pH < 2	6 months	The UFML analyzes all groundwater and surface water samples using alpha spectroscopy.
Gross Beta						
Radium-226		EPA 903.0 (modified)				
Radium-228		EPA 904.0				
Thorium-228		Eichrom ACWO1				
Thorium-230						
Thorium-232						
Uranium-234						
Uranium-235		SM 7500 - UC				
Uranium-238						
Radon-222		SM7500 - Rn B (Rn-222)	Three 40 ml vials with Teflon-lined lids	Cool to 2-6 °C	4 days	Collected for the correction of Gross Alpha
Potassium		EPA 6020 (ICP-MS)	250 or 500 ml polyethylene	HNO ₃ to pH < 2; cool to 2-6 °C	6 months	Collected for the correction of Gross Beta

**Table 2-6
2016 LTM Analytical Methods and Requirements
FUSRAP Maywood Superfund Site**

Analyte	Description	Method	Bottle Requirements	Preservation	Holding Time	Comments
Biogeochemical Analytes						
Manganese, total	Alternate Electron Acceptor	SW-846 6020A	250 ml polyethylene bottle	Cool to 4 °C	6 months	
Manganese, filtered	Alternate Electron Acceptor (reduced)	SW-846 6020A	250 ml polyethylene bottle	HNO ₃ to pH < 2; cool to 2-6 °C	6 months	Sample filtered (0.45 micron) in field, dissolved fraction representative of Mn ²⁺
Iron, total	Alternate Electron Acceptor	SW-846 6020A	250 ml polyethylene bottle	Cool to 4 °C	6 months	
Iron, filtered	Alternate Electron Acceptor (reduced)	SW-846 6020A	250 ml polyethylene bottle	HNO ₃ to pH < 2; cool to 2-6 °C	6 months	Sample filtered (0.45 micron) in field, dissolved fraction representative of Fe ²⁺
Nitrate	Alternate Electron Acceptor, Nutrient	MCA 300.0	125 ml polyethylene bottle	Cool to 4 °C	48 hours	
Ammonia	Alternate Electron Acceptor (reduced), Nutrient	MCA 350.1	500 ml polyethylene bottle	Cool to 4 °C H ₂ SO ₄ to pH < 2	28 days	

**Table 2-6
2016 LTM Analytical Methods and Requirements
FUSRAP Maywood Superfund Site**

Analyte	Description	Method	Bottle Requirements	Preservation	Holding Time	Comments
Sulfate	Alternate Electron Acceptor	MCA 300.0	125 ml polyethylene bottle	Cool to 4° C	28 days	
Sulfide	Alternate Electron Acceptor (reduced)	MCA 376.1	500 ml polyethylene bottle	Cool to 4°C; Add 2 ml zinc acetate plus NaOH to pH > 9	7 days	
Methane	Alternate Electron Acceptor (reduced)	SW-846 8015A modified	40 ml glass vial	Cool to 4 °C	14 days	
Phosphorus (total)	Nutrient	MCA 365.2	125 ml polyethylene bottle	Approximately 0.3 ml of H ₂ SO ₄ ; Cool to 4 °C	28 days	
Total Organic Carbon	Nutrient	MCA 415.1	500 ml glass bottle	HCl to pH < 2; Cool to 4 °C	28 days	
Chemical Oxygen Demand		MCA 410.4	125 ml polyethylene bottle	H ₂ SO ₄ to pH <2	28 days	Measures groundwater oxygen demand; also used to measure redox conditions.

Key:

°C = degrees Celsius

EMP = Environmental Monitoring Program

EPA = U.S. Environmental Protection Agency

Fe²⁺ = ferrous iron

GFPC = gas-flow proportional counting

GW = groundwater

HCl = hydrochloric acid

HNO₃ = nitric acid

H₂SO₄ = sulfuric acid

ICP-MS = inductively-coupled plasma-mass spectrometry

L = liter

LTM = long-term monitoring

ml = milliliter

Mn²⁺ = manganese ion

NaOH = sodium hydroxide

ROD = Record of Decision

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W01S 12A-090052 08/22/16					B38W01S Duplicate 12A-090077 08/22/16					B38W14S 19A-090040 08/17/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.23	J	0.5	1
Arsenic	1.8	J	3	3	Arsenic	2.1	J	3	3	Arsenic	3	U	3	3
Lithium	874		500	730	Lithium	864		500	730	Lithium	106	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	4.77	J	1.07	15	Adjusted Gross Alpha ^(1,2)	4.3	J	1.1	15	Adjusted Gross Alpha ^(1,2)	4.09	J-	2.5	15
Adjusted Gross Beta ^(1,2)	2.78		1.39	50	Adjusted Gross Beta ^(1,2)	3.78		1.37	50	Adjusted Gross Beta ^(1,2)	-0.54	J	2.70	50
Total Radium ⁽²⁾	0.351		-	5	Total Radium ⁽²⁾	0.649		-	5	Total Radium ⁽²⁾	0.376		-	5
Total Thorium ⁽²⁾	1.095		-	-	Total Thorium ⁽²⁾	0.436		-	-	Total Thorium ⁽²⁾	0.198		-	-
U-234	0.144	J	0.078	-	U-234	0.049	U	0.176	-	U-234	0.455		0.082	-
U-235	0.019		0.142	-	U-235	0.029	U	0.143	-	U-235	0.03	U	0.082	-
U-238	0.029		0.078	-	U-238	0.116	J	0.079	-	U-238	0.383		0.148	-
Total Uranium ⁽²⁾	0.192		-	-	Total Uranium ⁽²⁾	0.194		-	-	Total Uranium ⁽²⁾	0.868		-	-
Total Uranium (ug/L)	0.086		-	30	Total Uranium (ug/L)	0.345		-	30	Total Uranium (ug/L)	1.14		-	30

Notes

NS - Not Sampled.
 - - Not Applicable.
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 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W15S 20A-090044 08/17/16					B38W15S Duplicate 20A-090075 08/17/16					B38W17A 20A-090064 08/29/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	3.3		3	3	Arsenic	2.1	J	3	3	Arsenic	0.96	J+	3	3
Lithium	1,820		500	730	Lithium	864		500	730	Lithium	309	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	44.2		15	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	33.4		15	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	233		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	22.4	J	100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.06	J	0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.06	J	0.10	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	0.20	U	0.20	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	81.7		10	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	2	U	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	6.90		0.11	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.05	U	0.05	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	5.20		1	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	23.4		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	6.06	J-	2.5	15	Adjusted Gross Alpha ^(1,2)	4.05	U	1.55	15	Adjusted Gross Alpha ^(1,2)	3.30		2.50	15
Adjusted Gross Beta ^(1,2)	-21.06		2.44	50	Adjusted Gross Beta ^(1,2)	-12.16		1.37	50	Adjusted Gross Beta ^(1,2)	0.26		3.15	50
Total Radium ⁽²⁾	0.724		-	5	Total Radium ⁽²⁾	0.649		-	5	Total Radium ⁽²⁾	0.356		-	5
Total Thorium ⁽²⁾	-14.808		-	-	Total Thorium ⁽²⁾	-8.11		-	-	Total Thorium ⁽²⁾	3.673		-	-
U-234	0.480		0.081	-	U-234	0.049	U	0.143	-	U-234	0.223		0.075	-
U-235	0.030	U	0.082	-	U-235	0.029	U	0.079	-	U-235	0.056	U	0.076	-
U-238	0.360		0.081	-	U-238	0.116	J	0.079	-	U-238	0.186		0.136	-
Total Uranium ⁽²⁾	0.870		-	-	Total Uranium ⁽²⁾	0.194		-	-	Total Uranium ⁽²⁾	0.465		-	-
Total Uranium (ug/L)	1.07		-	30	Total Uranium (ug/L)	0.345		-	30	Total Uranium (ug/L)	0.553		-	30

Notes

NS - Not Sampled.
 -- Not Applicable.
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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W24S 10A-090011 08/09/16					B38W25SR 12B-090000 08/08/16					MISS01AR 12B-090016 08/10/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	1.6	J	3	3	Arsenic	3		3	3	Arsenic	3.5		3	3
Lithium	34.8	J	500	730	Lithium	1,780		500	730	Lithium	369	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	1,420		15	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	1,430		15	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	2,300		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	1,960		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.035	J	0.110	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.035	J	0.100	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	5.3		0.600	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	781		40	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	2	U	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	0.29		0.110	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	14.5	J	20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	5.32		1.65	15	Adjusted Gross Alpha ^(1,2)	9.16		1.62	15	Adjusted Gross Alpha ^(1,2)	5.99		1.40	15
Adjusted Gross Beta ^(1,2)	3.42		1.87	50	Adjusted Gross Beta ^(1,2)	19.07		1.76	50	Adjusted Gross Beta ^(1,2)	4.69		1.30	50
Total Radium ⁽²⁾	1.30		-	5	Total Radium ⁽²⁾	1.16		-	5	Total Radium ⁽²⁾	1.06		0.247	5
Total Thorium ⁽²⁾	0.089		-	-	Total Thorium ⁽²⁾	0.28		-	-	Total Thorium ⁽²⁾	0.22		-	-
U-234	0.027	U	0.215	-	U-234	0.09	J	0.085	-	U-234	0.078	U	0.143	-
U-235	0	U	0.072	-	U-235	0.03	U	0.085	-	U-235	-0.01	U	0.144	-
U-238	0.018	U	0.13	-	U-238	0.13	J	0.085	-	U-238	0.107	U	0.143	-
Total Uranium ⁽²⁾	0.045		-	-	Total Uranium ⁽²⁾	0.25		-	-	Total Uranium ⁽²⁾	0.18		-	-
Total Uranium (ug/L)	0.053		-	30	Total Uranium (ug/L)	0.37		-	30	Total Uranium (ug/L)	0.32		-	30

Notes

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 -- Not Applicable.
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 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

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 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS02AR 12B-090019 08/10/16						MISS02AR Duplicate 12B-090072 08/10/16						MISS04A 10A-090069 09/22/16					
Analyte	Result	Q	MDC	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	2	U	2	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	135		3	-	3	Arsenic	131		3	-	3	Arsenic	2.7	J+	3	-	3
Lithium	4,090		500	-	730	Lithium	3,950		500	-	730	Lithium	23.5	J+	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	344		15	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	381		15	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	2,970		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	1,320		100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	1.5		0.11	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	1.5		0.1	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	15.4		2	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	1,110		100	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	1	J	2	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	201		0.55	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	6.6		1.3	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	40.5		2	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	102		20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Adjusted Gross Alpha ^(1,2)	3.98		1.48	1.04	15	Adjusted Gross Alpha ^(1,2)	5.20		1.53	1.1	15	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	-
Adjusted Gross Beta ^(1,2)	-2.70		2.44	2.05	50	Adjusted Gross Beta ^(1,2)	0.10		2.56	2.18	50	Adjusted Gross Beta ^(1,2)	NS	-	-	-	-
Total Radium ⁽²⁾	0.327		-	-	5	Total Radium ⁽²⁾	0.397		-	-	5	Total Radium ⁽²⁾	NS	-	-	-	-
Total Thorium ⁽²⁾	0.363		-	-	-	Total Thorium ⁽²⁾	0.39		-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	-
U-234	0.172		0.077	0.143	-	U-234	0.03	U	0.238	0.113	-	U-234	NS	-	-	-	-
U-235	0.057	U	0.078	0.084	-	U-235	0.03	U	0.08	0.062	-	U-235	NS	-	-	-	-
U-238	0.076	U	0.14	0.101	-	U-238	-0.01	U	0.144	0.062	-	U-238	NS	-	-	-	-
Total Uranium ⁽²⁾	0.305		-	-	-	Total Uranium ⁽²⁾	0.05		-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	-
Total Uranium (ug/L)	0.23		-	-	30	Total Uranium (ug/L)	-0.03		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-

Notes

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 - - Not Applicable.
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 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS05AR 12B-090032 08/15/16					MISS07AR 12B-090034 08/16/16					OVP217R 12B-090005 09/01/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	3.9	J+	3	3	Arsenic	65.4		3	3	Arsenic	3	U	3	3
Lithium	768		500	730	Lithium	1,300		500	730	Lithium	2,060		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	637		15	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	5,920		45	-
Manganese, Filtered (ug/L)	583		15	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	5,860		45	-
Iron, Total (ug/L)	2,070		100	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	15,000		100	-
Iron, Filtered (ug/L)	1,320		100	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	14,500		100	-
Nitrate (as N)	0.17		0.11	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.120		0.110	-
Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	0.17		0.10	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.120		0.100	-
Ammonia (as N)	2.6		0.20	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	34		4	-
Sulfate	434		30	-	Sulfate	NS	-	-	-	Sulfate	796		40	-
Sulfide	2	U	2	-	Sulfide	NS	-	-	-	Sulfide	2	U	2	-
Methane (ug/L)	63		0.11	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	3,710		5.5	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	1.6		0.25	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	7.8		1	-
Chemical Oxygen Demand (COD)	8.6	J	20	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	46.7		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	2.09		1.62	15	Adjusted Gross Alpha ^(1,2)	6.25	J-	2.5	15	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	1.20		1.45	50	Adjusted Gross Beta ^(1,2)	-3.03		2.14	50	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	0.825		-	5	Total Radium ⁽²⁾	0.54		-	5	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	1.153		-	-	Total Thorium ⁽²⁾	0.611		-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	0.302		0.222	-	U-234	0.33		0.152	-	U-234	NS	-	-	-
U-235	0.068	U	0.17	-	U-235	0	U	0.084	-	U-235	NS	-	-	-
U-238	0.136	U	0.143	-	U-238	0.155		0.084	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	0.506		-	-	Total Uranium ⁽²⁾	0.485		-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	0.40		-	30	Total Uranium (ug/L)	0.46		-	30	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

OVPW1S 12B-090030 08/15/16					MW2S 23B-090049 08/18/16					MW3SR 12B-090108 08/31/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.16	J	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	3	U	3	3	Arsenic	1.1	J	3	3	Arsenic	393		7.5	3
Lithium	1,210		500	730	Lithium	1,270		500	730	Lithium	1,430		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	2,470		15	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	2,500		15	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	2,930		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	2,380		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.07	J	0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.07	J	0.100	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	1.5		0.200	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	757		40	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	2	U	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	14.4		0.110	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.28		0.05	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	4.4		1	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	12.3	J	20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	3.93	J	1.8	15
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	-3.71		1.921	50
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	0.408		-	5
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	0.002		-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	0.240		0.136	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	0.028	U	0.075	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	0.148	U	0.161	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	0.416		-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	0.440		-	30

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW6S 23B-090067 08/30/16					MW8S 23B-090060 09/08/16					MW24S 12B-090028 08/15/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.25	J	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	12		3	3	Arsenic	1.6	J	3	3	Arsenic	11		3	3
Lithium	11.89	J+	500	730	Lithium	3.7	J	500	730	Lithium	200	J+	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	2.91	J	2.5	15
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	1.65	J-	2.90	50
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	1.66		-	5
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	0.24		-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	0.04	U	0.229	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	0.02	U	0.148	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	0.03	U	0.081	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	0.09		-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	0.09		-	30

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

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R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW25S 12B-090020 09/01/16					MW28S 12B-090002 08/08/16					MW33S 12B-090047 08/18/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	47.2		0.5	1
Arsenic	0.819	J	3	3	Arsenic	5.9		3	3	Arsenic	296		7.5	3
Lithium	18.29	J+	500	730	Lithium	2,270		500	730	Lithium	12,900		2,500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	6.04		1.74	15	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	6.57		1.84	50	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	0.770		-	5	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	0.342		-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	0.353		0.181	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	0.052	U	0.153	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	0.342		0.202	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	0.747		-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	1.02		-	30	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW43SR 12B-090066 08/24/16					MW44S 12B-090039 08/16/16					MW46S 12B-090022 08/11/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	11.6		0.5	1
Arsenic	1.6	J	3	3	Arsenic	357		7.5	3	Arsenic	1.4	J	3	3
Lithium	668		500	730	Lithium	707		500	730	Lithium	3,400		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	900		15	-	Manganese, Total (ug/L)	1,770		15	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	937		15	-	Manganese, Filtered (ug/L)	1,860		15	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	2,920		100	-	Iron, Total (ug/L)	38,400		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	2,530		100	-	Iron, Filtered (ug/L)	40,200		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.042	J	0.10	-	Nitrate (as N)	0.093	J	0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.011		0.010	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.053	J	0.10	-	Nitrate and Nitrite (as N)	0.093	J	0.10	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	0.71		0.20	-	Ammonia (as N)	7.8		1	-
Sulfate	NS	-	-	-	Sulfate	558		30	-	Sulfate	940		50	-
Sulfide	NS	-	-	-	Sulfide	2	U	2	-	Sulfide	2	U	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	1.1		0.11	-	Methane (ug/L)	720		1.1	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.023	J	0.05	-	Phosphorus, Total	0.045	J	0.05	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	5.5		1	-	Total Organic Carbon (TOC)	61.2		3	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	12.5	J	20	-	Chemical Oxygen Demand (COD)	238		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW47S 12B-090024 08/11/16					MW48S 12B-090026 08/11/16					MW48S Duplicate 12B-090073 08/11/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	2.7	J	3	3	Arsenic	1.6	J	3	3	Arsenic	1.6	J	3	3
Lithium	1,960		500	730	Lithium	241	J	500	730	Lithium	221	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	1,070		15	-	Manganese, Total (ug/L)	529		15	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	1,080		15	-	Manganese, Filtered (ug/L)	466		15	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	4,770		100	-	Iron, Total (ug/L)	133		100	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	4,660		100	-	Iron, Filtered (ug/L)	100	U	100	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	0.038	J	0.11	-	Nitrate (as N)	4		0.11	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	0.006	J	0.01	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	0.038	J	0.100	-	Nitrate and Nitrite (as N)	4		0.10	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	7.19		1	-	Ammonia (as N)	0.10	J	0.20	-	Ammonia (as N)	NS	-	-	-
Sulfate	700		30	-	Sulfate	217		10	-	Sulfate	NS	-	-	-
Sulfide	2	U	2	-	Sulfide	2	U	2	-	Sulfide	NS	-	-	-
Methane (ug/L)	25.1		0.11	-	Methane (ug/L)	0.67		0.11	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	0.24		0.05	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	3.5		1	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	30		20	-	Chemical Oxygen Demand (COD)	12.5	J	20	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW51S 20A-090055 08/23/16					MW52S 20A-090070 09/21/16					MW53S 23B-090058 08/24/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	1.7	J	3	3	Arsenic	1.2	J+	3	3	Arsenic	25.3		3	3
Lithium	25.1	J	500	730	Lithium	132		500	730	Lithium	500	U	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-1
SUMMARY OF OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW54S 23B-090061 08/25/16				
Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)				
Benzene	0.5	U	0.5	1
Arsenic	1.5	J	3	3
Lithium	4.9	J+	500	730
Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-
Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-
U-235	NS	-	-	-
U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W02D 12A-090053 08/22/16					B38W03B 10A-090037 08/16/16					B38W07B 10A-090036 08/16/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	0.87	J	3	3	Arsenic	0.42	J	3	3	Arsenic	0.5	J	3	3
Lithium	11.5	J+	500	730	Lithium	41	J	500	730	Lithium	121	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	1.48	UJ	2.5	15	Adjusted Gross Alpha ⁽¹⁾	2.14	UJ	2.50	15	Adjusted Gross Alpha ⁽¹⁾	NS	-	-	-
Adjusted Gross Beta ^(1,2)	0.098	U	2.39	50	Adjusted Gross Beta ⁽²⁾	-0.97	J	2.15	50	Adjusted Gross Beta ⁽²⁾	NS	-	-	-
Total Radium ⁽²⁾	0.683		-	5	Total Radium ⁽²⁾	1.324		-	5	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	0.619		-	-	Total Thorium ⁽²⁾	0.376		-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	0.336	J	0.141	-	U-234	0.052	U	0.152	-	U-234	NS	-	-	-
U-235	0.058	U	0.078	-	U-235	0.031	U	0.152	-	U-235	NS	-	-	-
U-238	0.134	U	0.141	-	U-238	0.062	U	0.084	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	0.528		-	-	Total Uranium ⁽²⁾	0.145		-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	0.40		-	30	Total Uranium (ug/L)	0.18		-	30	Total Uranium (ug/L)	NS	-	-	-

Notes

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 -- Not Applicable.
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 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
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 J+ - Result is estimated and may be biased high.
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 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W14D 19A-090041 08/17/16					B38W15D 20A-090045 08/17/16					B38W17B 20A-090065 08/29/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	0.77	J	3	3	Arsenic	9.1		3	3	Arsenic	1.3	J+	3	3
Lithium	32.7	J	500	730	Lithium	1,970		500	730	Lithium	1,290		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	616		15	-	Manganese, Total (ug/L)	4,860		45	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	608		15	-	Manganese, Filtered (ug/L)	4,860		45	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	249		100	-	Iron, Total (ug/L)	10,300		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	17.2		100	-	Iron, Filtered (ug/L)	9,940		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.34		0.11	-	Nitrate (as N)	0.056	J	0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.34		0.1	-	Nitrate and Nitrite (as N)	0.056	J	0.1	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	1.6		0.2	-	Ammonia (as N)	16.2		2	-
Sulfate	NS	-	-	-	Sulfate	477	U	20	-	Sulfate	611		30	-
Sulfide	NS	-	-	-	Sulfide	2	U	2	-	Sulfide	2	U	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	0.33		0.11	-	Methane (ug/L)	238		0.550	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.05	U	0.05	-	Phosphorus, Total	0.12		0.05	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	3.9		1	-	Total Organic Carbon (TOC)	7.9		1	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	10.2	J	20	-	Chemical Oxygen Demand (COD)	89.8		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	2.092	J-	2.5	15	Adjusted Gross Alpha ^(1,2)	0.31	J-	2.5	15	Adjusted Gross Alpha ^(1,2)	11.04	J	1.76	15
Adjusted Gross Beta ^(1,2)	0.46	J	3.19	50	Adjusted Gross Beta ^(1,2)	-1.45	J	3.70	50	Adjusted Gross Beta ^(1,2)	-2.58		1.875	50
Total Radium ⁽²⁾	2.902		-	5	Total Radium ⁽²⁾	0.428		-	5	Total Radium ⁽²⁾	1.879		-	5
Total Thorium ⁽²⁾	0.119		-	-	Total Thorium ⁽²⁾	0.669		-	-	Total Thorium ⁽²⁾	0.436		-	-
U-234	0.904		0.082	-	U-234	4.12		0.142	-	U-234	0	U	0.072	-
U-235	0.091	J	0.082	-	U-235	0.09	J	0.079	-	U-235	0	U	0.072	-
U-238	0.421		0.081	-	U-238	1.48		0.079	-	U-238	0	U	0.072	-
Total Uranium ⁽²⁾	1.416		-	-	Total Uranium ⁽²⁾	5.69		-	-	Total Uranium ⁽²⁾	0		-	-
Total Uranium (ug/L)	1.25		-	30	Total Uranium (ug/L)	4.40		-	30	Total Uranium (ug/L)	0		-	30

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
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 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W17B Duplicate 20A-090078 08/29/16					B38W18DR 12B-090008 08/09/16					B38W18DR Duplicate 12B-090010 08/09/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	1.1	J+	3	3	Arsenic	1.7	J	3	3	Arsenic	1.8	J	3	3
Lithium	1,350		500	730	Lithium	127	J	500	730	Lithium	132	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	11.77	J	1.82	15	Adjusted Gross Alpha ^(1,2)	1.53	J	2.50	15	Adjusted Gross Alpha ^(1,2)	-1.84	J-	2.50	15
Adjusted Gross Beta ^(1,2)	9.42		2.43	50	Adjusted Gross Beta ^(1,2)	3.05		1.83	50	Adjusted Gross Beta ^(1,2)	0.50	J	1.82	50
Total Radium ⁽²⁾	1.891		-	5	Total Radium ⁽²⁾	1.721		-	5	Total Radium ⁽²⁾	0.968		-	5
Total Thorium ⁽²⁾	0.189		-	-	Total Thorium ⁽²⁾	0.125		-	-	Total Thorium ⁽²⁾	0.083		-	-
U-234	0.171		0.077	-	U-234	1.93		0.08	-	U-234	2.12		0.233	-
U-235	0.048	U	0.14	-	U-235	0.173		0.078	-	U-235	0.051	U	0.15	-
U-238	0.057	U	0.077	-	U-238	1.69		0.078	-	U-238	2.20		0.083	-
Total Uranium ⁽²⁾	0.28		-	-	Total Uranium ⁽²⁾	3.79		-	-	Total Uranium ⁽²⁾	4.37		-	-
Total Uranium (ug/L)	0.17		-	30	Total Uranium (ug/L)	5.03		-	30	Total Uranium (ug/L)	6.53		-	30

Notes

NS - Not Sampled.
 -- Not Applicable.
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 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

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 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W24D 10A-090012 08/09/16					B38W25DR 12B-090021 08/08/16					MISS01BR 12B-090017 08/10/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	5	U	5	1	Benzene	1.3		0.5	1	Benzene	0.5	U	0.5	1
Arsenic	2.9	J	3	3	Arsenic	1.4	J	3	3	Arsenic	2		3	3
Lithium	142	J	500	730	Lithium	958		500	730	Lithium	128	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	10.81	J-	2.50	15	Adjusted Gross Alpha ^(1,2)	9.46		1.65	15	Adjusted Gross Alpha ^(1,2)	0.39	UJ	2.50	15
Adjusted Gross Beta ^(1,2)	2.92	J	2.49	50	Adjusted Gross Beta ^(1,2)	57.68		2.35	50	Adjusted Gross Beta ^(1,2)	2.08	J	2.25	50
Total Radium ⁽²⁾	1.573		-	5	Total Radium ⁽²⁾	0.756		-	5	Total Radium ⁽²⁾	0.430		-	5
Total Thorium ⁽²⁾	-0.009		-	-	Total Thorium ⁽²⁾	0.274		-	-	Total Thorium ⁽²⁾	-0.024		-	-
U-234	0.072	U	0.132	-	U-234	0.529		0.084	-	U-234	0.194		0.143	-
U-235	-0.009	U	0.133	-	U-235	0.031	U	0.084	-	U-235	0.059	U	0.079	-
U-238	0.018	U	0.132	-	U-238	0.497		0.084	-	U-238	0.233		0.079	-
Total Uranium ⁽²⁾	0.08		-	-	Total Uranium ⁽²⁾	1.06		-	-	Total Uranium ⁽²⁾	0.49		-	-
Total Uranium (ug/L)	0.05		-	30	Total Uranium (ug/L)	1.48		-	30	Total Uranium (ug/L)	0.69		-	30

Notes

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 -- Not Applicable.
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(1) - Adjusted Gross Alpha and Adjusted Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS02BR 12B-090018 08/10/16					MISS04B 10A-09004B 08/18/16					MISS05BR 12B-090033 08/15/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	137		0.5	1
Arsenic	1.6		3	3	Arsenic	0.57	J	3	3	Arsenic	3	U	3	3
Lithium	4,280		500	730	Lithium	51.1	J+	500	730	Lithium	7,980		2,500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	2,370		15	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	2,420		15	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	6,370		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	2,490		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.11		0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.11		0.10	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	2.5		0.20	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	1,380		100	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	1.5	J	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	4,000		5.5	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.021	J	0.050	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	20.5		1	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	190		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	5.46		1.36	15	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	9.67		2.07	15
Adjusted Gross Beta ^(1,2)	1.11		2.09	50	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	-81.24	J	7.38	50
Total Radium ⁽²⁾	0.696		-	5	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	1.321		-	5
Total Thorium ⁽²⁾	0.202		-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	0.013		-	-
U-234	0.807		0.225	-	U-234	NS	-	-	-	U-234	0.104	U	0.139	-
U-235	-0.02	U	0.172	-	U-235	NS	-	-	-	U-235	0.028	U	0.077	-
U-238	0.363		0.171	-	U-238	NS	-	-	-	U-238	0	U	0.076	-
Total Uranium ⁽²⁾	1.15		-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	0.132		-	-
Total Uranium (ug/L)	1.08		-	30	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	0		-	30

Notes

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 -- Not Applicable.
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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS05BR Duplicate 12B-090074 08/15/16					MISS07B 12B-090035 08/16/16					BRP22 12B-090042 08/17/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	146		0.5	1	Benzene	0.5	U	0.5	1	Benzene	46.9		0.5	1
Arsenic	3	U	3	3	Arsenic	51.6		3	3	Arsenic	1.4	J	3	3
Lithium	8,090		2,500	730	Lithium	5,420		1,000	730	Lithium	1,500		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	3,970		15	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	3,900		15	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	6,910		100	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	734		100	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.096	J	0.11	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.096	J	0.10	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	0.71		0.20	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	2,230		100	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	2	U	2	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	18.4		0.11	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.43		0.05	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	5.2		1	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	15	J	20	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	11.59		1.97	15	Adjusted Gross Alpha ^(1,2)	3.77		1.29	15	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	-30.24		6.07	50	Adjusted Gross Beta ^(1,2)	-4.58		4.21	50	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	1.114		-	5	Total Radium ⁽²⁾	0.35		-	5	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	0.332		-	-	Total Thorium ⁽²⁾	0.29		-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	0.018	U	0.135	-	U-234	2.87		0.15	-	U-234	NS	-	-	-
U-235	0	U	0.075	-	U-235	0.19		0.09	-	U-235	NS	-	-	-
U-238	0.037	U	0.16	-	U-238	1.81		0.09	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	0.05		-	-	Total Uranium ⁽²⁾	4.87		-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	0.11		-	30	Total Uranium (ug/L)	5.39		-	30	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
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 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
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 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

BRPZ3 12B-090043 08/17/16					BRPZ4 12B-090003 09/01/16					BRPZ5 12B-090004 08/08/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	15.4		0.5	1	Benzene	22.1		0.5	1	Benzene	2,610		13	1
Arsenic	3	U	3	3	Arsenic	6	U	6	3	Arsenic	2	J	3	3
Lithium	756		500	730	Lithium	1,410		500	730	Lithium	2,400		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	7,180		30	-	Manganese, Total (ug/L)	6,660		75	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	7,640		75	-	Manganese, Filtered (ug/L)	6,610		75	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	26,300		200	-	Iron, Total (ug/L)	29,700		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	22,900		100	-	Iron, Filtered (ug/L)	24,100		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.11		0.11	-	Nitrate (as N)	4.4		0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.11		0.11	-	Nitrate and Nitrite (as N)	4.4		0.10	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	4.1		0.40	-	Ammonia (as N)	2.3		0.20	-
Sulfate	NS	-	-	-	Sulfate	1,880		100	-	Sulfate	1,480		50	-
Sulfide	NS	-	-	-	Sulfide	2	U	2	-	Sulfide	0.31	J	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	56.8		0.11	-	Methane (ug/L)	1,030		2.2	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	2.4		0.25	-	Phosphorus, Total	0.54		0.10	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	24.8		1	-	Total Organic Carbon (TOC)	45.8		1	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	140		20	-	Chemical Oxygen Demand (COD)	123		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

BRP29 12B-090013 08/09/16					MW2D 23B-090050 08/18/16					MW3DR 12B-090038 08/16/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	5.9		0.5	1	Benzene	0.5	U	0.5	1	Benzene	1.2		0.5	1
Arsenic	1.2	J	3	3	Arsenic	2.4	J	3	3	Arsenic	3	U	3	3
Lithium	2,540		500	730	Lithium	1,460		500	730	Lithium	5,110		1,000	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	6,700		75	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	2,430		15	-
Manganese, Filtered (ug/L)	6,480		75	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	2,390		15	-
Iron, Total (ug/L)	14,600		100	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	98,000		200	-
Iron, Filtered (ug/L)	12,900		100	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	96,400		200	-
Nitrate (as N)	0.093	J	0.11	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.15		0.11	-
Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	0.093	J	0.10	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.15		0.10	-
Ammonia (as N)	2.1		0.20	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	0.85		0.20	-
Sulfate	1,810		100	-	Sulfate	NS	-	-	-	Sulfate	1,770		100	-
Sulfide	0.31	J	2	-	Sulfide	NS	-	-	-	Sulfide	0.30	J	2	-
Methane (ug/L)	2,070		2.2	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	539		1.1	-
Phosphorus, Total	0.014	J	0.05	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.019	J	0.05	-
Total Organic Carbon (TOC)	15.6		1	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	46.2		1	-
Chemical Oxygen Demand (COD)	51		20	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	40		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	1.35		1.88	15
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	2.80		2.47	50
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	0.34		-	5
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	0.24		-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	2.27		0.175	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	0.111	U	0.148	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	2.08		0.08	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	4.46		-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	6.17		-	30

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
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 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW6D 23B-090068 08/30/16					MW23D 12B-090054 08/22/16					MW24D 12B-090029 08/15/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	1.5		0.5	1
Arsenic	1.9	J	3	3	Arsenic	2.3	J	3	3	Arsenic	3	U	3	3
Lithium	19.7	J+	500	730	Lithium	1,020		500	730	Lithium	2,120		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	2,810		15	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	2,570		15	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	716		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	356		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.041	J	0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.041	J	0.10	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	0.24		0.2	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	1,270		50	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	2	U	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	476		1.1	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.014	J	0.05	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	7.1		1	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	23.4		20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	5.30		1.79	15
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	-1		2.24	50
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	1.07		-	5
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	0.23		-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	6.39		0.172	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	0.06	U	0.081	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	2.45		0.145	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	8.90		-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	7.27		-	30

Notes

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Qualifiers

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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW25D 12B-090021 08/10/16					MW31D 20A-090051 08/18/16					MW32D 20A-090057 08/23/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	0.87		3	3	Arsenic	5.2		3	3	Arsenic	23.2		3	3
Lithium	1,210		500	730	Lithium	2,660		500	730	Lithium	5,310		2,500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	2,890		15	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	2,910		15	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	41,700		100	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	33,700		100	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	0.069	J	0.11	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	0.069	J	0.10	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	3.8		0.40	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	598		30	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	2	U	2	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	404		0.55	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	0.034	J	0.05	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	6.2		1	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	26.6		20	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW34D 12B-090031 08/15/16					MW39D 23B-090063 08/30/16					MW42D 12B-090014 08/09/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	14.2		0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	7.3		3	3	Arsenic	1.4	J	3	3	Arsenic	0.7	J	3	3
Lithium	3,410		500	730	Lithium	45.8	J+	500	730	Lithium	36	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	1,620		15	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	1,580		15	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	3,830		100	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	1,640		100	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	0.046	J	0.11	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	0.01	U	0.01	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	0.046	J	0.10	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	0.12	J	0.20	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	339		10	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	2	U	2	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	23.4		0.11	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	0.05	U	0.05	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	2.1		1	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	20	U	20	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
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Qualifiers

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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW43D 12B-090015 08/09/16					MW45D 12B-090046 08/18/16					MW45D Duplicate 12B-090076 08/18/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	192		0.5	1	Benzene	171		0.5	1
Arsenic	71.6		3	3	Arsenic	2.2	J	3	3	Arsenic	1.9	J	3	3
Lithium	1,930		500	730	Lithium	2,230		500	730	Lithium	2,330		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	1,250		15	-	Manganese, Total (ug/L)	12,300		75	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	1,150		15	-	Manganese, Filtered (ug/L)	13,600		75	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	4,550		100	-	Iron, Total (ug/L)	51,500		100	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	30.2	J	100	-	Iron, Filtered (ug/L)	61,000		100	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	0.64		0.11	-	Nitrate (as N)	0.094	J	0.11	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	0.01	U	0.01	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	0.64		0.10	-	Nitrate and Nitrite (as N)	0.094	J	0.1	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	0.13	J	0.20	-	Ammonia (as N)	6.4		0.80	-	Ammonia (as N)	NS	-	-	-
Sulfate	540		30	-	Sulfate	2,350		100	-	Sulfate	NS	-	-	-
Sulfide	2	U	2	-	Sulfide	2	U	2	-	Sulfide	NS	-	-	-
Methane (ug/L)	8.4		0.11	-	Methane (ug/L)	2,630		5.5	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	0.05	U	0.05	-	Phosphorus, Total	0.016	J	0.05	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	1.8		1	-	Total Organic Carbon (TOC)	34.2		1	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	7	J	20	-	Chemical Oxygen Demand (COD)	105		20	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

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 -- Not Applicable.
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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW46D 12B-090023 08/11/16					MW47D 12B-090025 08/11/16					MW48D 12B-090027 08/11/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	219		5	1	Benzene	0.87		0.5	1	Benzene	0.5	U	0.5	1
Arsenic	0.98	J	3	3	Arsenic	214		7.5	3	Arsenic	13.6		3	3
Lithium	7,740		500	730	Lithium	14,600		500	730	Lithium	3,130		500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

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 -- Not Applicable.
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 Bolded text indicates Groundwater Cleanup exceedance.
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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW51D 20A-090056 08/23/16					MW52D 20A-090071 09/21/16					MW53D 23B-090059 08/24/16				
	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	1.2	J	3	3	Arsenic	2.2	J+	3	3	Arsenic	1.4	J	3	3
Lithium	52.6	J	500	730	Lithium	28.5	J+	500	730	Lithium	32.1	J	500	730
Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)					Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-	Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-	Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-	Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-	Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-	Sulfate	NS	-	-	-	Sulfate	NS	-	-	-
Sulfide	NS	-	-	-	Sulfide	NS	-	-	-	Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-	Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-	Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-	Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-	Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-	Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-	U-234	NS	-	-	-	U-234	NS	-	-	-
U-235	NS	-	-	-	U-235	NS	-	-	-	U-235	NS	-	-	-
U-238	NS	-	-	-	U-238	NS	-	-	-	U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-	Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-	Total Uranium (ug/L)	NS	-	-	-

Notes

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 -- Not Applicable.
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 R - Rejected result.

(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

(2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

**TABLE 3-2
SUMMARY OF BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW54D 23B-090062 08/25/16				
	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)				
Benzene	0.5	U	0.5	1
Arsenic	4.4		3	3
Lithium	6.2	J+	500	730
Geochemical Parameters (mg/L, unless otherwise noted)				
Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-
Iron, Total (ug/L)	NS	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-
Nitrate (as N)	NS	-	-	-
Nitrite (as N)	NS	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-
Ammonia (as N)	NS	-	-	-
Sulfate	NS	-	-	-
Sulfide	NS	-	-	-
Methane (ug/L)	NS	-	-	-
Phosphorus, Total	NS	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ^(1,2)	NS	-	-	-
Adjusted Gross Beta ^(1,2)	NS	-	-	-
Total Radium ⁽²⁾	NS	-	-	-
Total Thorium ⁽²⁾	NS	-	-	-
U-234	NS	-	-	-
U-235	NS	-	-	-
U-238	NS	-	-	-
Total Uranium ⁽²⁾	NS	-	-	-
Total Uranium (ug/L)	NS	-	-	-

Notes

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 -- Not Applicable.
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 Bolded text indicates Groundwater Cleanup exceedance.
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(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.
 (2) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

Qualifiers

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 R - Rejected result.

**TABLE 3-3
SUMMARY OF SURFACE WATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

SW-003 23A-026057 09/07/16					SW-004 23A-026058 09/07/16					SW-004 Duplicate 23A-026068 09/07/16				
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	Q	MDC	Cleanup Level
GW COCs (ug/L)					GW COCs (ug/L)					GW COCs (ug/L)				
Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1	Benzene	0.5	U	0.5	1
Arsenic	2.9	J	3	3	Arsenic	7.6		3	3	Arsenic	7.7		3	3
Lithium	15.4	J+	500	730	Lithium	556		500	730	Lithium	558		500	730
Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)					Radiological Constituents (pCi/L, unless otherwise noted)				
Adjusted Gross Alpha ⁽¹⁾	2.91		2.50	15	Adjusted Gross Alpha ⁽¹⁾	3.06		2.50	15	Adjusted Gross Alpha ⁽¹⁾	NS	-	-	-
Gross Beta ⁽²⁾	3.88		1.93	50	Gross Beta ⁽²⁾	23.34		2.19	50	Gross Beta ⁽²⁾	NS	-	-	-
Total Radium ⁽³⁾	0.83		-	5	Total Radium ⁽³⁾	1.973		-	5	Total Radium ⁽³⁾	NS	-	-	-
Total Thorium ⁽³⁾	0.18		-	-	Total Thorium ⁽³⁾	0.482		-	-	Total Thorium ⁽³⁾	NS	-	-	-
U-234	0.38		0.145	-	U-234	0.50		0.156	-	U-234	NS	-	-	-
U-235	-0.02	U	0.173	-	U-235	0.064	U	0.087	-	U-235	NS	-	-	-
U-238	0.21		0.08	-	U-238	0.351		0.086	-	U-238	NS	-	-	-
Total Uranium ⁽³⁾	0.56		-	-	Total Uranium ⁽³⁾	0.915		-	-	Total Uranium ⁽³⁾	NS	-	-	-
Total Uranium (ug/L)	0.62		-	30	Total Uranium (ug/L)	1.04		-	30	Total Uranium (ug/L)	NS	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

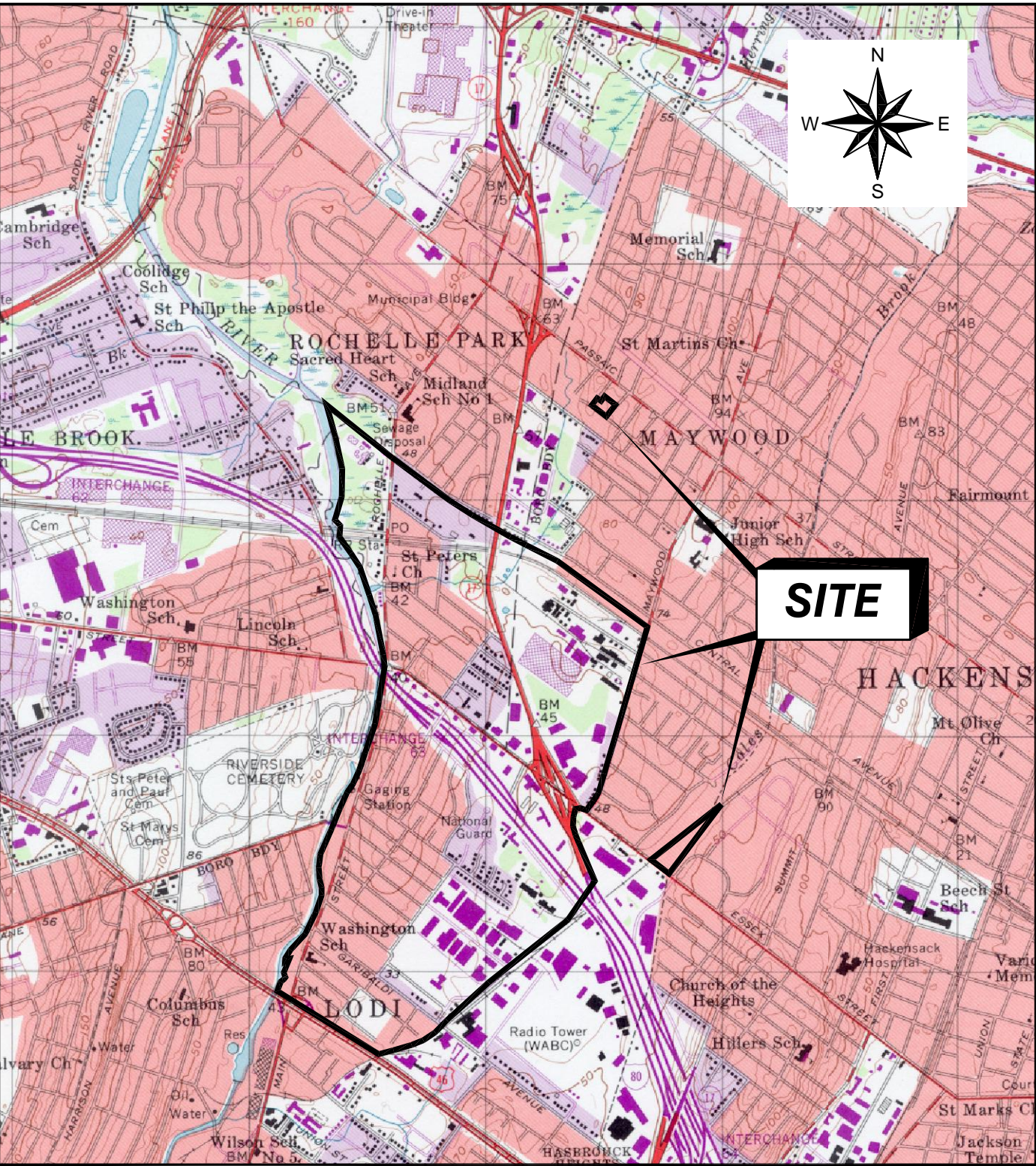
(1) - Adjusted Gross Alpha and Adjusted Gross Gross Beta calculations are provided in Appendix E, Tables E-4.

(2) - Potassium was not collected at SW-003 and SW-004 and gross beta was not adjusted for K-40 activity.

(3) - Gross Alpha, Gross Beta and isotopic data for Radium (Ra-226, Ra-228), Thorium (Th-228, Th-230, Th-232) and Uranium (U-234, U-235, U-238) are presented in Appendix E, Tables E-1, E-2, and E-3.

FIGURES

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	3/29/17	--	B. O'Connor	R Demott	--	500856-A1



Xref:
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 FMSS.jpg

File: O:\project\500856\500856-A1.dwg
 Plot Date/Time: Mar 29, 2017 - 8:21am
 Plotted By: bernadette.oconnor



FIGURE 1-1
 SITE LOCATION MAP
 MAYWOOD SUPERFUND SITE, NEW JERSEY

REFERENCE:

7.5 MIN USGS TOPOGRAPHIC MAP OF
 HACKENSACK, NJ QUADRANGLE. DATED: 1997

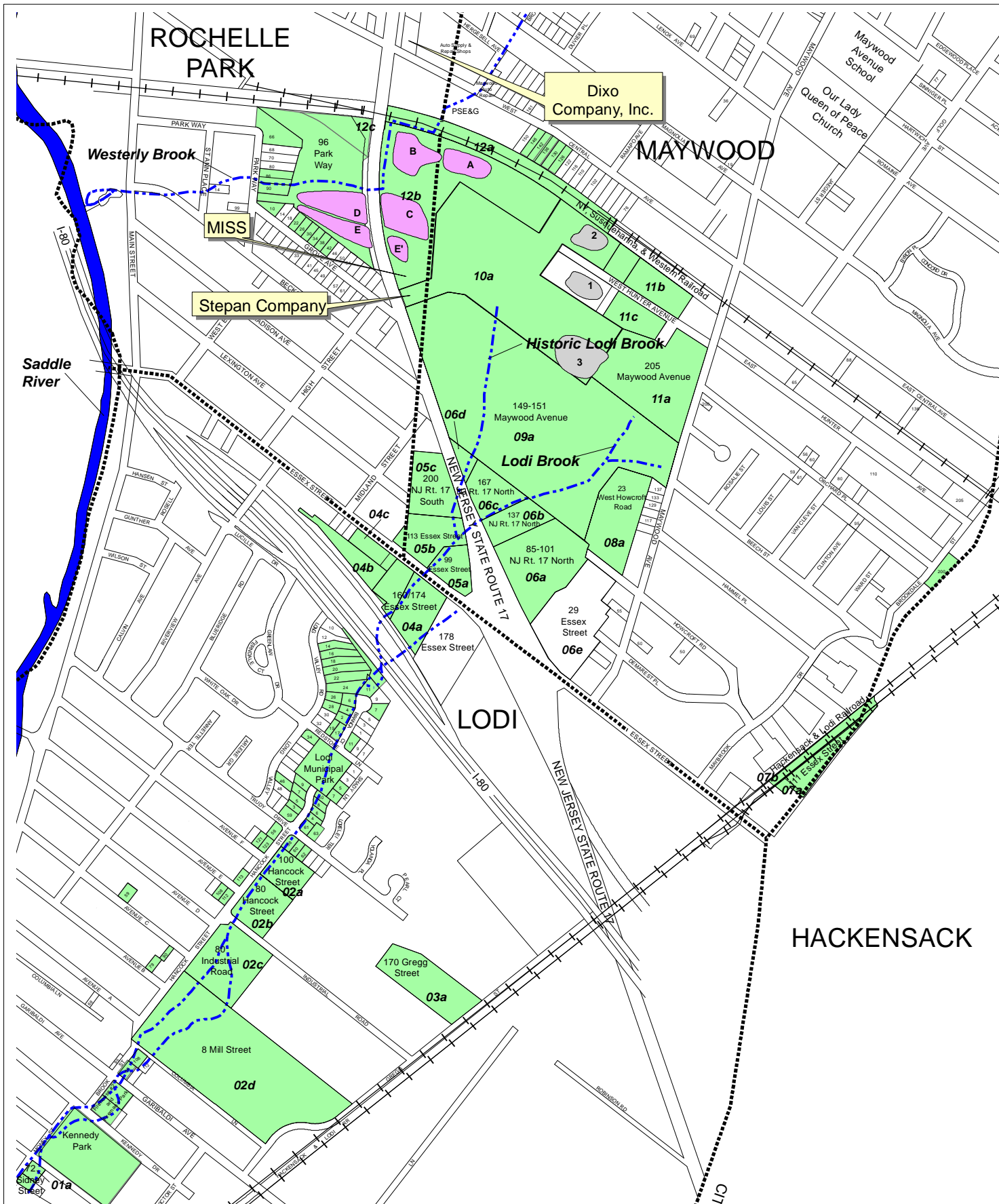
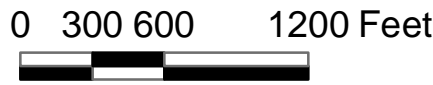
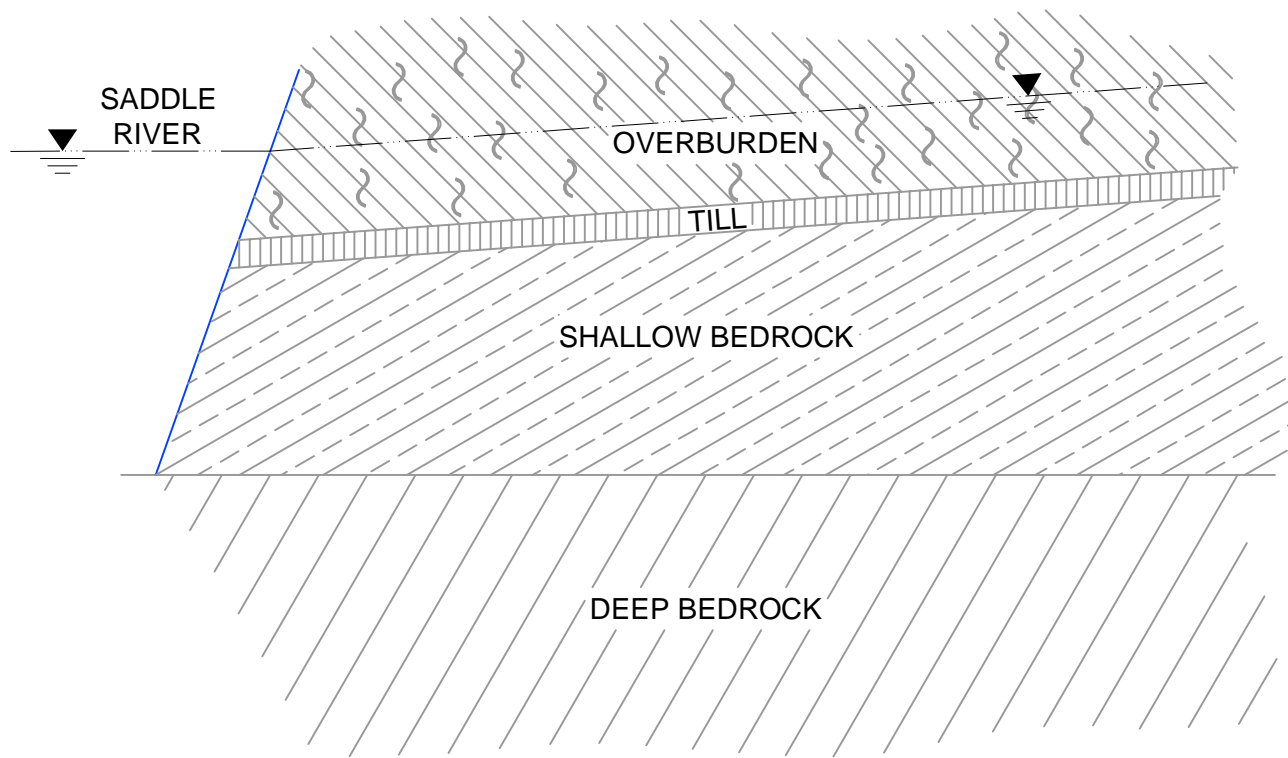


Figure 1-2
 FMSS and Surrounding Properties

- Soil Remediation complete or ongoing
- Burial Pits (Remediated)
- Former Retention Ponds (remediation substantially completed)





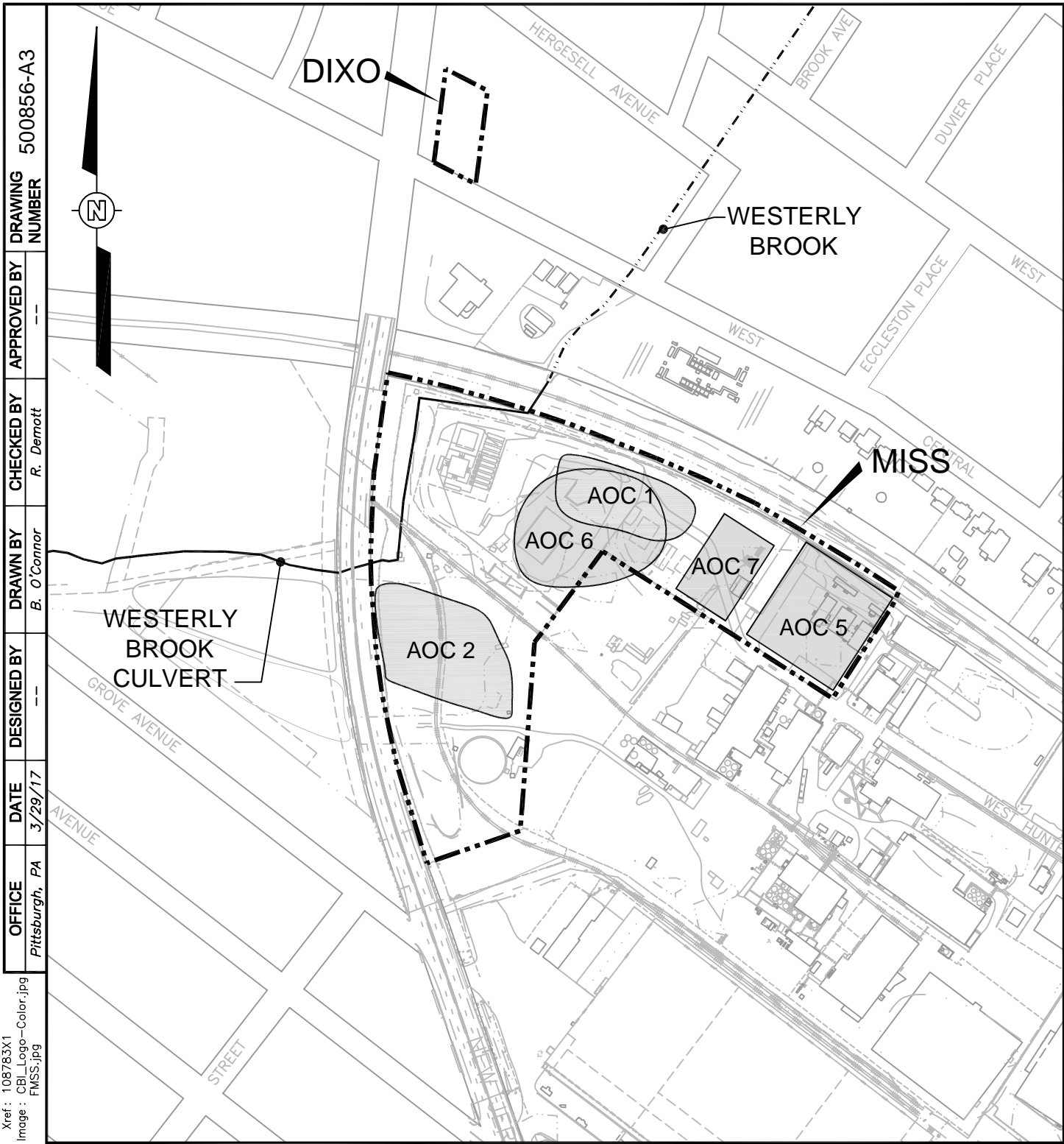
THIS DRAWING NOT TO SCALE

FIGURE 1-3
 GENERALIZED GEOLOGIC CROSS-SECTION
 MAYWOOD SUPERFUND SITE, NEW JERSEY



US Army Corps
 of Engineers





Xref: 108783X1
 Image: CBI_Logo-Color.jpg
 FMSS.jpg

File: O:\Project\500856\500856-A3.dwg
 Plot Date/Time: Mar 29, 2017 - 9:25am
 Plotted By: bernadette.oconnor

AREAS OF CONCERN (AOC):

- OVERBURDEN AQUIFER
 AOC 1 - ARSENIC, LITHIUM
 AOC 2 - ARSENIC, LITHIUM
 AOC 7 - BENZENE

- SHALLOW BEDROCK AQUIFER
 AOC 1 - ARSENIC, LITHIUM
 AOC 2 - ARSENIC, LITHIUM
 AOC 5 - RADIUM
 AOC 6 - BENZENE



FIGURE 1-4
GROUNDWATER AREAS OF CONCERN
 MAYWOOD SUPERFUND SITE, NEW JERSEY

US Army Corps of Engineers

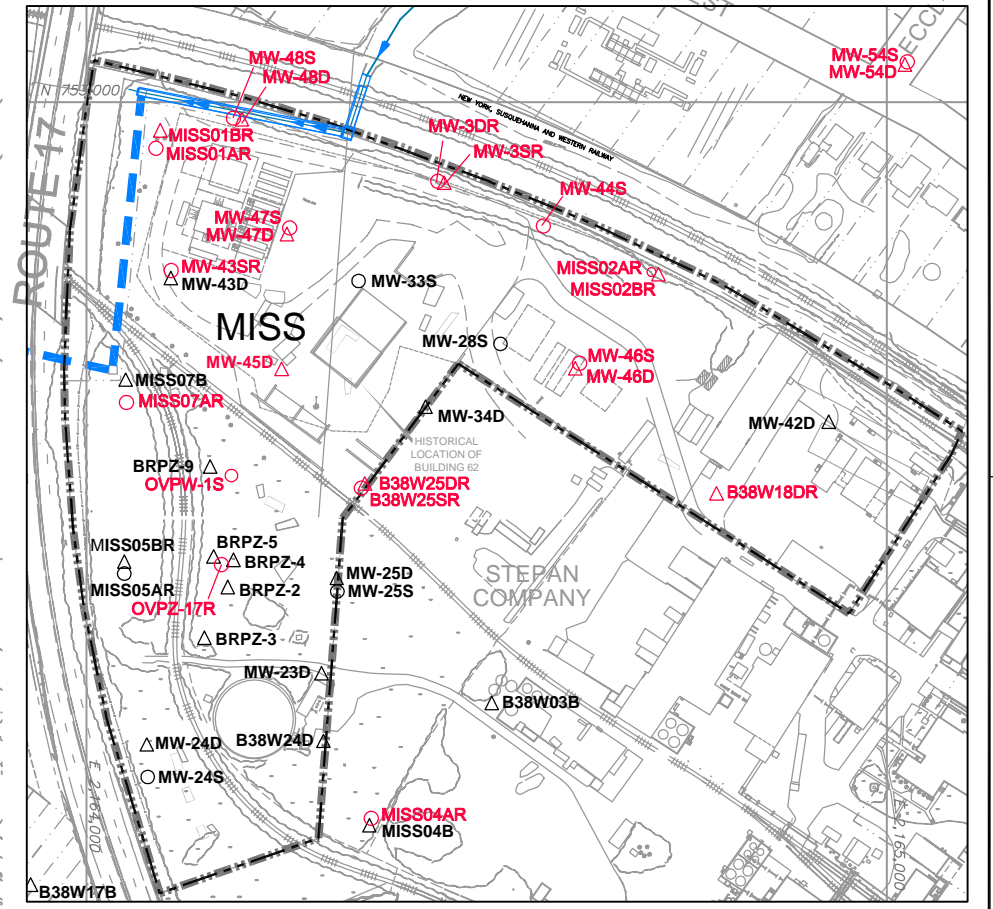
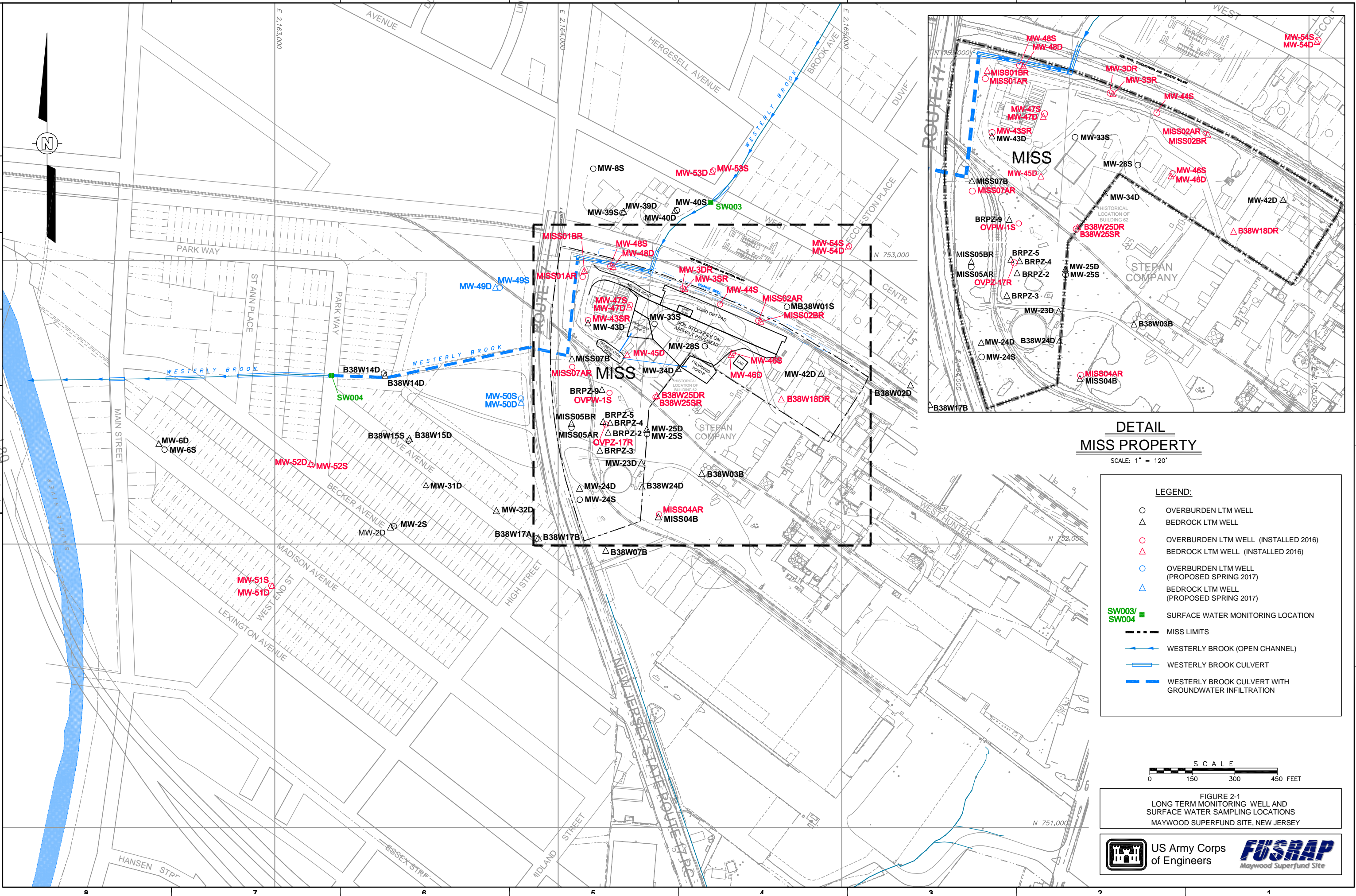
FUSRAP
 Maywood Superfund Site

DRAWING NUMBER 500856-D3
 CHECKED BY R. Demott
 APPROVED BY
 DRAWN BY B. Faison
 DESIGNED BY R. Demott
 DATE 3/29/17

VERIFY SCALE 1" = 120'

Xref:

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 Plotted By: bernadette osconer



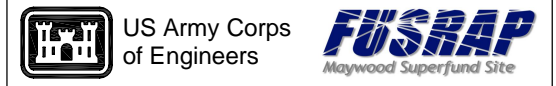
DETAIL
MISS PROPERTY
 SCALE: 1" = 120'

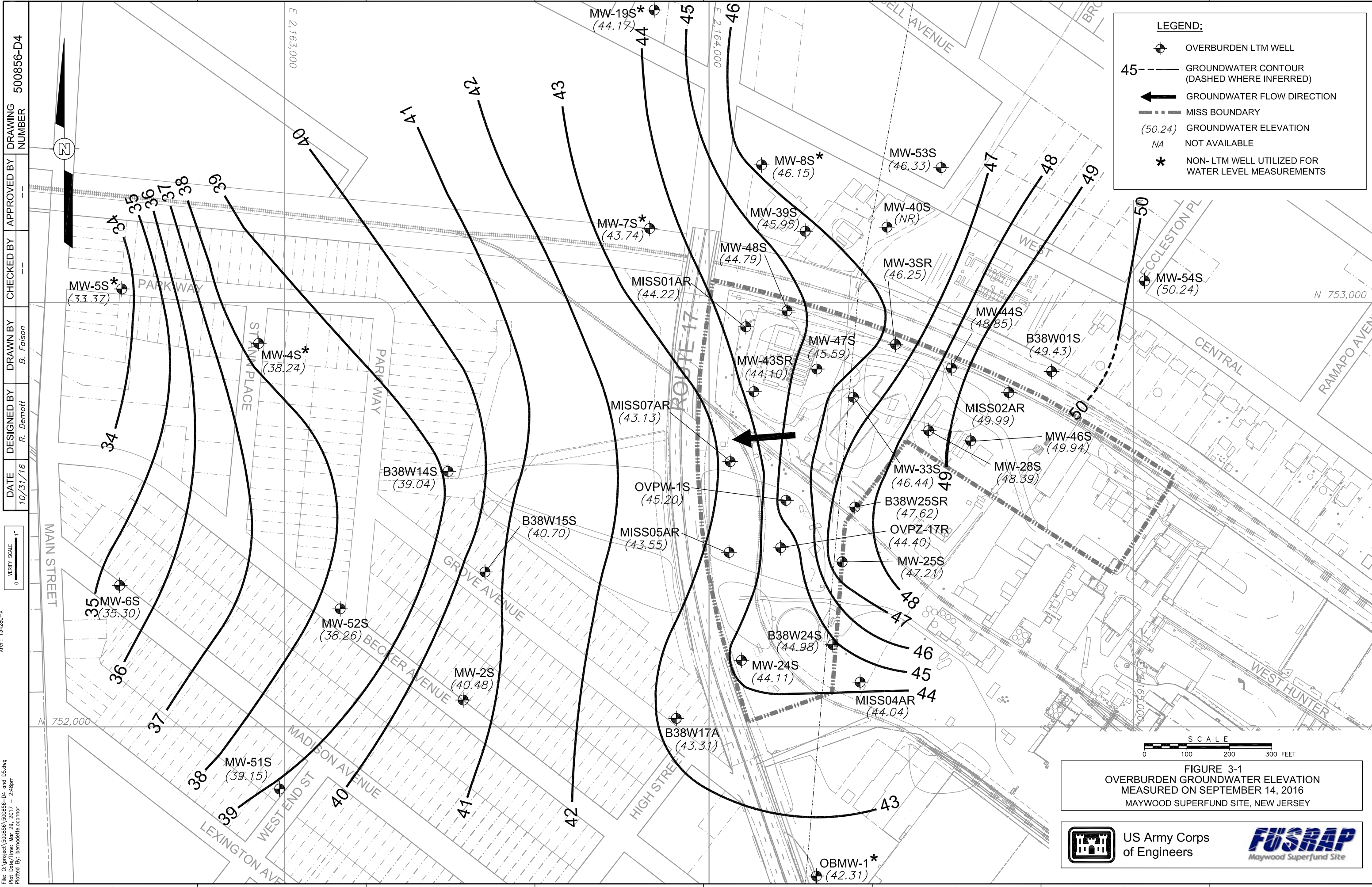
LEGEND:

- OVERBURDEN LTM WELL
- △ BEDROCK LTM WELL
- (with red outline) OVERBURDEN LTM WELL (INSTALLED 2016)
- △ (with red outline) BEDROCK LTM WELL (INSTALLED 2016)
- (with blue outline) OVERBURDEN LTM WELL (PROPOSED SPRING 2017)
- △ (with blue outline) BEDROCK LTM WELL (PROPOSED SPRING 2017)
- (green) SW003/
■ (green) SW004 SURFACE WATER MONITORING LOCATION
- MISS LIMITS
- (blue) WESTERLY BROOK (OPEN CHANNEL)
- ▬ (blue) WESTERLY BROOK CULVERT
- ▬ (blue with hatching) WESTERLY BROOK CULVERT WITH GROUNDWATER INFILTRATION



FIGURE 2-1
 LONG TERM MONITORING WELL AND
 SURFACE WATER SAMPLING LOCATIONS
 MAYWOOD SUPERFUND SITE, NEW JERSEY





Xref: 134280-X
 File: C:\project\500856\500856-D4 and D5.dwg
 Plot Date/Time: Mar 29, 2017 - 2:48pm
 Plotted By: bernadettecomar

DATE 10/31/16
 DESIGNED BY R. Demott
 DRAWN BY B. Faison
 CHECKED BY
 APPROVED BY
 DRAWING NUMBER 500856-D4

LEGEND:

- OVERBURDEN LTM WELL
- 45- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- MISS BOUNDARY
- (50.24) GROUNDWATER ELEVATION
- NA NOT AVAILABLE
- * NON-LTM WELL UTILIZED FOR WATER LEVEL MEASUREMENTS



FIGURE 3-1
 OVERBURDEN GROUNDWATER ELEVATION
 MEASURED ON SEPTEMBER 14, 2016
 MAYWOOD SUPERFUND SITE, NEW JERSEY

US Army Corps
of Engineers

FUSRAP
Maywood Superfund Site

DRAWING NUMBER
500856-D4

APPROVED BY

CHECKED BY

DRAWN BY
B. Faison

DESIGNED BY
R. Dermott

DATE
3/29/17

VERIFY SCALE
0 1" = 100'

Xref: 134280-X

File: O:\Project\500856\500856-D4.dwg
Plot Date/Time: Aug 22, 2017 - 6:03pm
Plotted By: bernadette.oconor

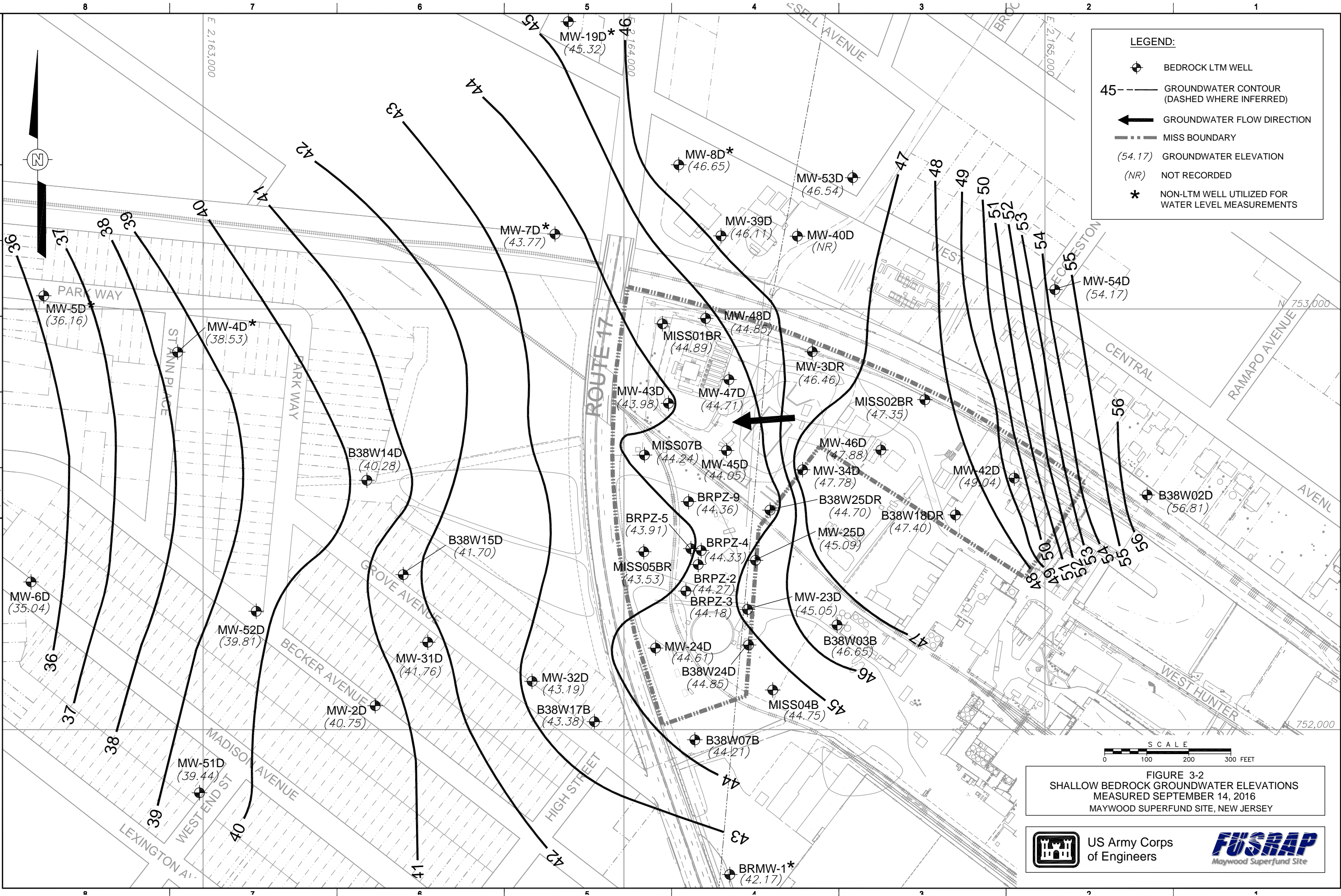
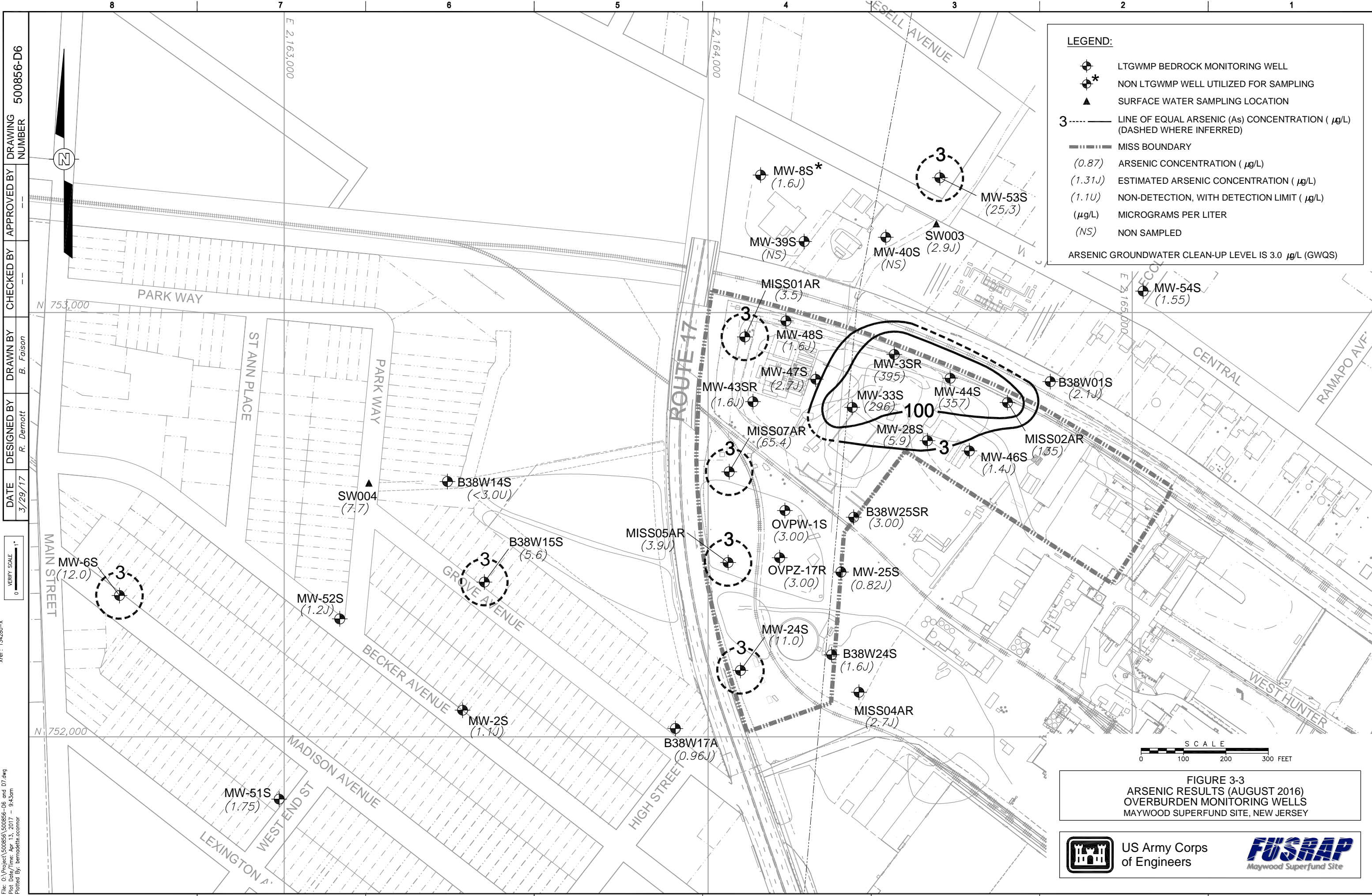


FIGURE 3-2
SHALLOW BEDROCK GROUNDWATER ELEVATIONS
MEASURED SEPTEMBER 14, 2016
MAYWOOD SUPERFUND SITE, NEW JERSEY





DRAWING NUMBER
500856-D6

APPROVED BY

CHECKED BY

DRAWN BY
B. Faison

DESIGNED BY
R. Demott

DATE
3/29/17

VERIFY SCALE
0 1"

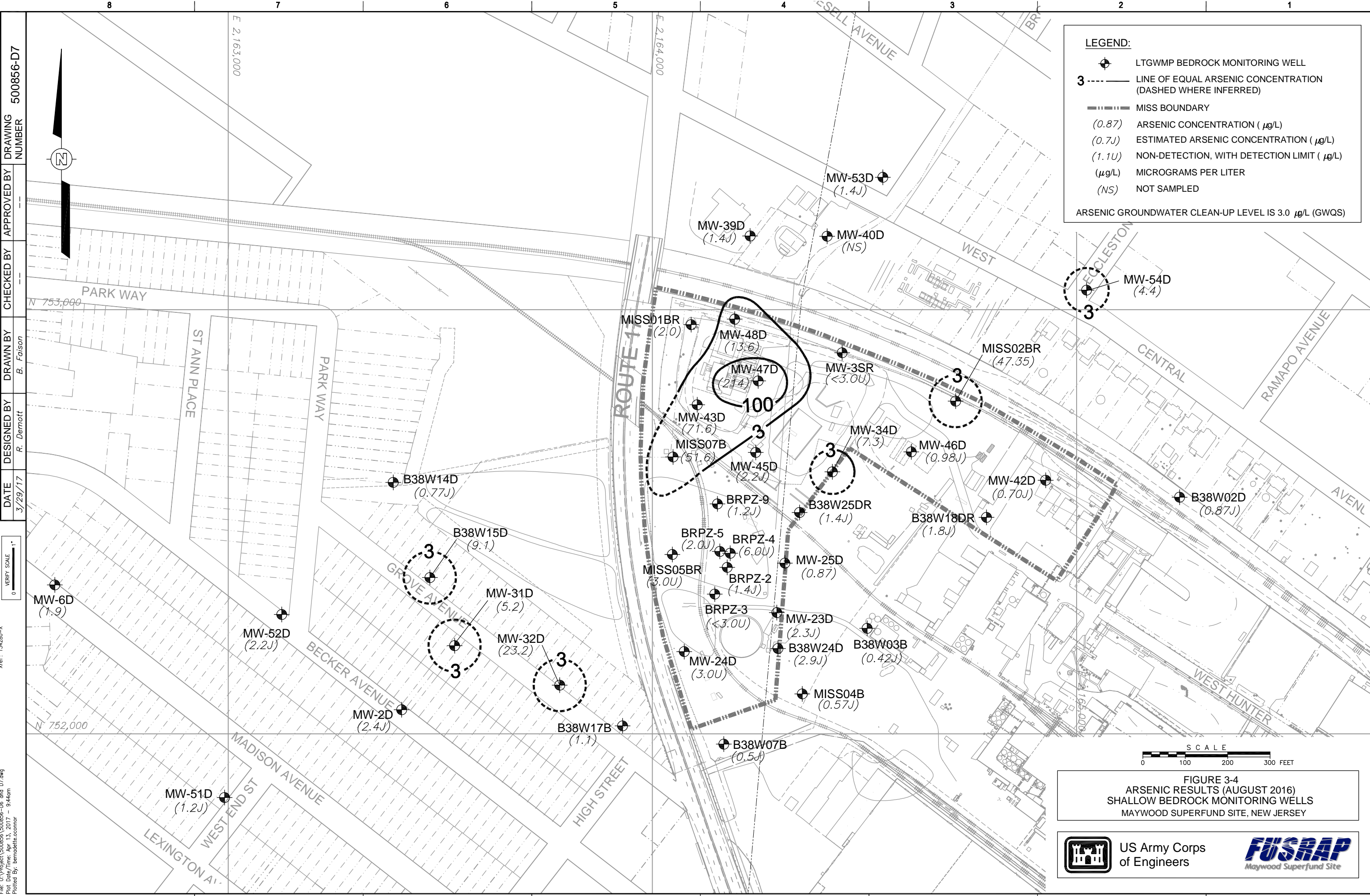
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File: O:\Project\500856\500856-D6.dwg
Plot Date/Time: Apr 13, 2017 - 9:43am
Plotted By: bernadette.ocomotor

FIGURE 3-3
ARSENIC RESULTS (AUGUST 2016)
OVERBURDEN MONITORING WELLS
MAYWOOD SUPERFUND SITE, NEW JERSEY



SCALE
0 100 200 300 FEET



DRAWING NUMBER
500856-D7

APPROVED BY

CHECKED BY

DRAWN BY
B. Faison

DESIGNED BY
R. Demott

DATE
3/29/17

VERIFY SCALE
0 1"

Xref: 134280-X

File: 0:\Project\500856\500856-D6 and D7.dwg
Plot Date/Time: Apr 13, 2017 - 9:44am
Plotted By: bernadette.ocanor

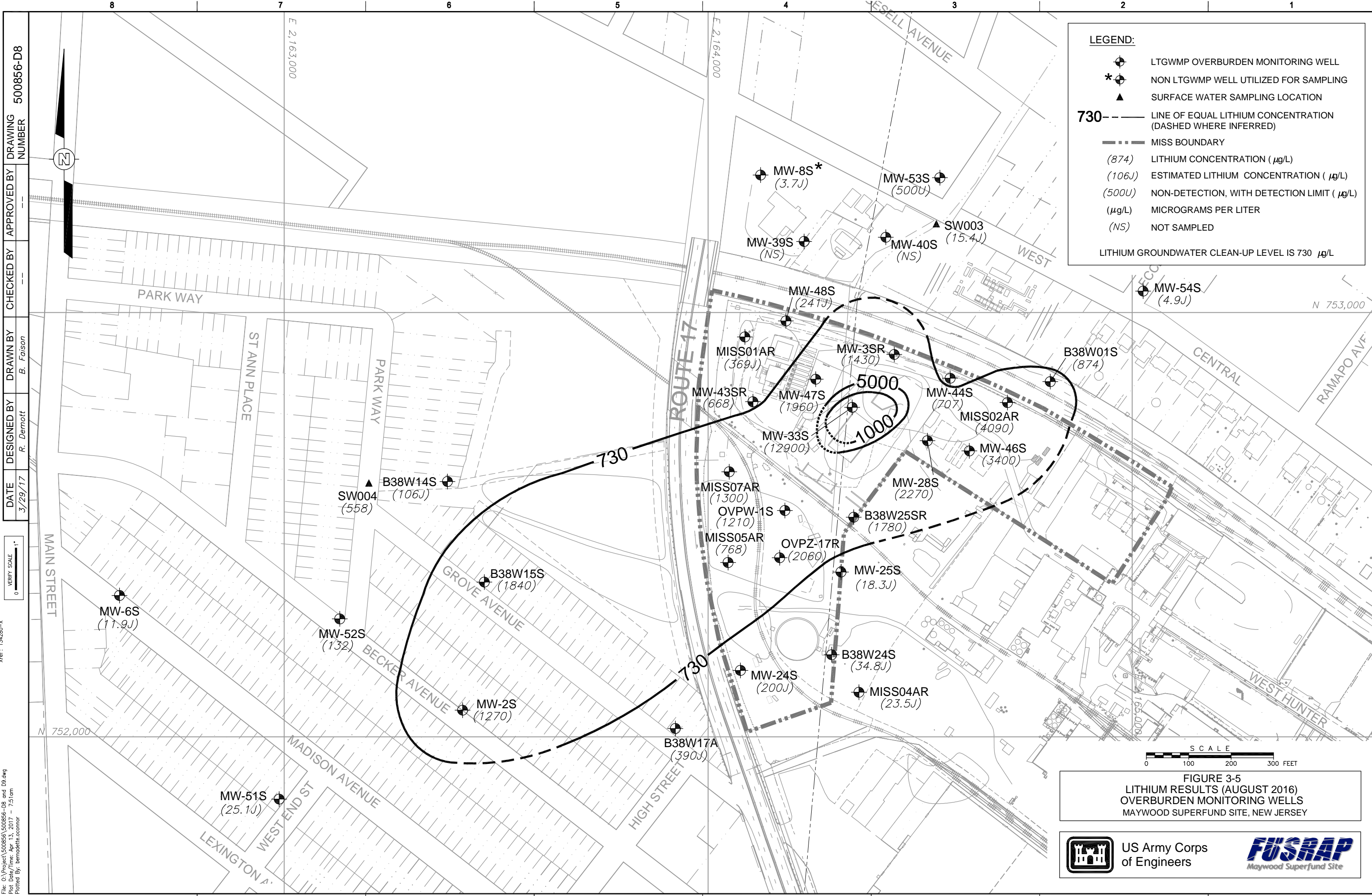
LEGEND:

- ⊕ LTGWMP BEDROCK MONITORING WELL
- 3 --- LINE OF EQUAL ARSENIC CONCENTRATION (DASHED WHERE INFERRED)
- MISS BOUNDARY
- (0.87) ARSENIC CONCENTRATION (μg/L)
- (0.7J) ESTIMATED ARSENIC CONCENTRATION (μg/L)
- (1.1U) NON-DETECTION, WITH DETECTION LIMIT (μg/L)
- (μg/L) MICROGRAMS PER LITER
- (NS) NOT SAMPLED

ARSENIC GROUNDWATER CLEAN-UP LEVEL IS 3.0 μg/L (GWQS)

FIGURE 3-4
ARSENIC RESULTS (AUGUST 2016)
SHALLOW BEDROCK MONITORING WELLS
MAYWOOD SUPERFUND SITE, NEW JERSEY

US Army Corps of Engineers **FUSRAP**
Maywood Superfund Site



Xref: 134280-X

File: O:\Project\500856\500856-D8.dwg
 Plot Date/Time: Apr 13, 2017 - 7:51am
 Plotted By: bernadette.ocomotor

FIGURE 3-5
 LITHIUM RESULTS (AUGUST 2016)
 OVERBURDEN MONITORING WELLS
 MAYWOOD SUPERFUND SITE, NEW JERSEY

US Army Corps of Engineers **FUSRAP**
 Maywood Superfund Site

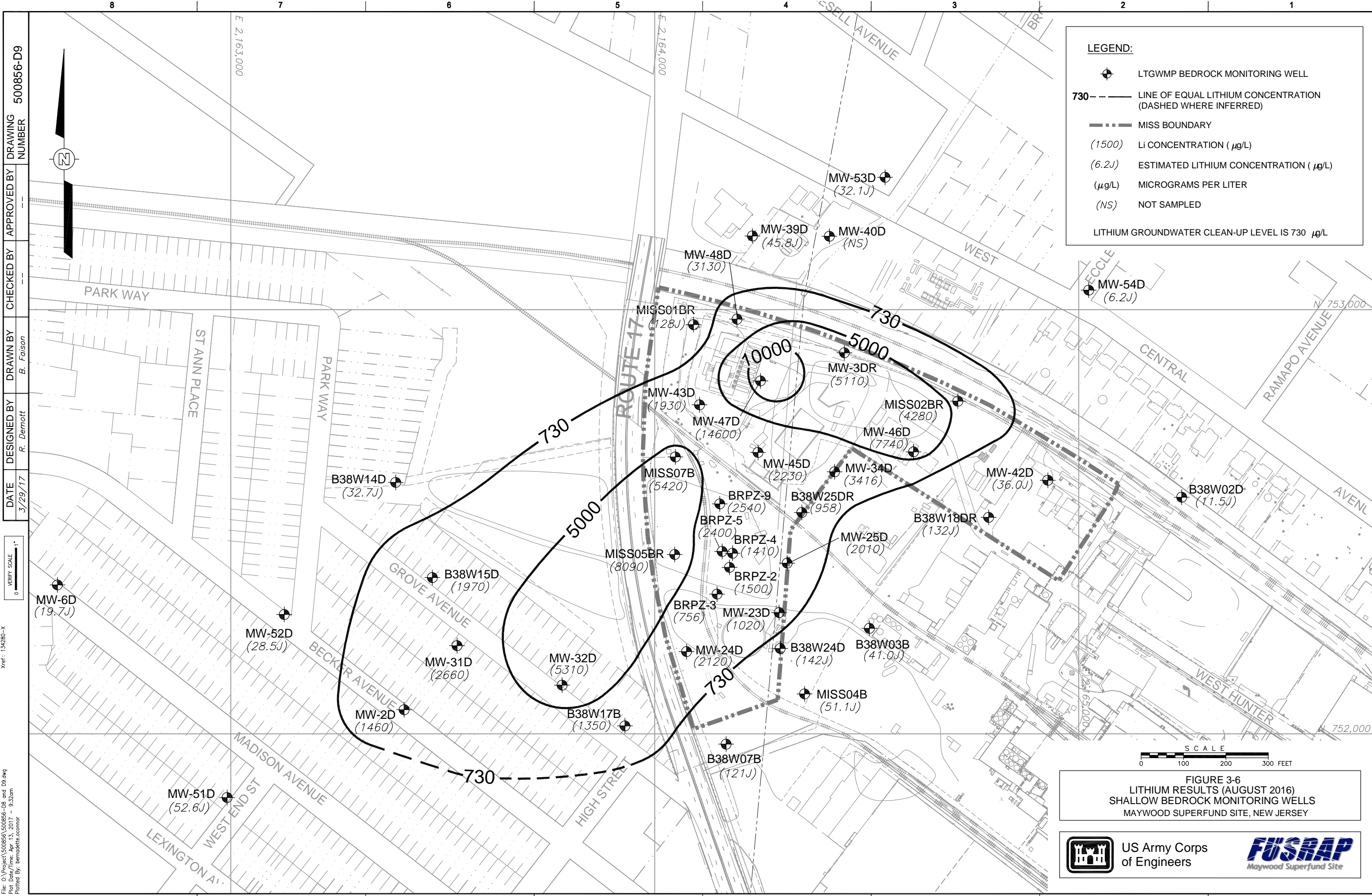


FIGURE 3-6
LITHIUM RESULTS (AUGUST 2016)
SHALLOW BEDROCK MONITORING WELLS
MAYWOOD SUPERFUND SITE, NEW JERSEY



File: O:\Project\500856\500856-D8 and D9.dwg
 Plot Date/Time: Apr 13, 2017 - 9:32am
 Plotted By: bermadette.ocomotor

DRAWING NUMBER 500856-D10
 CHECKED BY APPROVED BY
 DRAWN BY B. Faison
 DESIGNED BY R. Demott
 DATE 3/29/17

VERIFY SCALE 1" = 100'

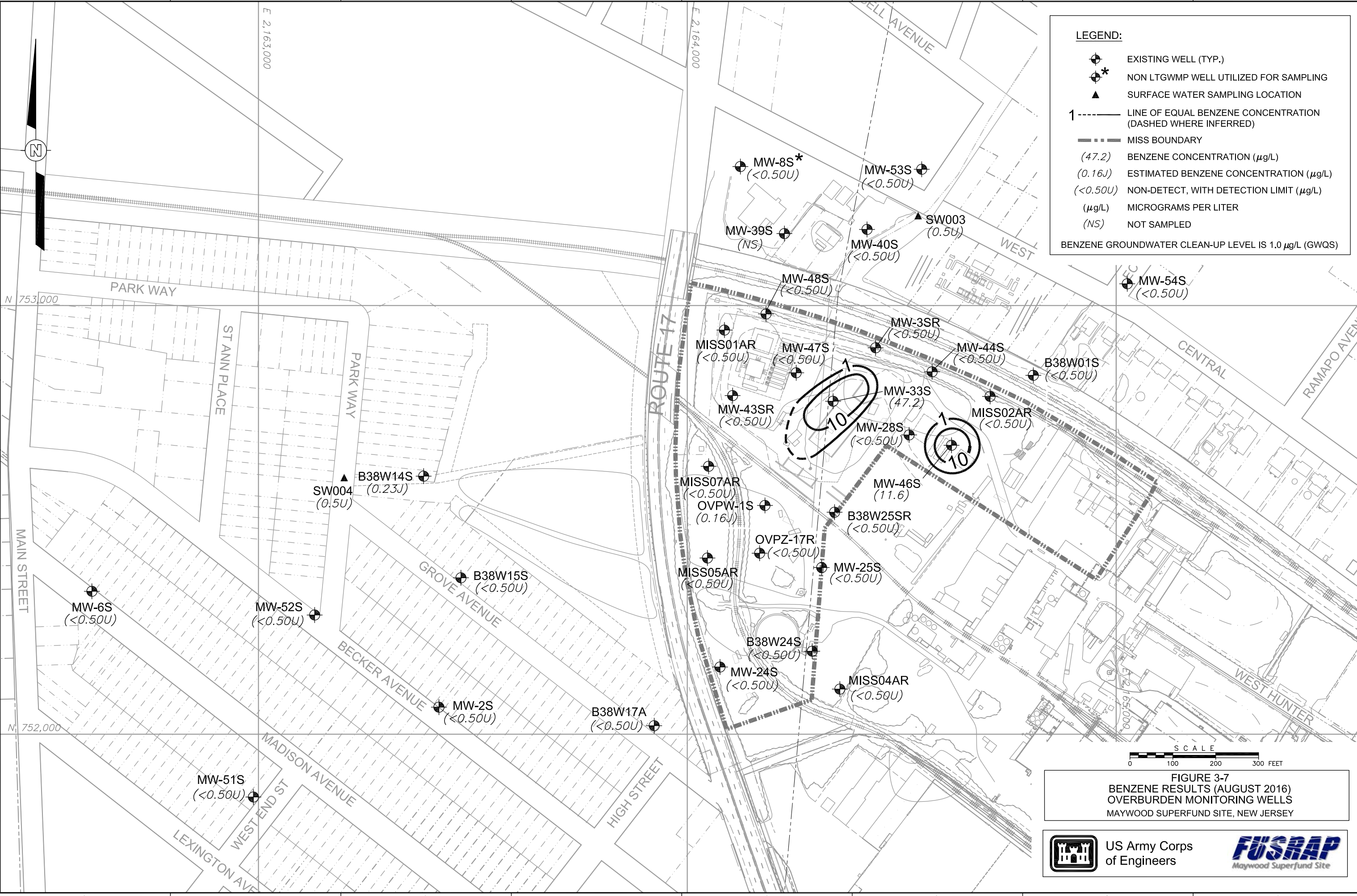
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File: C:\project\500856\500856-D10 and D11.dwg
 Plot Date/Time: Mar 29, 2017 - 3:20pm
 Plotted By: bernadette.comar

LEGEND:

- EXISTING WELL (TYP.)
- NON LTGWMP WELL UTILIZED FOR SAMPLING
- SURFACE WATER SAMPLING LOCATION
- LINE OF EQUAL BENZENE CONCENTRATION (DASHED WHERE INFERRED)
- MISS BOUNDARY
- (47.2) BENZENE CONCENTRATION (µg/L)
- (0.16J) ESTIMATED BENZENE CONCENTRATION (µg/L)
- (<0.50U) NON-DETECT, WITH DETECTION LIMIT (µg/L)
- (µg/L) MICROGRAMS PER LITER
- (NS) NOT SAMPLED

BENZENE GROUNDWATER CLEAN-UP LEVEL IS 1.0 µg/L (GWQS)

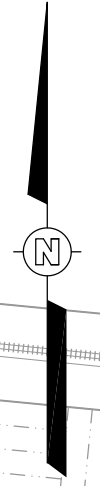


SCALE 0 100 200 300 FEET

FIGURE 3-7
 BENZENE RESULTS (AUGUST 2016)
 OVERBURDEN MONITORING WELLS
 MAYWOOD SUPERFUND SITE, NEW JERSEY

DRAWING NUMBER 500856-D11
APPROVED BY
CHECKED BY
DRAWN BY B. Faison
DESIGNED BY R. Demott
DATE 3/29/17

Ref: 134455-X
File: C:\project\500856-D10 and D11.dwg
Plot Date/Time: Mar 29, 2017 - 3:25pm
Plotted By: bernadette.comar



LEGEND:

- LTGWMP BEDROCK MONITORING WELL
- LINE OF EQUAL BENZENE CONCENTRATION (DASHED WHERE INFERRED)
- MISS BOUNDARY
- (14.6) BENZENE CONCENTRATION ($\mu\text{g/L}$)
- (<0.50U) NON-DETECT, WITH DETECTION LIMIT ($\mu\text{g/L}$)
- ($\mu\text{g/L}$) MICROGRAMS PER LITER
- (NS) NOT SAMPLED

BENZENE GROUNDWATER CLEAN-UP LEVEL IS 1.0 $\mu\text{g/L}$ (GWQS)

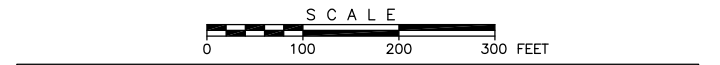
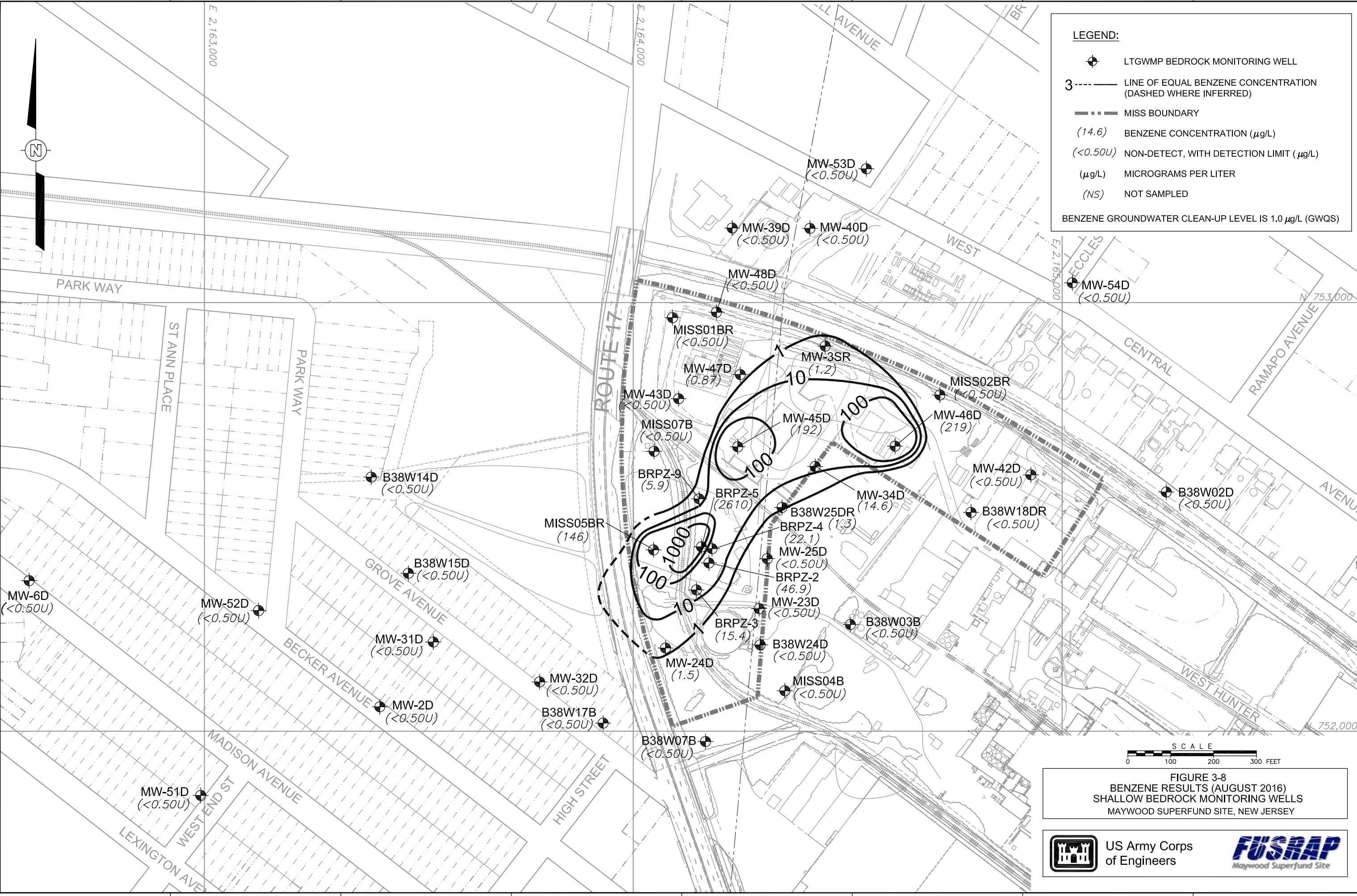


FIGURE 3-8
BENZENE RESULTS (AUGUST 2016)
SHALLOW BEDROCK MONITORING WELLS
MAYWOOD SUPERFUND SITE, NEW JERSEY

US Army Corps of Engineers

FUSRAP
Maywood Superfund Site

DRAWING NUMBER 500856-D12
 CHECKED BY
 DESIGNED BY R. Demott
 DRAWN BY B. Faison
 DATE 3/29/17

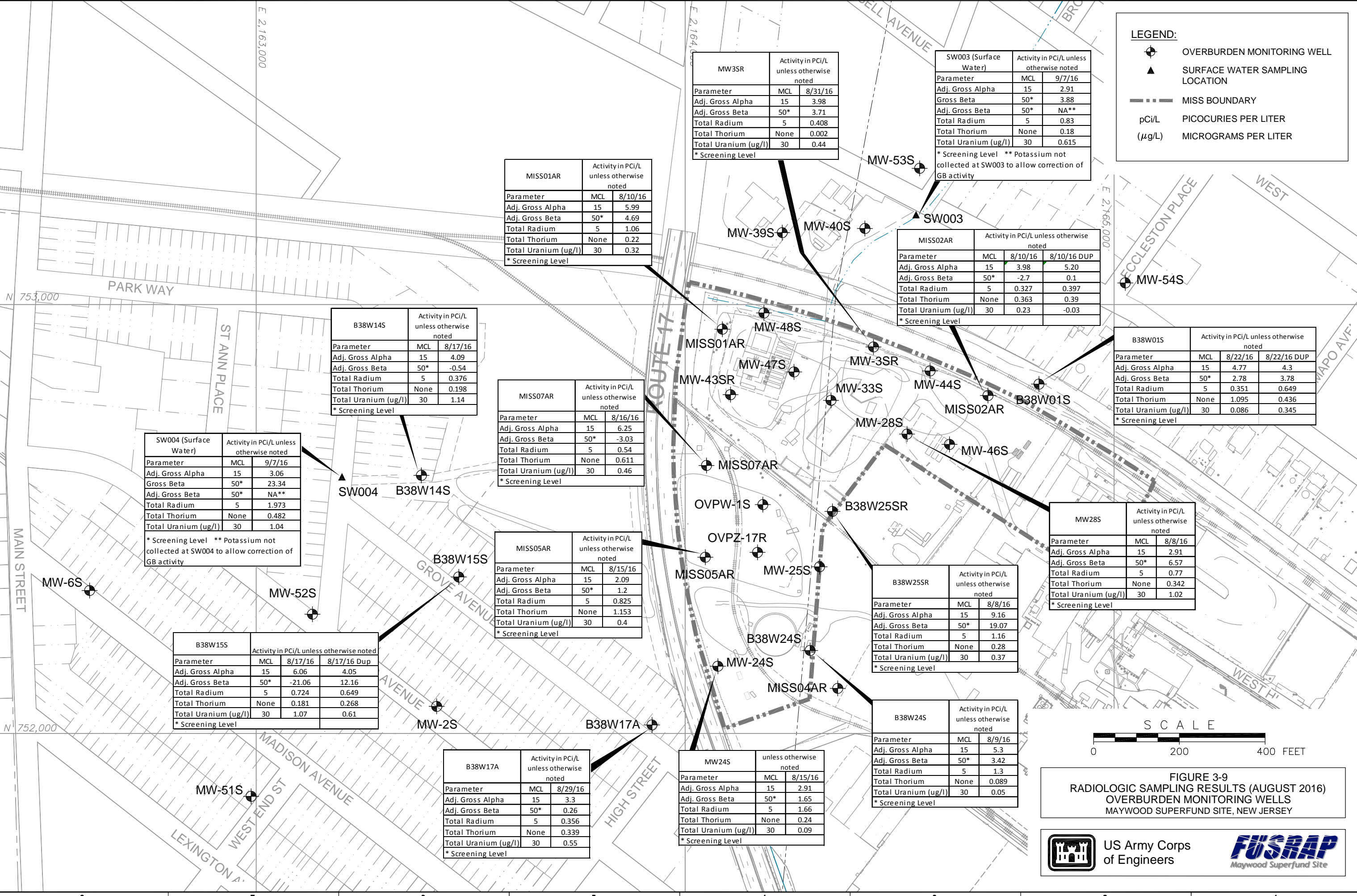
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Xref: 134280-X

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 Plotted By: bernadette.ocomer

LEGEND:

- OVERBURDEN MONITORING WELL
- SURFACE WATER SAMPLING LOCATION
- MISS BOUNDARY
- pCi/L PICOCURIES PER LITER
- (µg/L) MICROGRAMS PER LITER



MW3SR		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/31/16	
Adj. Gross Alpha	15	3.98	
Adj. Gross Beta	50*	3.71	
Total Radium	5	0.408	
Total Thorium	None	0.002	
Total Uranium (ug/l)	30	0.44	
* Screening Level			

SW003 (Surface Water)		Activity in PCI/L unless otherwise noted	
Parameter	MCL	9/7/16	
Adj. Gross Alpha	15	2.91	
Gross Beta	50*	3.88	
Adj. Gross Beta	50*	NA**	
Total Radium	5	0.83	
Total Thorium	None	0.18	
Total Uranium (ug/l)	30	0.615	
* Screening Level ** Potassium not collected at SW003 to allow correction of GB activity			

MISS01AR		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/10/16	
Adj. Gross Alpha	15	5.99	
Adj. Gross Beta	50*	4.69	
Total Radium	5	1.06	
Total Thorium	None	0.22	
Total Uranium (ug/l)	30	0.32	
* Screening Level			

MISS02AR		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/10/16	8/10/16 DUP
Adj. Gross Alpha	15	3.98	5.20
Adj. Gross Beta	50*	-2.7	0.1
Total Radium	5	0.327	0.397
Total Thorium	None	0.363	0.39
Total Uranium (ug/l)	30	0.23	-0.03
* Screening Level			

B38W14S		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/17/16	
Adj. Gross Alpha	15	4.09	
Adj. Gross Beta	50*	-0.54	
Total Thorium	None	0.198	
Total Uranium (ug/l)	30	1.14	
* Screening Level			

MISS07AR		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/16/16	
Adj. Gross Alpha	15	6.25	
Adj. Gross Beta	50*	-3.03	
Total Radium	5	0.54	
Total Thorium	None	0.611	
Total Uranium (ug/l)	30	0.46	
* Screening Level			

B38W01S		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/22/16	8/22/16 DUP
Adj. Gross Alpha	15	4.77	4.3
Adj. Gross Beta	50*	2.78	3.78
Total Radium	5	0.351	0.649
Total Thorium	None	1.095	0.436
Total Uranium (ug/l)	30	0.086	0.345
* Screening Level			

SW004 (Surface Water)		Activity in PCI/L unless otherwise noted	
Parameter	MCL	9/7/16	
Adj. Gross Alpha	15	3.06	
Gross Beta	50*	23.34	
Adj. Gross Beta	50*	NA**	
Total Radium	5	1.973	
Total Thorium	None	0.482	
Total Uranium (ug/l)	30	1.04	
* Screening Level ** Potassium not collected at SW004 to allow correction of GB activity			

MISS05AR		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/15/16	
Adj. Gross Alpha	15	2.09	
Adj. Gross Beta	50*	1.2	
Total Radium	5	0.825	
Total Thorium	None	1.153	
Total Uranium (ug/l)	30	0.4	
* Screening Level			

MW28S		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/8/16	
Adj. Gross Alpha	15	2.91	
Adj. Gross Beta	50*	6.57	
Total Radium	5	0.77	
Total Thorium	None	0.342	
Total Uranium (ug/l)	30	1.02	
* Screening Level			

B38W15S		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/17/16	8/17/16 Dup
Adj. Gross Alpha	15	6.06	4.05
Adj. Gross Beta	50*	-21.06	12.16
Total Radium	5	0.724	0.649
Total Thorium	None	0.181	0.268
Total Uranium (ug/l)	30	1.07	0.61
* Screening Level			

B38W25SR		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/8/16	
Adj. Gross Alpha	15	9.16	
Adj. Gross Beta	50*	19.07	
Total Radium	5	1.16	
Total Thorium	None	0.28	
Total Uranium (ug/l)	30	0.37	
* Screening Level			

B38W17A		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/29/16	
Adj. Gross Alpha	15	3.3	
Adj. Gross Beta	50*	0.26	
Total Radium	5	0.356	
Total Thorium	None	0.339	
Total Uranium (ug/l)	30	0.55	
* Screening Level			

MW24S		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/15/16	
Adj. Gross Alpha	15	2.91	
Adj. Gross Beta	50*	1.65	
Total Radium	5	1.66	
Total Thorium	None	0.24	
Total Uranium (ug/l)	30	0.09	
* Screening Level			

B38W24S		Activity in PCI/L unless otherwise noted	
Parameter	MCL	8/9/16	
Adj. Gross Alpha	15	5.3	
Adj. Gross Beta	50*	3.42	
Total Radium	5	1.3	
Total Thorium	None	0.089	
Total Uranium (ug/l)	30	0.05	
* Screening Level			



FIGURE 3-9
 RADIOLOGIC SAMPLING RESULTS (AUGUST 2016)
 OVERBURDEN MONITORING WELLS
 MAYWOOD SUPERFUND SITE, NEW JERSEY



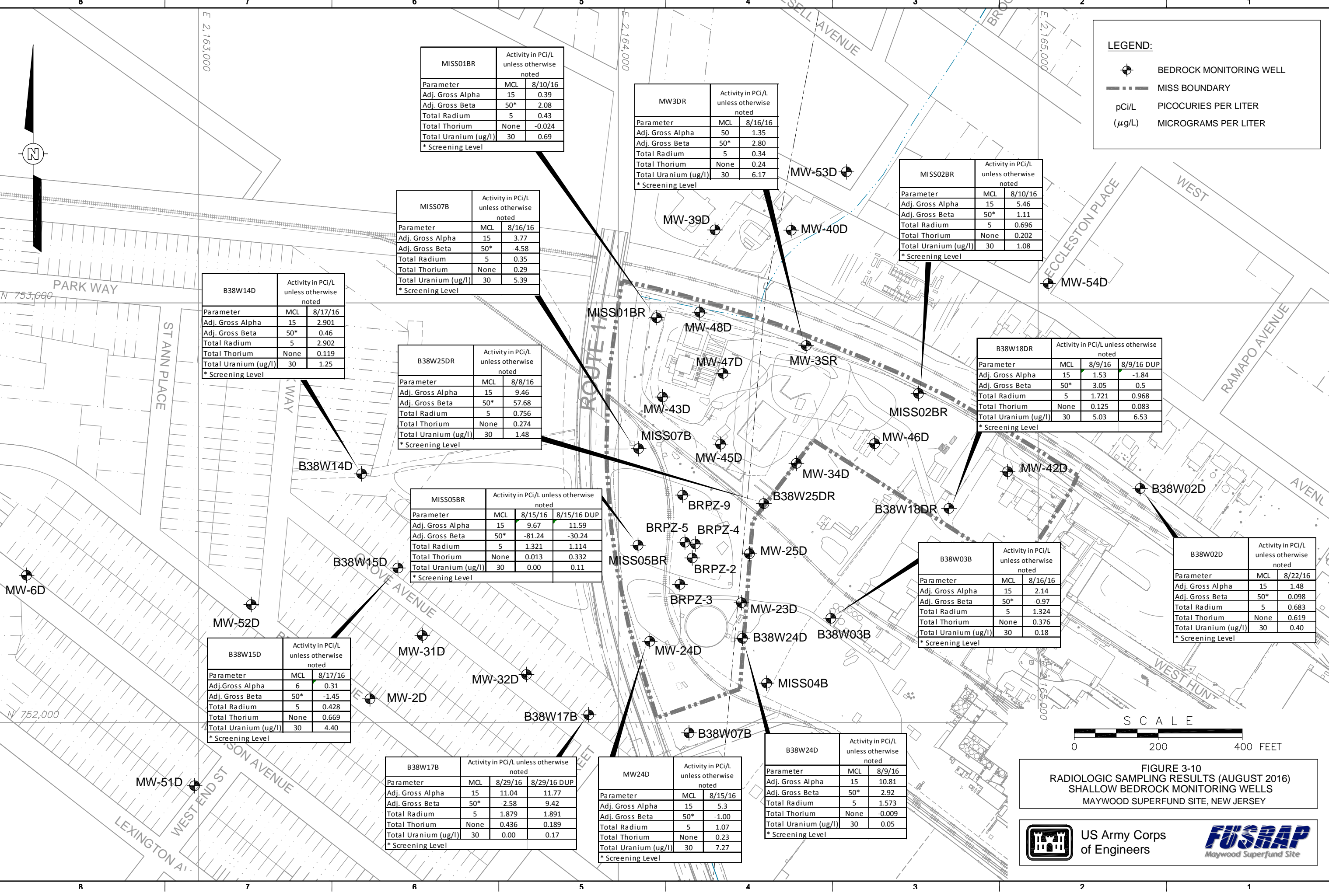
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 CHECKED BY
 DRAWN BY B. Faison
 DESIGNED BY R. Demott
 DATE 3/29/17

0 1" VERTICAL SCALE

Xref: 134280-X
 File: C:\Project\500856\500856-D12 and D13.dwg
 Plot Date: 7/22/2017 11:44:11pm
 Plotted By: bernardie.comar

LEGEND:

- BEDROCK MONITORING WELL
- MISS BOUNDARY
- pCi/L PICOCURIES PER LITER
- (µg/L) MICROGRAMS PER LITER



MISS01BR		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	0.39
Adj. Gross Beta	50*	2.08
Total Radium	5	0.43
Total Thorium	None	-0.024
Total Uranium (ug/l)	30	0.69
* Screening Level		

MW3DR		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	50	1.35
Adj. Gross Beta	50*	2.80
Total Radium	5	0.34
Total Thorium	None	0.24
Total Uranium (ug/l)	30	6.17
* Screening Level		

MISS02BR		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	5.46
Adj. Gross Beta	50*	1.11
Total Radium	5	0.696
Total Thorium	None	0.202
Total Uranium (ug/l)	30	1.08
* Screening Level		

MISS07B		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	3.77
Adj. Gross Beta	50*	-4.58
Total Radium	5	0.35
Total Thorium	None	0.29
Total Uranium (ug/l)	30	5.39
* Screening Level		

B38W14D		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	2.901
Adj. Gross Beta	50*	0.46
Total Radium	5	2.902
Total Thorium	None	0.119
Total Uranium (ug/l)	30	1.25
* Screening Level		

B38W25DR		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	9.46
Adj. Gross Beta	50*	57.68
Total Radium	5	0.756
Total Thorium	None	0.274
Total Uranium (ug/l)	30	1.48
* Screening Level		

B38W18DR			
Parameter	MCL	Activity in pCi/L unless otherwise noted	8/9/16 DUP
Adj. Gross Alpha	15	1.53	-1.84
Adj. Gross Beta	50*	3.05	0.5
Total Radium	5	1.721	0.968
Total Thorium	None	0.125	0.083
Total Uranium (ug/l)	30	5.03	6.53
* Screening Level			

MISS05BR			
Parameter	MCL	Activity in pCi/L unless otherwise noted	8/15/16 DUP
Adj. Gross Alpha	15	9.67	11.59
Adj. Gross Beta	50*	-81.24	-30.24
Total Radium	5	1.321	1.114
Total Thorium	None	0.013	0.332
Total Uranium (ug/l)	30	0.00	0.11
* Screening Level			

B38W03B		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	2.14
Adj. Gross Beta	50*	-0.97
Total Radium	5	1.324
Total Thorium	None	0.376
Total Uranium (ug/l)	30	0.18
* Screening Level		

B38W02D		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	1.48
Adj. Gross Beta	50*	0.098
Total Radium	5	0.683
Total Thorium	None	0.619
Total Uranium (ug/l)	30	0.40
* Screening Level		

B38W15D		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	6	0.31
Adj. Gross Beta	50*	-1.45
Total Radium	5	0.428
Total Thorium	None	0.669
Total Uranium (ug/l)	30	4.40
* Screening Level		

B38W17B			
Parameter	MCL	Activity in pCi/L unless otherwise noted	8/29/16 DUP
Adj. Gross Alpha	15	11.04	11.77
Adj. Gross Beta	50*	-2.58	9.42
Total Radium	5	1.879	1.891
Total Thorium	None	0.436	0.189
Total Uranium (ug/l)	30	0.00	0.17
* Screening Level			

MW24D		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	5.3
Adj. Gross Beta	50*	-1.00
Total Radium	5	1.07
Total Thorium	None	0.23
Total Uranium (ug/l)	30	7.27
* Screening Level		

B38W24D		
Parameter	MCL	Activity in pCi/L unless otherwise noted
Adj. Gross Alpha	15	10.81
Adj. Gross Beta	50*	2.92
Total Radium	5	1.573
Total Thorium	None	-0.009
Total Uranium (ug/l)	30	0.05
* Screening Level		



FIGURE 3-10
 RADIOLOGIC SAMPLING RESULTS (AUGUST 2016)
 SHALLOW BEDROCK MONITORING WELLS
 MAYWOOD SUPERFUND SITE, NEW JERSEY

Appendix A
NJDEP Permits, Well Records and Survey Forms
(Form B) for Modified and New LTM Wells

APPENDIX A

NJDEP PERMITS FOR MODIFIED AND NEW LTM WELLS

WELL PERMIT

Modification of 2600061466

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit.

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington

State: District of Columbia

Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FURSRAP Maywood Project

Address: 100 W. HUNTER AVE. / BRPZ-2

County: Bergen

Municipality: Rochelle Park Twp

Lot: 1

Block: 19.01

Easting (X): 610357 **Northing (Y):** 752112

Local ID: BRPZ-2

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 50

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

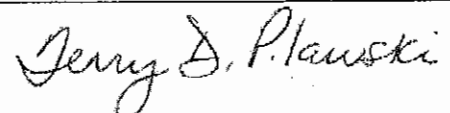
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: April 22, 2016

Expiration Date: April 22, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600061466

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed. [N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7(a)1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit. [N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600061467

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W. HUNTER AVE. / BRPZ-3 confirmed by client

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610316 Northing (Y): 752062

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: BRPZ-3

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 50

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: April 22, 2016
Expiration Date: April 22, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski
Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
Modification of 2600061467

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a)1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600060716

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington

State: District of Columbia

Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / BRPZ-4 confirmed by client

County: Bergen

Municipality: Rochelle Park Twp

Lot: 1

Block: 19.01

Easting (X): 610362 **Northing (Y):** 752062

Local ID: BRPZ-4

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 6

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 50

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: April 22, 2016

Expiration Date: April 22, 2017

Approved by the authority of:

Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600060716

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600060717

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington

State: District of Columbia

Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / BRPZ-5

County: Bergen

Municipality: Rochelle Park Twp

Lot: 1

Block: 19.01

Easting (X): 610321 Northing (Y): 752221

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: BRPZ-5

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 50

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

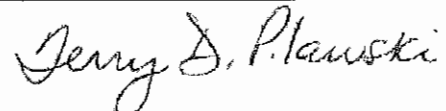
Approval Date: April 22, 2016

Expiration Date: April 22, 2017

Approved by the authority of:

Bob Martin

Commissioner



Terry Pilawski, Chief

Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600060717

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed. [N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7(a)1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit. [N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600061469

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W. HUNTER AVE. / BRPZ-9

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610296 Northing (Y): 752290

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: BRPZ-9

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 6

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 50

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

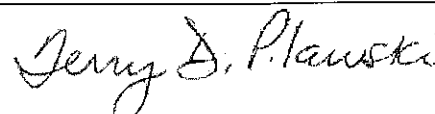
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: April 22, 2016

Expiration Date: April 22, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600061469

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600014043

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: MOHAMMAD BAJWA

Organization: Mohammad Bajwa

Address: 90 Parkway

City: Rochelle Park Twp

State: New Jersey

Zip Code: 07662

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 90 Parkway / B38W14S Grade change. New prot.casing/pad

County: Bergen

Municipality: Rochelle Park Twp

Lot: 39.02

Block: 17.01

Easting (X): 609387 Northing (Y): 752376

Local ID: B38W14S

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

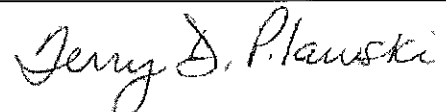
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: April 25, 2016

Expiration Date: April 25, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600014043

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600014042

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: MOHAMMAD BAJWA

Organization: Mohammad Bajwa

Address: 90 Park Way

City: Rochelle Park Twp

State: New Jersey

Zip Code: 07607

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 90 Parkway / B38W14D Grade change. New prot.casing/pad

County: Bergen

Municipality: Rochelle Park Twp

Lot: 39.02

Block: 17.01

Easting (X): 609387 **Northing (Y):** 752376

Local ID: B38W14D

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 60

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: April 25, 2016

Expiration Date: April 25, 2017

Approved by the authority of:

Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600014042

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600058962

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Avenue

City: Washington

State: District of Columbia

Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: Madison Ave /MW-6D

County: Bergen

Municipality: Rochelle Park Twp

Lot: ROW

Block: ROW

Easting (X): 608753 Northing (Y): 752067

Local ID: MW-6D

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 1

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 54

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Other

Attachments: 611043_2016_0716 Resubmitted Deviation Request.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

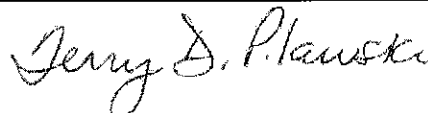
Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: July 18, 2016

Expiration Date: July 18, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600058962

DEVIATION INFORMATION	
Purpose:	Site investigation & remediation of contaminants with monitoring wells
Unusual Conditions:	Located in street, access issues and shallow bedrock
Reason for Deviation:	Fines from the fractured rock is infiltrating the open hole
Proposed Well Construction	Sleeve the open hole with a 3" pvc casing, install a 1" pre-pack screen and 1" riser to grade sand, seal, grout remaining annulus while removing 3" sleeve

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

Modification of 2600065218

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington **State:** District of Columbia **Zip Code:** 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: GROVE AVENUE / MW34D

County: Bergen **Municipality:** Maywood Boro **Lot:** 45 **Block:** 124

Easting (X): 610804 **Northing (Y):** 752258

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW34D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 6

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 50

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: _____

Attachments: _____

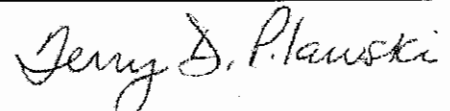
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: April 22, 2016

Expiration Date: April 22, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 Modification of 2600065218

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / B38W18DR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46.01 Block: 124

Easting (X): 610934 Northing (Y): 752226

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: B38W18DR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 3, 2016

Expiration Date: May 3, 2017

Approved by the authority of:

Bob Martin

Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave .

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / B38W25SR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 45 Block: 124

Easting (X): 610497 Northing (Y): 752237
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: B38W25SR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 22

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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WELL PERMIT

New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / B38W25BR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 45 Block: 124

Easting (X): 610496 Northing (Y): 752239

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: B38W25BR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
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WELL PERMIT

New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington

State: District of Columbia

Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS01AR confirmed by client / 5845

County: Bergen

Municipality: Rochelle Park Twp

Lot: 1

Block: 20.01

Easting (X): 610253 **Northing (Y):** 752688

Local ID: MISS01AR

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 3, 2016

Expiration Date: May 3, 2017

Approved by the authority of:

Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington **State:** District of Columbia **Zip Code:** 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS01BR confirmed by client / 5845

County: Bergen **Municipality:** Rochelle Park Twp **Lot:** 1 **Block:** 20.01

Easting (X): 610243 **Northing (Y):** 752686
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MISS01BR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington **State:** District of Columbia **Zip Code:** 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS02AR confirmed by client / 5845

County: Bergen **Municipality:** Maywood Boro **Lot:** 46 **Block:** 124

Easting (X): 610857 **Northing (Y):** 752512

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MISS02AR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 22

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

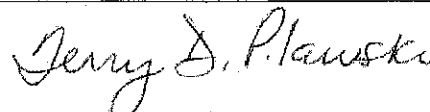
Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Bob Martin

Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS02BR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610860 Northing (Y): 752493
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MISS02BR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 22

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA STEPAN CHEMICAL COMPANY

Organization: Stepan Chemical Company

Address: 22 West Frontage Rd

City: Northfield

State: Illinois

Zip Code: 60093

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS04AR confirmed by client

County: Bergen

Municipality: Maywood Boro

Lot: 31.01

Block: 124

Easting (X): 610499 **Northing (Y):** 751834

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MISS04AR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

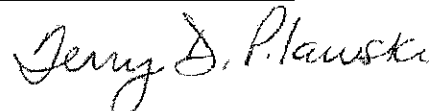
Approval Date: August 31, 2016

Expiration Date: August 31, 2017

Approved by the authority of:

Bob Martin

Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: Rear Rochelle Ave / MISS07AR confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610203 Northing (Y): 752361
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MISS07AR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

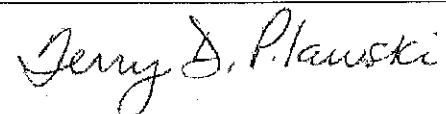
Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: July 7, 2016
Expiration Date: July 7, 2017

Approved by the authority of:
Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington **State:** District of Columbia **Zip Code:** 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / OVPZ-17R confirmed by client / 5845

County: Bergen **Municipality:** Rochelle Park Twp **Lot:** 1 **Block:** 19.01

Easting (X): 610330 **Northing (Y):** 752128
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: OVPZ-17R

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

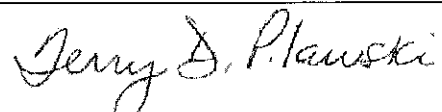
Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-3SR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610585 Northing (Y): 752623

Local ID: MW-3SR

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program _____

Depth (ft.): 22

Requiring Wells/Borings: _____

Pump Capacity (gpm): 0

Case ID Number: _____

Drilling Method: Hollow Stem Augers

Deviation Requested: N

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

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DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-3DR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610597 Northing (Y): 752619
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-3DR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 22

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

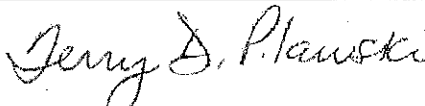
Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner


Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-43SR confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610249 Northing (Y): 752507
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-43SR

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

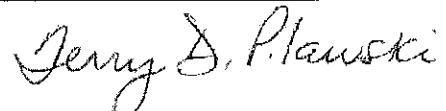
Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

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Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-44S confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610713 Northing (Y): 752572

Local ID: MW-44S

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 22

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

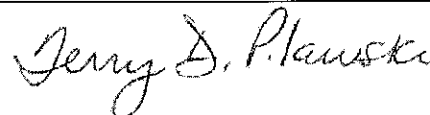
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington

State: District of Columbia

Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-45D confirmed by client / 5845

County: Bergen

Municipality: Rochelle Park Twp

Lot: 1

Block: 20.01

Easting (X): 610433 **Northing (Y):** 752385
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-45D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

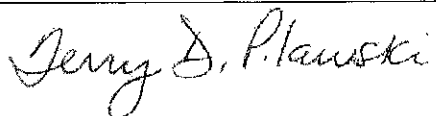
Drilling Method: Air Rotary/HSA

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner


Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

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PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-46S confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610766 Northing (Y): 752397
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-46S

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 22

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

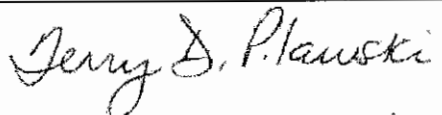
Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner


Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-46D confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610753 Northing (Y): 752391

Local ID: MW-46D

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 22

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N


Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016
Expiration Date: May 2, 2017

Approved by the authority of:
Bob Martin
Commissioner


Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington

State: District of Columbia

Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-47S confirmed by client / 5845

County: Bergen

Municipality: Rochelle Park Twp

Lot: 1

Block: 20.01

Easting (X): 610410 Northing (Y): 752564

Local ID: MW-47S

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

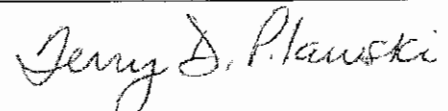
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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WELL PERMIT

New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

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Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-47D confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610405 Northing (Y): 752550

Local ID: MW-47D

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

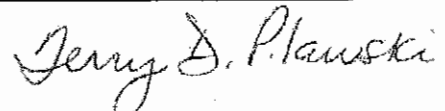
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

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PROPERTY OWNER

Name: NA UNITED STATES OF AMERICA

Organization: United States of America

Address: 1800 Pennsylvania Ave

City: Washington State: District of Columbia Zip Code: 20006

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-48S confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610334 Northing (Y): 752704

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-48S

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

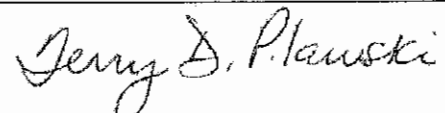
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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City: Washington State: District of Columbia Zip Code: 20006

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Local ID: MW-48D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

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Attachments: _____

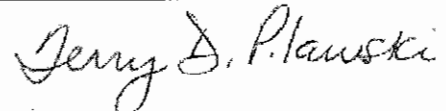
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WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: JOHN AND JAMIE GRYCTKO

Organization: Homeowner

Address: 61 Madison Ave

City: Rochelle Park

State: New Jersey

Zip Code: 07662

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: 61 Madison Ave confirmed by client / MW-51S

County: Bergen

Municipality: Rochelle Park Twp

Lot: 26

Block: 5

Easting (X): 609157 Northing (Y): 751619

Local ID: MW-51S

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 20

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: June 15, 2016

Expiration Date: June 15, 2017

Approved by the authority of:

Bob Martin

Commissioner

Terry D. Pilawski

Terry Pilawski, Chief

Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
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WELL PERMIT

New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: JOHN AND JAMIE GRYCTKO

Organization: Homeowner

Address: 61 Madison Ave

City: Rochelle Park Twp

State: New Jersey

Zip Code: 07662

PROPOSED WELL LOCATION

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Address: 61 Madison Ave confirmed by client / MW-51D

County: Bergen

Municipality: Rochelle Park Twp

Lot: 26

Block: 5

Easting (X): 609127 Northing (Y): 751619

Local ID: MW-51D

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 6

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 60

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments: _____

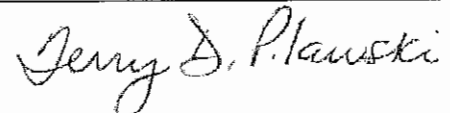
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: June 15, 2016

Expiration Date: June 15, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA TOWNSHIP OF ROCHELLE PARK

Organization: Township of Rochelle Park

Address: 151 West Passaic Street

City: Rochelle Park

State: New Jersey

Zip Code: 07662

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: near 107 Parkway / MW-52S confirmed by client / 5845

County: Bergen

Municipality: Rochelle Park Twp

Lot: ROW

Block: ROW

Easting (X): 609275 Northing (Y): 752018

Local ID: MW-52S

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 60

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

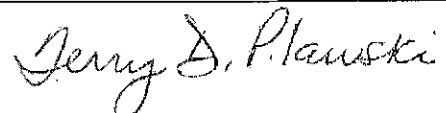
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016

Expiration Date: August 19, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA TOWNSHIP OF ROCHELLE PARK

Organization: Township of Rochelle Park

Address: 151 West Passaic Street

City: Rochelle Park

State: New Jersey

Zip Code: 07662

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Block: ROW

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Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 60

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

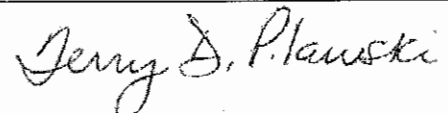
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016

Expiration Date: August 19, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

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Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA BOROUGH OF MAYWOOD

Organization: Borough of Maywood

Address: 15 Park Avenue

City: Maywood Boro

State: New Jersey

Zip Code: 07607

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: Hergesell Avenue / MW-53S confirmed by client

County: Bergen

Municipality: Maywood Boro

Lot: ROW

Block: ROW

Easting (X): 610722 Northing (Y): 753034

Local ID: MW-53S

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

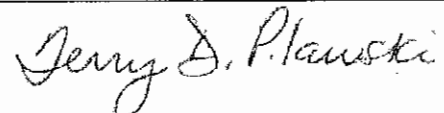
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: July 15, 2016

Expiration Date: July 15, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA BOROUGH OF MAYWOOD

Organization: Borough of Maywood

Address: 15 Park Avenue

City: Maywood Boro

State: New Jersey

Zip Code: 07607

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: Hergesell Avenue / MW-53D confirmed by client

County: Bergen

Municipality: Maywood Boro

Lot: ROW

Block: ROW

Easting (X): 610713 Northing (Y): 753019

Local ID: MW-53D

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

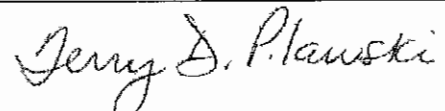
Approval Date: July 15, 2016

Expiration Date: July 15, 2017

Approved by the authority of:

Bob Martin

Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA BOROUGH OF MAYWOOD

Organization: Borough of Maywood

Address: 15 Park Avenue

City: Maywood Boro

State: New Jersey

Zip Code: 07607

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: Eccelston Avenue / MW-54S confirmed by client

County: Bergen

Municipality: Maywood Boro

Lot: ROW

Block: ROW

Easting (X): 611200 **Northing (Y):** 752798

Local ID: MW-54S

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

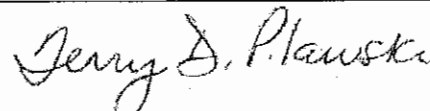
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: July 15, 2016

Expiration Date: July 15, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

New Well

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Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302

Permit Issued to: SGS NORTH AMERICA INC.

Company Address: PO BOX 423 WEST CREEK, NJ 08092

PROPERTY OWNER

Name: NA BOROUGH OF MAYWOOD

Organization: Borough of Maywood

Address: 15 Park Avenue

City: Maywood Boro

State: New Jersey

Zip Code: 07607

PROPOSED WELL LOCATION

Facility Name: FUSRAP Maywood Project

Address: Eccelston Avenue / MW-54D confirmed by client

County: Bergen

Municipality: Maywood Boro

Lot: ROW

Block: ROW

Easting (X): 611195 Northing (Y): 752788

Local ID: MW-54D

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 55

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary/HSA

Attachments: _____

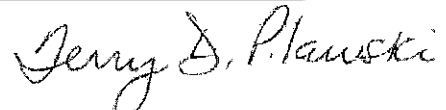
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: July 15, 2016

Expiration Date: July 15, 2017

Approved by the authority of:

Bob Martin
Commissioner



Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT
 New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

APPENDIX A

NJDEP WELL RECORD FOR MODIFIED AND NEW LTM WELLS

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FURSRAP Maywood Project

Address: 100 W. HUNTER AVE. / BRPZ-2

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610357 Northing (Y): 752112
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 25, 2016

DATE WELL COMPLETED: April 25, 2016

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: BRPZ-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 62 Finished Well Depth (ft.): 62 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	40	10		
Borehole	40	62	6		
Casing	0	42	2	PVC	40
Casing	0	40	6	Steel	19 lbs/schd
Screen	42	62	2	pvc	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	42	6	2	36	584	45
Grout	0	40	10	6	42	858	50
Gravel Pack	40	62	6	2	#1 sand		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: _____

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 25 ft. below land surface
 Water Level Measure Tool: tape
 Well Development Period: 4 hrs.
 Method of Development: surge & pump
 Pump Type: _____

Pump Capacity: _ gpm
 Total Design Head: _ ft.
 Drilling Fluid: _____
 Drill Rig: DK-5
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 25: white to black OT - Other fill
 25 - 38: red brown SM - Silty sands, sand-silt mixtures
 38 - 40: red brown WR - Weathered Rock shale
 40 - 62: red brown CR - Competent Rock bedrock

ADDITIONAL INFORMATION: well installed 2001 with flush mount. SGS modified to 8" stick up.

Driller of Record: Wesley M Eichfeld,
MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W. HUNTER AVE. / BRPZ-3 confirmed by client

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610316 Northing (Y): 752062
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 25, 2016

DATE WELL COMPLETED: April 25, 2016

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: BRPZ-3

WELL CONSTRUCTION

Total Depth Drilled (ft.): 57 Finished Well Depth (ft.): 57 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	35	10		
Borehole	35	57	6		
Casing	0	37	2	PVC	40
Casing	0	35	6	Steel	19 lbs/schd
Screen	37	57	2	pvc	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	37	6	2	584	36	40
Grout	0	35	10	6	658	42	45
Gravel Pack	35	57	6	2	#1 sand		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 20 ft. below land surface

Water Level Measure Tool: tape

Well Development Period: 4 hrs.

Method of Development: surge & pump

Pump Type: _____

Pump Capacity: gpm

Total Design Head: ft.

Drilling Fluid: _____

Drill Rig: T-450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 25: white to black OT - Other fill
 25 - 33: red brown SM - Silty sands, sand-silt mixtures
 33 - 35: red brown WR - Weathered Rock shale
 35 - 57: red brown CR - Competent Rock bedrock

ADDITIONAL INFORMATION: well installed 2001 with flush mount. SGS modified to 8" stick up.

Driller of Record: Wesley M Eichfeld,
MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / BRPZ-4 confirmed by client

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610362 Northing (Y): 752062
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 25, 2016

DATE WELL COMPLETED: April 25, 2016

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: BRPZ-4

WELL CONSTRUCTION

Total Depth Drilled (ft.): 61 Finished Well Depth (ft.): 61 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	40	10		
Borehole	40	61	6		
Casing	0	40	6	Steel	19 lbs/schd
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	40	10	6	48	752	50
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 25 ft. below land surface

Water Level Measure Tool: tape

Well Development Period: 4 hrs.

Method of Development: air lift, surge, and pump

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: T-450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 25: white to black OT - Other fill
 25 - 37: red brown SM - Silty sands, sand-silt mixtures
 37 - 61: red brown CR - Competent Rock bedrock

ADDITIONAL INFORMATION: 6" open hole 40-61" well installed 2001 with flush mount. SGS modified to stick up.

Driller of Record: Wesley M Eichfeld, MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / BRPZ-5

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610321 Northing (Y): 752221
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 25, 2016
DATE WELL COMPLETED: April 25, 2016

WELL USE: PIEZOMETER

Other Use(s): _____ **Local ID:** BRPZ-5

WELL CONSTRUCTION

Total Depth Drilled (ft.): 62 Finished Well Depth (ft.): 62 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	40	10		
Borehole	40	62	6		
Casing	0	42	2	PVC	40
Casing	0	40	6	Steel	19 lbs/schd
Screen	42	62	2	pvc	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	40	6	2	36	584	30
Grout	0	40	10	6	48	752	45
Gravel Pack	40	62	6	2	#1 sand		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes Pump Capacity: gpm
 Static Water Level: 43 ft. below land surface Total Design Head: ft.
 Water Level Measure Tool: tape Drilling Fluid:
 Well Development Period: 4 hrs. Drill Rig: T-450
 Method of Development: surge, air lift, pumping Health and Safety Plan Submitted? Yes
 Pump Type:

ATTACHMENTS:

GEOLOGIC LOG

0 - 25: white to black OT - Other fill material
 25 - 37: red/brown SM - Silty sands, sand-silt mixtures
 37 - 40: red/brown WR - Weathered Rock shale
 40 - 62: red brown CR - Competent Rock bedrock

ADDITIONAL INFORMATION: well installed 2001 with a flush mount. SGS modified well to 8" stick up protective casing.

Driller of Record: Wesley M Eichfeld,
MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W. HUNTER AVE. / BRPZ-9

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610296 Northing (Y): 752290
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 26, 2016

DATE WELL COMPLETED: April 26, 2016

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: BRPZ-9

WELL CONSTRUCTION

Total Depth Drilled (ft.): 56 Finished Well Depth (ft.): 56 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	32	10		
Borehole	32	56	6		
Casing	0	32	6	Steel	19 lbs/schd
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	10	6	48	752	35
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 25 ft. below land surface

Water Level Measure Tool: tape

Well Development Period: 4 hrs.

Method of Development: surge, airlift, pump

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: T-450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 25: white to black OT - Other fill
 25 - 28: red brown SM - Silty sands, sand-silt mixtures
 28 - 32: red brown WR - Weathered Rock shale
 32 - 56: red brown CR - Competent Rock bedrock

ADDITIONAL INFORMATION: 6" open hole 32-56' well installed 2001 with flush mount. SGS modified to stick up.

Driller of Record: Wesley M Eichfeld, MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: GROVE AVENUE / MW34D

County: Bergen

Municipality: Maywood Boro

Lot: 45

Block: 124

Easting (X): 610804 Northing (Y): 752258
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 26, 2016

DATE WELL COMPLETED: April 26, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW34D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 53

Finished Well Depth (ft.): 53

Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	18	14		
Borehole	18	28	10		
Casing	0	28	6	Steel	19 lb
Casing	0	18	10	Steel	40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	28	10	6	47	859	73
Grout	0	18	14	10	45	828	70
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 23 ft. below land surface

Water Level Measure Tool: tape

Well Development Period: hrs.

Method of Development: _____

Pump Type: _____

Pump Capacity: gpm

Total Design Head: ft.

Drilling Fluid: _____

Drill Rig: IRT4W

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 6: grey/brown OT - Other crushed stone & mulch

6 - 18: red/brown SC - Clayey sands, sand-clay mixtures

18 - 53: red/brown WR - Weathered Rock silt, sandstone

ADDITIONAL INFORMATION: 6" open hole well 28 - 53'

well installed 2002 with 6" above grade casing. It was damaged and SGS modified by repairing 6" casing and adding 12" stick up.

Driller of Record: Wesley M Eichfeld,
MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: MOHAMMAD BAJWA
 Company/Organization: Mohammad Bajwa
 Address: 90 Parkway Rochelle Park Twp, New Jersey 07662

WELL LOCATION: FUSRAP Maywood Project
 Address: 90 Parkway / B38W14S Grade change. New prot.casing/pad
 County: Bergen Municipality: Rochelle Park Twp Lot: 39.02 Block: 17.01

Easting (X): <u>609467</u> Northing (Y): <u>752411</u> Coordinate System: <u>NJ State Plane (NAD83) - USFEET</u>	DATE WELL STARTED: <u>May 4, 2016</u> DATE WELL COMPLETED: <u>May 4, 2016</u>
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WELL USE: MONITORING
 Other Use(s): _____ Local ID: B38W14S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14 Finished Well Depth (ft.): 14 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14	6		
Casing	0	5	2	Stainless Steel	316
Screen	5	14	2	stainless steel	.020

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	3	46	4
Gravel Pack	3	14	6	2	#1 sand		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: _____

ADDITIONAL INFORMATION

Protective Casing: <u>Yes</u> Static Water Level: <u>8</u> ft. below land surface Water Level Measure Tool: <u>tape</u> Well Development Period: <u>1</u> hrs. Method of Development: <u>pump</u> Pump Type: _____	Pump Capacity: <u> </u> gpm Total Design Head: <u> </u> ft. Drilling Fluid: _____ Drill Rig: _____ Health and Safety Plan Submitted? <u>Yes</u>
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ATTACHMENTS:

GEOLOGIC LOG

0 - 5: white to black SP - Poorly graded sands and gravelly sands, little or no fines
 5 - 14: red brown SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: well installed in 1988 with flush mount. Grade changed so SGS modified well and finished with a new 9" flush mount.

Driller of Record: Wesley M Eichfeld, MASTER LICENSE # 592848 Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: MOHAMMAD BAJWA

Company/Organization: Mohammad Bajwa

Address: 90 Park Way Rochelle Park Twp, New Jersey 07607

WELL LOCATION: FUSRAP Maywood Project

Address: 90 Parkway / B38W14D Grade change. New prot.casing/pad

County: Bergen Municipality: Rochelle Park Twp Lot: 39.02 Block: 17.01

Easting (X): 609469 Northing (Y): 752414
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 4, 2016
DATE WELL COMPLETED: May 4, 2016

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** B38W14D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 52 Finished Well Depth (ft.): 52 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout							
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: _____

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: ft. below land surface

Water Level Measure Tool: _____

Well Development Period: hrs.

Method of Development: _____

Pump Type: _____

Pump Capacity: gpm

Total Design Head: ft.

Drilling Fluid: _____

Drill Rig: _____

Health and Safety Plan Submitted? _____

ATTACHMENTS:

GEOLOGIC LOG

0 - 6: white to black OT - Other fill material

6 - 15: red brown SW - Well-graded sands and gravelly sands, little or no fines

15 - 32: red brown WR - Weathered Rock shale

32 - 52: red brown CR - Competent Rock bedrock

ADDITIONAL INFORMATION: Not enough information on the well record provided to complete well construction detail as requested in tech def notice.
 well installed in 1988 with flush mount. Grade changed so SGS modified well and finished with new 9" flush mount.

Driller of Record: Wesley M Eichfeld,
MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / B38W18DR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46.01 Block: 124

Easting (X): 610934 Northing (Y): 752226
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 14, 2016

DATE WELL COMPLETED: July 7, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: B38W18DR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 71 Finished Well Depth (ft.): 71 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	46	10		
Borehole	46	71	6		
Casing	0	46	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	46	10	6	45	1128	84
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: No
 Static Water Level: 8.5 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: air lift
 Pump Type: _____

Pump Capacity: __ gpm
 Total Design Head: __ ft.
 Drilling Fluid: _____
 Drill Rig: schr amm T 450
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 15: black OT - Other fill
 15 - 30: redish SP - Poorly graded sands and gravelly sands, little or no fines
 30 - 36: redish WR - Weathered Rock shale
 36 - 71: redish CR - Competent Rock shale

ADDITIONAL INFORMATION: open rock hole

Driller of Record: Larry Lynch,
MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / B38W25SR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 45 Block: 124

Easting (X): 610497 Northing (Y): 752237
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 9, 2016

DATE WELL COMPLETED: May 10, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: B38W25SR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 12.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	7		
Casing	0	7.5	2	PVC	sch 40
Screen	7.5	12.5	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	7	2	5	86	7
Gravel Pack	4	6	7	2	#00 Filpro		
Gravel Pack	6	13	7	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 6 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: Pump / Surge

Pump Type: _____

Pump Capacity: __ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: Mobile B-80

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: Brown-Red OT - Other Fill

5 - 10: Brown-Red SW - Well-graded sands and gravelly sands, little or no fines

10 - 13: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca,
JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / B38W25BR confirmed by client / 5845

County: Bergen

Municipality: Maywood Boro

Lot: 45

Block: 124

Easting (X): 610496 Northing (Y): 752239
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 18, 2016

DATE WELL COMPLETED: May 24, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: B38W25BR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 58

Finished Well Depth (ft.): 58

Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	33	10		
Borehole	33	58	6		
Casing	0	33	6	Steel	.280
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	33	10	6	56	1012	86
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary/HSA

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 5 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: air lift

Pump Type: _____

Pump Capacity: gpm

Total Design Head: ft.

Drilling Fluid: _____

Drill Rig: Mobile B-80

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: Brown-Red OT - Other Fill
5 - 13: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures
13 - 19: Brown-Red WR - Weathered Rock Sandstone
19 - 23: Brown/red WR - Weathered Rock Sandstone/Shale
23 - 58: Brown/red CR - Competent Rock Sandstone/Shale

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS01AR confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610253 Northing (Y): 752688
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 7, 2016

DATE WELL COMPLETED: June 7, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MISS01AR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 15 Finished Well Depth (ft.): 14 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	15	7		
Casing	0	9	2	PVC	sch 40
Screen	9	14	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	7	2	6	108	9
Gravel Pack	5	6	7	2		#00 Filpro	
Gravel Pack	6	15	7	2		#1 Filpro	

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 10 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: Pump / Surge
 Pump Type: _____

Pump Capacity: _ gpm
 Total Design Head: _ ft.
 Drilling Fluid: _____
 Drill Rig: Mobile B-80
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 8: Brown-Red OT - Other Fill
 8 - 11: Brown-Red SM - Silty sands, sand-silt mixtures
 11 - 15: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS01BR confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610243 Northing (Y): 752686
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 31, 2016

DATE WELL COMPLETED: August 22, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MISS01BR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 61 Finished Well Depth (ft.): 61 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	38	10		
Borehole	38	61	6		
Casing	0	38	6	Steel	sch40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	38	10	6	60	940	64
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 10 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: air lift

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: schramm t450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: brown OT - Other fill
10 - 20: redish brown SM - Silty sands, sand-silt mixtures
20 - 28: redish WR - Weathered Rock sandstone
28 - 61: redish CR - Competent Rock bedrock

ADDITIONAL INFORMATION: open hole bedrock

Driller of Record: Wesley M Eichfeld, MASTER LICENSE # 592848

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS02AR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610857 Northing (Y): 752512
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 5, 2016

DATE WELL COMPLETED: July 20, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MISS02AR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 19 Finished Well Depth (ft.): 19 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	19	8		
Casing	0	14	2	PVC	sch 40
Screen	14	19	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12	8	2	12	282	18
Gravel Pack	12	19	8	2	#1 filpro		

Grouting Method: Gravity method

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
 Static Water Level: 8 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: whale pump
 Pump Type:

Pump Capacity: _ gpm
 Total Design Head: _ ft.
 Drilling Fluid:
 Drill Rig: schramm T 450
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: brown OT - Other fill
 5 - 19: redish brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Larry Lynch, MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS02BR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610860 Northing (Y): 752493
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 21, 2016
DATE WELL COMPLETED: July 7, 2017

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** MISS02BR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 62 Finished Well Depth (ft.): 62 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	38	10		
Borehole	38	62	6		
Casing	0	38	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	38	10	6	30	940	60
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: No
 Static Water Level: 16 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: air lift
 Pump Type:

Pump Capacity: __ gpm
 Total Design Head: __ ft.
 Drilling Fluid:
 Drill Rig: schramm t 450
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 10: brown OT - Other fill
10 - 19: redish SC - Clayey sands, sand-clay mixtures
19 - 28: redish WR - Weathered Rock shale
28 - 62: redish CR - Competent Rock shale

ADDITIONAL INFORMATION: open rock hole

Driller of Record: Larry Lynch, MONITORING LICENSE # 0024436 Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA STEPAN CHEMICAL COMPANY

Company/Organization: Stepan Chemical Company

Address: 22 West Frontage Rd Northfield, Illinois 60093

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MISS04AR confirmed by client

County: Bergen

Municipality: Maywood Boro

Lot: 31.01

Block: 124

Easting (X): 610499 Northing (Y): 751834
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: September 6, 2016

DATE WELL COMPLETED: September 6, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MISS04AR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 15

Finished Well Depth (ft.): 15

Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	15	7		
Casing	0	10	2	PVC	sch 40
Screen	10	15	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6	7	2	7	129	11
Gravel Pack	6	8	7	2	#00 Filpro		
Gravel Pack	8	15	7	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 13 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: Pump / Surge

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: Mobile B-80

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: Brown-Red OT - Other Fill
5 - 10: Brown-Red SM - Silty sands, sand-silt mixtures
10 - 15: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: Rear Rochelle Ave / MISS07AR confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610203 Northing (Y): 752361
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 7, 2016
DATE WELL COMPLETED: July 7, 2016

WELL USE: MONITORING

Other Use(s): _____ Local ID: MISS07AR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12.5 Finished Well Depth (ft.): 12.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12.5	6		
Casing	0	7.5	2	PVC	sch 40
Screen	7.5	12.5	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.5	6	2	3	54	5
Gravel Pack	3.5	5.5	6	2	#00 Filpro		
Gravel Pack	5.5	12.5	6	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 8 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1.5 hrs.
 Method of Development: air lift
 Pump Type:

Pump Capacity: gpm
 Total Design Head: ft.
 Drilling Fluid:
 Drill Rig: Schramm 450
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: Brown-Red OT - Other fill
 5 - 12.5: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-3SR confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): <u>610585</u> Northing (Y): <u>752623</u>	DATE WELL STARTED: <u>June 1, 2016</u>
Coordinate System: <u>NJ State Plane (NAD83) - USFEET</u>	DATE WELL COMPLETED: <u>June 1, 2016</u>

WELL USE: MONITORING

Other Use(s): _____ Local ID: MW-3SR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 20 Finished Well Depth (ft.): 19 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	20	8		
Casing	0	14	2	PVC	sch 40
Screen	14	19	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	8	2	16	287	24
Gravel Pack	10	12	8	2	#00 Filpro		
Gravel Pack	12	20	8	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: <u>Yes</u>	Pump Capacity: <u>_</u> gpm
Static Water Level: <u>12</u> ft. below land surface	Total Design Head: <u>_</u> ft.
Water Level Measure Tool: <u>m scope</u>	Drilling Fluid:
Well Development Period: <u>1</u> hrs.	Drill Rig: <u>Mobile B-80</u>
Method of Development: <u>Pump / Surge</u>	Health and Safety Plan Submitted? <u>Yes</u>
Pump Type:	

ATTACHMENTS:

GEOLOGIC LOG
0 - 7: Brown-Red OT - Other Fill
7 - 10: Brown-Red SM - Silty sands, sand-silt mixtures
10 - 17: Brown-Red ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
17 - 20: Brown/red GC - Clayey gravels, gravel-sand-clay mixtures some Weathered Rock

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302 Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-3DR confirmed by client / 5845

County: Bergen

Municipality: Maywood Boro

Lot: 46

Block: 124

Easting (X): 610597 Northing (Y): 752619

Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 26, 2016

DATE WELL COMPLETED: July 26, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-3DR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 63

Finished Well Depth (ft.): 63

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	38	10		
Borehole	38	63	6		
Casing	0	38	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	38	10	6	15	940	60
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: No

Static Water Level: 12 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: air lift

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: schramm t450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 10: brown OT - Other fill

10 - 19: redish SC - Clayey sands, sand-clay mixtures

19 - 63: redish CR - Competent Rock shale

ADDITIONAL INFORMATION: open rock hole

Driller of Record: Larry Lynch, MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-43SR confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 19.01

Easting (X): 610249 Northing (Y): 752507
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 11, 2016
DATE WELL COMPLETED: May 11, 2016

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** MW-43SR

WELL CONSTRUCTION

Total Depth Drilled (ft.): 8.5 Finished Well Depth (ft.): 8.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	8.5	8		
Casing	0	3.5	2	PVC	sch 40
Screen	3.5	8.5	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	1.5	8	2	47	4	
Gravel Pack	1.5	2.5	8	2	#00 Filpro		
Gravel Pack	2.5	8.5	8	2	#1 Filpro		

Grouting Method: Gravity method Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 6 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: Pump / Surge
 Pump Type:

Pump Capacity: gpm
 Total Design Head: ft.
 Drilling Fluid:
 Drill Rig: Mobile B-80
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: Brown-Red OT - Other Fill
5 - 8.5: Brown-Red SM - Silty sands, sand-silt mixtures Weathered Rock

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-44S confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610713 Northing (Y): 752572
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 2, 2016

DATE WELL COMPLETED: June 6, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-44S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14 Finished Well Depth (ft.): 14 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14	8		
Casing	0	9	2	PVC	sch 40
Screen	9	14	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6	8	2	10	172	15
Gravel Pack	6	8	8	2	#00 Filpro		
Gravel Pack	8	14	8	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 10 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: Pump / Surge
 Pump Type: _____

Pump Capacity: _ gpm
 Total Design Head: _ ft.
 Drilling Fluid: _____
 Drill Rig: Mobile B-80
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 9: Brown-Red OT - Other Fill
 9 - 10: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures
 10 - 14: Brown-Red WR - Weathered Rock Sandstone

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-45D confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610433 Northing (Y): 752385
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 9, 2016

DATE WELL COMPLETED: August 22, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-45D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 63 Finished Well Depth (ft.): 63 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	38	10		
Borehole	38	63	6		
Casing	0	38	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	38	10	6	60	960	64
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 10 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: airlift

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: schramm T450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 12: brown OT - Other fill

12 - 21: redish SP - Poorly graded sands and gravelly sands, little or no fines

21 - 28: redish WR - Weathered Rock sandstone

28 - 63: redish CR - Competent Rock siltstone

ADDITIONAL INFORMATION: openhole 38/63

Driller of Record: Larry Lynch,
MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-46S confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610766 Northing (Y): 752397
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 10, 2016

DATE WELL COMPLETED: May 10, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-46S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 18 Finished Well Depth (ft.): 17.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	18	8		
Casing	0	12.5	2	PVC	sch 40
Screen	12.5	17.5	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9	8	2	14	259	22
Gravel Pack	9	11.5	8	2	#00 Filpro		
Gravel Pack	11.5	18	8	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 11 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: Pump / Surge
 Pump Type:

Pump Capacity: gpm
 Total Design Head: ft.
 Drilling Fluid:
 Drill Rig: Mobile B-80
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: Brown-Red OT - Other Fill
 5 - 10: Brown-Red SM - Silty sands, sand-silt mixtures
 10 - 18: Brown-Red GC - Clayey gravels, gravel-sand-clay mixtures

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-46D confirmed by client / 5845

County: Bergen Municipality: Maywood Boro Lot: 46 Block: 124

Easting (X): 610753 Northing (Y): 752391
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 18, 2016

DATE WELL COMPLETED: June 6, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-46D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 57 Finished Well Depth (ft.): 57 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	32	10		
Borehole	32	57	6		
Casing	0	32	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	10	6	40	1100	80
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 16 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: air lift

Pump Type: _____

Pump Capacity: __ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: schramm T 450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: black OT - Other fill
10 - 17: redish SM - Silty sands, sand-silt mixtures
17 - 23: redish WR - Weathered Rock shale
23 - 57: redish CR - Competent Rock shale

ADDITIONAL INFORMATION:

Driller of Record: Larry Lynch, MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-47S confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610410 Northing (Y): 752564
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 12, 2016
DATE WELL COMPLETED: May 12, 2016

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** MW-47S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	8		
Casing	0	7	2	PVC	sch 40
Screen	7	12	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	8	2	6	115	10
Gravel Pack	4	6	8	2		#00 Filpro	
Gravel Pack	6	13	8	2		#1 Filpro	

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 5 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: Pump / Surge
 Pump Type: _____

Pump Capacity: _ gpm
 Total Design Head: _ ft.
 Drilling Fluid: _____
 Drill Rig: Mobile B-80
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: Brown-Red OT - Other Fill
 5 - 12: Brown-Red SM - Silty sands, sand-silt mixtures
 12 - 13: Brown-Red WR - Weathered Rock Sandstone

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302 Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-47D confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610405 Northing (Y): 752550
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 2, 2016

DATE WELL COMPLETED: August 22, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-47D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 63 Finished Well Depth (ft.): 63 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	38	10		
Borehole	38	63	6		
Casing	0	38	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	38	10	6	60	940	64
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 9 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: airlift

Pump Type: _____

Pump Capacity: gpm

Total Design Head: ft.

Drilling Fluid: _____

Drill Rig: schramm T450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: brown OT - Other fill
10 - 18: redish brown SP - Poorly graded sands and gravelly sands, little or no fines
18 - 28: redish WR - Weathered Rock sand stone
28 - 63: redish CR - Competent Rock sand stone

ADDITIONAL INFORMATION: openhole 38/63

Driller of Record: Larry Lynch, MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-48S confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610334 Northing (Y): 752704
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 1, 2016

DATE WELL COMPLETED: June 1, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-48S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 20 Finished Well Depth (ft.): 19 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	20	8		
Casing	0	14	2	PVC	sch 40
Screen	14	19	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	8	2	16	287	24
Gravel Pack	10	13	8	2	#00 Filpro		
Gravel Pack	13	20	8	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 12 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: Pump / Surge

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: Mobile B-80

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 7: Brown-Red OT - Other Fill

7 - 10: Brown-Red SM - Silty sands, sand-silt mixtures

10 - 17: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures Mostly Silt

17 - 20: Brown/red GM - Silty gravels, gravel-sand-silt mixtures Weathered Rock

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA UNITED STATES OF AMERICA

Company/Organization: United States of America

Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006

WELL LOCATION: FUSRAP Maywood Project

Address: 100 W HUNTER AVE / MW-48D confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01

Easting (X): 610334 Northing (Y): 752702
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 24, 2016
DATE WELL COMPLETED: May 31, 2016

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** MW-48D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 63 Finished Well Depth (ft.): 63 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	38	10		
Borehole	38	63	6		
Casing	0	38	6	Steel	.280
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	38	10	6	64	1165	99
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary/HSA

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 12 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: air lift
 Pump Type:

Pump Capacity: gpm
 Total Design Head: ft.
 Drilling Fluid:
 Drill Rig: Mobile B-80
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

<u>GEOLOGIC LOG</u>
0 - 7: Brown-Red OT - Other Fill
7 - 17: Brown-Red SM - Silty sands, sand-silt mixtures
17 - 20: Brown-Red GM - Silty gravels, gravel-sand-silt mixtures
20 - 26: Brown/red WR - Weathered Rock Sandstone
26 - 63: Brown/red CR - Competent Rock Sandstone/Shale

ADDITIONAL INFORMATION: open hole

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302 Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: JOHN AND JAMIE GRYCTKO

Company/Organization: Homeowner

Address: 61 Madison Ave Rochelle Park, New Jersey 07662

WELL LOCATION: FUSRAP Maywood Project

Address: 61 Madison Ave confirmed by client / MW-51S

County: Bergen

Municipality: Rochelle Park Twp

Lot: 26

Block: 5

Easting (X): 609157 Northing (Y): 751619

Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 29, 2016

DATE WELL COMPLETED: July 7, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-51S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 19

Finished Well Depth (ft.): 19

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	19	6		
Casing	0	9	2	PVC	sch 40
Screen	9	19	2	pvc	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	2	5	94	6
Gravel Pack	7	19	6	2	#1 filpro		

Grouting Method: Gravity method

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: No

Static Water Level: 9 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: whale pump

Pump Type: _____

Pump Capacity: _ gpm

Total Design Head: _ ft.

Drilling Fluid: _____

Drill Rig: schramm T450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other fill
5 - 17: redish SM - Silty sands, sand-silt mixtures
17 - 19: redish WR - Weathered Rock shale

ADDITIONAL INFORMATION:

Driller of Record: Larry Lynch,
MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: JOHN AND JAMIE GRYCTKO

Company/Organization: Homeowner

Address: 61 Madison Ave Rochelle Park Twp, New Jersey 07662

WELL LOCATION: FUSRAP Maywood Project

Address: 61 Madison Ave confirmed by client / MW-51D

County: Bergen

Municipality: Rochelle Park Twp

Lot: 26

Block: 5

Easting (X): 609127 Northing (Y): 751619

Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 27, 2016

DATE WELL COMPLETED: July 7, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-51D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 54

Finished Well Depth (ft.): 54

Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	29	10		
Borehole	29	54	6		
Casing	0	29	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	29	10	6	30	752	48
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: No

Static Water Level: 12 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: air lift

Pump Type: _____

Pump Capacity: gpm

Total Design Head: ft.

Drilling Fluid: _____

Drill Rig: schramm t 450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: brown OT - Other fill

5 - 17: redish SM - Silty sands, sand-silt mixtures

17 - 19: redish WR - Weathered Rock shale

19 - 54: redish CR - Competent Rock shale

ADDITIONAL INFORMATION: open rock hole

Driller of Record: Larry Lynch, MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA TOWNSHIP OF ROCHELLE PARK

Company/Organization: Township of Rochelle Park

Address: 151 West Passaic Street Rochelle Park, New Jersey 07662

WELL LOCATION: FUSRAP Maywood Project

Address: near 107 Parkway / MW-52S confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: ROW Block: ROW

Easting (X): 609275 Northing (Y): 752018
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: August 31, 2016

DATE WELL COMPLETED: August 31, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-52S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11 Finished Well Depth (ft.): 11 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11	7		
Casing	0	6	2	PVC	sch 40
Screen	6	11	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	7	2	53	86	7
Gravel Pack	4	11	7	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 7 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: Pump / Surge
 Pump Type:

Pump Capacity: gpm
 Total Design Head: ft.
 Drilling Fluid:
 Drill Rig: Schramm 450
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: Brown-Red OT - Other Fill
 5 - 11: brown/red SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca,
JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA TOWNSHIP OF ROCHELLE PARK

Company/Organization: Township of Rochelle Park

Address: 151 West Passaic Street Rochelle Park, New Jersey 07662

WELL LOCATION: FUSRAP Maywood Project

Address: near 107 Parkway / MW-52D confirmed by client / 5845

County: Bergen Municipality: Rochelle Park Twp Lot: ROW Block: ROW

Easting (X): <u>609285</u> Northing (Y): <u>752011</u> Coordinate System: <u>NJ State Plane (NAD83) - USFEET</u>	DATE WELL STARTED: <u>August 29, 2016</u> DATE WELL COMPLETED: <u>August 30, 2016</u>
---	--

WELL USE: MONITORING

Other Use(s): _____ Local ID: MW-52D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 62 Finished Well Depth (ft.): 62 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	37	10		
Borehole	37	62	6		
Casing	0	37	6	Steel	.280
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	37	10	6	63	1135	97
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: <u>Yes</u> Static Water Level: <u>58.5</u> ft. below land surface Water Level Measure Tool: <u>m scope</u> Well Development Period: <u>1</u> hrs. Method of Development: <u>air lift</u> Pump Type:	Pump Capacity: <u> </u> gpm Total Design Head: <u> </u> ft. Drilling Fluid: Drill Rig: <u>Schramm 450</u> Health and Safety Plan Submitted? <u>Yes</u>
---	--

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: Brown-Red OT - Other fill
5 - 10: brown/red SM - Silty sands, sand-silt mixtures
10 - 23: brown/red GM - Silty gravels, gravel-sand-silt mixtures
23 - 27: brown/red WR - Weathered Rock sandstone
27 - 62: brown/red CR - Competent Rock sandstone

ADDITIONAL INFORMATION: Open Rock Hole 37-62'

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302 Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA BOROUGH OF MAYWOOD

Company/Organization: Borough of Maywood

Address: 15 Park Avenue Maywood Boro, New Jersey 07607

WELL LOCATION: FUSRAP Maywood Project

Address: Hergesell Avenue / MW-53S confirmed by client

County: Bergen Municipality: Maywood Boro Lot: ROW Block: ROW

Easting (X): 610699 Northing (Y): 753050
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 21, 2016

DATE WELL COMPLETED: July 26, 2016

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** MW-53S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16 Finished Well Depth (ft.): 16 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16	8		
Casing	0	11	2	PVC	sch 40
Screen	11	16	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	8	2	6	141	8
Gravel Pack	9	16	8	2	#1 filpro		

Grouting Method: Gravity method Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 6 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: whale pump
 Pump Type:

Pump Capacity: gpm
 Total Design Head: ft.
 Drilling Fluid:
 Drill Rig: schramm T 450
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: brown OT - Other fill
 5 - 16: redish brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Larry Lynch, MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA BOROUGH OF MAYWOOD

Company/Organization: Borough of Maywood

Address: 15 Park Avenue Maywood Boro, New Jersey 07607

WELL LOCATION: FUSRAP Maywood Project

Address: Hergesell Avenue / MW-53D confirmed by client

County: Bergen Municipality: Maywood Boro Lot: ROW Block: ROW

Easting (X): 610713 Northing (Y): 753019
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 19, 2016

DATE WELL COMPLETED: August 31, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-53D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 62 Finished Well Depth (ft.): 62 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	42	10		
Borehole	42	62	6		
Casing	0	42	6	Steel	sch 40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	42	10	6	45	1128	72
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: No

Static Water Level: 6 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: air lift

Pump Type: _____

Pump Capacity: __ gpm

Total Design Head: __ ft.

Drilling Fluid: _____

Drill Rig: schramm T450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 10: brown OT - Other fill

10 - 25: redish SM - Silty sands, sand-silt mixtures

25 - 32: redish WR - Weathered Rock shale

32 - 62: redish CR - Competent Rock shale

ADDITIONAL INFORMATION: open rock hole

Driller of Record: Larry Lynch,
MONITORING LICENSE # 0024436

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA BOROUGH OF MAYWOOD

Company/Organization: Borough of Maywood

Address: 15 Park Avenue Maywood Boro, New Jersey 07607

WELL LOCATION: FUSRAP Maywood Project

Address: Eccelston Avenue / MW-54S confirmed by client

County: Bergen Municipality: Maywood Boro Lot: ROW Block: ROW

Easting (X): 611200 Northing (Y): 752798
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 28, 2016
DATE WELL COMPLETED: July 28, 2016

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** MW-54S

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11 Finished Well Depth (ft.): 10.5 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11	7		
Casing	0	5.5	2	PVC	sch 40
Screen	5.5	10.5	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	7	2	5	86	7
Gravel Pack	4	11	7	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
 Static Water Level: 7 ft. below land surface
 Water Level Measure Tool: m scope
 Well Development Period: 1 hrs.
 Method of Development: pump
 Pump Type: _____

Pump Capacity: _ gpm
 Total Design Head: _ ft.
 Drilling Fluid: _____
 Drill Rig: Schramm 450
 Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: Brown-Red OT - Other fill
 5 - 11: Brown-Red SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca,
JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

MONITORING WELL RECORD

PROPERTY OWNER: NA BOROUGH OF MAYWOOD

Company/Organization: Borough of Maywood

Address: 15 Park Avenue Maywood Boro, New Jersey 07607

WELL LOCATION: FUSRAP Maywood Project

Address: Eccelston Avenue / MW-54D confirmed by client

County: Bergen Municipality: Maywood Boro Lot: ROW Block: ROW

Easting (X): 611195 Northing (Y): 752788
 Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 25, 2016

DATE WELL COMPLETED: July 27, 2016

WELL USE: MONITORING

Other Use(s): _____

Local ID: MW-54D

WELL CONSTRUCTION

Total Depth Drilled (ft.): 79 Finished Well Depth (ft.): 78.5 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	38	10		
Borehole	38	79	6		
Casing	0	58.5	2	PVC	sch 40
Casing	0	38	6	Steel	.280
Screen	58.5	78.5	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	54	6	2	46	828	70
Grout	0	38	10	6	64	1165	99
Gravel Pack	54	56.5	6	2	#00 Filpro		
Gravel Pack	56.5	79	6	2	#1 Filpro		

Grouting Method: Pressure method (Tremie Pipe)

Drilling Method: Air Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes

Static Water Level: 60 ft. below land surface

Water Level Measure Tool: m scope

Well Development Period: 1 hrs.

Method of Development: air lift

Pump Type: _____

Pump Capacity: gpm

Total Design Head: ft.

Drilling Fluid: _____

Drill Rig: Schramm 450

Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 5: Brown-Red OT - Other fill

5 - 10: Brown-Red SM - Silty sands, sand-silt mixtures

10 - 23: Brown-Red GC - Clayey gravels, gravel-sand-clay mixtures

23 - 28: brown/red WR - Weathered Rock sandstone

28 - 79: brown/red CR - Competent Rock sandstone

ADDITIONAL INFORMATION:

Driller of Record: Nicholas A Fallucca, JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

APPENDIX A

NJDEP SURVEY FORM B FOR MODIFIED AND NEW LTM WELLS



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 90 Park Way, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 41.01 Lot # 17.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604771

2. Site Well Number (As shown on application or plans): B38W-14S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.87 Longitude: West 74 04 30.94

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752329 East 609536

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 44.17

Elevation Top of Outer casing: 44.72 Elevation of ground: 44.54

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date 1/20/17

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 90 Park Way, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 41.01 Lot # 17.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604770

2. Site Well Number (As shown on application or plans): B38W-14D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.83 Longitude: West 74 04 30.85

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752325 East 609543

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 44.45

Elevation Top of Outer casing: 44.77 Elevation of ground: 44.53

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date 1/20/17

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604681

2. Site Well Number (As shown on application or plans): BRPZ-2

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 50.71 Longitude: West 74 04 20.71

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752114 East 610323

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.62

Elevation Top of Outer casing: 53.28 Elevation of ground: 53.28

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date 1/20/17

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604691

2. Site Well Number (As shown on application or plans): BRPZ-3

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 50.12 Longitude: West 74 04 21.04

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752055 East 610298

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.91

Elevation Top of Outer casing: 55.25 Elevation of ground: 53.22

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date 1/20/17

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604693

2. Site Well Number (As shown on application or plans): BRPZ-4

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 51.03 Longitude: West 74 04 20.68

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752146 East 610325

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 55.11

Elevation Top of Outer casing: 55.39 Elevation of ground: 53.00

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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Professional Land Surveyor's Signature: _____

Date

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604695

2. Site Well Number (As shown on application or plans): BRPZ-5

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 51.10 Longitude: West 74 04 20.93

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752154 East 610305

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.15

Elevation Top of Outer casing: 54.33 Elevation of ground: 52.02

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date 1/20/17

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): 005821 Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604708

2. Site Well Number (As shown on application or plans): BRPZ9

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.25 Longitude: West 74 04 20.89

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752270 East 610308

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 53.21

Elevation Top of Outer casing: 53.53 Elevation of ground: 51.47

Check one: NAVD 88 NVDG29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: _____

Date

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201604710

2. Site Well Number (As shown on application or plans): MW-34D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 53.01 Longitude: West 74 04 17.38

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752348 East 610577

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 59.13

Elevation Top of Outer casing: 59.52 Elevation of ground: 57.25

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ESTABLISHED BY GPS METHODS.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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Professional Land Surveyor's Signature: _____

Date 1/20/17

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
 (For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 90 Park Way, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 41.01 Lot # 17.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-14043-8

2. Site Well Number (As shown on application or plans): B38W-14S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.87 Longitude: West 74 04 30.94

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752329 East 609536

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 44.17

Elevation Top of Outer casing: 44.72 Elevation of ground: 44.54

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 90 Park Way, Rochelle Park, NJ

3. Well Location (Municipal Block and Lot) Block# 41.01 Lot # 17.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-14042-0

2. Site Well Number (As shown on application or plans): B38W-14D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.83

Longitude: West 74 04 30.85

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752325

East 609543

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 44.45

Elevation Top of Outer casing: 44.77

Elevation of ground: 44.53

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605161

2. Site Well Number (As shown on application or plans): B38W18DR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 51.87

Longitude: West 74 04 12.69

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752234

East 610938

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 56.65

Elevation Top of Outer casing: 57.13

Elevation of ground: 56.99

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Date: _____

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License Number: 37186

Firm Name: LAYOUT, INC.

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Zip Code: 07435

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 45

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605089

2. Site Well Number (As shown on application or plans): B38W25SR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 51.97

Longitude: West 74 04 18.47

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752243

East 610494

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 55.04

Elevation Top of Outer casing: 55.44

Elevation of ground: 53.16

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

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Certificate of Authorization #: 24GA28114600

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 45

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605090

2. Site Well Number (As shown on application or plans): B38W25BR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.02 Longitude: West 74 04 18.42

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752247 East 610498

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 55.55

Elevation Top of Outer casing: 55.93 Elevation of ground: 53.68

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605165

2. Site Well Number (As shown on application or plans): MISS01AR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 56.17

Longitude: West 74 04 21.69

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752666

East 610245

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 57.37

Elevation Top of Outer casing: 58.06

Elevation of ground: 57.85

Check one: NAVD 88 NVDG29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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SEAL

Professional Land Surveyor's Signature: _____

Date

11/21/14

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605156

2. Site Well Number (As shown on application or plans): MISS01BR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 56.19

Longitude: West 74 04 21.78

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752668

East 610238

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 52.79

Elevation Top of Outer casing: 53.54

Elevation of ground: 51.72

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 W. Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605096

2. Site Well Number (As shown on application or plans): MISS02AR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 54.62 Longitude: West 74 04 13.73

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752512 East 610857

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 53.60

Elevation Top of Outer casing: 54.29 Elevation of ground: 51.79

Check one: NAVD 88 NVDG29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: _____

Date 4/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605097

2. Site Well Number (As shown on application or plans): MISS02BR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 54.58 Longitude: West 74 04 13.61

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752509 East 610866

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 57.68

Elevation Top of Outer casing: 58.12 Elevation of ground: 58.12

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

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City/Town: NEWFOUNDLAND

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 31.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201610593

2. Site Well Number (As shown on application or plans): MISS04AR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 47.89

Longitude: West 74 04 18.35

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 751830

East 610505

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 55.39

Elevation Top of Outer casing: 55.73

Elevation of ground: 53.41

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

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Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

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**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201608024

2. Site Well Number (As shown on application or plans): MISS07AR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 53.05 Longitude: West 74 04 22.29

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752350 East 610200

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 53.79

Elevation Top of Outer casing: 54.10 Elevation of ground: 51.20

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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SEAL

Professional Land Surveyor's Signature: _____ Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186

Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-61466

2. Site Well Number (As shown on application or plans): BRPZ-2

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 50.71

Longitude: West 74 04 20.71

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752114

East 610323

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.62

Elevation Top of Outer casing: 53.28

Elevation of ground: 53.28

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-61467

2. Site Well Number (As shown on application or plans): BRPZ-3

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 50.12

Longitude: West 74 04 21.04

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752055

East 610298

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.91

Elevation Top of Outer casing: 55.25

Elevation of ground: 53.22

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site
 List all AKAs: _____
 Street Address: 100 West Hunter Avenue
 Municipality: Maywood (Township, Borough or City)
 County: Bergen Zip Code: 07607
 Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE
 2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP
 3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605108
 2. Site Well Number (As shown on application or plans): OVPZ-17R
 3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
 Latitude: North 40 53 51.04 Longitude: West 74 04 20.76
 4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
 North 752147 East 610319
 5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.49
 Elevation Top of Outer casing: 54.84 Elevation of ground: 52.77
 Check one: NAVD 88 NVGD29 On Site Datum Other
 6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.
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SEAL

Professional Land Surveyor's Signature: [Signature] Date 11/21/16
 Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186
 Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600
 Mailing Address 24 KANOUSE ROAD
 City/Town: NEWFOUNDLAND State NJ Zip Code: 07435
 Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program
Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site
 List all AKAs: _____
 Street Address: 100 West Hunter Avenue
 Municipality: Maywood (Township, Borough or City)
 County: Bergen Zip Code: 07607
 Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE
 2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP
 3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-60716
 2. Site Well Number (As shown on application or plans): BRPZ-4
 3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
 Latitude: North 40 53 51.03 Longitude: West 74 04 20.68
 4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
 North 752146 East 610325
 5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 55.11
 Elevation Top of Outer casing: 55.39 Elevation of ground: 53.00
 Check one: NAVD 88 NVGD29 On Site Datum Other
 6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
 NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.
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SEAL

Professional Land Surveyor's Signature: [Signature] Date 11/2/18
 Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186
 Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600
 Mailing Address 24 KANOUSE ROAD
 City/Town: NEWFOUNDLAND State NJ Zip Code: 07435
 Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site
 List all AKAs: _____
 Street Address: 100 West Hunter Avenue
 Municipality: Maywood (Township, Borough or City)
 County: Bergen Zip Code: 07607
 Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE
 2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP
 3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-60717
 2. Site Well Number (As shown on application or plans): BRPZ-5
 3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
 Latitude: North 40 53 51.10 Longitude: West 74 04 20.93
 4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
 North 752154 East 610305
 5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.15
 Elevation Top of Outer casing: 54.33 Elevation of ground: 52.02
 Check one: NAVD 88 NVGD29 On Site Datum Other
 6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
 NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.
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Professional Land Surveyor's Signature: [Signature] Date 11/21/16
 Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186
 Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600
 Mailing Address 24 KANOUSE ROAD
 City/Town: NEWFOUNDLAND State NJ Zip Code: 07435
 Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-60703

2. Site Well Number (As shown on application or plans): OVPW-1S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.29

Longitude: West 74 04 20.68

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752274

East 610324

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 53.06

Elevation Top of Outer casing: 53.43

Elevation of ground: 51.54

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

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**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 19.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-61469

2. Site Well Number (As shown on application or plans): BRPZ9

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.25 Longitude: West 74 04 20.89

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752270 East 610308

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 53.21

Elevation Top of Outer casing: 53.53 Elevation of ground: 51.47

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____ Date 11/21/14

Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186

Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605094

2. Site Well Number (As shown on application or plans): MW-3SR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 55.75

Longitude: West 74 04 17.19

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752626

East 610590

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 57.18

Elevation Top of Outer casing: 57.68

Elevation of ground: 57.68

Check one: NAVD 88 NVDG29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605095

2. Site Well Number (As shown on application or plans): MW-3DR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 55.72

Longitude: West 74 04 17.08

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752623

East 610599

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 57.14

Elevation Top of Outer casing: 57.62

Elevation of ground: 57.62

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date 4/17/14

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) Madison Avenue, Rochelle Park TWP, NJ

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201608290

2. Site Well Number (As shown on application or plans): MW-6D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 50.43

Longitude: West 74 04 41.33

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752078

East 608739

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 41.62

Elevation Top of Outer casing: 42.01

Elevation of ground: 42.01

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201109552

2. Site Well Number (As shown on application or plans): MW-28S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 53.74

Longitude: West 74 04 16.19

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752423

East 610669

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 61.85

Elevation Top of Outer casing: 62.17

Elevation of ground: 60.45

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date

11/2/11

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program
Monitoring Well Certification Form B - Location Certification

Date Stamp
 (For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site
 List all AKAs: _____
 Street Address: 100 West Hunter Avenue
 Municipality: Maywood (Township, Borough or City)
 County: Bergen Zip Code: 07607
 Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE
 2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ
 3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): 26-65218
 2. Site Well Number (As shown on application or plans): MW-34D
 3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
 Latitude: North 40 53 53.01 Longitude: West 74 04 17.38
 4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
 North 752348 East 610577
 5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 59.13
 Elevation Top of Outer casing: 59.52 Elevation of ground: 57.25
 Check one: NAVD 88 NVDG29 On Site Datum Other
 6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
 NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.
 7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: [Signature] Date 11/21/14
 Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186
 Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600
 Mailing Address 24 KANOUSE ROAD
 City/Town: NEWFOUNDLAND State NJ Zip Code: 07435
 Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110050

2. Site Well Number (As shown on application or plans): MW-42D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 52.72

Longitude: West 74 04 10.83

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752321

East 611080

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 61.33

Elevation Top of Outer casing: 62.77

Elevation of ground: 60.72

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/12

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605111

2. Site Well Number (As shown on application or plans): MW-43SR

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 54.68 Longitude: West 74 04 21.54

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752515 East 610257

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 51.99

Elevation Top of Outer casing: 52.45 Elevation of ground: 50.59

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



**New Jersey Department of Environmental Protection
Site Remediation Program**

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201110054

2. Site Well Number (As shown on application or plans): MW-43D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 54.62

Longitude: West 74 04 21.55

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752510

East 610256

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 52.70

Elevation Top of Outer casing: 52.97

Elevation of ground: 50.67

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

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Zip Code: 07435

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605095

2. Site Well Number (As shown on application or plans): MW-44S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 55.19 Longitude: West 74 04 15.48

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752570 East 610722

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 57.07

Elevation Top of Outer casing: 57.62 Elevation of ground: 57.62

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Professional Land Surveyor's Signature: _____

Date 11/22/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

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New Jersey Department of Environmental Protection
Site Remediation Program

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Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605158

2. Site Well Number (As shown on application or plans): MW-45D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 53.42

Longitude: West 74 04 19.76

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752389

East 610395

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 57.55

Elevation Top of Outer casing: 57.86

Elevation of ground: 55.89

Check one: NAVD 88 NVDG29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

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Zip Code: 07435

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New Jersey Department of Environmental Protection
Site Remediation Program

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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605091

2. Site Well Number (As shown on application or plans): MW-46S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 53.50

Longitude: West 74 04 14.91

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752398

East 610767

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 62.01

Elevation Top of Outer casing: 62.10

Elevation of ground: 60.26

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605092

2. Site Well Number (As shown on application or plans): MW-46D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 53.42

Longitude: West 74 04 14.97

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752390

East 610762

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 62.10

Elevation Top of Outer casing: 62.89

Elevation of ground: 60.22

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605110

2. Site Well Number (As shown on application or plans): MW-47S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 55.19 Longitude: West 74 04 19.61

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752568 East 610405

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 53.56

Elevation Top of Outer casing: 53.89 Elevation of ground: 51.94

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

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Professional Land Surveyor's Signature: _____

Date 6/21/13

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

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City/Town: NEWFOUNDLAND State NJ Zip Code: 07435

Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605159

2. Site Well Number (As shown on application or plans): MW-47D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 55.11

Longitude: West 74 04 19.65

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752560

East 610402

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 53.17

Elevation Top of Outer casing: 53.73

Elevation of ground: 51.70

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

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New Jersey Department of Environmental Protection
Site Remediation Program

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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605155

2. Site Well Number (As shown on application or plans): MW-48S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 56.55 Longitude: West 74 04 20.51

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752705 East 610335

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 58.45

Elevation Top of Outer casing: 59.72 Elevation of ground: 57.37

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

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State NJ

Zip Code: 07435

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 20.01 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201605154

2. Site Well Number (As shown on application or plans): MW-48D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 56.53 Longitude: West 74 04 20.38

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752703 East 610345

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 59.39

Elevation Top of Outer casing: 60.83 Elevation of ground: 57.75

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

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Phone Number (973) 249-0900 Ext.: _____ Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 61 Madison Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 5 Lot # 26

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201607079

2. Site Well Number (As shown on application or plans): MW-51S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 45.50

Longitude: West 74 04 36.18

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 751581

East 609137

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.41

Elevation Top of Outer casing: 54.81

Elevation of ground: 54.77

Check one: NAVD 88 NVDG29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

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SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/11

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

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Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) 61 Madison Avenue, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# 5 Lot # 26

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201607077

2. Site Well Number (As shown on application or plans): MW-51D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 45.48

Longitude: West 74 04 36.14

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 751579

East 609140

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.27

Elevation Top of Outer casing: 54.66

Elevation of ground: 54.66

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) Becker Avenue, Rochelle Park, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201609990

2. Site Well Number (As shown on application or plans): MW-52S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 49.68

Longitude: West 74 04 34.28

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752005

East 609281

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 43.96

Elevation Top of Outer casing: 44.34

Elevation of ground: 44.34

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

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Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
 (For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) Becker Avenue, Rochelle Park, Rochelle Park TWP

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201609991

2. Site Well Number (As shown on application or plans): MW-52D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 49.72

Longitude: West 74 04 34.34

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752009

East 609276

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 43.70

Elevation Top of Outer casing: 44.19

Elevation of ground: 44.19

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Date

11/21/16

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License Number: 37186

Firm Name: LAYOUT, INC.

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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) Eccleston Place, Maywood, Maywood Boro

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201698452

2. Site Well Number (As shown on application or plans): MW-53S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 59.86 Longitude: West 74 04 15.76

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 753042 East 610699

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 51.86

Elevation Top of Outer casing: 52.18 Elevation of ground: 52.18

Check one: NAVD 88 NVD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

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Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

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SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) Eccleston Place, Maywood, Maywood Boro

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201608451

2. Site Well Number (As shown on application or plans): MW-53D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 59.81

Longitude: West 74 04 15.81

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 753037

East 610695

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 51.92

Elevation Top of Outer casing: 52.23

Elevation of ground: 52.23

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/14

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
 (For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) Hergesell Avenue, Maywood, Maywood Boro

3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201608454

2. Site Well Number (As shown on application or plans): MW-54S

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 57.19

Longitude: West 74 04 09.54

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752774

East 611177

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.25

Elevation Top of Outer casing: 54.57 Elevation of ground: 54.57

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date 11/21/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433



New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: FUSRAP Maywood Superfund Site

List all AKAs: _____

Street Address: 100 West Hunter Avenue

Municipality: Maywood (Township, Borough or City)

County: Bergen Zip Code: 07607

Program Interest (PI) Number(s): _____ Case Tracking Number(s): _____

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner USACE

2. Well Location (Street Address) Hergesell Avenue, Maywood, Maywood Boro

3. Well Location (Municipal Block and Lot) Block# ROW Lot# ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201608453

2. Site Well Number (As shown on application or plans): MW-54D

3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:

Latitude: North 40 53 57.15

Longitude: West 74 04 09.58

4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:

North 752770

East 611174

5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 54.17

Elevation Top of Outer casing: 54.42

Elevation of ground: 54.42

Check one: NAVD 88 NVGD29 On Site Datum Other

6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).

NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.

7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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.

SEAL

Professional Land Surveyor's Signature: _____

Date: 11/24/16

Surveyor's Name: PAUL EMILIUS, Jr.

License Number: 37186

Firm Name: LAYOUT, INC.

Certificate of Authorization #: 24GA28114600

Mailing Address 24 KANOUSE ROAD

City/Town: NEWFOUNDLAND

State NJ

Zip Code: 07435

Phone Number (973) 249-0900

Ext.: _____

Fax: (973) 838-6433

APPENDIX B
Boring and Construction Logs for LTM Wells

APPENDIX B

BORING LOGS FOR NEW LTM WELLS

CONSTRUCTION DIAGRAMS FOR MODIFIED AND NEW LTM WELLS

APPENDIX B

BORING LOGS FOR NEW LTM WELLS

BORING LOG		BORING NUMBER: B38W18DR	
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102
	LOCATION: Maywood, NJ		CLIENT: USACE
	CONTRACTOR: SGS		DRILLER: Larry Lynch
	WELL PERMIT NUMBER: E201605161		FIELD REP: Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 6/20/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~8
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0					
1					
2					
3					
4					
5					
6					
7					
8			SANDSTONE, extensively weathered, red-brown, soft. Top of bedrock ~8'		
9					
10					
11					
12					
13					
14					
15				9-7/8	6
16					
17					
18					
19			Drive 10" conductor casing to 19'		
20					
21					
22					
23					
24			SANDSTONE, extensively weathered, red-brown, soft. High water yield (24-30')		
25					
26					
27					
28					
29					

(continued on Page 2)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 56.99
BOREHOLE DIAM: 9-7/8", 5-7/8" (open boreholes)	START DATE: 6/15/2016
WELL INSTALLED: Yes	END DATE: 6/20/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 1 of 3 B38W18DR-1
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BORING LOG		BORING NUMBER: B38W18DR	
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102
	LOCATION: Maywood, NJ		CLIENT: USACE
	CONTRACTOR: SGS		DRILLER: Larry Lynch
	WELL PERMIT NUMBER: E201605161		FIELD REP: Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	6/20/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~8
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30			Harder (30-33')		
31					
32					
33			SANDSTONE, fractured, reddish brown (5YR4/3), soft. Yield ~20 gpm (33-38').		
34					
35					
36					
37					
38				9-7/8	6
39					
40			MUDSTONE, reddish brown (5YR4/3), competent rock.		
41					
42	0.0				
43			Harder.		
44					
45					
46					
47					
48					
49	0.0		MUDSTONE, reddish brown.		
50					
51			Fracture. Yield ~0.0 gpm.		
52					
53				5-7/8	Open Borehole
54	0.0		Fracture. MUDSTONE, clayey/sandy, reddish brown.		
55					
56			Yield ~ 0.0 gpm.		
57					
58					
59	0.0		MUDSTONE, reddish brown.		

Air hammer 9-7/8" to 46'.
Install 6" steel casing to 46'.

(continued on Page 3)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 56.99
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 6/15/2016
WELL INSTALLED: Yes	END DATE: 6/20/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 2 of 3 B38W18DR-2
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BORING LOG		BORING NUMBER: B38W18DR	
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102
	LOCATION: Maywood, NJ		CLIENT: USACE
	CONTRACTOR: SGS		DRILLER: Larry Lynch
	WELL PERMIT NUMBER: E201605161		FIELD REP: Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	6/20/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~8
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60					
61			Fracture (61-62'). Yield ~0.0 gpm.		
62					
63			Softer (63-66').		
64	0.0		SANDSTONE, reddish brown.		
65				5-7/8	Open Borehole
66			Yield ~0.5 gpm.		
67					
68					
69	0.0		MUDSTONE, reddish brown.		
70			Softer (70-71'). Total yield ~0.5 gpm.		
71			(End of Boring at 71 feet)		
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE: Schramm T-450 BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole) WELL INSTALLED: Yes	SURFACE ELEVATION: 56.99 START DATE: 6/15/2016 END DATE: 6/20/2016
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NOTES:

Depths measured from ground surface gpm = gallons per minute.
 NA = not applicable
 cpm = counts per minute
 ppm = parts per million

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Page 3 of 3

BORING LOG				BORING NUMBER: B38W25SR	
CB&I FEDERAL SERVICES		PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102	
		LOCATION: Maywood, NJ		CLIENT: USACE	
		CONTRACTOR: SGS		DRILLER: Tom Lynch	
		WELL PERMIT NUMBER: E201605089		FIELD REP: Jeff Cook	

TYPE	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
	Split-spoon	NA	NA	DATE:	5/9/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lbs.	NA	NA	Groundwater Depth (Feet):	-6
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4	11	0.0	NA	0.8	Collect split-spoon sample through hand-cleared material that was backfilled into open hole.
	25				
5	33				
	25				
6	27	0.0	NA	1.3	0.0 - 0.6' GRAVEL (same as above), wet (GW). 0.6 - 1.3' SAND, fine, some silt, wet, medium dense (SP).
	23				
7	20				
	21				
8	13	0.0	NA	1.3	0.0 - 0.7' SAND, medium, trace fine/coarse sand, trace silt, very dark gray (7.5YR3/1), wet, medium dense (SP). 0.7 - 1.3' SANDSTONE, weathered, dark reddish brown (5YR3/3), moist.
	30				
9	77				
	100/4"				
10	34	0.0	NA	0.9	0.0 - 0.9' SANDSTONE (same as above), more weathered, wet.
	100/5"				
11					
12					Advance augers through weathered rock to 13 feet.
13					(End of Boring at 13 feet)
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE: Mobile B-80 Hollow-stem Auger	SURFACE ELEVATION: 53.16
BOREHOLE DIAM: 8 1/4"	START DATE: 5/9/2016
WELL INSTALLED: Yes	END DATE: 5/9/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	B38W25S	Page 1 of 1
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BORING LOG		BORING NUMBER: B38W25BR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605090	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Tom Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	5/24/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	10.9
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23	0.0		MUDSTONE, reddish brown (5YR4/3).		
24					
25					
26					
27					
28					
29					

(continued on Page 2)

DRILLING RIG TYPE: Mobile B-80 BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole) WELL INSTALLED: Yes	SURFACE ELEVATION: 53.68 START DATE: 5/18/2016 END DATE: 5/24/2016
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NOTES:

Depths measured from ground surface gpm = gallons per minute
 NA = not applicable
 cpm = counts per minute
 ppm = parts per million

B38W25DR-1

Page 1 of 2

BORING LOG					BORING NUMBER: B38W25BR		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
			LOCATION: Maywood, NJ		CLIENT: USACE		
			CONTRACTOR: SGS		DRILLER: Tom Lynch		
			WELL PERMIT NUMBER: E201605090		FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE	NA	steel	NA	DATE: 5/24/2016			
SIZE (ID)	NA	6"	NA				
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	10.9		
HAMMER FALL	NA	NA	NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
30							
31						9-7/8	6
32							
33			Air hammer 9-7/8" to 33'. Install 6" steel casing to 33'.				
34							
35			Fracture, first water, yield minimal.				
36							
37			Fracture.				
38			MUDSTONE, reddish brown.				
39							
40							
41							
42			MUDSTONE, reddish brown.				
43			Fracture.				
44							
45						5-7/8	Open Borehole
46							
47			MUDSTONE, reddish brown.				
48							
49							
50							
51							
52			Fracture, water bearing.				
53			MUDSTONE, reddish brown.				
54							
55							
56							
57							
58			Total yield ~2 gpm.				
59			(End of Boring at 58 feet)				
DRILLING RIG TYPE: Mobile B-80				SURFACE ELEVATION: 53.68			
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)				START DATE: 5/18/2016			
WELL INSTALLED: Yes				END DATE: 5/24/2016			
NOTES:						Page 2 of 2	
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million						B38W25DR-2	

BORING LOG		BORING NUMBER: MISS1AR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605165	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Tom Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	6/7/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	~10
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4	12				Collect split-spoon sample through hand-cleared material that was backfilled into open hole.
	16				
5	39	0.0	NA	1.2	0.0 - 1.2' GRAVEL, fine to coarse, some fine to coarse sand, trace silt, dark gray (5Y4/1), wet, dense (SW) (FILL).
	NA				
6	49	0.0	NA	1.6	0.0 - 1.1' GRAVEL (same as above) (SW) (FILL).
	40				1.1 - 1.4' SAND, fine, and SILT, reddish brown (5YR4/4), some black staining, moist, dense (SM).
7	34				1.4 - 1.6' SANDSTONE cobble, reddish brown (5YR4/4).
	41				
8	5	0.0	NA	1.2	0.0 - 1.2' SAND, fine, some rock fragments, trace silt, black (5YR2.5/1), wet, dense (SP).
	9				
9	27				
	38				
10	20	0.0	NA	1.0	0.0 - 0.6' SAND (same as above) (SP).
	44				0.6 - 1.0' MUDSTONE, weathered, clayey, reddish brown (5YR4/4), wet.
11	57				
	64				
12	48	0.0	NA	1.0	0.0 - 1.0' MUDSTONE (same as above), some dark gray staining.
	37				
13	33				
	43				
14	33	0.0	NA	0.9	0.0 - 0.9' MUDSTONE, weathered/harder, little clayey fine sand, reddish brown (5YR4/4), some dark gray staining, wet.
	44				
15	100/4"				
					(End of Boring at 15 feet)
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE: Mobile B-80 Hollow-stem Auger	SURFACE ELEVATION: 51.72
BOREHOLE DIAM: 8 1/4"	START DATE: 6/7/2016
WELL INSTALLED: Yes	END DATE: 6/7/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	MISS01AR Page 1 of 1
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BORING LOG		BORING NUMBER: MISS1BR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605156	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 6/2/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~10
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0					
1					
2					
3					
4					
5			Hand-cleared 0 to 5 feet.		
6					
7					
8					
9					
10			See Boring Log for overburden well MISS1AR.		
11					
12					
13					
14					
15					
16			Drive 10" conductor casing to 15.5'		
17					
18					
19			SANDSTONE, reddish brown (5YR4/3), wet.		
20					
21					
22			Softer rock.		
23					
24	0.0		MUDSTONE, reddish brown, wet.		
25					
26			Softer rock (26-27).		
27			Competent rock at ~27'.		
28					
29					

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	51.79
BOREHOLE DIAM:	9-7/8", 5-7/8" (open borehole)	START DATE:	5/31/2016
WELL INSTALLED:	Yes	END DATE:	6/2/2016

NOTES:

Depths measured from ground surface gpm = gallons per minute

NA = not applicable

cpm = counts per minute

ppm = parts per million

MISS01BR-1

Page 1 of 3

BORING LOG		BORING NUMBER: MISSIBR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605156	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	6/2/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~10
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30					
31					
32					
33					
34				9-7/8	6
35					
36					
37					
38					
39			MUDSTONE, reddish brown, dry.		
40					
41					
42			Fracture (42.5-43.5'), water bearing, 0.5 GPM (total).		
43					
44	0.0		MUDSTONE, sandy, reddish brown.		
45					
46					
47					
48			MUDSTONE, reddish brown.		
49	0.0		Fracture.	5-7/8	Open Borehole
50			Fracture.		
51					
52					
53					
54	0.0		MUDSTONE, clayey, reddish brown, wet.		
55					
56			Fracture, water bearing, 3 GPM (total).		
57					
58			Soft Seam, water bearing, ~15 gpm.		
59	0.0		MUDSTONE, reddish brown.		

Air hammer 9-7/8" to 38'.
Install 6" steel casing to 38'.

(continued on Page 3)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 51.79
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 5/31/2016
WELL INSTALLED: Yes	END DATE: 6/2/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 2 of 3 MISS01BR-2
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BORING LOG		BORING NUMBER: MISSIBR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605156	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	6/2/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~10
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60				5-7/8	Open Borehole
61			Total yield ~15 gpm. Air hammer 5-7/8" to 61.5'		
62			(End of Boring at 61.5 feet)		
63					
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 51.79
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 5/31/2016
WELL INSTALLED: Yes	END DATE: 6/2/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	MISS01BR-3 Page 3 of 3
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BORING LOG		BORING NUMBER: MISS2AR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605096	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	7/5/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	~10
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0					Hand-cleared 0 to 5 feet.
1					
2	NA	NA	NA	NA	
3					
4					
5					Auger through fill to 8 feet.
6	NA	NA	NA	NA	
7					
8	20				0.0 - 0.9' SAND, fine to coarse, and GRAVEL, fine to coarse, little silt, very dark gray (5Y3/1), moist, medium dense (GW) (FILL).
9	9	0.0	NA	0.9	
10	7				
11	14				0.0 - 0.9' SAND and GRAVEL (same as above), wet, dense (GW) (FILL).
12	34	0.0	NA	0.9	
13	27				
14	17				0.0 - 0.7' SAND and GRAVEL (same as above), wet, dense, (GW) (FILL). 0.7 - 1.3' SAND, fine, and CLAY, dark reddish gray (5YR4/2), trace black, laminated, wet, medium dense (SC). 1.3 - 1.5' SAND, fine, very dark grayish brown (10YR3/2), wet, medium dense (SP).
15	15	0.0	NA	1.5	
16	31				
17	30				0.0 - 1.5' SAND, fine, black (10YR2/1), few layers of clay and fine sand, very dark gray (10YR3/1)), wet, medium dense (SP/SC).
18	26	0.0	NA	1.5	
19	27				
20	16				0.0 - 1.7' (SAND, fine) and (CLAY and SAND, fine) layers, black (10YR2/1) to very dark gray (10YR3/1) to dark grayish brown (10YR4/2), wet, medium dense (SC).
21	12	0.0	NA	1.7	
22	16				
23	15				0.0 - 1.2' SAND, fine, and SILT, little clay, dark grayish brown (10YR4/2), little black, wet, medium dense (SC). 1.2 - 1.3' MUDSTONE, weathered, reddish brown (5YR4/3).
24	5	0.0	NA	1.3	
25	5				
26	12				(End of Boring at 20 feet)
27	14				
28					
29					
30					

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	57.85
BOREHOLE DIAM:	8 1/4"	START DATE:	7/5/2016
WELL INSTALLED:	Yes	END DATE:	7/5/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	MISS02AR Page 1 of 1
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BORING LOG					BORING NUMBER: MISS2BR	
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102	
			LOCATION: Maywood, NJ		CLIENT: USACE	
			CONTRACTOR: SGS		DRILLER: Larry Lynch	
			WELL PERMIT NUMBER: E201605097		FIELD REP: Jeff Cook	
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE: 6/23/2016		
SIZE (ID)	NA	6"	NA			
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):		~10
HAMMER FALL	NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)
0			Hand-cleared 0 to 5 feet.		9-7/8	6
1						
2						
3						
4						
5			See Boring Log for overburden well MISS2AR.			
6						
7						
8						
9						
10						
11						
12						
13						
14						
15					MUDSTONE, reddish brown (5YR4/3), weathered, soft, wet	
16						
17						
18						
19						
20						
21						
22						
23						
24						
25			Drive 10" conductor casing to 25'			
26						
27						
28			Competent rock at ~28' MUDSTONE, reddish brown (5YR4/3), parts fractured (28-38').			
29						
(continued on Page 2)						
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 58.12			
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 6/21/2016			
WELL INSTALLED: Yes			END DATE: 6/23/2016			
NOTES:					Page 1 of 3	
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million					MISS02BR-1	

BORING LOG				BORING NUMBER: MISS2BR	
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
	LOCATION: Maywood, NJ		CLIENT: USACE		
	CONTRACTOR: SGS		DRILLER: Larry Lynch		
	WELL PERMIT NUMBER: E201605097		FIELD REP: Jeff Cook		

TYPE	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
NA	NA	steel	NA	DATE:	6/23/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~10
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30					
31					
32					
33			MUDSTONE, reddish brown.	9-7/8	6
34					
35					
36					
37					
38			Air hammer 9-7/8" to 38'. Install 6" steel casing to 38'.		
39	0.0		MUDSTONE, reddish brown.		
40					
41					
42			Softer (42-44').		
43					
44	0.0		Fracture.		
45			MUDSTONE, reddish brown.		
46					
47			Fracture.		
48			Yield ~0.25 gpm.		
49				5-7/8	Open Borehole
50			Softer, water-bearing (49.5-53').		
51					
52					
53			Yield ~5 gpm.		
54	0.0		MUDSTONE, reddish brown.		
55					
56					
57					
58					
59	0.0		MUDSTONE, reddish brown.		

(continued on Page 3)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 58.12
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 6/21/2016
WELL INSTALLED: Yes	END DATE: 6/23/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 2 of 3 MISS02BR-2
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BORING LOG		BORING NUMBER: MISS2BR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605097	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 6/23/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~10
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60					
61				5-7/8	Open Borehole
62			Total yield ~5 gpm. (End of Boring at 62 feet)		
63					
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 58.12
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 6/21/2016
WELL INSTALLED: Yes	END DATE: 6/23/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	MISS02BR-3 Page 3 of 3
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BORING LOG				BORING NUMBER: MISS4AR		
CB&I FEDERAL SERVICES		PROJECT:	Maywood FUSRAP Superfund Site		JOB NUMBER:	500102
		LOCATION:	Maywood, NJ		CLIENT:	USACE
		CONTRACTOR:	SGS		DRILLER:	Tom Lynch
		WELL PERMIT NUMBER:	E201610593		FIELD REP:	Jeff Cook

TYPE	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
	Split-spoon	NA	NA	DATE:	9/6/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	-13
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4					
5	10	0.0	NA	1.8	0.0 - 0.6' SAND, fine, and SILT, trace fine gravel, very dark grayish brown (10YR3/2), fabric at bottom, moist, (SM) (FILL).
6	37				
7	44				
8	35	0.0	NA	1.3	0.6 - 1.8' SAND, fine, dark yellowish brown (10YR4/4), some reddish brown and light gray rock fragments, moist, dense (SP).
9	15				
10	40				
11	33	0.0	NA	0.7	0.7 - 1.3' SAND, fine, and SILT, dark reddish brown (5YR3/2) to black (5YR2.5/1), some pieces of reddish brown sandstone, few rounded pebbles, dry, dense (SM) (TILL).
12	60				
13	40				
14	30	0.0	NA	0.4	0.0 - 0.7' SAND and SILT (same as above) (SM).
15	27				
16	48				
17	31	0.0	NA	0.4	0.0 - 0.4' SANDSTONE, weathered, reddish brown (5YR4/3), dry.
18	100/4"				
19					
20		0.0	NA	0.4	0.0 - 0.4' SANDSTONE (same as above), wet.
21					
22					
23		0.0	NA	0.4	Auger to 15'. Softer drilling 14-15'.
24					
25					
26		0.0	NA	0.4	(End of Boring at 15 feet)
27					
28					
29		0.0	NA	0.4	(End of Boring at 15 feet)
30					
31					

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	53.41
BOREHOLE DIAM:	8 1/4"	START DATE:	9/6/2016
WELL INSTALLED:	Yes	END DATE:	9/6/2016

NOTES:	<p>Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million</p>	<p>MISS04AR</p>	<p>Page 1 of 1</p>
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BORING LOG		BORING NUMBER: MISS7AR	
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102
	LOCATION: Maywood, NJ		CLIENT: USACE
	CONTRACTOR: SGS		DRILLER: Larry Lynch
	WELL PERMIT NUMBER: E201608024		FIELD REP: Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	7/7/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lbs.	NA	NA	Groundwater Depth (Feet):	-7
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0					
1					
2	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
3					
4					
5	2				
	8				
6	29	0.0	NA	1.2	0.0 - 0.8' SAND, fine, trace medium to coarse sand, trace clay, dark yellowish brown (10YR4/4), moist, medium dense (SP).
	26				0.8 - 1.2' SAND, fine, and SILT, dark gray (10YR4/1) to black (10YR2/1), some mudstone fragments at base, dry, dense (SM).
7	7				
	11				
8	10	0.0	NA	1.7	0.0 - 1.7' SAND, fine, and SILT, little fine gravel and clay, trace medium to coarse sand, few rock pieces, reddish brown (5YR4/3) and black (10YR2/1), moist, medium dense (SM) (TILL).
	10				
9	55				
	50				
10	100/2"	0.0	NA	0.7	0.0 - 0.7' MUDSTONE, weathered, reddish brown (5YR4/3), wet.
					Auger refusal at 10.5'
11					Air Hammer to 12.5'
					MUDSTONE, weathered, reddish brown (5YR4/3), wet.
12					
					(End of Boring at 12.5 feet)
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 51.20
BOREHOLE DIAM: 8 1/4" (0-10'), 5 7/8" (10-12.5')	START DATE: 7/7/2016
WELL INSTALLED: Yes	END DATE: 7/7/2016

BORING LOG				BORING NUMBER: OVPZ17R		
CB&I FEDERAL SERVICES		PROJECT:	Maywood FUSRAP Superfund Site		JOB NUMBER:	500102
		LOCATION:	Maywood, NJ		CLIENT:	USACE
		CONTRACTOR:	SGS		DRILLER:	Tom Lynch
		WELL PERMIT NUMBER:	E201605108		FIELD REP:	Jeff Cook

TYPE	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	5/16/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	~10
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4	27	0.0	NA	0.1	Collect split-spoon sample through hand-cleared material that was backfilled into open hole.
	9				
5	5				
	5				
6	10	0.0	NA	1.3	0.0 - 1.3' SAND, fine to coarse, some fine to coarse gravel, brown (10YR4/3), dry, dense (SW) (FILL).
	28				
7	36				
	46				
8	41	0.0	NA	1.4	0.0 - 0.7' SAND (same as above), dry (SW) (FILL). 0.7 - 1.4' SAND, fine, trace silt, black (7.5YR2.5/1), wet, dense (SP).
	57				
9	51				
	35				
10	12	0.0	NA	1.4	0.0 - 1.4' SAND, fine to medium, trace to little coarse sand, very dark gray (7.5YR3/1), wet, dense (SW).
	26				
11	34				
	35				
12	23	0.0	NA	0.8	0.0 - 0.4' SAND (same as above) (SW). 0.4 - 0.8' SILT, little fine sand, black (2.5YR2.5/1), moist, hard (ML).
	30				
13	37				
	39				
14	17	0.0	NA	1.5	0.0 - 1.5' SAND, fine, trace medium sand, trace silt (few silt layers), dark gray (7.5YR4/1) to very dark gray (7.5YR3/1), wet, medium dense (SP).
	15				
15	17				
	26				
16	21	0.0	NA	2.0	0.0 - 1.2' SAND (same as above), wet, some fine laminations (SP). 1.2 - 1.4' SAND, medium to coarse, very dark gray (7.5YR3/1), wet, dense (SW). 1.4 - 2.0' SILT, little fine to coarse gravel, trace fine to coarse sand, reddish brown (5YR4/3), moist, hard (ML) (TILL).
	43				
17	45				
	36				
18	28	0.0	NA	0.9	0.0 - 0.9' SANDSTONE, weathered, reddish brown (5YR4/3), some dark gray (7.5YR4/1), wet.
	16				
19					(End of Boring at 19 feet)
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE:	Mobile B-80 Hollow-stem Auger	SURFACE ELEVATION:	52.77
BOREHOLE DIAM:	8 1/4"	START DATE:	5/16/2016
WELL INSTALLED:	Yes	END DATE:	5/16/2016

NOTES:		Page 1 of 1
Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	OVPZ17R	

BORING LOG		BORING NUMBER: MW3SR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605094	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Tom Lynch
		FIELD REP:	Jeff Cook

TYPE	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
DATE:	Split-spoon	NA	NA	6/1/2016	
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	-12
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4	51	0.0	NA	2.0	Collect split-spoon sample through hand-cleared material that was backfilled into open hole.
	45				
5	53				
	52				
6		NA	NA	NA	Auger to 10 feet.
7					
8					
9					
10	15	0.0	NA	0.8	0.0 - 0.8' SANDSTONE, very weathered, reddish brown (5YR4/4), some light gray (7.5YR7/1) clayey fine sand (0.2 - 0.5'), dry to moist.
	16				
11	22				
	21				
12	30	0.0	NA	0.7	0.0 - 0.7' SANDSTONE, very weathered, dark reddish brown (5YR3/3), some very dark gray (7.5YR3/1) sand/gravel, wet.
	29				
13	39				
	31				
14	40	0.0	NA	1.2	0.0 - 1.2' SANDSTONE, very weathered (rock chips/sand), dark reddish brown (5YR3/3) becoming reddish brown (5YR4/4), wet.
	33				
15	36				
	33				
16	28	0.0	NA	1.4	0.0 - 0.2' SANDSTONE (same as above), reddish brown (5YR4/4). 0.2 - 1.1' SAND, fine, and CLAY, little fine gravel, reddish brown (5YR4/4), moist (more like TILL). 1.1 - 1.4' SANDSTONE (same as 0.0 - 0.2').
	19				
17	48				
	45				
18	18	0.0	NA	1.2	0.0 - 0.5' SANDSTONE, very weathered, mostly very dark gray (7.5YR3/1) fine sand, little fine gravel, wet. 0.5 - 1.2' SANDSTONE, very weathered, mostly reddish brown (5YR4/4) rock chips, wet.
	25				
19	34				
	44				
20					(End of Boring at 20 feet)
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE:	Mobile B-80 Hollow-stem Auger	SURFACE ELEVATION:	57.68
BOREHOLE DIAM:	8 1/4"	START DATE:	6/1/2016
WELL INSTALLED:	Yes	END DATE:	6/1/2016

NOTES:		Page 1 of 1
Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	MW3SR	

BORING LOG		BORING NUMBER: MW3DR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605095	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 5/31/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~12
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0					
1					
2			Hand-cleared 0 to 5 feet.		
3					
4					
5					
6					
7					
8					
9					
10					
11					
12			See Boring Log for overburden well MW3SR.		
13					
14					
15				9-7/8	6
16					
17					
18					
19			Drive 10" conductor casing to 19'.		
20	0.8				
21					
22			MUDSTONE, weathered, reddish brown (5YR4/3), soft, wet.		
23					
24					
25					
26					
27			Competent rock at ~27'.		
28	0.0		MUDSTONE, reddish brown, hard, little water (27-38').		
29					

(continued on Page 2)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 57.62
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 5/25/2016
WELL INSTALLED: Yes	END DATE: 5/31/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 1 of 3
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MW3DR-1

BORING LOG		BORING NUMBER: MW3DR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605095	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

TYPE	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
SIZE (ID)	NA	steel	NA	DATE:	5/31/2016
HAMMER WEIGHT	NA	6"	NA		
HAMMER FALL	NA	NA	NA	Groundwater Depth (Feet):	~12

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30					
31					
32	0.0				
33					
34				9-7/8	6
35					
36					
37					
38					
39	0.0		MUDSTONE, reddish brown, dry.		
40					
41					
42					
43					
44	0.0		Fracture. MUDSTONE, reddish brown, dry.		
45					
46					
47					
48					
49	0.0		MUDSTONE, reddish brown, dry.	5-7/8	Open Borehole
50					
51					
52					
53			Fracture.		
54	0.0		MUDSTONE, reddish brown, dry.		
55					
56					
57			Fracture (first water). Yield ~1.5 gpm.		
58					
59	0.0		MUDSTONE, reddish brown, dry to wet.		

(continued on Page 3)

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	57.62
BOREHOLE DIAM:	9-7/8", 5-7/8" (open borehole)	START DATE:	5/25/2016
WELL INSTALLED:	Yes	END DATE:	5/31/2016

NOTES:

Depths measured from ground surface gpm = gallons per minute

NA = not applicable

cpm = counts per minute

ppm = parts per million

MW3DR-2

Page 2 of 3

BORING LOG		BORING NUMBER: MW3DR	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605095	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	5/31/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~12
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60					
61				5-7/8	Open Borehole
62					
63			Total yield ~1.5 gpm. (End of Boring at 63 feet)		
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 57.62
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 5/25/2016
WELL INSTALLED: Yes	END DATE: 5/31/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	MW3DR-3 Page 3 of 3
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BORING LOG		BORING NUMBER: MW43S	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	B&B Drilling	
	WELL PERMIT NUMBER:		
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Dave Myerchin
		FIELD REP:	Robert DeMott

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	6/30/2011
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lbs.	NA	NA	Groundwater Depth (Feet):	11.21
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0					
1					
2					
3	NA	NA	NA	NA	FILL
4					
5					
6	1				
7	2	NA	40	0.7	0.0 - 0.7' SLUDGE, laminated, interbedded white silt and tan clay, moist, soft.
8	4				
9	5	NA	<40	0.8	0.0 - 0.8' SLUDGE, laminated, interbedded white to light gray silt with clay, moist, soft.
10	5				
11	7				
12	2				
13	2	NA	<40	1.6	0.0 - 0.4' SLUDGE, white silt with tan laminations, wet, soft. 0.4 - 1.6' SLUDGE, white silt interbedded with gray silt and sand, wet, soft.
14	2				
15	2				
16	2				
17	2				
18	W.O.H.				
19	W.O.H.	NA	<40	0.8	0.0 - 0.8' SLUDGE, interbedded white and dark gray silt, wet, very soft.
20	3				
21	3				
22	2				
23	4	NA	160	1.7	0.0 - 0.6' SLUDGE, interbedded white and gray silt, wet, very soft. 0.6 - 0.9' SLUDGE, interbedded gray silt and sand, wet, firm. 0.9 - 1.1' SAND, fine to medium, organic, black, wet, firm. 1.1 - 1.6' SAND, fine to medium, red-brown, wet, dense. 1.6 - 1.7' GRAVEL, fine, and SAND, red-brown, wet, dense.
24	8				
25	9				
26	8				
27	12	NA	40 - 60	1.0	0.0 - 1.0' GRAVEL, fine, and SAND, medium to coarse, with little silt, wet, dense.
28	11				
29	10				
30	10	NA	NA	0.7	0.0 - 0.7' GRAVEL, fine, with some sand interbeds, red-brown, wet, very dense, weathered rock/till at base.
31	11				
32	50				
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
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95					
96					
97					
98					
99					
100					

DRILLING RIG TYPE: B-57 Hollow-stem Auger	SURFACE ELEVATION: NA
BOREHOLE DIAM: 6 7/8"	START DATE: 6/30/2011
WELL INSTALLED: Yes	END DATE: 6/30/2011

NOTES:

Depths measured from ground surface W.O.H. = weight of hammer

NA = not applicable

cpm = counts per minute

ppm = parts per million

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MW43S

BORING LOG		BORING NUMBER: MW44S	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605095	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Tom Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	6/6/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	-10
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0					
1					
2	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
3					
4					
5					
6					
7	NA	NA	NA	NA	Auger through fill to 10 feet.
8					
9					
10	100/5"	0.0	NA	0.4	0.0 - 0.4' SANDSTONE, weathered, dark reddish brown (5YR3/3), wet.
11	100/4"	0.0	NA	0.3	0.0 - 0.3' SANDSTONE (same as above).
12	11				0.0 - 0.9' SANDSTONE, extensively weathered, soft, dark reddish brown (5YR3/3), moist.
13	15 14 100/1"	0.0	NA	1.3	0.9 - 1.3' MUDSTONE, weathered, hard, dark reddish brown (5YR3/3), moist.
14					(End of Boring at 14 feet)
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE: Mobile B-80 Hollow-stem Auger	SURFACE ELEVATION: 57.62
BOREHOLE DIAM: 8 1/4"	START DATE: 6/2/2016
WELL INSTALLED: Yes	END DATE: 6/6/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	Page 1 of 1 MW44S
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BORING LOG		BORING NUMBER: MW45D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605158	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	6/13/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	11.5
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0					
1					
2			Hand-cleared 0 to 5 feet.		
3					
4					
5					
6					
7			Sludge, black, laminated with white silt (to 10.5 feet, bgs.), moist		
8					
9					
10					
11			SAND and SILT, w/ some fine gravel (FILL), moist		
12					
13			SAND, f-m, organic, black, wet		
14					
15			TILL, red-brown, v. dense, moist Top of Weathered Bedrock	9-7/8	6
16					
17					
18					
19					
20					
21			MUDSTONE, extensively weathered, soft, reddish brown (5YR4/3), wet.		
22					
23					
24					
25					
26			Drive 10" conductor casing to 25.5'		
27			Competent rock at ~27'		
28			MUDSTONE, reddish brown (5YR4/3), dry.		
29					

(continued on Page 2)

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	55.89
BOREHOLE DIAM:	9-7/8", 5-7/8" (open borehole)	START DATE:	6/7/2016
WELL INSTALLED:	Yes	END DATE:	6/13/2016

NOTES:		Page 1 of 3
Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	gpm = gallons per minute MW45D-1	

BORING LOG		BORING NUMBER: MW45D
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site	JOB NUMBER: 500102
	LOCATION: Maywood, NJ	CLIENT: USACE
	CONTRACTOR: SGS	DRILLER: Larry Lynch
	WELL PERMIT NUMBER: E201605158	FIELD REP: Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	6/13/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	11.5
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30					
31					
32			MUDSTONE, reddish brown (5YR4/3), dry.		
33					
34				9-7/8	6
35			SANDSTONE, reddish brown, wet.		
36					
37					
38	0.0		MUDSTONE, sandy, reddish brown.		
39			Fracture.		
40					
41					
42					
43	0.0		MUDSTONE, reddish brown.		
44					
45					
46			Fracture.		
47					
48	0.0		MUDSTONE, sandy, reddish brown. Yield ~0.0 gpm.		
49				5-7/8	Open Borehole
50					
51					
52					
53	0.0		MUDSTONE, sandy, reddish brown. Yield ~0.25 gpm.		
54					
55					
56					
57					
58	0.0		MUDSTONE, reddish brown. Yield ~1.5 gpm.		
59					

(continued on Page 3)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 55.89
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 6/7/2016
WELL INSTALLED: Yes	END DATE: 6/13/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 2 of 3 MW45D-2
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BORING LOG					BORING NUMBER: MW45D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
			LOCATION: Maywood, NJ		CLIENT: USACE		
			CONTRACTOR: SGS		DRILLER: Larry Lynch		
			WELL PERMIT NUMBER: E201605158		FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE		NA	steel	NA	DATE: 6/13/2016		
SIZE (ID)		NA	6"	NA			
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): 11.5		
HAMMER FALL		NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
60						5-7/8	Open Borehole
61							
62			Total yield ~1.5 gpm. Air hammer 5-7/8" to 63'				
63			(End of Boring at 63 feet)				
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
81							
82							
83							
84							
85							
86							
87							
88							
89							
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 55.89				
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 6/7/2016				
WELL INSTALLED: Yes			END DATE: 6/13/2016				
NOTES:						Page 3 of 3	
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million						MW45D-3	

BORING LOG		BORING NUMBER: MW46S	
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102
	LOCATION: Maywood, NJ		CLIENT: USACE
	CONTRACTOR: SGS		DRILLER: Tom Lynch
	WELL PERMIT NUMBER: E201605091		FIELD REP: Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	5/10/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	~11
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4	24	0.0	NA	1.4	Collect split-spoon sample through hand-cleared material that was backfilled into open hole.
5					
6					
7					
8	21	0.0	NA	1.2	0.0 - 1.2' GRAVEL (same as above), dry to moist (GW) (FILL).
9					
10					
11					
12	19	0.0	NA	1.0	0.0 - 0.7' GRAVEL (same as above), moist (GW) (FILL).
13					
14					
15					
16	17	0.0	NA	1.0	0.7 - 1.0' SAND, fine, little silt and clay, little rounded gravel, dark reddish gray (5YR4/2), moist, medium medium dense (SP).
17					
18					
19					
20	14	0.0	NA	1.0	0.0 - 1.0' SILT, clayey, little gravel, fine sand lens 0.1 - 0.2', reddish brown (5YR4/3), moist, stiff (ML) (TILL).
21					
22					
23					
24	10	0.0	NA	1.1	0.0 - 0.8' SILT (same as above), moist (ML) (TILL).
25					
26					
27					
28	8	0.0	NA	1.3	0.8 - 1.1' SILT (same as above), more gravelly, wet (ML) (TILL).
29					
30					
31					
32	11	0.0	NA	1.3	0.9 - 1.3' SANDSTONE, weathered, dark reddish brown (5YR3/2), wet.
33					
34					
35					
36	16	0.0	NA	0.3	0.0 - 0.9' SILT (same as 0.0 - 0.8' above), moist (ML) (TILL).
37					
38					
39					
40	32	0.0	NA	0.3	0.9 - 1.3' SANDSTONE, weathered, dark reddish brown (5YR3/2), wet.
41					
42					
43					
44	69	0.0	NA	0.3	0.0 - 0.3' SANDSTONE, weathered, 5YR3/2, wet.
45					
46					
47					
48	12	0.0	NA	0.3	Advance augers through weathered rock to 18 feet.
49					
50					
51					
52	35	0.0	NA	0.3	(End of Boring at 18 feet)
53					
54					
55					
56	53	0.0	NA	0.3	(End of Boring at 18 feet)
57					
58					
59					
60	68	0.0	NA	0.3	(End of Boring at 18 feet)
61					
62					
63					
64	100/5"	0.0	NA	0.3	(End of Boring at 18 feet)
65					
66					
67					
68		0.0	NA	0.3	(End of Boring at 18 feet)
69					
70					
71					
72		0.0	NA	0.3	(End of Boring at 18 feet)
73					
74					
75					
76		0.0	NA	0.3	(End of Boring at 18 feet)
77					
78					
79					
80		0.0	NA	0.3	(End of Boring at 18 feet)
81					
82					
83					
84		0.0	NA	0.3	(End of Boring at 18 feet)
85					
86					
87					
88		0.0	NA	0.3	(End of Boring at 18 feet)
89					
90					
91					
92		0.0	NA	0.3	(End of Boring at 18 feet)
93					
94					
95					
96		0.0	NA	0.3	(End of Boring at 18 feet)
97					
98					
99					
100		0.0	NA	0.3	(End of Boring at 18 feet)
101					
102					
103					

DRILLING RIG TYPE: Mobile B-80 Hollow-stem Auger	SURFACE ELEVATION: 60.26
BOREHOLE DIAM: 8 1/4"	START DATE: 5/10/2016
WELL INSTALLED: Yes	END DATE: 5/10/2016

NOTES:

Depths measured from ground surface
NA = not applicable
cpm = counts per minute
ppm = parts per million

MW46S

Page 1 of 1

BORING LOG						BORING NUMBER: MW46D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site			JOB NUMBER: 500102		
			LOCATION: Maywood, NJ			CLIENT: USACE		
			CONTRACTOR: SGS			DRILLER: Tom Lynch		
			WELL PERMIT NUMBER: E201605092			FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER			
TYPE		NA	steel	NA	DATE: 5/24/2016			
SIZE (ID)		NA	6"	NA				
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet):		7.0	
HAMMER FALL		NA	NA	NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS				BOREHOLE DIAM (in)	CASING DIAM (in)
0			Hand-cleared 0 to 5 feet.				15	
1								
2								
3								
4								
5			See Boring Log for overburden well MW46S. Auger 10-1/4" ID to 13' Air hammer 9-7/8" to 32'				6	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15			MUDSTONE, extensively weathered, reddish brown (5YR4/3). Competent rock at ~22'. MUDSTONE, reddish brown.				9-7/8	
16								
17								
18								
19								
20								
21								
22								
23								
24								
25			(continued on Page 2)					
26								
27								
28								
29								
DRILLING RIG TYPE: Mobile B-80			SURFACE ELEVATION: 60.22					
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 5/17/2016					
WELL INSTALLED: Yes			END DATE: 5/24/2016					
NOTES:							Page 1 of 2	
Depths measured from ground surface			gpm = gallons per minute					
NA = not applicable								
cpm = counts per minute								
ppm = parts per million								
			MW46D-1					

BORING LOG					BORING NUMBER: MW46D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
			LOCATION: Maywood, NJ		CLIENT: USACE		
			CONTRACTOR: SGS		DRILLER: Tom Lynch		
			WELL PERMIT NUMBER: E201605092		FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE		NA	steel	NA	DATE: 5/24/2016		
SIZE (ID)		NA	6"	NA			
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): 7.0		
HAMMER FALL		NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
30						9-7/8	6
31			Air hammer 9-7/8" to 32' Install 6" steel casing to 32'				
32							
33							
34							
35			MUDSTONE, reddish brown.				
36							
37							
38							
39			Yield <1 gpm.				
40							
41							
42			Fracture (42-43')				
43							
44						5-7/8	Open Borehole
45			MUDSTONE, more sand, reddish brown, softer.				
46							
47							
48							
49			Fracture - water-bearing.				
50	0.0		Yield ~2.5 gpm.				
51							
52							
53							
54							
55	0.0		MUDSTONE, reddish brown, softer.				
56							
57			Total yield ~2.5 gpm.				
			(End of Boring at 57 feet)				
58							
59							
DRILLING RIG TYPE: Mobile B-80				SURFACE ELEVATION: 60.22			
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)				START DATE: 5/17/2016			
WELL INSTALLED: Yes				END DATE: 5/24/2016			
NOTES:							
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million						Page 2 of 2	
MW46D-2							

BORING LOG		BORING NUMBER: MW47S	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605110	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Tom Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	5/12/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	-5
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4	10	0.0	NA	0.8	Collect split-spoon sample through hand-cleared material that was backfilled into open hole.
5	11				0.0 - 0.4' GRAVEL, fine to coarse, some fine to coarse sand, trace silt, dark gray (7.5YR4/1), wet, medium dense (GW) (FILL).
6	30				0.4 - 0.8' SAND, fine, and CLAY, silty, very dark gray (7.5YR3/1), moist, stiff (SP/CL).
7	24				0.0 - 1.0' SAND, fine, (becoming medium to coarse, little fine), trace clay, dark gray (7.5YR4/1), wet, medium dense (SW).
8	21	0.0	NA	1.0	
9					
10					
11					
12	16	0.0	NA	1.0	
13					
14					
15					
16	16	0.0	NA	0.9	
17					
18					
19					
20	19	0.0	NA	0.3	
21					
22					
23					
24	20	0.0	NA	0.3	
25					
26					
27					
28	26	0.0	NA	0.3	
29					
30					
31					
32	31	0.0	NA	0.3	
33					
34					
35					
36	10	0.0	NA	0.3	
37					
38					
39					
40	56	0.0	NA	0.3	
41					
42					
43					
44	100/0"	0.0	NA	0.3	(End of Boring at 13 feet)
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
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92					
93					
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95					
96					
97					
98					
99					
100					

DRILLING RIG TYPE: Mobile B-80 Hollow-stem Auger	SURFACE ELEVATION: 51.94
BOREHOLE DIAM: 8 1/4"	START DATE: 5/12/2016
WELL INSTALLED: Yes	END DATE: 5/12/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	Page 1 of 1 MW47S
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BORING LOG		BORING NUMBER: MW47D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605159	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 6/7/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): -6
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0					
1					
2			Hand-cleared 0 to 5 feet.		
3					
4					
5					
6					
7					
8					
9			See Boring Log for overburden well MW47S.		
10					
11					
12					
13					
14					
15				9-7/8	6
16					
17					
18			MUDSTONE, weathered, reddish brown (SYR4/3)		
19					
20					
21					
22					
23					
24					
25			Drive 10" conductor casing to 24.5'		
26	0.0		MUDSTONE, reddish brown (SYR4/3).		
27					
28					
29					

(continued on Page 2)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 51.70
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 6/2/2016
WELL INSTALLED: Yes	END DATE: 6/7/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 1 of 3
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MW47D-1

BORING LOG		BORING NUMBER: MW47D	
CB&I FEDERAL SERVICES	PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102
	LOCATION: Maywood, NJ		CLIENT: USACE
	CONTRACTOR: SGS		DRILLER: Larry Lynch
	WELL PERMIT NUMBER: E201605159		FIELD REP: Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	6/7/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	-6
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30	0.0		SANDSTONE, reddish brown.	9-7/8	6
31					
32					
33					
34					
35	0.0		SANDSTONE, reddish brown.	9-7/8	6
36					
37			Air hammer 9-7/8" to 38' Install 6" steel casing to 38'		
38					
39				5-7/8	Open Borehole
40					
41	0.0		SANDSTONE, reddish brown, dry. Yield ~0.25 gpm.		
42					
43					
44					
45			Fracture (45-46'), water bearing, 0.5 GPM.		
46					
47					
48					
49			MUDSTONE, clayey, reddish brown.		
50					
51					
52					
53			Fracture, water bearing, 1 GPM (total).		
54	0.0		MUDSTONE, reddish brown.		
55					
56					
57					
58					
59					

(continued on Page 3)

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 51.70
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 6/2/2016
WELL INSTALLED: Yes	END DATE: 6/7/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 2 of 3 MW47D-2
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BORING LOG					BORING NUMBER: MW47D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
			LOCATION: Maywood, NJ		CLIENT: USACE		
			CONTRACTOR: SGS		DRILLER: Larry Lynch		
			WELL PERMIT NUMBER: E201605159		FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE		NA	steel	NA	DATE: 6/7/2016		
SIZE (ID)		NA	6"	NA			
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): ~6		
HAMMER FALL		NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
60			Fracture, water bearing., 2.5 GPM (total) MUDSTONE, reddish brown. Total yield ~2.5 GPM. Air hammer 5-7/8" to 63'			5-7/8	Open Borehole
61							
62	0.0						
63			(End of Boring at 63 feet)				
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
81							
82							
83							
84							
85							
86							
87							
88							
89							
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 51.70				
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 6/2/2016				
WELL INSTALLED: Yes			END DATE: 6/7/2016				
NOTES:						Page 3 of 3	
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million						MW47D-3	

BORING LOG					BORING NUMBER: MW48S	
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102	
			LOCATION: Maywood, NJ		CLIENT: USACE	
			CONTRACTOR: SGS		DRILLER: Tom Lynch	
			WELL PERMIT NUMBER: E201605155		FIELD REP: Jeff Cook	
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE		Split-spoon	NA	NA	DATE: 5/31/2016	
SIZE (ID)		2"	NA	NA		
HAMMER WEIGHT		140 lb.	NA	NA	Groundwater Depth (Feet): ~12	
HAMMER FALL		30 in.	NA	NA		
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS	
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.	
1						
2						
3						
4	25	0.0	NA	1.7	Collect split-spoon sample through hand-cleared material that was backfilled into open hole.	
	24					
5	32					
	27					
6	30	0.0	NA	1.2	0.0 - 1.2' GRAVEL (same as above), dry, dense (GW) (FILL).	
	51					
7	39					
	40					
8	35	0.0	NA	1.7	0.0 - 1.7' GRAVEL (same as above), very dark grayish brown (2.5Y3/2), dry, medium dense (GW) (FILL).	
	26					
9	21					
	16					
10	18	0.0	NA	1.3	0.0 - 0.5' GRAVEL (same as above), dry (moist at interface), medium dense (GW) (FILL). 0.5 - 1.3' SILT and SAND, fine, little fine gravel, trace medium to coarse sand, trace clay, reddish brown (5YR4/4), dry, very stiff (SM) (TILL).	
	22					
11	24					
	22					
12	42	0.0	NA	1.1	0.0 - 1.1' SILT and SAND, fine, little fine to coarse gravel, trace medium to coarse sand, trace clay, reddish brown (5YR4/4), wet, very stiff (SM) (TILL).	
	21					
13	18					
	17					
14	8	0.0	NA	1.3	0.0 - 1.1' SAND, fine, little clay and fine gravel, reddish brown (5YR4/4), wet, loose (SP). 1.1 - 1.3' SANDSTONE, weathered, reddish brown (5YR4/4).	
	8					
15	21					
	19					
16	22	0.0	NA	0.8	0.0 - 0.8' SAND, fine, and SILT, some fine to coarse gravel, trace medium to coarse sand, trace clay, reddish brown (5YR4/4), moist, medium dense (SM) (TILL).	
	20					
17	100/5"					
18	51	0.0	NA	1.0	0.0 - 1.0' SANDSTONE, weathered, reddish brown (5YR4/4), wet.	
	43					
19	29					
	53					
20					(End of Boring at 20 feet)	
21						
22						
23						
24						
25						
26						
27						
28						
29						
DRILLING RIG TYPE: Mobile B-80 Hollow-stem Auger				SURFACE ELEVATION: 57.37		
BOREHOLE DIAM: 8 1/4"				START DATE: 5/31/2016		
WELL INSTALLED: Yes				END DATE: 5/31/2016		
NOTES:					Page 1 of 1	
Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million					MW48S	

BORING LOG					BORING NUMBER: MW48D						
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102						
			LOCATION: Maywood, NJ		CLIENT: USACE						
			CONTRACTOR: SGS		DRILLER: Tom Lynch						
			WELL PERMIT NUMBER: E201605154		FIELD REP: Jeff Cook						
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER						
TYPE		Split-spoon	steel	NA	DATE: 5/31/2016						
SIZE (ID)		2"	6"	NA							
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): ~12						
HAMMER FALL		NA	NA	NA							
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)				
0			Hand-cleared 0 to 5 feet.			15	6				
1											
2											
3											
4											
5			See Boring Log for overburden well MW48S.					15	6		
6											
7											
8											
9											
10											
11											
12											
13											
14											
14	0.0		Collect split-spoon sample from 14-16'. MUDSTONE, weathered, sandy, reddish brown (5YR4/3).			15	6				
15											
16											
17											
18											
19											
20			18.5 - 25' SANDSTONE, weathered, reddish brown, up to 4" pieces recovered. Extensively fractured rock, yield ~40 gpm.					15	6		
21											
22											
23											
24											
25											
26											
27											
28											
29											
			Auger 10-1/4" ID to 23.5'. Air hammer 9-7/8" to 38'.			15	6				
			More competent rock at ~25'.							15	6
26											
27											
28											
29											
(continued on Page 2)											
DRILLING RIG TYPE: Mobile B-80				SURFACE ELEVATION: 57.75							
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)				START DATE: 5/24/2016							
WELL INSTALLED: Yes				END DATE: 5/31/2016							
NOTES:											
Depths measured from ground surface				gpm = gallons per minute				Page 1 of 3			
NA = not applicable											
cpm = counts per minute											
ppm = parts per million											
				MW48D-1							

BORING LOG				BORING NUMBER: MW48D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site		JOB NUMBER:	500102
	LOCATION:	Maywood, NJ		CLIENT:	USACE
	CONTRACTOR:	SGS		DRILLER:	Tom Lynch
	WELL PERMIT NUMBER:	E201605154		FIELD REP:	Jeff Cook

		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE		Split-spoon	steel	NA	DATE:	5/31/2016
SIZE (ID)		2"	6"	NA		
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet):	~12
HAMMER FALL		NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30					
31			Fracture (31-32').		
32	0.4		MUDSTONE, sandy, reddish brown.	9-7/8	6
33					
34					
35	0.4				
36					
37					
38			Air hammer 9-7/8" to 38'. Install 6" steel casing to 38'.		
39			MUDSTONE, reddish brown, wet.		
40			Fracture (40-41'), water bearing. Yield ~0.5 gpm.		
41					
42					
43			Fracture (43-44').		
44			MUDSTONE, reddish brown, wet.		
45	0.0				
46					
47					
48			Fracture, water bearing. Yield ~1.0 gpm.	5-7/8	Open Borehole
49			MUDSTONE, reddish brown, wet.		
50	0.0		Yield ~2.0 gpm.		
51					
52					
53					
54	0.0		MUDSTONE, sandy, reddish brown, wet. Fracture.		
55					
56			Fracture, water bearing. Yield ~2.5 gpm.		
57					
58			Fracture (58-58.5').		
59			MUDSTONE, sandy, reddish brown, wet.		

(continued on Page 3)

DRILLING RIG TYPE:	Mobile B-80	SURFACE ELEVATION:	57.75
BOREHOLE DIAM:	9-7/8", 5-7/8" (open borehole)	START DATE:	5/24/2016
WELL INSTALLED:	Yes	END DATE:	5/31/2016

NOTES:		Page 2 of 3
Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	gpm = gallons per minute MW48D-2	

BORING LOG		BORING NUMBER: MW48D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201605154	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Tom Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	Split-spoon	steel	NA	DATE: 5/31/2016
SIZE (ID)	2"	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~12
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60					
61				5-7/8	Open Borehole
62			Total yield ~3.0 gpm.		
63			(End of Boring at 63 feet)		
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE: Mobile B-80	SURFACE ELEVATION: 57.75
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 5/24/2016
WELL INSTALLED: Yes	END DATE: 5/31/2016

NOTES:

Depths measured from ground surface gpm = gallons per minute

NA = not applicable

cpm = counts per minute

ppm = parts per million

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MW48D-3

BORING LOG		BORING NUMBER: MWS1S	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201607079	
	JOB NUMBER:	500102	
	CLIENT:	USACE	
	DRILLER:	Larry Lynch	
	FIELD REP:	Jeff Cook	

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	6/29/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lb.	NA	NA	Groundwater Depth (Feet):	~14
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0					Hand-cleared 0 to 5 feet.
1					
2	NA	NA	NA	NA	
3					
4					
5	26				0.0 - 1.0' SILT, trace fine to coarse sand, trace fine gravel, reddish brown (2.5YR4/4), dry, hard (ML).
6	44 42 56	0.0	NA	1.0	
7	20				0.0 - 1.5' SILT, clayey, trace fine to coarse sand, reddish brown (2.5YR4/4), moist, hard (ML).
8	40 46 72	0.0	NA	1.5	
9	30				0.0 - 1.4' SILTSTONE/MUDSTONE, very weathered, fine sandy, reddish brown (2.5YR4/4), brittle, dry, hard at base.
10	45 52 105	0.0	NA	1.4	
11	33				0.0 - 1.5' SILTSTONE/MUDSTONE, weathered, fine sandy, reddish brown, brittle, moist, hard at base.
12	46 100/5.5"	0.0	NA	1.5	
13	52				0.0 - 1.5' SILTSTONE/MUDSTONE, weathered, fine sandy, reddish brown, brittle, wet at 14'.
14	89 66 52	0.0	NA	1.5	
15	100/5.5"				0.0 - 0.4' SILTSTONE/MUDSTONE, weathered, fine sandy, reddish brown, brittle, hard, wet.
16		0.0	NA	0.4	
17					Air Hammer to 19'.
18		NA	NA	NA	SILTSTONE/MUDSTONE, weathered, reddish brown, hard, wet.
19					(End of Boring at 19 feet)
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	54.77
BOREHOLE DIAM:	5 7/8"	START DATE:	6/29/2016
WELL INSTALLED:	Yes	END DATE:	6/29/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	MWS1S	Page 1 of 1
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BORING LOG		BORING NUMBER: MW51D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201607077	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 6/28/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~14
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0					
1					
2			Hand-cleared 0 to 5 feet.		
3					
4					
5					
6			Drive 10" conductor casing to 6.5'		
7			See Boring Log for overburden well MW-51S.		
8					
9			Top of weathered rock		
10					
11			SILTSTONE and MUDSTONE, extensively weathered, red-brown, (5YR4/3), soft		
12					
13					
14				9-7/8	6
15			SILTSTONE and MUDSTONE, extensively weathered, red-brown, (5YR4/3), soft		
16					
17					
18					
19			Competent rock at ~19'		
20			MUDSTONE and SANDSTONE, fine, reddish brown (5YR4/3) (19-26')		
21					
22					
23					
24					
25					
26			MUDSTONE, shaley, reddish brown (26-28.5')		
27					
28					
29			MUDSTONE and SANDSTONE, reddish brown (28.5-29'). Air hammer 9-7/8" to 29'. Install 6" steel casing to 29'.	5-7/8	Open Borehole

(continued on Page 2)

DRILLING RIG TYPE: Schramm T-450 BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole) WELL INSTALLED: Yes	SURFACE ELEVATION: 54.66 START DATE: 6/27/2016 END DATE: 6/28/2016
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NOTES:

Depths measured from ground surface gpm = gallons per minute
 NA = not applicable
 cpm = counts per minute
 ppm = parts per million

MW51D-1

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BORING LOG		BORING NUMBER: MW51D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201607077	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 6/28/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~14
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
30					
31	0.0		SANDSTONE, fine, reddish brown, soft.		
32					
33			Fracture (33-34').		
34			Yield ~0.0 gpm.		
35					
36	0.0		SANDSTONE, fine, reddish brown, soft.		
37					
38					
39			Yield ~0.0 gpm.		
40					
41	0.0		SANDSTONE, fine, reddish brown, soft.		
42				5-7/8	Open Borehole
43					
44			Fracture. MUDSTONE, reddish brown, harder. Yield ~0.0 gpm.		
45			Fracture.		
46	0.0		MUDSTONE, reddish brown.		
47					
48					
49			MUDSTONE, reddish brown. Yield ~trace gpm.		
50			Fracture.		
51	0.0		MUDSTONE, reddish brown.		
52					
53			MUDSTONE/SILTSTONE, reddish brown (52.5-54').		
54			Total yield ~0.5 gpm. (End of Boring at 54 feet)		
55					
56					
57					
58					
59					

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	54.66
BOREHOLE DIAM:	9-7/8", 5-7/8" (open borehole)	START DATE:	6/27/2016
WELL INSTALLED:	Yes	END DATE:	6/28/2016

NOTES:

Depths measured from ground surface gpm = gallons per minute

NA = not applicable

cpm = counts per minute

ppm = parts per million

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BORING LOG		BORING NUMBER: MW52S	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201609990	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	Split-spoon	NA	NA	DATE:	8/31/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lbs.	NA	NA	Groundwater Depth (Feet):	-6
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0					
1					
2	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
3					
4					
5	20				
6	18	0.0	NA	1.3	0.0 - 1.3' SAND, fine to medium, little coarse sand, trace fine gravel and silt, brown (7.5YR4/3), moist to wet, medium dense (SP).
7	16				
8	15				
9	78	0.0	NA	1.7	0.0 - 0.5' SAND (same as above) (SP). 0.5 - 0.9' SAND, fine, and CLAY, reddish brown (5YR4/4), wet, stiff (SW). 0.9 - 1.7' MUDSTONE, weathered, reddish brown (5YR4/4), wet.
10	93				
11	49				
12	33	0.0	NA	1.0	0.0 - 1.0' MUDSTONE, weathered, some medium to coarse sand, reddish brown (5YR4/4), wet.
13	84				
14	35				
15	31				
16					(End of Boring at 11 feet)
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 44.34
BOREHOLE DIAM: 8 1/4"	START DATE: 8/31/2016
WELL INSTALLED: Yes	END DATE: 8/31/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	Page 1 of 1 MW52S
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BORING LOG					BORING NUMBER: MW52D	
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102	
			LOCATION: Maywood, NJ		CLIENT: USACE	
			CONTRACTOR: SGS		DRILLER: Larry Lynch	
			WELL PERMIT NUMBER: E201609991		FIELD REP: Jeff Cook	
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE: 8/30/2016		
SIZE (ID)	NA	6"	NA			
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):		
HAMMER FALL	NA	NA	NA	-6		
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)
0						
1						
2			Hand-cleared 0 to 5 feet.			
3						
4						
5						
6						
7						
8			See Boring Log for overburden well MW-52S.			
9						
10						
11			Top of weathered rock			
12						
13						
14						
15			SANDSTONE, weathered, reddish brown (5YR4/3).		9-7/8	6
16			Drive 10" conductor casing to 15.5'			
17						
18						
19						
20			SANDSTONE, weathered, reddish brown (5YR4/3).			
21						
22			More competent bedrock at ~22'.			
23						
24						
25			MUDSTONE, reddish brown (5YR4/3)			
26						
27						
28						
29						
(continued on Page 2)						
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 44.19			
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 8/29/2016			
WELL INSTALLED: Yes			END DATE: 8/30/2016			
NOTES:						
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million					Page 1 of 3	
MW52D-1						

BORING LOG						BORING NUMBER: MW52D	
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site			JOB NUMBER: 500102	
			LOCATION: Maywood, NJ			CLIENT: USACE	
			CONTRACTOR: SGS			DRILLER: Larry Lynch	
			WELL PERMIT NUMBER: E201609991			FIELD REP: Jeff Cook	
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE		NA	steel	NA	DATE: 8/30/2016		
SIZE (ID)		NA	6"	NA			
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): ~6		
HAMMER FALL		NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
30							
31							
32							
33			MUDSTONE, reddish brown.			9-7/8	6
34							
35							
36			Air hammer 9-7/8" to 37'. Install 6" steel casing to 37'.				
37							
38	0.0		MUDSTONE, reddish brown.				
39							
40							
41			Fracture.				
42	0.0		MUDSTONE, reddish brown. Yield ~0.25 gpm.				
43							
44	0.0		MUDSTONE, fine sandy, reddish brown.				
45							
46							
47			Yield ~0.25 gpm.				
48			Fracture.			5-7/8	Open Borehole
49	0.0		MUDSTONE, fine sandy, reddish brown.				
50			Fracture.				
51							
52			Fracture. Yield ~0.5 gpm.				
53							
54	0.0		SANDSTONE, fine, reddish brown.				
55							
56			Softer (56-57').				
57			Yield ~0.5 gpm.				
58			Soft/fractured (58-59').				
59	0.0		SANDSTONE, reddish brown.				
(continued on Page 3)							
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 44.19				
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 8/29/2016				
WELL INSTALLED: Yes			END DATE: 8/30/2016				
NOTES:						Page 2 of 3	
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million						MW52D-2	

BORING LOG		BORING NUMBER: MW52D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201609991	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 8/30/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): -6
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60					
61			SANDSTONE, reddish brown Total yield ~1.5 gpm.	5-7/8	Open Borehole
62			(End of Boring at 62 feet)		
63					
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 44.19
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 8/29/2016
WELL INSTALLED: Yes	END DATE: 8/30/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 3 of 3 MW52D-3
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BORING LOG				BORING NUMBER: MW53S	
CB&I FEDERAL SERVICES		PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102	
		LOCATION: Maywood, NJ		CLIENT: USACE	
		CONTRACTOR: SGS		DRILLER: Larry Lynch	
		WELL PERMIT NUMBER: E201698452		FIELD REP: Jeff Cook	

TYPE	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
	Split-spoon	NA	NA	DATE:	7/21/2016
SIZE (ID)	2"	NA	NA		
HAMMER WEIGHT	140 lbs.	NA	NA	Groundwater Depth (Feet):	~6
HAMMER FALL	30 in.	NA	NA		

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0	NA	NA	NA	NA	Hand-cleared 0 to 5 feet.
1					
2					
3					
4					
5	15	0.0	NA	1.2	0.0 - 1.2' SAND, fine, little medium sand, trace silt, dark gray (10YR4/1), moist to wet, loose (SP).
	11				
6	11				
	8	0.0	NA	1.2	0.0 - 1.2' SAND (same as above), wet (SP).
7	5				
	6				
8	8	0.0	NA	1.0	0.0 - 1.0' SAND, fine, little medium sand, dark grayish brown (10YR3/2), wet, loose, at bottom, becoming SAND, fine to medium, little coarse sand, dark olive gray (5Y3/2) (SP/SW).
	11				
9	15				
10	8	0.0	NA	0.8	0.0 - 0.8' SAND, medium to coarse, dark olive gray (5Y3/2), wet, very loose (SW).
	8				
11	W.O.H.				
	W.O.H.	0.0	NA	1.2	0.0 - 1.2' SAND, medium to coarse, trace fine gravel, dark olive gray (5Y3/2), wet, loose (SW).
12	3				
	3				
13	3	0.0	NA	0.8	0.0 - 0.8' SAND (same as above) (SW).
	4				
14	4				
	6	0.0	NA	0.9	0.0 - 0.7' SAND, fine, very dark grayish brown (10YR4/2) to dark yellowish brown (10YR4/4), wet, loose (SP). 0.7 - 0.9' SANDSTONE, weathered, reddish brown (5YR4/3).
15	3				
	6				
16	7	0.0	NA	0.9	0.0 - 0.7' SAND, fine, very dark grayish brown (10YR4/2) to dark yellowish brown (10YR4/4), wet, loose (SP). 0.7 - 0.9' SANDSTONE, weathered, reddish brown (5YR4/3).
	8				
17	1				
	5	0.0	NA	0.9	0.0 - 0.7' SAND, fine, very dark grayish brown (10YR4/2) to dark yellowish brown (10YR4/4), wet, loose (SP). 0.7 - 0.9' SANDSTONE, weathered, reddish brown (5YR4/3).
18	100/6"				
19					(End of Boring at 19 feet)
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	52.18
BOREHOLE DIAM:	8 1/4"	START DATE:	7/21/2016
WELL INSTALLED:	Yes	END DATE:	7/21/2016

NOTES:	<p>Depths measured from ground surface W.O.H. = weight of hammer</p> <p>NA = not applicable</p> <p>cpm = counts per minute</p> <p>ppm = parts per million</p>	<p>Page 1 of 1</p> <p>MW53S</p>
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BORING LOG					BORING NUMBER: MW53D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
			LOCATION: Maywood, NJ		CLIENT: USACE		
			CONTRACTOR: SGS		DRILLER: Larry Lynch		
			WELL PERMIT NUMBER: E201608451		FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE		NA	steel	NA	DATE: 7/21/2016		
SIZE (ID)		NA	6"	NA			
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): ~10		
HAMMER FALL		NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
0			Hand-cleared 0 to 5 feet.				
1							
2							
3							
4							
5			See Boring Log for overburden well MW-53S.			9-7/8	6
6							
7							
8							
9							
10							
11							
12							
13							
14							
15			Top of weathered bedrock.				
16							
17							
18							
19							
20							
21							
22							
23							
24							
25			SANDSTONE, reddish brown (5YR4/3), extensively weathered, soft.				
26							
27							
28							
29							
29			SANDSTONE, reddish brown (5YR4/3), weathered, soft.				
30							
31							
32							
33							
(continued on Page 2)							
DRILLING RIG TYPE: Schramm T-450				SURFACE ELEVATION: 52.23			
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)				START DATE: 7/19/2016			
WELL INSTALLED: Yes				END DATE: 7/21/2016			
NOTES:							
Depths measured from ground surface			gpm = gallons per minute				
NA = not applicable			MW53D-1				
cpm = counts per minute							
ppm = parts per million							
						Page 1 of 3	

BORING LOG						BORING NUMBER: MW53D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site			JOB NUMBER: 500102		
			LOCATION: Maywood, NJ			CLIENT: USACE		
			CONTRACTOR: SGS			DRILLER: Larry Lynch		
			WELL PERMIT NUMBER: E201608451			FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER			
TYPE		NA	steel	NA	DATE: 7/21/2016			
SIZE (ID)		NA	6"	NA				
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet):		~10	
HAMMER FALL		NA	NA	NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS				BOREHOLE DIAM (in)	CASING DIAM (in)
30								
31			SANDSTONE, reddish brown (5YR4/3), weathered, soft.					
32			More competent rock (32-42').					
33								
34								
35								
36			SANDSTONE, reddish brown (5YR4/3).				9-7/8	6
37								
38								
39								
40								
41			SANDSTONE, reddish brown (5YR4/3).					
42								
43								
44								
45								
46	0.0		SANDSTONE, reddish brown (5YR4/3).					
47								
48								
49								
50								
51	0.0		SANDSTONE, reddish brown.				5-7/8	Open Borehole
52			Yield ~0.1 gpm.					
53								
54			Fracture.					
55								
56	0.0		Fracture. MUDSTONE and SANDSTONE, fine grained, reddish brow					
57			Yield ~0.1 gpm.					
58								
59								
(continued on Page 3)								
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 52.23					
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 7/19/2016					
WELL INSTALLED: Yes			END DATE: 7/21/2016					
NOTES:						Page 2 of 3		
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million						MW53D-2		

BORING LOG		BORING NUMBER: MW53D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201608451	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	NA	steel	NA	DATE: 7/21/2016
SIZE (ID)	NA	6"	NA	
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet): ~10
HAMMER FALL	NA	NA	NA	

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60			Soft seam(s), water bearing	5-7/8	Open Borehole
61			Total yield ~15 gpm.		
62			(End of Boring at 62 feet)		
63					
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 52.23
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)	START DATE: 7/19/2016
WELL INSTALLED: Yes	END DATE: 7/21/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	MW53D-3 Page 3 of 3
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BORING LOG		BORING NUMBER: MW54S	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201608454	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER
TYPE	Split-spoon	NA	NA	DATE: 7/28/2016
SIZE (ID)	2"	NA	NA	
HAMMER WEIGHT	140 lbs.	NA	NA	Groundwater Depth (Feet): ~5
HAMMER FALL	30 in.	NA	NA	

DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	DESCRIPTION OF MATERIALS
0					Hand-cleared 0 to 5 feet.
1					
2	NA	NA	NA	NA	
3					
4					
5	3	0.0	NA	1.3	0.0 - 1.3' SAND, medium, little fine and coarse sand, brown (7.5YR4/4), wet, loose to medium dense (SP).
	4				
6	10				
	15				
7	8	0.0	NA	1.1	0.0 - 0.3' SAND (same as above) (SP). 0.3 - 1.1' SILT, trace fine sand and clay, brown (7.5YR4/4), moist, medium dense (ML).
	17				
8	14				
	18				
9	9	0.0	NA	1.6	0.0 - 0.9' SILT (same as above) (ML). 0.9 - 1.6' MUDSTONE, weathered, reddish brown (5YR4/3), wet.
	22				
10	23				
	100/3"				Hard augering to 11'
11					(End of Boring at 11 feet)
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

DRILLING RIG TYPE: Schramm T-450	SURFACE ELEVATION: 54.57
BOREHOLE DIAM: 8 1/4"	START DATE: 7/28/2016
WELL INSTALLED: Yes	END DATE: 7/28/2016

NOTES: Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million	MW54S Page 1 of 1
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BORING LOG					BORING NUMBER: MW54D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
			LOCATION: Maywood, NJ		CLIENT: USACE		
			CONTRACTOR: SGS		DRILLER: Larry Lynch		
			WELL PERMIT NUMBER: E201608453		FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE		NA	steel	NA	DATE: 7/27/2016		
SIZE (ID)		NA	6"	NA			
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): -6		
HAMMER FALL		NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
0			Hand-cleared 0 to 5 feet.				
1							
2							
3							
4							
5			See boring log for overburden well MW-54S.				
6							
7							
8							
9							
10							
11							
12							
13							
14							
15			Top of weathered bedrock. MUDSTONE, weathered, reddish brown (5YR4/3). SANDSTONE, fine, weathered, reddish brown (5YR4/3), very soft. Drive 10" conductor casing to 16'. SANDSTONE, fine, weathered, reddish brown (5YR4/3), soft. Harder. SANDSTONE, fine, reddish brown (5YR4/3). Competent rock at ~28'.			9-7/8	6
16							
17							
18							
19							
20							
21							
22							
23							
24							
25			(continued on Page 2)				
26							
27							
28							
29							
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 54.42				
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 7/25/2016				
WELL INSTALLED: Yes			END DATE: 7/27/2016				
NOTES:						Page 1 of 3	
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million <div style="text-align: center;">MW54D-1</div>							

BORING LOG					BORING NUMBER: MW54D		
CB&I FEDERAL SERVICES			PROJECT: Maywood FUSRAP Superfund Site		JOB NUMBER: 500102		
			LOCATION: Maywood, NJ		CLIENT: USACE		
			CONTRACTOR: SGS		DRILLER: Larry Lynch		
			WELL PERMIT NUMBER: E201608453		FIELD REP: Jeff Cook		
		SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER		
TYPE		NA	steel	NA	DATE: 7/27/2016		
SIZE (ID)		NA	6"	NA			
HAMMER WEIGHT		NA	NA	NA	Groundwater Depth (Feet): ~6		
HAMMER FALL		NA	NA	NA			
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
30			Softer (30-31').				
31							
32			SANDSTONE, fine, reddish brown (5YR4/3).			9-7/8	6
33							
34							
35							
36							
37			SANDSTONE, fine, reddish brown (5YR4/3). Softer (37.5-38').				
38						Air hammer 9-7/8" to 38' Install 6" steel casing to 38'	
39							
40							
41							
42	0.0		SANDSTONE, fine, reddish brown.				
43							
44							
45							
46							
47	0.0		SANDSTONE, fine, reddish brown.				
48			Yield ~0.0 gpm.			5-7/8	See Note 2, Page 3
49			Fracture.				
50							
51							
52	0.0		SANDSTONE, fine, reddish brown.				
53			Yield ~0.0 gpm.				
54							
55							
56							
57	0.0		SANDSTONE, silty fine, reddish brown.				
58			Yield ~0.0 gpm.				
59							
(continued on Page 3)							
DRILLING RIG TYPE: Schramm T-450			SURFACE ELEVATION: 54.42				
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole)			START DATE: 7/25/2016				
WELL INSTALLED: Yes			END DATE: 7/27/2016				
NOTES:						Page 2 of 3	
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million						MW54D-2	

BORING LOG		BORING NUMBER: MW54D	
CB&I FEDERAL SERVICES	PROJECT:	Maywood FUSRAP Superfund Site	
	LOCATION:	Maywood, NJ	
	CONTRACTOR:	SGS	
	WELL PERMIT NUMBER:	E201608453	
		JOB NUMBER:	500102
		CLIENT:	USACE
		DRILLER:	Larry Lynch
		FIELD REP:	Jeff Cook

	SAMPLER	CASING	CORE BARREL	DEPTH OF GROUNDWATER	
TYPE	NA	steel	NA	DATE:	7/27/2016
SIZE (ID)	NA	6"	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~6
HAMMER FALL	NA	NA	NA		

DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
60					
61					
62	0.0		SANDSTONE, silty fine, reddish brown.		
63			Yield ~0.0 gpm.		
64					
65					
66					
67	0.0		MUDSTONE, fine sandy, reddish brown, harder.		
68			Yield ~0.0 gpm.		
69			Fracture.	5-7/8	See Note 2 Below
70					
71					
72	0.0		MUDSTONE, reddish brown, harder.		
73			Yield ~0.0 gpm.		
74					
75			Fracture.		
76					
77					
78			SANDSTONE, fine, reddish brown. Total yield - 0.17 GPM (see Note 1 below).		
79			(End of Boring at 79 feet) Air hammer 5-7/8" to 79".		
80			Note 1: Results of recharge test following completion of borehole: ~10.1' of water accumulation after ~85 minutes (approx. 0.17 gpm). 24 hour GW level is artesian.		
81			Note 2: Installed 2" diameter PVC well screen (0.010-inch slotted) within 5-7/8" borehole, from 58.5 - 78.5 feet. Installed #00 sand (54 - 56) and #1 sand (56 - 79) filter pack. Grouted up from 54 feet.		
82					
83					
84					
85					
86					
87					
88					
89					

DRILLING RIG TYPE:	Schramm T-450	SURFACE ELEVATION:	54.42
BOREHOLE DIAM:	9-7/8", 5-7/8" (open borehole)	START DATE:	7/25/2016
WELL INSTALLED:	Yes	END DATE:	7/27/2016

NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million	Page 3 of 3 MW54D-3
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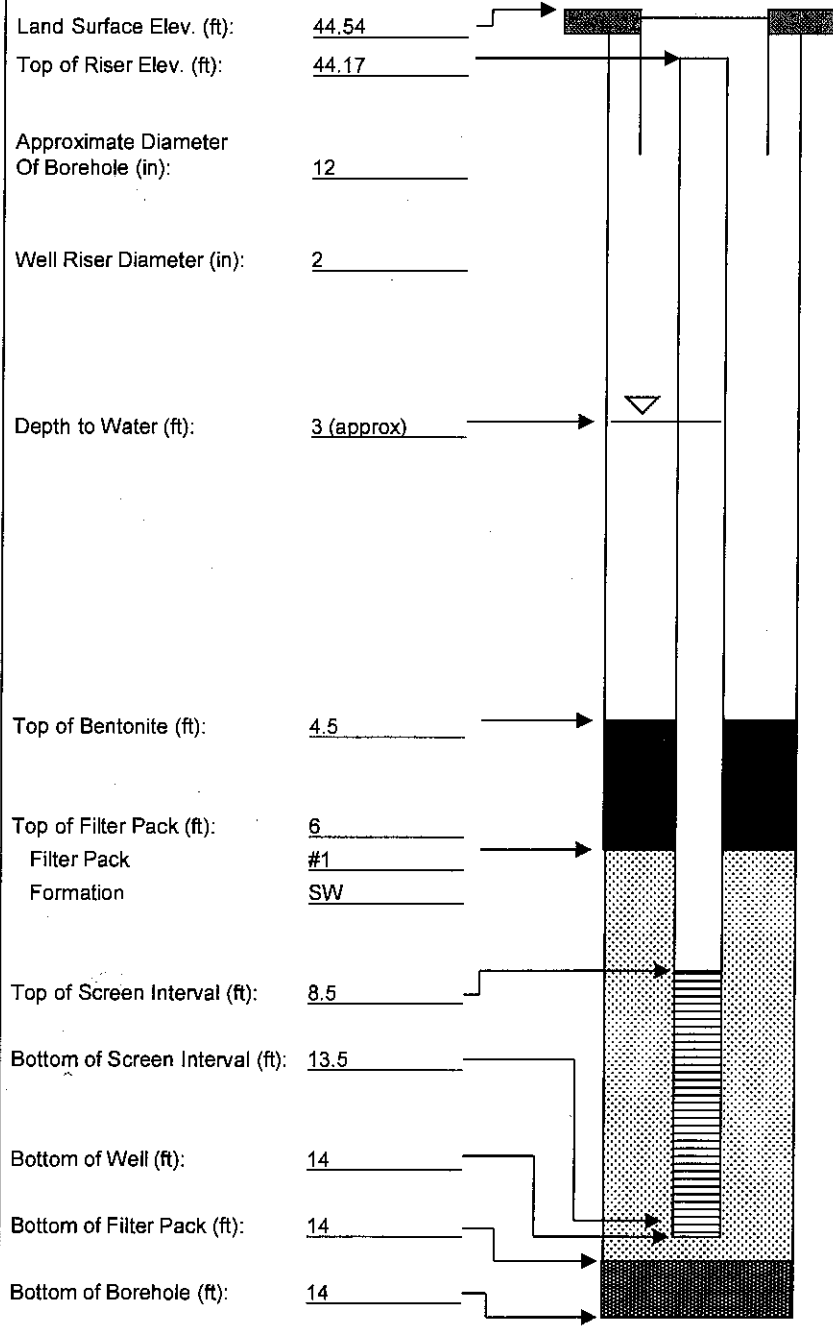
APPENDIX B

CONSTRUCTION DIAGRAMS FOR MODIFIED AND NEW LTM WELLS

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: _____
 Driller: _____
 Field Representative: J. Lord

Well No.: B38W14S
 Site Location: Rochelle Park
 Installation Date: 11/4/88
 Northing: 752328.56
 Easting: 609536.42
 NAD: 83 NGVD: 88



Protective Roadbox:
 Type: Steel
 Dimensions (in): 9 - check
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter - check
 Type: Concrete

Annular Space Seal
 Type: Cement/Bentonite Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: 316 Stainless Steel
 Diameter (in): 2

Well Screen
 Type: 316 Stainless Steel (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

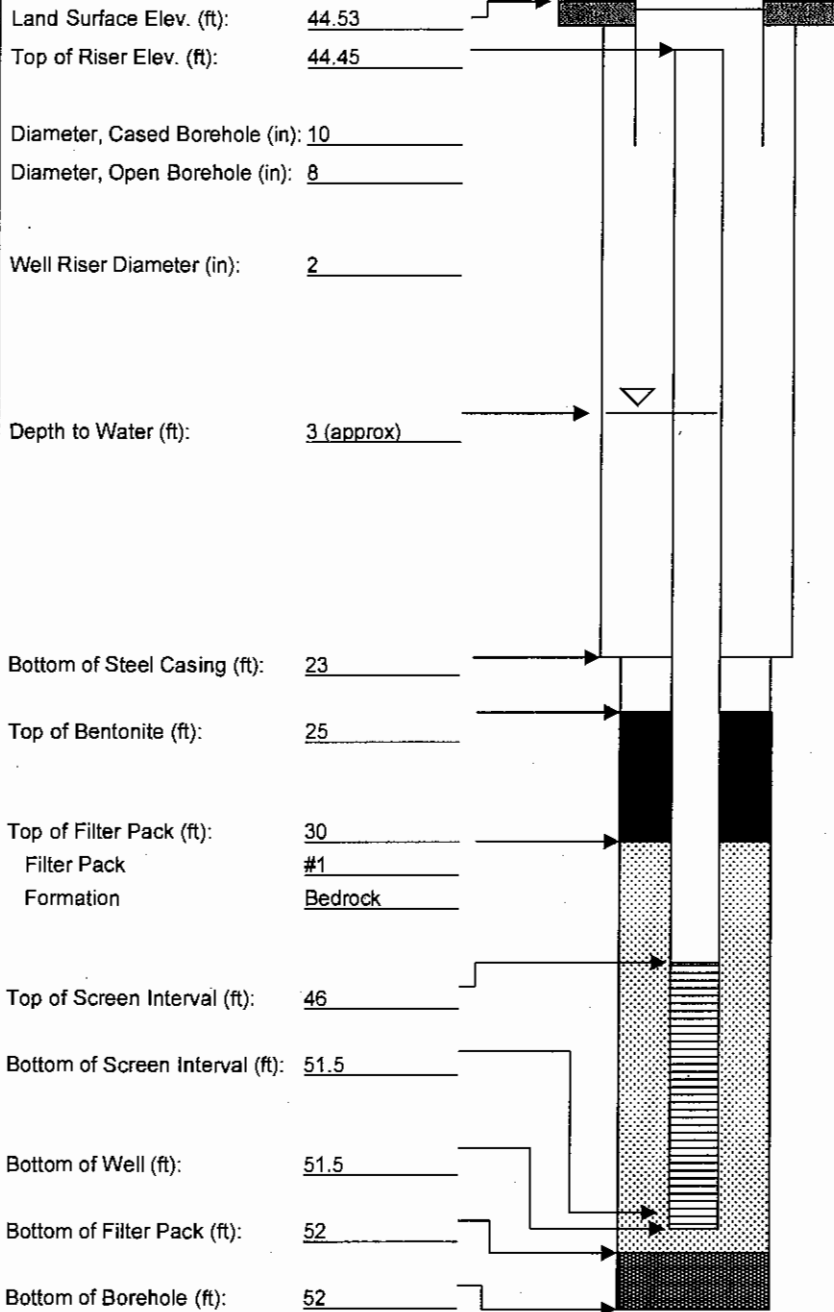
Sump/End Cap: 316 Stainless Steel (2")
 Backfill Material: None

Note: NJDEP Well Permit E201604711 is a modification of NJDEP Well Permit 26-14043-8.

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: _____
 Driller: _____
 Field Representative: J. Lord

Well No.: B38W14D
 Site Location: Rochelle Park
 Installation Date: 11/4/88
 Northing: 752324.83
 Easting: 609543.09
 NAD: 83 NGVD: 88



Protective Roadbox:
 Type: Steel
 Dimensions (in): 9 - check
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter - check
 Type: Concrete

Annular Space Seal
 Type: Cement/Bentonite Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: 316 Stainless Steel
 Diameter (in): 2

Well Screen
 Type: 316 Stainless Steel (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

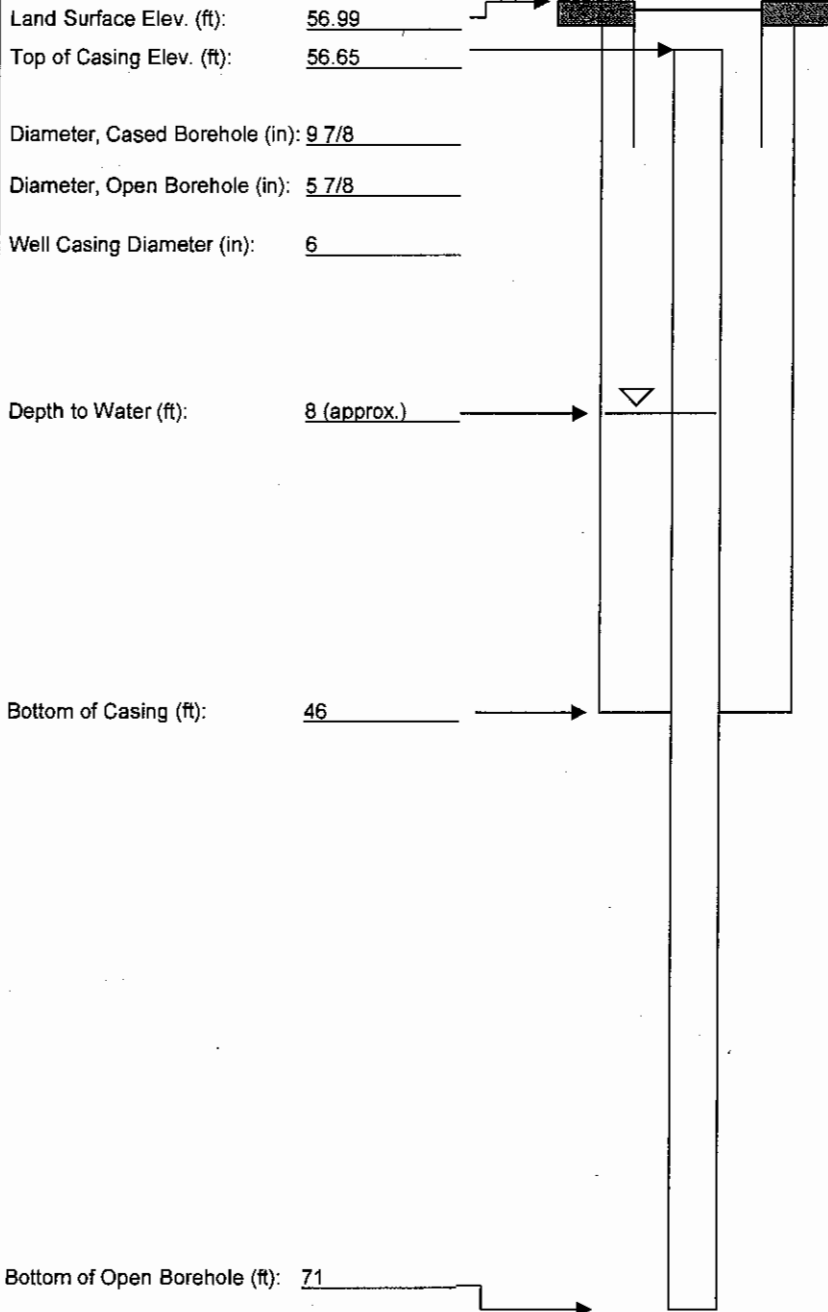
Sump/End Cap: 316 Stainless Steel (2")
 Backfill Material: None

Note: NJDEP Well Permit E201604710 is a modification of NJDEP Well Permit 26-14042-0.

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: B38W18DR
 Site Location: MISS
 Installation Date: 6/20/16
 Northing: 752234.33
 Easting: 610938.01
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 24" Diam.
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
 Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None

Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing

Type: Steel
 Diameter (in): 6

Well Screen - None

Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

None

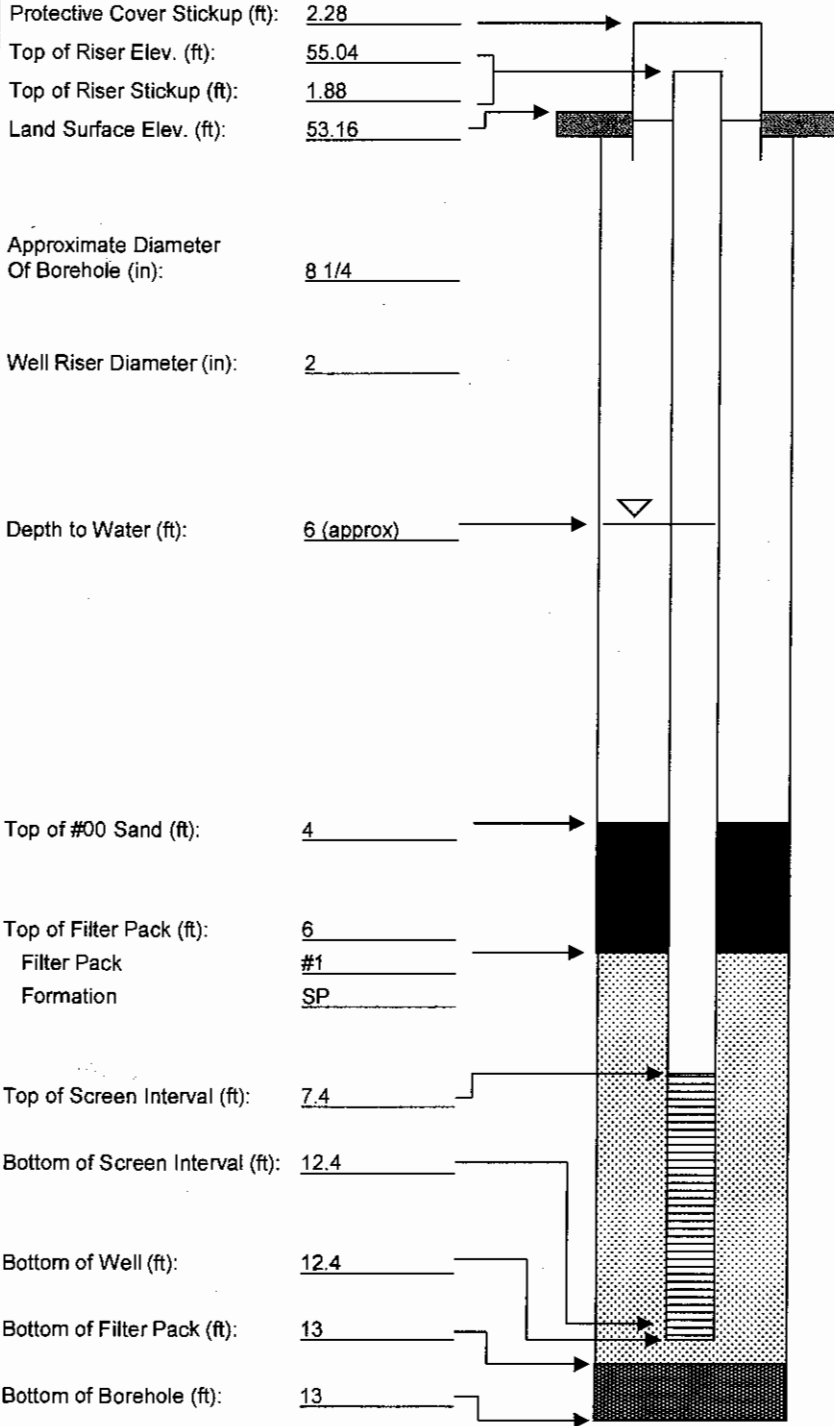
Backfill Material:

None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: B38W25SR
 Site Location: MISS
 Installation Date: 5/10/16
 Northing: 752242.53
 Easting: 610493.88
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

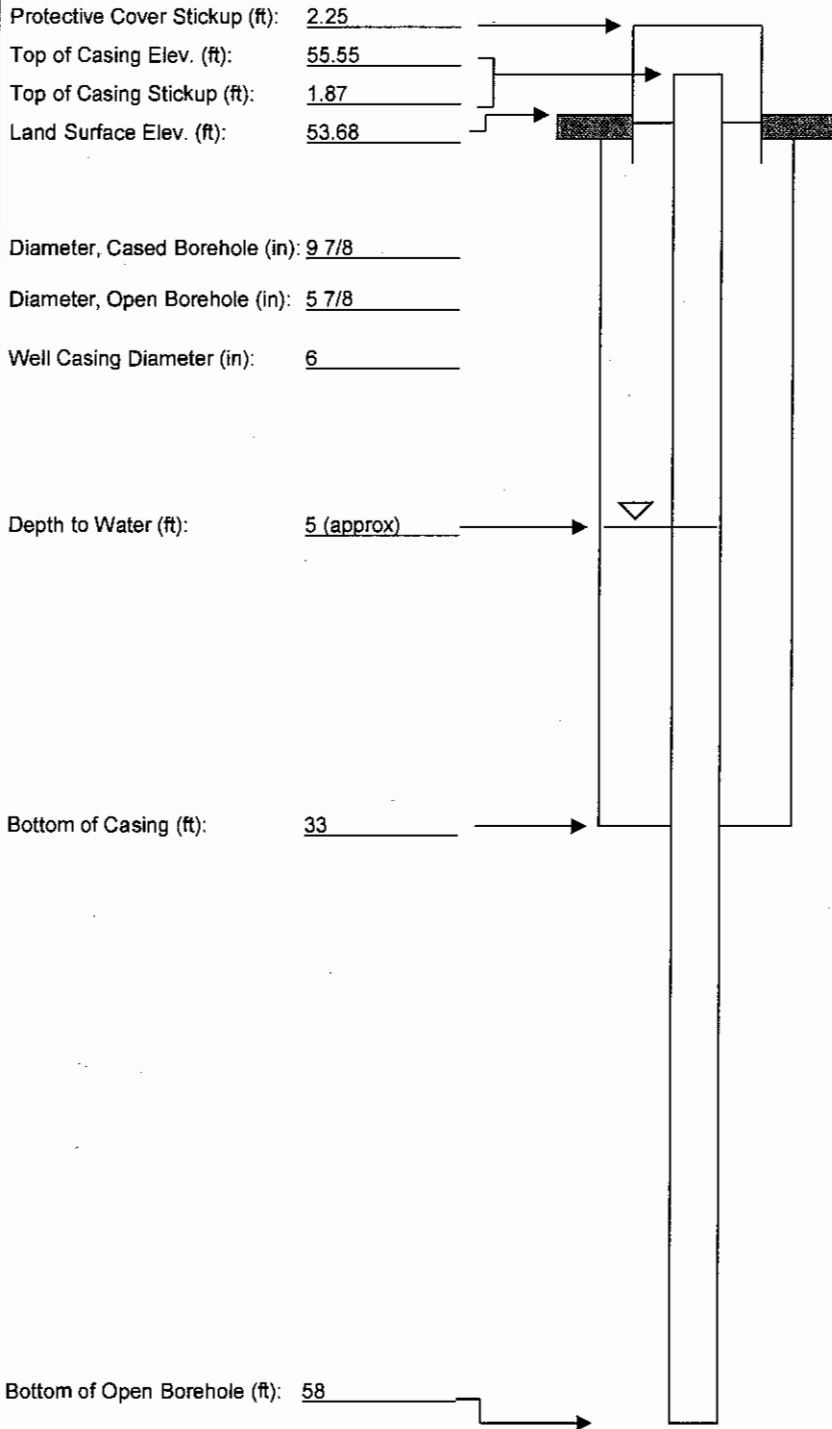
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: B38W25DR
 Site Location: MISS
 Installation Date: 5/24/16
 Northing: 752247.23
 Easting: 610497.67
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 8
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal
 Type: Type III Portland Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

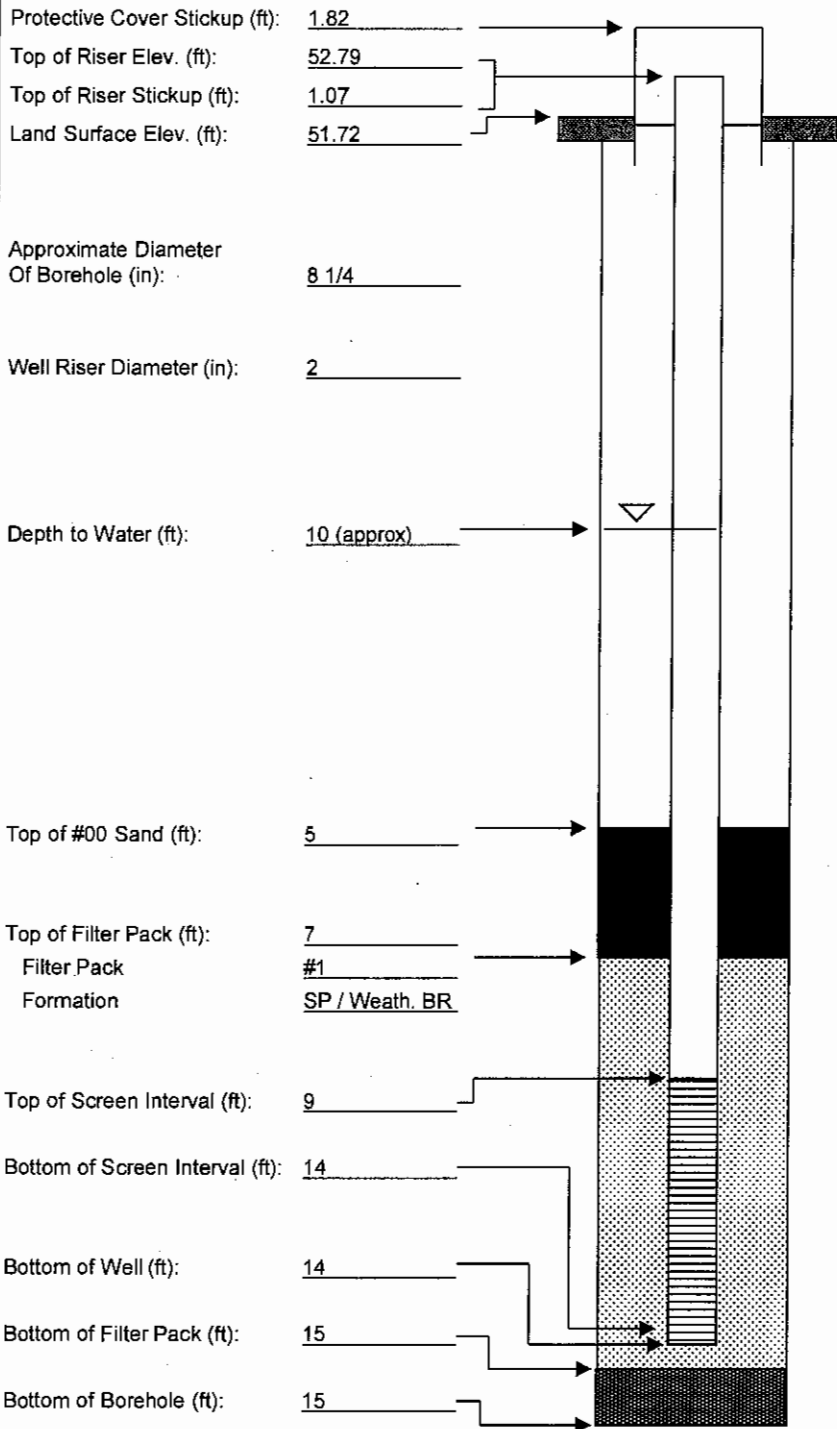
Well Screen - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: None
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MISS1AR
 Site Location: MISS
 Installation Date: 6/7/16
 Northing: 752667.89
 Easting: 610237.91
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

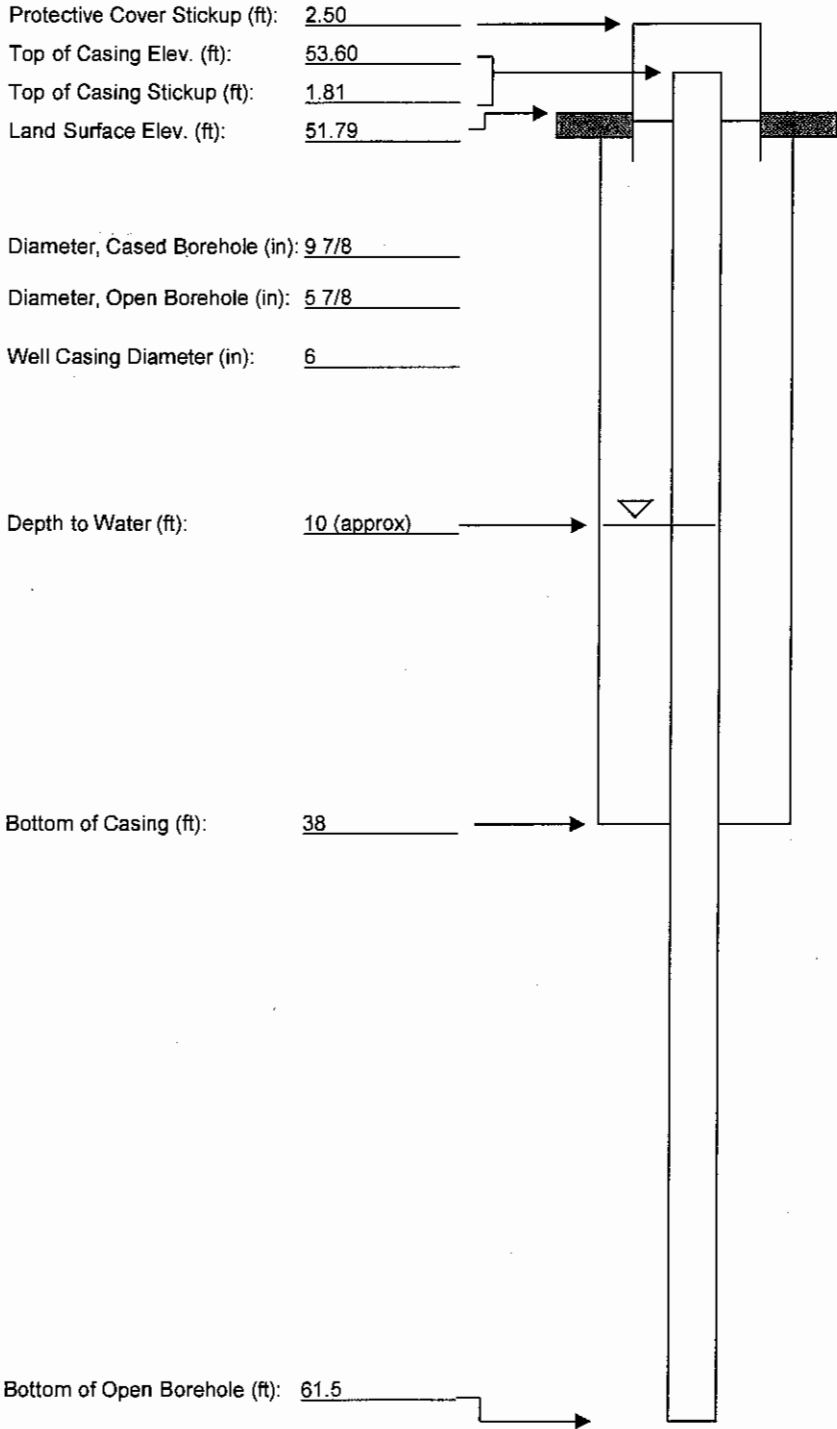
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MISS1BR
 Site Location: MISS
 Installation Date: 6/2/16
 Northing: 752512.40
 Easting: 610856.90
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 8.5
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

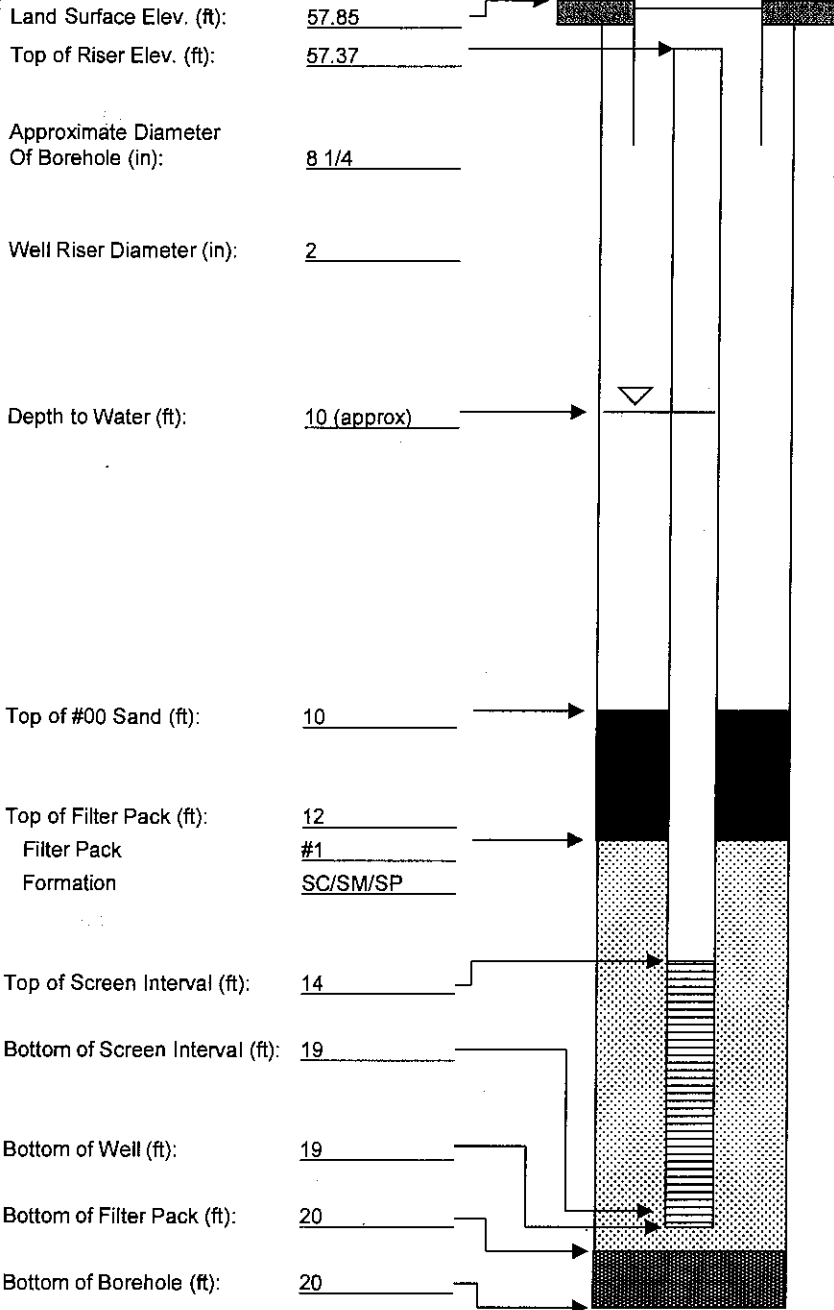
Well Screen - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: None
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MISS2AR
 Site Location: MISS
 Installation Date: 7/5/16
 Northing: 752666.06
 Easting: 610244.94
 NAD: 83 NGVD: 88



Protective Roadbox:
 Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
 Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

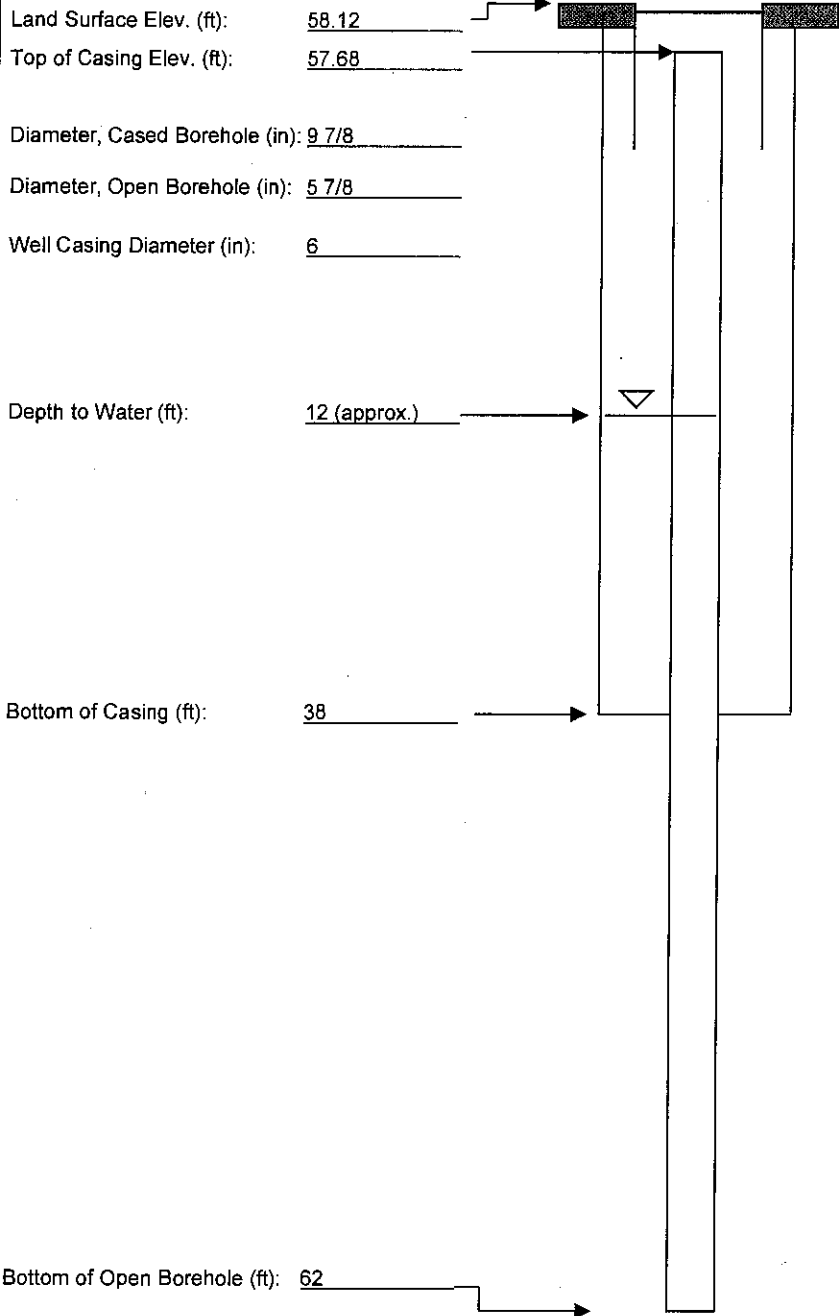
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MISS2BR
 Site Location: MISS
 Installation Date: 6/23/16
 Northing: 752508.50
 Easting: 610865.60
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None

Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing

Type: Steel
 Diameter (in): 6

Well Screen - None

Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

None

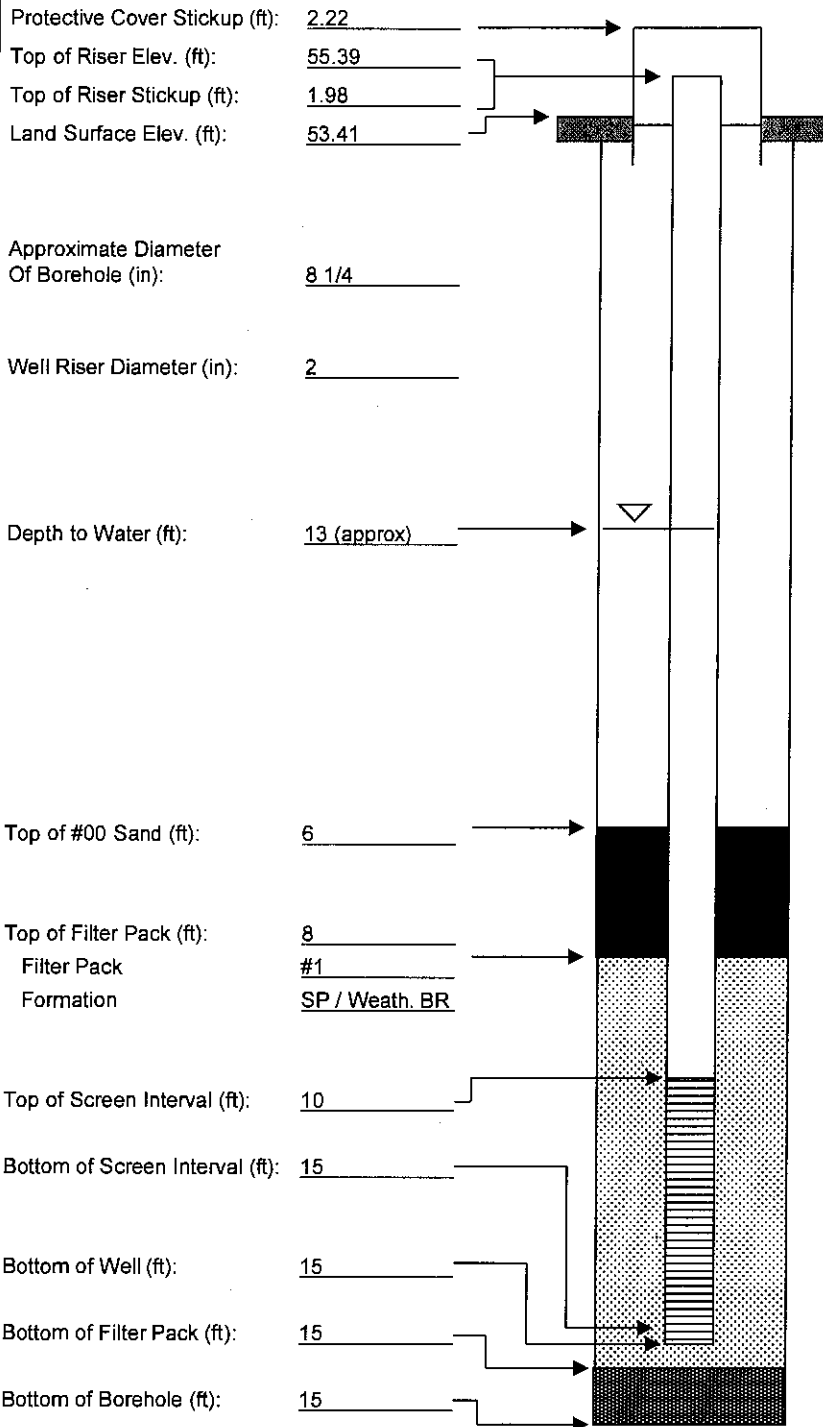
Backfill Material:

None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MISS4AR
 Site Location: MISS
 Installation Date: 9/6/16
 Northing: 751829.83
 Easting: 610505.43
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
 Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

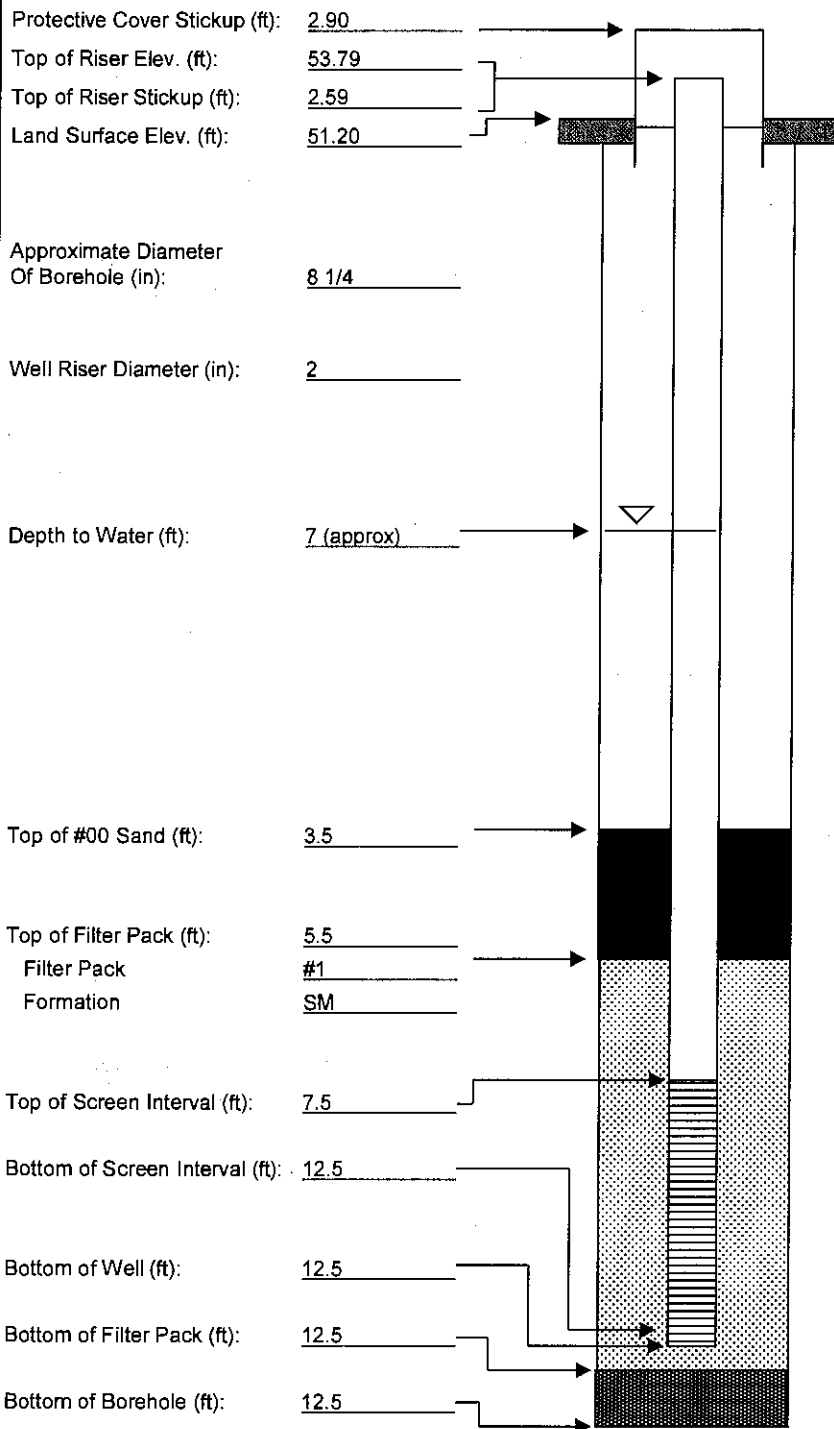
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MISS7AR
 Site Location: MISS
 Installation Date: 7/7/16
 Northing: 752350.20
 Easting: 610200.41
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
 Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

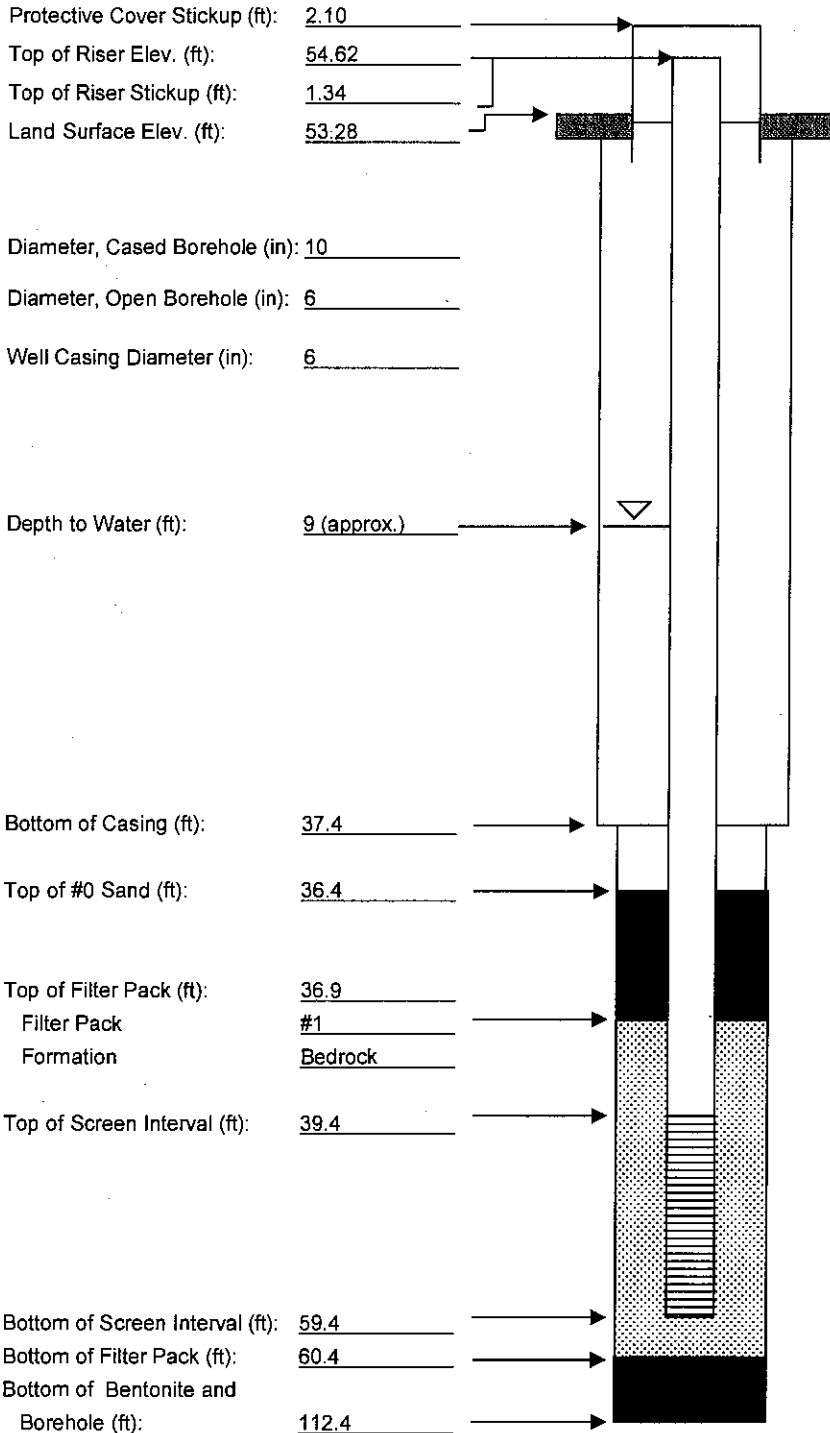
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: Rexrode
 Driller: Richard Tabor
 Field Representative: Robert DeMott

Well No.: BRPZ2
 Site Location: MISS
 Installation Date: 7/24/01
 Northing: 752114.41
 Easting: 610322.64
 NAD: 83 NGVD: 88



Protective Cover:
 Type: Steel
 Dimensions (in): 8.5
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 13" Diameter
 Type: Concrete

Annular Space Seal
 Type: Cement Bentonite Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #0 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

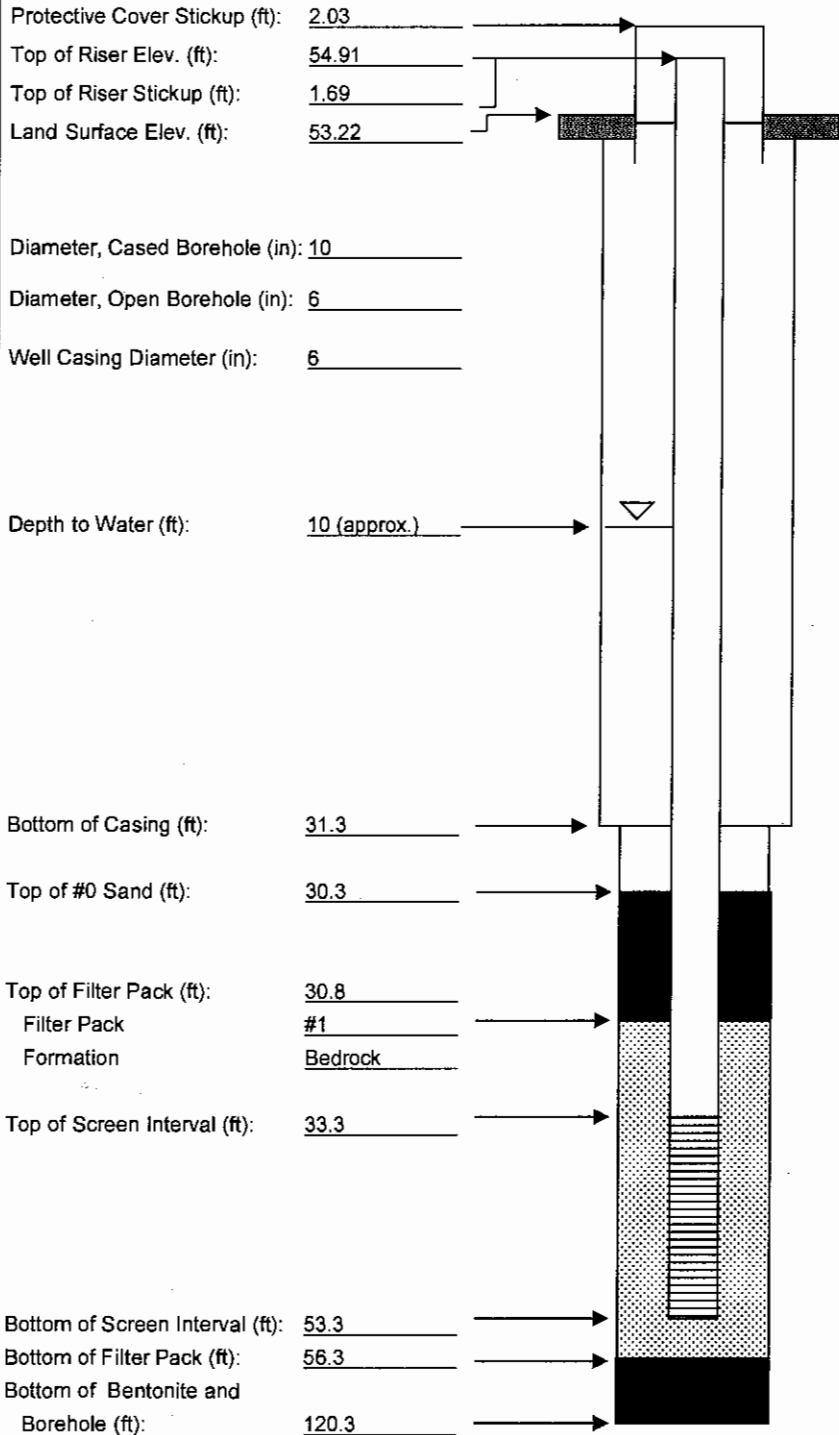
Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Note: NJDEP Well Permit E201604681 is a modification of NJDEP Well Permit 26-61466.

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: ADT
 Driller: Richard Tabor
 Field Representative: Robert DeMott

Well No.: BRPZ3
 Site Location: MISS
 Installation Date: 7/24/01
 Northing: 752054.51
 Easting: 610297.94
 NAD: 83 NGVD: 88



Protective Cover:
 Type: Steel
 Dimensions (in): 8.5
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Cement Bentonite Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #0 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

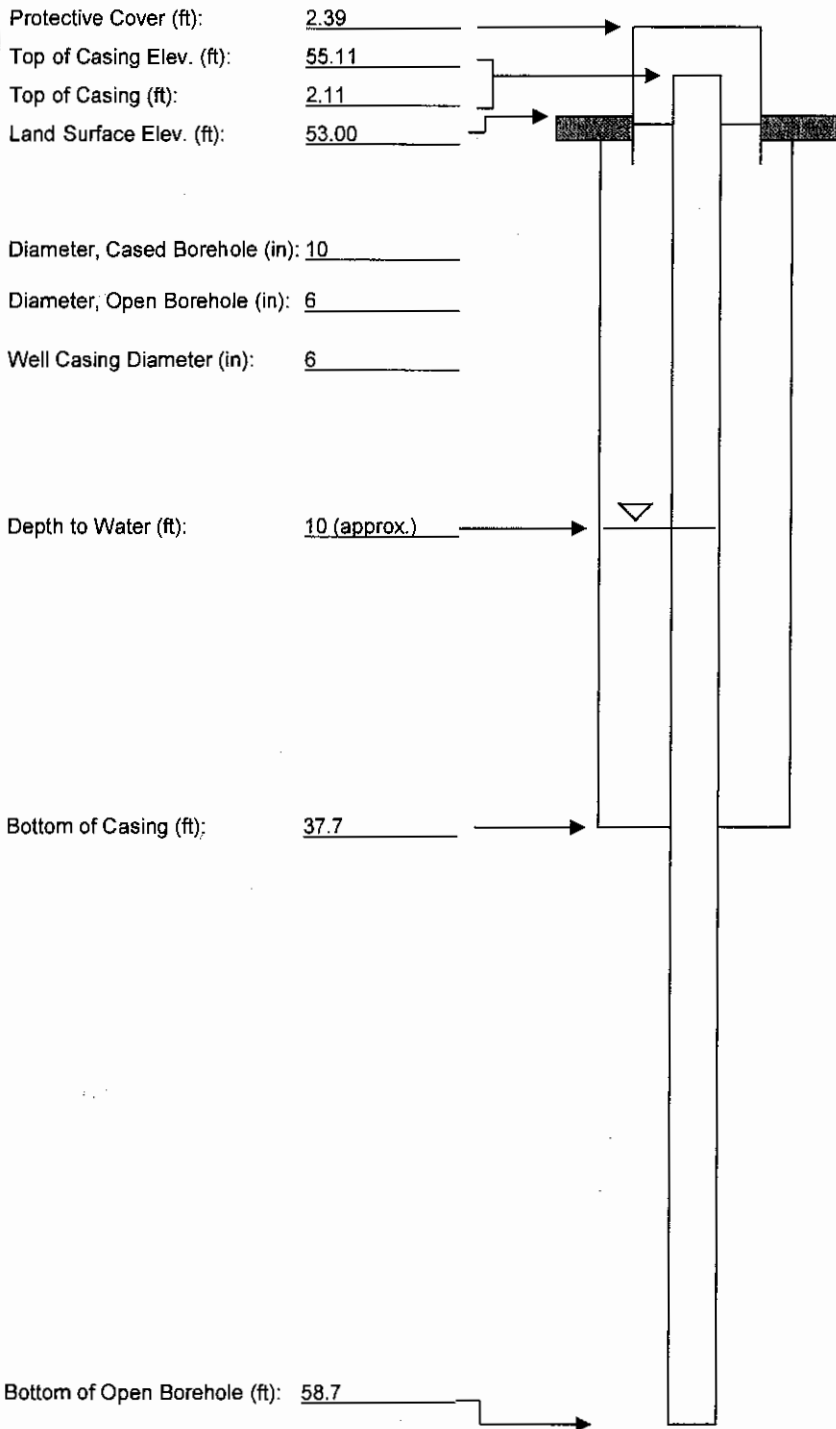
Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Note: NJDEP Well Permit E201604691 is a modification of NJDEP Well Permit 26-61467.

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: ADT
 Driller: Richard Tabor
 Field Representative: Robert DeMott

Well No.: BRPZ4
 Site Location: MISS
 Installation Date: 5/17/01
 Northing: 752146.10
 Easting: 610324.53
 NAD: 83 NGVD: 88



Protective Cover (ft): 2.39
 Top of Casing Elev. (ft): 55.11
 Top of Casing (ft): 2.11
 Land Surface Elev. (ft): 53.00

Diameter, Cased Borehole (in): 10
 Diameter, Open Borehole (in): 6
 Well Casing Diameter (in): 6

Depth to Water (ft): 10 (approx.)

Bottom of Casing (ft): 37.7

Bottom of Open Borehole (ft): 58.7

Protective Cover:
 Type: Steel
 Dimensions (in): 8.5
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 13" Diameter
 Type: Concrete

Annular Space Seal
 Type: Cement Bentonite Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

Well Screen Casing - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: None
 Backfill Material: None

Note: NJDEP Well Permit E201604693 is a modification of NJDEP Well Permit 26-60716.

Monitoring Well Construction Form

Project: <u>Maywood FUSRAP</u> Location: <u>Maywood, NJ</u> Client: <u>USACE</u> Subcontractor: <u>ADT</u> Driller: <u>Richard Tabor</u> Field Representative: <u>Robert DeMott</u>	Well No.: <u>BRPZ5</u> Site Location: <u>MISS</u> Installation Date: <u>8/7/01</u> Northing: <u>752153.78</u> Easting: <u>610305.23</u> NAD: 83 <u>NGVD: 88</u>
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Protective Cover Stickup (ft): <u>2.31</u> Top of Riser Elev. (ft): <u>54.15</u> Top of Riser Stickup (ft): <u>2.13</u> Land Surface Elev. (ft): <u>52.02</u> Diameter, Cased Borehole (in): <u>10</u> Diameter, Open Borehole (in): <u>6</u> Well Casing Diameter (in): <u>6</u> Depth to Water (ft): <u>9 (approx.)</u> Bottom of Casing (ft): <u>36.8</u> Top of Filter Pack (ft): <u>36.8</u> Filter Pack Formation: <u>#1 Bedrock</u> Top of Screen Interval (ft): <u>38.8</u> Bottom of Screen Interval (ft): <u>58.8</u> Bottom of Filter Pack (ft): <u>61.8</u> Bottom of Bentonite and Borehole (ft): <u>109.8</u>		Protective Cover: Type: <u>Steel</u> Dimensions (in): <u>8.5</u> Length (ft): <u>5</u> Guard / Post: <u>No</u> Ground Seal (Surface Pad) Dimensions: <u>13" Diameter</u> Type: <u>Concrete</u> Annular Space Seal Type: <u>Cement Bentonite Grout</u> Installation: <u>Gravity</u> <u>Tremie</u> <u>Pumped</u> Bentonite Seal - None Type: <u>Pellets</u> <u>Slurry</u> Installation: <u>6-in. lifts</u> <u>One Section</u> <u>Gravity</u> <u>Tremie</u> <u>Pumped</u> Hydration Time (hrs): _____ Filter Pack Material Size: <u>#1</u> Volume Added (ft³): <u>NA</u> Installation: <u>Gravity</u> <u>Tremie</u> Well Casing Type: <u>Steel</u> Diameter (in): <u>6</u> Well Riser Type: <u>Sch 40 PVC</u> Diameter (in): <u>2</u> Well Screen Type: <u>Sch 40 PVC (2")</u> Slot Size (in): <u>0.010 (10-slot)</u> Slot Type: <u>Cont. Wrap</u> <u>Factory slot</u> Sump/End Cap: <u>Sch 40 PVC (2")</u> Backfill Material: <u>None</u>
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Note: NJDEP Well Permit E201604695 is a modification of NJDEP Well Permit 26-60717.

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: ADT
 Driller: Richard Tabor
 Field Representative: George Markt

Well No.: BRPZ9
 Site Location: MISS
 Installation Date: 5/24/01
 Northing: 752269.85
 Easting: 610308.11
 NAD: 83 NGVD: 88

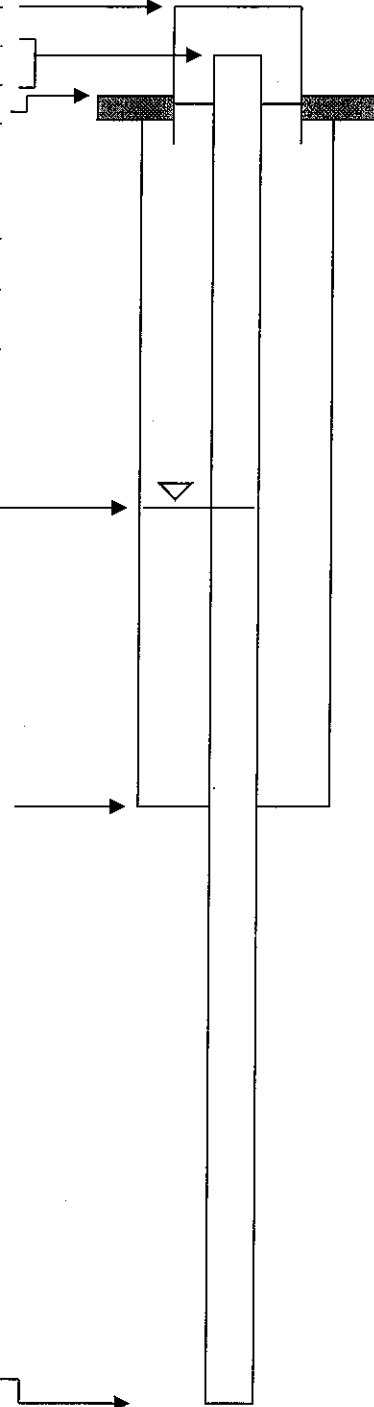
Protective Cover (ft): 2.06
 Top of Casing Elev. (ft): 53.21
 Top of Casing (ft): 1.74
 Land Surface Elev. (ft): 51.47

Diameter, Cased Borehole (in): 10
 Diameter, Open Borehole (in): 6
 Well Casing Diameter (in): 6

Depth to Water (ft): 10 (approx.)

Bottom of Casing (ft): 27.4

Bottom of Open Borehole (ft): 51.4



Protective Cover:
 Type: Steel
 Dimensions (in): 8.5
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Cement Bentonite Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

Well Screen Casing - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

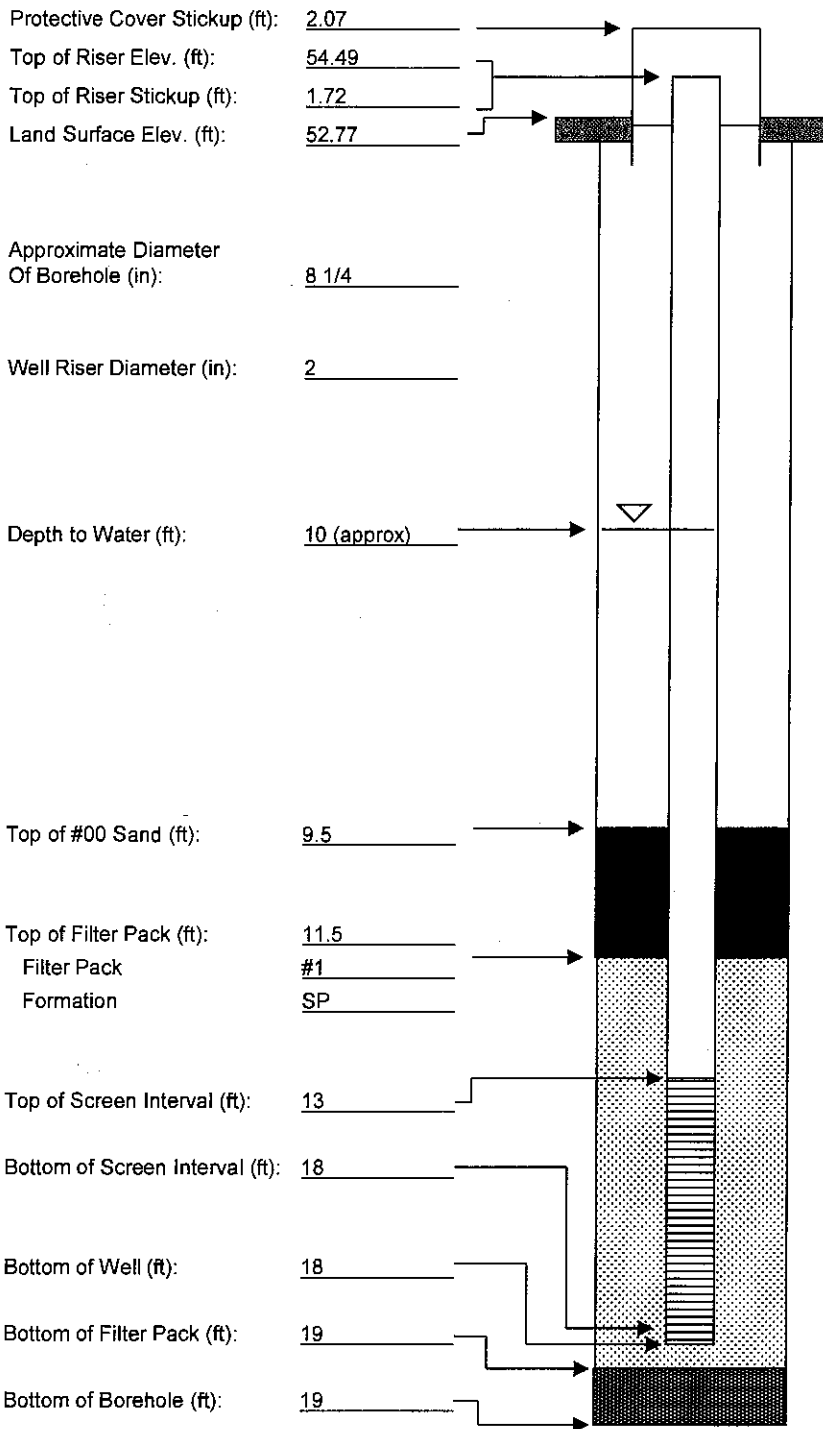
Sump/End Cap: None
 Backfill Material: None

Note: NJDEP Well Permit E201604708 is a modification of NJDEP Well Permit 26-61469.

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: OVPZ17R
 Site Location: MISS
 Installation Date: 5/16/16
 Northing: 752147.21
 Easting: 610318.96
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Cement

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

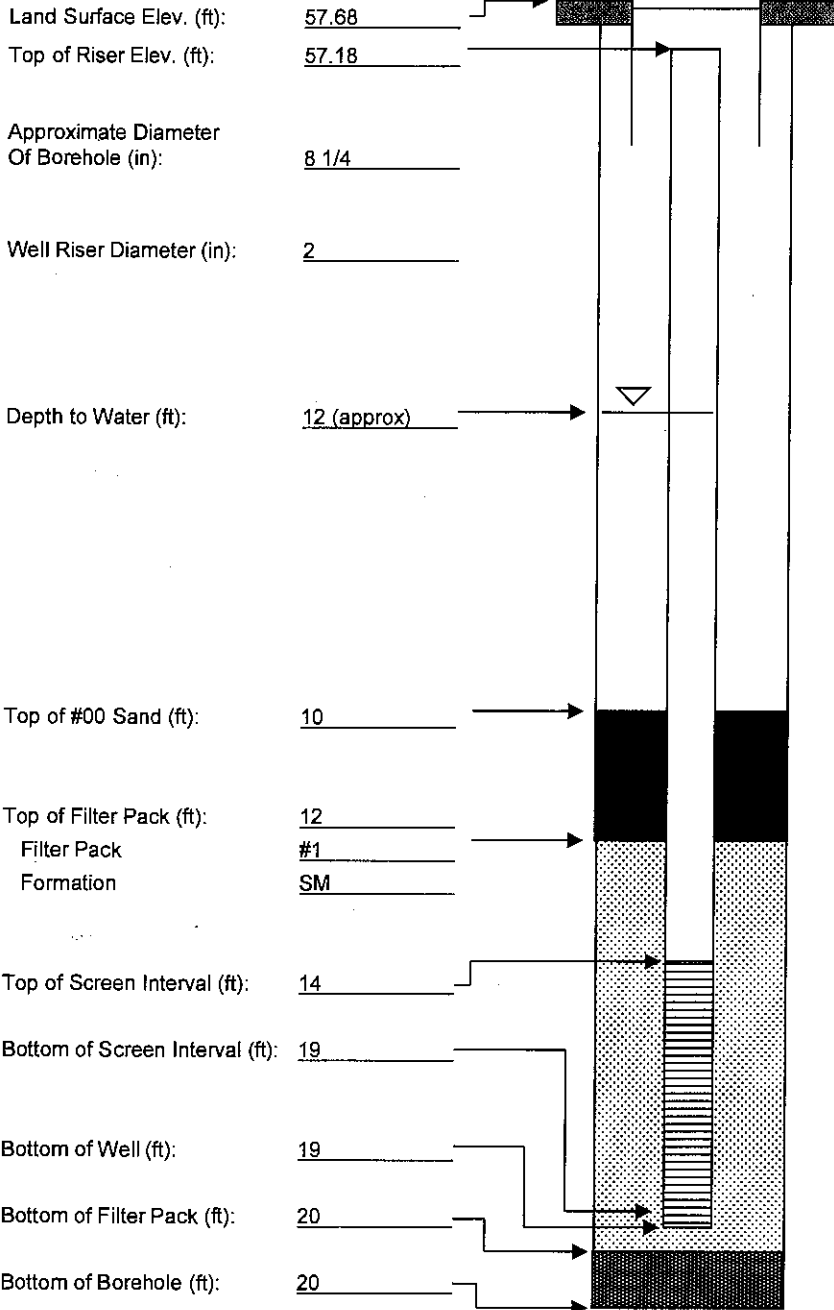
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW3SR
 Site Location: MISS
 Installation Date: 6/1/16
 Northing: 752625.90
 Easting: 610590.28
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material

Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser

Type: Sch 40 PVC
 Diameter (in): 2

Well Screen

Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

Sch 40 PVC (2")

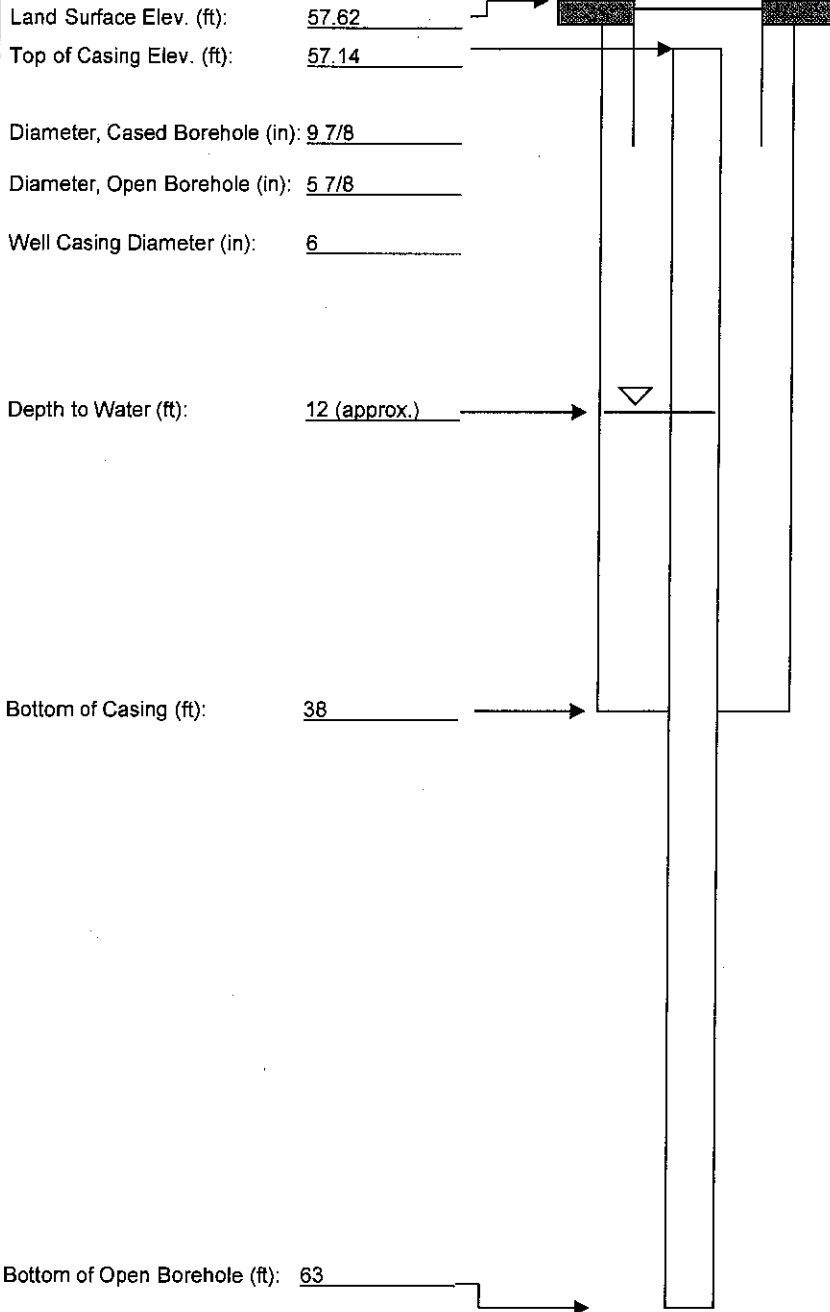
Backfill Material:

None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Robert DeMott

Well No.: MW3DR
 Site Location: MISS
 Installation Date: 5/31/16
 Northing: 752622.93
 Easting: 610598.66
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
 Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None

Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing

Type: Steel
 Diameter (in): 6

Well Screen - None

Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

None

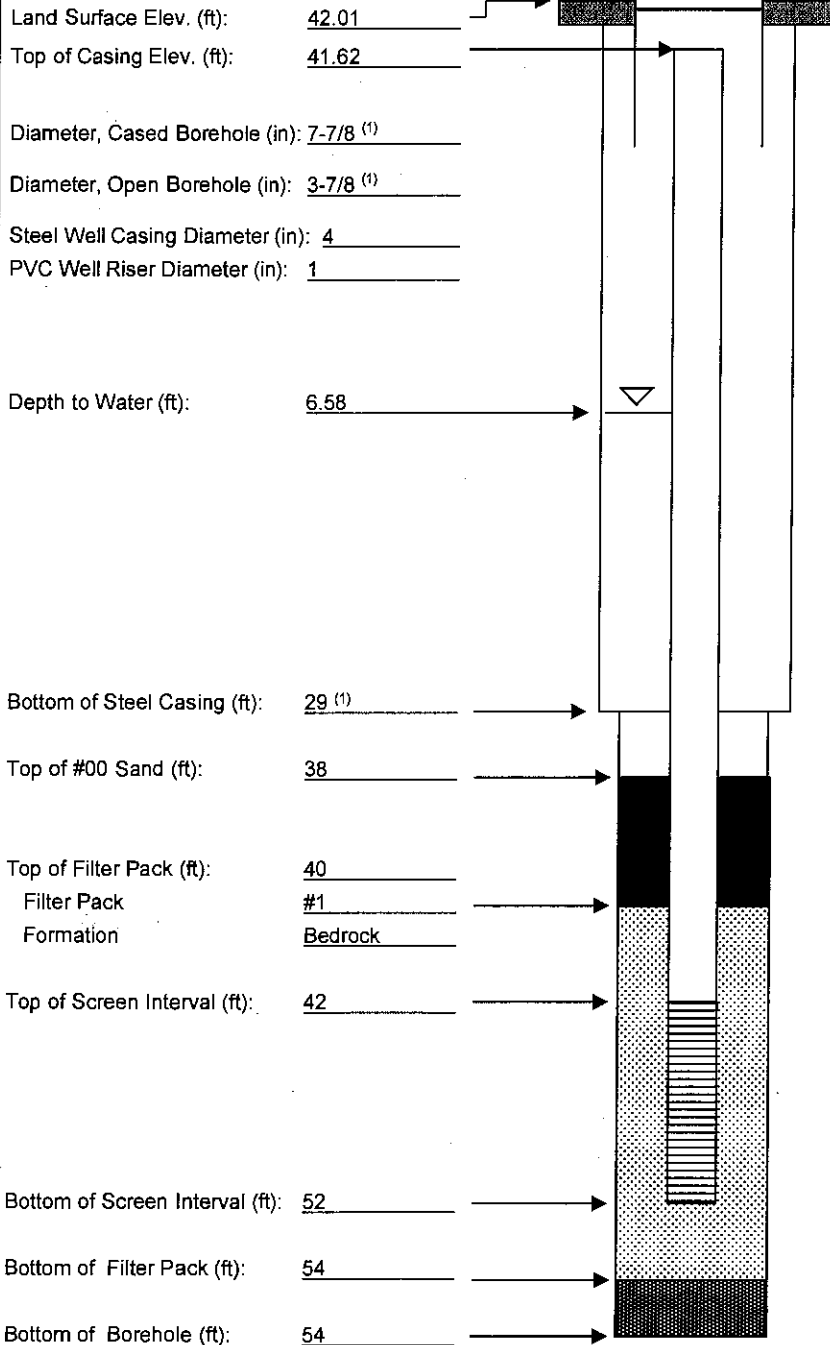
Backfill Material:

None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MWV-6D (Modified)
 Site Location: Rochelle Park
 Installation Date: 1/25/01, Modified 8/1/16
 Northing: 752078.22
 Easting: 608739.38
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 24" X 24"
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material

Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Casing

Type: Steel
 Diameter (in): 4

Well Riser

Type: Sch 40 PVC
 Diameter (in): 1

Well Screen (pre-packed)

Type: Sch 40 PVC (1")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

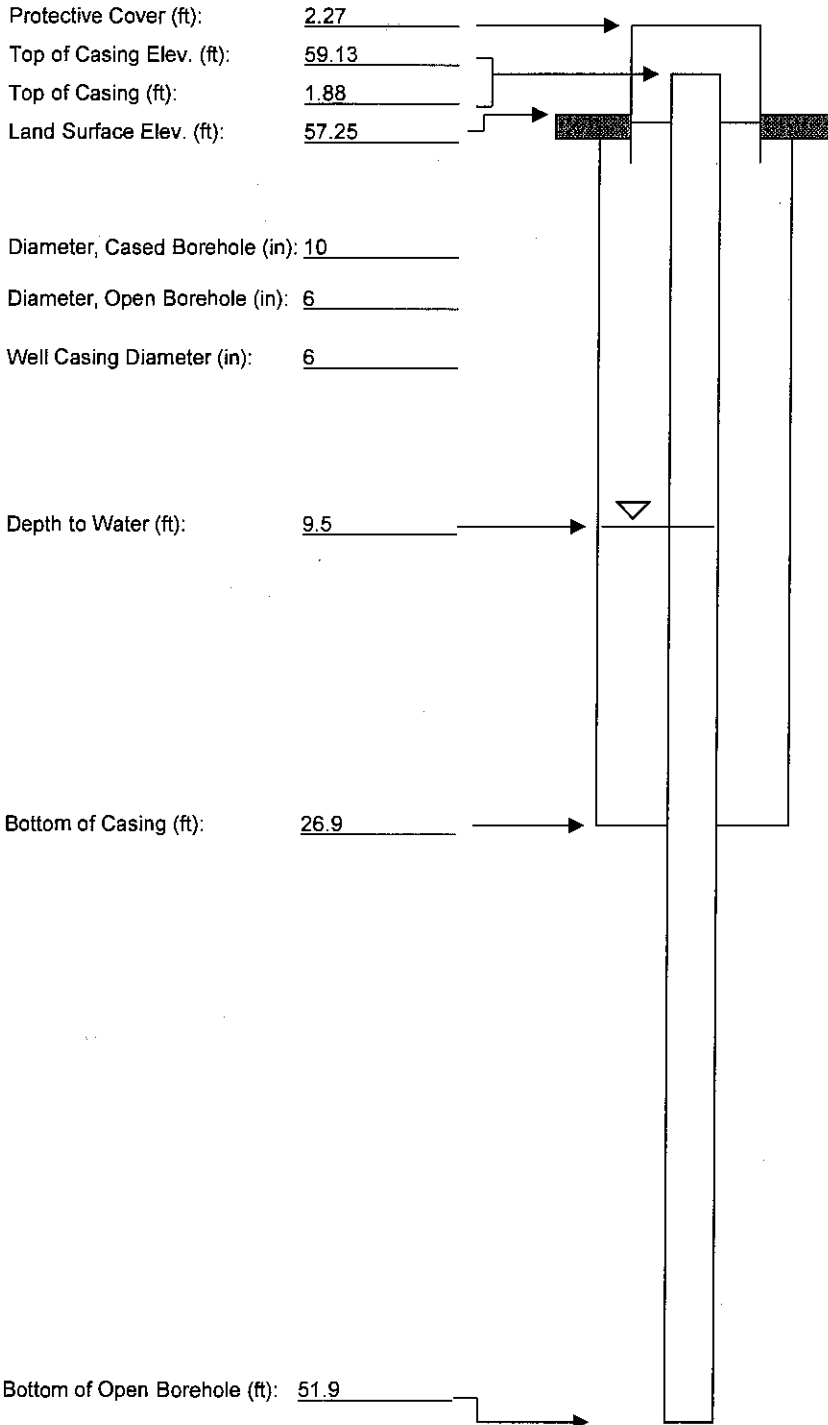
Sump/End Cap: Sch 40 PVC (1")
 Backfill Material: None

(1) Note: Well MW6D was installed on 1/25/01 as a bedrock well with a 4" open borehole (NJDEP well permit 26-58962). This well was modified on 8/1/16 by installation of a 1" ID pre-packed PVC screen and riser (NJDEP well permit E201608290).

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: B&B Drilling
 Driller: Doug Myerchin
 CB&I Field Representative: Robert DeMott

Well No.: MW34D
 Site Location: MISS
 Installation Date: 9/16/02
 Northing: 752347.85
 Easting: 610577.34
 NAD: 83 NGVD: 88



Protective Roadbox:
 Type: Steel
 Dimensions (in): 11
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Cement

Annular Space Seal
 Type: Cement Bentonite Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

Well Screen Casing - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

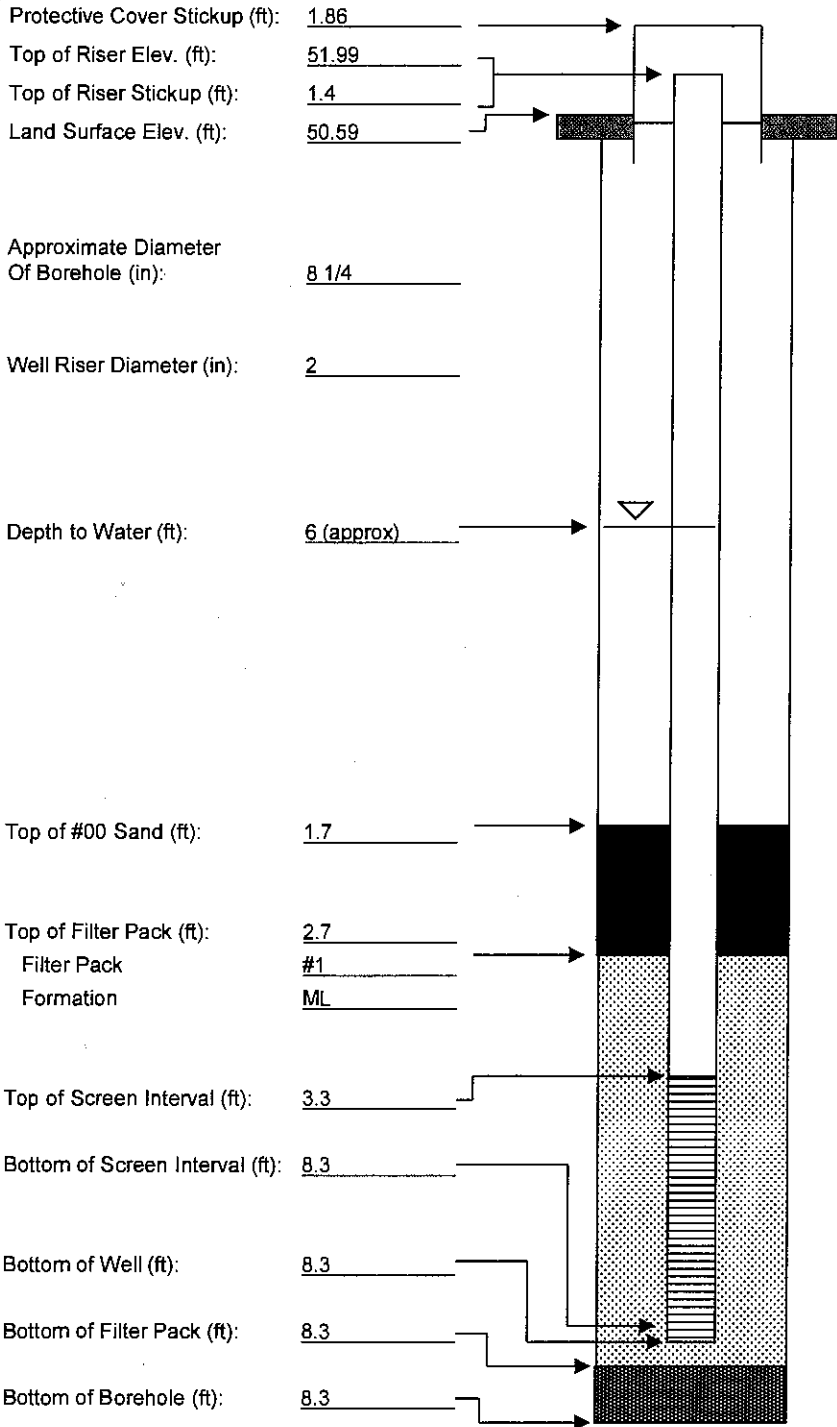
Sump/End Cap: None
 Backfill Material: None

Note: NJDEP Well Permit E201604710 is a modification of NJDEP Well Permit 26-65218.

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW43SR
 Site Location: MISS
 Installation Date: 5/11/16
 Northing: 752515.10
 Easting: 610256.63
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Cement

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
 Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

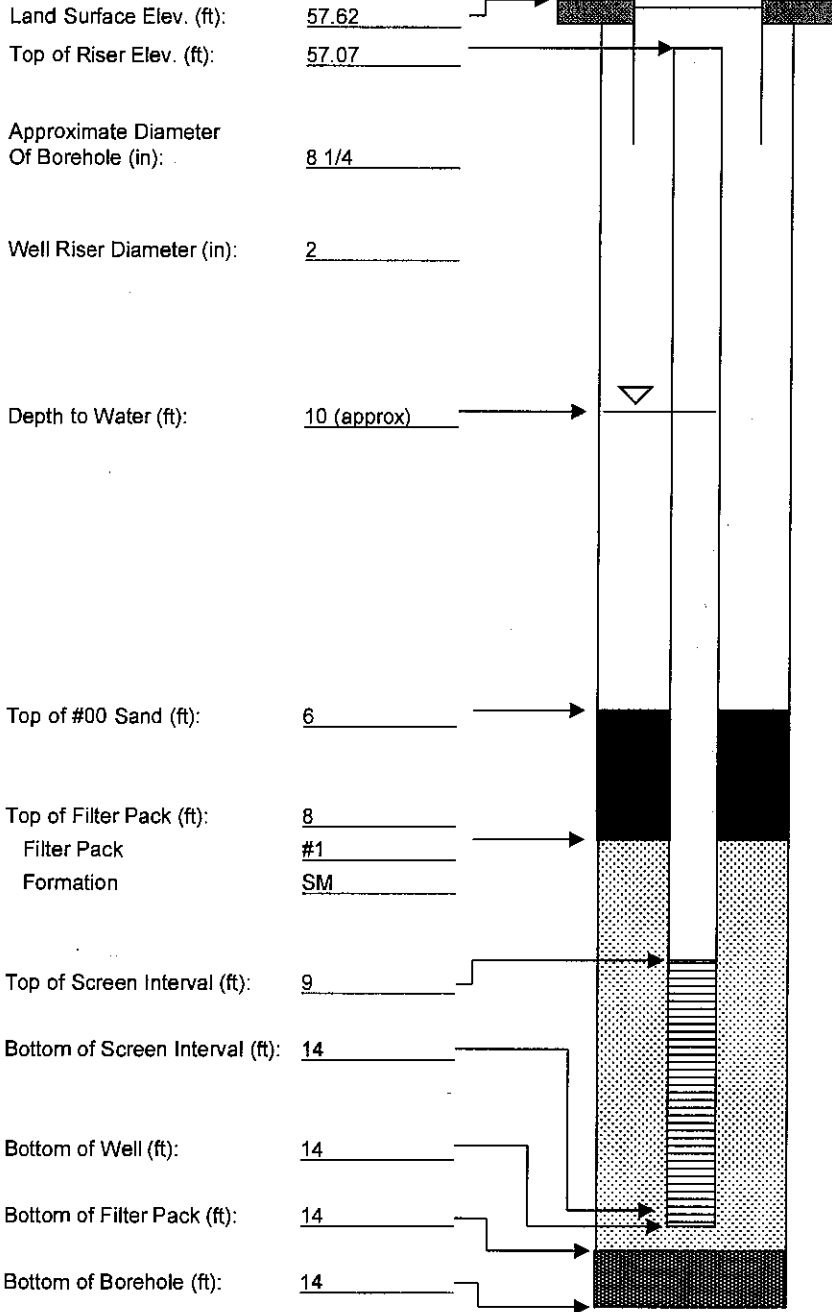
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW44S
 Site Location: MISS
 Installation Date: 6/6/16
 Northing: 752569.69
 Easting: 610721.95
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material

Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser

Type: Sch 40 PVC
 Diameter (in): 2

Well Screen

Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

Sch 40 PVC (2")

Backfill Material:

None

Monitoring Well Construction Form

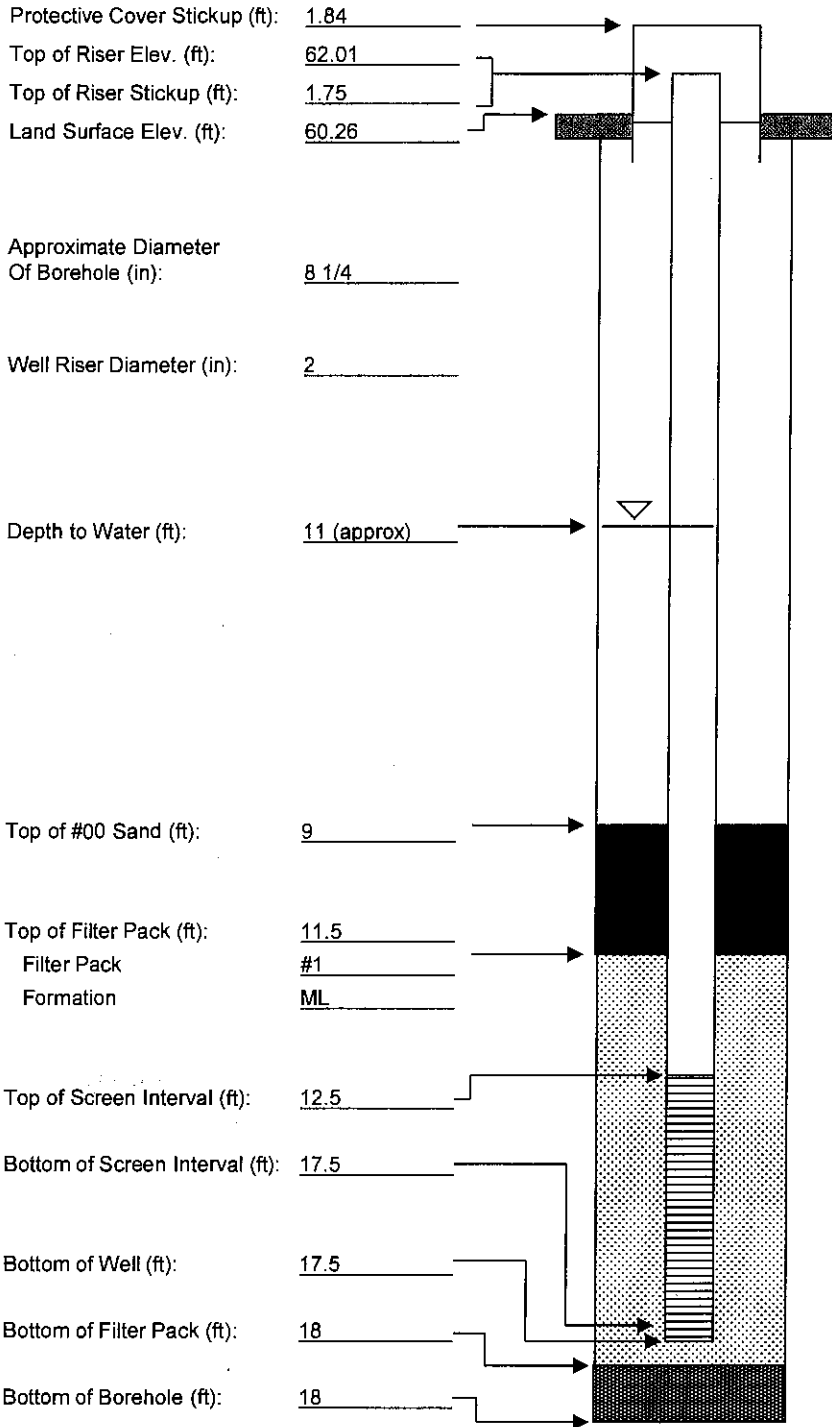
Project: <u>Maywood FUSRAP</u> Location: <u>Maywood, NJ</u> Client: <u>USACE</u> Subcontractor: <u>SGS</u> Driller: <u>Larry Lynch</u> CB&I Field Representative: <u>Jeff Cook</u>	Well No.: <u>MW45D</u> Site Location: <u>MISS</u> Installation Date: <u>6/13/16</u> Northing: <u>752388.68</u> Easting: <u>610394.59</u> NAD: 83 <u>NGVD: 88</u>
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Protective Cover Stickup (ft): <u>1.97</u> Top of Casing Elev. (ft): <u>57.55</u> Top of Casing Stickup (ft): <u>1.66</u> Land Surface Elev. (ft): <u>55.89</u> Diameter, Cased Borehole (in): <u>9 7/8</u> Diameter, Open Borehole (in): <u>5 7/8</u> Well Casing Diameter (in): <u>6</u> Depth to Water (ft): <u>12 (approx)</u> Bottom of Casing (ft): <u>38</u> Bottom of Open Borehole (ft): <u>63</u>		Protective Cover Type: <u>Steel</u> Dimensions (in): <u>8</u> Length (ft): <u>5</u> Guard / Post: <u>No</u> Ground Seal (Surface Pad) Dimensions: <u>24" Diam.</u> Type: <u>Concrete</u> Annular Space Seal Type: <u>Portland Cement Grout</u> Installation: <u>Gravity Tremie Pumped</u> Bentonite Seal - None Type: <u>Pellets</u> <u>Slurry</u> Installation: <u>6-in. lifts</u> <u>One Section</u> <u>Gravity Tremie Pumped</u> Hydration Time (hrs): _____ Filter Pack Material - None Size: _____ Volume Added (ft³): _____ Installation: <u>Gravity</u> <u>Tremie</u> Well Casing Type: <u>Steel</u> Diameter (in): <u>6</u> Well Screen - None Type: _____ Slot Size (in): _____ Slot Type: <u>Cont. Wrap</u> <u>Factory slot</u> Sump/End Cap: <u>None</u> Backfill Material: <u>None</u>
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Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW46S
 Site Location: MISS
 Installation Date: 5/10/16
 Northing: 752398.21
 Easting: 610766.88
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

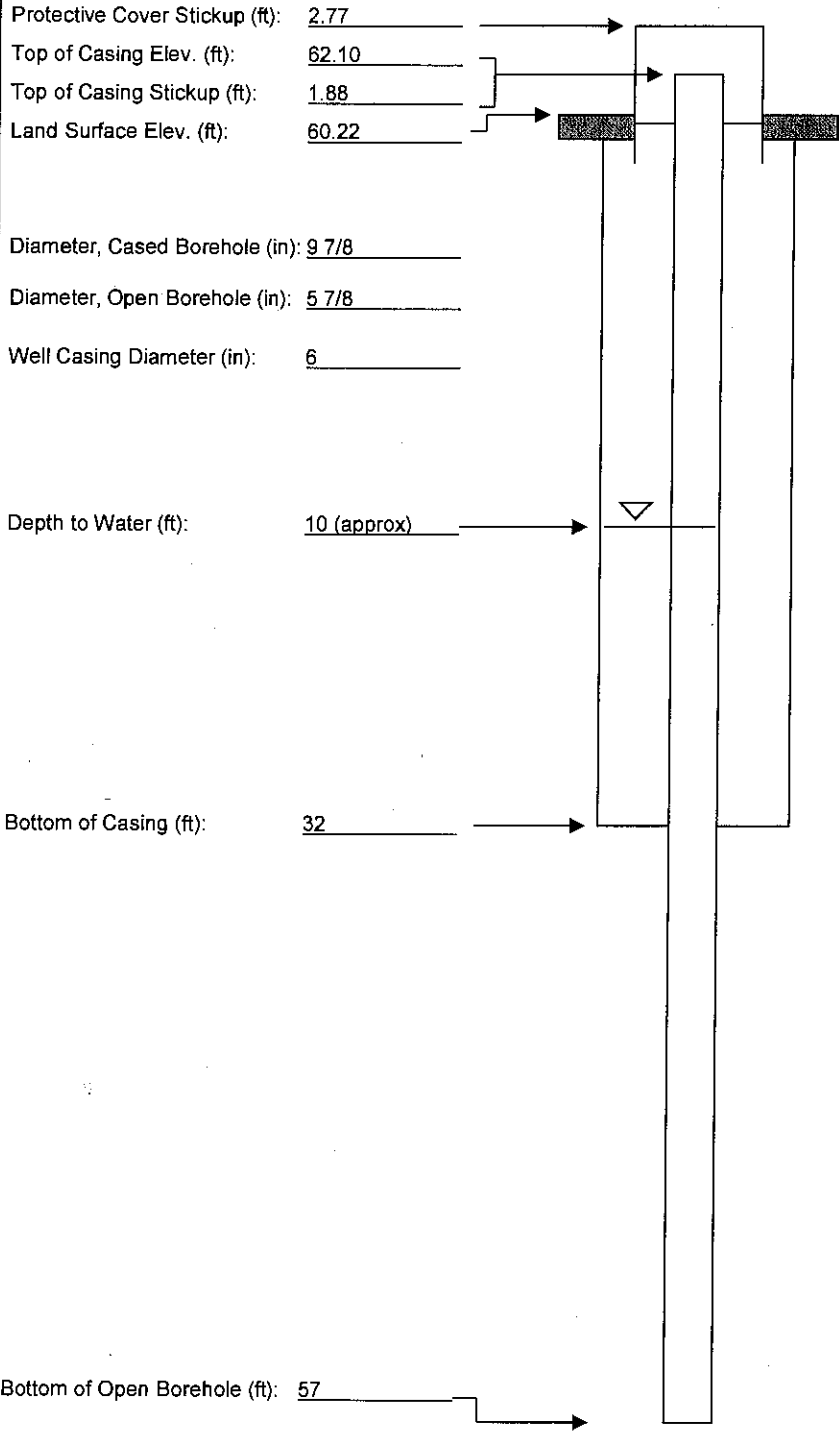
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch / Larry Lynch
 CB&I Field Representative: Jeff Cook / Robert DeMott

Well No.: MW46D
 Site Location: MISS
 Installation Date: 5/24/16
 Northing: 752390.45
 Easting: 610762.09
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 8.5
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

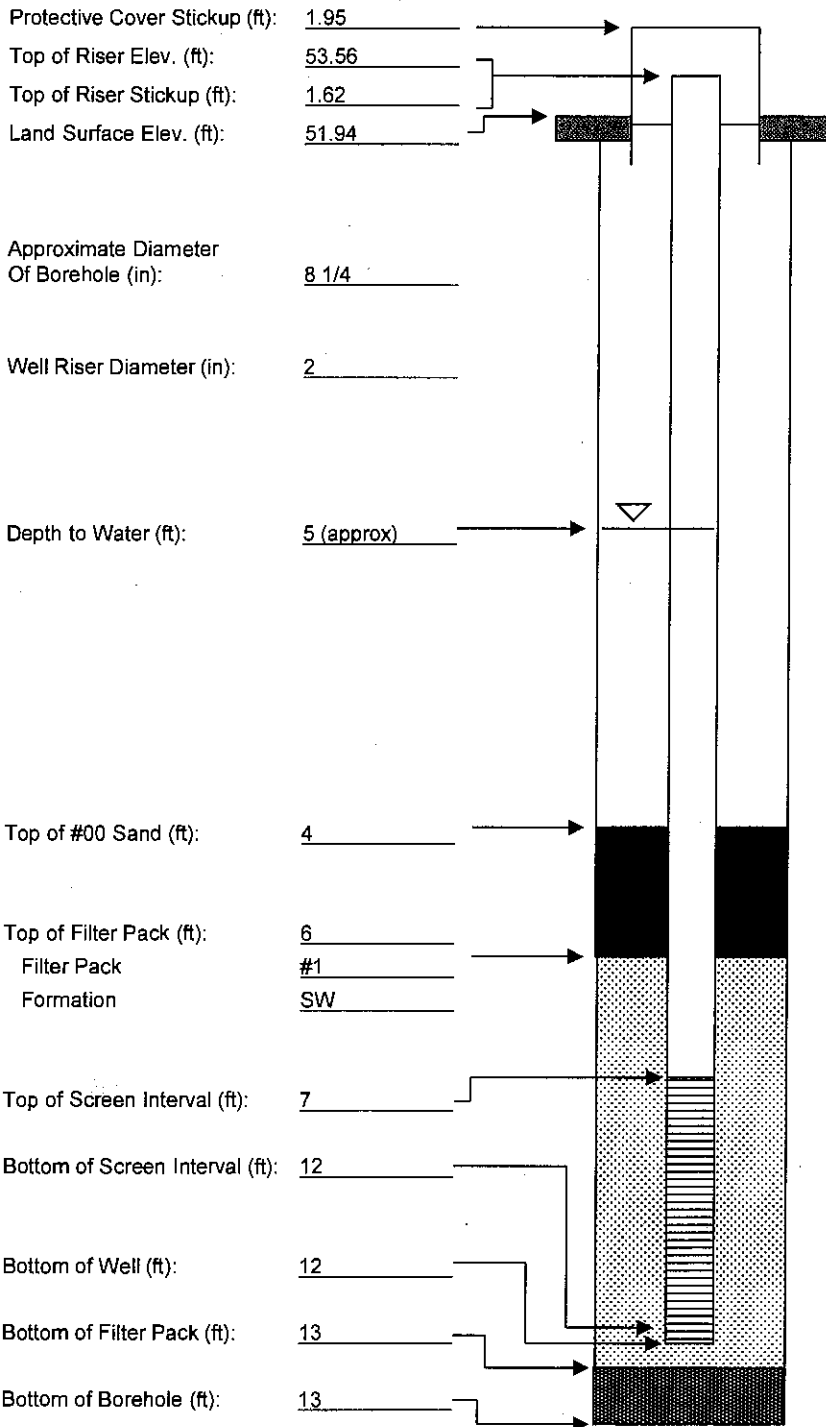
Well Screen - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: None
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Rich Reiss
 CB&I Field Representative: Jeff Cook

Well No.: MW47S
 Site Location: MISS
 Installation Date: 5/12/16
 Northing: 752567.91
 Easting: 610404.96
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

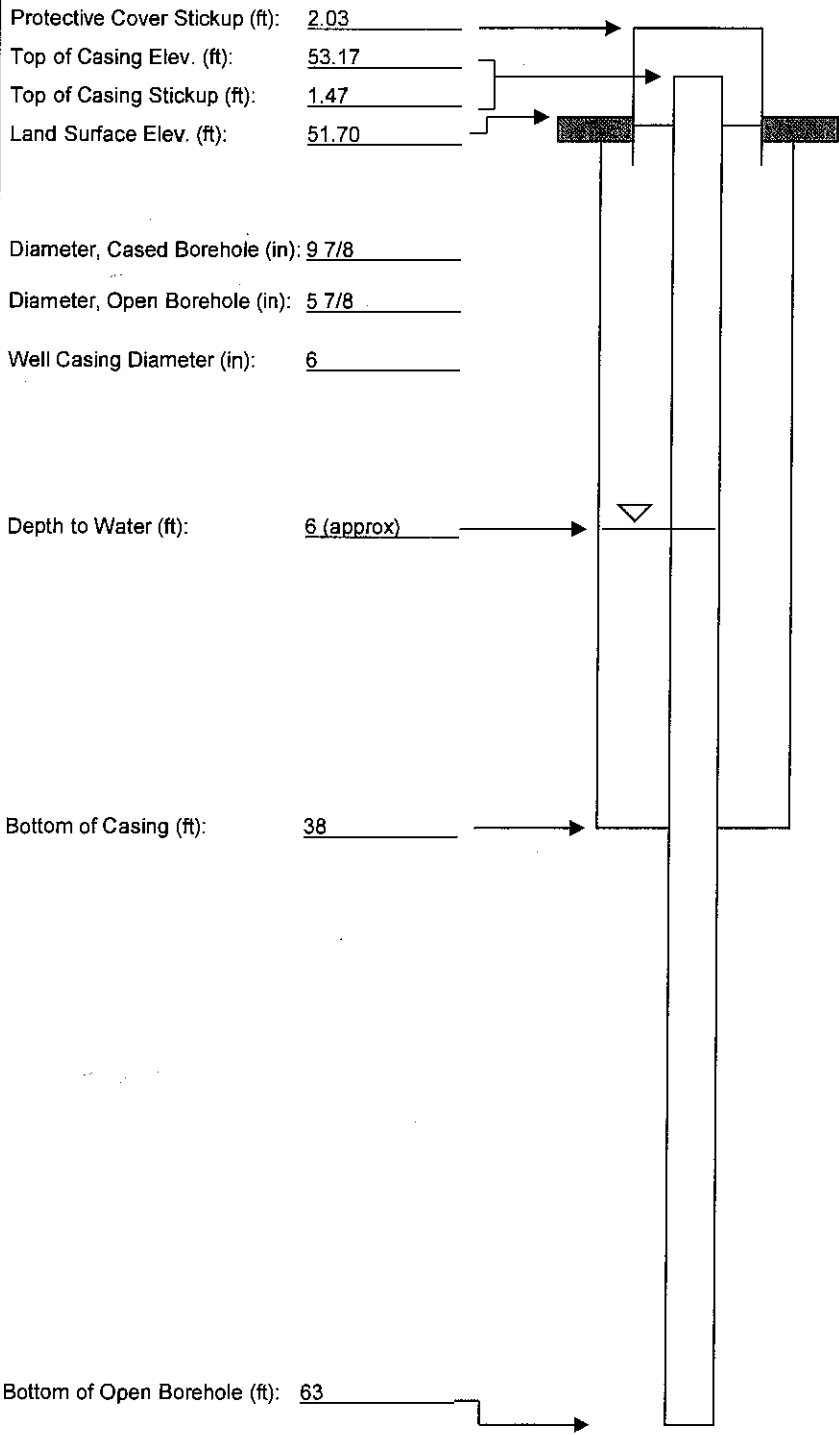
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW47D
 Site Location: MISS
 Installation Date: 6/7/16
 Northing: 752559.75
 Easting: 610401.82
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 11
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

Well Screen - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: None
 Backfill Material: None

Protective Cover Stickup (ft): 2.03
 Top of Casing Elev. (ft): 53.17
 Top of Casing Stickup (ft): 1.47
 Land Surface Elev. (ft): 51.70

Diameter, Cased Borehole (in): 9 7/8
 Diameter, Open Borehole (in): 5 7/8
 Well Casing Diameter (in): 6

Depth to Water (ft): 6 (approx)

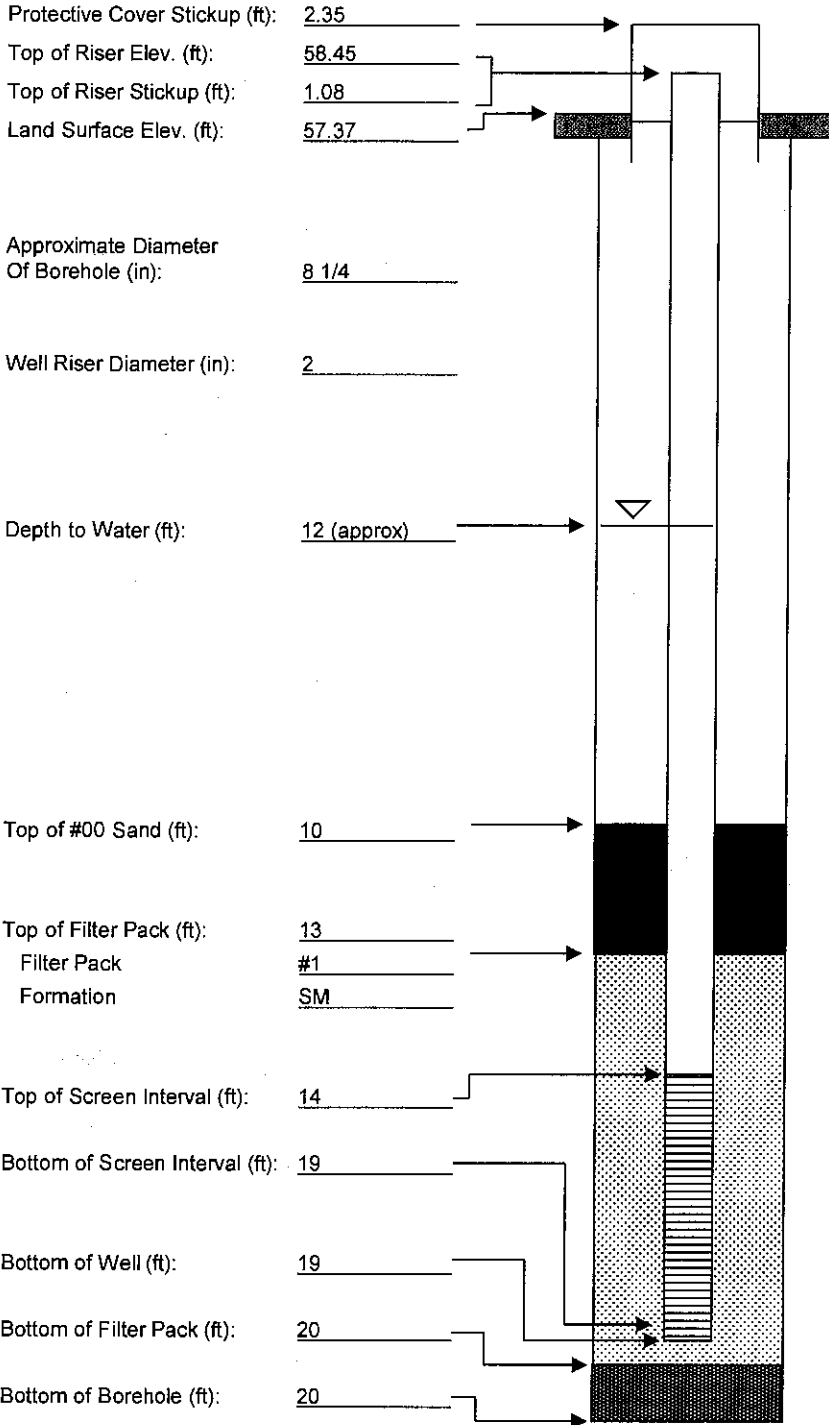
Bottom of Casing (ft): 38

Bottom of Open Borehole (ft): 63

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW48S
 Site Location: MISS
 Installation Date: 6/1/16
 Northing: 752705.45
 Easting: 610334.94
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 6
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

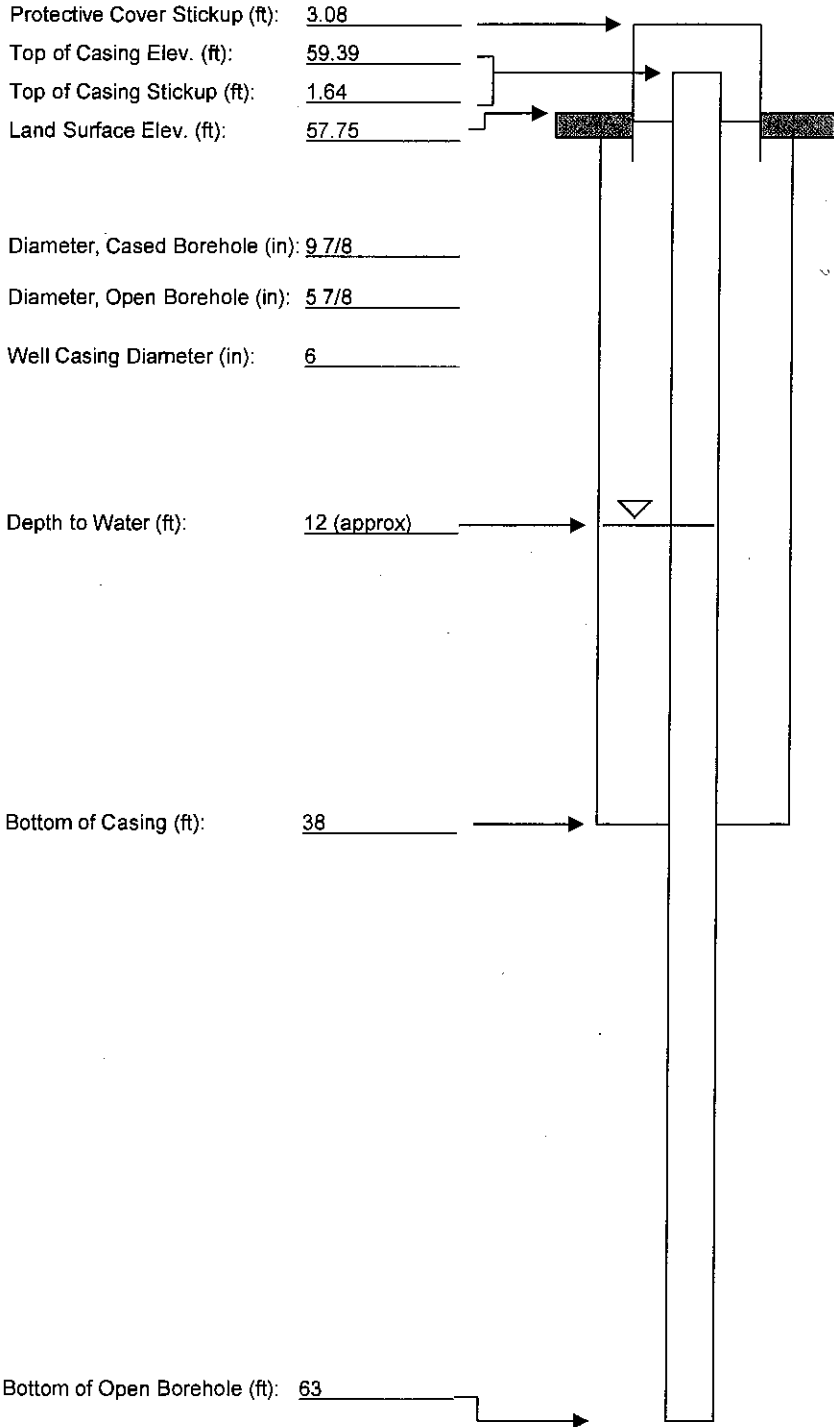
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Tom Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW48D
 Site Location: MISS
 Installation Date: 5/31/16
 Northing: 752702.93
 Easting: 610345.16
 NAD: 83 NGVD: 88



Protective Cover
 Type: Steel
 Dimensions (in): 8.5
 Length (ft): 5
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 24" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
 Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

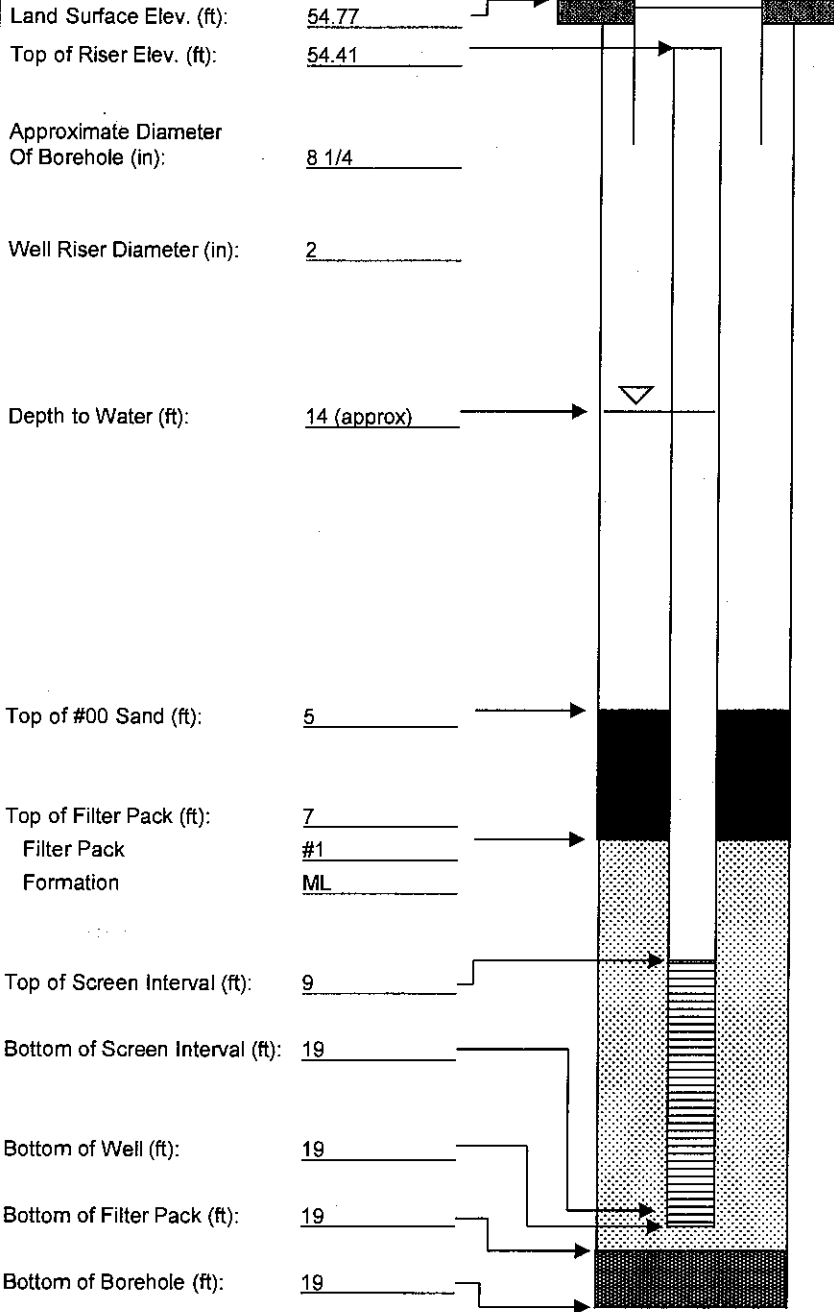
Well Screen - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: None
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW51S
 Site Location: Rochelle Park
 Installation Date: 6/29/16
 Northing: 751580.67
 Easting: 609137.49
 NAD: 83 NGVD: 88



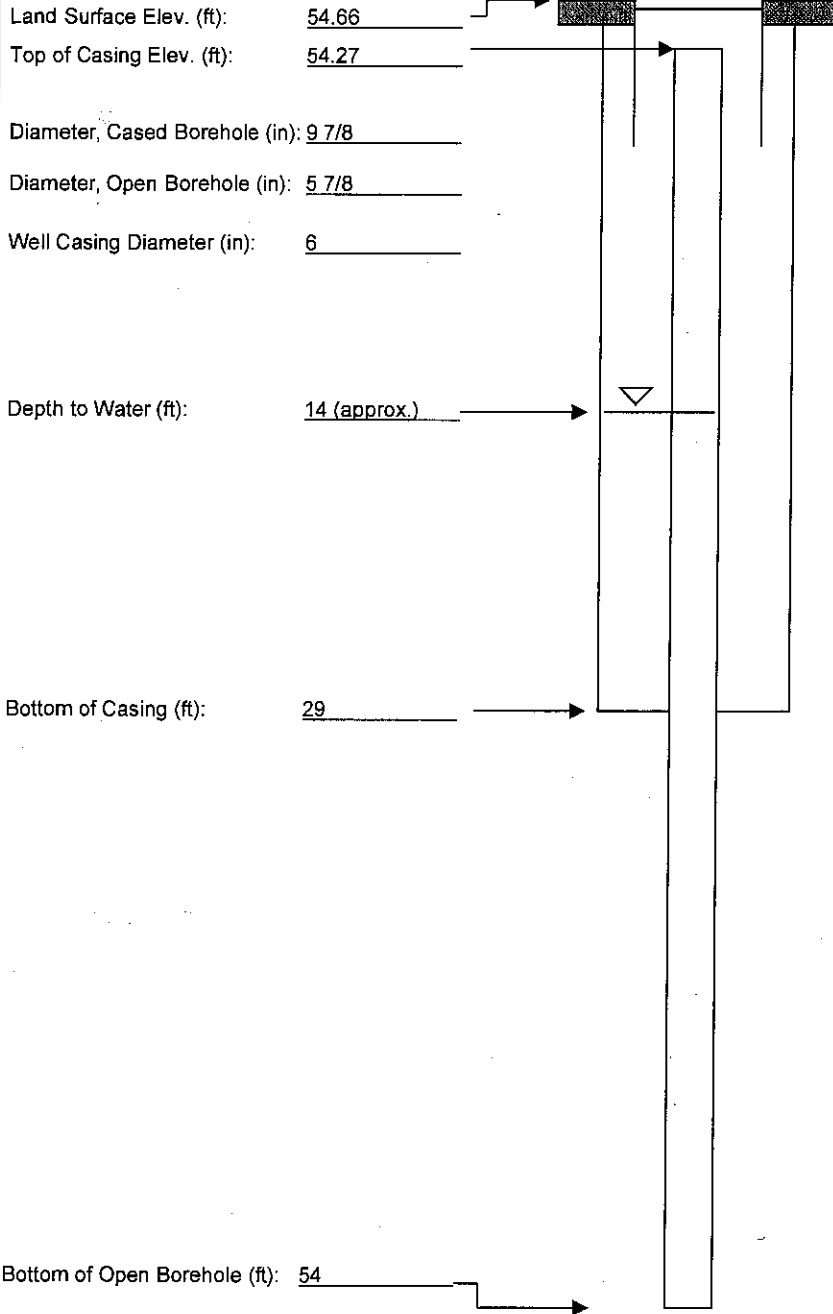
Land Surface Elev. (ft): 54.77
 Top of Riser Elev. (ft): 54.41
 Approximate Diameter Of Borehole (in): 8 1/4
 Well Riser Diameter (in): 2
 Depth to Water (ft): 14 (approx)
 Top of #00 Sand (ft): 5
 Top of Filter Pack (ft): 7
 Filter Pack Formation: #1 ML
 Top of Screen Interval (ft): 9
 Bottom of Screen Interval (ft): 19
 Bottom of Well (ft): 19
 Bottom of Filter Pack (ft): 19
 Bottom of Borehole (ft): 19

Protective Roadbox:
 Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No
 Ground Seal (Surface Pad)
 Dimensions: 24" x 24"
 Type: Concrete
 Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped
 Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section Gravity Tremie Pumped
 Hydration Time (hrs): _____
 Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie
 Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2
 Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot
 Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW51D
 Site Location: Rochelle Park
 Installation Date: 6/28/16
 Northing: 751578.76
 Easting: 609140.41
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 24" x 24"
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None

Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing

Type: Steel
 Diameter (in): 6

Well Screen - None

Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

None

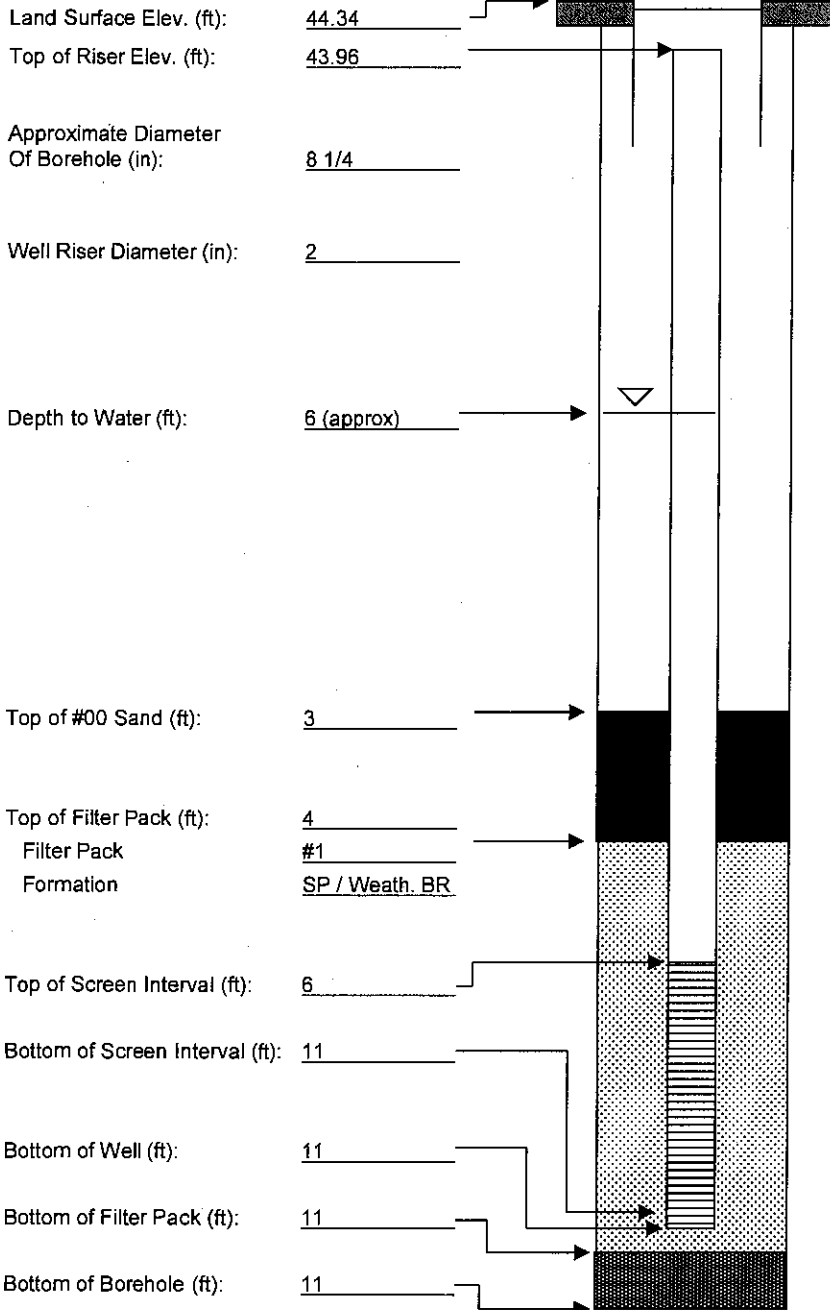
Backfill Material:

None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW52S
 Site Location: Rochelle Park
 Installation Date: 8/31/16
 Northing: 752005.09
 Easting: 609281.16
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material

Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser

Type: Sch 40 PVC
 Diameter (in): 2

Well Screen

Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

Sch 40 PVC (2")

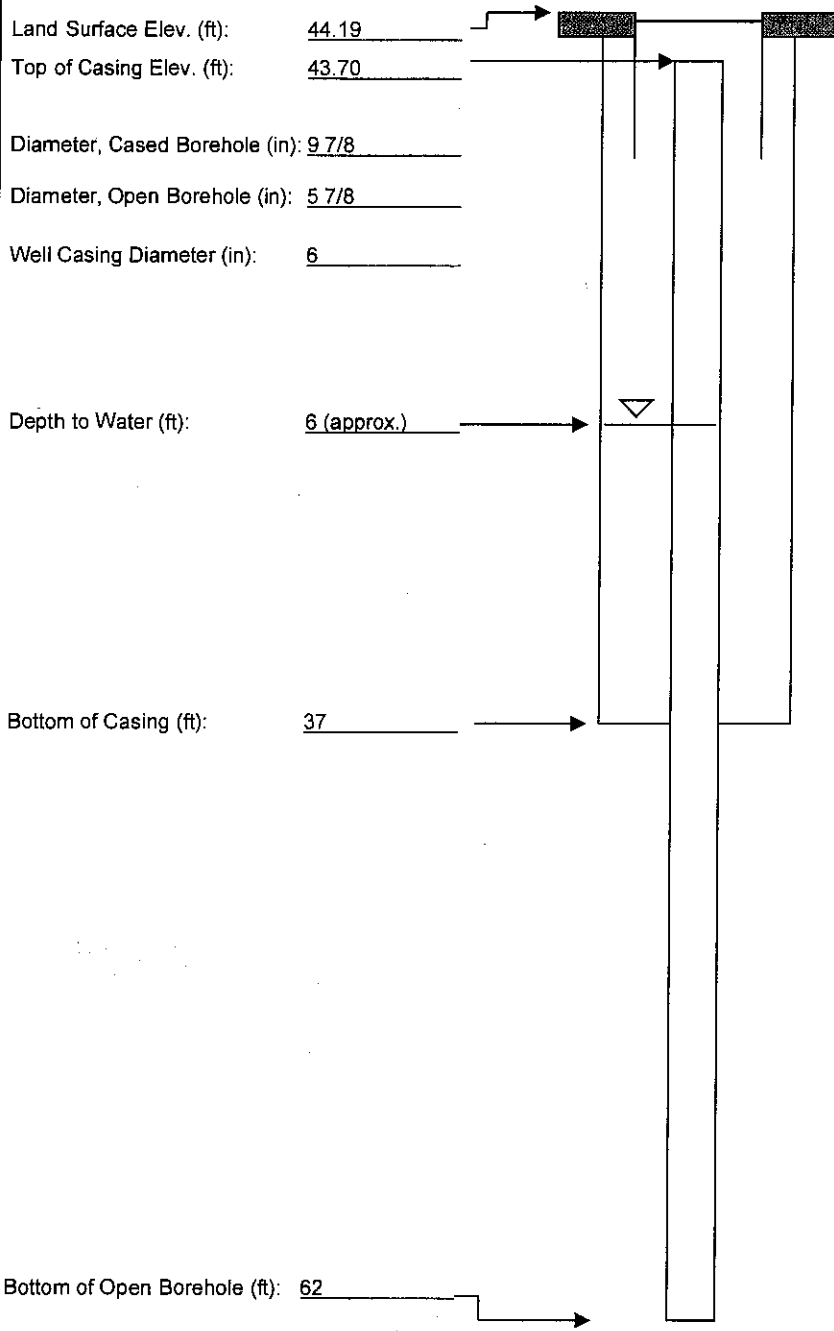
Backfill Material:

None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW52D
 Site Location: Rochelle Park
 Installation Date: 8/30/16
 Northing: 752009.06
 Easting: 609276.39
 NAD: 83 NGVD: 88



Land Surface Elev. (ft): 44.19
 Top of Casing Elev. (ft): 43.70
 Diameter, Cased Borehole (in): 9 7/8
 Diameter, Open Borehole (in): 5 7/8
 Well Casing Diameter (in): 6
 Depth to Water (ft): 6 (approx.)
 Bottom of Casing (ft): 37
 Bottom of Open Borehole (ft): 62

Protective Roadbox:
 Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diam.
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None
 Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

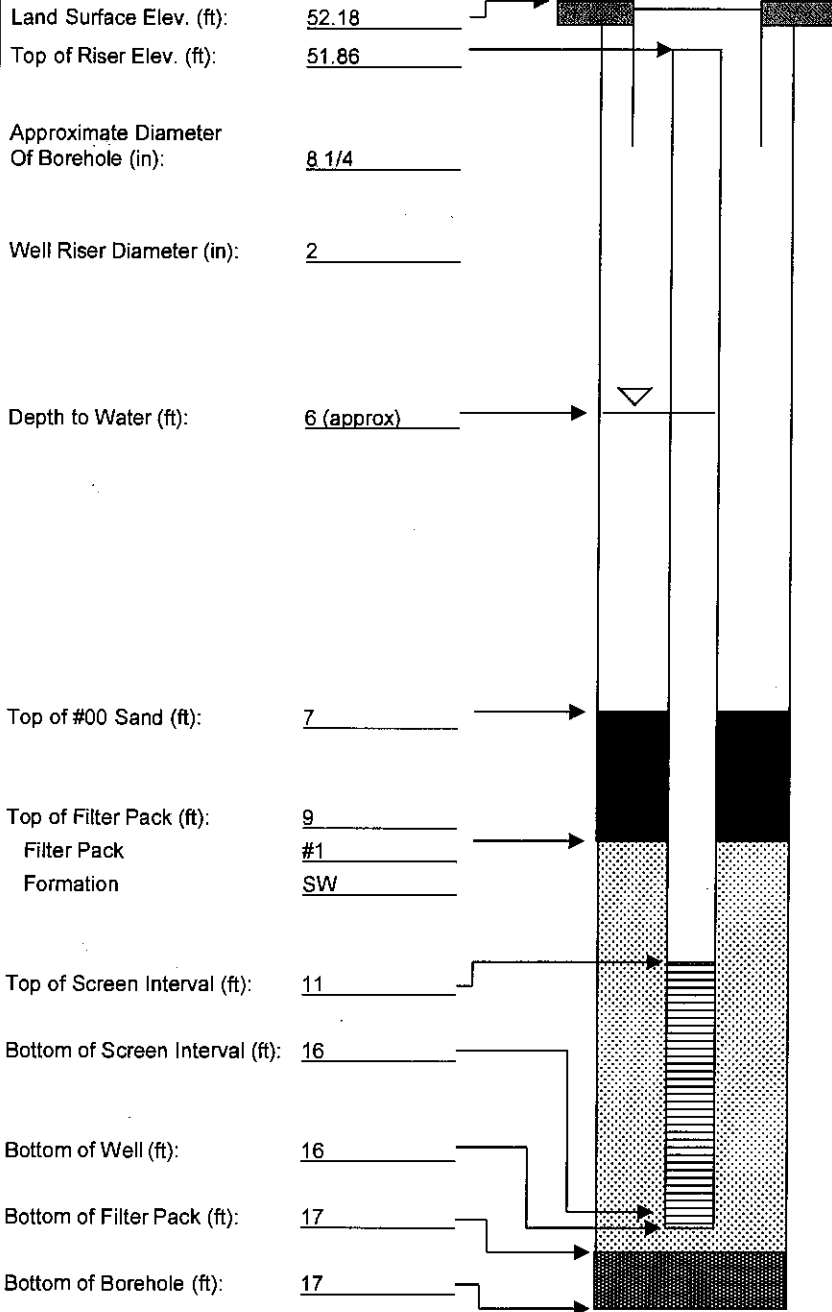
Well Screen - None
 Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: None
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW53S
 Site Location: Maywood
 Installation Date: 7/21/16
 Northing: 753042.15
 Easting: 610698.56
 NAD: 83 NGVD: 88



Protective Roadbox:
 Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diameter
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

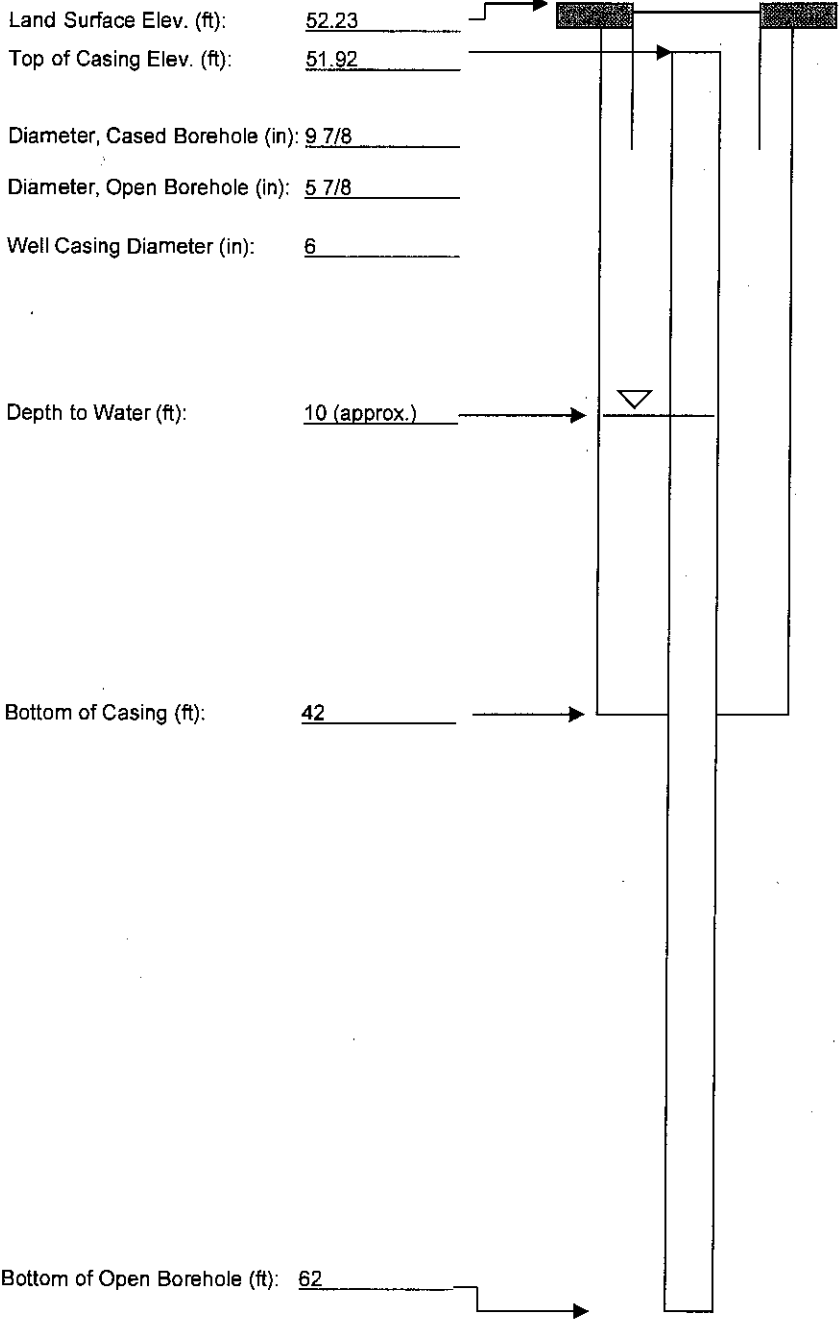
Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW53D
 Site Location: Maywood
 Installation Date: 7/21/16
 Northing: 753037.14
 Easting: 610694.60
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: 16" Diam.
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material - None

Size: _____
 Volume Added (ft³): _____
 Installation: Gravity Tremie

Well Casing

Type: Steel
 Diameter (in): 6

Well Screen - None

Type: _____
 Slot Size (in): _____
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

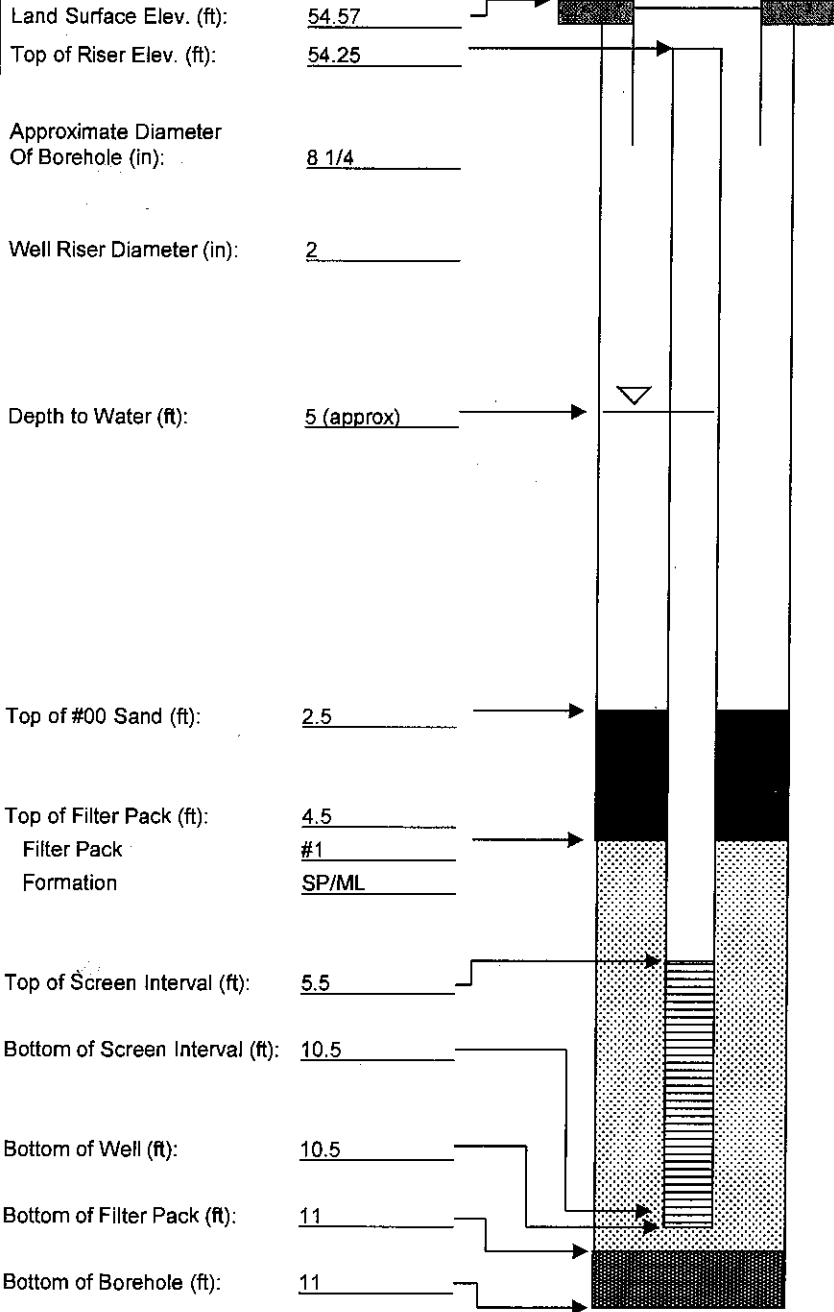
Backfill Material:

None
None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW54S
 Site Location: Maywood
 Installation Date: 7/28/16
 Northing: 752774.12
 Easting: 611177.38
 NAD: 83 NGVD: 88



Protective Roadbox:

Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)

Dimensions: TBD
 Type: Concrete

Annular Space Seal

Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None

Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material

Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Riser

Type: Sch 40 PVC
 Diameter (in): 2

Well Screen

Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap:

Sch 40 PVC (2")

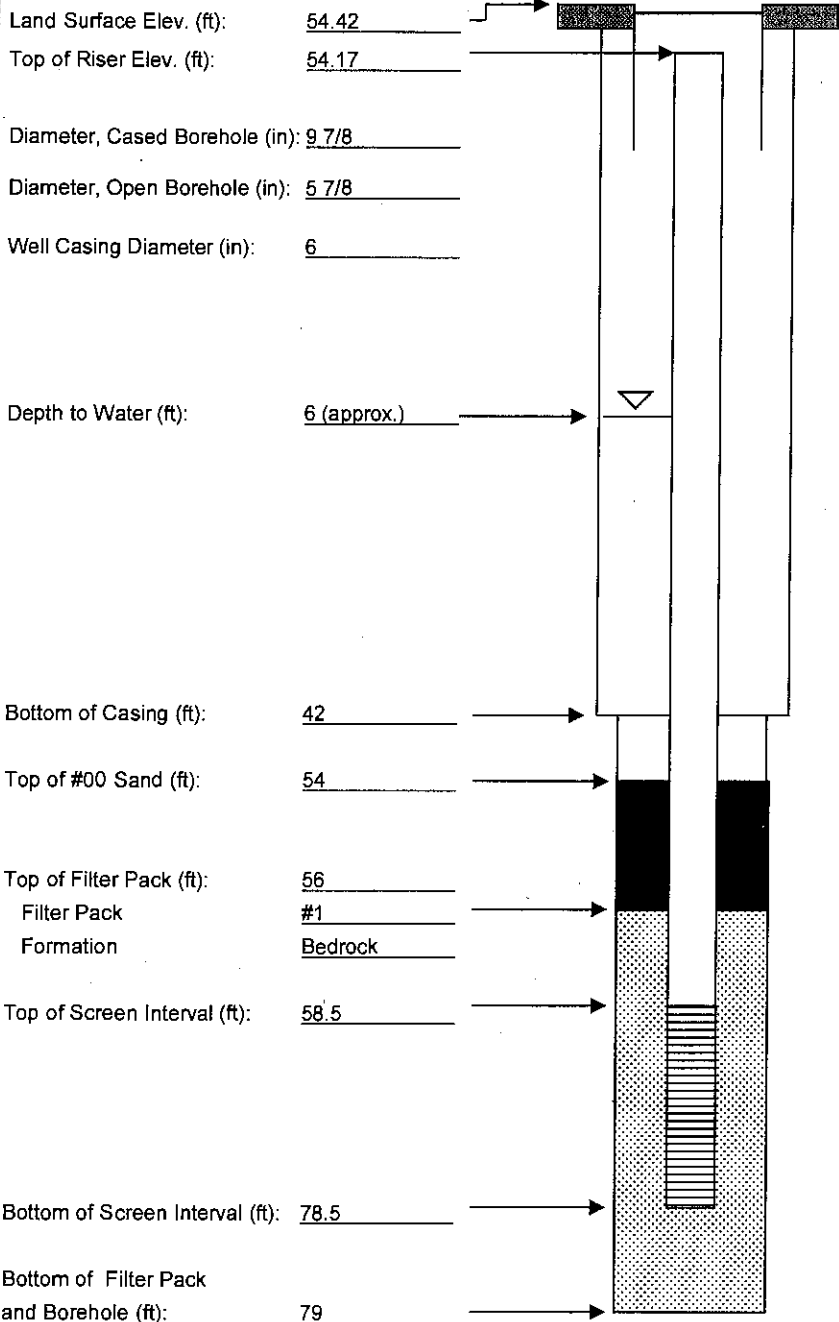
Backfill Material:

None

Monitoring Well Construction Form

Project: Maywood FUSRAP
 Location: Maywood, NJ
 Client: USACE
 Subcontractor: SGS
 Driller: Larry Lynch
 CB&I Field Representative: Jeff Cook

Well No.: MW54D
 Site Location: Maywood
 Installation Date: 7/27/16
 Northing: 752769.99
 Easting: 611174.34
 NAD: 83 NGVD: 88



Protective Roadbox:
 Type: Steel
 Dimensions (in): 9
 Length (ft): 1
 Guard / Post: No

Ground Seal (Surface Pad)
 Dimensions: 16" Diam.
 Type: Concrete

Annular Space Seal
 Type: Portland Cement Grout
 Installation: Gravity Tremie Pumped

Bentonite Seal - None
 Type: Pellets Slurry
 Installation: 6-in. lifts One Section
Gravity Tremie Pumped
 Hydration Time (hrs): _____

Filter Pack Material
 Size: #00 and #1
 Volume Added (ft³): NA
 Installation: Gravity Tremie

Well Casing
 Type: Steel
 Diameter (in): 6

Well Riser
 Type: Sch 40 PVC
 Diameter (in): 2

Well Screen
 Type: Sch 40 PVC (2")
 Slot Size (in): 0.010 (10-slot)
 Slot Type: Cont. Wrap Factory slot

Sump/End Cap: Sch 40 PVC (2")
 Backfill Material: None

Land Surface Elev. (ft): 54.42
 Top of Riser Elev. (ft): 54.17
 Diameter, Cased Borehole (in): 9 7/8
 Diameter, Open Borehole (in): 5 7/8
 Well Casing Diameter (in): 6
 Depth to Water (ft): 6 (approx.)
 Bottom of Casing (ft): 42
 Top of #00 Sand (ft): 54
 Top of Filter Pack (ft): 56
 Filter Pack: #1
 Formation: Bedrock
 Top of Screen Interval (ft): 58.5
 Bottom of Screen Interval (ft): 78.5
 Bottom of Filter Pack and Borehole (ft): 79

APPENDIX C
Development Forms for Existing and New LTM
Wells

APPENDIX C

WELL DEVELOPMENT FORMS FOR EXISTING AND NEW LTM WELLS

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 4-6-16	WELL ID: B38W015	STATIC WATER LEVEL (FT. TIC): 6.20	WELL DEPTH (FT. TIC): 26.00
WATER COLUMN (FT.): 19.80	SLUDGE THICKNESS (FT.): ~0.1	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 3.23	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9	
FILTER PACK WATER VOLUME (GALS.): 4.43	CASING AND FILTER PACK PURGE VOLUME (GALS.): 7.66	TOTAL PURGE VOLUME (X 3): 23	
FIELD PERSONNEL: J Cook, M Sieger			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
13:20	Start									
13:30	13.20	0.33		14.81	2.453	7.10	-102.0	3.80	> 1200	0.0
13:40	13.00	0.33		13.51	2.401	6.71	-66.0	3.99	1195.7	
13:50	12.90	0.33		13.30	2.406	6.70	-56.7	4.75	305.1	
14:00	12.80	0.33		13.82	2.457	6.82	-48.7	4.71	308.2	
	Stop Surging									
14:10	12.90	0.28		13.37	2.426	6.67	-68.5	0.63	61.5	0.0
14:20	12.70	0.28		13.59	2.434	6.66	-74.3	0.79	36.6	
14:30	12.65	0.28		13.29	2.437	6.68	-74.8	1.22	29.2	
14:35	12.65	0.28	23	13.48	2.438	6.66	-74.8	1.44	27.6	
14:35	Stop Pump									

TOTAL WATER PURGED (GALS): 23	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 4-6-16	WELL ID: B38W02D	STATIC WATER LEVEL (FT. TIC): 16.55	WELL DEPTH (FT. TIC): 45.80
WATER COLUMN (FT.): 29.25	SLUDGE THICKNESS (FT.): ~0.1	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 4.8	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 29.5	
FILTER PACK WATER VOLUME (GALS.): 14.45	CASING AND FILTER PACK PURGE VOLUME (GALS.): 19.25	TOTAL PURGE VOLUME (X 3): 58	
FIELD PERSONNEL: J Cook, M Sieger			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:19	Start									
8:30	30.30	0.5	5	11.98	0.453	6.62	176.0	6.35	> 1200	0.0
8:40	33.30	0.38		13.04	0.643	7.28	-7.9	5.57	> 1200	
8:50	33.40	0.38		12.44	0.725	7.15	52.2	6.68	802.3	
9:00	34.40	0.38		12.98	0.595	7.08	67.6	7.81	> 1200	
9:10	35.40	0.38		13.40	0.774	7.02	71.8	7.58	1007.6	
9:20	35.30	0.38		13.64	0.838	7.10	63.6	5.61	> 1200	
9:30	34.60	0.38		13.51	0.837	7.14	55.7	7.33	> 1200	
9:40	34.00	0.38		13.29	0.868	7.14	91.8	7.44	> 1200	
9:50	34.10	0.38		13.54	0.872	7.19	84.2	7.53	517.8	
	Stop Surging									
10:00	33.90	0.38		13.76	0.872	7.09	48.0	6.31	108.2	
10:10	33.90	0.38	43	13.70	0.853	7.07	45.5	6.63	84.9	
10:20	32.90	0.3		13.70	0.877	7.10	42.8	6.34	51.8	
10:30	32.80	0.3		13.59	0.856	7.07	43.4	6.61	28.3	
10:40	32.80	0.3		13.56	0.852	7.07	45.3	6.78	29.1	
10:50	32.90	0.3		13.60	0.852	7.06	43.9	6.60	25.8	
11:00	32.90	0.3		13.53	0.848	7.07	41.9	6.49	20.3	
11:00	Stop Pump		58							

TOTAL WATER PURGED (GALS): 58	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-15-16	WELL ID: B38W03D	STATIC WATER LEVEL (FT. TIC): 9.49	WELL DEPTH (FT. TIC): 42.16
WATER COLUMN (FT.): 32.67	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 5.33		FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 14
FILTER PACK WATER VOLUME (GALS.): 4.67	CASING AND FILTER PACK PURGE VOLUME (GALS.): 10.0	TOTAL PURGE VOLUME (X 3): 30.0	
FIELD PERSONNEL: J Cook, R DeMott			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:52	Start									
11:00	10.91	0.5		14.74	1.689	6.42	8.3	5.49	58.2	
11:10	10.84	0.5		14.70	1.731	6.49	-58.4	0.80	41.2	
11:20	10.93	0.5		14.88	1.888	6.47	-73.9	0.71	10.6	
	Stop Surging									
11:30	10.90	0.5		14.90	1.948	6.48	-82.2	0.98	11.5	
11:40	10.90	0.5		14.92	1.953	6.48	-86.5	0.99	15.2	
11:50	10.86	0.5	30	14.89	1.958	6.48	-89.1	1.07	21.8	
11:50	Stop Pump									
11:55	9.75									

TOTAL WATER PURGED (GALS): 30	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-15-16	WELL ID: B38W07B	STATIC WATER LEVEL (FT. TIC): 8.81	WELL DEPTH (FT. TIC): 42.46
WATER COLUMN (FT.): 32.65	SLUDGE THICKNESS (FT.): < 0.2	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 5.33	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 14	
FILTER PACK WATER VOLUME (GALS.): 4.3	CASING AND FILTER PACK PURGE VOLUME (GALS.): 9.67	TOTAL PURGE VOLUME (X 3): 29.0	
FIELD PERSONNEL: J Cook, R DeMott			

Time	Water Level (FT. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:56	Start									
9:00	10.58	0.6		13.08	1.743	6.32	182.6	No Reading	365.3	
9:10	10.75	0.6		13.26	1.791	6.90	179.1	7.55	233.9	
9:20	10.47	0.6		13.69	1.791	6.95	173.1	5.46	846.7	
9:30	10.35	0.6	20	12.86	1.735	7.16	188.7	8.43	625.5	
9:40	10.40	0.6		13.34	1.746	6.95	181.5	6.93	995.2	
9:50	10.50	0.6	32	13.61	1.741	6.92	184.2	5.47	72.5	
	Stop Surging									
10:00	9.67	0.3		13.47	1.722	6.80	183.6	0.57	38.5	
10:10	9.63	0.3		13.52	1.723	6.80	179.1	0.39	13.7	
10:20	9.61	0.3		13.61	1.720	6.80	175.8	0.44	13.3	
10:30	9.59	0.3	45	13.57	1.719	6.80	172.4	0.45	12.0	
10:30	Stop Pump									
10:35	9.03									

TOTAL WATER PURGED (GALS): 45	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ

DATE: 3-28-16	WELL ID: B38W14S	STATIC WATER LEVEL (FT. TIC): 4.20	WELL DEPTH (FT. TIC): 13.63
WATER COLUMN (FT.): 9.43	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.64	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 8.0	
FILTER PACK WATER VOLUME (GALS.): 1.64	CASING AND FILTER PACK PURGE VOLUME (GALS.): 3.18	TOTAL PURGE VOLUME (X 3): 9.54	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO *	Turbidity (NTU)	OVA/PID (PPM)
9:24	Start									
9:30	4.63	0.6		9.51	3.114	6.27	92.3	11.52	365.0	
9:40	4.63	0.6		9.11	2.422	6.65	72.0	No Reading	77.1	0.0
	Stop Surging									
9:50	4.63	0.6		9.51	2.671	6.52	51.0	9.64	4.3	
10:00	4.63	0.6		9.48	2.563	6.51	50.9	9.81	3.4	
10:03	Stop Pump		23							

TOTAL WATER PURGED (GALS): 23	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = DO readings appear to be in error, DO membrane to be replaced.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-28-16	WELL ID: B38W14D	STATIC WATER LEVEL (FT. TIC): 2.34	WELL DEPTH (FT. TIC): 50.85
WATER COLUMN (FT.): 48.51	SLUDGE THICKNESS (FT.): ~0.2	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 7.9	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 22.0	
FILTER PACK WATER VOLUME (GALS.): 10.80	CASING AND FILTER PACK PURGE VOLUME (GALS.): 18.70	TOTAL PURGE VOLUME (X 3): 56.1	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO *	Turbidity (NTU)	OVA/PID (PPM)
10:07	Start									
10:20	17.40	0.8		13.04	1.483	6.96	25.7	No Reading	1555.7	0.0
10:30	18.50	0.8		13.65	1.511	6.92	0.6	No Reading	1563.7	
10:40	21.00	0.8		13.49	1.467	6.97	-0.5	No Reading	311.6	
10:50	24.70	0.8		13.65	1.508	6.97	15.4	No Reading	1563.7	
11:00	26.10	0.8	42	13.92	1.518	6.99	20.3	No Reading	1567.6	
11:10	26.00	0.5		13.76	1.535	7.00	26.2	No Reading	138.0	
	Stop Surging									
11:20	25.50	0.5		14.09	1.537	6.96	30.2	No Reading	15.4	
11:30	25.80	0.5		14.11	1.536	6.95	33.6	No Reading	6.8	
11:40	25.80	0.5		14.14	1.532	6.95	36.2	No Reading	3.8	
11:45	25.90	0.5	65	14.15	1.532	6.96	37.4	No Reading	3.2	
11:45	Stop Pump									

TOTAL WATER PURGED (GALS): 65	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = DO readings over 100%, DO membrane to be replaced.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-29-16	WELL ID: B38W15S	STATIC WATER LEVEL (FT. TIC): 4.88	WELL DEPTH (FT. TIC): 16.12
WATER COLUMN (FT.): 11.24		SLUDGE THICKNESS (FT.): ~0.1	WELL CASING DIAMETER (IN.): 2
WELL CASING/BOREHOLE VOLUME (GALS.): 1.84		FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 9.5
FILTER PACK WATER VOLUME (GALS.): 1.94	CASING AND FILTER PACK PURGE VOLUME (GALS.): 3.8		TOTAL PURGE VOLUME (X 3): 11.4
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:20	Start									
8:30	6.20	0.3		11.98	1.919	6.52	22.0	3.44	28.6	
8:40	6.10	0.3		13.45	1.967	7.13	-111.5	1.46	578.2	
8:50	6.40	0.25		14.08	1.912	7.23	-109.2	3.06	367.7	
9:00	6.40	0.25		13.88	1.970	7.33	-95.8	4.14	141.9	0.0
	Stop Surging									
9:10	6.25	0.25		13.90	1.969	7.31	-96.5	0.25	54.8	
9:20	6.15	0.25		14.08	1.964	7.30	-99.6	0.25	22.7	
9:30	6.15	0.25	19	14.07	1.962	7.30	-102.2	0.20	8.2	
9:30	Stop Pump									

TOTAL WATER PURGED (GALS): 19	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-29-16	WELL ID: B38W15D	STATIC WATER LEVEL (FT. TIC): 4.26	WELL DEPTH (FT. TIC): 46.60
WATER COLUMN (FT.): 42.34	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 6.9	FILTER PACK DIAMETER (IN.): 10	FILTER PACK LENGTH (FT.): 19.5	
FILTER PACK WATER VOLUME (GALS.): 16.7	CASING AND FILTER PACK PURGE VOLUME (GALS.): 23.6	TOTAL PURGE VOLUME (X 3): 71	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9:33	Start									
9:40	17.10	1.0		14.87	1.622	7.81	-83.7	3.37	1623.8	
9:50	17.20	1.0		15.07	1.224	7.50	-43.0	3.06	1627.1	0.0
10:00	17.40	1.0		14.73	1.915	7.50	-34.7	3.78	1622.8	
10:10	17.05	1.0		14.72	1.916	7.52	-34.6	4.03	929.2	
10:20	17.00	1.0		14.76	1.926	7.51	-31.8	4.20	1046.8	
10:28			55							
10:30	17.30	1.0		14.54	1.916	7.49	-30.9	3.63	1103.6	
10:40	17.70	1.0		14.63	1.923	7.49	-29.3	3.84	334.1	
	Stop Surging									
10:50	17.10	1.0		14.97	1.930	7.47	-25.2	0.18	54.7	
11:00	17.15	1.0	87	14.97	1.931	7.46	-21.0	0.15	27.6	0.0
11:05	Reduce Flow									
11:10	15.10	0.75		14.95	1.935	7.46	-16.0	0.15	9.2	
11:20	15.05	0.75	103	15.04	1.933	7.49	-13.6	0.16	6.5	
11:20	Stop Pump									

TOTAL WATER PURGED (GALS): 103	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-28-16	WELL ID: B38W17S	STATIC WATER LEVEL (FT. TIC): 8.23	WELL DEPTH (FT. TIC): 16.75
WATER COLUMN (FT.): 8.52	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.4	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9.0	
FILTER PACK WATER VOLUME (GALS.): 4.4	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.8	TOTAL PURGE VOLUME (X 3): 17.4	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO *	Turbidity (NTU)	OVA/PID (PPM)
13:20	Start									
13:30	11.40	0.2		11.66	0.574	7.71	5.4	No Reading	557.4	
13:40	11.50	0.2		11.79	0.642	6.66	33.9	No Reading	402.1	
13:50	12.00	0.15		11.79	0.673	6.45	65.1	No Reading	240.7	
14:00	11.90	0.15		12.24	0.694	6.48	63.5	No Reading	198.3	
	Stop Surging									
14:10	12.25	0.15		12.31	0.701	6.48	57.2	No Reading	69.1	
14:20	12.35	0.15		12.61	0.751	6.52	53.8	No Reading	33.6	
14:30	12.37	0.15		12.84	0.776	6.56	48.2	No Reading	11.8	
14:40	12.35	0.15		12.84	0.789	6.60	47.6	No Reading	5.6	
14:50	12.36	0.15		12.90	0.796	6.63	46.5	No Reading	3.5	
15:00	12.38	0.15		13.00	0.809	6.65	47.0	No Reading	3.2	
15:10	12.38	0.15	18	13.11	0.817	6.67	46.7	No Reading	5.1	
15:10	Stop Pump									

TOTAL WATER PURGED (GALS): 18	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = DO readings over 100%, DO membrane to be replaced.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

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DATE: 3-29-16	WELL ID: B38W17D	STATIC WATER LEVEL (FT. TIC): 8.57	WELL DEPTH (FT. TIC): 42.85
WATER COLUMN (FT.): 34.28	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 5.6	FILTER PACK DIAMETER (IN.): 6		FILTER PACK LENGTH (FT.): 28.3
FILTER PACK WATER VOLUME (GALS.): 5.8	CASING AND FILTER PACK PURGE VOLUME (GALS.): 11.4	TOTAL PURGE VOLUME (X 3): 34.2	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
12:24	Start									
12:35	8.70	0.75		13.91	3.820	7.20	-97.1	3.02	6.6	
12:45	8.70	0.75		13.33	3.857	6.82	-91.6	3.17	4.0	0.0
12:55	8.70	0.75		13.09	3.821	6.82	-94.9	3.59	2.3	
	Stop Surging									
13:05	8.70	0.75		13.40	3.764	6.78	-102.3	0.17	1.1	
13:15	8.70	0.75		13.42	3.727	6.77	-106.0	0.15	0.5	0.0
13:25	8.70	0.75		13.39	3.695	6.77	-107.5	0.15	1.7	
13:35	8.70	0.75		13.39	3.670	6.77	-108.8	0.14	1.3	
13:45	8.70	0.75		13.42	3.651	6.77	-109.6	0.15	0.9	
13:45	Stop Pump		60							

TOTAL WATER PURGED (GALS): 60	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-5-16, 7-6-16	WELL ID: B38W18DR	STATIC WATER LEVEL (FT. TIC): 8.00	WELL DEPTH (FT. TIC): 73.00
WATER COLUMN (FT.): 65.00	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 95.5	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 95.5	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 286.5	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/21/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/5/16 13:25	8.00	0.3	0	17.30	0.893	7.90	-23.9	5.62	104.3	0.3
13:30	9.10	0.3	1.5	16.52	0.824	7.62	-79.4	4.19	75.6	0.0
13:35	10.55	0.3	3	16.92	0.818	7.45	-85.9	3.93	972.0	0.0
13:40	11.40	0.3	4.5	16.87	0.821	7.45	-88.1	4.26	559.3	No Reading
13:45	12.30	0.3	6	16.92	0.820	7.41	-95.6	3.05	581.6	0.0
13:50	13.05	0.3	7.5	16.95	0.826	7.40	-97.3	3.58	255.1	No Reading
13:55	13.70	0.3	9	16.94	0.826	7.37	-94.8	3.49	220.7	0.0
14:00	14.50	0.3	10.5	17.14	0.830	7.36	-92.6	3.34	259.7	No Reading
14:05	14.90	0.3	12	17.64	0.836	7.43	-74.4	4.94	240.3	0.0
14:10	15.25	0.3	13.5	17.81	0.836	7.39	-88.3	3.34	211.5	No Reading
14:15	15.50	0.3	15	17.71	0.836	7.37	-90.9	3.30	212.9	0.0
14:20	15.75	0.3	16.5	17.68	0.758	7.39	-109.5	3.60	29.5	No Reading
	Stop Surging									
14:25	16.00	0.3	18	17.34	0.825	7.32	-96.7	2.49	59.3	0.0
14:30	16.25	0.3	19.5	17.38	0.826	7.30	-111.3	1.10	28.2	No Reading
14:35	16.30	0.3	21	17.27	0.826	7.26	-109.0	1.21	59.8	0.0
14:40	16.40	0.3	22.5	17.62	0.826	7.27	-114.5	0.98	33.5	No Reading
14:45	16.45	0.3	24	17.38	0.827	7.27	-117.7	0.91	9.9	0.0
14:50	16.45	0.3	25.5	17.47	0.829	7.26	-118.1	0.88	27.8	No Reading
14:55	16.50	0.3	27	17.43	0.829	7.21	-105.7	0.94	7.4	0.0
15:00	16.50	0.3	28.5	17.36	0.830	7.21	-109.9	0.91	3.7	No Reading

TOTAL WATER PURGED (GALS): 289.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-5-16, 7-6-16	WELL ID: B38W18DR	STATIC WATER LEVEL (FT. TIC): 8.00	WELL DEPTH (FT. TIC): 73.00
WATER COLUMN (FT.): 65.00	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 95.5	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 95.5	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 286.5	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/5/16 15:05	16.50	0.3	30	17.84	0.833	7.22	-110.5	0.87	5.0	0.0
15:10	16.50	0.3	31.5	17.87	0.834	7.21	-109.9	0.85	4.1	No Reading
15:15	16.50	0.3	33	17.77	0.834	7.19	-109.0	0.84	2.9	0.0
15:20	16.50	0.3	34.5	17.82	0.835	7.15	-106.3	0.83	0.5	No Reading
15:25	16.50	0.3	36	17.84	0.835	7.15	-106.1	0.83	0.2	0.0
15:30	16.50	0.3	37.5	17.73	0.836	7.14	-105.7	0.83	0.9	No Reading
15:30	Stop Pump									
7/6/16 8:10	8.30	0.3	39	16.83	0.821	6.91	157.5	6.24	19.7	0.0
8:15	8.90	0.3	40.5	16.95	0.830	6.73	-10.8	4.29	225.3	No Reading
8:20	9.45	0.3	42	16.70	0.832	6.93	-73.9	3.79	177.3	0.0
8:25	9.95	0.3	43.5	16.63	0.832	7.02	-90.2	3.54	98.1	No Reading
8:30	10.45	0.3	45	16.51	0.835	7.08	-91.8	3.60	140.5	0.0
8:35	11.00	0.3	46.5	16.70	0.837	7.13	-98.0	3.34	110.1	No Reading
8:40	11.50	0.3	48	16.73	0.836	7.16	-99.0	3.48	109.7	0.0
	Stop Surging									
8:45	12.10	0.3	49.5	16.53	0.830	7.16	-106.9	1.71	66.4	No Reading
8:50	12.55	0.3	51	16.64	0.829	7.20	-119.7	1.16	39.0	0.0
8:55	12.95	0.3	52.5	16.57	0.828	7.23	-120.6	1.05	19.4	No Reading
9:00	13.35	0.3	54	16.70	0.829	7.23	-117.7	1.00	12.4	0.0
9:05	13.75	0.3	55.5	16.60	0.830	7.23	-114.5	0.96	11.7	No Reading
9:10	14.15	0.3	57	16.54	0.830	7.22	-112.3	0.94	6.9	0.0
9:15	14.45	0.3	58.8	16.64	0.829	7.21	-111.0	0.93	6.1	No Reading
9:20	14.80	0.3	60	16.59	0.830	7.22	-109.5	0.92	6.0	0.0
9:25	15.10	0.3	61.5	16.75	0.829	7.22	-108.0	0.90	7.0	No Reading

TOTAL WATER PURGED (GALS): 289.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-5-16, 7-6-16	WELL ID: B38W18DR	STATIC WATER LEVEL (FT. TIC): 8.00	WELL DEPTH (FT. TIC): 73.00
WATER COLUMN (FT.): 65.00	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 95.5	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 95.5	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 286.5	FIELD PERSONNEL: K Gerdes		

Time	Water Level (FT. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/6/16 9:30	15.40	0.3	63	16.68	0.827	7.20	-106.1	0.89	1.3	0.0
9:35	15.70	0.3	64.5	16.73	0.826	7.19	-104.6	0.88	1.5	No Reading
9:40	16.00	0.3	66	16.74	0.826	7.19	-104.3	0.88	0.1	0.0
9:45	16.10	0.3	67.5	17.01	0.823	7.18	-104.2	0.87	0.0	No Reading
9:50	16.20	0.3	69	16.95	0.823	7.17	-104.2	0.87	0.2	0.0
9:55	16.30	0.3	70.5	17.03	0.822	7.17	-104.2	0.86	0.1	No Reading
10:00	16.40	0.3	72	17.16	0.820	7.17	-104.4	0.86	0.0	0.0
10:05	16.50	0.3	73.5	16.88	0.819	7.16	-104.2	0.85	0.2	No Reading
10:10	16.60	0.3	75	16.93	0.817	7.16	-103.7	0.84	0.0	0.0
10:15	16.75	0.3	76.5	16.98	0.816	7.17	-103.1	0.84	0.1	No Reading
10:20	16.90	0.3	78	17.04	0.816	7.16	-102.5	0.84	0.0	0.0
10:25	17.00	0.3	79.5	17.11	0.816	7.15	-101.7	0.83	0.0	No Reading
10:30	17.10	0.3	81	17.26	0.814	7.14	-100.8	0.83	0.0	0.0
10:35	17.15	0.3	82.5	17.25	0.815	7.13	-100.4	0.82	0.0	No Reading
10:40	17.15	0.3	84	17.18	0.814	7.12	-99.8	0.82	0.0	0.0
10:45	17.15	0.3	85.5	17.34	0.813	7.11	-99.3	0.82	0.0	No Reading
10:50	17.20	0.3	87	17.24	0.813	7.10	-98.8	0.82	0.0	0.0
10:55	17.20	0.3	88.5	17.13	0.812	7.09	-98.1	0.82	0.0	No Reading
11:00	17.20	0.3	90	16.67	0.811	7.07	-96.7	0.82	0.2	0.0
11:05	17.20	0.3	91.5	16.98	0.810	7.06	-95.4	0.81	0.0	No Reading
11:10	17.20	0.3	93	17.13	0.810	7.06	-94.2	0.81	0.0	0.0
11:15	17.20	0.3	94.5	16.84	0.810	7.04	-92.3	0.82	0.2	No Reading
11:20	17.20	0.3	96	16.75	0.809	7.05	-90.1	0.81	0.0	0.0
11:25	17.20	0.3	97.5	16.86	0.808	7.04	-88.6	0.81	0.0	No Reading

TOTAL WATER PURGED (GALS): 289.5	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-7-16	WELL ID: B38W25SR	STATIC WATER LEVEL (FT. TIC): 5.92	WELL DEPTH (FT. TIC): 14.14
WATER COLUMN (FT.): 8.22	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.3	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9	
FILTER PACK WATER VOLUME (GALS.): 5.5	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.8	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 80.4	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/8/16			90							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/7/16 8:10	5.92	0.3	0	17.92	3.434	5.84	10.9	4.40	303.2	0.0
8:15	7.00	0.3	1.5	18.47	3.365	6.16	-68.1	3.27	886.9	No Reading
8:20	7.15	0.3	3	18.23	3.411	6.22	-74.4	3.60	461.9	0.0
8:25	7.30	0.3	4.5	18.39	3.420	6.29	-79.4	3.83	798.2	No Reading
8:30	7.35	0.3	6	19.05	3.366	6.35	-73.7	4.51	1238.2	0.0
8:35	7.40	0.3	7.5	18.69	3.372	6.34	-77.7	3.86	1234.6	No Reading
8:40	7.30	0.3	9	18.25	3.339	6.34	-79.1	3.37	1230.2	0.0
8:45	7.35	0.3	10.5	18.15	3.449	6.35	-75.0	3.94	1229.5	No Reading
8:50	7.45	0.3	12	18.18	3.367	6.34	-77.1	3.67	1229.7	0.0
8:55	7.40	0.3	13.5	18.01	3.423	6.34	-74.4	3.71	1145.1	No Reading
9:00	7.30	0.3	15	18.10	3.401	6.32	-74.3	3.65	1229.5	0.0
9:05	7.40	0.3	16.5	17.92	3.436	6.32	-75.2	3.58	1216.5	No Reading
9:10	7.40	0.3	18	17.96	3.476	6.31	-74.0	3.45	1176.9	0.0
9:15	7.45	0.3	19.5	17.79	3.382	6.33	-74.6	3.75	571.5	No Reading
9:20	7.30	0.3	21	18.28	3.466	6.29	-72.1	3.74	843.1	0.0
9:25	7.35	0.3	22.5	17.87	3.383	6.32	-83.8	3.73	960.9	No Reading
9:30	7.40	0.3	24	18.12	3.339	6.32	-73.3	3.60	695.1	0.0
9:35	7.40	0.3	25.5	17.97	3.345	6.30	-75.5	3.36	384.1	No Reading
	Stop Surging									
9:40	7.35	0.3	27	18.15	3.339	6.28	-65.9	2.24	141.4	0.0
9:45	7.30	0.3	28.5	17.84	3.325	6.24	-76.8	1.20	74.1	No Reading

TOTAL WATER PURGED (GALS): 129	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-7-16, 7-11-16	WELL ID: B38W25DR	STATIC WATER LEVEL (FT. TIC): 9.64	WELL DEPTH (FT. TIC): 60.00
WATER COLUMN (FT.): 50.36	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 74	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 74	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 222	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/16/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/7/16 11:45	9.64	0.25	0	17.15	5.135	6.91	7.4	5.42	1221.3	0.0
11:50	10.90	0.25	1.25	16.11	5.085	6.31	-26.4	3.41	1212.6	No Reading
11:55	11.90	0.25	2.5	16.44	5.017	6.24	-25.3	3.70	1204.3	0.0
12:00	12.50	0.25	3.75	16.11	5.085	6.19	-28.1	3.36	1212.0	No Reading
12:05	12.90	0.25	5	16.58	4.988	6.18	-29.5	3.25	1215.2	0.0
12:10	13.30	0.25	6.25	16.49	4.995	6.20	-30.7	3.22	1214.9	No Reading
12:15	13.70	0.25	7.5	16.16	5.075	6.19	-31.7	3.26	1212.4	0.0
12:20	14.00	0.25	8.75	16.47	4.997	6.23	-32.1	3.61	1212.3	No Reading
12:25	14.25	0.25	10	16.39	5.060	6.20	-32.1	3.41	1214.7	0.0
12:30	14.25	0.25	11.25	17.38	4.990	6.25	-32.5	3.56	1219.7	No Reading
12:35	14.35	0.25	12.5	16.91	5.022	6.25	-32.4	3.71	1219.6	0.0
12:40	14.40	0.25	13.75	17.24	4.997	6.26	-30.2	3.30	1224.1	No Reading
12:45	14.40	0.25	15	17.32	5.040	6.28	-29.3	4.09	1224.6	0.0
12:50	14.40	0.25	16.25	17.86	4.966	6.27	-29.7	3.61	1229.5	No Reading
12:55	14.40	0.25	17.5	17.37	4.999	6.31	-29.9	4.21	1221.7	0.0
13:00	14.40	0.25	18.75	16.91	4.990	6.23	-29.0	3.85	1217.6	No Reading
13:05	14.40	0.25	20	17.08	4.955	6.22	-27.7	3.91	1220.3	0.0
13:10	14.50	0.25	21.25	16.76	4.933	6.20	-27.2	4.15	1215.7	No Reading
13:15	14.50	0.25	22.5	17.52	4.936	6.26	-27.2	4.30	1224.0	0.0
13:20	14.55	0.25	23.75	16.95	4.967	6.25	-24.9	4.21	1221.0	No Reading
13:25	14.50	0.25	25	17.34	4.891	6.18	-22.8	3.86	1223.0	0.0

TOTAL WATER PURGED (GALS): 231.25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-7-16, 7-11-16	WELL ID: B38W25DR	STATIC WATER LEVEL (FT. TIC): 9.64	WELL DEPTH (FT. TIC): 60.00
WATER COLUMN (FT.): 50.36	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 74	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 74	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 222	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/7/16 13:30	14.60	0.25	26.25	16.77	4.908	6.16	-22.6	3.50	1220.6	No Reading
13:35	14.65	0.25	27.5	17.25	4.907	6.20	-23.2	3.68	1227.2	0.0
13:40	14.70	0.25	28.75	17.91	4.881	6.22	-23.9	4.14	1222.7	No Reading
13:45	14.75	0.25	30	17.68	4.902	6.20	-24.7	4.41	1225.8	0.0
13:50	14.75	0.25	31.25	17.29	4.874	6.17	-25.3	4.04	1223.4	No Reading
13:55	14.80	0.25	32.5	16.88	4.881	6.14	-23.9	4.18	1216.5	0.0
14:00	14.90	0.25	33.75	16.79	4.870	6.13	-22.6	4.34	1215.7	No Reading
14:05	14.95	0.25	35	17.05	4.859	6.08	-23.1	3.72	1219.9	0.0
14:10	15.00	0.25	36.25	16.59	4.886	6.13	-20.9	4.21	1213.4	No Reading
14:15	15.00	0.25	37.5	17.04	4.900	6.12	-20.4	3.99	1172.9	0.0
14:20	15.00	0.25	38.75	17.17	4.892	6.20	-24.0	4.43	603.4	No Reading
14:25	15.00	0.25	40	17.16	4.821	6.13	-21.2	3.62	1007.6	0.0
14:30	15.00	0.25	41.25	16.95	4.869	6.22	-17.9	4.38	593.5	No Reading
14:35	15.10	0.25	42.5	16.92	4.848	6.16	-20.1	4.02	689.6	0.0
14:40	15.20	0.25	43.75	17.01	4.842	6.17	-19.8	3.79	171.8	No Reading
14:45	15.20	0.25	45	17.16	4.846	6.19	-22.9	3.30	950.5	0.0
14:50	15.20	0.25	46.25	16.76	4.851	6.15	-20.4	4.10	564.4	No Reading
14:55	15.20	0.25	47.5	16.79	4.842	6.18	-18.7	4.32	246.8	0.0
	Stop Surging									
15:00	15.20	0.25	48.75	16.28	4.780	5.99	-16.0	1.61	204.0	No Reading
15:05	15.20	0.25	50	16.36	4.769	5.98	-17.7	1.13	136.6	0.0
15:10	15.20	0.25	51.25	16.11	4.758	6.02	-20.3	0.97	106.2	No Reading
15:15	15.20	0.25	52.5	16.10	4.749	6.07	-22.1	0.92	84.4	0.0
15:20	15.20	0.25	53.75	16.47	4.741	6.13	-24.4	0.87	58.1	No Reading

TOTAL WATER PURGED (GALS): 231.25	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

PAGE 3 of 3

DATE: 7-7-16, 7-11-16	WELL ID: B38W25DR	STATIC WATER LEVEL (FT. TIC): 9.64	WELL DEPTH (FT. TIC): 60.00
WATER COLUMN (FT.): 50.36	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 74		FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 74		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 222		FIELD PERSONNEL: K Gerdes	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/7/16 13:30	15.20	0.25	55	16.49	4.734	6.13	-25.2	0.85	46.4	No Reading
13:30	Stop Pump									
7/11/16 12:00	9.65	0.25	56.25	16.97	4.783	6.31	186.4	6.63	60.3	0.0
12:05	10.35	0.25	57.5	16.24	5.108	6.35	-29.2	5.14	46.1	No Reading
12:10	10.70	0.25	58.75	16.78	5.053	6.36	-44.7	2.06	59.4	0.0
12:15	10.90	0.25	60	17.30	5.080	6.35	-55.3	1.28	21.7	No Reading
12:20	11.00	0.25	61.25	16.69	5.069	6.34	-59.3	1.13	16.1	0.0
12:25	11.15	0.25	62.5	16.43	5.069	6.34	-62.5	1.07	17.0	No Reading
12:30	11.25	0.25	63.75	16.48	5.066	6.34	-64.5	1.03	10.5	0.0
12:35	11.30	0.25	65	16.59	5.068	6.34	-66.5	0.99	12.0	No Reading
12:40	11.35	0.25	66.25	16.05	5.069	6.34	-68.6	0.95	7.6	0.0
12:40	Stop Pump									

TOTAL WATER PURGED (GALS): 231.25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-22-16	WELL ID: BRPZ-2	STATIC WATER LEVEL (FT. TIC): 9.05	WELL DEPTH (FT. TIC): 62.28
WATER COLUMN (FT.): 53.23	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 8.7	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME (GALS.): 7.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 16.6	TOTAL PURGE VOLUME (X 3): 49.8	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
13:08	Start									
13:20	11.40	0.9		14.04	7.925	6.63	-52.6	4.86	339.8	0.2
13:30	11.75	0.9		14.15	7.873	6.44	-72.2	3.97	125.0	0.1
13:40	11.85	0.9		14.03	7.712	6.70	-88.1	4.53	65.0	
13:50	11.95	0.9		14.23	7.622	6.45	-71.7	3.45	57.9	
	Stop Surging									
13:52			40							
14:00	11.80	0.9		14.40	7.224	6.28	-83.3	0.11	32.8	
14:10	11.75	0.9	55	14.39	7.040	6.28	-90.6	0.12	27.0	
14:10	Reduce Flow									
14:20	10.75	0.5		14.40	6.888	6.27	-75.0	0.08	20.9	
14:30	10.65	0.5		14.40	6.753	6.27	-62.3	0.10	13.3	
14:40	10.60	0.5		14.36	6.743	6.27	-85.0	0.12	7.9	
14:50	10.55	0.5	75	14.48	6.719	6.26	-89.0	0.11	6.8	0.1
14:50	Stop Pump									

TOTAL WATER PURGED (GALS): 75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-22-16	WELL ID: BRPZ-3	STATIC WATER LEVEL (FT. TIC): 10.27	WELL DEPTH (FT. TIC): 57.40
WATER COLUMN (FT.): 47.13	SLUDGE THICKNESS (FT.): ~0.4	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 7.7	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME (GALS.): 7.87	CASING AND FILTER PACK PURGE VOLUME (GALS.): 15.57	TOTAL PURGE VOLUME (X 3): 46.71	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:10	Start									
8:20	13.70	0.67		12.85	5.258	5.99	-5.1	6.97	1479.4	0.0
8:30	14.40	0.67		13.37	5.807	6.61	-35.4	6.48	1481.2	
8:40	14.50	0.67		13.54	6.310	6.40	-52.6	6.51	504.7	
8:50	14.90	0.67		13.43	6.756	6.48	-60.3	4.97	351.8	0.0
9:00	14.70	0.67		13.69	5.620	6.48	-68.2	4.02	37.1	
	Stop Surging									
9:10	14.40	0.625	40	14.28	5.602	5.96	-3.8	0.48	41.3	
9:20	14.40	0.625		14.28	5.678	6.30	-57.7	0.93	31.3	
9:30	14.40	0.625		14.29	5.743	6.31	-71.0	0.80	33.9	
9:40	14.40	0.625		14.32	5.749	6.31	-75.8	0.80	41.5	
9:50	14.40	0.625	65	14.26	5.578	6.32	-75.3	0.68	39.3	
9:55	Stop Pump									

TOTAL WATER PURGED (GALS): 65	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-23-16	WELL ID: BRPZ-4	STATIC WATER LEVEL (FT. TIC): 9.55	WELL DEPTH (FT. TIC): 62.75
WATER COLUMN (FT.): 53.20	SLUDGE THICKNESS (FT.): ~1.5	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 78.2	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 78.2	TOTAL PURGE VOLUME (X 3): 235	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:43	Start									
8:55		1.8		14.40	9.672	6.97	-114.9	5.41	> 1200	
9:05	13.60	1.8		15.15	8.445	6.61	-81.9	3.83	> 1200	
9:15		1.8		14.09	9.071	6.55	-68.4	3.83	232.4	
Ground Fault Error on Pump / Switch Out Pump										
9:45	15.85	1.8		14.15	9.036	6.97	-166.3	5.37	469.8	0.0
9:55		1.8	110	14.38	8.896	6.66	-80.0	5.09	98.1	
	Stop Surging									
10:05		2.4		14.39	8.917	6.38	-59.4	3.17	48.7	
10:15	17.55	2.4		14.38	8.819	6.38	-60.3	3.39	14.9	
10:18	Reduce Flow		165							
10:25	14.85	0.9		14.28	8.762	6.50	-66.0	1.81	13.5	
10:35		0.9		14.29	8.821	6.07	-25.8	1.12	9.2	0.0
10:45		0.9		14.29	9.046	6.21	-65.9	0.33	9.4	
10:55		0.9		14.31	8.561	6.23	-79.7	0.09	9.7	
11:05		0.9		14.31	8.484	6.24	-85.0	0.15	11.4	
11:15		0.9		14.36	7.735	6.26	-89.6	0.09	27.4	
11:20			220							
11:25		0.9		14.37	7.908	6.25	-86.4	0.05	15.7	
11:35		0.9		14.43	7.863	6.34	-96.9	0.08	14.1	
11:40		0.9	240	14.44	7.866	6.24	-94.7	0.04	13.9	
11:40	Stop Pump									

TOTAL WATER PURGED (GALS): 240	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-23-16, 3-24-16	WELL ID: BRPZ-5	STATIC WATER LEVEL (FT. TIC): 8.82	WELL DEPTH (FT. TIC): 62.30
WATER COLUMN (FT.): 53.48	SLUDGE THICKNESS (FT.): ~1.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 8.72	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME (GALS.): 7.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 16.6	TOTAL PURGE VOLUME (X 3): 49.6	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
3/23/16 8:07	Start									
8:20	25.60			12.98	16.04	5.87	-27.9	4.92	693.5	
8:30	27.70			13.43	16.04	6.51	-51.3	5.88	1511.5	0.2
8:40	30.50			13.73	15.72	6.21	-56.3	3.24	1516.1	
8:50	32.90			14.32	15.64	6.38	-68.2	4.31	1337.9	
9:00	33.10			14.39	15.36	6.84	-74.5	6.52	830.5	
9:10	34.20			14.72	14.65	6.41	-77.4	5.27	187.7	
9:20	35.60			15.14	15.35	6.56	-78.2	5.52	134.4	
9:30	No Reading			No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	
9:40	36.20			15.59	15.75	6.29	-56.2	3.68	101.2	
9:45	37.40			No Readings - YSI Unavailable						0.0
10:00	38.20			No Readings - YSI Unavailable						
10:15	39.40			No Readings - YSI Unavailable						
10:30	40.40			No Readings - YSI Unavailable						
10:45	40.60			No Readings - YSI Unavailable						
10:50			20							
11:00	40.60	325 ml/min		No Readings - YSI Unavailable						
11:15	41.50			No Readings - YSI Unavailable						
11:30	41.70			No Readings - YSI Unavailable						
11:45	41.60	375 ml/min		No Readings - YSI Unavailable						
12:00	41.25			17.29	15.88	6.08	-72.8	0.33	17.9	
13:00	40.60	320 ml/min		17.56	15.43	6.15	-91.6	0.04	19.2	
13:30	40.40	300 ml/min Re-fuel Generator		18.11	15.44	6.35	-98.6	0.11	13.7	0.0
13:36 to 13:42	Stop Pump									

TOTAL WATER PURGED (GALS): 57	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-23-16, 3-24-16	WELL ID: BRPZ-5	STATIC WATER LEVEL (FT. TIC): 8.82	WELL DEPTH (FT. TIC): 62.30
WATER COLUMN (FT.): 53.48	SLUDGE THICKNESS (FT.): ~1.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 8.72	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME (GALS.): 7.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 16.6	TOTAL PURGE VOLUME (X 3): 49.6	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
3/23/16 14:00	41.00			18.16	14.48	6.20	-79.4	0.25	5.0	
14:05	Stop Pump	Pump Not Holding Flow	40							
14:25	32.00	Re-start								
14:30	36.25			16.86	15.66	6.02	-55.5	0.07	100.2	
14:40	39.90			17.27	15.63	6.01	-72.3	0.06	28.2	
14:50	40.70			17.18	14.68	6.03	-78.8	0.10	28.4	
15:00	41.30	320 ml/min		17.46	14.51	6.04	-84.8	0.11	34.1	
15:10	41.60		45	18.51	14.38	6.05	-83.5	0.08	27.9	
15:10	Stop Pump									
3/24/16 7:45	Re-start									
7:55	36.40			13.45	14.53	6.13	-58.4	0.34	10.4	
8:05	38.00			13.26	14.82	6.06	-63.0	0.11	7.0	
8:15	39.00			13.36	15.17	6.05	-67.9	0.14	6.1	
8:25	41.10			14.18	15.11	6.04	-74.5	0.14	5.5	
8:35	41.60		57	13.74	14.94	6.04	-73.6	0.18	6.2	
8:35	Stop Pump									

TOTAL WATER PURGED (GALS): 57	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-21-16	WELL ID: BRPZ-9	STATIC WATER LEVEL (FT. TIC): 9.88	WELL DEPTH (FT. TIC): 54.60
WATER COLUMN (FT.): 44.72	SLUDGE THICKNESS (FT.): ~0.25	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 65.7	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 65.7	TOTAL PURGE VOLUME (X 3): 198	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:54	Start									
11:10	17.30	1.0		13.97	10.81	6.45	-46.6	8.00	> 1200	
11:20	20.30	1.0		14.03	11.08	6.71	-55.7	3.68	> 1200	
11:30	22.20	1.0		13.78	11.46	6.49	-48.0	4.57	987.3	
11:40	24.00	1.0		13.55	11.53	6.45	-42.6	4.67	909.4	
11:50	25.30	1.0	55	13.81	11.63	6.44	-36.7	4.41	755.9	
12:00	26.60	0.9		13.67	11.59	6.42	-42.4	4.13	1107.6	
12:10	27.70	0.9		13.05	11.69	6.63	-50.9	4.55	932.9	
12:20	27.80	0.9		13.58	11.50	6.64	-52.8	4.22	1116.2	
12:30	27.85	0.9		13.70	11.67	6.61	-39.3	4.74	511.7	
12:40	28.00	0.9		14.15	11.62	6.37	-45.9	4.51	394.4	
12:50	28.15	0.9	110	13.98	11.62	6.35	-49.0	3.08	287.3	
13:00	28.20	0.8		14.16	11.61	6.34	-51.5	3.94	276.0	
	Stop Surging									
13:10	28.10	0.8		13.59	11.64	6.34	-53.0	3.76	615.5	
13:20	28.10	0.8		13.85	11.55	6.30	-54.2	3.54	154.7	0.2
13:30	27.90	0.8		14.27	11.55	6.26	-65.9	0.41	124.0	
13:40	27.75	0.8		14.32	11.54	6.25	-73.8	0.47	42.1	0.0
13:50	27.70	0.75		14.31	11.54	6.25	-77.3	0.74	37.1	
14:00	27.70	0.75	165	14.34	11.54	6.26	-80.0	1.00	36.1	0.0
14:10	27.65	0.8		14.28	11.53	6.24	-82.5	1.07	34.3	
14:20	27.70	0.8		14.30	11.51	6.25	-85.1	1.47	28.0	
14:30	27.70	0.8		14.33	11.50	6.24	-87.0	1.66	23.3	
14:40	27.75	0.8		14.33	11.47	6.25	-88.4	1.70	20.2	

TOTAL WATER PURGED (GALS): 205	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-21-16	WELL ID: BRPZ-9	STATIC WATER LEVEL (FT. TIC): 9.88	WELL DEPTH (FT. TIC): 54.60
WATER COLUMN (FT.): 44.72	SLUDGE THICKNESS (FT.): ~0.25	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 65.7		FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 65.7		TOTAL PURGE VOLUME (X 3): 198
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
14:50	27.75	0.8	205	14.33	11.46	6.24	-89.8	1.69	18.6	
14:50	Stop Pump									

TOTAL WATER PURGED (GALS): 205	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-21-16	WELL ID: PW-15	STATIC WATER LEVEL (FT. TIC): 6.54	WELL DEPTH (FT. TIC): 20.88
WATER COLUMN (FT.): 14.34	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 4	
WELL CASING/BOREHOLE VOLUME (GALS.): 9.4	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 16.84	
FILTER PACK WATER VOLUME (GALS.): 8.59	CASING AND FILTER PACK PURGE VOLUME (GALS.): 17.99	TOTAL PURGE VOLUME (X 3): 53.97	
FIELD PERSONNEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
13:05	6.54	1.25	0	18.51	0.912	6.95	-71.8	3.74	479.1	No Reading
13:10	6.90	1.25	6.25	16.98	1.778	7.26	-64.6	3.41	336.0	No Reading
13:15	6.90	1.25	12.5	17.37	0.904	7.38	-54.4	3.53	64.6	No Reading
13:20	6.95	1.25	18.75	17.31	1.861	7.43	-43.8	2.02	8.2	No Reading
13:25	7.05	1.25	25	16.06	1.812	7.45	-31.0	2.40	61.2	No Reading
13:30	7.10	1.25	31.25	15.78	1.826	7.28	-34.7	0.89	0.3	No Reading
	Stop Surging									
13:35	7.10	1.25	37.5	15.72	1.807	7.28	-34.5	0.80	0.6	No Reading
13:40	7.15	1.25	43.75	15.66	1.816	7.28	-35.8	0.78	0.6	No Reading
13:45	7.15	1.25	50	15.65	1.813	7.29	-35.9	0.76	0.2	No Reading
13:50	7.15	1.25	56.25	15.64	1.811	7.29	-36.1	0.75	0.1	No Reading
13:50	Stop Pump									

TOTAL WATER PURGED (GALS): 56.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-5-16	WELL ID: OVPZ-17R	STATIC WATER LEVEL (FT. TIC): 8.46	WELL DEPTH (FT. TIC): 20.31
WATER COLUMN (FT.): 11.85	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.9	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9.5	
FILTER PACK WATER VOLUME (GALS.): 5.8	CASING AND FILTER PACK PURGE VOLUME (GALS.): 7.7	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 83.1	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/14/16			60							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/5/16 8:50	8.50	0.3	0	19.24	3.315	5.92	18.5	5.25	778.8	0.0
8:55	8.80	0.3	1.5	17.83	3.863	6.41	-66.9	4.33	783.7	0.0
9:00	9.75	0.3	3	16.74	3.890	6.60	-81.3	3.74	569.7	0.0
9:05	9.90	0.3	4.5	16.90	3.840	6.64	-79.8	4.38	862.7	0.0
9:10	9.95	0.3	6	17.25	3.819	6.63	-86.1	3.06	814.2	0.0
9:15	10.00	0.3	7.5	17.21	3.771	6.65	-84.4	3.35	771.7	0.0
9:20	9.90	0.3	9	17.14	3.733	6.68	-84.0	3.46	821.4	0.0
9:25	10.05	0.3	10.5	17.06	3.667	6.69	-83.2	3.92	806.1	0.0
9:30	10.10	0.3	12	17.11	3.658	6.69	-83.1	3.66	741.2	0.0
9:35	10.15	0.3	13.5	17.02	3.650	6.70	-82.6	3.65	762.9	0.0
9:40	10.15	0.3	15	17.95	3.593	6.68	-87.4	3.10	807.2	0.0
9:45	10.20	0.3	16.5	16.86	3.563	6.70	-85.7	3.28	685.9	0.0
9:50	10.20	0.3	18	16.76	3.550	6.70	-83.9	3.59	383.9	0.0
	Stop Surging									
9:55	10.20	0.3	19.5	16.60	3.537	6.79	-71.1	3.61	109.4	0.0
10:00	10.20	0.3	21	16.09	3.429	6.64	-91.5	1.21	51.0	0.0
10:05	10.20	0.3	22.5	16.68	3.521	6.63	-94.2	1.08	27.9	0.0
10:10	10.20	0.3	24	16.92	3.483	6.63	-98.1	0.98	17.2	0.0
10:15	10.20	0.3	25.5	16.73	3.492	6.63	-100.2	0.95	12.6	0.0
10:20	10.20	0.3	27	16.78	3.466	6.63	-101.3	0.92	12.8	0.0
10:25	10.20	0.3	28.5	16.63	3.344	6.65	-102.8	0.91	11.0	0.0

10:25 Stop Pump

TOTAL WATER PURGED (GALS): 88.5	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. LEL alarm on initial OVA/PID reading, dissipated quickly. LEL alarm again after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-28-16	WELL ID: MISS-01AR	STATIC WATER LEVEL (FT. TIC): 7.85	WELL DEPTH (FT. TIC): 15.32
WATER COLUMN (FT.): 7.47	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.2	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME (GALS.): 6.12	CASING AND FILTER PACK PURGE VOLUME (GALS.): 7.32	WATER LOSS DURING INSTALL (GALS.): 10	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 51.96	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/15/16			50							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/28/16 13:05	8.50	0.3	0	18.48	1.676	7.66	-86.9	5.44	413.5	0.0
13:10	8.50	0.3	1.5	17.97	2.594	7.37	-90.2	3.25	627.9	0.0
13:15	8.60	0.3	3	17.69	2.588	7.28	-83.6	3.88	793.5	No Reading
13:20	8.60	0.3	4.5	18.55	2.562	7.23	-88.6	2.38	778.4	0.0
13:25	8.60	0.3	6	18.10	1.309	7.23	-83.4	3.76	453.5	No Reading
13:30	8.60	0.3	7.5	17.64	2.508	7.24	-83.5	2.78	567.0	0.0
13:35	8.60	0.3	9	17.53	2.470	7.24	-79.5	3.42	456.6	No Reading
13:40	8.60	0.3	10.5	17.34	2.463	7.24	-79.2	3.21	160.9	0.0
13:45	8.60	0.3	12	17.18	2.421	7.24	-83.2	2.98	225.8	No Reading
13:50	8.60	0.3	13.5	17.05	2.141	7.25	-80.4	3.07	427.8	0.0
13:55	8.60	0.3	15	17.28	2.259	7.25	-77.7	3.24	271.7	No Reading
14:00	8.60	0.3	16.5	17.38	2.603	7.26	-77.9	3.12	480.9	0.0
14:05	8.60	0.3	18	17.09	2.095	7.24	-79.8	2.70	283.9	No Reading
14:10	8.60	0.3	19.5	16.97	2.236	7.25	-75.9	3.18	365.1	0.0
14:15	8.60	0.3	21	16.82	2.279	7.25	-76.7	2.79	353.8	No Reading
14:20	8.60	0.3	22.5	16.45	2.056	7.25	-67.8	3.31	640.7	0.0
14:25	8.60	0.3	24	16.76	2.134	7.24	-71.3	3.21	375.8	No Reading
14:30	8.60	0.3	25.5	17.14	2.442	7.25	-78.0	2.68	248.0	0.0
14:35	8.60	0.3	27	16.75	2.152	7.23	-76.1	3.00	334.0	No Reading
14:40	8.60	0.3	28.5	16.63	2.060	7.25	-76.2	2.78	376.4	No Reading
14:45	8.60	0.3	30	16.59	2.151	7.24	-75.0	2.80	654.0	No Reading

TOTAL WATER PURGED (GALS): 92	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-28-16	WELL ID: MISS-01AR	STATIC WATER LEVEL (FT. TIC): 7.85	WELL DEPTH (FT. TIC): 15.32
WATER COLUMN (FT.): 7.47	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.2		FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 10
FILTER PACK WATER VOLUME (GALS.): 6.12	CASING AND FILTER PACK PURGE VOLUME (GALS.): 7.32	WATER LOSS DURING INSTALL (GALS.): 10	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 51.96		FIELD PERSONNEL: K Gerdes	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
14:50	8.60	0.3	31.5	16.44	2.387	7.23	-70.2	3.41	645.7	0.0
14:55	8.60	0.3	33	16.28	2.397	7.23	-66.6	3.44	608.4	No Reading
15:00	8.60	0.3	34.5	16.12	2.393	7.21	-69.2	2.94	456.6	0.0
15:05	8.60	0.3	36	16.08	2.190	7.20	-77.4	3.06	160.6	No Reading
15:10	8.60	0.3	37.5	16.60	2.151	7.20	-72.1	2.92	43.6	0.0
	Stop Surging									
15:15	8.60	0.3	39	16.10	2.111	7.21	-69.5	1.51	9.6	0.0
15:20	8.60	0.3	40.5	16.02	2.123	7.18	-74.1	1.12	7.2	No Reading
15:25	8.60	0.3	42	16.13	2.126	7.17	-79.0	0.93	3.8	No Reading
15:25	Stop Pump									

TOTAL WATER PURGED (GALS): 92	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-14-16	WELL ID: MISS-01BR	STATIC WATER LEVEL (FT. TIC): 7.75	WELL DEPTH (FT. TIC): 67.00
WATER COLUMN (FT.): 59.25	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 87	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 87	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 261	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/16/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/14/16 8:55	7.75	0.75	0	16.68	1.176	7.74	196.4	6.33	648.3	0.0
9:00	8.00	0.75	3.75	15.39	1.067	7.58	202.3	4.95	1235.9	No Reading
9:05	8.10	0.75	7.5	14.97	1.092	7.36	202.5	4.51	1233.2	0.0
9:10	8.10	0.75	11.25	14.93	1.035	7.32	195.2	4.18	1232.4	No Reading
9:15	8.10	0.75	15	15.05	0.997	7.27	193.0	4.35	1197.4	0.0
9:20	8.15	0.75	18.75	14.92	0.965	7.22	191.4	4.48	357.3	No Reading
9:25	8.20	0.75	22.5	14.88	0.956	7.14	195.0	4.89	449.7	0.0
9:30	8.20	0.75	26.25	14.90	0.948	7.12	199.5	4.17	139.8	No Reading
	Stop Surging									
9:35	8.20	0.75	30	14.60	0.932	7.11	206.8	4.60	34.5	0.0
9:40	8.20	0.75	33.75	14.51	0.929	7.04	212.4	2.86	15.5	No Reading
9:45	8.20	0.75	37.5	14.48	0.926	7.00	215.7	2.63	2.7	0.0
9:50	8.20	0.75	41.25	14.50	0.923	6.98	218.8	2.56	0.5	No Reading
9:55	8.20	0.75	45	14.56	0.921	6.97	221.4	2.53	0.1	0.0
10:00	8.15	0.75	48.75	14.61	0.919	6.95	223.6	2.51	0.2	No Reading
10:05	8.15	0.75	52.5	14.56	0.918	6.92	225.9	2.50	1.5	0.0
10:10	8.15	0.75	56.25	14.51	0.917	6.89	230.3	2.49	1.6	No Reading
10:15	8.15	0.75	60	14.51	0.916	6.83	239.1	2.48	1.4	0.0
10:20	8.15	0.75	63.75	14.52	0.915	6.83	242.6	2.48	1.3	No Reading
10:25	8.15	0.75	67.5	14.50	0.914	6.82	248.3	2.47	1.3	0.0
10:30	8.15	0.75	71.25	14.48	0.915	6.81	252.8	2.47	1.6	No Reading

TOTAL WATER PURGED (GALS): 266.25	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-14-16	WELL ID: MISS-01BR	STATIC WATER LEVEL (FT. TIC): 7.75	WELL DEPTH (FT. TIC): 67.00
WATER COLUMN (FT.): 59.25	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 87	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 87	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 261	FIELD PERSONNEL: K Gerdas		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/14/16 10:35	8.15	0.75	75	14.51	0.914	6.81	256.8	2.46	1.6	0.0
10:40	8.15	0.75	78.75	14.50	0.914	6.81	259.7	2.45	1.5	No Reading
10:45	8.15	0.75	82.5	14.48	0.913	6.81	262.3	2.45	1.8	0.0
10:50	8.15	0.75	86.25	14.45	0.912	6.81	264.5	2.45	1.8	No Reading
10:55	8.15	0.75	90	14.44	0.913	6.82	266.3	2.45	1.7	0.0
11:00	8.15	0.75	93.75	14.45	0.912	6.83	267.4	2.44	1.8	No Reading
11:05	8.15	0.75	97.5	14.50	0.912	6.83	267.8	2.44	1.8	0.0
11:10	8.15	0.75	101.25	14.52	0.911	6.84	268.0	2.44	1.9	No Reading
11:10	Stop Pump									

TOTAL WATER PURGED (GALS): 266.25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-13-16	WELL ID: MISS-02AR	STATIC WATER LEVEL (FT. TIC): 6.28	WELL DEPTH (FT. TIC): 18.91
WATER COLUMN (FT.): 12.63	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 2.1	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME (GALS.): 6.0	CASING AND FILTER PACK PURGE VOLUME (GALS.): 8.1	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 24.3	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/11/16			55							
3.0 hours	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/13/16 9:10	6.28	0.3	0	17.67	4.369	7.01	15.4	6.53	718.9	0.0
9:15	8.80	0.3	1.5	17.06	4.262	6.33	-36.9	5.83	965.0	No Reading
9:20	9.30	0.3	3	16.79	4.267	7.44	-72.8	4.05	1186.5	0.0
9:25	9.75	0.3	4.5	17.35	4.212	7.42	-75.1	3.90	1176.6	No Reading
9:30	10.00	0.3	6	16.84	4.051	7.42	-85.7	3.60	544.3	0.0
9:35	10.05	0.3	7.5	16.53	4.184	7.40	-87.3	3.71	1184.3	No Reading
9:40	10.60	0.3	9	16.27	4.215	7.38	-87.8	3.64	1181.8	0.0
9:45	10.85	0.3	10.5	16.46	4.211	7.35	-95.5	3.24	1183.7	No Reading
9:50	10.55	0.3	12	16.77	4.235	7.33	-97.9	3.30	1188.2	0.0
9:55	10.60	0.3	13.5	17.14	4.203	7.29	-103.6	3.37	1042.6	No Reading
10:00	10.50	0.3	15	16.77	4.275	7.29	-108.6	3.28	1185.8	0.0
10:05	11.05	0.3	16.5	16.96	4.209	7.27	-106.8	3.08	531.8	No Reading
10:10	11.25	0.3	18	16.79	4.165	7.23	-109.9	3.03	655.6	0.0
10:15	12.15	0.3	19.5	16.30	4.196	7.23	-116.0	2.67	1182.0	No Reading
10:20	12.60	0.3	21	16.26	4.318	7.25	-114.2	2.68	1181.2	0.0
10:25	12.65	0.3	22.5	16.30	4.333	7.23	-113.2	2.49	1180.1	No Reading
	Stop Surging - Continue to collect YSI readings in cup due to high turbidity.									
10:30	12.70	0.3	24	16.11	4.340	7.22	-114.1	2.47	1179.5	0.0
10:35	12.80	0.3	25.5	16.12	4.344	7.22	-114.8	2.41	1178.7	No Reading
10:40	12.70	0.3	27	16.95	4.328	7.20	-116.9	2.76	1169.3	0.0
10:45	12.80	0.3	28.5	16.93	4.368	7.26	-110.4	2.74	813.1	No Reading

TOTAL WATER PURGED (GALS): 83.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. Final purge water is straw-colored.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-13-16	WELL ID: MISS-02AR	STATIC WATER LEVEL (FT. TIC): 6.28	WELL DEPTH (FT. TIC): 18.91
WATER COLUMN (FT.): 12.63	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 2.1	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME (GALS.): 6.0	CASING AND FILTER PACK PURGE VOLUME (GALS.): 8.1	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 24.3	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (FT. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)*		OVA/PID (PPM)
7/13/16 10:50	12.90	0.3	30	16.60	4.374	7.24	-109.8	2.73	661.5		0.0
10:55	12.95	0.3	31.5	16.70	4.356	7.21	-108.8	2.70	624.1		No Reading
11:00	13.00	0.3	33	16.65	4.367	7.18	-109.6	2.50	671.2		0.0
11:05	13.05	0.3	34.5	16.80	4.365	7.16	-109.2	2.67	694.1		No Reading
11:10	13.10	0.3	36	16.76	4.398	7.19	-104.9	3.10	536.4		0.0
11:15	13.65	0.3	37.5	16.79	4.164	7.18	-107.5	3.04	607.0		No Reading
11:20	13.50	0.3	39	16.59	4.455	7.19	-102.0	3.02	491.3		0.0
11:25	13.50	0.3	40.5	16.61	4.419	7.17	-104.1	2.31	352.5		No Reading
11:30	13.55	0.3	42	16.63	4.431	7.21	-103.9	2.60	373.2		0.0
11:35	13.55	0.3	43.5	16.49	4.441	7.18	-103.9	2.66	411.3		No Reading
11:40	13.55	0.3	45	16.43	4.434	7.17	-105.6	2.60	361.0		0.0
11:45	13.60	0.3	46.5	16.43	4.460	7.15	-104.5	2.55	231.0		No Reading
11:50	13.60	0.3	48	16.67	4.460	7.16	-104.6	2.51	243.1		0.0
11:55	13.60	0.3	49.5	16.57	4.454	7.14	-103.5	2.49	203.4		No Reading
12:00	13.65	0.3	51	16.66	4.466	7.14	-102.3	2.47	202.0		0.0
Break - Connect YSI flow-through cell											
13:00	6.38	0.2	51	18.29	4.603	7.42	-64.8	2.41	63.0	48.3	0.0
13:05	7.95	0.2	52	18.87	4.544	7.06	-85.0	1.20	67.9	30.6	No Reading
13:10	8.00	0.2	53	19.08	4.568	7.05	-96.5	0.97	21.4	15.0	0.0
13:15	8.00	0.2	54	19.03	4.576	7.04	-101.8	0.91	13.7	8.4	No Reading
13:20	8.00	0.2	55	19.34	4.562	7.05	-107.5	0.86	3.5	6.3	0.0
13:20	Stop Pump										

TOTAL WATER PURGED (GALS): 110	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. Final purge water is straw-colored. * = Results in second turbidity column collected from LaMotte 2020 turbidity meter.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-13-16	WELL ID: MISS-02BR	STATIC WATER LEVEL (FT. TIC): 9.3	WELL DEPTH (FT. TIC): 63.00
WATER COLUMN (FT.): 53.7	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 78.9	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 78.9	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 236.7	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/25/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/13/16 13:30	9.30	0.9	0	17.13	3.734	7.96	-39.6	5.65	120.8	0.0
13:35	10.00	0.9	4.5	15.55	3.780	7.36	-34.8	3.30	36.5	No Reading
13:40	10.80	0.9	9	15.53	3.704	7.32	-26.1	5.78	219.4	0.0
13:45	11.15	0.9	13.5	15.09	3.674	6.90	-28.8	2.51	70.2	No Reading
	Stop Surging									
13:50	11.05	0.9	18	14.87	3.595	6.70	-20.1	1.55	35.0	0.0
13:55	11.00	0.9	22.5	14.86	3.501	6.63	-18.1	1.21	21.0	No Reading
14:00	11.00	0.9	27	14.85	3.351	6.61	-19.7	1.08	12.9	0.0
14:05	11.00	0.9	31.5	14.85	3.217	6.61	-18.5	1.01	9.1	No Reading
14:10	11.00	0.9	36	14.86	3.167	6.61	-19.3	0.97	7.1	0.0
14:15	11.00	0.9	40.5	14.96	3.132	6.62	-20.7	0.94	3.8	No Reading
14:20	11.00	0.9	45	14.86	3.124	6.61	-21.3	0.93	4.0	0.0
14:25	11.00	0.9	49.5	14.93	3.123	6.61	-21.7	0.91	3.2	No Reading
14:30	11.00	0.9	54	14.91	3.131	6.60	-21.9	0.90	2.3	0.0
14:35	11.10	0.9	58.5	14.81	3.141	6.60	-21.9	1.08	7.7	No Reading
14:40	11.15	0.9	63	14.80	3.134	6.60	-21.7	1.13	1.6	0.0
14:45	11.20	0.9	67.5	14.85	3.139	6.60	-21.6	1.00	0.2	No Reading
14:50	11.20	0.9	72	14.79	3.144	6.59	-21.0	1.16	0.9	0.0
14:55	11.20	0.9	76.5	14.84	3.159	6.58	-20.4	1.15	0.3	No Reading
14:55	Stop Pump									

TOTAL WATER PURGED (GALS): 241.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 9-8-16	WELL ID: MISS-04AR	STATIC WATER LEVEL (FT. TIC): 11.15	WELL DEPTH (FT. TIC): 17.10
WATER COLUMN (FT.): 5.95	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.97	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 5.95	
FILTER PACK WATER VOLUME (GALS.): 5.71	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.68	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 20	FIELD PERSONNEL: J Cook		

Time	Water Level (FT. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)*	OVA/PID (PPM)
9/7/16			180							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
9/8/16 8:42	11.15	Start Pump								0.1
8:50	12.00	0.26		20.45	2.246	5.54	58.5	5.34	1578.8	0.0
8:55	11.90	0.26		20.24	1.187	6.30	-1.8	4.43	1522.0	0.0
9:00	11.80	0.26		20.73	2.226	6.43	-14.5	4.57	1582.0	0.0
	Stop Surging									
9:05	11.95	0.26		20.39	2.190	6.46	-26.0	1.41	549.6	0.0
9:10	11.95	0.26		20.36	2.174	6.48	-33.8	1.26	166.6	0.0
9:15	12.00	0.26		20.21	2.145	6.51	-42.0	0.95	48.6	0.0
9:20	12.00	0.26		20.22	2.128	6.52	-42.0	0.99	40.2	0.0
9:25	12.00	0.26		20.20	2.113	6.53	-44.0	0.93	38.0	0.0
9:30	12.00	0.26		20.18	2.099	6.54	-43.6	0.97	37.6	0.0
9:35	12.00	0.26		20.17	2.081	6.55	-45.1	0.92	38.5	0.0
9:40	12.00	0.26		20.21	2.065	6.55	-45.5	0.91	38.7	1.9
9:45	12.00	0.26		20.17	2.047	6.55	-46.6	0.88	31.5	1.9
9:50	12.00	0.26	198	20.13	2.030	6.56	-47.1	0.87	27.1	2.1
9:50	Stop Pump									

TOTAL WATER PURGED (GALS): 198	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. Strong organic odor from purged water (PID = 0.0 ppm). * = Results in second turbidity column collected from LaMotte 2020 turbidity meter.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-20-16	WELL ID: MISS05AR	STATIC WATER LEVEL (FT. TIC): 10.25	WELL DEPTH (FT. TIC): 17.72
WATER COLUMN (FT.): 7.47	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.22	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 9.47	
FILTER PACK WATER VOLUME (GALS.): 4.43	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.4	TOTAL PURGE VOLUME (X 3): 16.2	
FIELD PERSONNEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
13:50	13.20	Start								
13:55	13.33	0.4	2	18.68	1.237	7.27	-93.9	2.87	1228.3	No Reading
14:00	13.40	0.4	4	15.80	2.440	7.23	-107.7	3.16	1199.9	No Reading
14:05	13.85	0.4	6	15.72	1.983	7.15	-107.0	2.80	1202.6	No Reading
14:10	13.55	0.4	8	15.87	2.558	7.50	-106.9	4.61	1190.6	No Reading
14:15	13.55	0.4	10	16.37	2.580	7.45	-107.1	4.81	1208.4	No Reading
14:20	13.80	0.4	12	15.17	2.530	7.11	-110.5	1.90	877.5	No Reading
	Stop Surging									
14:25	13.56	0.4	14	14.86	2.528	7.03	-113.9	1.26	137.1	No Reading
14:30	13.55	0.4	16	14.79	2.534	6.97	-118.0	0.93	83.5	No Reading
14:35	13.45	0.4	18	14.79	2.548	6.96	-119.4	0.85	25.7	No Reading
14:40	13.40	0.4	20	14.75	2.556	6.96	-120.3	0.82	9.3	No Reading
14:40	Stop Pump									

TOTAL WATER PURGED (GALS): 20	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-24-16	WELL ID: MISS-05BR	STATIC WATER LEVEL (FT. TIC): 9.73	WELL DEPTH (FT. TIC): 53.25
WATER COLUMN (FT.): 43.52	SLUDGE THICKNESS (FT.): ~0.2	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 64	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 64	TOTAL PURGE VOLUME (X 3): 192	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9:07	Start									
9:20	13.65	1.25		13.68	35.99	6.60	-75.5	5.32	> 1200	
9:30	14.10	1.25		13.54	18.70	6.83	-87.6	6.43	130.2	
9:40	14.20	1.25		13.58	13.70	6.80	-85.4	5.54	124.8	
9:50	14.30	1.25	55	13.80	9.919	6.83	-93.4	5.72	129.6	
10:00	14.43	1.0		14.05	8.964	6.65	-94.8	4.02	131.5	0.1
10:10	14.54	1.0	75	14.13	9.138	6.62	-98.9	4.30	69.0	
	Stop Surging									
10:20	13.05	0.9		14.14	8.919	6.55	-116.1	0.40	41.8	
10:30	12.79	0.9		14.14	8.982	6.57	-124.0	0.34	34.3	
10:40	12.67	0.9		14.15	8.511	6.79	-132.1	0.73	18.6	
10:50	12.63	0.9	110	14.17	8.332	6.54	-130.5	0.36	17.8	
11:00	12.62	0.85		14.14	8.198	6.53	-133.8	0.37	12.9	
11:10	12.62	0.85		14.18	8.129	6.54	-135.8	0.36	7.1	0.0
11:20	12.68	0.85		14.10	5.646	6.71	-139.3	0.98	5.9	
11:30	12.67	0.85		14.25	5.612	6.72	-139.4	1.05	6.8	
11:40	12.67	0.85		14.12	5.882	6.69	-139.5	0.82	7.7	
11:50	12.67	0.85		14.23	5.731	6.71	-141.4	0.80	9.0	
11:55			165							
12:00	12.67	0.8		14.14	5.883	6.68	-141.2	0.39	8.0	
12:10	12.69	0.8		14.08	5.117	6.74	-140.4	1.11	22.1	
12:20	12.69	0.8		14.19	5.311	6.79	-145.3	1.12	4.9	
12:30	12.69	0.8		14.25	5.319	6.76	-146.7	1.13	4.3	
12:40	12.69	0.8		14.29	5.309	6.82	-150.4	0.68	4.2	

TOTAL WATER PURGED (GALS): 220	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-24-16	WELL ID: MISS-05BR	STATIC WATER LEVEL (FT. TIC): 9.73	WELL DEPTH (FT. TIC): 53.25
WATER COLUMN (FT.): 43.52	SLUDGE THICKNESS (FT.): ~0.2	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 64		FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 64		TOTAL PURGE VOLUME (X 3): 192
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
12:50	12.69	0.8		14.29	5.311	6.85	-152.1	0.77	4.2	
13:00	12.67	0.8		14.28	5.309	6.86	-158.2	No Reading	4.0	
13:05	Stop Pump		220							

TOTAL WATER PURGED (GALS): 220	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-14-16, 7-18-16	WELL ID: MISS-07AR	STATIC WATER LEVEL (FT. TIC): 9.62	WELL DEPTH (FT. TIC): 15.30
WATER COLUMN (FT.): 5.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.9	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9	
FILTER PACK WATER VOLUME (GALS.): 5.6	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.5	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 19.5	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/12/16			70							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/14/16 13:45	9.62	0.3	0	18.67	1.967	7.47	122.5	4.83	1275.9	0.0
13:50	10.20	0.3	1.5	17.87	1.963	7.02	-5.9	5.31	726.2	No Reading
13:55	10.05	0.3	3	18.03	1.910	6.81	-31.7	3.78	568.0	0.0
14:00	10.05	0.3	4.5	17.99	2.004	6.70	-39.6	3.18	1194.3	No Reading
14:05	10.05	0.3	6	17.16	2.151	6.64	-44.7	3.19	1260.3	0.0
14:10	10.10	0.3	7.5	17.79	2.164	6.64	-49.7	3.51	1262.3	No Reading
14:15	10.05	0.3	9	17.54	2.194	6.61	-54.8	3.50	1250.9	0.0
14:20	10.05	0.3	10.5	17.42	2.147	6.60	-55.6	2.94	1262.6	No Reading
14:25	10.05	0.3	12	17.71	2.143	6.57	-58.9	2.87	1199.7	0.0
14:30	10.05	0.3	13.5	17.45	2.224	6.55	-59.7	3.32	1178.9	No Reading
14:35	10.05	0.3	15	17.33	2.138	6.58	-57.6	3.44	773.9	0.0
14:40	10.05	0.3	16.5	17.04	2.260	6.51	-59.2	3.07	1259.9	No Reading
14:45	10.05	0.3	18	17.22	2.292	6.56	-55.3	3.82	1064.5	0.0
14:50	10.05	0.3	19.5	17.51	2.157	6.53	-57.8	3.45	850.8	No Reading
14:55	10.05	0.3	21	17.08	2.290	6.48	-55.4	4.37	1255.9	0.0
15:00	10.05	0.3	22.5	17.23	2.301	6.48	-56.4	4.22	1227.2	No Reading
	Stop Pump									
7/18/16 9:00	9.86	0.3	22.5	18.23	1.740	7.27	206.4	6.32	1097.4	0.0
9:05	10.15	0.3	24	17.49	2.211	6.71	63.2	4.17	1096.7	No Reading
9:10	10.15	0.3	25.5	17.48	2.224	6.69	-8.3	4.21	1093.3	0.0
9:15	10.15	0.3	27	17.94	2.134	6.69	-27.4	4.26	1095.6	No Reading

TOTAL WATER PURGED (GALS): 121	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-14-16, 7-18-16	WELL ID: MISS-07AR	STATIC WATER LEVEL (FT. TIC): 9.62	WELL DEPTH (FT. TIC): 15.30
WATER COLUMN (FT.): 5.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.9	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9	
FILTER PACK WATER VOLUME (GALS.): 5.6	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.5	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 19.5	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/18/16 9:20	10.15	0.3	28.5	17.52	2.195	6.64	-33.6	4.10	1095.9	0.0
9:25	10.15	0.3	30	17.63	2.122	6.65	-42.9	3.72	1093.5	No Reading
9:30	10.20	0.3	31.5	17.36	2.170	6.62	-42.5	3.46	1095.4	0.0
9:35	10.20	0.3	33	17.39	2.222	6.61	-48.9	3.53	1095.9	No Reading
9:40	10.20	0.3	34.5	17.18	2.273	6.60	-49.5	3.79	817.7	0.0
9:45	10.20	0.3	36	17.19	2.270	6.60	-52.8	3.67	696.3	No Reading
9:50	10.20	0.3	37.5	17.30	2.286	6.59	-53.6	3.81	696.0	0.0
9:55	10.20	0.3	39	17.06	2.290	6.59	-53.1	3.73	983.2	No Reading
10:00	10.20	0.3	40.5	17.29	2.294	6.58	-54.2	3.64	310.2	0.0
	Stop Surging									
10:05	10.20	0.3	42	17.05	2.271	6.57	-51.6	2.42	174.3	No Reading
10:10	10.20	0.3	43.5	16.82	2.276	6.49	-60.6	1.23	119.5	0.0
10:15	10.20	0.3	45	16.71	2.294	6.47	-65.1	1.07	50.1	No Reading
10:20	10.20	0.3	46.5	16.82	2.303	6.46	-68.2	1.01	33.6	0.0
10:25	10.20	0.3	48	16.91	2.313	6.46	-71.1	0.97	20.9	No Reading
10:30	10.20	0.3	49.5	16.77	2.315	6.45	-73.1	0.94	16.0	0.0
10:35	10.20	0.3	51	16.86	2.315	6.46	-74.5	0.93	8.9	No Reading
10:35	Stop Pump									

TOTAL WATER PURGED (GALS): 121	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-16-16	WELL ID: MISS07B	STATIC WATER LEVEL (FT. TIC): 10.45	WELL DEPTH (FT. TIC): 48.86
WATER COLUMN (FT.): 38.41	SLUDGE THICKNESS (FT.): ~0.2	WELL CASING DIAMETER (IN.): 3	
WELL CASING/BOREHOLE VOLUME (GALS.): 14.1		FILTER PACK DIAMETER (IN.): None	FILTER PACK LENGTH (FT.): None
FILTER PACK WATER VOLUME (GALS.): NA	CASING AND FILTER PACK PURGE VOLUME (GALS.): 14.1	TOTAL PURGE VOLUME (X 3): 42.3	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:38	Start									
8:48	12.35	> 1		13.14	6.021	6.47	12.1	5.14	702.2	
8:58	12.35			13.95	5.683	7.07	-44.0	5.73	60.4	
9:08	No Reading			No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	
9:18	12.05		43	14.22	6.341	7.32	-39.7	5.91	195.2	
9:28	11.90			14.15	6.421	7.39	-33.4	5.83	48.4	
9:38	11.85		65	13.97	5.315	7.20	-84.4	4.25	63.3	
	Stop Surging									
9:48	11.83			13.91	5.245	7.19	-98.9	9.84	10.1	
9:50	Reduce Flow									
9:58	10.93	0.4	73	14.02	5.449	7.15	-94.8	9.25	5.7	
10:08	10.90			13.99	5.489	7.14	-91.1	10.38	3.9	
10:18	10.90		85	13.99	5.489	7.14	-90.4	11.29	4.1	
10:18	Stop Pump									
10:31	10.44									

TOTAL WATER PURGED (GALS): 85	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-30-16	WELL ID: MW-2S	STATIC WATER LEVEL (FT. TIC): 4.75	WELL DEPTH (FT. TIC): 12.30
WATER COLUMN (FT.): 7.55	SLUDGE THICKNESS (FT.): 0.1	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.23	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 11.0	
FILTER PACK WATER VOLUME (GALS.): 2.25	CASING AND FILTER PACK PURGE VOLUME (GALS.): 3.48	TOTAL PURGE VOLUME (X 3): 10.5	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:06	Start									
8:10	5.60	0.25		10.20	2.852	6.18	3.9	4.87	1579.3	
8:20	5.60	0.25		12.11	2.314	6.76	-85.9	3.72	1603.9	
8:30	5.40	0.25		12.26	1.739	7.00	-89.7	3.85	1604.3	
8:40	5.35	0.25		12.24	1.645	7.08	-79.6	3.71	1603.3	
8:50	5.40	0.25		11.87	1.644	7.09	-75.4	4.93	1338.6	
	Stop Surging									
9:00	5.35	0.25		12.86	1.658	7.05	-72.7	0.17	355.1	
9:10	5.35	0.25		12.88	1.651	7.04	-73.3	0.16	203.4	
9:20	5.35	0.25		12.82	1.637	7.03	-73.2	0.14	88.7	
9:30	5.30	0.25		12.98	1.630	7.03	-71.9	0.14	28.4	
9:40	5.30	0.25		12.95	1.623	7.03	-70.2	0.14	19.3	
9:50	5.30	0.25	25	12.95	1.613	7.02	-69.0	0.13	18.4	
9:50	Stop Pump									

TOTAL WATER PURGED (GALS): 25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-30-16	WELL ID: MW-2D	STATIC WATER LEVEL (FT. TIC): 3.55	WELL DEPTH (FT. TIC): 44.10
WATER COLUMN (FT.): 40.55	SLUDGE THICKNESS (FT.): ~0.33	WELL CASING DIAMETER (IN): 4	
WELL CASING/BOREHOLE VOLUME (GALS.): 26.5	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 26.5	TOTAL PURGE VOLUME (X 3): 79.4	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9:55	Start									
10:15	6.65	1.2		14.28	1.828	7.46	-79.1	3.82	> 1200	
10:25	6.65	1.2		13.10	1.781	7.70	-87.6	5.32	548.2	
10:35	6.65	1.2		13.67	1.725	7.27	-80.9	4.14	452.8	
10:40			55							
10:45	6.65	1.2		13.66	1.682	7.21	-76.8	4.56	241.1	
Stop Surging. YSI Display Not Connecting. Use LaMotte Meter for Turbidity.										
11:00	6.10	0.83		No Reading	No Reading	No Reading	No Reading	No Reading	12.3	
11:10	6.10	0.83		No Reading	No Reading	No Reading	No Reading	No Reading	11.0	
11:20	6.10	0.83		No Reading	No Reading	No Reading	No Reading	No Reading	14.4	
11:30	6.10	0.83		13.55	1.549	7.09	-64.0	0.24	13.3	
11:40	6.10	0.83	105	13.52	1.540	7.09	-63.8	0.23	14.1	
11:40	Stop Pump									

TOTAL WATER PURGED (GALS): 105	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-21-16	WELL ID: MW-3SR	STATIC WATER LEVEL (FT. TIC): 9.75	WELL DEPTH (FT. TIC): 19.30
WATER COLUMN (FT.): 9.55	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.46	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Pt. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/20/16			60							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/11/16 13:25	12.75	0.15	0	17.46	2.540	8.30	-55.6	7.37	399.5	0.0
13:30	14.80	0.15	0.75	17.58	2.460	7.63	-82.3	5.70	501.3	No Reading
13:35	16.30	0.15	1.5	17.85	2.458	7.39	-76.7	5.77	1136.5	0.0
13:40	17.15	0.15	2.25	17.55	2.454	7.29	-68.4	7.47	698.1	No Reading
13:45	18.00	0.15	3	17.10	2.513	7.23	-61.8	7.82	220.6	0.0
	Stop Surging									
13:50	18.60	0.15	3.75	18.00	2.651	7.23	-72.0	3.98	78.4	No Reading
	Well Dry									
7/12/16 8:30	9.85	0.15	3.75	17.51	2.953	6.32	228.7	5.68	1187.3	0.0
8:35	15.40	0.15	4.5	16.68	2.649	7.00	23.8	5.62	182.9	No Reading
8:40	17.45	0.15	5.25	16.35	2.548	7.06	6.4	5.23	535.0	0.0
8:45	18.30	0.15	6	16.28	2.615	7.10	-1.9	5.32	414.1	No Reading
8:50	>19	0.15	6.75	16.10	2.887	7.09	-18.4	4.04	534.1	0.0
	Well Dry									
14:40	9.86	0.15	7.5	17.08	3.250	7.07	-15.7	5.68	887.2	0.0
14:45	12.90	0.15	8.25	16.36	3.001	7.10	-22.2	4.83	131.0	No Reading
14:50	15.60	0.15	9	16.43	2.720	7.05	-25.0	4.98	56.8	0.0
14:55	17.40	0.15	9.75	16.90	2.618	7.00	-17.0	5.51	57.6	No Reading
15:00	18.60	0.15	10.5	16.33	2.756	6.96	-18.9	6.01	132.9	0.0
	Well Dry									
7/13/16 8:00	9.76	0.1	10.5	17.73	3.233	6.70	170.3	8.07	486.8	0.0

TOTAL WATER PURGED (GALS): 81.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-21-16	WELL ID: MW-3SR	STATIC WATER LEVEL (FT. TIC): 9.75	WELL DEPTH (FT. TIC): 19.30
WATER COLUMN (FT.): 9.55	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.46	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/13/16 8:05	15.20	0.1	11	15.84	2.841	6.91	49.6	5.54	69.3	No Reading
8:10	16.05	0.1	11.5	17.11	2.759	7.01	11.2	5.42	214.5	0.0
8:15	16.60	0.1	12	17.09	2.779	7.05	-22.9	5.06	235.6	No Reading
8:20	17.20	0.1	12.5	17.03	2.747	7.08	-33.6	5.51	179.0	0.0
8:25	17.95	0.1	13	16.76	2.760	7.11	-40.2	5.52	74.3	No Reading
8:30	18.30	0.1	13.5	16.78	2.899	7.11	-45.0	5.11	35.2	0.0
8:35	19.00	0.1	14	16.75	2.999	7.11	-59.0	3.91	103.4	No Reading
	Well Dry									
7/14/16	Peristaltic pump not working - use Whale pump									
7/14/16 8:25	9.59	~2	16	15.27	2.870	6.34	215.4	7.57	137.9	0.0
	Well Dry									
11:25	10.20	~2	18	14.78	2.860	6.53	295.7	7.02	165.9	No Reading
	Well Dry									
	Resume using peristaltic pump/resume surging									
13:00	11.05	0.15	18	19.77	3.008	7.81	81.0	7.40	1242.1	0.0
13:05	15.15	0.15	18.75	18.35	2.884	7.63	67.4	7.77	1261.1	No Reading
13:10	16.25	0.15	19.5	18.63	2.786	7.34	42.0	7.60	1256.1	0.0
13:15	18.00	0.15	20.25	19.07	2.789	7.14	44.0	7.51	408.6	No Reading
	Stop Surging									
13:20	19.00	0.15	21	19.24	3.001	7.18	35.2	6.25	121.5	0.0
	Well Dry									
15:10	11.21	0.2	21	22.55	3.620	6.83	-37.6	5.61	277.6	0.0
15:15	16.15	0.2	22	17.54	2.889	6.65	-28.0	5.88	126.6	No Reading
15:20	18.15	0.2	23	17.31	2.730	6.56	-3.7	7.13	284.5	0.0

TOTAL WATER PURGED (GALS): 81.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-21-16	WELL ID: MW-3SR	STATIC WATER LEVEL (FT. TIC): 9.75	WELL DEPTH (FT. TIC): 19.30
WATER COLUMN (FT.): 9.55	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.46	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/14/16 8:25	19.00	0.2	24	17.28	2.936	6.53	0.3	6.61	192.5	No Reading
	Well Dry									
7/18/16 8:25	10.07	0.2	24	18.78	3.188	6.26	305.5	6.30	49.9	0.0
8:30	14.30	0.2	25	17.27	2.625	6.50	302.7	4.50	24.1	No Reading
8:35	17.10	0.2	26	17.41	2.665	6.72	267.6	3.80	27.4	0.0
8:40	17.90	0.2	27	17.26	2.739	6.76	239.5	4.11	17.0	No Reading
8:45	19.00	0.2	28	16.98	2.991	6.78	194.6	3.53	21.6	0.0
	Well Dry									
7/18/16 10:50	10.98	0.15	28	24.21	3.643	6.85	10.9	5.14	1.1	0.0
10:55	14.40	0.15	28.75	18.78	3.266	6.80	-31.8	3.60	9.9	No Reading
11:00	16.25	0.15	29.5	18.53	2.913	6.80	-13.8	5.39	29.9	0.0
11:05	17.80	0.15	30.25	18.60	2.780	6.73	11.9	6.20	25.9	No Reading
11:10	19.00	0.15	31	18.38	2.967	6.69	29.5	5.97	21.9	0.0
	Well Dry									
14:20	10.43	0.15	31	19.63	3.777	6.68	59.0	4.93	25.9	0.0
14:25	14.00	0.15	31.75	18.23	3.270	6.48	11.5	4.48	17.5	No Reading
14:30	15.00	0.15	32.5	18.55	2.953	6.45	35.3	5.44	25.9	0.0
14:35	17.50	0.15	33.25	18.39	2.866	6.41	79.9	5.99	81.6	No Reading
14:40	18.50	0.15	34	18.28	2.892	6.40	106.6	6.55	40.8	0.0
	Well Dry									
7/19/16 8:10	10.13	0.1	34	19.06	3.630	6.15	241.4	6.15	14.5	0.0
8:15	13.20	0.1	34.5	17.36	3.040	6.31	237.8	6.25	5.0	No Reading
8:20	14.60	0.1	35	16.94	2.980	6.46	226.4	5.68	2.8	0.0
8:25	15.60	0.1	35.5	17.07	2.923	6.56	206.4	5.63	2.0	No Reading

TOTAL WATER PURGED (GALS): 81.5	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Peristaltic Pump

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-21-16	WELL ID: MW-3SR	STATIC WATER LEVEL (FT. TIC): 9.75	WELL DEPTH (FT. TIC): 19.30
WATER COLUMN (FT.): 9.55	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.46	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/19/16 8:30	16.80	0.1	36	16.91	2.827	6.60	160.6	5.77	3.3	0.0
8:35	17.70	0.1	36.5	16.72	2.834	6.61	124.1	6.16	18.0	No Reading
8:40	18.55	0.1	37	16.78	3.108	6.62	87.0	5.70	0.7	0.0
8:45	19.00	0.1	37.5	16.94	3.163	6.63	55.0	4.82	3.1	No Reading
	Well Dry									
9:45	13.00	0.08	37.5	26.59	3.357	7.33	206.7	7.48	16.2	0.0
9:50	15.75	0.08	37.9	17.39	3.262	6.72	131.6	4.85	8.5	No Reading
9:55	16.60	0.08	38.3	17.65	3.061	6.78	33.6	5.78	8.3	0.0
10:00	17.65	0.08	38.7	17.69	2.950	6.76	31.9	6.50	0.4	No Reading
10:05	18.10	0.08	39.1	18.85	2.876	6.76	30.7	6.57	0.7	0.0
10:10	18.50	0.08	39.5	18.88	3.026	6.75	14.2	5.78	0.9	No Reading
10:15	19.00	0.08	39.9	18.97	3.099	6.73	-9.3	4.90	0.3	0.0
	Well Dry									
11:05	14.77	0.075	39.9	24.07	3.647	6.72	166.3	5.58	8.3	0.0
11:10	16.40	0.075	40.275	21.16	3.415	6.73	-51.0	3.63	0.9	No Reading
11:15	16.85	0.075	40.65	21.83	3.211	6.75	-50.4	4.82	0.3	0.0
11:20	17.35	0.075	41.025	20.54	3.000	6.72	-25.4	6.27	0.4	No Reading
11:25	17.80	0.075	41.4	20.98	2.970	6.71	-12.9	6.39	0.4	0.0
11:30	18.15	0.075	41.775	20.93	2.976	6.69	-3.2	6.39	0.9	No Reading
11:35	18.40	0.075	42.15	21.09	3.040	6.69	-1.7	6.03	0.0	0.0
11:40	18.70	0.075	42.525	21.75	3.125	6.69	-8.5	5.20	1.1	No Reading
11:45	19.00	0.075	42.9	21.42	3.159	6.68	-18.1	4.77	4.2	0.0
	Well Dry									
13:00	12.75	0.8	42.9	24.36	3.805	7.42	232.9	5.07	1.2	0.0

TOTAL WATER PURGED (GALS): 81.5 WATER QUALITY METER: YSI 6920

PUMP AND OTHER EQUIPMENT: Peristaltic Pump

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-21-16	WELL ID: MW-35R	STATIC WATER LEVEL (FT. TIC): 9.75	WELL DEPTH (FT. TIC): 19.30
WATER COLUMN (FT.): 9.55	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.46	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/19/16 13:05	14.80	0.08	43.3	19.02	3.560	7.16	20.3	3.22	0.2	No Reading
13:10	15.60	0.08	43.7	20.02	3.323	6.84	-34.8	4.27	2.7	0.0
13:15	16.30	0.08	44.1	20.67	3.078	6.75	-12.1	5.63	16.4	No Reading
13:20	16.75	0.08	44.5	21.11	2.989	6.69	4.5	5.82	10.6	0.0
13:25	17.25	0.08	44.9	20.31	2.984	6.66	22.5	6.21	37.5	No Reading
13:30	17.70	0.08	45.3	19.76	2.985	6.71	37.9	7.06	5.0	0.0
13:35	18.10	0.08	45.7	19.77	2.991	6.64	33.6	6.46	1.0	No Reading
13:40	18.50	0.08	46.1	19.41	3.043	6.60	32.3	6.13	0.6	0.0
13:45	19.00	0.08	46.5	19.60	3.163	6.59	13.2	5.22	4.6	No Reading
	Well Dry									
15:00	12.85	0.15	46.5	19.64	3.677	6.68	281.6	5.12	8.4	0.0
15:05	16.55	0.15	47.25	16.45	3.086	6.60	69.1	5.66	64.2	No Reading
15:10	18.60	0.15	48	16.32	2.931	6.56	84.6	7.45	34.2	0.0
15:15	19.00	0.15	48.75	16.16	3.089	6.52	87.5	6.74	21.4	No Reading
	Well Dry									
7/20/16 8:35	10.20	0.15	48.75	19.05	3.693	6.43	279.7	6.71	9.0	0.0
8:40	14.85	0.15	49.5	16.49	3.130	6.61	258.8	6.63	2.3	No Reading
8:45	16.30	0.15	50.25	16.66	3.047	6.64	231.2	6.65	25.0	0.0
8:50	17.60	0.15	51	16.54	2.938	6.61	196.9	7.19	16.7	No Reading
8:55	18.50	0.15	51.75	16.41	3.122	6.60	161.5	7.12	7.7	0.0
	Well Dry									
13:20	10.25	0.1	51.75	20.60	3.800	6.87	117.1	4.86	3.3	0.0
13:25	13.50	0.1	52.25	17.38	3.336	6.57	26.5	4.13	9.1	No Reading
13:30	15.20	0.1	52.75	17.51	3.128	6.49	24.3	5.52	11.0	0.0

TOTAL WATER PURGED (GALS): 81.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-21-16	WELL ID: MW-35R	STATIC WATER LEVEL (FT. TIC): 9.75	WELL DEPTH (FT. TIC): 19.30
WATER COLUMN (FT.): 9.55	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.46	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/20/16 13:35	16.35	0.1	53.25	17.79	2.981	6.47	39.5	6.43	29.3	No Reading
13:40	17.70	0.1	53.75	17.59	2.903	6.42	57.1	7.50	24.3	0.0
13:45	18.60	0.1	54.25	17.68	3.032	6.37	64.2	7.31	25.7	No Reading
13:50	19.00	0.1	54.75	17.83	3.169	6.36	57.6	6.52	45.2	0.0
	Well Dry									
7/21/16 8:30	10.21	0.15	54.75	18.51	3.472	6.10	223.7	5.83	7.5	0.0
8:35	13.50	0.15	55.5	16.57	3.143	6.32	221.8	5.70	1.6	No Reading
8:40	15.25	0.15	56.25	16.90	3.058	6.50	216.9	5.72	0.9	0.0
8:45	17.00	0.15	57	16.86	2.930	6.63	194.5	5.97	1.2	No Reading
8:50	18.10	0.15	57.75	16.59	2.930	6.67	162.9	6.72	0.4	0.0
8:55	19.00	0.15	58.5	16.51	3.228	6.69	126.5	5.59	0.6	No Reading
	Well Dry									
11:10	10.78	0.15	58.5	21.92	3.652	6.25	-11.3	5.66	1.4	0.0
11:15	14.60	0.15	59.25	18.08	3.261	6.53	-34.4	5.18	1.2	No Reading
11:20	15.75	0.15	60	18.80	3.152	6.65	-32.7	5.94	0.3	0.0
11:25	16.70	0.15	60.75	18.72	2.984	6.66	-23.8	6.24	0.9	No Reading
11:30	17.60	0.15	61.5	19.06	2.912	6.67	-19.0	6.68	0.3	0.0
11:30	Stop Pump									

TOTAL WATER PURGED (GALS): 81.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-12-16	WELL ID: MW-3DR	STATIC WATER LEVEL (FT. TIC): 9.8	WELL DEPTH (FT. TIC): 65.50
WATER COLUMN (FT.): 55.70	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 81.8	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 81.8	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 245.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/15/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/12/16 9:55	9.80	0.4	0	14.64	5.371	6.74	-3.5	3.80	93.8	0.0
10:00	11.40	0.4	2	15.03	5.247	6.50	-71.4	1.43	38.4	No Reading
10:05	14.50	0.4	4	14.94	5.279	6.58	-95.4	1.21	21.8	0.0
	Stop Surging									
10:10	15.70	0.4	6	15.11	5.263	6.63	-109.4	1.10	9.8	No Reading
10:15	16.70	0.4	8	15.27	5.250	6.67	-119.0	1.03	7.1	0.0
10:20	17.30	0.4	10	15.44	5.235	6.69	-123.6	0.99	5.8	No Reading
10:25	17.75	0.4	12	15.60	5.222	6.71	-124.3	0.97	5.4	0.0
10:30	18.10	0.4	14	15.43	5.192	6.70	-121.5	0.95	5.1	No Reading
10:35	18.40	0.4	16	15.65	5.171	6.69	-118.1	0.93	4.6	0.0
10:40	18.60	0.4	18	15.78	5.161	6.67	-115.8	0.92	4.3	No Reading
10:45	18.85	0.4	20	15.68	5.135	6.65	-110.3	0.91	4.0	0.0
10:50	19.50	0.4	22	15.61	5.100	6.59	-100.7	0.89	3.6	No Reading
10:55	19.70	0.4	24	15.68	5.091	6.58	-98.1	0.89	3.5	0.0
11:00	19.90	0.4	26	15.70	5.083	6.56	-94.6	0.88	3.4	No Reading
11:05	20.10	0.4	28	15.55	5.081	6.56	-94.0	0.88	3.4	0.0
11:10	20.20	0.4	30	15.58	5.073	6.55	-91.8	0.87	3.3	No Reading
11:15	20.40	0.4	32	15.61	5.066	6.54	-89.5	0.87	3.2	0.0
11:20	20.50	0.4	34	15.73	5.062	6.53	-87.3	0.86	3.1	No Reading
11:25	20.70	0.4	36	15.57	5.056	6.52	-84.7	0.86	3.1	0.0
11:30	21.00	0.4	38	15.68	5.053	6.51	-82.8	0.85	3.2	No Reading

TOTAL WATER PURGED (GALS): 250	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-12-16	WELL ID: MW-3DR	STATIC WATER LEVEL (FT. TIC): 9.8	WELL DEPTH (FT. TIC): 65.50
WATER COLUMN (FT.): 55.70	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 81.8	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 81.8	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 245.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/12/16 11:35	21.20	0.4	40	15.79	5.050	6.50	-81.2	0.85	2.9	0.0
11:40	21.35	0.4	42	15.88	5.046	6.49	-78.4	0.84	2.9	No Reading
11:45	21.50	0.4	44	15.78	5.044	6.48	-76.4	0.84	2.9	0.0
11:50	21.70	0.4	46	15.64	5.041	6.47	-74.7	0.84	2.8	No Reading
11:55	21.90	0.4	48	15.55	5.039	6.46	-72.4	0.84	2.8	0.0
12:00	22.00	0.4	50	15.72	5.040	6.45	-71.5	0.83	2.7	No Reading
	Break									
13:00	14.65	0.35	51.75	16.25	5.073	6.90	-23.9	3.36	10.6	0.0
13:05	15.40	0.35	53.5	16.55	5.122	6.39	-30.4	1.50	3.3	No Reading
13:10	16.20	0.35	55.25	15.66	5.114	6.25	-33.1	1.13	2.8	0.0
13:15	16.80	0.35	57	15.61	5.104	6.22	-34.0	1.04	3.0	No Reading
13:20	17.30	0.35	58.75	15.50	5.058	6.20	-31.7	1.01	2.6	0.0
13:25	17.70	0.35	60.5	15.73	5.026	6.20	-29.6	0.97	2.3	No Reading
13:30	18.10	0.35	62.25	15.70	5.013	6.18	-28.5	0.95	2.5	0.0
13:35	18.50	0.35	64	15.82	5.011	6.18	-28.6	0.93	2.3	No Reading
13:40	19.10	0.35	65.75	15.62	5.012	6.22	-31.6	0.92	2.7	0.0
13:45	19.70	0.35	67.5	15.78	5.016	6.17	-32.6	0.89	3.7	No Reading
13:50	20.10	0.35	69.25	15.59	5.022	6.18	-34.3	0.88	13.6	0.0
13:55	20.60	0.35	71	15.57	5.027	6.19	-36.7	0.87	2.5	No Reading
14:00	21.10	0.35	72.75	15.40	5.031	6.21	-38.5	0.87	2.5	0.0
14:05	21.50	0.35	74.5	15.58	5.034	6.22	-40.1	0.86	2.5	No Reading
14:10	21.80	0.35	76.25	15.65	5.042	6.24	-42.4	0.85	2.5	0.0
14:15	22.05	0.35	78	15.79	5.046	6.26	-44.0	0.85	2.5	No Reading
14:20	22.25	0.35	79.75	15.79	5.053	6.28	-45.1	0.84	2.5	0.0

TOTAL WATER PURGED (GALS): 250	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-12-16	WELL ID: MW-3DR	STATIC WATER LEVEL (FT. TIC): 9.8	WELL DEPTH (FT. TIC): 65.50
WATER COLUMN (FT.): 55.70	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 81.8	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 81.8	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 245.4	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/12/16 14:25	22.50	0.35	81.5	15.44	5.055	6.29	-45.4	0.84	2.6	No Reading
14:30	23.20	0.35	83.25	15.30	5.052	6.29	-45.6	0.84	2.8	0.0
14:35	24.60	0.35	85	15.33	5.051	6.30	-45.3	0.84	2.6	No Reading
14:35	Stop Pump									

TOTAL WATER PURGED (GALS): 250	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-31-16	WELL ID: MW-6S	STATIC WATER LEVEL (FT. TIC): 5.65	WELL DEPTH (FT. TIC): 15.03
WATER COLUMN (FT.): 9.38	SLUDGE THICKNESS (FT.): ~0.1	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.53	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 15.0	
FILTER PACK WATER VOLUME (GALS.): 3.06	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.59	TOTAL PURGE VOLUME (X 3): 13.8	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
12:54	Start									
13:00	6.70	0.20		13.19	5.608	7.33	-103.0	3.02	1477.0	
13:10	7.35	0.20		13.97	5.470	7.05	-89.0	3.91	1487.7	
13:20	8.90	0.20	5	12.77	5.183	6.84	-65.8	4.29	1383.5	
13:30	9.00	0.25		13.44	5.122	6.80	-56.9	4.13	1475.4	
13:40	9.05	0.25	10	13.01	5.223	6.76	-62.8	2.33	1478.1	
13:50	9.05	0.25		12.72	3.092	7.17	-117.2	4.87	547.7	
	Stop Surging									
14:00	8.90	0.25	15	12.84	3.780	6.71	-76.2	0.40	99.4	
14:10	8.90	0.17		12.66	3.731	6.70	-75.3	0.27	24.7	
14:20	9.00	0.17		12.45	3.617	6.70	-74.7	0.28	17.4	
14:30	9.00	0.17	20	12.98	3.592	6.69	-74.6	0.22	16.0	
14:30	Stop Pump									

TOTAL WATER PURGED (GALS): 20	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-2-16	WELL ID: MW-6D	STATIC WATER LEVEL (FT. TIC): 5.5	WELL DEPTH (FT. TIC): 52.00
WATER COLUMN (FT.): 46.50	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 1	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.9	FILTER PACK DIAMETER (IN.): 4	FILTER PACK LENGTH (FT.): 16	
FILTER PACK WATER VOLUME (GALS.): 2.5	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.4	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 13.2	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/2/16 11:00	Surge 1-inch diameter pre-packed screen with 0.75-inch diameter Sample Pro pump									
11:12	Start peristaltic pump - water is pumping clear									
11:25	6.95	~0.2	2.5	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading
11:37	6.98	~0.2	5	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading
12:02	6.98	~0.2	10	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading
12:20	6.98	~0.2	13.5	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading
12:20	Stop Pump									
15:00	5.50	0.2	13.5	17.69	1.012	7.60	14.7	4.60	4.0	0.0
15:05	6.97	0.2	14.5	17.16	1.006	7.53	19.0	3.38	1.6	No Reading
15:10	6.97	0.2	15.5	16.80	1.010	7.42	22.4	2.45	4.0	0.0
15:10	Stop Pump									

TOTAL WATER PURGED (GALS): 15.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-22-16	WELL ID: MW-8S	STATIC WATER LEVEL (FT. TIC): 7.21	WELL DEPTH (FT. TIC): 14.78
WATER COLUMN (FT.): 7.57	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.23	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME (GALS.): 3.37	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.6	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 13.8	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/22/16 9:40	7.21	0.2	1	20.36	1.388	6.89	264.6	3.22	968.1	0.0
9:45	8.22	0.2	2	20.08	1.368	6.67	278.0	3.75	1169.5	No Reading
9:50	8.35	0.2	3	19.41	1.288	6.49	279.8	2.84	1361.2	0.0
9:55	8.15	0.2	4	19.32	1.321	6.43	276.4	3.57	1359.4	No Reading
10:00	8.41	0.2	5	18.95	1.398	6.46	274.3	3.12	1355.2	0.0
10:05	8.51	0.2	6	18.60	1.432	6.48	282.6	3.76	1351.7	No Reading
10:10	8.51	0.2	7	18.57	1.462	6.44	263.6	1.89	1351.2	0.0
10:15	8.30	0.2	8	18.55	1.450	6.51	262.4	3.17	1350.3	No Reading
10:20	8.41	0.2	9	18.52	1.462	6.51	256.0	4.50	1338.2	0.0
10:25	8.45	0.2	10	18.36	1.459	6.52	258.8	4.00	1348.6	No Reading
10:30	8.35	0.2	11	18.53	1.443	6.52	257.2	4.30	1350.6	0.0
10:35	8.51	0.2	12	18.34	1.462	6.52	256.3	4.31	1349.0	No Reading
10:40	8.38	0.2	13	18.54	1.479	6.55	251.1	4.21	1350.2	0.0
10:45	8.30	0.2	14	18.56	1.453	6.61	239.3	No Reading*	1351.9	No Reading
10:50	8.37	0.2	15	18.59	1.472	6.59	248.6	No Reading*	1351.6	0.0
10:55	8.39	0.2	16	18.58	1.471	6.58	241.0	No Reading*	1351.0	No Reading
11:00	8.36	0.2	17	18.77	1.482	6.55	234.3	No Reading*	1352.5	0.0
11:05	8.22	0.2	18	18.78	1.452	6.61	234.6	No Reading*	1352.3	No Reading
11:10	8.40	0.2	19	18.65	1.474	6.54	246.3	No Reading*	1351.9	0.0
11:15	8.34	0.2	20	18.61	1.486	6.57	211.5	No Reading*	1351.6	No Reading
11:20	8.39	0.2	21	18.70	1.491	6.57	217.1	No Reading*	1351.9	0.0
11:25	8.36	0.2	22	18.66	1.496	6.57	228.6	No Reading*	1349.8	No Reading
11:30	8.35	0.2	23	18.49	1.500	6.58	218.8	No Reading*	1188.6	0.0
11:35	8.36	0.2	24	19.37	2.010	6.73	201.9	5.71	856.4	No Reading

TOTAL WATER PURGED (GALS): 30	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = Membrane came off DO probe, later repaired.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-17-16	WELL ID: MW-23D	STATIC WATER LEVEL (FT. TIC): 9.48	WELL DEPTH (FT. TIC): 71.40
WATER COLUMN (FT.): 61.92	SLUDGE THICKNESS (FT.): ~0.1	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 10.1	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 23.0	
FILTER PACK WATER VOLUME (GALS.): 7.6	CASING AND FILTER PACK PURGE VOLUME (GALS.): 17.7	TOTAL PURGE VOLUME (X 3): 53.1	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:22	Start									
8:30	30.75	0.33		14.39	1.691	6.99	35.2	7.99	1225.5	
8:40	30.35	0.33		14.52	2.299	7.10	-46.7	6.22	854.7	
8:50	35.80	0.33		14.69	2.569	7.07	-47.9	5.39	913.8	
9:00	38.40	0.33		14.84	2.659	7.01	-46.4	5.46	1266.1	
9:10	42.35	0.33		15.05	2.759	7.01	-44.4	5.54	1248.1	
	Stop Surging									
9:20	43.00	0.33		15.34	2.847	6.70	-23.8	1.07	386.0	
9:22			20							
9:30	44.35	0.25		15.40	2.852	6.60	-38.5	0.51	58.8	
9:40	44.50	0.25		15.35	2.882	6.58	-40.7	0.61	24.0	
9:50	44.70	0.25		15.49	2.876	6.60	-42.1	0.50	12.4	
10:00	44.70	0.25		15.54	2.913	6.58	-41.6	0.49	5.8	
10:10	45.20	0.25		15.89	2.920	6.58	-36.4	0.43	14.5	
10:20	45.05	0.25		16.00	2.922	6.58	-34.7	0.43	11.5	
10:30	45.20	0.25		16.34	2.928	6.59	-34.5	0.59	21.6	
10:40	45.00	0.25	40	16.43	2.946	6.56	-30.9	0.58	9.5	
10:40	Stop Pump									
10:47	35.80									

TOTAL WATER PURGED (GALS): 40	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-20-16, 7-21-16	WELL ID: MW-24S	STATIC WATER LEVEL (FT. TIC): 12.01	WELL DEPTH (FT. TIC): 19.69
WATER COLUMN (FT.): 7.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.25	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 8.68	
FILTER PACK WATER VOLUME (GALS.): 4.0	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.25	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/20/16 11:45	14.61	0.4	0	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading
11:50	14.20	0.4	4	15.86	1.366	6.30	-106.7	1.27	253.4	No Reading
11:55	13.90	0.25	5.25	15.70	1.366	6.29	-115.8	0.96	162.5	No Reading
12:00	13.72	0.25	6.5	16.67	1.350	6.33	-83.2	1.07	1205.5	No Reading
12:05	13.45	0.25	7.75	16.37	1.345	6.33	-89.3	1.01	1201.3	No Reading
12:10	13.23	0.25	9	15.13	1.359	6.32	-86.2	1.13	611.2	No Reading
12:15	13.09	0.25	10.25	15.51	1.351	6.32	-95.8	0.89	1197.2	No Reading
12:20	13.06	0.25	11.5	15.46	1.365	6.34	-86.2	1.19	889.7	No Reading
12:25	13.05	0.25	12.75	15.71	1.348	6.34	-88.6	1.06	1102.3	No Reading
	Stop Surging									
12:30	13.05	0.25	14	14.62	1.345	6.32	-91.9	0.96	421.0	No Reading
12:35	13.05	0.25	15.25	14.72	1.353	6.36	-77.0	0.96	236.2	No Reading
12:40	13.05	0.25	16.5	15.13	1.362	6.34	-90.9	0.88	84.1	No Reading
12:45	13.05	0.25	17.75	15.16	1.366	6.36	-95.1	0.82	32.4	No Reading
12:50	13.05	0.25	19	15.27	1.366	6.36	-96.6	0.80	26.1	No Reading
12:50	Stop Pump									
7/21/16 10:10	12.48	0.15	19	15.29	1.445	7.43	107.4	3.42	1203.1	0.0
10:15	12.80	0.15	19.75	15.50	1.449	6.82	-16.8	1.76	140.1	No Reading
10:20	12.80	0.15	20.5	15.58	1.447	6.59	-29.0	1.45	538.9	0.0
10:25	12.80	0.15	21.25	15.66	1.443	6.46	-35.8	1.31	606.3	No Reading
	Stop Surging									
10:30	12.80	0.15	22	15.71	1.450	6.37	-40.6	1.24	76.3	0.0
10:35	12.80	0.15	22.75	15.59	1.451	6.32	-44.0	1.20	40.3	No Reading
10:40	12.80	0.15	23.5	15.94	1.445	6.27	-46.9	1.15	31.8	0.0

TOTAL WATER PURGED (GALS): 25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-20-16, 7-21-16	WELL ID: MW-24S	STATIC WATER LEVEL (FT. TIC): 12.01		WELL DEPTH (FT. TIC): 19.69	
WATER COLUMN (FT.): 7.68		SLUDGE THICKNESS (FT.): 0.0		WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.25			FILTER PACK DIAMETER (IN.): 7		FILTER PACK LENGTH (FT.): 8.78
FILTER PACK WATER VOLUME (GALS.): 4.0	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.25			WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75				FIELD PERSONNEL: K Gerdes	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/21/16 10:45	12.80	0.15	24.25	16.19	1.453	6.24	-49.7	1.13	12.2	No Reading
10:50	12.80	0.15	25	16.12	1.449	6.22	-51.6	1.10	5.6	0.0
10:50	Stop Pump									

TOTAL WATER PURGED (GALS): 25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MI55 On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-22-16	WELL ID: MW-24D	STATIC WATER LEVEL (FT. TIC): 11.45	WELL DEPTH (FT. TIC): 69.20
WATER COLUMN (FT.): 57.75	SLUDGE THICKNESS (FT.): ~0.1	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 9.4	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME (GALS.): 7.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 17.3	TOTAL PURGE VOLUME (X 3): 51.9	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:25	Start									
10:45	No Reading	0.6		13.46	4.337	7.23	-50.1	4.73	1481.7	0.0
10:55	32.10	0.5		14.06	4.129	6.68	-57.6	4.60	1480.5	
11:05	33.30	0.5		13.99	4.175	6.89	-50.2	5.01	1082.0	
11:15	34.00	0.5		13.54	4.198	6.66	-36.9	4.49	1098.4	
11:25	37.30	0.5		13.71	4.194	6.52	-37.1	2.68	340.8	
11:35	38.75	0.5		13.75	4.176	6.56	-36.9	2.84	354.1	
	Stop Surging									
11:40			40							0.0
11:45	38.85	0.5		14.50	4.189	6.47	-32.5	0.19	129.0	
11:55	38.88	0.5		14.54	4.180	6.47	-28.5	0.17	94.7	
12:05	39.01	0.5		14.45	4.176	6.47	-26.1	0.21	94.9	
12:07	Reduce Flow		55							
12:15	33.85	0.4		14.35	4.196	6.45	-15.4	0.04	18.5	
12:25	32.80	0.4		14.30	4.176	6.38	-5.1	0.05	23.0	
12:35	No Reading	0.4	68	14.41	4.172	6.45	-10.1	0.07	25.2	0.0
12:35	Stop Pump									

TOTAL WATER PURGED (GALS): 68	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-22-16	WELL ID: MW-25S	STATIC WATER LEVEL (FT. TIC): 10.36	WELL DEPTH (FT. TIC): 18.51
WATER COLUMN (FT.): 8.15	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.3	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 10.15	
FILTER PACK WATER VOLUME (GALS.): 3.4	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.7	TOTAL PURGE VOLUME (X 3): 14.1	
FIELD PERSONNEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:20	11.50	0.25	0	17.64	0.507	6.56	115.9	5.71	1190.1	No Reading
10:25	13.40	0.25	1.25	17.32	0.570	6.75	143.6	4.42	408.0	No Reading
10:30	13.90	0.25	2.5	18.20	1.147	6.66	171.3	4.27	1393.2	No Reading
10:35	13.80	0.25	3.75	17.18	1.190	6.56	188.1	4.24	1183.7	No Reading
10:40	13.90	0.25	5	17.67	0.655	6.55	200.8	4.75	1184.7	No Reading
10:45	14.00	0.25	6.25	17.72	1.250	6.48	210.8	4.41	1189.0	No Reading
10:50	14.05	0.25	7.5	17.25	0.687	6.44	219.9	4.64	810.8	No Reading
10:55	14.00	0.25	8.75	17.75	1.298	6.37	227.7	4.81	1188.8	No Reading
11:00	14.00	0.25	10	17.62	0.782	6.39	236.3	5.00	1188.1	No Reading
11:05	14.00	0.25	11.25	17.83	0.682	6.38	242.6	4.87	1190.2	No Reading
11:10	14.00	0.25	12.5	17.69	1.317	6.33	249.0	4.26	1189.2	No Reading
	Stop Surging									
11:15	14.00	0.25	13.75	17.37	1.316	6.30	248.9	3.03	92.5	No Reading
11:20	14.00	0.25	15	17.73	1.317	6.11	240.9	1.81	29.9	No Reading
11:25	14.00	0.25	16.25	17.23	1.313	6.08	237.5	1.92	12.0	No Reading
11:30	14.00	0.25	17.5	17.56	1.316	6.01	240.7	1.81	1.1	No Reading
11:35	14.00	0.25	18.75	17.25	1.309	5.98	244.1	1.99	0.7	No Reading
11:35	Stop Pump									

TOTAL WATER PURGED (GALS): 18.75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-17-16, 3-21-16	WELL ID: MW-25D	STATIC WATER LEVEL (FT. TIC): 11.44	WELL DEPTH (FT. TIC): 64.35
WATER COLUMN (FT.): 52.91	SLUDGE THICKNESS (FT.): ~0.6	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 77.8	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 77.8	TOTAL PURGE VOLUME (X 3): 234	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
3/17/16 12:18	Start									
12:30	20.00	1.3		15.48	3.116	7.24	-130.1	5.05	> 1200	
12:40	24.70	1.15		15.14	2.865	7.00	-101.9	5.08	> 1200	
12:50	27.70	1.0		14.83	2.793	6.82	-86.8	5.55	> 1200	
13:00	30.20	0.85		14.70	2.687	6.80	-80.0	5.07	429.2	
13:10	32.20	0.7		14.81	2.622	6.85	-78.1	4.68	428.9	
13:13			55							
13:20	32.90	0.7		14.98	2.711	6.88	-77.0	3.88	316.7	
13:30	33.55	0.7		15.15	2.827	6.75	-73.4	3.57	353.7	
13:40	33.90	0.7		14.98	2.987	6.72	-66.7	3.77	348.6	
13:50	34.40	0.7		14.99	3.085	6.75	-61.1	3.75	137.0	
14:00	34.60	0.7		14.87	3.127	6.65	-68.5	3.69	148.4	
14:08			95							
14:10	34.65	0.7		14.92	3.126	6.62	-71.0	3.13	191.4	
14:20	34.75	0.7		14.78	3.156	6.64	-70.0	3.40	43.0	
14:30	34.85	0.7	110	14.61	3.200	6.65	-67.0	3.69	37.9	
	Stop Surging									
14:40	34.87	0.6		14.78	3.232	6.58	-66.1	3.13	19.0	
14:50	34.82	0.6		14.72	3.270	6.59	-65.0	3.45	12.8	
15:00	34.76	0.6	128	15.22	3.315	6.62	-63.1	3.43	11.1	
15:00	Stop Pump									
3/21/16 8:00	Re-start									
8:10	18.40	1.0		14.21	3.358	6.75	-149.2	0.36	11.3	
8:20	23.20	1.0		14.43	3.385	6.84	-166.4	0.29	7.8	

TOTAL WATER PURGED (GALS): 238	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-17-16, 3-21-16	WELL ID: MW-25D	STATIC WATER LEVEL (FT. TIC): 11.44	WELL DEPTH (FT. TIC): 64.35
WATER COLUMN (FT.): 52.91	SLUDGE THICKNESS (FT.): ~0.6	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 77.8	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 77.8	TOTAL PURGE VOLUME (X 3): 234	
FIELD PERSONNEL: J Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
3/21/16 8:30	26.70	1.0	158	14.40	3.432	6.83	-149.9	0.30	11.4	
8:40	29.40	0.9		14.55	3.454	6.80	-162.3	0.28	11.2	
8:50	31.30	0.8		14.45	3.444	6.71	-149.8	0.35	10.7	
9:00	32.50	0.8	183	14.55	3.433	6.67	-144.5	0.36	9.9	
9:10	33.30	0.7		14.60	3.423	6.65	-140.1	0.34	9.6	
9:20	33.80	0.7		14.09	1.629	7.24	-169.5	0.15	26.2	
9:30	34.15	0.7		14.80	3.274	6.68	-139.5	0.39	13.4	
9:40	34.35	0.7		14.88	3.324	6.61	-127.8	0.43	9.4	
9:50	34.45	0.7	218	14.90	3.361	6.58	-121.7	0.42	5.4	
10:00	34.60	0.67		14.91	3.360	6.56	-119.6	0.41	5.1	
10:10	34.60	0.67		14.85	3.366	6.56	-119.0	0.42	3.6	
10:20	34.65	0.67	238	No Reading	No Reading	No Reading	No Reading	No Reading	5.6	
10:20	Stop Pump									

TOTAL WATER PURGED (GALS): 238	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-31-16	WELL ID: MW-31D	STATIC WATER LEVEL (FT. TIC): 5.90	WELL DEPTH (FT. TIC): 45.40
WATER COLUMN (FT.): 39.50	SLUDGE THICKNESS (FT.): ~0.8	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 58.1	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 58.1	TOTAL PURGE VOLUME (X 3): 174.3	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8:35	Start									
8:50	6.20	1.22		13.39	1.853	7.71	-81.0	3.84	1428.6	
9:00	6.20	1.22		14.11	1.841	7.52	-104.4	2.35	1446.4	
9:10	6.15	1.22		13.86	2.039	7.41	-84.3	3.51	1389.0	
9:20	6.25	1.22	55	14.21	1.765	7.40	-102.4	1.23	1421.8	
9:30	6.30	1.83		13.64	2.139	7.20	-46.9	3.56	226.1	
9:40	6.35	1.83		13.79	2.168	7.20	-63.7	3.51	264.8	
9:50	6.45	1.83	110	13.56	2.219	7.17	-59.3	3.67	448.0	
	Stop Surging									
10:00	6.65	1.83		13.62	2.258	7.13	-59.0	4.15	29.1	
10:10	6.65	1.83		13.56	2.267	7.17	-55.6	3.93	15.7	
10:20	6.25	1.83	165	13.50	2.266	7.16	-53.6	3.92	12.8	
	Reduce Flow									
10:30	6.20	1.0		13.76	2.275	7.19	-53.4	3.84	13.2	
10:40	6.15	1.0		13.54	2.262	7.15	-49.6	0.69	4.7	
10:50	6.15	1.0		13.55	2.255	7.05	-52.0	0.21	2.6	
11:00	6.15	1.0		13.54	2.251	7.05	-53.3	0.13	0.3	
11:10	6.15	1.0	220	13.50	2.248	7.05	-54.6	0.11	0.2	
11:15	Stop Pump									

TOTAL WATER PURGED (GALS): 220	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 4-5-16	WELL ID: MW-32D	STATIC WATER LEVEL (FT. TIC): 4.50	WELL DEPTH (FT. TIC): 57.00
WATER COLUMN (FT.): 52.50	SLUDGE THICKNESS (FT.): ~0.2	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 77.2	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 77.2	TOTAL PURGE VOLUME (X 3): 232	
FIELD PERSONNEL: J Cook, M Slegler			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH *	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9:27	Start									
9:40	5.51	1.0		11.64	4.015	7.40	-69.3	3.13	> 1200	
9:50	5.55	1.0	23	12.35	3.969	7.47	-103.0	5.35	> 1200	
10:00	5.85	1.45		12.42	4.282	9.16	-58.3	3.41	101.2	
10:10	5.85	1.45		12.44	4.083	7.69	-69.5	3.72	12.7	
10:20	5.85	1.45		12.62	3.969	8.49	-30.3	2.42	332.4	
10:30	5.90	1.45		12.56	3.879	8.39	-11.6	2.56	30.6	
10:40	5.90	1.45		11.99	3.860	6.77	33.0	2.65	18.5	
	Stop Surging									
10:50	5.90	1.2	110	13.10	3.831	7.62	-21.7	1.09	49.6	0.0
11:00	5.55	1.2		13.05	3.792	8.13	-35.0	0.07	23.8	
11:10	5.55	1.2		13.05	3.754	8.58	-50.5	0.04	44.5	
11:20	5.55	1.2		13.07	3.726	8.55	-67.0	0.04	49.4	
11:30	5.55	1.2		12.97	3.690	8.57	-70.1	0.02	24.0	
11:35			165							
11:40	5.45	1.1		13.00	3.674	8.52	-65.2	0.02	29.7	
11:50	5.45	1.1		13.03	3.652	8.34	-54.0	0.02	24.9	
12:00	5.45	1.1		13.02	3.641	8.25	-32.3	0.02	25.3	
12:10	5.45	1.1		13.04	3.631	8.29	-25.3	0.03	27.5	
12:20	5.45	1.1		13.05	3.621	8.25	-19.3	0.02	27.8	
12:25			220							
12:30	5.25	0.67		13.02	3.611	8.34	-21.5	0.03	26.8	
12:40	5.10	0.67		12.95	3.604	8.19	-12.4	0.03	18.3	
12:50	5.05	0.67		12.94	3.601	8.18	-6.4	0.02	17.9	

12:55	Stop Pump	240
TOTAL WATER PURGED (GALS): 240		WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible		
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant		
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = pH > 8 is above expected range, apparent problem with YSI pH probe.		

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-23-16	WELL ID: MW-335	STATIC WATER LEVEL (FT. TIC): 14.80	WELL DEPTH (FT. TIC): 21.30
WATER COLUMN (FT.): 6.5	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.1	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 7.5	
FILTER PACK WATER VOLUME (GALS.): 3.49	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.59	TOTAL PURGE VOLUME (X 3): 13.77	
FIELD PERSONNEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:25	16.20	0.08	0	16.15	4.729	6.53	-107.7	3.81	30.4	0.0
10:30	17.10	0.08	0.4	16.24	8.823	6.88	-114.8	3.60	115.7	No Reading
10:35	17.40	0.08	0.8	18.92	0.300	6.97	-115.8	4.30	175.2	0.0
10:40	17.80	0.08	1.2	19.66	4.606	6.98	-113.4	4.25	139.1	No Reading
10:45	18.10	0.08	1.6	19.01	9.014	6.98	-110.8	4.67	112.3	0.0
10:50	18.20	0.08	2	19.52	9.000	7.09	-103.7	5.92	64.2	No Reading
10:55	18.20	0.08	2.4	18.95	8.536	7.04	-104.5	4.42	125.0	0.0
11:00	18.20	0.08	2.8	18.27	4.738	6.99	-94.2	5.41	151.8	No Reading
11:05	18.20	0.08	3.2	18.00	4.661	7.05	-94.8	6.11	164.0	0.0
11:10	18.25	0.08	3.6	17.83	4.486	7.10	-87.6	4.48	172.9	No Reading
11:15	18.25	0.08	4	18.05	7.528	7.12	-104.6	4.62	55.0	0.0
11:20	18.25	0.08	4.4	17.66	4.761	7.06	-97.6	6.20	48.8	No Reading
11:25	18.25	0.08	4.8	16.29	8.966	7.01	-89.8	6.54	235.5	0.0
11:30	18.25	0.08	5.2	17.61	8.770	7.06	-83.6	6.79	155.9	No Reading
11:35	18.50	0.08	5.6	17.79	9.037	7.01	-87.1	5.83	109.1	0.0
	Stop pump to allow recharge									
12:45	15.15	0.08	5.6	17.75	9.227	7.01	-81.6	4.79	47.6	0.0
12:50	17.30	0.08	6	15.87	4.619	6.85	-88.1	4.93	76.2	No Reading
12:55	17.50	0.08	6.4	16.85	8.247	6.80	-91.9	4.99	120.4	0.0
13:00	17.70	0.08	6.8	18.31	4.812	6.87	-94.0	4.25	110.4	No Reading
13:05	17.80	0.08	7.2	18.12	8.424	6.88	-91.5	5.18	52.3	0.0
13:10	17.80	0.08	7.6	18.92	5.055	6.95	-90.3	5.67	22.8	No Reading
13:15	18.00	0.08	8	18.27	4.891	7.07	-81.8	6.61	4.3	0.0
	Stop Surging									

TOTAL WATER PURGED (GALS): 14.4	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 3-30-16 to 4-7-16	WELL ID: MW-34D	STATIC WATER LEVEL (FT. TIC): 10.65	WELL DEPTH (FT. TIC): 48.85
WATER COLUMN (FT.): 38.25	SLUDGE THICKNESS (FT.): ~0.67	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 56.2	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 56.2	TOTAL PURGE VOLUME (X 3): 169	
FIELD PERSONNEL: J Cook, K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
3/30/16 13:07	Start. YSI Inoperable. Awaiting YSI Replacement. Use LaMotte Meter for Turbidity.									
13:20	20.00								> 1000	
13:30	23.25								> 1000	
13:38	Stop Pump to Alternate Surge and Recovery.		19							
15:08	22.05	Re-start								
15:15	28.00								837.0	
15:20	31.50									
15:22	33.00	Stop Pump	30							
3/31/16 7:44	13.90	Re-start								
7:50	18.60			11.28	3.984	6.39	-102.1	2.37	514.3	
8:00	27.00			12.33	3.925	6.65	-116.3	3.65	117.3	
8:01	27.60	Stop Pump	55							
14:52	17.93	Re-start								
15:00	24.15			13.55	4.387	6.82	-118.2	3.92	153.7	
15:10	31.50			13.26	4.256	6.67	-104.7	3.31	28.3	
15:14	33.00	Stop Pump	75							
4/4/16 9:43	10.60	Re-start								
9:50	17.00			11.23	3.989	6.17	-59.5	5.28	76.2	
10:00	24.50			11.91	4.199	6.77	-128.9	4.31	45.5	
10:10	30.50			12.00	4.217	6.84	-135.7	3.96	38.9	
10:13	32.00	Stop Pump	110							
4/5/16 7:59	10.60	Re-start								
8:10	20.60			10.59	3.931	6.14	-19.7	7.41	30.7	
8:20	27.20			11.56	4.067	6.70	-113.8	3.78	8.9	

TOTAL WATER PURGED (GALS): 170	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-1-16 to 8-15-16	WELL ID: MW-395	STATIC WATER LEVEL (FT. TIC): 4.32	WELL DEPTH (FT. TIC): 14.00
WATER COLUMN (FT.): 9.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.6	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 8.1	
FILTER PACK WATER VOLUME (GALS.): 3.65	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.25	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75	FIELD PERSONNEL: K Gerdes, R DeMott		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/1/16 14:25	4.32	0.2	0	18.98	0.338	7.52	56.3	5.83	1265.0	0.0
14:30	7.50	0.2	1	19.63	0.314	6.48	-12.0	4.14	1268.0	No Reading
14:35	8.20	0.2	2	19.19	0.305	6.28	-11.5	3.54	1264.0	0.0
14:40	8.50	0.2	3	18.99	0.313	6.18	-10.3	4.51	1263.0	No Reading
14:45	9.20	0.2	4	19.34	0.317	6.15	-10.3	3.72	1265.0	0.0
14:50	9.50	0.2	5	18.92	0.354	6.13	-8.4	4.51	1262.0	No Reading
14:55	9.60	0.2	6	18.74	0.327	6.07	-6.1	4.71	1260.0	0.0
15:00	9.75	0.2	7	18.85	0.345	6.10	-7.5	5.05	1261.0	No Reading
15:05	10.75	0.2	8	18.33	0.357	6.16	-10.1	5.38	1258.0	0.0
15:10	11.30	0.15	8.75	18.61	0.327	6.20	-9.8	6.47	1259.0	No Reading
15:15	11.40	0.15	9.5	18.48	0.727	6.21	-8.3	6.19	1258.0	0.0
15:20	10.90	0.15	10.25	18.95	0.871	6.25	-8.6	6.20	1262.0	No Reading
15:25	11.20	0.15	11	18.34	0.882	6.29	-8.7	6.29	1253.0	0.0
15:30	Well Dry									
8/2/16 8:40	6.15	0.2	11	17.43	0.969	6.49	250.2	6.95	1207.0	0.0
8:45	6.60	0.2	12	18.17	0.843	6.04	221.2	4.84	1214.0	No Reading
8:50	6.80	0.2	13	18.43	0.754	6.06	117.6	4.67	1216.0	0.0
8:55	6.90	0.2	14	18.19	0.795	6.01	84.3	3.80	1214.0	No Reading
9:00	7.25	0.2	15	18.09	0.856	6.04	65.2	4.05	1213.0	0.0
9:05	7.30	0.2	16	17.92	0.902	6.09	49.9	3.53	1212.0	No Reading
9:10	7.20	0.2	17	17.36	0.977	6.13	38.8	3.77	1206.0	0.0
9:15	7.10	0.2	18	17.31	1.003	6.21	30.8	3.76	1206.0	No Reading
9:20	7.20	0.2	19	17.04	1.064	6.25	24.0	3.68	1203.0	0.0
9:25	7.50	0.2	20	17.18	1.081	6.30	18.0	3.25	1103.0	No Reading

TOTAL WATER PURGED (GALS): 79.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-1-16 to 8-15-16	WELL ID: MW-395	STATIC WATER LEVEL (FT. TIC): 4.32	WELL DEPTH (FT. TIC): 14.00
WATER COLUMN (FT.): 9.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.6	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 8.1	
FILTER PACK WATER VOLUME (GALS.): 3.65	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.25	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75	FIELD PERSONNEL: K Gerdes, R DeMott		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/2/16 9:30	7.30	0.2	21	17.21	1.053	6.34	14.1	3.82	1205.0	0.0
9:35	6.50	0.2	22	17.80	1.164	6.31	8.7	2.96	1210.0	No Reading
9:40	6.30	0.2	23	17.31	1.174	6.36	2.6	3.20	1206.0	0.0
9:45	6.45	0.2	24	17.16	1.158	6.40	-0.7	3.36	1205.0	No Reading
9:50	6.50	0.2	25	17.04	1.180	6.42	-6.1	3.93	1203.0	0.0
9:55	6.20	0.2	26	17.53	1.214	6.46	-12.4	3.00	1208.0	No Reading
10:00	6.40	0.2	27	16.83	1.198	6.50	-18.5	2.83	1201.0	0.0
10:05	6.45	0.2	28	18.16	1.228	6.52	-23.2	2.60	1213.0	No Reading
10:10	6.45	0.2	29	17.99	1.212	6.53	-23.9	3.45	1212.0	0.0
10:15	6.30	0.2	30	17.31	1.202	6.57	-24.8	4.25	1108.0	No Reading
10:20	6.25	0.2	31	17.52	1.233	6.56	-25.3	3.93	550.6	0.0
10:25	6.30	0.2	32	17.44	1.207	6.58	-25.7	3.63	382.2	No Reading
	Stop Surging									
10:30	6.30	0.2	33	17.59	1.192	6.58	-24.1	2.04	389.8	0.0
10:35	6.25	0.2	34	17.64	1.206	6.56	-25.3	1.56	336.2	No Reading
10:40	6.25	0.2	35	17.44	1.195	6.57	-27.5	1.42	327.4	0.0
10:45	6.25	0.2	36	17.45	1.195	6.56	-28.4	1.29	221.2	No Reading
10:50	6.25	0.2	37	17.43	1.192	6.56	-29.0	1.28	211.6	0.0
10:55	6.25	0.2	38	17.48	1.019	6.54	-12.4	1.30	148.0	No Reading
11:00	6.25	0.2	39	17.94	1.028	6.50	-14.1	1.28	212.6	0.0
11:05	6.25	0.2	40	17.87	1.110	6.46	-17.6	1.29	211.5	No Reading
11:10	6.25	0.2	41	17.64	1.209	6.52	-22.9	1.24	172.3	0.0
11:15	6.25	0.2	42	17.87	1.189	6.55	-26.1	1.19	202.3	No Reading
11:20	6.25	0.2	43	17.78	1.166	6.57	-24.3	1.15	317.0	0.0

TOTAL WATER PURGED (GALS): 79.5 WATER QUALITY METER: YSI 6920

PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-1-16 to 8-15-16	WELL ID: MW-395	STATIC WATER LEVEL (FT. TIC): 4.32	WELL DEPTH (FT. TIC): 14.00
WATER COLUMN (FT.): 9.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.6	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 8.1	
FILTER PACK WATER VOLUME (GALS.): 3.65	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.25	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75	FIELD PERSONNEL: K Gerdes, R DeMott		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/2/16 11:25	6.25	0.2	44	17.87	1.131	6.54	-21.5	1.15	301.1	No Reading
11:30	6.25	0.2	45	17.83	1.084	6.40	-16.7	0.99	1209.7	0.0
11:35	6.25	0.2	46	17.72	1.052	6.42	-12.8	1.08	496.5	No Reading
	Stop Pump									
8/15/16 12:06	5.52	NA	46	No Reading	No Reading	No Reading	No Reading	No Reading	No Reading	1.5
12:16	7.01	0.25	47	18.29	0.479	5.83	43.2	1.64	1198.3	1.0
12:20	7.44	0.2		18.21	0.540	5.83	40.6	1.47	580.0	0.5
12:25	8.29	0.2		18.45	0.663	5.87	36.2	1.32	506.0	0.0
12:30	9.25	0.2		18.53	0.727	5.92	35.1	1.27	499.4	0.0
12:35	Surge Well									
12:40	10.21	0.2	51	18.56	0.923	5.82	37.2	3.20	2000.0	0.0
12:45	10.01	0.15		18.51	1.290	6.20	21.4	3.18	524.1	0.0
12:50	10.05	0.15		18.33	1.342	6.23	16.0	3.00	457.9	0.0
12:55	10.00	0.15	53.25	18.34	1.363	6.30	4.7	2.62	942.0	0.0
13:00	9.70	0.2	54.25	18.35	1.392	6.32	1.7	2.54	911.7	0.0
13:05	9.60	0.15		18.04	1.375	6.34	-2.5	2.51	1131.0	0.0
13:10	9.40	Cleaned out flow-through cell								
13:15	9.30	0.15	55.75	18.09	1.484	6.38	-5.1	2.98	550.0	0.0
13:20	9.60	0.2		18.12	1.470	6.39	-7.0	2.72	450.7	0.0
13:25	9.78	0.2	57.75	18.09	1.498	6.41	-9.7	2.55	215.0	0.0
13:30	9.74	0.15		18.19	1.517	6.42	-11.9	2.51	132.5	0.0
13:35	9.52	0.15		18.34	1.488	6.44	-12.0	3.00	439.0	0.0
13:40	9.51	0.15		18.23	1.533	6.44	-13.7	2.54	206.0	0.0
13:45	9.41	0.15		18.45	1.557	6.46	-15.7	2.29	144.5	0.0

TOTAL WATER PURGED (GALS): 79.5	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-1-16 to 8-15-16	WELL ID: MW-395	STATIC WATER LEVEL (FT. TIC): 4.32	WELL DEPTH (FT. TIC): 14.00
WATER COLUMN (FT.): 9.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.6	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 8.1	
FILTER PACK WATER VOLUME (GALS.): 3.65	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.25	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75	FIELD PERSONNEL: K Gerdes, R DeMott		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)*	OVA/PID (PPM)
8/15/16 13:50	9.34	0.15		18.34	1.471	6.47	-3.1	2.18	937.0	0.0
13:55	9.19	0.15		18.05	1.529	6.42	-4.4	2.77	602.0	0.0
14:00	9.02	0.15		18.02	1.555	6.43	-7.1	2.52	413.0	0.0
14:05	8.88	0.15		18.09	1.567	6.44	-8.9	2.42	314.0	0.0
14:10	8.62	0.15		18.18	1.579	6.45	-11.3	2.40	171.1	0.0
14:15	8.80	0.15		18.05	1.515	6.46	-11.9	2.53	402.3	0.0
14:20	8.85	0.15		18.06	1.577	6.44	-13.1	2.27	141.2	0.0
14:25	8.95	0.15		18.14	1.583	6.45	-15.0	2.17	122.7	0.0
14:30	8.96	0.15		18.11	1.588	6.46	-16.5	2.17	130.6	0.0
14:35	Flush flow-through cell									
14:40	9.15	0.15		18.03	1.564	6.45	-12.6	2.51	177.5	0.0
14:45	8.83	0.15		17.98	1.599	6.44	-14.1	2.18	121.5	0.0
14:50	8.80	0.15		18.01	1.601	6.46	-15.5	2.27	209.1	0.0
14:55	8.79	0.15		17.98	1.592	6.46	-15.3	2.33	200.2	0.0
15:00	8.79	0.15		17.85	1.552	6.47	-15.2	2.31	309.4	0.0
15:05	8.77	0.15		17.84	1.598	6.47	-15.8	2.08	157.3	59.0
15:10	8.77	0.15		17.91	1.587	6.48	-15.8	2.13	121.2	50.7
15:15	8.78	0.15		18.02	1.595	6.48	-16.0	2.13	120.3	57.0
15:20	8.79	0.15		17.94	1.609	6.49	-17.0	2.10	106.1	51.8
15:25	8.81	0.15		17.97	1.613	6.52	-17.3	2.28	142.1	68.5
15:30	8.80	0.15		17.78	1.598	6.53	-16.6	2.31	174.1	98.7
15:35	8.80	0.15		17.74	1.619	6.54	-17.7	2.07	145.3	73.5
15:40	8.81	0.15		17.78	1.614	6.55	-17.9	2.15	236.1	94.9
15:45	8.80	0.15		17.69	1.584	6.56	-18.5	2.21	187.2	83.7

TOTAL WATER PURGED (GALS): 79.5 WATER QUALITY METER: YSI 6920

PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = Results in second turbidity column collected from LaMotte 2020 turbidity meter.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-1-16 to 8-15-16	WELL ID: MW-39S	STATIC WATER LEVEL (FT. TIC): 4.32	WELL DEPTH (FT. TIC): 14.00
WATER COLUMN (FT.): 9.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.6	FILTER PACK DIAMETER (IN.): 7	FILTER PACK LENGTH (FT.): 8.1	
FILTER PACK WATER VOLUME (GALS.): 3.65	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.25	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75		FIELD PERSONNEL: K Gerdes, R DeMott	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)*		OVA/PID (PPM)
8/15/16 15:50	8.80	0.15	79.5	17.77	1.602	6.55	-17.6	2.13	193.2	79.4	0.0
15:50	Stop Pump										

TOTAL WATER PURGED (GALS): 79.5 WATER QUALITY METER: YSI 6920

PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = Results in second turbidity column collected from LaMotte 2020 turbidity meter.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-2-16	WELL ID: MW-39D	STATIC WATER LEVEL (FT. TIC): 4.80	WELL DEPTH (FT. TIC): 50.00
WATER COLUMN (FT.): 45.20	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 66.5	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 66.5	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 200	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PIO (PPM)
8/2/16 11:50	4.80	1.65	8.25	15.50	0.683	6.85	-14.8	6.75	236.1	0.0
11:55	5.90	1.65	16.5	15.35	0.917	6.81	-26.9	3.33	1247.0	No Reading
12:00	5.90	1.65	24.75	15.27	0.955	6.94	-53.3	3.29	1250.0	0.0
12:05	5.90	1.65	33	15.13	0.981	7.04	-63.4	2.77	1227.0	No Reading
12:10	5.90	1.65	41.25	15.41	0.976	7.07	-61.1	2.72	1218.0	0.0
12:15	5.90	1.65	49.5	15.33	0.979	7.11	-70.3	2.97	1230.0	No Reading
12:20	5.90	1.65	57.75	15.46	0.979	7.13	-68.8	2.43	1169.0	0.0
	Break									
12:30	5.95	1.65	66	15.60	0.974	7.23	-47.3	6.30	1167.0	No Reading
12:35	6.00	1.65	74.25	15.45	0.988	7.21	-47.5	4.82	286.4	0.0
12:40	6.00	1.65	82.5	15.30	1.000	7.20	-46.9	3.72	213.9	No Reading
12:45	6.05	1.65	90.75	15.29	1.005	7.21	-45.4	4.84	247.2	0.0
12:50	6.05	1.65	99	15.40	1.004	7.22	-43.9	4.99	166.7	No Reading
12:55	6.05	1.65	107.25	16.03	1.008	7.37	-25.8	6.14	130.7	0.0
13:00	6.05	1.65	115.5	15.39	1.007	7.32	-26.3	4.85	117.8	No Reading
13:05	6.05	1.65	123.75	15.44	1.008	7.28	-26.5	4.00	319.0	0.0
	Stop Surging									
13:10	6.05	1.65	132	15.13	1.009	7.24	-27.2	2.29	78.9	No Reading
13:15	6.05	1.65	140.25	15.07	1.010	7.23	-27.7	2.06	75.2	0.0
13:20	5.90	1.65	148.5	15.07	1.009	7.20	-30.0	1.62	85.7	No Reading
13:25	5.85	1.65	156.75	15.06	1.011	7.20	-31.7	1.53	85.8	0.0
13:30	5.60	1.65	165	15.17	1.010	7.20	-33.0	1.50	72.7	No Reading
13:35	5.50	1.65	173.25	15.09	1.013	7.20	-34.2	1.46	68.8	0.0
13:40	5.40	1.65	181.5	15.15	1.015	7.20	-35.3	1.42	69.3	No Reading

TOTAL WATER PURGED (GALS): 255.75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MI55 On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-2-16	WELL ID: MW-39D	STATIC WATER LEVEL (FT. TIC): 4.80	WELL DEPTH (FT. TIC): 50.00
WATER COLUMN (FT.): 45.20	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 66.5	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 66.5	WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 200	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)*		OVA/PID (PPM)
8/2/16 13:45	5.30	1.65	189.75	15.10	1.015	7.20	-36.2	1.39	72.1	32.6	0.0
13:50	5.30	1.65	198	15.16	1.015	7.20	-37.2	1.37	62.8	31.7	No Reading
13:55	5.25	1.65	206.25	15.13	1.015	7.21	-38.2	1.36	65.4	31.7	0.0
14:00	5.25	1.65	214.5	15.08	1.014	7.21	-38.8	1.35	60.1	31.7	No Reading
14:05	5.20	1.65	222.75	15.19	1.014	7.22	-39.4	1.34	52.2	29.8	0.0
14:10	5.20	1.65	231	15.16	1.014	7.22	-40.2	1.34	52.7	30.0	No Reading
14:15	5.20	1.65	239.25	15.22	1.015	7.22	-40.7	1.34	56.4	31.7	0.0
14:20	5.20	1.65	247.5	15.28	1.016	7.23	-41.1	1.34	46.2	27.8	No Reading
14:25	5.15	1.65	255.75	15.32	1.017	7.23	-41.2	1.34	41.9	25.3	0.0
14:25	Stop Pump										

TOTAL WATER PURGED (GALS): 255.75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = Results in second turbidity column collected from LaMotte 2020 turbidity meter.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-18-16 to 7-20-16	WELL ID: MW-43SR	STATIC WATER LEVEL (FT. TIC): 6.10	WELL DEPTH (FT. TIC): 10.32
WATER COLUMN (FT.): 4.22	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.7	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 6.6	
FILTER PACK WATER VOLUME (GALS.): 4.0	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.7	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 74.1	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/15/16			60							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/28/16	Well Dry									
7/18/16 12:35	6.10	0.1	0	24.71	1.381	7.97	279.6	4.66	214.4	0.0
12:40	7.75	0.1	0.5	24.22	1.291	7.59	293.4	2.93	96.6	No Reading
12:45	8.05	0.1	1	24.71	1.289	7.38	300.0	2.63	81.9	0.0
	Stop Surging									
12:50	8.60	0.1	1.5	23.70	1.276	7.21	302.0	2.48	89.3	No Reading
12:55	9.20	0.1	2	23.53	1.267	7.09	302.7	2.25	106.7	0.0
13:00	9.35	0.1	2.5	23.73	1.288	7.05	304.1	2.36	90.2	No Reading
	Well Dry									
	Switch to peristaltic pump									
15:00	7.82	0.15	3.25	23.24	1.336	7.47	160.8	5.32	90.1	0.0
15:05	9.05	0.15	4	22.77	1.302	7.20	173.0	5.66	14.2	No Reading
15:10	10.20	0.15	4.75	22.24	1.296	7.06	194.1	4.35	16.2	0.0
	Well Dry									
7/19/16 9:00	5.90	0.1	4.75	20.43	1.336	7.45	112.8	6.55	5.7	0.0
9:05	7.95	0.1	5.25	21.09	1.307	7.21	141.6	6.79	11.4	No Reading
9:10	8.80	0.1	5.75	20.60	1.295	7.13	163.8	7.22	0.6	0.0
9:15	9.40	0.1	6.25	20.45	1.300	7.08	180.5	6.86	0.2	No Reading
9:20	9.90	0.1	6.75	20.29	1.306	7.04	190.2	6.37	1.0	0.0
9:25	>10.00	0.1	7.25	20.35	1.305	7.06	193.4	6.20	6.9	No Reading
	Well Dry									

TOTAL WATER PURGED (GALS): 75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible/Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-18-16 to 7-20-16	WELL ID: MW-43SR	STATIC WATER LEVEL (FT. TIC): 6.10	WELL DEPTH (FT. TIC): 10.32
WATER COLUMN (FT.): 4.22	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.7	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 6.6	
FILTER PACK WATER VOLUME (GALS.): 4.0	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.7	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 74.1	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/19/16 10:35	8.37	0.1	7.25	22.26	1.383	7.54	75.9	6.75	50.2	0.0
10:40	9.45	0.1	7.75	22.04	1.309	7.20	125.8	7.27	1.8	No Reading
10:45	9.75	0.1	8.25	22.56	1.307	7.16	146.2	6.86	1.3	0.0
10:50	10.20	0.1	8.75	22.28	1.307	7.13	157.7	6.16	4.6	No Reading
	Well Dry									
14:30	6.73	0.15	8.75	24.96	1.381	7.30	191.1	5.23	30.5	0.0
14:35	8.25	0.15	9.5	21.54	1.323	7.01	227.9	7.83	22.2	No Reading
14:40	9.15	0.15	10.25	21.48	1.318	7.02	238.7	8.11	7.4	0.0
14:45	10.15	0.15	11	21.02	1.309	7.01	247.2	7.15	9.8	No Reading
	Well Dry									
7/20/16 8:05	6.43	0.1	11	20.00	1.329	6.35	255.9	8.53	11.8	0.0
8:10	7.50	0.1	11.5	19.87	1.325	6.22	262.5	8.11	4.9	No Reading
8:15	8.60	0.1	12	19.98	1.322	6.45	257.9	9.07	8.4	0.0
8:20	9.70	0.1	12.5	19.27	1.322	6.64	258.1	9.10	7.6	No Reading
8:25	10.20	0.1	13	19.22	1.323	6.70	258.7	8.87	12.0	0.0
	Well Dry									
14:10	6.65	0.1	13	25.04	1.422	7.31	125.4	8.27	8.6	0.0
14:15	7.95	0.1	13.5	22.52	1.335	7.08	153.8	8.94	10.4	No Reading
14:20	8.80	0.1	14	22.65	1.333	7.07	175.0	9.14	13.3	0.0
14:25	9.50	0.1	14.5	22.16	1.322	7.06	188.9	9.31	9.5	No Reading
14:30	10.10	0.1	15	22.23	1.326	7.05	195.1	8.57	9.8	0.0
14:30	Stop Pump									

TOTAL WATER PURGED (GALS): 75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible/Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-27-16	WELL ID: MW-43D	STATIC WATER LEVEL (FT. TIC): 7.98	WELL DEPTH (FT. TIC): 50.75
WATER COLUMN (FT.): 42.77	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 62.8	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 62.8	TOTAL PURGE VOLUME (X 3): 188.5	
FIELD PERSONNEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:40	8.00	0.6	0	16.29	3.132	6.45	-91.4	5.53	915.1	0.2
10:45	8.65	0.6	3	15.50	3.056	7.02	-130.8	3.07	939.7	0.0
10:50	9.00	0.6	6	15.39	3.019	7.17	-127.2	3.63	800.4	No Reading
10:55	9.05	0.6	9	15.21	3.033	7.33	-124.0	3.31	757.6	0.0
11:00	9.10	0.6	12	15.32	3.028	7.44	-138.1	2.82	389.9	No Reading
11:05	9.15	0.6	15	15.21	1.589	7.50	-128.3	2.96	777.0	0.0
11:10	9.20	0.6	18	15.30	3.011	7.55	-124.5	2.95	615.8	No Reading
11:15	9.20	0.6	21	15.29	3.015	7.56	-130.4	2.96	730.4	0.0
11:20	9.20	0.6	24	15.33	3.008	7.57	-129.0	4.03	569.3	No Reading
11:25	9.20	0.6	27	15.20	2.997	7.59	-131.6	2.90	699.1	0.0
11:30	9.20	0.6	30	15.45	2.939	7.59	-118.7	3.14	491.6	No Reading
11:35	9.20	0.6	33	15.26	2.913	7.57	-108.6	2.75	286.7	0.0
11:40	9.20	0.6	36	15.19	1.481	7.54	-100.3	3.42	270.7	No Reading
11:45	9.20	0.6	39	15.16	2.680	7.50	-94.1	3.52	204.7	0.0
11:50	9.20	0.6	42	15.18	2.646	7.45	-91.1	4.17	30.0	No Reading
11:55	9.20	0.6	45	15.27	2.523	7.40	-89.8	3.29	264.8	0.0
12:00	9.20	0.6	48	15.17	2.417	7.35	-83.1	3.69	150.2	No Reading
Stop Surging and Break										
12:30	8.30	0.8	48	15.57	2.382	7.32	-84.3	3.13	98.0	0.0
12:35	9.50	0.8	52	14.93	2.215	7.20	-70.5	1.86	33.8	No Reading
12:40	9.55	0.8	56	14.82	2.205	7.12	-75.1	1.10	149.4	0.0
12:45	9.65	0.8	60	14.70	2.179	7.08	-75.5	0.92	39.0	No Reading
12:50	9.70	0.8	64	14.72	2.087	7.04	-71.1	0.88	18.2	0.0
12:55	9.75	0.8	68	14.71	2.080	7.01	-70.7	0.86	16.1	No Reading

TOTAL WATER PURGED (GALS): 200	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-27-16	WELL ID: MW-43D	STATIC WATER LEVEL (FT. TIC): 7.98	WELL DEPTH (FT. TIC): 50.75
WATER COLUMN (FT.): 42.77	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 62.8	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 62.8	TOTAL PURGE VOLUME (X 3): 188.5	
FIELD PERSONNEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
13:00	9.75	0.8	72	14.68	2.082	6.99	-71.5	0.85	20.8	0.0
13:05	9.75	0.8	76	14.70	2.082	6.99	-72.1	0.84	12.6	No Reading
13:10	9.75	0.8	80	14.73	2.082	7.02	-69.5	0.84	20.2	0.0
13:15	9.75	0.8	84	14.61	2.059	7.04	-59.1	0.93	20.0	No Reading
13:20	9.75	0.8	88	14.63	2.047	6.96	-57.9	0.90	19.5	0.0
13:25	9.80	0.8	92	14.60	2.046	6.93	-57.1	0.91	17.7	No Reading
13:30	9.80	0.8	96	14.68	2.042	6.89	-57.0	0.89	18.0	0.0
13:35	9.80	0.8	100	14.62	1.975	6.84	-51.6	0.90	17.1	No Reading
13:40	9.80	0.8	104	14.65	1.974	6.84	-50.3	0.87	14.7	0.0
13:45	9.80	0.8	108	14.63	1.981	6.83	-50.1	0.86	15.4	No Reading
13:50	9.80	0.8	112	14.67	1.981	6.83	-49.6	0.85	17.3	0.0
13:55	9.80	0.8	116	14.62	1.975	6.83	-47.4	0.84	19.6	No Reading
14:00	9.80	0.8	120	14.60	1.968	6.82	-45.4	0.84	16.4	0.0
14:05	9.80	0.8	124	14.60	1.959	6.81	-42.6	0.83	10.7	No Reading
14:10	9.80	0.8	128	14.57	1.951	6.81	-40.6	0.83	6.8	0.0
14:15	9.80	0.8	132	14.58	1.946	6.81	-39.2	0.83	6.4	No Reading
14:20	9.80	0.8	136	14.62	1.939	6.81	-37.4	0.82	2.6	0.0
14:25	9.80	0.8	140	14.62	1.940	6.80	-36.9	0.82	1.7	No Reading
14:30	9.80	0.8	144	14.58	1.940	6.79	-36.0	0.82	3.1	0.0
14:35	9.80	0.8	148	14.60	1.941	6.79	-35.6	0.82	0.5	No Reading
14:40	9.80	0.8	152	14.57	1.938	6.79	-34.9	0.82	0.5	0.0
14:45	9.80	0.8	156	14.63	1.935	6.78	-34.3	0.82	0.2	No Reading
14:50	9.80	0.8	160	14.62	1.934	6.77	-33.7	0.81	0.0	0.0
14:55	9.80	0.8	164	14.67	1.934	6.77	-33.2	0.81	0.1	No Reading

TOTAL WATER PURGED (GALS): 200	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-27-16	WELL ID: MW-43D	STATIC WATER LEVEL (FT. TIC): 7.98	WELL DEPTH (FT. TIC): 50.75
WATER COLUMN (FT.): 42.77	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 62.8		FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 62.8		TOTAL PURGE VOLUME (X 3): 188.5
FIELD PERSONNEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
15:00	9.80	0.8	168	14.63	1.932	6.77	-32.9	0.81	0.3	0.0
15:05	9.80	0.8	172	14.66	1.931	6.77	-32.3	0.81	0.2	No Reading
15:10	9.80	0.8	176	14.69	1.930	6.76	-32.1	0.81	0.1	0.0
15:15	9.80	0.8	180	14.64	1.931	6.75	-31.6	0.81	0.1	No Reading
15:20	9.80	0.8	184	14.59	1.929	6.74	-30.8	0.81	0.3	0.0
15:25	9.80	0.8	188	14.68	1.928	6.75	-30.7	0.81	0.1	No Reading
15:30	9.80	0.8	192	14.64	1.930	6.75	-30.4	0.81	0.0	0.0
15:35	9.80	0.8	196	14.65	1.928	6.74	-30.0	0.81	0.2	No Reading
15:40	9.80	0.8	200	14.69	1.926	6.75	-29.6	0.81	0.0	No Reading
15:40	Stop Pump									

TOTAL WATER PURGED (GALS): 200	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-13-16	WELL ID: MW-44S	STATIC WATER LEVEL (FT. TIC): 7.04	WELL DEPTH (FT. TIC): 13.20
WATER COLUMN (FT.): 6.16	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.0	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.9	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 77.7	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/20/16			60							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/11/16 14:20	7.04	0.15	0	17.59	2.394	7.54	16.3	6.87	272.6	0.0
14:25	8.15	0.15	0.75	17.79	2.087	7.36	-47.6	7.31	8.9	No Reading
14:30	9.00	0.15	1.5	17.57	2.093	7.01	-8.0	6.11	4.8	0.0
14:35	9.60	0.15	2.25	17.18	2.120	6.87	-32.1	6.00	1.3	No Reading
	Stop Surging									
14:40	10.25	0.15	3	17.24	2.147	6.88	-28.2	4.10	0.7	0.0
14:45	10.90	0.15	3.75	16.38	2.182	6.70	-30.6	2.20	7.8	No Reading
14:50	11.65	0.15	4.5	16.33	2.257	6.65	-31.7	1.74	0.2	0.0
14:55	12.25	0.15	5.25	16.14	2.348	6.63	-47.6	1.41	1.1	No Reading
15:00	13.00	0.15	6	16.06	2.351	6.62	-58.9	1.40	14.8	0.0
	Well Dry									
7/12/16 8:55	7.06	0.2	7	16.60	2.488	7.24	-2.2	5.04	8.7	0.0
9:00	8.75	0.2	8	16.99	2.308	7.00	12.2	4.73	0.7	No Reading
9:05	9.50	0.2	9	16.76	2.209	6.89	21.9	5.36	7.9	0.0
9:10	10.50	0.2	10	16.53	2.225	6.81	19.4	5.23	0.0	No Reading
9:15	11.70	0.2	11	16.15	2.323	6.73	5.3	4.32	2.2	0.0
9:20	13.20	0.2	12	15.92	2.406	6.69	-38.6	2.29	38.9	No Reading
	Well Dry									
15:05	6.93	0.2	13	18.34	2.567	7.19	-11.9	5.95	196.3	0.0
15:10	8.40	0.2	14	16.46	2.485	7.04	-23.7	5.09	61.0	No Reading
15:15	9.35	0.2	15	17.10	2.300	6.84	-14.9	5.63	38.4	0.0

TOTAL WATER PURGED (GALS): 80.25	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Peristaltic Pump

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16 to 7-13-16	WELL ID: MW-44S	STATIC WATER LEVEL (FT. TIC): 7.04	WELL DEPTH (FT. TIC): 13.20
WATER COLUMN (FT.): 6.16	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.0	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9	CASING AND FILTER PACK PURGE VOLUME (GALS.): 5.9	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 77.7	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/12/16 15:20	10.50	0.2	16	16.48	2.203	6.76	-1.0	6.11	79.9	No Reading
15:25	11.90	0.2	17	16.11	2.315	6.66	2.5	5.23	14.3	0.0
15:30	13.00	0.2	18	15.92	2.406	6.59	-24.8	3.08	141.5	No Reading
	Well Dry									
7/13/16 8:40	7.02	0.15	18	16.16	2.424	7.15	-27.8	4.83	142.9	0.0
8:45	8.90	0.15	18.75	17.00	2.317	7.00	-12.4	5.56	8.9	No Reading
8:50	9.40	0.15	19.5	16.81	2.253	6.92	-8.8	5.86	9.4	0.0
8:55	9.80	0.15	20.25	16.64	2.249	6.89	-9.5	5.89	3.9	No Reading
8:55	Stop Pump									

TOTAL WATER PURGED (GALS): 80.25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-20-16	WELL ID: MW-45D	STATIC WATER LEVEL (FT. TIC): 13.79	WELL DEPTH (FT. TIC): 68.00
WATER COLUMN (FT.): 54.21	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 79.6	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 79.6	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 238.8	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/21/16			165							
Initial driller development by surging/overpumping.										
No visible sediment at completion of development.										
7/20/16 9:45	13.79	1.0	0	15.01	No Reading	6.79	251.8	6.44	2.0	0.0
9:50	15.55	1.0	5	14.75	7.421	5.97	0.6	2.33	0.2	No Reading
9:55	17.10	1.0	10	14.66	7.575	5.71	-24.2	1.72	0.1	0.0
10:00	18.30	1.0	15	14.75	7.669	5.56	-33.5	1.48	0.2	No Reading
10:05	19.40	1.0	20	14.76	7.868	5.40	-37.2	1.34	0.5	0.0
10:10	20.50	1.0	25	14.78	8.073	5.31	-36.0	1.28	0.6	No Reading
	Stop Surging									
10:15	Pump Died									
10:40	Restart Pump									
10:40	14.10	1.0	25	14.68	8.151	5.52	28.6	4.48	3.1	0.0
10:45	15.30	1.0	30	14.65	8.135	5.17	34.6	2.60	1.0	No Reading
10:50	16.60	1.0	35	14.76	8.096	4.97	30.3	1.70	0.6	0.0
10:55	17.55	1.0	40	14.79	8.067	4.89	23.8	1.44	0.3	No Reading
11:00	18.15	1.0	45	14.79	8.019	4.84	18.7	1.32	0.3	0.0
11:05	18.55	1.0	50	14.89	7.964	4.79	15.1	1.25	0.1	No Reading
11:10	18.85	1.0	55	14.81	7.915	4.75	12.3	1.20	0.2	0.0
11:15	19.15	1.0	60	14.78	7.849	4.72	9.1	1.17	0.3	No Reading
11:20	19.50	1.0	65	14.78	7.934	4.69	6.3	1.14	0.8	0.0
11:25	19.80	1.0	70	14.78	7.902	4.69	4.2	1.12	0.3	No Reading
11:30	20.25	1.0	75	14.72	7.862	4.70	1.3	1.10	0.4	0.0
11:35	20.65	1.0	80	14.74	7.841	4.72	-2.8	1.09	0.0	No Reading

11:35 Stop Pump

TOTAL WATER PURGED (GALS): 245	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-30-16	WELL ID: MW-46S	STATIC WATER LEVEL (FT. TIC): 10.87	WELL DEPTH (FT. TIC): 19.55
WATER COLUMN (FT.): 8.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.4	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9	
FILTER PACK WATER VOLUME (GALS.): 5.5	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.9	WATER LOSS DURING INSTALL (GALS.): 30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 110.7	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/8/16			90							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/30/16 8:15	10.87	0.15	0	16.72	2.169	6.08	6.5	5.7S	443.6	0.0
8:20	12.50	0.15	0.75	17.09	2.224	6.35	-59.9	4.47	1196.3	0.0
8:25	12.60	0.15	1.5	18.06	2.345	6.33	-54.6	4.72	1208.3	No Reading
8:30	12.70	0.15	2.25	17.46	2.294	6.34	-58.8	4.29	1199.2	0.0
8:35	12.80	0.15	3	17.27	2.369	6.30	-51.9	4.39	1198.5	No Reading
8:40	12.90	0.15	3.75	17.81	2.356	6.30	-54.1	4.42	1202.6	0.0
8:45	13.00	0.15	4.5	18.15	2.274	6.30	-56.4	4.51	1205.4	No Reading
8:50	13.00	0.15	5.25	18.33	2.343	6.31	-60.6	4.52	1206.9	0.0
8:55	13.00	0.15	6	18.09	2.303	6.29	-59.1	4.05	1205.5	No Reading
9:00	13.05	0.15	6.75	17.26	2.317	6.29	-59.4	4.09	1197.6	0.0
9:05	13.05	0.15	7.5	17.89	2.311	6.25	-61.8	4.51	1202.9	No Reading
9:10	13.05	0.15	8.25	18.49	2.278	6.25	-64.2	4.35	1207.5	0.0
9:15	13.05	0.15	9	18.68	2.211	6.26	-63.0	4.37	1209.1	No Reading
9:20	13.05	0.15	9.75	19.50	2.298	6.28	-65.9	4.43	1215.9	0.0
9:25	13.05	0.15	10.5	19.19	2.303	6.25	-65.3	3.80	1213.9	No Reading
9:30	13.05	0.15	11.25	18.84	2.315	6.23	-61.7	3.64	1210.8	0.0
9:35	13.05	0.15	12	18.52	2.294	6.25	-61.3	4.15	1207.0	No Reading
9:40	13.05	0.15	12.75	18.23	2.257	6.21	-56.5	3.84	1206.9	0.0
9:45	13.05	0.15	13.5	17.96	2.252	6.22	-57.8	4.69	1202.9	No Reading
9:50	13.05	0.15	14.25	19.26	2.390	6.23	-44.2	5.55	1215.1	0.0
9:55	13.05	0.15	15	19.53	2.253	6.26	-63.3	4.61	1217.0	No Reading

TOTAL WATER PURGED (GALS): 114.75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-30-16	WELL ID: MW-46S	STATIC WATER LEVEL (FT. TIC): 10.87	WELL DEPTH (FT. TIC): 19.55
WATER COLUMN (FT.): 8.68	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.4	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9	
FILTER PACK WATER VOLUME (GALS.): 5.5	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.9	WATER LOSS DURING INSTALL (GALS.): 30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 110.7	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:00	13.05	0.15	15.75	19.46	2.251	6.26	-60.3	4.82	1216.2	0.0
10:05	13.05	0.15	16.5	18.88	2.158	6.14	-47.8	5.31	1133.2	No Reading
10:10	13.05	0.15	17.25	19.15	2.171	6.09	-38.4	5.51	1026.0	0.0
10:15	13.05	0.15	18	18.73	2.198	6.22	-63.3	4.32	432.1	No Reading
10:20	13.05	0.15	18.75	17.82	2.194	6.21	-62.7	4.20	217.5	0.0
	Stop Surging									
10:25	13.05	0.15	19.5	17.73	2.233	6.18	-58.3	3.14	56.0	No Reading
10:30	13.05	0.15	20.25	18.60	2.232	6.12	-71.2	1.45	40.3	0.0
10:35	13.05	0.15	21	19.96	2.219	6.13	-77.7	1.15	33.9	No Reading
10:40	13.05	0.15	21.75	19.89	2.246	6.14	-80.4	1.01	29.7	0.0
10:45	13.05	0.15	22.5	19.71	2.244	6.13	-82.3	0.96	24.8	No Reading
10:50	13.05	0.15	23.25	19.55	2.223	6.14	-83.6	0.91	17.1	0.0
10:55	13.05	0.15	24	18.64	2.151	6.14	-83.9	0.90	11.5	No Reading
11:00	13.05	0.15	24.75	18.13	2.190	6.13	-84.8	0.88	1.7	No Reading
11:00	Stop Pump									

TOTAL WATER PURGED (GALS): 114.75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-5-16	WELL ID: MW-46D	STATIC WATER LEVEL (FT. TIC): 13.13	WELL DEPTH (FT. TIC): 63.00
WATER COLUMN (FT.): 49.87	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 72.9	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 72.9	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 218.7	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/16/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/5/16 10:50	13.30	0.6	0	16.08	3.342	7.38	-43.4	4.82	91.5	0.0
10:55	14.30	0.6	3	16.05	3.271	6.91	-76.4	3.73	136.2	0.0
11:00	14.45	0.6	6	15.99	3.294	6.85	-81.0	3.56	124.4	0.0
11:05	14.50	0.6	9	15.93	3.294	6.87	-82.3	3.65	89.5	0.0
11:10	14.50	0.6	12	16.08	3.301	6.81	-84.0	3.28	64.1	0.0
11:15	14.55	0.6	15	15.85	3.302	6.79	-87.8	2.71	106.4	0.0
11:20	14.55	0.6	18	15.58	3.301	6.80	-91.1	3.39	75.8	0.0
11:25	14.60	0.6	21	15.40	3.304	6.77	-94.6	2.88	56.6	0.0
11:30	14.60	0.6	24	15.31	3.295	6.76	-96.7	2.88	55.7	0.0
11:35	14.60	0.6	27	15.46	3.310	6.82	-93.0	3.51	71.1	No Reading
11:40	14.60	0.6	30	15.51	3.306	6.78	-97.2	2.94	70.5	0.0
11:45	14.60	0.6	33	15.46	3.280	6.78	-94.7	3.40	63.7	No Reading
	Stop Surging									
11:50	14.60	0.6	36	15.23	3.270	6.68	-102.6	1.12	17.2	0.0
11:55	14.60	0.6	39	15.26	3.272	6.67	-107.9	0.97	9.7	No Reading
12:00	14.60	0.6	42	15.09	3.275	6.67	-112.1	0.90	9.8	0.0
12:05	14.60	0.6	45	15.12	3.278	6.65	-114.0	0.87	6.6	No Reading
12:10	14.60	0.6	48	15.15	3.283	6.66	-115.2	0.85	9.3	0.0
12:15	14.60	0.6	51	15.13	3.286	6.66	-115.9	0.85	2.0	No Reading
12:20	14.60	0.6	54	15.12	3.286	6.65	-116.2	0.84	1.8	0.0
12:25	14.60	0.6	57	15.03	3.285	6.65	-116.3	0.84	1.2	0.0

12:25 Stop Pump

TOTAL WATER PURGED (GALS): 222	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-18-16	WELL ID: MW-475	STATIC WATER LEVEL (FT. TIC): 6.95	WELL DEPTH (FT. TIC): 14.64
WATER COLUMN (FT.): 7.69	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.25	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 9	
FILTER PACK WATER VOLUME (GALS.): 5.5	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.75	WATER LOSS DURING INSTALL (GALS.): 30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 110.25	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/14/16			95							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/28/16	Well Dry									0.0
7/18/16 13:10	6.95	0.3	0	19.26	2.340	6.83	316.0	3.12	238.8	0.0
13:15	7.25	0.3	1.5	18.46	2.414	6.60	133.8	1.76	167.5	No Reading
	Stop Surging									
13:20	7.90	0.3	3	18.23	2.522	6.47	-1.8	1.33	63.4	0.0
13:25	7.90	0.3	4.5	18.16	2.614	6.36	-37.2	1.11	11.2	No Reading
13:30	7.90	0.3	6	18.31	2.638	6.33	-45.3	1.06	4.1	0.0
13:35	7.90	0.3	7.5	18.35	2.656	6.31	-52.5	1.01	1.1	No Reading
13:40	7.90	0.3	9	18.33	2.667	6.29	-57.3	0.98	0.7	0.0
13:45	7.90	0.3	10.5	18.31	2.682	6.27	-60.9	0.95	0.6	No Reading
13:50	7.90	0.3	12	18.22	2.687	6.25	-63.1	0.93	0.1	0.0
13:55	7.90	0.3	13.5	18.26	2.691	6.22	-64.7	0.91	0.0	No Reading
14:00	7.90	0.3	15	18.38	2.701	6.21	-65.7	0.90	0.4	0.0
14:05	7.90	0.3	16.5	18.27	2.704	6.17	-66.1	0.89	0.7	No Reading
14:10	7.90	0.3	18	18.21	2.707	6.16	-66.2	0.90	1.1	0.0
14:10	Stop Pump									

TOTAL WATER PURGED (GALS): 113	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-28-16	WELL ID: MW-47D	STATIC WATER LEVEL (FT. TIC): 7.76	WELL DEPTH (FT. TIC): 68.60
WATER COLUMN (FT.): 60.84	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 89.4	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 89.4	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 268.1	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/20/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/28/16 9:00	7.76	0.5	0	15.37	11.94	6.46	-61.9	3.77	68.5	0.2
9:05	9.50	0.5	2.5	14.86	11.76	6.83	-99.1	3.83	47.6	0.0
9:10	10.15	0.5	5	15.21	11.35	6.96	-101.9	4.14	1300.0	No Reading
9:15	10.25	0.5	7.5	15.01	11.44	6.98	-103.4	3.80	1052.0	0.0
9:20	10.35	0.5	10	14.98	11.29	6.98	-106.2	3.19	1296.0	No Reading
9:25	10.35	0.5	12.5	14.95	11.46	7.01	-102.1	3.82	755.2	0.0
9:30	10.40	0.5	15	15.01	11.36	7.02	-103.3	3.52	446.2	No Reading
9:35	10.45	0.5	17.5	15.17	11.29	7.02	-98.7	4.11	175.4	0.0
9:40	10.45	0.5	20	14.95	11.24	7.01	-99.3	3.48	179.2	No Reading
9:45	10.45	0.5	22.5	15.28	11.37	7.04	-84.5	4.41	93.5	0.0
	Stop Surging									
9:50	10.45	0.5	25	14.80	11.06	7.03	-84.9	2.67	70.7	0.0
9:55	10.45	0.5	27.5	14.75	11.00	6.89	-91.9	1.22	38.9	No Reading
10:00	10.45	0.5	30	14.74	10.93	6.85	-91.8	1.02	22.9	0.0
	Increase Flow Rate									
10:05	11.10	0.8	34	14.53	10.97	6.81	-88.6	0.93	5.8	0.0
10:10	11.50	0.8	38	14.50	10.92	6.78	-85.5	0.91	1.0	No Reading
10:15	11.70	0.8	42	14.50	10.88	6.76	-83.0	0.89	0.7	0.0
10:20	11.85	0.8	46	14.52	10.87	6.76	-82.7	0.88	0.6	No Reading
10:25	11.90	0.8	50	14.53	10.84	6.76	-82.8	0.86	0.2	0.0
10:30	11.95	0.8	54	14.53	10.80	6.76	-82.6	0.86	0.3	No Reading

TOTAL WATER PURGED (GALS): 275	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ

DATE: 6-28-16	WELL ID: MW-47D	STATIC WATER LEVEL (FT. TIC): 7.76	WELL DEPTH (FT. TIC): 68.60
WATER COLUMN (FT.): 60.84	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 89.4	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 89.4	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 268.1	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
10:35	11.95	0.8	58	14.51	10.76	6.76	-82.7	0.85	0.5	0.0
10:40	12.00	0.8	62	14.47	10.77	6.76	-81.9	0.84	0.3	No Reading
10:45	12.00	0.8	66	14.49	10.73	6.75	-79.9	0.84	0.4	0.0
10:50	12.00	0.8	70	14.53	10.70	6.74	-77.7	0.83	0.1	No Reading
10:55	12.00	0.8	74	14.49	10.74	6.73	-76.8	0.83	0.0	0.0
11:00	12.00	0.8	78	14.52	10.70	6.72	-75.0	0.83	0.0	No Reading
11:05	12.00	0.8	82	14.51	10.68	6.72	-73.5	0.82	0.0	0.0
11:10	12.00	0.8	86	14.44	10.71	6.72	-72.4	0.82	0.1	No Reading
11:15	12.00	0.8	90	14.47	10.67	6.71	-70.7	0.82	0.0	0.0
11:20	12.00	0.8	94	14.49	10.67	6.71	-70.4	0.82	0.0	No Reading
11:25	12.00	0.8	98	14.47	10.69	6.71	-69.7	0.81	0.0	0.0
11:30	12.00	0.8	102	14.47	10.66	6.71	-69.3	0.81	0.0	No Reading
11:35	12.00	0.8	106	14.47	10.67	6.70	-68.9	0.81	0.0	0.0
11:40	12.00	0.8	110	14.50	10.63	6.70	-68.3	0.81	0.0	No Reading
11:40	Stop Pump									

TOTAL WATER PURGED (GALS): 275	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-29-16	WELL ID: MW-48S	STATIC WATER LEVEL (FT. TIC): 12.87	WELL DEPTH (FT. TIC): 20.31
WATER COLUMN (FT.): 7.44	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.2	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME (GALS.): 6.12	CASING AND FILTER PACK PURGE VOLUME (GALS.): 7.32	WATER LOSS DURING INSTALL (GALS.): 30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 112	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/14/16			90							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/29/16 9:30	13.00	0.35	0	16.37	1.261	6.05	108.2	5.04	938.6	0.1
9:35	13.10	0.35	1.75	15.86	1.256	6.52	81.7	3.62	1302.2	0.0
9:40	13.20	0.35	3.5	14.97	1.262	6.69	93.2	3.79	309.3	No Reading
9:45	13.10	0.35	5.25	15.34	1.256	6.74	98.6	3.50	1297.9	0.0
9:50	13.15	0.35	7	15.24	1.259	6.79	103.0	3.36	1296.6	No Reading
9:55	13.15	0.35	8.75	15.14	1.260	6.81	108.3	3.20	1295.1	0.0
10:00	13.15	0.35	10.5	15.41	1.258	6.83	114.0	3.31	1298.1	No Reading
10:05	13.15	0.35	12.25	15.01	1.260	6.86	99.5	3.31	1292.3	0.0
10:10	13.15	0.35	14	15.03	1.261	6.85	119.5	3.40	1293.9	No Reading
10:15	13.15	0.35	15.75	15.17	1.258	6.85	127.6	3.08	1296.5	0.0
10:20	13.10	0.35	17.5	15.35	1.263	6.84	133.3	3.81	1298.0	No Reading
10:25	13.10	0.35	19.25	15.99	1.250	6.63	142.0	5.04	672.1	0.0
10:30	13.10	0.35	21	15.56	1.261	6.85	138.3	5.03	531.3	No Reading
	Stop Surging									
10:35	13.10	0.35	22.75	14.84	1.257	6.94	139.9	3.45	405.8	0.0
10:40	13.10	0.35	24.5	14.90	1.254	6.80	149.4	1.42	219.4	No Reading
10:45	13.10	0.35	26.25	14.92	1.255	6.80	157.0	1.30	154.9	0.0
10:50	13.10	0.35	28	15.01	1.255	6.76	158.9	1.20	131.2	No Reading
10:55	13.10	0.35	29.75	15.23	1.254	6.80	163.7	1.19	98.6	0.0
11:00	13.10	0.35	31.5	15.40	1.255	6.77	163.9	1.15	65.3	No Reading
11:05	13.10	0.35	33.25	15.31	1.254	6.77	165.5	1.06	38.1	0.0

TOTAL WATER PURGED (GALS): 126.75	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-29-16	WELL ID: MW-48D	STATIC WATER LEVEL (FT. TIC): 13.64	WELL DEPTH (FT. TIC): 40
WATER COLUMN (FT.): 26.36	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 38.7	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 38.7	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 116.1	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/20/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/29/16 13:30	13.85	0.6	0	16.79	3.994	7.61	-20.0	6.05	107.8	0.7
13:35	14.60	0.6	3	16.34	3.956	7.21	-51.3	4.04	91.8	0.2
13:40	14.70	0.6	6	15.65	3.896	7.07	-52.9	4.00	258.0	0.2
13:45	14.80	0.6	9	15.72	3.834	7.01	-58.6	3.69	181.3	0.1
13:50	14.90	0.6	12	15.58	3.746	6.99	-51.7	3.52	68.1	0.0
13:55	14.95	0.6	15	15.16	3.614	6.98	-41.4	3.90	58.5	0.0
	Stop Surging									
14:00	15.00	0.6	18	15.11	3.592	6.91	-25.7	1.39	22.5	0.0
14:05	15.00	0.6	21	15.09	3.581	6.88	-20.4	1.13	10.6	0.0
14:10	15.00	0.6	24	15.05	3.572	6.84	-15.5	1.03	0.5	No Reading
14:10	Stop Pump									

TOTAL WATER PURGED (GALS): 189	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 7-11-16	WELL ID: MW-51S	STATIC WATER LEVEL (FT. TIC): 13.62	WELL DEPTH (FT. TIC): 18.80
WATER COLUMN (FT.): 5.18	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.85	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 5.18	
FILTER PACK WATER VOLUME (GALS.): 1.7	CASING AND FILTER PACK PURGE VOLUME (GALS.): 2.55	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 7.65	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/7/16			8.5							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
7/11/16 9:10	13.62	0.05	0	16.47	5.337	5.81	233.1	9.08	466.1	0.0
9:15	14.10	0.05	0.25	16.09	4.583	5.75	228.2	9.10	208.1	No Reading
9:20	14.50	0.05	0.5	16.95	4.469	5.80	226.2	8.95	1173.1	0.0
9:25	14.80	0.05	0.75	17.88	4.170	5.96	222.9	9.13	1180.5	No Reading
9:30	15.10	0.05	1	18.98	4.220	5.96	223.8	8.96	817.3	0.0
9:35	15.50	0.05	1.25	18.44	4.172	5.97	223.6	9.13	180.0	No Reading
	Stop Surging									
9:40	15.90	0.05	1.5	18.88	4.279	6.02	224.4	8.89	118.0	No Reading
9:45	16.20	0.05	1.75	19.81	4.572	6.11	227.1	8.53	66.4	0.0
9:50	16.50	0.05	2	19.84	4.581	5.86	230.4	8.01	56.5	No Reading
9:55	16.70	0.05	2.25	19.90	4.612	5.76	232.4	7.82	42.2	0.0
10:00	16.80	0.05	2.5	20.12	4.716	5.72	233.6	7.55	30.4	No Reading
10:05	17.00	0.05	2.75	20.49	4.889	5.67	236.3	7.41	37.3	0.0
10:10	17.10	0.05	3	20.75	4.891	5.63	237.6	7.25	26.9	No Reading
10:15	17.20	0.05	3.25	21.26	4.900	5.61	238.5	7.10	28.8	0.0
10:20	17.30	0.05	3.5	21.69	4.875	5.60	239.0	6.73	44.2	No Reading
10:25	17.35	0.05	3.75	21.86	4.814	5.67	237.6	7.13	39.7	0.0
10:25	Stop Pump									

TOTAL WATER PURGED (GALS): 12.25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 6-30-16	WELL ID: MW-51D	STATIC WATER LEVEL (FT. TIC): 14.1	WELL DEPTH (FT. TIC): 53.81
WATER COLUMN (FT.): 39.71	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 58.3	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): 58.3	CASING AND FILTER PACK PURGE VOLUME (GALS.): NONE	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 175	FIELD PERSONNEL: K Gerdes, J Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/30/16			165							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
6/30/16 12:45	17.55	0.3	0	15.47	0.818	6.80	89.7	7.80	663.0	0.0
12:50	18.20	0.3	1.5	15.55	0.817	6.82	97.9	7.94	451.6	No Reading
12:55	18.65	0.3	3	15.48	0.815	6.87	103.6	8.02	224.7	0.0
	Stop Surging									
13:00	18.90	0.3	4.5	15.52	0.817	6.89	107.1	8.04	78.2	No Reading
13:05	19.20	0.3	6	15.59	0.817	6.93	112.0	7.98	47.0	0.0
13:10	19.10	0.3	7.5	16.10	0.818	6.94	116.6	7.76	39.4	No Reading
13:15	19.10	0.3	9	16.17	0.817	6.96	116.7	8.05	35.8	0.0
13:20	19.00	0.3	10.5	16.29	0.818	6.97	115.1	7.50	28.7	No Reading
13:25	18.90	0.3	12	16.20	0.817	6.96	115.3	7.23	24.0	0.0
13:30	18.80	0.3	13.5	16.17	0.817	6.96	115.6	7.17	22.3	No Reading
13:35	18.70	0.3	15	16.10	0.817	6.96	116.6	6.86	19.9	0.0
13:40	18.65	0.3	16.5	16.02	0.817	6.96	118.1	6.64	13.6	No Reading
13:45	18.65	0.3	18	16.02	0.817	6.93	120.8	6.43	15.7	0.0
13:50	18.60	0.3	19.5	16.00	0.817	6.91	122.2	6.33	15.3	No Reading
13:50	Stop Pump									

TOTAL WATER PURGED (GALS): 184.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 9-6-16	WELL ID: MW-5ZS	STATIC WATER LEVEL (FT. TIC): 6.00	WELL DEPTH (FT. TIC): 11.00
WATER COLUMN (FT.): 5.00	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.8	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 5	
FILTER PACK WATER VOLUME (GALS.): 3.3	CASING AND FILTER PACK PURGE VOLUME (GALS.): 4.1	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 12.3	FIELD PERSONNEL: M Sieger		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9/1/16			110							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
9/6/16 11:50	5.70	0.14		26.73	2.110	7.06	98.5	3.94	1531.1	0.0
11:55	5.70	0.14		25.73	2.162	6.99	113.2	3.83	900.8	0.0
12:00	5.70	0.14		25.95	2.244	7.10	112.7	3.95	284.5	0.0
12:05	5.80	0.14		26.13	2.247	7.10	118.5	4.04	1524.4	0.0
12:10	5.80	0.14		26.02	2.297	7.09	111.8	4.23	1517.0	0.0
12:15	5.80	0.14		25.47	2.417	7.09	114.3	3.52	421.3	0.0
12:20	5.80	0.14		25.23	2.449	6.88	118.7	2.94	191.5	0.0
12:25	5.80	0.14		25.06	2.432	6.85	124.7	2.76	37.1	0.0
12:30	5.80	0.14		25.51	2.231	6.97	114.3	3.33	1516.9	0.0
12:35	5.80	0.14		25.14	2.358	6.86	119.7	3.60	1512.9	0.0
12:40	5.80	0.14		25.01	2.436	6.93	120.3	3.39	1511.6	0.0
12:45	5.80	0.14		25.05	2.459	6.91	113.6	3.40	1520.1	0.0
12:50	5.80	0.14		25.17	2.438	6.74	131.8	3.59	683.1	0.0
12:55	5.80	0.14		25.22	2.325	6.83	127.6	2.86	1513.8	0.0
	Stop Surging									
13:00	5.80	0.14		25.70	2.396	6.70	149.7	2.71	1150.6	0.0
13:05	5.80	0.14		25.92	2.436	6.91	137.3	1.96	41.1	0.0
13:10	5.80	0.14		25.99	2.414	6.84	137.8	1.34	38.1	0.0
13:15	5.80	0.14		26.77	2.416	6.73	133.9	1.01	11.4	0.0
13:20	5.80	0.14		26.10	2.373	6.71	128.4	1.02	8.9	0.0
13:25	5.80	0.14		26.50	2.379	6.71	126.0	0.98	6.0	0.0

TOTAL WATER PURGED (GALS): 125	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 9-6-16	WELL ID: MW-52D	STATIC WATER LEVEL (FT. TIC): 6.00	WELL DEPTH (FT. TIC): 62.00
WATER COLUMN (FT.): 56.00	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 82.3	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 82.3	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 246.9	FIELD PERSONNEL: M Sieger		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9/1/16			220							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
9/6/16 9:50	3.70	0.27		17.65	1.143	6.88	-5.0	2.64	653.1	0.0
9:55	4.25	0.27		17.19	1.130	6.93	-34.1	2.71	370.1	0.0
10:00	4.25	0.27		17.29	1.114	7.02	-36.2	2.62	121.3	0.0
10:05	4.25	0.27		18.18	1.111	7.20	-30.2	3.06	54.0	0.0
10:10	4.25	0.27		17.88	1.090	7.15	-22.4	1.97	13.0	0.0
10:15	4.25	0.27		17.93	1.090	7.14	-23.7	1.67	12.1	0.0
10:20	4.25	0.27		17.52	1.092	7.18	-16.3	2.51	7.5	0.0
10:25	4.25	0.27		17.63	1.091	7.19	-9.4	2.50	3.0	0.0
10:30	4.25	0.27		17.68	1.091	7.19	-10.5	1.93	3.2	0.0
10:35	4.25	0.27		18.32	1.090	7.22	-22.5	0.70	77.1	0.0
10:40	4.25	0.27		18.20	1.089	7.20	-25.0	0.65	75.4	0.0
	Stop Surging									
10:45	4.25	0.27		18.32	1.090	7.16	-28.1	0.58	46.4	0.0
10:50	4.25	0.27		18.26	1.088	7.19	-23.7	0.56	20.6	0.0
10:55	4.25	0.27		17.93	1.086	7.20	-9.0	0.53	5.6	0.0
11:00	4.25	0.27		17.92	1.086	7.20	-8.6	0.53	5.5	0.0
11:05	4.25	0.27		17.80	1.085	7.21	-3.2	0.52	3.2	0.0
11:10	4.25	0.27		17.81	1.085	7.21	-0.4	0.49	2.9	0.0
11:15	4.25	0.27		17.82	1.085	7.21	-0.1	0.50	3.3	0.0
11:20	4.25	0.27		17.83	1.085	7.21	2.1	0.50	1.3	0.0
11:25	4.25	0.27		17.82	1.085	7.21	3.4	0.49	1.2	0.0

TOTAL WATER PURGED (GALS): 247	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-1-16	WELL ID: MW-535	STATIC WATER LEVEL (FT. TIC): 4.65	WELL DEPTH (FT. TIC): 17.00
WATER COLUMN (FT.): 12.35	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 2.0	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME (GALS.): 6.0	CASING AND FILTER PACK PURGE VOLUME (GALS.): 8.0	WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 84	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/26/16			150							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
8/1/16 9:50	4.70	0.15	0	19.42	2.408	6.11	198.2	6.10	1249.0	No Reading
9:55	4.70	0.15	0.75	19.13	2.281	6.14	92.0	4.54	573.5	0.0
10:00	4.70	0.15	1.5	19.46	2.005	6.34	1.9	4.30	1267.0	No Reading
10:05	4.70	0.15	2.25	19.61	2.038	6.39	-19.4	4.33	864.1	0.0
10:10	4.70	0.15	3	19.81	1.992	6.44	-32.5	4.30	557.0	No Reading
10:15	4.70	0.15	3.75	20.04	1.958	6.48	-39.2	4.44	323.3	0.0
	Stop Surging									
10:20	4.70	0.15	4.5	20.16	1.949	6.48	-43.2	2.03	164.7	No Reading
10:25	4.70	0.15	5.25	20.15	1.937	6.51	-53.8	1.31	118.4	0.0
10:30	4.70	0.15	6	20.01	1.906	6.53	-61.0	1.15	70.6	No Reading
10:35	4.70	0.15	6.75	19.92	1.893	6.54	-66.7	1.07	44.2	0.0
10:40	4.70	0.15	7.5	19.95	1.878	6.55	-70.5	1.03	30.6	No Reading
10:45	4.70	0.15	8.25	19.95	1.881	6.56	-73.7	1.01	21.7	0.0
10:50	4.70	0.15	9	19.94	1.863	6.57	-76.4	0.98	14.3	No Reading
10:55	4.70	0.15	9.75	19.97	1.851	6.58	-78.7	0.96	9.5	0.0
10:55	Stop Pump									

TOTAL WATER PURGED (GALS): 159.75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-1-16	WELL ID: MW-53D	STATIC WATER LEVEL (FT. TIC): 4.35	WELL DEPTH (FT. TIC): 62.00
WATER COLUMN (FT.): 57.65	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6	
WELL CASING/BOREHOLE VOLUME (GALS.): 84.7	FILTER PACK DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FILTER PACK PURGE VOLUME (GALS.): 84.7	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 254.1	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/26/16			250							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
8/1/16 11:15	4.40	0.15	0	20.51	0.793	7.06	-20.1	4.81	54.5	0.3
11:20	4.40	0.15	0.75	19.05	0.827	7.01	-45.5	4.60	930.4	0.0
11:25	4.40	0.15	1.5	18.35	0.812	7.08	-54.5	3.90	661.9	No Reading
11:30	4.40	0.15	2.25	18.42	0.799	7.12	-59.6	3.79	509.3	0.0
11:35	4.40	0.15	3	18.28	0.789	7.16	-61.0	4.01	397.6	No Reading
	Stop Surging									
11:40	4.40	0.15	3.75	18.09	0.783	7.18	-64.4	1.56	310.1	0.0
11:45	4.40	0.15	4.5	18.30	0.782	7.19	-69.1	1.28	283.4	No Reading
11:50	4.40	0.15	5.25	18.71	0.781	7.20	-74.9	1.16	236.7	0.0
11:55	4.40	0.15	6	18.75	0.779	7.22	-79.5	1.10	192.6	No Reading
12:00	4.40	0.15	6.75	18.79	0.777	7.23	-82.9	1.06	155.0	0.0
12:05	4.40	0.15	7.5	18.78	0.776	7.24	-84.8	1.04	109.6	No Reading
12:10	4.40	0.15	8.25	18.76	0.773	7.24	-85.4	1.03	75.2	0.0
12:15	4.40	0.15	9	19.07	0.772	7.24	-85.0	1.01	50.1	No Reading
12:20	4.40	0.15	9.75	19.23	0.773	7.25	-84.3	1.01	39.0	0.0
12:25	4.40	0.15	10.5	19.31	0.773	7.25	-83.2	1.00	28.5	No Reading
12:30	4.40	0.15	11.25	18.62	0.770	7.25	-81.6	0.99	21.6	0.0
12:35	4.40	0.15	12	18.61	0.765	7.25	-80.2	0.98	15.9	No Reading
12:40	4.40	0.15	12.75	18.70	0.770	7.25	-78.9	0.98	12.8	0.0
12:45	4.40	0.15	13.5	19.24	0.763	7.24	-77.9	0.98	6.2	No Reading
12:45	Stop Pump									

TOTAL WATER PURGED (GALS): 263.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-4-16	WELL ID: MW-54S	STATIC WATER LEVEL (FT. TIC): 3.22	WELL DEPTH (FT. TIC): 11.00
WATER COLUMN (FT.): 7.78	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.3	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8.5	
FILTER PACK WATER VOLUME (GALS.): 5.2	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.5	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 19.5	FIELD PERSONNEL: K Gerdes		

Time	Water Level (FT. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/1/16			110							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
8/4/16 8:45	3.20	0.2	0	18.64	0.519	7.20	76.7	7.70	1197.0	0.0
8:50	3.45	0.2	1	18.53	0.510	6.82	106.1	5.64	1196.0	No Reading
8:55	3.50	0.2	2	19.03	0.512	6.82	119.1	5.00	1200.0	0.0
9:00	3.60	0.2	3	18.71	0.510	6.87	127.4	5.45	1198.0	No Reading
9:05	3.60	0.2	4	18.72	0.511	6.90	135.4	5.04	1198.0	0.0
9:10	3.65	0.2	5	18.48	0.513	6.92	139.8	4.70	1196.0	No Reading
9:15	3.65	0.2	6	18.42	0.511	6.92	144.6	4.65	1194.0	0.0
9:20	3.65	0.2	7	18.64	0.511	6.92	148.1	3.98	661.9	No Reading
9:25	3.65	0.2	8	18.38	0.512	6.92	151.6	4.09	1194.0	0.0
9:30	3.65	0.2	9	18.44	0.511	6.94	155.6	4.73	781.0	No Reading
9:35	3.65	0.2	10	18.66	0.511	6.94	158.5	4.61	464.1	0.0
	Stop Surging									
9:40	3.65	0.2	11	18.51	0.504	7.02	165.4	3.18	539.4	No Reading
9:45	3.65	0.2	12	18.61	0.506	7.01	170.1	2.37	474.2	0.0
9:50	3.65	0.2	13	18.45	0.506	6.98	173.8	2.18	392.7	No Reading
9:55	3.65	0.2	14	18.42	0.509	6.94	173.1	1.93	315.4	0.0
10:00	3.65	0.2	15	18.41	0.508	6.92	174.2	1.72	277.8	No Reading
10:05	3.65	0.2	16	18.37	0.503	6.93	174.7	1.59	244.2	0.0
10:10	3.65	0.2	17	18.43	0.500	6.90	174.9	1.57	114.3	No Reading
10:15	3.65	0.2	18	18.62	0.500	6.89	174.1	1.50	106.8	0.0
10:20	3.65	0.2	19	18.58	0.502	6.90	174.3	1.49	96.1	No Reading

TOTAL WATER PURGED (GALS): 136	WATER QUALITY METER: YSI 6920
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PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-4-16	WELL ID: MW-54S	STATIC WATER LEVEL (FT. TIC): 3.22	WELL DEPTH (FT. TIC): 11.00
WATER COLUMN (FT.): 7.78	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.3	FILTER PACK DIAMETER (IN.): 8	FILTER PACK LENGTH (FT.): 8.5	
FILTER PACK WATER VOLUME (GALS.): 5.2	CASING AND FILTER PACK PURGE VOLUME (GALS.): 6.5	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 19.5	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/4/16 10:25	3.65	0.2	20	18.17	0.505	6.90	176.8	1.48	76.0	0.0
10:30	3.65	0.2	21	18.71	0.464	6.89	177.6	1.45	60.8	No Reading
10:35	3.65	0.2	22	18.71	0.457	6.88	178.8	1.46	64.9	0.0
10:40	3.65	0.2	23	18.62	0.447	6.88	180.3	1.44	56.4	No Reading
10:45	3.65	0.2	24	18.67	0.508	6.88	181.2	1.40	32.2	0.0
10:50	3.65	0.2	25	18.63	0.507	6.87	182.2	1.37	17.5	No Reading
10:55	3.65	0.2	26	18.50	0.508	6.87	183.0	1.30	8.7	0.0
10:55	Stop Pump									

TOTAL WATER PURGED (GALS): 136	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

**WELL DEVELOPMENT RECORD
MAYWOOD FUSRAP SITE, MAYWOOD, NJ**

DATE: 8-4-16	WELL ID: MW-54D	STATIC WATER LEVEL (FT. TIC): 0.00	WELL DEPTH (FT. TIC): 79.00
WATER COLUMN (FT.): 79.00	SLUDGE THICKNESS (FT.): 0.0	WELL CASING DIAMETER (IN.): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 12.9	FILTER PACK DIAMETER (IN.): 6	FILTER PACK LENGTH (FT.): 25	
FILTER PACK WATER VOLUME (GALS.): 9.2	CASING AND FILTER PACK PURGE VOLUME (GALS.): 22.1	WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 66.3	FIELD PERSONNEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/1/16			55							
	Initial driller development by surging/overpumping.									
	No visible sediment at completion of development.									
8/4/16 11:55	0.00	0.15	0	18.35	0.513	7.56	195.2	7.80	1194.0	0.0
12:00	4.15	0.15	0.75	17.70	0.512	7.56	209.6	7.44	966.8	No Reading
12:05	6.15	0.15	1.5	17.63	0.510	7.59	211.2	7.75	581.8	0.0
12:10	7.25	0.15	2.25	17.49	0.512	7.63	215.4	7.75	388.7	No Reading
12:15	8.40	0.15	3	17.35	0.513	7.66	219.0	7.92	341.7	0.0
	Stop Surging									
12:20	9.80	0.15	3.75	17.41	0.524	7.70	222.6	7.46	289.8	No Reading
12:25	10.55	0.15	4.5	16.89	0.512	7.70	224.0	6.62	121.5	0.0
12:30	11.30	0.15	5.25	17.27	0.513	7.71	224.4	6.54	75.6	No Reading
12:35	11.70	0.15	6	16.94	0.510	7.80	222.8	6.51	54.1	0.0
12:40	12.50	0.15	6.75	16.69	0.509	7.76	224.0	6.42	44.0	No Reading
12:45	13.30	0.15	7.5	16.81	0.511	7.76	223.9	6.38	36.8	0.0
12:50	13.90	0.15	8.25	16.92	0.511	7.77	223.2	6.33	32.2	No Reading
12:55	14.80	0.15	9	16.67	0.511	7.77	224.1	6.29	29.2	0.0
13:00	15.75	0.15	9.75	16.62	0.512	7.77	179.1	6.27	22.0	No Reading
13:05	16.00	0.15	10.5	16.75	0.512	7.78	142.9	6.25	18.9	0.0
13:10	16.10	0.15	11.25	17.08	0.513	7.79	137.6	6.20	18.4	No Reading
13:15	16.10	0.15	12	17.02	0.513	7.80	146.1	6.14	14.7	0.0
13:20	16.10	0.15	12.75	17.04	0.513	7.81	154.4	6.07	11.2	No Reading
13:25	16.10	0.15	13.5	17.09	0.514	7.81	162.0	6.06	9.3	0.0
13:30	Stop Pump		14.25							

TOTAL WATER PURGED (GALS): 69.25	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.	

APPENDIX D
Well Sampling Purge Data Forms

APPENDIX D

**PURGE DATA FORMS FOR LTM WELLS AND SURFACE WATER
ENVIRONMENTAL DATA**

PURGE DATA FORMS FOR LTM WELLS

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB & I
 DATE: 8-8-16 FIELD PERSONNEL: P. Hedman, J. Cook
 WEATHER: sunny, 79°

MONITOR WELL #: B38W255R WELL DEPTH: 13.0 feet, bgs., 14.88' TIC SCREENED/OPEN INTERVAL: 7.4-12.4, 14.2-16.2
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 9.28-14.28 7.58

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 12.0 ft below TOC (~~10.0' bgs~~) Pro.
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.21 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
945				NA		NA		NA		NA		NA		NA		
950	X		6.62		3.206		-58.2		9.74		60.7		18.45		200	6.42
955	X		6.60		3.233		-61.0		9.09		62.4		18.72		165	6.39
1000	X		6.60		3.261		-63.9		9.04		38.4		18.85		165	6.38
1005	X		6.59		3.278		-62.6		9.40		69.3		18.93		165	6.38
1010	X		6.59		3.287		-59.0		9.34		51.7		19.13		165	6.38
1015	X		6.58		3.265		-59.8		1.41		41.1		19.26		165	6.38
1020	X		6.57		3.265		-64.5		1.28		32.0		18.08		165	6.38
1025	X		6.56		3.250		-65.6		1.19		25.3		17.85		165	6.38
1030	X		6.55		3.255		-66.0		1.11		14.9		17.58		165	6.38
1035	X		6.55		3.255		-67.6		1.02		16.0		17.83		165	6.38

COMMENTS: 12B-090000

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-8-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: B38W25SR WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1040	X		6.55	NA	3.261	NA	-67.9	NA	0.98	NA	9.7	NA	17.81	NA	165	6.38
1045	X															6.38 (final)

COMMENTS: _____

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-8-16 FIELD PERSONNEL: P. Hedman, J. Cook
 WEATHER: sunny, 83°

MONITOR WELL #: B38W25BR WELL DEPTH: 58' bpt., 59.87' TIC SCREENED/OPEN INTERVAL: 33-58' bpt., 34.87-59.87' TIC
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 54.0 ft below TOC (~~52.0' bgs~~) PTD
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.86 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1118	X			NA		NA		NA		NA		NA		NA		
1125	X		6.63		4.717		-47.7		1.21		-3.1		15.57		235	10.10'
1130	X		6.62		4.719		-49.9		0.95		-3.8		15.35		235	10.28
1135	X		6.62		4.739		-53.4		0.85		-4.1		15.41		235	10.40
1140	X		6.62		4.734		-54.2		0.84		-3.9		15.34		235	10.51
1145	X		6.63		4.723		-56.1		0.75		-3.8		16.44		165	10.57
1150	X		6.65		4.777		-57.6		0.67		-1.0		17.57		165	10.58
1155	X		6.65		4.807		-59.1		0.64		1.3		17.60		165	10.59
1200	X		6.65		4.805		-57.6		0.63		0.9		18.38		165	10.59
1205	X		6.65		4.827		-56.3		0.60		0.9		18.53		165	10.59
1210	X		6.64		4.854		-55.6		0.58		1.0		18.69		165	10.59

COMMENTS: 1215 sampling SAMPLE ID: 12B-090001 DTW final: 10.67'

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB, I
 DATE: 8-8-16 FIELD PERSONNEL: P. Hedman, J. Cook
 WEATHER: Sunny, 85°

MONITOR WELL #: MW285 WELL DEPTH: 20.43' TOC, 19.03' bgs. SCREENED/OPEN INTERVAL: 10.43-20.43' TK
~~8.0-18.0~~
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 9.03-19.03' bgs.

PID/FID READINGS (ppm): BACKGROUND: Ø PUMP INTAKE DEPTH: 17.43' ft below TOC 11.65' PH
 BENEATH OUTER CAP: Ø DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.95'
 BENEATH INNER CAP: Ø 11.95'

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1302	X			NA		NA		NA		NA		NA		NA	175	
1310	X		6.51		3.113		-42.6		1.49		241.6		19.65		175	11.95'
1315	X		6.52		3.096		-43.5		1.42		181.3		19.63		175	11.95'
1320	X		6.53		3.092		-47.6		1.43		138.4		19.71		175	11.95'
1325	X		6.54		3.094		-48.7		1.42		115.9		20.08		175	11.95'
1330	X		6.55		3.109		-49.8		1.44		104.8		19.53		175	11.95'
1335	X		6.54		3.093		-50.4		1.43		81.7		19.27		175	11.95'
1340	X		6.53		3.095		-52.4		1.33		77.4		19.16		175	11.95'
1345	X		6.52		3.097		-52.8		1.26		65.0		18.70		175	11.95'
1350	X		6.51		3.092		-54.6		1.21		57.3		18.49		175	11.95'
1355	X		6.50		3.091		-55.8		1.17		52.7		18.39		175	11.95'

COMMENTS:

SAMPLE ID: 12B-090002

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-2-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: MW285 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): _____ BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1400	X		6.50	NA	3.091	NA	-55.7	NA	1.11	NA	44.8	NA	18.37	NA	175	11.95'
1405	X		6.49		3.093		-56.4		1.07		41.4		18.39		175	11.95'
1410	X		6.48		3.090		-58.1		0.99		34.9		17.99		175	11.95'
1415	X		6.48		3.092		-59.4		0.95		27.9		17.94		175	11.95'
1420	X		6.48		3.093		-59.4		0.93		26.7		17.82		175	11.95'
1425		X													(FINAL)	11.95'

COMMENTS: _____

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 4

SITE: <u>Maywood</u> DATE: <u>8/8/16</u> WEATHER: <u>Sunny ~ 70^{sr}</u>	CONSULTING FIRM: <u>CB&I</u> FIELD PERSONNEL: <u>KG/MS</u>
MONITOR WELL #: <u>BRP25</u> WELL DEPTH: <u>51ft 58.80' bgs</u> SCREENED/OPEN INTERVAL: <u>42-62' TOC</u> WELL PERMIT #: _____ WELL DIAMETER: <u>2</u> inches <u>40.93-60.93' TIC</u>	<u>38.80-58.80' bgs</u> <u>42-62' TOC</u> <u>40.93-60.93' TIC</u>
PID/FID READINGS (ppm): BACKGROUND: <u>0</u> BENEATH OUTER CAP: <u>0</u> BENEATH INNER CAP: <u>0</u>	PUMP INTAKE DEPTH: <u>52</u> ft below TOCTK. DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>9.25</u> ft below TOC

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1015	X		5.93	NA	16.84	NA	-28.0	NA	4.42	NA	912.1	NA	20.90	NA	150	10.9
1020	X		5.98		16.83		-20.3		3.92		908.7		20.53		150	11.4
1025	X		6.02		16.75		-12.1		3.58		925.8		20.48		150	11.7
1030	X		6.03		16.73		-4.6		3.32		923.9		19.96		150	12.1
1035	X		6.02		16.68		1.7		3.62		916.2		19.90		150	12.6
1040	X		6.01		16.75		7.1		3.47		914.4		19.60		150	12.9
1045	X		6.01		16.70		9.8		3.61		847.7		19.35		150	13.25
1050	X		6.02		16.67		12.4		2.94		792.0		19.43		150	13.6
1055	X		6.02		16.64		13.4		3.20		619.1		19.55		150	13.8
1100	X		6.01		16.66		15.0		2.99		499.8		19.78		150	14.05
1105	X		6.00		16.68		14.5		2.36		456.0		19.82		150	14.3

COMMENTS: Pump set at 51ft bgs.

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 4

SITE: <u>Maywood</u> DATE: <u>8/8/16</u> WEATHER: <u>sunny ~ 70s</u>	CONSULTING FIRM: <u>CBEI</u> FIELD PERSONNEL: <u>KG/MS</u>
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MONITOR WELL #: <u>BRP25</u>	WELL DEPTH: <u>51 ft</u>	SCREENED/OPEN INTERVAL: _____
WELL PERMIT #: _____	WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: _____ ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION : _____ ft below TOC	
--	---	--

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1110	X		6.00	NA	16.73	NA	13.6	NA	2.38	NA	380.0	NA	20.33	NA	150	14.45
1115	X		6.00		16.74		11.5		2.18		301.3		20.58		150	14.55
1120	X		6.00		16.70		8.1		2.07		242.2		21.16		150	14.75
1125	X		6.00		16.73		7.6		2.07		223.2		21.21		150	14.75
1130	X		6.00		16.71		4.3		1.81		216.2		21.20		150	14.80
1135	X		6.00		16.70		0.8		2.03		196.2		21.08		150	14.80
1140	X		6.00		16.74		-3.3		1.75		187.3		21.21		150	14.80
1145	X		6.00		16.68		-4.2		1.94		182.4		21.30		150	14.85
1150	X		6.00		16.67		-5.0		1.96		158.8		21.63		150	14.85
1155	X		6.00		16.78		-10.1		2.34		132.0		21.62		150	14.85
1200	X		6.00		16.70		-7.0		1.83		122.3		22.34		150	15.00

COMMENTS: 11:53 Cleared out flow cell of sediment.

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 3 OF 4

SITE: Maywood CONSULTING FIRM: CB&T
 DATE: 8/8/16 FIELD PERSONNEL: KG/MS
 WEATHER: Sunny 80's

MONITOR WELL #: BP25 WELL DEPTH: 51 ft SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU) <small>LaMotte</small>		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1205	X		6.03	NA	16.64	NA	-6.2	NA	1.43	NA	148.0	NA	22.48	NA	180	15.00
1210	X		6.03		16.66		-11.6		1.43		130.2		21.85		150	15.00
1215	X		6.03		16.56		-12.7		1.57		116.6		21.88		150	15.05
1220	X		6.03		16.57		-12.9		1.61		98.8		22.00		150	15.05
1225	X		6.03		16.56		-13.0		1.68		102.4		21.50		150	15.10
1230	X		6.02		16.47		-15.3		1.92		94.2		21.06		150	15.15
1235	X		6.01		16.42		-15.0		2.11		93.8		20.81		150	15.25
1240	X		6.00		16.39		-15.6		1.94		87.6		20.64		150	15.35
1245	X		6.00		16.34		-16.0		2.27		84.2		20.58		150	15.45
1250	X		5.97		16.28		-13.1		2.72		78.1		21.17		180	15.55
1255	X		5.97		16.30		-14.1		2.70		75.3	40.3	21.01		150	15.55

COMMENTS: Checking Turbidity with the LaMotte meter

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 4 OF 4

SITE: Maywood CONSULTING FIRM: CB&T
 DATE: 8-8-16 FIELD PERSONNEL: KG/MS
 WEATHER: Sunny 80's

MONITOR WELL #: BR25 WELL DEPTH: 51 SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU) <small>LaMotte</small>		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1300	X		5.96	NA	16.35	NA	-16.5	NA	3.14	NA	62.5	43.2	20.89	NA	150	15.60
1305	X		5.96		16.36		-17.0		2.94		67.7	43.9	20.84		150	15.65
1310	X		5.94		16.39		-16.1		2.92		66.9	49.4	20.86		150	15.60
1315	X		5.94		16.39		-16.6		2.89		66.6	44.1	20.83		180	15.60
1320	X		5.94		16.37		-16.2		2.87		64.3	42.2	20.85		150	15.60
1325		X														9.25

COMMENTS: Checking Turbidity with LaMotte Meter and YSI. Collect sample 12B-09004.

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

1325
- 1015 210 120

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8/9/06 FIELD PERSONNEL: KG/MS
 WEATHER: sunny 60s

MONITOR WELL #: BRP209 WELL DEPTH: 52.9 T/C, 51.40 B/S SCREENED/OPEN INTERVAL: 27.40 - 51.40 FL. B/S
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 28.90 - 52.9 T/C

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 47.9 ft below TPC
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 8.00 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0840	X		6.42	NA	11.79	NA	-26.2	NA	0.67	NA	3.2	NA	18.09	NA	300	8.05
0845	X		6.45		11.87		-26.8		0.56		3.2		17.92		300	8.35
0850	X		6.48		11.87		-27.8		0.44		3.0		17.99		300	8.50
0855	X		6.50		11.87		-28.1		0.45		2.5		17.75		300	8.58
0900	X		6.51		11.86		-28.2		0.45		2.7		17.81		300	8.69
0905	X		6.52		11.83		-28.0		0.40		2.4		18.55		225	8.80
0910	X		6.53		11.84		-27.8		0.41		2.3		18.61		225	8.80
0915	X		6.53		11.83		-27.6		0.40		2.4		18.66		225	8.80
0920	X		6.54		11.83		-27.5		0.40		2.3		18.70		225	8.85
0925	X		6.53		11.84		-27.6		0.41		2.2		18.73		225	8.85
0930	X														Final	8.85

COMMENTS: Final H₂O DTW = 8.85

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-9-16 FIELD PERSONNEL: KG/MS
 WEATHER: Sunny 80's

MONITOR WELL #: mw 43D WELL DEPTH: 47.8 ft TIC, 45.40 ft BGS. SCREENED/OPEN INTERVAL: 20.40 - 45.40 ft BGS.
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 22.8 - 47.8 ft TIC

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 44.8 ft below TOC
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.95 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1030	X		8.14	NA	2.560	NA	-9.2	NA	1.19	NA	22.6	NA	20.81	NA	225	8.00
1035	X		8.05		2.536		-10.2		0.82		33.5		20.86		225	8.00
1040	X		8.04		2.524		-14.6		0.73		38.8		20.64		225	8.00
1045	X		8.02		2.524		-29.4		0.62		44.0		20.79		225	8.00
1050	X		8.02		2.534		-32.0		0.60		45.5		21.02		225	8.00
1055	X		8.05		2.530		-32.3		0.87		45.2		20.95		225	8.00
1100	X		8.02		2.519		-40.2		0.61		49.8		20.84		225	8.00
1105	X		8.01		2.520		-41.6		0.63		44.8		20.62		225	8.00
1110	X		8.00		2.521		-40.3		0.63		39.6		20.59		225	8.00
1115	X		8.00		2.519		-41.4		0.63		36.4		20.61		225	8.00
1120		X														8.00

COMMENTS: YSI turbidity readings higher than Lamott Reading. Lamott Reading 20.6

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CR&I
 DATE: 8-9-16 FIELD PERSONNEL: KG/MS
 WEATHER: Sunny 90's sp-44.24 TIC 45.51 TIC
 MONITOR WELL #: MW 42D WELL DEPTH: 44.90 ft. BGS, ~~44.90 ft. BGS~~ P.D. SCREENED/OPEN INTERVAL: 19.90 - 44.90 ft. BGS

WELL PERMIT #: _____ WELL DIAMETER: 6 inches 20.51 - 45.54 TIC
 PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 39.00 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.26 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1320	X		8.29	NA	1.331	NA	-89.8	NA	1.22	NA	0.4	NA	21.17	NA	200	11.50
1325	X		7.99		1.307		-90.9		0.84		0.0		21.18		200	11.55
1330	X		7.72		1.293		-92.7		0.64		9.8		21.03		200	11.60
1335	X		7.68		1.281		-92.8		0.59		8.0		21.06		200	11.60
1340	X		7.67		1.283		-95.6		0.55		9.0		21.09		200	11.60
1345	X		7.65		1.272		-94.0		0.54		6.5		21.28		200	11.60
1350	X		7.66		1.269		-94.5		0.53		6.0		21.31		200	11.65
1355	X		7.65		1.267		-95.0		0.53		4.1		21.21		200	11.65
1400	X		7.65		1.268		-94.3		0.53		4.6		21.20		200	11.65
1405	X		7.65		1.268		-93.6		0.53		3.3		21.22		200	11.65
1410	X														Final	11.70

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: MAYWOOD CONSULTING FIRM: CBI
 DATE: 8-9-16 FIELD PERSONNEL: JC / PH
 WEATHER: M. SUN 85 °F

MONITOR WELL #: B38W24D WELL DEPTH: 28.86 ft TIC, 25.06 ft below TOC
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 27.05 ft below TOC
 SCREENED/OPEN INTERVAL: 22.00 - 27.00 ft, 23.8 - 28.81 ft, TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 26.86 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.19 ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1315	X			NA		NA		NA		NA		NA		NA		10.19
1320	X		6.11		1.762		-2.0		1.75		50.0		22.00		165	10.27
1325	X		6.05		1.738		-31.6		1.00		24.0		20.21		165	10.27
1330	X		6.06		1.737		-40.2		0.74		21.2		19.56		165	10.27
1335	X		6.07		1.736		-44.6		0.65		16.7		19.22		165	10.27
1340	X		6.07		1.758		-47.4		0.59		16.4		18.99		165	10.27
1345	X		6.08		1.776		-50.5		0.57		11.4		18.75		165	10.27
1350	X		6.09		1.789		-51.3		0.55		7.9		19.01		165	10.27
1355	X		6.09		1.797		-53.2		0.52		6.9		18.82		165	10.27
1400	X		6.09		1.799		-52.9		0.53		7.0		18.79		165	10.27
1405	X														FINAL	10.27

COMMENTS: 10A-090012

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-9-16 FIELD PERSONNEL: J. Cook, P. Keenan
 WEATHER: Sunny, 85°

MONITOR WELL #: B38W243 WELL DEPTH: 17.0' TOC, 15.04' bgs SCREENED/OPEN INTERVAL: 10.24-15.04' N.B.S.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 12.2-17.0' J.T.K.

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 15' ft below TOC (2' above bottom)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.85' ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1139	X			NA		NA		NA		NA		NA		NA	190	10.85
1145	X		6.24		3.932		-19.3		0.92		68.2		23.23		190	10.97
1150	X		6.19		3.903		-12.5		0.75		51.8		22.93		190	11.01
1155	X		6.15		3.785		-7.8		0.69		44.0		22.91		190	11.01
1200	X		6.11		3.674		-3.5		0.65		31.7		22.67		190	11.01
1205	X		6.07		3.603		0.4		0.62		24.4		22.33		190	11.01
1210	X		6.06		3.578		2.6		0.60		21.0		22.63		190	11.01
1215	X		6.03		3.563		4.9		0.57		13.2		22.54		190	11.01
1220	X		6.02		3.547		7.0		0.55		11.1		22.68		190	11.01
1225	X		6.01		3.540		7.8		0.53		8.6		22.83		190	11.01
1230	X		6.00		3.537		9.3		0.52		8.1		23.22		190	11.01

COMMENTS: 10A-090011

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-9-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: _____

MONITOR WELL #: B38W245 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1235	X		5.99	NA	3.540	NA	9.4	NA	0.52	NA	7.7	NA	23.38	NA	190	11.01
1240	X														FINAL	11.01

COMMENTS: _____

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CB-I</u>
DATE: <u>8-9-16</u>	FIELD PERSONNEL: <u>J. Cook, P. Hedman</u>
WEATHER: <u>Sunny, 75°</u>	
MONITOR WELL #: <u>B33W18DR</u>	WELL DEPTH: <u>76.00 ft TOC (flush water)</u>
WELL PERMIT #:	SCREENED/OPEN INTERVAL: <u>46.00 - 71.00 ft, TOC</u>
	WELL DIAMETER: <u>6</u> inches

PID/FID READINGS (ppm):	BACKGROUND: <u>0</u>	PUMP INTAKE DEPTH: <u>66'</u> ft below TOC
	BENEATH OUTER CAP: <u>0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>8.43</u> ft below TOC
	BENEATH INNER CAP: <u>0</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
837	X			NA		NA		NA		NA		NA		NA	235	8.43
845	X		7.18		0.789		-83.2		1.50		13.1		15.76		235	8.59
850	X		7.36		0.803		-88.6		1.14		16.2		15.74		235	8.69
855	X		7.44		0.805		-94.9		1.01		20.0		15.72		235	8.78
900	X		7.47		0.805		-100.4		0.96		20.3		15.69		235	8.82
905	X		7.48		0.805		-103.8		0.95		20.5		15.73		235	8.87
910	X		7.49		0.806		-104.7		0.88		17.1		15.67		235	8.90
915	X		7.50		0.805		-105.5		0.79		16.0		16.02		235	8.91
920	X		7.50		0.807		-106.0		0.78		16.3		16.14		235	8.91
925	X		7.50		0.808		-107.6		0.77		15.1		16.20		235	8.92
930	X															8.80 FINAL

COMMENTS: 12B-09008 (+MS/MSD, +split)
Field Dup 12B-090010 - 0935

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-10-16 FIELD PERSONNEL: J. Cook, P. Kedman
 WEATHER: cloudy, 75°
 MONITOR WELL #: MISSOAR WELL DEPTH: 14.0' bgs. 15.07' TIC SCREENED/OPEN INTERVAL: 9.0-14.0, bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 10.07-15.07' TIC

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 13.0 ft below TOC (12.0' BGS)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.81 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
825	X			NA		NA		NA		NA		NA		NA	165	7.81
830	X		7.15		2.484		-18.6		1.66		172.6		18.77		165	7.88
835	X		7.28		2.518		-67.2		1.56		105.9		18.99		165	7.88
840	X		7.31		2.534		-84.0		1.29		67.5		19.03		165	7.88
845	X		7.33		2.523		-90.4		0.96		55.7		19.27		165	7.88
850	X		7.34		2.460		-93.8		0.76		75.6		19.00		165	7.88
855	X		7.35		2.376		-95.4		0.64		66.2		18.78		165	7.88
900	X		7.35		2.325		-97.1		0.57		53.8		19.20		165	7.88
905	X		7.35		2.289		-97.8		0.53		45.9		19.38		165	7.88
910	X		7.35		2.246		-97.7		0.50		37.5		19.40		165	7.88
915	X		7.35		2.210		-97.9		0.47		27.0		19.29		165	7.88

COMMENTS: 12B-090016

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: <u>Maywood</u> DATE: <u>8-10-16</u> WEATHER: <u>Cloudy, 75°</u>	CONSULTING FIRM: <u>CB+I</u> FIELD PERSONNEL: <u>S. Cook, P. Hedman</u>
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MONITOR WELL #: <u>MISSOIA R</u>	WELL DEPTH: _____	SCREENED/OPEN INTERVAL: _____
WELL PERMIT #: _____	WELL DIAMETER: _____ inches	

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____	PUMP INTAKE DEPTH: _____ ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
--	--

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
920	X		NA		NA		NA		NA		NA		NA			
920	X		7.35		2.181		-96.7		0.45		26.2		19.03		165	7.88
925	X		7.35		2.167		-97.1		0.44		19.3		19.24		165	7.88
930	X		7.35		2.148		-96.0		0.41		15.4		19.20		165	7.88
935	X		7.35		2.138		-95.5		0.39		10.8		19.40		165	7.88
940	X		7.35		2.133		-94.0		0.39		11.3		19.45		165	7.88
945	X		7.35		2.129		-94.2		0.39		9.4		19.51		165	7.88
950	X														FINAL	7.88

COMMENTS: 12B-090016

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CGI
 DATE: 8-10-16 FIELD PERSONNEL: J Cook, P. Hedman
 WEATHER: cloudy, 80°

MONITOR WELL #: MISSO1 BR WELL DEPTH: 61.5' bop; 63.31' TIL SCREENED/OPEN INTERVAL: 38-61.5' bop.
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 39.81-63.31' TIL

PID/FID READINGS (ppm): BACKGROUND: Ø PUMP INTAKE DEPTH: 58.0 ft below TOC (56.0' BGS)
 BENEATH OUTER CAP: Ø DEPTH TO WATER BEFORE PUMP INSTALLATION: 8.01 ft below TOC
 BENEATH INNER CAP: 0.5

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1057	X			NA		NA		NA		NA		NA		NA	200	8.01
1105	X		7.36		0.882		-89.7		2.33		27.1		17.61		200	8.02
1110	X		7.42		0.898		-60.4		1.68		21.8		17.51		200	8.02
1115	X		7.43		0.902		-33.9		1.44		13.7		17.36		200	8.02
1120	X		7.43		0.902		-9.8		1.31		12.2		17.74		200	8.02
1125	X		7.43		0.903		4.9		1.28		13.3		17.87		200	8.02
1130	X		7.44		0.905		21.3		1.25		8.6		18.13		200	8.02
1135	X		7.43		0.907		35.4		1.22		8.8		18.21		200	8.02
1140	X		7.44		0.908		50.6		1.20		7.2		18.09		200	8.02
1145	X		7.43		0.908		64.2		1.19		7.0		18.12		200	8.02
1150	X		7.43		0.909		78.6		1.17		6.4		18.21		200	8.02

COMMENTS: 12B-090017

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 22 OF 22

SITE: Maywood CONSULTING FIRM: _____
 DATE: 30, 10-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: M1550 BR WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1155	X		7.43		0.910		87.4		1.17		5.1		18.44		200	8.02
1200	X		7.43		0.912		99.5		1.15		6.8		18.66		200	8.02
1205	X		7.43		0.912		109.3		1.14		5.0		18.59		200	8.02
1210	X		7.43		0.913		122.9		1.14		6.0		18.33		200	8.02
1215	X		7.43		0.912		135.9		1.14		3.8		18.30		200	8.02
1220	X		7.42		0.915		147.4		1.12		5.4		18.34		200	8.02
1225	X		7.43		0.917		154.5		1.11		5.5		18.29		200	8.02
1230	X		7.43		0.921		158.3		1.10		4.4		18.64		200	8.02
1235	X		7.43		0.925		160.4		1.10		4.5		18.71		200	8.02
1240		X													FINAL	8.02

COMMENTS: 12B-090017

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB+J
 DATE: 8-10-16 FIELD PERSONNEL: S. Cook, P. Hedman
 WEATHER: rain, 85°

MONITOR WELL #: MISS02BR WELL DEPTH: 53 ft. bgs (flush mount) SCREENED/OPEN INTERVAL: 38-53 bgs.
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches

PID/FID READINGS (ppm): _____ BACKGROUND: 0 PUMP INTAKE DEPTH: 51.0 ft below TOC ground surface
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.54 ft below TOC
 BENEATH INNER CAP: 0.5

TIME	PURGING SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
		READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1347	X		NA		NA		NA		NA		NA		NA	210	9.54
1355	X	7.01		3.441		-41.5		0.74		1.5		18.35		210	9.65
1400	X	7.00		3.487		-49.0		0.57		3.1		18.47		210	9.65
1405	X	7.00		3.489		-53.5		0.48		2.5		18.62		210	9.65
1410	X	7.00		3.487		-55.4		0.46		3.2		18.77		210	9.65
1415	X	7.00		3.480		-57.6		0.44		3.3		18.97		210	9.65
1420	X	7.00		3.479		-58.3		0.42		2.9		19.00		210	9.65
1425	X	7.00		3.481		-59.2		0.41		2.4		19.02		210	9.65
1430	X	7.00		3.470		-59.2		0.39		2.5		19.01		210	9.65
1435	X	7.00		3.468		-59.3		0.39		2.4		19.08		210	9.65
1440	X													FINAL	9.65

COMMENTS: 4:45 PM 12B-090018

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8/10/16 FIELD PERSONNEL: KG/MS
 WEATHER: cloudy, humid ~80°F

MONITOR WELL #: MISSO2AR WELL DEPTH: 20 feet, bgs (flush mount) SCREENED/OPEN INTERVAL: 14-19 ft. bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 17 ft below TOC
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.75 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0825	X			NA		NA		NA		NA		NA		NA		
0830	X		No readings - Adjusting pump flow + high turbidity												200	7.00
0835	X		7.48		4.016		-90.9		0.97		44.5	19.71		200	7.00	
0840	X		7.18		4.049		-102.1		1.65		43.8	19.78		200	7.00	
0845	X		7.22		4.054		-103.5		1.61		46.9	19.75		200	7.00	
0850	X		7.65		4.087		-121.9		1.31		35.5	19.46		200	7.00	
0855	X		7.71		4.105		-127.6		1.27		32.9	19.52		200	6.90	
0900	X		7.73		4.118		-130.1		1.23		32.7	19.74		200	6.92	
0905	X		7.74		4.136		-134.9		1.20		28.2	19.75		200	6.90	
0910	X		7.75		4.141		-137.6		1.16		26.3	19.78		200	6.90	
0915	X		7.75		4.152		-135.2		1.10		23.6	19.81		200	6.90	

COMMENTS: Using the LaMotte for Turbidity. Straw color water

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: OBI
 DATE: 8-10-16 FIELD PERSONNEL: KG/MS
 WEATHER: Cloudy, humid - 80°F

MONITOR WELL #: MCS02AL WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 17 ft below TOC
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.75 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0920	X		7.76	NA	4.157	NA	-138.1	NA	1.06	NA	24.4	NA	19.91	NA	200	6.90
0925	X		7.76		4.155		-137.5		1.06		21.6		19.98		200	6.90
0930		X													Final	7.00

COMMENTS: Sample Dup @ 0935 also collected ms/MSD and split for Corp.
Straw color water

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-10-16 FIELD PERSONNEL: KG-MS
 WEATHER: Rain humid 80's
 MONITOR WELL #: MW2SD WELL DEPTH: 59.0' bop., 61.02' TIC SCREENED/OPEN INTERVAL: 33.0-59.0' BOP
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 35.02-61.02' TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 45 ft below TPC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 12.11 ft below TPC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1250	X		Start Purging - No Reading Setting Flow Rate													
1255	X		7.88		2.776		-125.6		1.81		14.6		19.50		250	12.40
1300	X		7.59		2.766		-128.9		1.54		12.9		19.74		250	12.50
1305	X		7.49		2.768		-131.7		1.49		15.4		20.53		250	12.50
1310	X		7.46		2.758		-133.5		1.49		15.8		21.10 20.53		250	12.55
1315	X		7.43		2.767		-132.1		1.45		16.0		21.00		250	12.55
1320	X		7.38		2.759		-132.9		1.60		19.1		21.26		250	12.55
1325	X		7.33		2.750		-127.2		1.56		20.8		21.30		250	12.60
1330	X		7.31		2.753		-127.6		1.56		21.8		21.37		250	12.60
1335	X		7.29		2.757		-121.6		1.57		21.5		21.41		250	12.60
1340															Final	12.60

COMMENTS: using Lamotte 2020 w Turbidimeter for Turbidity.
 Water Color Clear/Straw

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-11-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: p. cloudy, 85°

MONITOR WELL #: MW475 WELL DEPTH: 12.0' bgs., 13.62' TIC SCREENED/OPEN INTERVAL: 7.0-12.0' bgs.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 8.62-13.62' bgs. TIC

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 13.0 ft below TOC (11.0' bgs.)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION 6.91 ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1202	X			NA		NA		NA		NA		NA		NA	200	6.91
1210	X		7.14		2.444		-76.6		0.88		14.6		21.05		200	7.01
1215	X		7.14		2.432		-85.8		0.55		3.4		20.95		200	7.00
1220	X		7.13		2.428		-87.3		0.44		1.4		20.71		200	7.00
1225	X		7.11		2.421		-88.8		0.38		1.2		20.49		200	7.00
1230	X		7.10		2.417		-90.0		0.32		-1.2		20.66		200	7.00
1235	X		7.10		2.415		-90.5		0.29		-2.7		21.14		200	7.00
1240	X		7.10		2.416		-88.9		0.28		-3.2		21.72		200	7.00
1245	X		7.10		2.419		-90.4		0.28		-2.9		21.43		200	7.00
1250		X													FINAL	7.00

COMMENTS: 12B-090024

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB&I
 DATE: 8-11-16 FIELD PERSONNEL: I. Cook, P. Hedman
 WEATHER: p. cloudy, 85°

MONITOR WELL #: Mw46D WELL DEPTH: 57.0' bop, 58.88' TIC SCREENED/OPEN INTERVAL: 32-57 feet, bop.
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 33.88-58.88' TIC.

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 51 ft below TOC (49' B45)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 13.00 ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1036	X			NA		NA		NA		NA		NA		NA	225	13.00
1045	X		6.87		3.089		-100.0		1.09		21.2		16.73		225	13.14
1050	X		6.89		3.088		-104.5		0.87		21.7		16.42		225	13.17
1055	X		6.90		3.077		-106.3		0.74		19.0		16.53		225	13.19
1100	X		6.90		3.083		-107.4		0.68		21.8		16.70		225	13.21
1105	X		6.91		3.086		-107.4		0.63		21.4		16.93		225	13.21
1110	X		6.90		3.087		-107.1		0.62		22.0		17.01		225	13.21
1115	X		6.90		3.095		-107.8		0.58		20.7		17.07		225	13.21
1120	X		6.90		3.093		-107.4		0.56		20.3		17.00		225	13.21
1125	X		6.90		3.087		-107.7		0.52		18.9		17.14		225	13.21
1130	X														FINAL	13.22

COMMENTS: 12B-090023

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBT I
 DATE: 8-11-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: partly sunny, 80°

MONITOR WELL #: MW46S WELL DEPTH: 17.5 feet, bgs, 19.25 ft, TIC SCREENED/OPEN INTERVAL: 12-17 ft bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 13.75-19.75 ft, TIC

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 17.5 ft below TOC (15.5' bgs)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.58 ft below TOC
 BENEATH INNER CAP: 0.4

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
823	X			NA		NA		NA		NA		NA		NA	185	10.58
830	X		6.69		2.180		-18.8		2.81		380.9		17.89		185	11.05
835	X		6.72		2.207		-47.7		3.13		171.4		17.49		185	11.16
840	X		6.65		2.246		-53.8		3.64		88.4		17.43		185	11.17
845	X		6.58		2.275		-55.4		4.03		68.6		17.36		185	11.20
850	X		6.55		2.282		-55.7		5.27		57.1		17.48		185	11.27
855	X		6.53		2.271		-54.3		7.06		52.2		17.56		185	11.28
900	X		6.51		2.262		-56.2		8.62		28.1		17.56		185	11.28
905	X		6.49		2.247		-59.2		11.11		17.7		17.78		185	11.28
910	X		6.50		2.238		-61.1		10.91		16.2		18.02		185	11.28
915	X		6.49		2.225		-63.8		10.22		7.7		18.11		185	11.28

COMMENTS: 12B - 090022

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-11-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: MW465 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
920	X		6.49		2.208		-66.1		8.90		4.6		17.97		185	11.28
925	X		6.49		2.193		-67.9		7.92		2.3		17.84		185	11.28
930	X		6.49		2.181		-68.9		7.99		1.1		17.91		125	11.28
935		X							*						FINAL	11.28
1010	X		REPLACED DO MEMBRANE AND RECONNECT YSI FLOW-THROUGH CELL AFTER COLLECTING SAMPLE.													
1020	X								0.88							
1025	X								0.54							
1030	X								0.40							

COMMENTS: 12B-090022 * DO MEMBRANE FAILED

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CBAT</u>	
DATE: <u>8-11-16</u>	FIELD PERSONNEL: <u>MS/KC</u>	
WEATHER: <u>Sunny 90's Humid</u>		
MONITOR WELL #: <u>MW 47D</u>	WELL DEPTH: <u>63' BLS; 64.47' T/L</u>	SCREENED/OPEN INTERVAL: <u>38-63' BLS</u>
WELL PERMIT #:	WELL DIAMETER: <u>6</u> inches	<u>39.47-64.47' T/L</u>

PID/FID READINGS (ppm):	BACKGROUND: <u>0.0</u>	PUMP INTAKE DEPTH: <u>5.3</u> ft below TOC
	BENEATH OUTER CAP: <u>0.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>7.77</u> ft below TOC
	BENEATH INNER CAP: <u>0.0</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0830	X		7.08	NA	11.56	NA	-95.6	NA	23.3	NA	3.31	NA	18.45	NA	250	7.85
0835	X		7.21		11.56		-108.4		16.8		1.02 2.01		18.03		250	8.00
0840	Y		7.29		11.57		-113.4		1.73		.91 2.01		18.07		250	8.00
0845	X		7.35		11.58		-117.0		1.80		1.27		17.92		250	8.00
0850	X		7.37		11.57		-117.8		1.91		1.29		17.89		250	8.05
0855	X		7.38		11.56		-117.2		1.97		2.01		17.92		250	8.05
0900	Y		7.38		11.58		-114.7		2.16		2.55 2.01		18.17		250	8.05
0905	Y		7.39		11.58		-112.8		2.21		2.60		18.14		250	8.05
0910	Y		7.38		11.59		-110.6		2.29		2.97		18.05		250	8.05
0915	X		7.38		11.58		-108.7		2.31		3.30		18.01		250	8.05
0920		X														

COMMENTS: Using Lamotte meter for Turbidity. Calibrated to provided standard.

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBE Federal Services
 DATE: 8-1 FIELD PERSONNEL: MS/KG
 WEATHER: _____

MONITOR WELL #: MW48S WELL DEPTH: 19' Wgs. SCREENED/OPEN INTERVAL: 14-19' Wgs.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 17 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 12.86 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1055	X		Start	NA	Purging	NA	Setting	Flow	NA	Rate	NA	No Readings	NA	NA	150	12.98
1100	X		7.07		1.723		36.2		6.20		103.6		22.45		150	12.98
1105	X		7.00		1.618		26.9		6.21		58.5		22.73		150	12.97
1110	X		6.99		1.589		27.1		6.55		59.2		22.77		180	12.97
1115	X		6.99		1.574		28.2		6.77		39.9		22.42		150	12.97
1120	X		6.99		1.560		29.8		6.86		35.4		22.01		150	12.97
1125	X		6.98		1.558		31.4		6.90		27.2		22.08		150	12.97
1130	X		6.98		1.553		32.0		6.88		7.9		22.12		150	12.97
1135	X		6.98		1.549		33.5		6.90		.54		22.16		150	12.97
1140	X		6.98		1.543		34.2		6.93		0		22.19		150	12.97
1145	X		6.97		1.544		34.6		6.97		17.3		22.21		150	12.97

COMMENTS: Using Lamotte 2020 w/c Turbidimeter for Turbidity - Calibrated to provided standard

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: CRI
 DATE: 8-11-16 FIELD PERSONNEL: KC-MS
 WEATHER: Sunny 90's Humid
 MONITOR WELL #: MW485 WELL DEPTH: 19' bgs, 20.08' TIC SCREENED/OPEN INTERVAL: 14-19' bgs, 15.08-20.08' TIC
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 17 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 12.86 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1150	X		6.96	NA	1.500	NA	34.8	NA	6.96	NA	15.9	NA	22.96	NA	150	12.98
1155	X		6.96		1.498		35.7		6.97		13.3		23.01		150	12.98
1200	X		6.96		1.494		36.2		6.98		15.2		23.07		150	12.98
1205	X		6.96		1.491		35.9		6.97		10.8		23.10		180	12.98
1210	X		6.96		1.488		35.8		6.94		7.9		23.11		150	12.98
1215	X		6.96		1.483		35.4		6.91		8.6		23.16		150	12.98
1220		X													Final	12.98

COMMENTS: Using LaMotte 2020 we for Turbidity
 Dup taken 128-090073 @ 1225

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-11-16 FIELD PERSONNEL: KG, MS
 WEATHER: Cloudy 90's Humid

MONITOR WELL #: MW 48D WELL DEPTH: 63 feet, bgs, 64.64 feet, TIC SCREENED/OPEN INTERVAL: 38-63 ft bgs
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 39.64-64.64 feet, TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 55 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 13.86 ft below TOC
 BENEATH INNER CAP: 0.3

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0950	X		Start NA Purging		NA		getting flow NA		NA		NA		NA		200	13.95
0955	X		7.64		4.048		-16.5		3.53		18.2		19.12		200	13.95
1000	X		7.31		3.864		-2.6		2.56		13.9		18.05		200	14.00
1005	X		7.22		3.862		-0.7		2.39		15.8		17.79		200	14.00
1010	X		7.18		3.858		-0.1		2.37		17.3		17.92		200	14.00
1015	X		7.15		3.851		-0.6		2.64		19.5		17.84		200	14.00
1020	X		7.13		3.850		-1.1		2.76		19.8		17.89		200	14.00
1025	X		7.13		3.855		-1.6		2.81		20.2		18.03		200	14.00
1030	X		7.12		3.850		-2.3		2.77		21.3		18.04		200	14.00
1035	X		7.12		3.858		-2.7		2.71		20.9		18.01		200	14.00
1040	X														Final	14.00

COMMENTS: Using Camette 2020 w/ Turbidimeter calibrated to provided standard.

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-15-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: Sunny, 85°

MONITOR WELL #: MW24D WELL DEPTH: 67.70 ft BGS; 69.95 ft, TIC SCREENED/OPEN INTERVAL: 47.70-67.70 ft BGS
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 49.95-69.95 ft TIC

PID/FID READINGS (ppm): BACKGROUND: Ø PUMP INTAKE DEPTH: 53.5 ft below TOC (50.0' BGS)
 BENEATH OUTER CAP: Ø DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.83 ft below TOC
 BENEATH INNER CAP: Ø

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1021	X			NA		NA		NA		NA		NA		NA	190	11.83
1030	X		6.57		3.575		71.7		0.36		67.1		20.34		190	12.35
1035	X		6.54		3.668		58.8		0.23		38.6		19.51		190	12.35
1040	X		6.55		3.652		56.3		0.19		32.8		19.94		190	12.35
1045	X		6.55		3.665		55.0		0.15		27.0		20.05		190	12.35
1050	X		6.55		3.659		55.3		0.14		22.2		20.58		190	12.35
1055	X		6.54		3.669		56.5		0.13		18.4		20.74		190	12.35
1100	X		6.54		3.666		58.0		0.13		14.6		20.99		190	12.35
1105	X		6.54		3.674		58.9		0.13		11.4		21.10		190	12.35
1110	X		6.54		3.676		60.4		0.12		10.4		20.70		190	12.35
1115	X		6.53		3.666		62.4		0.12		9.2		20.75		190	12.35

COMMENTS: 12B-090029 Sample time: 1120 FINAL DTW: 12.35 TOC

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB&I
 DATE: 8-15-10 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: Sunny, 90°

MONITOR WELL #: OVPW15 WELL DEPTH: 21' TOC SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 4 inches

PID/FID READINGS (ppm): BACKGROUND: Ø PUMP INTAKE DEPTH: 18.5 ft below TOC
 BENEATH OUTER CAP: Ø DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.74 ft below TOC
 BENEATH INNER CAP: Ø

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1234	X			NA		NA		NA		NA		NA		NA	200	6.74
1240	X		6.98		1.427		-8.8		0.26		7.1		19.51		200	6.74
1245	X		6.99		1.460		-35.9		0.13		5.2		18.89		200	6.74
1250	X		6.99		1.464		-38.9		0.12		4.2		18.79		200	6.74
1255	X		6.99		1.458		-44.9		0.10		2.7		18.79		200	6.74
1300	X		6.99		1.454		-47.9		0.09		2.5		18.49		200	6.74
1305	X		6.99		1.453		-50.5		0.09		1.2		18.56		200	6.74
1310	X		6.99		1.456		-51.5		0.09		1.0		18.39		200	6.74
1315		X													FINAL	6.74

COMMENTS: 12B-090030

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CB+I</u>	
DATE: <u>8-15-16</u>	FIELD PERSONNEL: <u>S. Cook, P. Hedman</u>	
WEATHER: <u>Sunny, 78°</u>		
MONITOR WELL #: <u>MW 245</u>	WELL DEPTH: <u>19.5' TIC</u>	SCREENED/OPEN INTERVAL: <u>10.60-15.60 ft OBS</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> inches	<u>14.38-19.38 ft TIC</u>

PID/FID READINGS (ppm):	BACKGROUND: <u>Ø</u>	PUMP INTAKE DEPTH: <u>17.5</u> ft below TOC
	BENEATH OUTER CAP: <u>Ø</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>12.45</u> ft below TOC
	BENEATH INNER CAP: <u>Ø</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
833	X			NA		NA		NA		NA		NA		NA	180	12.45
840	X		6.51		1.209		-43.5		0.17		108.5		18.92		180	12.49
845	X		6.57		1.220		-60.0		0.10		76.3		19.13		180	12.49
850	X		6.59		1.215		-65.5		0.08		55.1		19.30		180	12.49
855	X		6.59		1.216		-67.4		0.08		42.6		19.27		180	12.49
900	X		6.59		1.215		-69.0		0.00		39.2		19.65		180	12.49
905	X		6.59		1.218		-68.4		0.01		31.4		19.55		180	12.49
910	X		6.58		1.218		-68.4		0.00		29.2		19.80		180	12.49
915	X		6.58		1.217		-69.2		0.00		24.5		20.19		180	12.49
920	X		6.58		1.218		-69.5		0.00		24.6		20.41		180	12.49
925	X		6.59		1.219		-70.0		0.00		23.5		20.48		180	12.49

COMMENTS: 12B-090028 Sample time: 0930 FINAL DTW: 12.49' TOC

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 5

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-15-16 FIELD PERSONNEL: MS/KG
 WEATHER: Sunny 79°F 76% Humidity

MONITOR WELL #: MW34D WELL DEPTH: 51.90 ft BBS, 53.78 ft TIC SCREENED/OPEN INTERVAL: 26.90 - 51.90 ft BBS
 WELL PERMIT #: _____ WELL DIAMETER: 6.0 inches 28.78 - 53.78 ft TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 40 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.18 ft below TOC
 BENEATH INNER CAP: 7.8

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0850	X		Start	NA	Purging - No	NA	Readings	Setting	Flow	Rate.	NA		NA		175	10.37
0855	X		6.54		4.416		-146.7		0.00		5.7		19.66		175	10.43
0900	X		6.70		4.413		-153.7		0.00		5.4		19.85		175	10.55
0905	X		6.79		4.411		-156.9		0.00		4.9		19.83		175	10.66
0910	X		6.82		4.404		-158.8		0.00		4.6		19.84		175	10.80
0915	X		6.82		4.406		-159.9		0.00		4.4		19.94		175	10.89
0920	X		6.87		4.406		-160.0		0.00		4.5		19.98		175	10.97
0925	X		6.88		4.407		-162.5		0.00		4.4		20.02		110	11.06
0930	X		6.89		4.407		-161.3		0.00		4.5		21.10		110	11.06
0935	X		6.90		4.409		-160.2		0.00		4.3		21.16		110	11.12
0940	X		6.91		4.410		-159.3		0.00		4.4		21.02		110	11.17

COMMENTS: some sort of an object in well at 10'

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 3

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CRP</u>
DATE: <u>8-15-16</u>	FIELD PERSONNEL: <u>JK/KG</u>
WEATHER: <u>Sunny 80's 70% Humidity</u>	

MONITOR WELL #: <u>mw34D</u>	WELL DEPTH: _____	SCREENED/OPEN INTERVAL: _____
WELL PERMIT #: _____	WELL DIAMETER: <u>6</u> inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>6.0</u>	PUMP INTAKE DEPTH: <u>40</u> ft below TOC
	BENEATH OUTER CAP: <u>6.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>10.18</u> ft below TOC
	BENEATH INNER CAP: <u>7.8</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0945	X		6.91	NA	4.412	NA	-158.7	NA	0.0	NA	4.5	NA	21.13	NA	90	11.22
0950	X		6.92		4.412		-160.1		0.0		4.6		21.20		90	11.25
0955	X		6.92		4.411		-160.9		0.0		4.7		21.29		90	11.30
10:00	X		6.92		4.410		-161.3		0.0		4.5		21.32		90	11.32
1005	X		6.91		4.410		-161.8		0.0		4.4		21.35		90	11.36
1010	X		6.91		4.411		-162.0		0.0		4.6		21.39		90	11.38
1015	X		6.91		4.412		-162.4		0.0		4.5		21.41		90	11.41
1020	X		6.91		4.413		-162.9		0.0		4.6		21.46		90	11.43
1025	X		6.90		4.414		-163.5		0.0		4.7		21.49		90	11.43
1030	X		6.90		4.415		-163.5		0.0		4.8		21.52		90	11.44
1035			6.90		4.415		-163.5		0.0		4.6		21.57		90	11.44

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-15-16 FIELD PERSONNEL: KG+MS
 WEATHER: Sunny 90's Humid

MONITOR WELL #: MSS05BR WELL DEPTH: 55.0 ft DIS; 56.79 ft TIC SCREENED/OPEN INTERVAL: 25.50 - 49.00 ft DIS
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 27.29 - 50.79 ft TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 43 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.45 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1205	X		6.23	NA	14.92	NA	-43.5	NA	0.99	NA	3.8	NA	20.16	NA	250	10.35
1210	X		6.21		14.96		-52.2		0.84		7.2		19.83		250	10.36
1215	X		6.20		14.97		-66.2		0.27		13.5		20.07		250	10.35
1220	X		6.19		14.96		-72.7		0.21		13.2		20.33		250	10.35
1225	X		6.16		14.95		-76.0		0.23		12.9		20.14		250	10.35
1230	X		6.13		14.94		-76.9		0.24		10.0		19.93		250	10.35
1235	X		6.10		14.93		-76.8		0.34		9.0		20.09		250	10.35
1240	X		6.08		14.93		-77.9		0.60		8.1		19.62		250	10.35
1245	X		6.08		14.93		-79.1		0.74		7.1		19.54		250	10.35
1250	X		6.07		14.93		-80.4		0.76		7.3		19.58		250	10.35
1255	X		6.08		14.93		-82.6		0.74		7.5		19.26		250	10.35

COMMENTS: Sample taken 1255. Dup Sample taken @ 1300 126-090074

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBL
 DATE: 8-15-16 FIELD PERSONNEL: KG/MS
 WEATHER: Sunny 90's Humid

MONITOR WELL #: MISSOSAR WELL DEPTH: 15.30 ft bgs, 17.81 ft TK SCREENED/OPEN INTERVAL: 5.00-15.00 ft bgs, 7.51-17.51 ft TK
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 13 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.25 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1400	X		7.13	NA	1.903	NA	-34.7	NA	1.47	NA	39.2	NA	24.41	NA	200	11.00
1405	X		6.94		1.870		-121.9		0.95		12.1		21.97		200	11.04
1410	X		7.01		1.877		-131.0		0.74		23.0		22.06		200	10.95
1415	X		7.06		1.877		-132.9		0.71		22.8		22.39		200	10.93
1420	X		7.08		1.882		-133.8		0.60		19.6		22.51		200	10.91
1425	X		7.08		1.883		-134.9		0.50		21.8		23.05		200	10.91
1430	X		7.08		1.883		-134.4		0.48		20.6		22.98		200	10.90
1435	X		7.08		1.884		-134.2		0.46		11.4		22.93		200	10.90
1440	X		7.08		1.883		-134.3		0.43		3.9		22.74		200	10.90
1445	X		7.08		1.883		-134.4		0.41		3.2		22.74		200	10.90
1450	X	X	7.08		1.883		-134.5		0.39		3.0		22.73		200	10.90

COMMENTS: Sample @ 1450

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB&I
 DATE: 8-16-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: sunny, 80°

MONITOR WELL #: MISS7AR WELL DEPTH: 12.5, bgs, 15.09 ft, TIC SCREENED/OPEN INTERVAL: 7.5-12.5 bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 10.09-15.09 ft, TIC

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 13.5 ft below TOC (11.0' bgs)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.94 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
820	X			NA		NA		NA		NA		NA		NA	180	13.5 9.94
825	X		6.54		1.520		41.8		0.66		405.0		18.83		180	9.99
830	X		6.72		1.772		-35.0		0.25		159.3		18.25		180	10.00
835	X		6.79		1.828		-56.4		0.12		105.0		18.06		180	10.00
840	X		6.82		1.847		-60.9		0.13		105.2		18.11		180	9.98
845	X		6.82		1.801		-62.9		0.15		100.2		18.31		200	10.00
850	X		6.81		1.840		-66.2		0.06		69.8		17.37		200	10.00
855	X		6.83		1.858		-71.2		0.04		52.9		17.67		200	10.00
900	X		6.83		1.860		-72.7		0.04		53.4		17.67		200	10.00
905	X		6.84		1.861		-72.9		0.04		48.2		17.53		200	10.00
910	X		6.84		1.858		-73.4		0.03		47.4		17.78		200	10.00

COMMENTS: 128-090034

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-16-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: MISS7AR WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
915	X		6.84		1.857		-74.0		0.03		47.7		17.83		200	10.00
920	X		6.83		1.860		47-74.6		0.04		47.1		17.79		200	10.00
925	X														FINAL	10.00

COMMENTS: 12B-090034

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-16-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: Sunny, 85°
 MONITOR WELL #: M1507B WELL DEPTH: 49.0 ft SCREENED/OPEN INTERVAL: 13.00-49.0
 WELL PERMIT #: _____ WELL DIAMETER: 4 inches 14.78-50.78 ft
 PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 45.5 ft below TOC (44.0' BGS)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.80 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1006	X			NA		NA		NA		NA		NA		NA	225	10.80
1010	X		7.05		5.836		66.0		0.77		59.0		18.78		225	11.04
1015	X		7.00		5.911		38.2		0.58		47.5		19.21		225	11.04
1020	X		6.99		5.937		24.0		0.61		48.8		19.05		225	11.04
1025	X		6.98		5.937		18.5		0.79		44.3		18.81		225	11.04
1030	X		6.98		5.934		16.3		1.00		45.7		18.88		225	11.04
1035	X		6.98		5.916		15.1		1.19		44.5		19.07		225	11.04
1040	X		6.98		5.911		13.6		1.17		36.5		19.23		225	11.04
1045	X		6.98		5.893		10.2		1.12		34.9		19.24		225	11.04
1050	X		6.98		5.884		9.8		1.35		39.2		19.36		225	11.04
1055	X		6.98		5.874		10.9		1.45		42.3		19.34		225	11.04

COMMENTS: 12B-090035

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 3-16-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: M15507B WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		La Motte 2025 PM		NA		
1100	X		6.98		5.872		12.0		1.51		40.3	11.70	19.29		225	11.04
1105	X		6.98		5.867		12.1		1.49		36.1	11.4	19.05		225	11.04
1110	X		6.97		5.870		10.4		1.31		33.2	8.0	19.14		225	11.04
1115	X		6.97		5.867		8.5		1.23		30.5	7.7	19.54		225	11.04
1120	X		6.97		5.879		6.3		1.11		25.4	6.5	19.44		225	11.04
1125	X		6.96		5.886		5.2		1.02		24.7	6.2	19.15		225	11.04
1130	X		6.96		5.881		5.9		0.97		24.6	5.5	18.60		225	11.04
1135	X		6.96		5.878		5.0		0.99		22.2	6.7	18.87		225	11.04
1140	X														FINAL	11.04

COMMENTS: 128-090035

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-16-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: p. cloudy, 90°

MONITOR WELL #: B38W07B WELL DEPTH: 52.59 ft bgs, 54.98 ft TIC SCREENED/OPEN INTERVAL: 18.5-28.8 ft bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 20.89-31.19 ft TIC

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 26.0 ft below TOC (23.0' bgs)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.60 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1300	X			NA		NA		NA		NA		NA		NA	190	9.60
1305	X		6.66		1.666		186.8		0.59		301.4		17.48		190	9.72
1310	X		6.58		1.658		224.1		0.39		132.6		17.12		190	9.72
1315	X		6.62		1.666		245.1		0.28		65.5		16.94		190	9.72
1320	X		6.64		1.667		262.5		0.22		27.1		16.89		190	9.72
1325	X		6.64		1.667		272.4		0.25		18.6		16.77		190	9.72
1330	X		6.61		1.662		283.2		0.20		11.9		16.57		190	9.72
1335	X		6.60		1.663		292.1		0.18		8.1		16.44		190	9.77
1340	X		6.59		1.665		298.4		0.19		5.9		16.53		190	9.72
1345	X		6.60		1.664		304.6		0.16		4.3		16.53		190	9.72
1350	X		6.59		1.664		311.0		0.15		2.8		16.54		190	9.72

COMMENTS: 10A-090036

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 3-16-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: B38007B WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION : _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1355	X		6.60		1.661		316.1		0.14		2.1		16.48		190	9.72
1400	X		6.60		1.663		318.7		0.14		1.9		16.58		190	9.72
1405		X													FINAL	9.72

COMMENTS: 10A-090036

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mV for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBIT
 DATE: 8-16-16 FIELD PERSONNEL: KG/MS
 WEATHER: Sunny
 MONITOR WELL #: mw44s WELL DEPTH: 117.5 ^{ft} beg. SCREENED/OPEN INTERVAL: 7-12 ft beg.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 11 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.40 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0830	X		Start Purging - No ^{NA} readings		No ^{NA} readings		Take ^{NA} setting		Flow ^{NA} rate		NA		NA		125	7.36
0835	X		6.99		1.800		-2.1		0.29		39.0		23.11		125	7.50
0840	X		7.00		1.799		-18.9		0.18		8.8		23.28		125	7.57
0845	X		7.05		1.801		-26.4		0.16		7.5		23.42		125	7.63
0850	X		7.07		1.807		-30.4		0.15		4.9		23.96		100	7.60
0855	X		7.09		1.808		-31.6		0.15		0.0		23.98		100	7.64
0900	X		7.10		1.808		-32.3		0.15		0.0		23.96		100	7.65
0905	X		7.11		1.807		-32.9		0.15		0.0		23.93		100	7.66
0910		X													Final	7.68

COMMENTS: Sample @ 0910

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBF
 DATE: 8-16-16 FIELD PERSONNEL: MS/KG
 WEATHER: Sunny 90's Humid

MONITOR WELL #: MWSDR WELL DEPTH: 63 ft. bop. (flushmount). SCREENED/OPEN INTERVAL: 38-63 ft. bop.
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 57 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.13 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1005	X		Start purging - No readings setting flow rate		NA		NA		NA		NA		NA		225	10.03
1020	X		7.64		4.522		-164.6		0.00		12.1		18.69		225	10.03
1025	X		7.57		4.451		-167.8		0.00		6.1		18.20		225	10.60
1030	X		7.53		4.546		-172.6		0.00		1.3		17.75		225	10.60
1035	X		7.51		4.551		-174.4		0.02		0.0		17.71		225	10.76
1040	X		7.48		4.558		-176.3		0.00		0.0		17.98		228	10.93
1045	X		7.47		4.561		-177.4		0.00		0.0		18.19		180	11.03
1050	X		7.46		4.566		-180.7		0.00		0.0		18.96		180	11.10
1055	X		7.46		4.868		-181.6		0.00		0.0		19.02		180	11.12
1100	X		7.45		4.567		-182.4		0.00		0.0		19.12		180	11.15
1105	X		7.44		4.866		-182.8		0.00		0.0		19.16		180	11.16

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: <u>Maywood</u>	CONSULTING FIRM: _____
DATE: <u>8-16-16</u>	FIELD PERSONNEL: _____
WEATHER: <u>Sunny 90's Humid</u>	

MONITOR WELL #: <u>MW3DR</u>	WELL DEPTH: _____	SCREENED/OPEN INTERVAL: _____
WELL PERMIT #: _____	WELL DIAMETER: <u>6</u> inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>0.0</u>	PUMP INTAKE DEPTH: <u>57</u> ft below TOC	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>10.13</u> ft below TOC
	BENEATH OUTER CAP: <u>0.0</u>		
	BENEATH INNER CAP: <u>0.0</u>		

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1110	X	X	7.43	NA	4.567	NA	-183.1	NA	0.00	NA	0.0	NA	19.22	NA	180	11.16
1115	X	X														

COMMENTS: ~~1110~~ 1115 sample had samples also taken, H₂O clear, samples for Sulfide turned a shade of Blue

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBE
 DATE: 8-16-16 FIELD PERSONNEL: KG/ms
 WEATHER: overcast 90s Humid

MONITOR WELL #: B38W03B WELL DEPTH: 39.5 feet, bgs. 40.84 ft, TIC SCREENED/OPEN INTERVAL: 29.8 - 37.5 ft bgs.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 31.15 - 40.84 ft TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 35 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.30 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1340	X		Start Purging - No NA Readings Settling Flow Rate.													
1345	X		8.78		1.724		-82.3		0.16		29.5		19.57		230	10.45
1350	X		8.73		1.684		-79.6		0.16		27.8		19.56		230	10.45
1355	X		7.51		1.591		-52.2		0.11		11.1		19.09		230	10.43
1400	X		7.09		1.602		-55.1		0.10		8.6		19.01		230	10.43
1405	X		6.87		1.619		-57.6		0.09		4.9		19.05		230	10.43
1410	X		6.77		1.619		-58.8		0.09		6.3		19.06		230	10.45
1415	X		6.70		1.620		-60.2		0.08		3.0		19.03		230	10.43
1420	X		6.69		1.620		-61.1		0.07		3.8		19.08		230	10.43
1425	X		6.68		1.620		-61.6		0.06		3.0		19.10		230	10.43
1430	X															

COMMENTS: Sample for Rad + Radon

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-17-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: p. cloudy, 75°

MONITOR WELL #: B38W145 WELL DEPTH: 13.5 ft. BGS (Flushmount) SCREENED/OPEN INTERVAL: 8.5-13.5
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 11.5 ft below ¹⁴ TOG BGS
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.68 ft below TOC
 BENEATH INNER CAP: 0.2

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
848	X			NA		NA		NA		NA		NA		NA	200	4.68
855	X		7.07		1.646		178.9		0.10		68.0		17.85		200	4.69
900	X		7.05		1.612		171.5		0.06		26.1		17.86		200	4.69
905	X		7.08		1.672		167.0		0.04		13.7		17.75		200	4.69
910	X		7.10		1.759		162.5		0.03		8.6		17.77		200	4.69
915	X		7.11		1.844		159.6		0.03		4.8		17.74		200	4.69
920	X		7.10		1.909		157.5		0.03		3.0		17.73		200	4.69
925	X		7.10		1.968		155.4		0.03		1.8		17.72		200	4.69
930	X		7.09		2.020		153.3		0.02		0.6		17.72		200	4.69
935	X		7.08		2.070		151.1		0.02		0.3		17.65		200	4.69
940	X		7.08		2.106		149.1		0.02		0.2		17.70		200	4.69

COMMENTS: 19A-090040

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-17-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: B33W145 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: 3.874 @ 0.2

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
945	X		7.07		2.134		147.2		0.02		0.2		17.73		200	4.69
950	X		7.06		2.163		145.5		0.02		0.0		17.70		200	4.69
955	X		7.06		2.183		143.4		0.02		0.0		17.74		200	4.69
1000	X														FINAL	4.69

COMMENTS: 19A-090040

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 3

SITE: Maywood CONSULTING FIRM: CB&I
 DATE: 8-17-10 FIELD PERSONNEL: I. Cook, P. Hedman
 WEATHER: Sunny, 75°
 MONITOR WELL #: B38W14D WELL DEPTH: 51.5 feet (7 bgs (flush water)) SCREENED/OPEN INTERVAL: 46.0 - 51.5 ft bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 48.0 ft below ^{TOC} 695
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.47 ft below TOC
 BENEATH INNER CAP: 3.8

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1031	X			NA		NA		NA		NA		NA		NA		3.47
1035	X		7.62		0.701		121.1		0.36		309.0		19.78		175	3.70
1040	X		7.39		1.249		125.6		0.11		349.1		18.04		175	3.84
1045	X		7.33		1.340		124.4		0.06		231.4		17.61		175	3.85
1050	X		7.35		1.338		120.8		0.04		348.6		17.19		175	3.85
1055	X		7.38		1.322		117.5		0.04		386.1		17.03		175	3.85
1100	X		7.41		1.323		115.1		0.03		354.9		17.15		175	3.85
1105	X		7.42		1.325		113.2		0.03		320.2		17.17		175	3.85
1110	X		7.43		1.331		112.1		0.03		259.4		17.22		175	3.85
1115	X		7.43		1.335		110.4		0.03		210.0		17.18		175	3.85
1120	X		7.43		1.340		109.1		0.03		178.1		17.19		175	3.85

COMMENTS: 19A-090041

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 3

SITE: MAYWOOD CONSULTING FIRM: _____
 DATE: 8-17-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: B38W14D WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1125	X		7.43		1.344		107.7		0.02		134.0		17.14		175	3.85
1130	X		7.43		1.348		107.2		0.02		113.0		17.13		175	3.85
1135	X		7.44		1.349		105.9		0.02		114.7		17.09		175	3.85
1140	X		7.44		1.349		105.2		0.02		109.4		17.10		175	3.85
1145	X		7.44		1.355		103.9		0.02		84.2		17.10		175	3.85
1150	X		7.44		1.355		101.6		0.02		70.6		17.23		175	3.85
1155	X		7.44		1.355		100.0		0.02		68.6		17.00		175	3.85
1200	X		7.44		1.355		97.1		0.02		54.0		16.78		175	3.85
1205	X		7.44		1.355		95.1		0.02		44.1		16.75		175	3.85
1210	X		7.45		1.356		91.4		0.02		45.3		16.98		175	3.85

COMMENTS: 19A-090041

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 3 OF 3

SITE: MAYWOOD CONSULTING FIRM: _____
 DATE: 8-17-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: B38W14D WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1215				NA		NA		NA		NA		NA		NA		
1215	X		7.45		1.356		89.2		0.02		42.6		16.94		175	3.85
1220	X		7.45		1.356		88.0		0.02		41.3	LAMOTTE	16.85		175	3.85
1225	X		7.45		1.358		87.2		0.02		43.4	8.9	16.97		175	3.85
1230	X		7.46		1.358		87.7		0.02		43.3	9.2	17.08		175	3.85
1235	X		7.46		1.357		88.4		0.02		42.2	9.4	17.00		175	3.85
1240	X														FINAL	3.85

COMMENTS: 19A-090041

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-17-16 FIELD PERSONNEL: J. Cook, P. Hedman
 WEATHER: sunny, 85°

MONITOR WELL #: BRPZ-2 WELL DEPTH: 62.0 ft bgs, 63.34 ft, TIC SCREENED/OPEN INTERVAL: 42.0-62.0 bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 43.34-63.34 ft, TIC

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 53.5 ft below TOC (52.0' BGS)
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.50 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1336	X			NA		NA		NA		NA		NA		NA	210	9.50
1340	X		6.90		5.208		-35.6		0.81		50.0		18.47		210	9.56
1345	X		6.72		6.599		-42.3		0.55		81.8		17.58		210	9.58
1350	X		6.74		6.554		-42.0		0.34		45.8		17.06		210	9.59
1355	X		6.75		6.528		-41.9		0.28		31.0		17.01		210	9.60
1400	X		6.75		6.514		-42.4		0.28		30.1		16.98		210	9.60
1405	X		6.76		6.477		-41.9		0.23		38.5		17.21		210	9.61
1410	X		6.76		6.429		-42.0		0.20		44.3	LowMotte 2020	17.04		210	9.61
1415	X		6.76		6.406		-42.1		0.16		40.9	22.4	17.14		210	9.61
1420	X		6.76		6.414		-42.7		0.14		32.9	23.8	16.97		210	9.62
1425	X		6.77		6.428		-43.1		0.13		30.1	16.3	17.25		210	9.62

COMMENTS: 12B-090042

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-17-16 FIELD PERSONNEL: _____
 WEATHER: sunny, 86°

MONITOR WELL #: BRPZ-2 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1430	X		6.77		6.436		-44.0		0.12		32.5	19.6	17.45		210	9.63
1435	X		6.77		6.428		-44.4		0.13		31.1	18.5	17.28		210	9.63
1440	X														FINAL	9.63

COMMENTS: 12B-090042

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Mallwood CONSULTING FIRM: CET
 DATE: 8-17-16 FIELD PERSONNEL: MS/KG
 WEATHER: Sunny

MONITOR WELL #: MW155 WELL DEPTH: 16.00 ft bgs. (flush mount) SCREENED/OPEN INTERVAL: 10.5-15.5 ft bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 13 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.41 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0840	X		Start purging - No Reading & Setting Flow Rate													
0845	X		7.13		1.907		40.3		0.58		0.0		18.78		200	5.60
0850	X		7.29		1.912		-18.2		0.43		0.0		18.53		200	5.56
0855	X		7.31		1.900		-32.5		0.35		0.0		18.28		200	5.53
0900	X		7.32		1.895		-40.7		0.42		0.0		19.01		200	5.53
0905	X		7.33		1.897		-41.3		0.42		0.0		19.06		200	5.51
0910	X		7.34		1.896		-41.9		0.42		0.0		19.10		200	5.51
0915		X													Final	5.51

COMMENTS: Dup taken along with MS/MSD. Dup @ 0920
 H₂O color clear

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CRI
 DATE: 8-17-16 FIELD PERSONNEL: KG, MS
 WEATHER: Sunny 80s

MONITOR WELL #: B33W15D WELL DEPTH: 45.0 ft (flush mount) SCREENED/OPEN INTERVAL: 40.0 - 45.0 ft
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0-0 PUMP INTAKE DEPTH: 43 ft below TOC
 BENEATH OUTER CAP: 0-0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 40.0 ft below TOC
 BENEATH INNER CAP: 0-0 4.71

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1030	X		Start purging - No readings setting flow rate.													
1035	X		7.37		1.703		282.1		0.61		13.1		18.53		250	5.02
1040	X		7.34		1.676		331.5		0.32		6.3		17.80		250	5.02
1045	X		7.34		1.670		342.4		0.26		17.4		17.60		250	5.02
1050	X		7.33		1.660		358.5		0.24		66.6		16.57		250	5.03
1055	X		7.34		1.658		365.2		0.31		35.5		16.88		250	5.03
1100	X		7.33		1.661		369.8		0.30		27.2		17.09		250	5.03
1105	X		7.35		1.666		373.4		0.31		19.4		17.68		250	5.03
1110	X		7.35		1.663		374.8		0.32		17.2		17.71		250	5.03
1115	X		7.35		1.666		375.3		0.31		16.3		17.75		250	5.03
1120	X		7.36		1.667		376.1		0.30		15.3		17.78		250	5.03

COMMENTS: Checking Turbidity with the Lamotte W2020 Meter. Turb=35.5 @ 1055. using Lamotte for the last. Sample time 1125 5.03 final water level

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-18-16 FIELD PERSONNEL: MS, KG
 WEATHER: Sunny 90's

MONITOR WELL #: BAP23 WELL DEPTH: 530 ft, hwy, 54.69 ft TIC SCREENED/OPEN INTERVAL: 33-0 - 52.0 ft TIC
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 34.69 - 54.69 ft TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 47 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.77 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1300	X		Start ^{NA} pumping		NO ^{NA} readings		Setting ^{NA} flow rate.				NA		NA		250	10.00
1305	X		6.84		5.112		14.9		0.54		12.3		17.38		250	10.00
1310	X		6.39		5.197		9.5		0.26		14.8		16.97		250	10.00
1315	X		6.39		5.188		8.0		0.43		17.3		16.94		250	10.00
1320	X		6.36		5.168		5.4		1.10		27.3		17.15		250	10.00
1325	X		6.36		5.110		2.2		1.37		37.2		16.71		250	10.00
1330	X		6.34		5.069		1.6		1.66		36.4		16.33		250	10.00
1335	X		6.34		5.038		0.5		1.81		32.8		16.17		250	10.00
1340	X		6.34		5.038		0.3		1.82		26.2		16.10		250	10.00
1345	X		6.35		5.040		0.4		1.82		19.8		16.12		250	10.00
1350			6.36		5.046		0.6		1.86		13.5		16.14		250	10.00

COMMENTS: Using the Lamotte we 2020 Meter for turbidity

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-17-16 FIELD PERSONNEL: MS/KG
 WEATHER: Sunny 90's

MONITOR WELL #: R023 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 47 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.77 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1355	X		6.37	NA	5.046	NA	0.5	NA	1.10	NA	12.8	NA	16.17	NA	250	10.00
1400	X		6.36		5.046		0.3		1.12		11.4		16.20		250	10.00
1405	X		6.36		5.047		0.2		1.15		9.53		16.23		250	10.00
1410	X		6.36		5.046		0.0		1.17		8.80		16.26		250	10.00
1415	X		6.35		5.045		-0.2		1.20		8.13		16.30		250	10.00
1420	X														Final	10.00

COMMENTS: Using LaMotte we 2020 meter for Turbidity. Final DTW 10.00. H2O Clear

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 1

SITE: MAYWOOD CONSULTING FIRM: CB+I
 DATE: 8-18-16 FIELD PERSONNEL: JE/MS
 WEATHER: CLOUDY 75°F

MONITOR WELL #: MW33S WELL DEPTH: 19.6 ft bgs, 21.26 ft, bgs. SCREENED/OPEN INTERVAL: 14.6 - 19.6 ft bgs
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 16.26 - 21.26 ft. bgs.

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 17.0 ft below TOC BGS, 18.66 ft TIC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.3 ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0848	X		START	NA		NA		NA		NA		NA		NA		
0855	X		6.87		8.908		-95.5		1.73		15.6		17.64		155	14.85
0900	X		6.94		9.096		-95.3		1.37		12.0		17.35		155	15.05
0905	X		6.99		9.264		-93.2		1.40		9.8		17.97		120	15.10
0910	X		7.02		9.342		-92.0		1.60		12.0		18.23		120	15.20
0915	X		7.04		9.380		-90.1		1.71		11.3		18.05		120	15.25
0920	X		7.05		9.411		-87.9		1.88		10.3		18.03		120	15.30
0925	X		7.06		9.434		-86.9		1.95		11.8		18.47		95	15.35
0930	X		7.07		9.472		-85.2		1.98		11.9		19.09		95	15.30
0935	X		7.07		9.488		-83.0		1.95		12.8		19.44		95	15.25
0940	X														FINAL	15.19

COMMENTS: 12B-090047

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: MAYWOOD CONSULTING FIRM: CB+I
 DATE: 8-18-16 FIELD PERSONNEL: JC/MS
 WEATHER: CLOUDY 80°F

MONITOR WELL #: MW-45D WELL DEPTH: 63.0' bgs, 65D3 TIC SCREENED/OPEN INTERVAL: 38-63' bgs.
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 40.03-65.03 TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 58.0 ft below TOC BGS, 60.03 ft, TIC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 12.74 ft below TOC
 BENEATH INNER CAP: 1.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1010	X		START	NA		NA		NA		NA		NA		NA		
1015	X		6.62		7.957		-34.1		1.59		11.6		18.93		200	12.74
1020	X		6.42		8.185		-11.2		1.13		11.3		17.67		200	12.89
1025	X		6.38		8.179		-9.6		0.95		8.4		17.51		200	12.95
1030	X		6.36		8.149		-10.8		0.64		9.3		17.45		200	13.03
1035	X		6.35		8.129		-11.5		0.55		8.1		17.41		200	13.08
1040	X		6.35		8.128		-12.2		0.39		5.5		17.35		200	13.11
1045	X		6.35		8.116		-12.9		0.35		8.1		17.35		200	13.14
1050	X		6.35		8.099		-13.4		0.35		6.0		17.40		200	13.17
1055	X		6.34		8.047		-14.3		0.31		4.9		17.50		200	13.19
1100	X		6.35		8.044		-14.5		0.32		5.1		17.71		200	13.20

COMMENTS: 12B-090046
12B-090076 (DUP) (U15)

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: _____ CONSULTING FIRM: _____
 DATE: 8-18-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: MW-45D WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): _____ BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1105	X	X		NA		NA		NA		NA		NA		NA		
1105	X	X	6.35		8.041		-14.8		0.33		5.2		17.71		200	13.20
1110	X	X													FINAL	13.18

COMMENTS: _____

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 2

SITE: MAYWOOD CONSULTING FIRM: CB + I
 DATE: 8-18-16 FIELD PERSONNEL: JC / MS
 WEATHER: M cloudy 80°F

MONITOR WELL #: MISS-04B WELL DEPTH: ~~47.0~~ 47.0, bop, 48.58 ft TC SCREENED/OPEN INTERVAL: 19.0-47.0 ft, bop
 WELL PERMIT #: _____ WELL DIAMETER: 4 inches 18.58-48.58 ft TC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 41.5 ft below TOC ground.
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.08 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1220	X		START	NA		NA		NA		NA		NA		NA		
1225	X		6.82		1.429		-32.2		2.04		56.4		19.26		250	11.08
1230	X		6.71		1.419		-36.5		2.50		75.1		19.00		250	11.08
1235	X		6.67		1.415		-39.9		1.61		47.8		19.06		250	11.08
1240	X		6.64		1.406		-42.2		1.05		43.2		18.79		250	11.08
1245	X		6.62		1.397		-43.4		0.60		30.7		18.72		250	11.08
1250	X		6.61		1.391		-44.1		0.55		27.3		18.46		250	11.08
1255	X		6.60		1.383		-44.3		0.45		20.5		18.23		250	11.08
1300	X		6.59		1.383		-44.7		0.44		19.3		18.22		250	11.08
1305	X		6.59		1.373		-45.2		0.42		15.5		18.22		250	11.08
1310	X		6.59		1.372		-45.3		0.40		14.2		18.22		250	11.08

COMMENTS: 10A-090048

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CBI</u>
DATE: <u>8-18-16</u>	FIELD PERSONNEL: <u>M.S.J.C.</u>
WEATHER: <u>overcast</u>	

MONITOR WELL #: <u>Miss-04 B</u>	WELL DEPTH: _____	SCREENED/OPEN INTERVAL: _____
WELL PERMIT #: _____	WELL DIAMETER: <u>4</u> inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>0.0</u>	PUMP INTAKE DEPTH: _____ ft below TOC
	BENEATH OUTER CAP: <u>0.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>11.08</u> ft below TOC
	BENEATH INNER CAP: <u>0.0</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1315	X	X		NA		NA		NA		NA		NA		NA		
1315	X		6.59		1.372		-45.2		0.41		13.4		18.23		250	11.08
1320	X		6.58		1.371		-45.3		0.36		10.3		18.25		250	11.08
1325	X		6.58		1.370		-45.5		0.36		9.4		18.30		250	11.08
1330	X		6.59		1.370		-45.5		0.35		8.5		18.32		250	11.08
1335	X														FINAL	11.08

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-18-16 FIELD PERSONNEL: K. Gerdes, P. Kodman
 WEATHER: cloudy, 75°

MONITOR WELL #: MW2D WELL DEPTH: 46.5 feet, TIC (flush mount) SCREENED/OPEN INTERVAL: 21.5 - 46.5' TIC
 WELL PERMIT #: _____ WELL DIAMETER: 4 inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 36.5 ft below TOC BGS
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.42 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
839	X			NA		NA		NA		NA		NA		NA	195	5.42
845	X		6.59		1.783		-40.7		1.42		49.7		19.06		195	5.50
8:50	X		7.11		1.784		-86.2		0.72		49.8		19.12		195	5.50
8:55	X		7.25		1.784		-93.4		0.55		29.4		19.29		195	5.50
900	X		7.32		1.793		-93.4		0.60		14.1		19.36		195	5.50
905	X		7.37		1.797		-92.7		0.56		8.6		19.34		195	5.50
910	X		7.39		1.796		-91.4		0.55		8.1		19.41		195	5.50
915	X		7.41		1.800		-91.5		0.50		5.9		19.46		195	5.50
920	X		7.43		1.800		-90.3		0.42		4.6		19.55		195	5.50
925	X		7.43		1.805		-93.5		0.50		5.1		19.54		195	5.50
930	X														FINAL	5.50

COMMENTS: 23B - 090050

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CB+I
 DATE: 8-12-16 FIELD PERSONNEL: K. Gerdes, P. Redman
 WEATHER: cloudy, +8°

MONITOR WELL #: MW-25 WELL DEPTH: 13.0 FTIC, (flush mount) SCREENED/OPEN INTERVAL: 5.0-13.0 FTIC
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 11.0 ft below TOC ^{BGS}
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.38 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
947	X			NA		NA		NA		NA		NA		NA	150	5.38
1000	X		7.38		1.933		-79.9		0.79		158.7		22.56		150	5.51
1005	X		7.28		1.898		-81.0		0.60		133.0		22.70		150	5.52
1010	X		7.26		1.877		-80.4		0.56		110.1		22.94		150	5.52
1015	X		7.25		1.860		-74.4		0.52		101.6		23.22		150	5.52
1020	X		7.25		1.853		-68.2		0.50		72.2		23.47		150	5.52
1025	X		7.26		1.846		-66.7		0.49		69.7		23.66		150	5.52
1030	X		7.24		1.839		-72.8		0.55		70.3		23.78		150	5.52
1035	X		7.24		1.836		-73.0		0.49		83.5		23.34		150	5.52
1040	X		7.25		1.833		-72.0		0.46		58.1		22.47		150	5.52
1045	X		7.25		1.816		-71.0		0.45		30.1		22.20		150	5.52

COMMENTS: 23B-090049

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;
 ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-28-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: MW-25 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1050	X		7.25		1.794		-68.0		0.46		27.0		22.22		150	5.52
1055	X		7.26		1.791		-67.1		0.41		20.0		22.22		150	5.52
1100	X		7.25		1.783		-65.8		0.37		14.2		22.28		150	5.52
1105	X		7.25		1.778		-64.8		0.46		11.2		22.39		150	5.52
1110	X		7.26		1.777		-64.0		0.39		11.6		22.51		150	5.52
1115	X														FINAL	5.52

COMMENTS: 23B-090049

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SITE: <u>Maywood</u> DATE: <u>8-13-16</u> WEATHER: <u>p. cloudy, 80°</u>	CONSULTING FIRM: <u>CB+I</u> FIELD PERSONNEL: <u>K. Gerdes, P. Hedman</u>
MONITOR WELL #: <u>MW31D</u> WELL DEPTH: <u>45.0 feet, TIC</u> SCREENED/OPEN INTERVAL: <u>20.0 - 45.0' TIC</u> WELL PERMIT #: _____ WELL DIAMETER: <u>4 inches</u>	

PID/FID READINGS (ppm): BACKGROUND: <u>0</u> BENEATH OUTER CAP: <u>0</u> BENEATH INNER CAP: <u>0</u>	PUMP INTAKE DEPTH: <u>32.0 ft below TOC BGS</u> DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>6.25 ft below TOC</u>
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1221	X			NA		NA		NA		NA		NA		NA	170	6.25
1230	X		7.87		2.633		-64.6		1.01		4.4		20.85		170	6.25
1235	X		7.48		2.670		-63.8		0.71		10.1		20.08		170	6.25
1240	X		7.46		2.676		-66.7		0.79		10.2		20.08		170	6.25
1245	X		7.47		2.676		-70.7		0.58		15.7		20.25		170	6.25
1250	X		7.49		2.681		-74.7		0.49		25.3		20.14		170	6.25
1255	X		7.49		2.675		-76.5		0.40		25.5		20.23		170	6.25
1300	X		7.50		2.674		-77.0		0.42		27.0		20.36		170	6.25
1305	X		7.51		2.672		-78.6		0.37		25.8		20.03		170	6.25
1310	X		7.50		2.661		-78.4		0.32		21.1		20.07		170	6.25
1315	X		7.51		2.662		-78.1		0.39		20.4		20.15		170	6.25

COMMENTS: 20A-090051

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-18-10 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: MW31D WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1320	X		7.52		2.659		-78.3		0.43		22.7		20.15		170	6.25
1325	X														FINAL	6.25

COMMENTS: 20A-09005 1

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBAE
 DATE: 8-22-16 FIELD PERSONNEL: MS/TC
 WEATHER: Clear 80's

MONITOR WELL #: MW23D WELL DEPTH: 71 ft. TIC (fresh water) SCREENED/OPEN INTERVAL: 51-71 ft. TIC
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 68 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.28 below TOC
 BENEATH INNER CAP: 0.4

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1340	X		Start	NA		NA		NA		NA		NA		NA	120	10.61
1345	X		6.74		2.498		-15.4		2.51		106.0		22.14		120	10.61
1350	X		6.69		2.534		-16.0		1.40		115.5		21.90		120	10.67
1355	X		6.66		2.516		-14.8		1.68		148.1		21.66		120	10.70
1400	X		6.64		2.496		-14.2		1.89		180.4	LaMotte	21.76		120	10.70
1405	X		6.64		2.482		-14.0		1.82		133.9	53.4	21.41		120	10.67
1410	X		6.63		2.474		-13.7		1.39		121.1	49.8	21.16		120	10.67
1415	X		6.62		2.469		-13.4		0.66		101.9	46.9	21.32		120	10.67
1420	X		6.62		2.450		-12.5		0.36		91.6	41.7	21.26		120	10.67
1425	X		6.61		2.448		-12.2		0.31		96.5	39.2	21.23		120	10.67
1430	X		6.61		2.446		-11.7		0.29		83.9	40.9	21.21		120	10.67

COMMENTS: also using the LaMotte we2020 for turbidity - YSI Turbidity drifting. Using Certified LaMotte for Turbidity.
 Sample 12B-090054

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: CRP
 DATE: 8-22-16 FIELD PERSONNEL: MS/SC
 WEATHER: Clear 80's

MONITOR WELL #: MW23D WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 6.8 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.28 ft below TOC
 BENEATH INNER CAP: 0.4

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU) <small>6.60</small>		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1435	X		6.60	NA	2.424	NA	-11.3	NA	0.59	NA	77.7	40.9	21.63	NA	120	10.67
1440	X		6.60		2.409		-10.6		1.03		83.8	41.6	21.61		120	10.67
1445	X		6.60		2.407		-10.2		1.07		84.6	40.7	21.62		120	10.67
1450	X		6.60		2.409		-9.8		1.04		82.1	41.3	21.64		120	10.67
1455	X		6.60		2.409		-9.3		1.06		83.0	42.1	21.64		120	10.67
1500	X		6.60		2.410		-9.0		1.03		83.8	43.2	21.65		120	10.67
1505	X		6.60		2.411		-8.8		1.05		87.9	43.7	21.64		120	10.67
1510	X		6.60		2.411		-8.2		1.04		85.8	44.1	21.63		120	10.67
1515	X														Final	10.67

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CRI
 DATE: 8-22-16 FIELD PERSONNEL: MS/JC
 WEATHER: clear 80's

MONITOR WELL #: B38-WOZDS WELL DEPTH: 42.0 feet, top 45.1 ft TIC SCREENED/OPEN INTERVAL: 37.0-42.0 ft top
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 40.1-45.1 ft TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 39 ft below TOC 42.1 ft TIC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 18.43 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1130	✓		Steady	NA		NA		NA		NA		NA		NA	110	18.63
1135	✓		6.82		0.498		81.6		1.81		77.8		14.85		110	19.52
1140	X		6.80		0.496		76.8		1.29		41.6		14.75		110	19.85
1145	X		6.81		0.506		72.7		0.97		20.1		14.76		110	20.18
1150	X		6.83		0.522		69.6		0.98		13.0		14.68		110	20.42
1155	X		6.84		0.541		65.8		0.61		8.1		14.61		110	20.63
1200	X		6.85		0.555		63.6		0.43		6.2		14.60		110	20.73
1205	X		6.86		0.568		61.4		0.25		4.7		14.58		110	20.85
1210	✓		6.87		0.569		60.0		0.23		6.2		14.67		110	20.93
1215	✓		6.88		0.569		59.6		0.25		6.0		14.57		110	20.97
1220	X		6.89		0.570		58.4		0.27		5.8		14.60		110	20.99

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-22-16 FIELD PERSONNEL: _____
 WEATHER: Clear 80's

MONITOR WELL #: R38W02DS WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 39 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 18.43 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1225	✓		6.90	NA	0.569	NA	57.7	NA	0.24	NA	6.0	NA	14.64	NA	110	20.99
1230	X		6.91		0.569		56.7		0.26		6.2		14.67		110	20.99
1235															final	20.99

COMMENTS: _____

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CB&T</u>
DATE: <u>8-22-16</u>	FIELD PERSONNEL: <u>MS/SC</u>
WEATHER: <u>Clear</u>	

MONITOR WELL #: <u>228015</u>	WELL DEPTH: <u>22.0 feet, base 24.65 ft TIC</u>	SCREENED/OPEN INTERVAL: <u>17-22.0 base 19.65-24.65 ft. TIC</u>
WELL PERMIT #: <u>228015</u>	WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm): BACKGROUND: <u>6.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>22</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>6.39</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0850	Y		Start	NA		NA		NA		NA		NA		NA		
0855	X		6.38		2.190		-36.6		2.23		2298		16.30		200	6.50
0900	X		6.45		2.163		-47.4		0.69		167.8		15.99		200	6.51
0905	X		6.50		2.133		-51.7		0.98		125.0		15.91		200	6.51
0910			6.54		2.109		-54.7		0.69		96.4		15.97		200	6.51
0915			6.57		2.092		-57.0		0.84		87.6		16.19		200	6.51
0920			6.58		2.086		-56.6		0.32		85.3		16.33		200	6.51
0925			6.59		2.082		-57.7		0.11		72.8		16.28		200	6.51
0930			6.61		2.063		-58.3		0.0		65.0		15.72		200	6.51
0935			6.60		2.063		-58.5		0.0		62.9		15.77		200	6.51
0940			6.61		2.063		-58.3		0.65		41.9		15.90		200	6.51

COMMENTS: USAC split/duplicate 12A-090077 @ 1005

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Maywood</u> DATE: <u>8-23-16</u> WEATHER: <u>Clear 70's</u>	CONSULTING FIRM: <u>CBI</u> FIELD PERSONNEL: <u>MS, JL</u>
MONITOR WELL #: <u>MWSIS</u> WELL DEPTH: <u>19 feet, bp. (flush water)</u> SCREENED/OPEN INTERVAL: <u>14-19 ft. bgs.</u> WELL PERMIT #: _____ WELL DIAMETER: <u>20</u> inches	

PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>18.13</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>14.46</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0855	X		Start	NA		NA		NA		NA		NA		NA	70	14.60
0900	X		5.24		6.066		264.8		5.09		117.6		17.46		70	14.60
0905	X		5.26		6.097		263.2		5.48		113.1		16.90		70	14.75
0910	X		5.34		5.919		258.5		4.92		83.0		17.02		70	14.85
0915	X		5.41		5.761		255.0		4.96		75.1		16.99		70	14.92
0920	X		5.48		5.551		250.6		4.91		61.4		17.04		70	15.01
0925	Y		5.52		5.433		247.2		5.01		47.3		16.95		70	15.10
0930	X		5.53		5.432		246.8		4.98		41.0		17.04		70	15.18
0935	X		5.52		5.432		245.1		4.93		33.9		17.22		70	15.26
0940	X		5.52		5.432		244.3		4.91		32.6		17.19		70	15.39
0945	X		5.52		5.432		243.6		4.89		32.1		17.15		70	15.35

COMMENTS: Sample 0950 Final waterlevel 15.39
20A-090055

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: <u>Maywood</u> DATE: <u>8-23-16</u> WEATHER: <u>Clear 80's</u>	CONSULTING FIRM: <u>CBT</u> FIELD PERSONNEL: <u>MS, JC</u>
MONITOR WELL #: <u>MWS1D</u> WELL DEPTH: <u>54 feet, bgs. (flush mount)</u> SCREENED/OPEN INTERVAL: <u>29-54 feet, bgs.</u> WELL PERMIT #: _____ WELL DIAMETER: <u>6</u> inches	

PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>49</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>14.08</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1030	X		Start	NA		NA		NA		NA		NA		NA	170	14.10
1035	X		6.83		0.800		1.5		3.36		44.6		15.55		170	14.18
1040	X		6.92		0.798		26.5		3.31		57.9		15.29		170	14.28
1045	X		6.96		0.797		34.2		3.33		62.9		15.30		170	14.35
1050	X		6.98		0.796		31.2		3.31		66.0		15.41		170	14.39
1055	X		7.00		0.794		15.0		3.30		72.0		15.76		170	14.41
1100	X		7.01		0.794		6.1		2.59		74.6		15.90		170	14.42
1105	X		7.02		0.793		-8.9		3.35		81.6		16.02		170	14.43
1110	X		7.02		0.790		-17.3		3.54		82.7		16.05		170	14.43
1115	X		7.02		0.789		-20.3		3.40		81.9		16.38		170	14.43
1120	X		7.03		0.787		-21.6		3.92		83.3		16.35		170	14.43

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: <u>Maywood</u> DATE: <u>8-23-16</u> WEATHER: <u>Clear 80's</u>	CONSULTING FIRM: <u>CAI</u> FIELD PERSONNEL: <u>MS, JC</u>
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MONITOR WELL #: <u>MWSID</u>	WELL DEPTH: _____	SCREENED/OPEN INTERVAL: _____
WELL PERMIT #: _____	WELL DIAMETER: <u>6</u> inches	

PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>49</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>14.08</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1125	X		7.03	NA	0.786	NA	-22.9	NA	4.03	NA	86.7	NA LAMPITE	16.35	NA	170	14.43
1130	X		7.03		0.785		-24.3		3.86		82.8	44.1	16.37		170	14.43
1135	X		7.03		0.783		-23.2		3.88		82.2	44.7	16.40		170	14.42
1140	X		7.03		0.782		-23.9		3.76		86.2	43.9	16.41		170	14.42
1145	X		7.03		0.780		-24.3		3.73		89.1	46.5	16.39		170	14.42
1150	X		7.02		0.779		-24.2		3.71		86.6	44.4	16.32		170	14.42
1155	X		7.02		0.775		-23.6		3.68		84.7	44.3	16.29		170	14.42
1200	X														Final	14.44

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CBI</u>	
DATE: <u>8-23-16</u>	FIELD PERSONNEL: <u>MS/SC</u>	
WEATHER: <u>Clear 80's</u>		
MONITOR WELL #: <u>MW 32 D</u>	WELL DEPTH: <u>57.0 feet, bgs. (flush record)</u>	SCREENED/OPEN INTERVAL: <u>32-57.0 feet, bgs.</u>
WELL PERMIT #:	WELL DIAMETER: <u>6</u> inches	

PID/FID READINGS (ppm):	BACKGROUND: <u>0.0</u>	PUMP INTAKE DEPTH: <u>47</u> ft below TOC
	BENEATH OUTER CAP: <u>0.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>4.91</u> ft below TOC
	BENEATH INNER CAP: <u>0.0</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1240	X		Start	NA		NA		NA		NA		NA		NA	225	4.94
1245	X		7.11		4.317		-6.7		2.07		7.3		18.96		225	4.95
1250	X		7.03		4.885		-37.8		0.92		5.6		18.37		225	4.95
1255	X		7.05		4.919		-44.6		0.67		8.0		18.06		225	4.95
1300	X		7.06		4.943		-45.6		0.67		8.4		18.10		225	4.95
1305	X		7.06		4.974		-46.8		0.70		11.3		18.74		225	4.95
1310	X		7.07		4.949		-47.2		0.66		14.4		17.95		225	4.95
1315	X		7.07		4.980		-47.2		0.67		14.6		17.95		225	4.95
1320	X		7.07		4.953		-47.8		0.65		15.8		17.97		225	4.95
1325	X		7.08		4.951		-48.3		0.63		16.1		17.99		225	4.95
1330			7.08		4.954		-48.4		0.61		16.8		17.92		225	4.95

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 22 OF 22

SITE: Maywood **CONSULTING FIRM:** CBP
DATE: 8-23-16 **FIELD PERSONNEL:** MS/JC
WEATHER: Clear 80's

MONITOR WELL #: MW32D **WELL DEPTH:** _____ **SCREENED/OPEN INTERVAL:** _____
WELL PERMIT #: _____ **WELL DIAMETER:** 6 inches

PID/FID READINGS (ppm): **BACKGROUND:** 0.0 **PUMP INTAKE DEPTH:** 47 ft below TOC
BENEATH OUTER CAP: 0.0 **DEPTH TO WATER BEFORE PUMP INSTALLATION:** 4.91 ft below TOC
BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1335	X		7.08	NA	4.950	NA	-48.4	NA	0.60	NA	17.4	NA	17.85	NA	225	4.95
1340	X		7.09		4.945		-48.5		0.60		17.3		17.79		225	4.95
1345	X														Final	4.95

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CBT
DATE: 8-24-16 FIELD PERSONNEL: M/S/SC
WEATHER: Clear 80's

MONITOR WELL #: MW53s WELL DEPTH: 16.0 feet dp. (flush mount) SCREENED/OPEN INTERVAL: 11.0-16.0 ft hgs
WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 14 ft below TOC
BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.30 ft below TOC
BENEATH INNER CAP: 0.8

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0840	X		START	NA		NA		NA		NA		NA		NA	180	5.30
0845	X		6.58		1.699		-72.5		1.75		126.0		20.34		180	5.30
0850	X		6.73		1.694		-103.2		0.76		86.8		20.15		180	5.30
0855	X		6.76		1.690		-106.1		0.63		71.1		20.18		180	5.30
0900	X		6.77		1.671		-104.1		0.54		62.1		20.71		180	5.30
0905	X		6.78		1.664		-103.7		0.48		18.4		21.23		180	5.30
0910	X		6.78		1.647		-90.6		0.47		15.0		21.88		180	5.30
0915	X		6.78		1.635		-94.4		0.44		12.1		22.42		180	5.30
0920	X		6.78		1.616		-101.7		0.43		8.4		22.73		180	5.30
0925	X		6.78		1.597		-103.0		0.42		8.2		22.94		180	5.30
0930	X		6.78		1.588		-101.6		0.42		8.0		23.23		180	5.30

COMMENTS: 23B-090058
0935 X (SAMPLE) FINAL 5.30

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: Maplewood CONSULTING FIRM: CBE
 DATE: 8-24-16 FIELD PERSONNEL: MS/JC
 WEATHER: Clear 80's

MONITOR WELL #: MW 23D WELL DEPTH: 62.0 ft. b.g. (flush mount) SCREENED/OPEN INTERVAL: 42.0 - 62.0 ft. b.g.
 WELL PERMIT #: 53 WELL DIAMETER: 6 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 60 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.05 ft below TOC
 BENEATH INNER CAP: 0.5

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0950	X		START	NA		NA		NA		NA		NA		NA		
0955	X		7.26		0.744		-59.2		2.27		74.5		21.75		245	5.05
1000	X		7.29		0.754		-36.3		1.58		36.3		21.74		245	5.05
1005	X		7.30		0.754		-39.8		0.78		51.5		21.54		245	5.05
1010	X		7.31		0.755		-49.5		0.57		61.1		21.50		245	5.05
1015	X		7.31		0.753		-56.6		0.47		66.0		21.40		245	5.05
1020	X		7.32		0.753		-60.4		0.38		56.0		21.47		245	5.05
1025	X		7.32		0.754		-59.6		0.34		49.1		21.70		245	5.05
1030	X		7.32		0.753		-58.1		0.32		42.1		21.85		245	5.05
1035	X		7.32		0.753		-55.7		0.31		36.0		21.80		245	5.05
1040	X		7.32		0.754		-56.0		0.30		33.6		21.80		245	5.05

COMMENTS: 23B-090059

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: MAYWOOD
 DATE: 8-24-16
 WEATHER: _____

CONSULTING FIRM: _____
 FIELD PERSONNEL: _____

MONITOR WELL #: MW 53D WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
_____				NA		NA		NA		NA		NA		NA		
1045	X		7.32		0.753		-55.2		0.30		27.7		21.77		245	5.05
1050	X		7.32		0.754		-50.9		0.29		26.7		21.67		245	5.05
1055	X		7.32		0.752		-48.6		0.28		25.2		21.83		245	5.05
1100	X														FINAL	5.05

COMMENTS: _____

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: MAYWOOD CONSULTING FIRM: CB+I
 DATE: 8-24-16 FIELD PERSONNEL: JC/MS
 WEATHER: CLEAR 85°F

MONITOR WELL #: MW-43SR WELL DEPTH: 8.3 feet, bop, 9.7 ft, TIC SCREENED/OPEN INTERVAL: 3.3 - 8.3 ft bop.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 4.7 - 9.7 ft, TIC

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: 9 ft below TOC (7.3 BAS)
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.18 ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1217	X		START	NA		NA		NA		NA		NA		NA		
1220	X		6.97		1.409		168.8		2.83		21.6		25.65		55	6.05
1225	X		6.703		1.359		174.6		2.63		22.2		26.3		55	5.95
1230	X		7.07		1.347		183.9		2.56		20.0		26.90		80	6.00
1235	X		7.08		1.343		187.4		2.50		18.4		27.55		80	5.97
1240	X		7.09		1.344		203.3		2.40		26.0		28.15		90	6.01
1245	X		7.10		1.346		209.2		2.39		45.1		28.22		90	6.09
1250	X		7.10		1.346		219.6		2.29		55.9		27.59		90	6.21
1255	X		7.10		1.344		228.5		2.26		47.9		27.16		90	6.28
1300	X		7.11		1.342		237.8		2.38		34.0		26.94		90	6.34
1305	X		7.13		1.341		238.5		2.98		21.2		27.12		60	6.33

COMMENTS: 12B-090066

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 22 OF 2

SITE:	<u>MAYWOOD</u>	CONSULTING FIRM:	
DATE:	<u>8-24-16</u>	FIELD PERSONNEL:	
WEATHER:			

MONITOR WELL #:	<u>MW-43SR</u>	WELL DEPTH:	
WELL PERMIT #:		WELL DIAMETER:	inches
		SCREENED/OPEN INTERVAL:	

PID/FID READINGS (ppm):	BACKGROUND:	PUMP INTAKE DEPTH:	ft below TOC
	BENEATH OUTER CAP:	DEPTH TO WATER BEFORE PUMP INSTALLATION:	ft below TOC
	BENEATH INNER CAP:		

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1310	X		7.14		1.342		217.6		3.18		17.0		27.62		60	6.33
1315	X		7.15		1.342		204.0		3.27		13.2		28.09		60	6.31
1320	X		7.16		1.343		202.1		3.32		13.0		28.35		60	6.27
1325	X		7.16		1.342		208.8		3.37		12.9		28.64		60	6.23
1330	X														FINAL	6.28

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CBI</u>
DATE: <u>8-25-16</u>	FIELD PERSONNEL: <u>MS, JC</u>
WEATHER: <u>Clear 80's Humid</u>	

MONITOR WELL #: <u>MWSYS</u>	WELL DEPTH: <u>10.5 feet, neg flush ment)</u>	SCREENED/OPEN INTERVAL: <u>5.5-10.5 ft. neg.</u>
WELL PERMIT #:	WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm):	PUMP INTAKE DEPTH: <u>8.5</u> ft below TOC
BACKGROUND: <u>0.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>3.60</u> ft below TOC
BENEATH OUTER CAP: <u>0.0</u>	
BENEATH INNER CAP: <u>0.1</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
810	X		start	NA		NA		NA		NA		NA		NA	190	3.66
815	X		6.64		0.526		183.9		1.43		651.7	LaMotte	19.90		190	3.66
820	X		6.72		0.524		185.6		1.24		461.4		19.82		190	3.66
825	X		6.78		0.522		188.3		1.12		341.6		19.65		190	3.66
830	✓		6.81		0.521		190.7		2.78		249.7		19.49		190	3.66
835	X		6.85		0.522		193.0		2.67		136.5		19.41		190	3.66
840	✓		6.83		0.522		194.4		2.62		121.6		19.43		190	3.66
845	X		6.84		0.524		196.8		2.30		96.7		19.45		190	3.66
850	X		6.85		0.525		199.2		2.21		82.3		19.48		190	3.66
855	X		6.85		0.526		201.4		2.16		76.7	↓	19.57		190	3.66
900	X		6.86		0.526		203.4		2.05		71.0	41.0	19.54		190	3.66

COMMENTS: 23B-090061

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: CRI
 DATE: 8-25-16 FIELD PERSONNEL: mr/SC
 WEATHER: Clear 80's Humid

MONITOR WELL #: MWS45 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 8.5 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.60 ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0905	X		6.86	NA	0.527	NA	205.1	NA	1.87	NA	54.5	NA	19.48	NA	190	3.66
0910	X		6.86		0.527		206.6		1.84		43.7	26.2	19.48		190	3.66
0915	Y		6.86		0.527		207.4		1.81		32.0	23.8	19.53		190	3.66
0920	X		6.86		0.527		210.6		1.70		30.1	18.2	19.60		190	3.66
0925	Y		6.85		0.527		213.7		1.44		31.5	18.7	19.66		190	3.66
0930	X		6.86		0.527		216.6		1.36		32.2	19.8	19.66		190	3.66
0935	X		6.85		0.527		217.4		1.32		23.1	17.1	19.71		190	3.66
0940	X		6.85		0.527		224.7		1.14		22.8	12.1	19.74		190	3.66
0945	X		6.85		0.528		227.6		1.11		22.4	16.4	19.78		190	3.66
0950	Y		6.85		0.528		228.9		1.09		23.0	16.6	19.82		190	3.66
0955	X		Sample												FINAL	3.66

COMMENTS: 23B-090061

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 5 OF 2

SITE: MAYWOOD CONSULTING FIRM: CBI
 DATE: 8-25-16 FIELD PERSONNEL: JC/MS
 WEATHER: CLEAR 80°F

MONITOR WELL #: MW54D WELL DEPTH: 78.5 feet, bsp. (flush water) SCREENED/OPEN INTERVAL: 58.5 - 78.5 feet bsp.
 WELL PERMIT #: _____ WELL DIAMETER: 2.0" inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 70.0 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 0.0 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1020	X		START	NA		NA		NA		NA		NA		NA		
1025	X		7.65		0.508		204.8		6.75		8.5		20.40		150	1.12
1030	X		7.71		0.506		216.8		6.05		7.6		20.33		75	1.41
1035	X		7.72		0.504		230.2		5.73		7.0		20.78		75	1.35
1040	X		7.73		0.504		235.8		5.54		7.8		21.55		75	1.15
1045	X		7.74		0.504		240.8		5.31		8.3		22.09		75	1.00
1050	X		7.74		0.505		248.3		5.26		14.0		22.46		95	1.00
1055	X		7.76		0.506		260.1		5.16		23.5		22.19		95	1.07
1100	X		7.76		0.505		271.5		5.07		30.1		22.03		95	1.10
1105	X		7.76		0.506		281.6		5.00		31.0		21.99		95	1.10
1110	X		7.76		0.505		289.1		4.96		31.9		22.21		95	1.10

COMMENTS: 23B-090062

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: MAYWOOD CONSULTING FIRM: _____
 DATE: 8-25-16 FIELD PERSONNEL: _____
 WEATHER: _____

MONITOR WELL #: MW-54D WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: _____ inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: _____ ft below TOC
 BENEATH INNER CAP: _____

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		
1115	X		7.76		0.506		296.3		4.87		26.2		22.51		95	1.10
1120	X		7.76		0.506		302.1		4.82		23.2		22.63		95	1.10
1125	X		7.76		0.506		309.0		4.83		19.4		22.54		95	1.10
1130	X		7.77		0.506		317.0		4.82		19.6		22.36		95	1.10
1135	X		7.77		0.506		323.2		4.78		19.3		22.17		95	1.10
1140	X		7.77		0.506		327.1		4.78		19.4		22.13		95	1.10
1145	X		7.77		0.505		332.3		4.79		19.3		22.15		95	1.10
1150	X														FINAL	1.10

COMMENTS: 23B-090062

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CBT</u>
DATE: <u>8-29-16</u>	FIELD PERSONNEL: <u>MS, KB</u>
WEATHER: <u>Cloudy 90's Humid</u>	<u>14.10' bgs, 16.64' TIC</u>
MONITOR WELL #: <u>B38 W17A</u>	WELL DEPTH: <u>14.7' TO 19.0' TIC</u>
WELL PERMIT #:	SCREENED/OPEN INTERVAL: <u>7.60 - 12.60' TIC</u>
WELL DIAMETER: <u>2</u> inches	<u>10.14 - 15.14' TIC</u>

PID/FID READINGS (ppm):	BACKGROUND: <u>0.0</u>	PUMP INTAKE DEPTH: <u>14.7</u> ft below TOC
	BENEATH OUTER CAP: <u>0.0</u>	DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>9.57</u> ft below TOC
	BENEATH INNER CAP: <u>0.0</u>	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0900	X		<u>Start</u>	<u>NA</u>		<u>NA</u>		<u>NA</u>		<u>NA</u>		<u>NA</u>		<u>NA</u>		
0905	X		<u>6.45</u>		<u>1.656</u>		<u>30.5</u>		<u>2.47</u>		<u>375.2</u>		<u>19.34</u>		<u>200</u>	<u>9.57</u>
0910	X		<u>7.06</u>		<u>1.573</u>		<u>60.9</u>		<u>3.56</u>		<u>101.0</u>		<u>19.99</u>		<u>200</u>	<u>9.69</u>
0915	X		<u>7.05</u>		<u>1.800</u>		<u>58.6</u>		<u>2.51</u>		<u>92.4</u>		<u>19.98</u>		<u>200</u>	<u>9.84</u>
0920	X		<u>7.00</u>		<u>1.486</u>		<u>61.6</u>		<u>1.47</u>		<u>57.7</u>		<u>20.31</u>		<u>200</u>	<u>9.92</u>
0925	X		<u>6.99</u>		<u>1.499</u>		<u>71.4</u>		<u>1.77</u>		<u>29.6</u>		<u>20.81</u>		<u>200</u>	<u>9.95</u>
0930	X		<u>7.00</u>		<u>1.510</u>		<u>76.2</u>		<u>2.40</u>		<u>17.6</u>		<u>21.15</u>		<u>200</u>	<u>9.96</u>
0935	X		<u>6.99</u>		<u>1.512</u>		<u>82.3</u>		<u>1.97</u>		<u>12.2</u>		<u>21.32</u>		<u>200</u>	<u>9.95</u>
0940	X		<u>6.99</u>		<u>1.540</u>		<u>87.2</u>		<u>1.78</u>		<u>5.3</u>		<u>21.36</u>		<u>200</u>	<u>10.00</u>
0945	X		<u>6.99</u>		<u>1.540</u>		<u>89.3</u>		<u>1.80</u>		<u>3.4</u>		<u>21.40</u>		<u>200</u>	<u>10.02</u>
0950	X		<u>6.99</u>		<u>1.539</u>		<u>90.6</u>		<u>1.79</u>		<u>0.1</u>		<u>21.57</u>		<u>200</u>	<u>10.03</u>

COMMENTS: 20A-090064 Sample @ 0955 ms/msd taken

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Maywood</u> DATE: <u>8-29-16</u> WEATHER: <u>Clear 90's Humid</u>	CONSULTING FIRM: <u>CBI</u> FIELD PERSONNEL: <u>US/KG</u>
MONITOR WELL #: <u>B38 WTB</u> WELL PERMIT #: _____	WELL DEPTH: <u>20.7-44.40' bgs</u> WELL DIAMETER: <u>2</u> inches
SCREENED/OPEN INTERVAL: <u>18.70-29.00' bgs</u> <u>25.7-30.7' TOC</u> <u>21.3-31.6' TIC</u>	

PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>22.7</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>9.43</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1340	X		<u>Start</u>	NA		NA		NA		NA		NA		NA	250	9.43
1345	X		<u>7.14</u>		<u>5.405</u>		<u>-95.8</u>		<u>1.54</u>		<u>3.1</u>		<u>16.68</u>		250	9.43
1350	X		<u>6.79</u>		<u>5.425</u>		<u>-83.4</u>		<u>0.54</u>		<u>2.8</u>		<u>16.01</u>		250	9.43
1355	X		<u>6.76</u>		<u>5.430</u>		<u>-80.0</u>		<u>0.60</u>		<u>0.1</u>		<u>15.97</u>		250	9.43
1400	X		<u>6.76</u>		<u>5.432</u>		<u>-79.4</u>		<u>0.49</u>		<u>0.0</u>		<u>15.93</u>		250	9.43
1405	X		<u>6.75</u>		<u>5.435</u>		<u>-78.3</u>		<u>0.37</u>		<u>0.0</u>		<u>15.84</u>		250	9.43
1410	X		<u>6.74</u>		<u>5.437</u>		<u>-77.4</u>		<u>0.33</u>		<u>0.0</u>		<u>15.87</u>		250	9.43
1415	X		<u>6.74</u>		<u>5.440</u>		<u>-75.9</u>		<u>0.30</u>		<u>0.0</u>		<u>15.85</u>		250	9.43
1420	X		<u>6.74</u>		<u>5.442</u>		<u>-74.3</u>		<u>0.28</u>		<u>0.0</u>		<u>15.85</u>		250	9.43
1425	X		<u>6.74</u>		<u>5.441</u>		<u>-73.8</u>		<u>0.26</u>		<u>0.0</u>		<u>15.83</u>		250	9.43
1430	X															

COMMENTS: Sample 20A-090065 Dup taken @ 1435 20A-090078

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: <u>Maywood</u> DATE: <u>8-30-16</u> WEATHER: <u>Clear 80's Humid</u>	CONSULTING FIRM: <u>CB&I</u> FIELD PERSONNEL: <u>MS/KG</u>
MONITOR WELL #: <u>MW6D</u> WELL DEPTH: <u>52.0 ft bgs. (fresh mount)</u> SCREENED/OPEN INTERVAL: <u>42.0 - 52.00 ft bgs.</u> WELL PERMIT #: _____ WELL DIAMETER: <u>1</u> inches	

PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>48</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>6.25</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0855	X		Start	NA		NA		NA		NA		NA		NA	50ml	6.32
0900	X		No Readings. Flow cell still filling													
0905	X		Flow Rate is 50ml/min													
0910	X		7.51		1.006		157.6		0.55		0.0		24.34		50ml	6.32
0915	X		7.54		1.000		145.4		0.51		0.0		24.01		50ml	6.32
0920	X		7.56		0.992		137.0		0.40		0.0		23.63		50ml	6.32
0925	X		7.58		0.988		129.6		0.33		0.0		23.53		50ml	6.32
0930	X		7.60		0.984		123.2		0.30		0.0		23.52		50ml	6.32
0935	X		7.61		0.983		122.4		0.28		0.0		23.59		50ml	6.32
0940	X		7.62		0.981		121.5		0.26		0.0		23.61		50ml	6.32
0945	X		Sample												Final	6.32

COMMENTS: 238-090068 @ 0945 Final H2O level 6.32

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: <u>Maywood</u> DATE: <u>8-30-16</u> WEATHER: <u>Clear</u>	CONSULTING FIRM: <u>CBF</u> FIELD PERSONNEL: <u>MS/KG</u>
MONITOR WELL #: <u>MW6S</u> WELL DEPTH: <u>17.0 ft bop. (flush mount)</u> SCREENED/OPEN INTERVAL: <u>5.0 - 15.0 ft bop.</u> WELL PERMIT #: _____ WELL DIAMETER: <u>2</u> inches	

PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>13</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>7.01</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1020	X		Start	NA		NA		NA		NA		NA		NA	200	6.80
1025	X		6.93		5.261		-60.3		0.08		223.5		21.41		200	7.45
1030	X		6.91		5.270		-61.3		0.11		175.3		21.27		200	7.45
1035	X		6.90		5.201		-61.7		0.13		134.0		21.20		200	7.50
1040	X		6.90		5.154		-61.1		0.12		120.9		21.12		200	7.50
1045	X		6.91		5.083		-62.0		0.14		95.1		21.14		200	7.50
1050	X		6.90		5.009		-61.2		0.13		68.9		21.16		200	7.50
1055	X		6.91		4.968		-60.5		0.10		46.0		21.19		200	7.50
1100	X		6.92		4.873		-60.6		0.09		44.7		21.22		200	7.50
1105	X		6.92		4.806		-60.1		0.09		36.2		21.28		200	7.50
1110	X		6.93		4.720		-58.5		0.08		26.0		21.30		200	7.50

COMMENTS: 23B-090067 final H2O level 7.50

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: CBP
 DATE: 8-30-16 FIELD PERSONNEL: KG, MS
 WEATHER: Clear 80's Humid

MONITOR WELL #: mwl6d WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 13 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.01 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1115	X		6.93	NA	4.694	NA	-58.0	NA	0.08	NA	23.2	NA	21.36	NA	200	7.50
1120	X		6.93		4.682		-57.6		0.04		19.8		21.36		200	7.80
1125	X		6.93		4.618		-56.8		0.05		17.0		21.36		200	7.70
1130	X		6.94		4.569		-56.5		0.06		14.4		21.82		200	7.50
1135	X		6.94		4.523		-55.5		0.02		12.0		21.62		200	7.50
1140	X		6.94		4.500		-54.7		0.06		11.0		21.62		200	7.50
1145	X		6.94		4.499		-55.1		0.06		10.6		21.62		200	7.50
1150	X		6.94		4.491		-54.2		0.07		11.0		21.63		200	7.50
1155	X	X													Final	7.50

COMMENTS: 238-090067 @ 1155 Final H₂O level 7.50

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: <u>Maywood</u>	CONSULTING FIRM: <u>CBE</u>
DATE: <u>8-30-16</u>	FIELD PERSONNEL: <u>KG, MS</u>
WEATHER: <u>Clear 80's Humid</u>	

MONITOR WELL #: <u>MW39D</u>	WELL DEPTH: <u>50.00' bgs. (flush water)</u>	SCREENED/OPEN INTERVAL: <u>25.0-50.0' bgs</u>
WELL PERMIT #:	WELL DIAMETER: <u>6</u> inches	

PID/FID READINGS (ppm): BACKGROUND: <u>0.0</u> BENEATH OUTER CAP: <u>0.0</u> BENEATH INNER CAP: <u>0.0</u>	PUMP INTAKE DEPTH: <u>45</u> ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: <u>5.80</u> ft below TOC
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TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1230	X		Start	NA		NA		NA		NA		NA		NA	230	5.83
1235	X		No Readings - setting flow rate and waiting for flow cell to fill.												230	5.83
1240	X		7.81		1.004		3.7		0.15		156.2		19.49		230	5.83
1245	X		7.70		0.983		-22.1		0.08		200.8		19.62		230	5.83
1250	X		7.68		0.974		-32.4		0.06		181.8		19.44		230	5.83
1255	X		7.66		0.974		-38.4		0.07		159.4		19.77		230	5.83
1300	X		7.65		0.977		-39.0		0.03		133.2		19.82		230	5.83
1305	X		7.65		0.979		-37.5		0.05		124.3		19.67		230	5.83
1310	X		7.64		0.980		-36.1		0.02		120.5	LaMotte	20.08		230	5.83
1315	X		7.64		0.977		-32.6		0.02		97.4	36.0	19.61		230	5.83
1320			7.63		0.979		-30.7		0.02		90.6	33.1	20.25		230	5.83

COMMENTS: 238-090063 @ 1345 Final H₂O level 5.83
using LaMotte We 2020 Turbidity Meter

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE:	Maywood	CONSULTING FIRM:	CBI
DATE:	8-30-16	FIELD PERSONNEL:	KG, MS
WEATHER:	Clear 80's Humid		

MONITOR WELL #: Mw 39D	WELL DEPTH:	SCREENED/OPEN INTERVAL:
WELL PERMIT #:	WELL DIAMETER: 6 inches	

PID/FID READINGS (ppm):	BACKGROUND: 0.0	PUMP INTAKE DEPTH: 45 ft below TOC
	BENEATH OUTER CAP: 0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.80 ft below TOC
	BENEATH INNER CAP: 0.0	

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU) LaMotte		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1325	X		7.62	NA	0.981	NA	-31.6	NA	0.01	NA	93.4	32.9	21.40	NA	230	5.83
1330	X		7.63		0.981		-31.6		0.02		92.6	33.2	21.18		230	5.83
1335	X		7.63		0.981		-31.6		0.01		81.6	32.0	21.07		230	5.83
1340	X		7.63		0.981		-30.4		0.01		80.3	30.7	21.10		230	5.83
1345		X													Final	5.83

COMMENTS: 23B-090063 @ 1345 Final H₂O level 5.83
 Using LaMotte We 2020 Turbidity Meter. YSI Turbidity probe acting up.

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 3

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-31-16 FIELD PERSONNEL: MS, KB
 WEATHER: Clear 90's Humid

MONITOR WELL #: MW3SR WELL DEPTH: 19' bgs. (flushmount) SCREENED/OPEN INTERVAL: 14-19 feet bgs.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 18 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.35 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0900	X		Start	NA	Setting flow rate	NA	NA		NA		NA		NA	50	10.80	
0905	X		"	"	"	"	"	"	"	"	"	"	"	80	11.00	
0910	X		No readings flow cell filling at 50ml/min													
0915	X		"	"	"	"	"	"	"	"	"	"	"	80	11.00	
0920	X		7.46		2.107		-6.0		5.31		198.4		24.19	80	11.00	
0925	X		7.49		2.084		-5.5		5.28		203.5		23.94	50	11.00	
0930	X		7.49		2.086		-5.1		5.30		201.6		23.83	80	11.20	
0935	X		7.50		2.068		-2.7		5.21		191.7		23.90	50	11.25	
0940	X		7.51		2.074		-1.8		5.14		180.4		23.67	50	11.32	
0945	X		7.51		2.072		-2.4		5.02		176.3		23.44	80	11.35	
0950	X		7.51		2.071		-3.1		4.85		174.1		23.50	50	11.41	

COMMENTS: 12B-090108 @ 1125 Final H2O level 11.78

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 3

SITE: Maywood CONSULTING FIRM: _____
 DATE: 8-31-16 FIELD PERSONNEL: _____
 WEATHER: Clear 90's Humid

MONITOR WELL #: MW3SR WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0-0 PUMP INTAKE DEPTH: 18 ft below TOC
 BENEATH OUTER CAP: 0-0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.35 ft below TOC
 BENEATH INNER CAP: 0-0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0955	X		7.49	NA	2.084	NA	-8.3	NA	4.57	NA	156.5	NA	23.70	NA	50	11.41
1000	X		7.48		2.092		-13.6		4.36		152.4		23.88		50	11.45
1005	X		7.48		2.115		-19.7		4.18		137.2		23.45		50	11.48
1010	Y		7.47		2.126		-25.0		3.92		123.6		23.31		50	11.51
1015	Y		7.46		2.129		-28.3		3.72		114.5		23.41		50	11.54
1020	Y		7.46		2.146		-34.1		3.59		104.1		23.10		50	11.57
1025	X		7.45		2.154		-38.7		3.36		97.0		22.73		50	11.62
1030	Y		7.45		2.165		-41.4		3.28		84.7		22.61		50	11.68
1035	Y		7.44		2.184		-45.1		3.13		77.2		22.45		50	11.70
1040	X		7.44		2.204		-47.1		3.04		69.1		22.13		50	11.75
1045	X		7.44		2.203		-47.7		2.98		64.8		21.60		50	11.78

COMMENTS: 128-090108 @ 1125 Final H₂O level 11.78

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 3 OF 3

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 8-31-16 FIELD PERSONNEL: MS KLG
 WEATHER: Clear 90's Humid

MONITOR WELL #: MW35R WELL DEPTH: 19.0 SCREENED/OPEN INTERVAL: H2O - 19.0
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 18 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.35 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1050	X		7.43	NA	2.228	NA	-50.2	NA	2.81	NA	58.3	NA	21.25	NA	50	11.82
1055	Y		7.43		2.265		-54.3		2.70		47.9		20.88		50	11.85
1100	Y		7.42		2.291		-58.1		2.49		41.1		21.40		50	11.83
1105	X		7.41		2.301		-60.4		2.24		35.1		21.49		50	11.80
1110	X		7.40		2.309		-61.6		2.22		34.2		21.53		50	11.78
1115	Y		7.40		2.314		-63.1		2.16		32.6		21.61		50	11.78
1120	Y		7.40		2.318		-64.6		2.10		30.7		21.69		50	11.78
1125	X		Sample												Final	11.78

COMMENTS: 12B-090108 @ 1125 Final H2O level 11.78

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CB&I
 DATE: 8/27/05 9-1-16 FIELD PERSONNEL: KB/MS
 WEATHER: rain overcast JC

MONITOR WELL #: OVP217R WELL DEPTH: 19.3 ft, TIC. 18.0 ft. bgl. SCREENED/OPEN INTERVAL: 14.3-19.3 / ext, TIC
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 13.0-18.0 / bgl.

PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 18.3 ft below TOC 9.47
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.25 ft below TOC
 BENEATH INNER CAP: 0 RS6

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0825	X		stuck	NA		NA		NA		NA		NA		NA	150	9.85
0830	X		6.23		3.591		-87.6		6.34		119.0		19.21		150	9.85
0835	X		6.26		3.602		-89.3		6.12		110.9		19.01		150	9.80
0840	X		6.32		3.599		-93.2		5.35		94.1		18.84		150	9.65
0845	X		6.35		3.568		-94.9		4.83		48.3 45.1		18.33		150	9.60
0850	X		6.36		3.580		-93.7		4.53		34.2		18.54		150	9.60
0855	X		6.36		3.623		-90.4		3.85		38.4		20.70		150	9.55
0900	X		6.38		3.581		-92.4		3.34		28.7		18.79		150	9.55
0905	X		6.39		3.572		-93.6		3.26		12.9		18.65		150	9.60
0910	X		6.39		3.572		-94.0		3.21		11.0		18.67		150	9.60
0915			6.39		3.572		-94.7		3.15		8.4		18.69		150	9.60

COMMENTS: 128-090005 @ 0920
Final H₂O level = 9.60

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: Maywood CONSULTING FIRM: CRB1
 DATE: 9-1-16 FIELD PERSONNEL: RB/MS
 WEATHER: SUNNY
 MONITOR WELL #: BEP24 WELL DEPTH: 58.70' bgs SCREENED/OPEN INTERVAL: 37.70-58.20' bgs
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches 60.81' TIC 40-60' bgs
 PID/FID READINGS (ppm): BACKGROUND: 0 PUMP INTAKE DEPTH: 51 ft below TOC 53.11' TIC
 BENEATH OUTER CAP: 0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.45 ft below TOC
 BENEATH INNER CAP: 0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0955	X		Start	NA		NA		NA		NA		NA		NA	250	10.45
1000	X		6.03		9.365		-36.2		1.81		16.0		18.02		250	10.48
1005	X		5.97		10.09		-48.2		1.52		39.6		17.85		250	10.55
1010	X		5.97		10.12		-49.5		1.52		27.5		17.82		250	10.55
1015	X		5.96		10.22		-50.4		1.41		10.2		17.75		250	10.60
1020	X		5.96		10.26		-51.1		1.13		10.0		17.74		250	10.60
1025	X		5.96		10.32		-51.1		1.36		17.1		17.90		250	10.60
1030	X		5.96		10.33		-51.0		1.42		11.9		18.02		250	10.60
1035	X		5.96		10.33		-51.1		1.43		12.6		18.05		250	10.60
1040	X		5.97		10.30		-51.7		1.41		12.3		18.01		250	10.60
1045	X														Final	10.60

COMMENTS: 12B-090003 @ 1045
 Final H2O level = 10.60

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: Maywood CONSULTING FIRM: CBP
 DATE: 9-1-16 FIELD PERSONNEL: JC/MS
 WEATHER: overcast Rain

MONITOR WELL #: MW255 WELL DEPTH: 16.0' beg., 18.74' TIC SCREENED/OPEN INTERVAL: 6'-16' beg. 8.74-18.74' TIC
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0-9 PUMP INTAKE DEPTH: 14.3 ft below TOC
 BENEATH OUTER CAP: 0-0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.83 ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1145	X		Start	NA		NA		NA		NA		NA		NA	125	11.20
1150	X		7.02		1.576		60.8		4.94		292.8		22.80		125	11.20
1155	X		6.88		1.468		65.3		4.52		293.8		22.82		125	11.20
1200	X		6.52		1.346		76.3		3.95		303.1		22.49		125	11.30
1205	X		6.40		1.334		81.4		3.33		291.5		22.54		125	11.30
1210	X		6.32		1.322		85.4		3.03		260.7		22.56		125	11.30
1215	X		6.25		1.317		90.7		2.68		253.1	LaMotte	22.84		125	11.30
1220	X		6.22		1.308		93.6		2.71		217.7	100.3	23.51		125	11.30
1225	X		6.21		1.302		93.7		2.97		195.3	92.9	23.65		125	11.30
1230	X		6.18		1.310		95.2		2.45		172.7	88.5	23.45		125	11.30
1235	X		6.12		1.317		98.6		2.38		129.5	67.0	23.89		125	11.30

COMMENTS: Using LaMotte We 2020 for Turbidity
 128-090020@1320 Final H₂O level = 11.30

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

**LOW FLOW SAMPLING
 DATA SHEET**

SHEET 2 OF 2

SITE: Maywood CONSULTING FIRM: CBI
 DATE: 9-1-16 FIELD PERSONNEL: JC/MS
 WEATHER: Overcast/Some Sun Humid

MONITOR WELL #: MW 255 WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 14.3 ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.83 ft below TOC
 BENEATH INNER CAP: 0.1

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY YST (NTU) <u>Lamotte</u>		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1240	X		6.09	NA	1.336	NA	99.9	NA	2.13	NA	114.9	NA	24.23	NA	125	11.30
1245	X		6.07		1.354		99.9		2.08		102.4	47.8	24.20		125	11.30
1250	X		6.05		1.363		100.1		1.99		93.6	45.1	24.69		125	11.30
1255	X		6.04		1.369		100.5		1.93		82.3	37.3	24.72		125	11.30
1300	X		6.03		1.372		100.1		1.93		68.8	33.7	24.67		125	11.30
1305	X		6.03		1.377		99.9		1.89		67.1	28.4	24.61		125	11.30
1310	X		6.01		1.375		100.7		1.81		59.5	27.3	24.63		125	11.30
1315	X		6.00		1.371		100.6		1.77		61.4	26.0	24.60		125	11.30
1320	X	Sample														

COMMENTS: Using Lamotte we 2020 Turbidity meter
12B-090020@1320 Final H₂O level = 11.30

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 1

SITE: MAYWOOD CONSULTING FIRM: CB+I
 DATE: 9-8-16 FIELD PERSONNEL: JC
 WEATHER: M SUN 80°F

MONITOR WELL #: MW-BS WELL DEPTH: 15.0 ft. bgs. (flush mount) SCREENED/OPEN INTERVAL: 5.0 - 15.0 ft bgs.
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 13.5 ft below TOC, bgs.
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.74 ft below TOC
 BENEATH INNER CAP: 0.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1035	X		START	NA		NA		NA		NA		NA		NA		
1040	X		6.83		1.433		158.8		5.49		198.0		20.95		200	7.95
1046	X		6.60		1.432		163.6		1.53		135.5		19.61		200	8.00
1050	X		6.56		1.435		164.7		1.14		107.4		19.26		200	8.00
1055	X		6.56		1.438		165.2		1.04		73.6		18.92		200	8.03
1100	X		6.56		1.437		165.5		0.96		56.9		19.17		200	8.05
1105	X		6.56		1.441		166.1		0.99		49.9	LAMOTTE	19.34		200	8.05
1110	X		6.56		1.435		167.1		1.03		50.3	19.3	19.57		200	8.05
1115	X		6.57		1.434		168.6		1.00		50.2	19.7	19.89		200	8.05
1120	X		6.57		1.425		169.6		0.98		52.7	20.2	20.11		200	8.05
1125	X		SAMPLE												FINAL	8.05

COMMENTS: 23B-090060

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: FUSRAP Maywood CONSULTING FIRM: CBI Federal Services
 DATE: Sept 21, 2016 FIELD PERSONNEL: RD/JC
 WEATHER: Clear, 85°F

MONITOR WELL #: MWS25 WELL DEPTH: 11.0 ft bgs. (Juskewort) SCREENED/OPEN INTERVAL: 6.0-11.0
 WELL PERMIT #: _____ WELL DIAMETER: 2" D inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: 9.5 ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.70 ft below TOC
 BENEATH INNER CAP: 0.1 PPM

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1015	X		7.04	NA	1.971	NA	35.9	NA	2.05	NA	696.5	NA	23.65	NA		5.70
1020	Y		7.14		1.960		32.1		1.79		599.5		23.77		210	5.75
1025	X		7.14		2.019		34.0		1.44		326.4		23.90		210	5.75
1030	X		7.09		2.136		36.9		1.08		115.1		23.89		210	5.75
1035	X		7.10		2.159		39.1		0.98		86.7		23.96		210	5.75
1040	X		7.05		2.180		42.2		0.88		29.1*		24.03		210	5.75
1045	X		7.06		2.196		44.7		0.81		18.0		24.07		210	5.75
1050	X		7.03		2.209		47.5		0.77		13.9		24.09		210	5.75
1055	X		7.00		2.221		50.1		0.73		13.2		24.15		210	5.75
1100	X		7.01		2.229		53.1		0.71		8.81		24.16		210	5.75
1105	X		6.97		2.233		55.0		0.68		7.12		24.07		210	5.75

COMMENTS: 1110 X 6.99 2.231 70.1 0.67 605 24.05 210 5.75
 Final water level - 5.75
 1115 SAMPLE 20A-090070

* INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

* Calus the 2020E Turbidity Meter.

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: MAYWOOD CONSULTING FIRM: CBFI
 DATE: 9-21-16 FIELD PERSONNEL: JC/RD
 WEATHER: PC 75°F

MONITOR WELL #: MW 52D WELL DEPTH: 62.0' bp (flush head) SCREENED/OPEN INTERVAL: 37.0-62.0
 WELL PERMIT #: _____ WELL DIAMETER: 6 inches

PID/FID READINGS (ppm): BACKGROUND: _____ PUMP INTAKE DEPTH: 52.0 ft below TOC
 BENEATH OUTER CAP: _____ DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.97 ft below TOC
 BENEATH INNER CAP: 0.0 PPM

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0905	X		START	NA		NA		NA		NA		NA		NA		
0910	X		6.83		0.983		4.8		2.37		43.1		20.31		160	3.97
0915	X		7.08		1.027		0.9		1.51		19.3		19.38		225	3.97
0920	X		7.28		1.030		2.6		0.75		18.0		19.15		225	3.97
0925	X		7.33		1.031		1.6		0.65		20.7		19.20		225	3.97
0930	X		7.35		1.031		0.6		0.61		25.1		19.19		225	3.97
0935	X		7.33		1.031		-5.6		0.57		11.33*		19.20		225	3.97
0940	X		7.39		1.031		-11.5		0.54		13.00		19.17		225	3.97
0945	X		7.36		1.031		-14.6		0.52		2.40		19.23		225	3.97
0950	X		7.39		1.031		-18.3		0.51		1.46		19.19		225	3.97
0955	X		7.41		1.032		-19.2		0.49		1.00		19.11		225	3.97

COMMENTS: 1066 Sample - 20A-090071 Final water level 3.97.
* Latho 2020E Turbidity meter

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING
 DATA SHEET

SHEET 1 OF 2

SITE: MAYWOOD CONSULTING FIRM: CB+I
 DATE: 9-22-16 FIELD PERSONNEL: JC
 WEATHER: SUN 75°F

MONITOR WELL #: MISS-04AR WELL DEPTH: 15.0' bop, 16.98' TIC SCREENED/OPEN INTERVAL: 10.0 - 15.0' bop
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches 11.98 - 16.98' TIC

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 15.0 ft below TOC (TIC)
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.52 ft below TOC
 BENEATH INNER CAP: 1.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0855	X		START	NA		NA		NA		NA		NA		NA		
0900	X		6.77		2.392		-64.2		1.84		469.4		19.45		200	11.70
0905	X		6.79		2.364		-77.2		1.81		257.6		19.56		200	11.70
0910	X		6.78		2.384		-82.9		1.67		184.8		19.57		200	11.70
0915	X		6.77		2.402		-86.3		1.58		151.2		19.61		200	11.70
0920	X		6.78		2.420		-89.4		1.42		125.1		19.59		200	11.70
0925	X		6.77		2.422		-90.6		1.53		97.9		19.69		200	11.70
0930	X		6.78		2.426		-91.3		1.57		89.7		19.70		200	11.70
0935	X		6.76		2.425		-91.1		1.65		70.7		19.70		200	11.70
0940	X		6.76		2.423		-91.1		1.60		63.6		19.74		200	11.70
0945	X		6.76		2.437		-91.5		1.42		56.1		19.71		200	11.70

COMMENTS: 10A-090069

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: MAYWOOD CONSULTING FIRM: CB+E
 DATE: 9-22-16 FIELD PERSONNEL: JC
 WEATHER: SUN 75°F

MONITOR WELL #: MISS 04AR WELL DEPTH: _____ SCREENED/OPEN INTERVAL: _____
 WELL PERMIT #: _____ WELL DIAMETER: 2 inches

PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: _____ ft below TOC
 BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.52 ft below TOC
 BENEATH INNER CAP: 1.0

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0950	X		6.75	NA	2.437	NA	-93.5	NA	1.17	NA	16.7*	NA	19.76	NA	200	11.70
0955	X		6.75		2.433		-95.1		1.14		15.7*		19.82		200	11.70
1000	X		6.75		2.426		-95.9		1.07		14.0*		19.89		200	11.70
1005	X	SAMPLE													FINAL	11.70

COMMENTS: 10A-090069 * COLLECTED WITH LAMOTTE 2020

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

SURFACE WATER ENVIRONMENTAL DATA

**FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION
SURFACE WATER AND SEDIMENT SAMPLING COLLECTION RECORD**

Sampling Location: SW003 - SD003

Temperature: 75°F Weather Conditions
Wind Speed / Direction: 5-10

Sunny Cloudy Foggy Rainy Humid Snowing

Other: _____

Surface Water Sample Information

Surface Water ID#: 23A-026057 Collection Date: 9-7-16

Sample Time	Temp °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (m/L)	Turbidity (NTU)	Hardness (mg/L)
<u>11:00</u>	<u>21.43</u>	<u>0.738</u>	<u>7.68</u>	<u>178.4</u>	<u>6.05</u>	<u>0</u>	

Muddy Clear Sediment Odors Oily Stagnant

Remarks: _____

Sediment Sample Information

Sediment ID#: 23A-026064 Time (Military): 1115

Fine Course Sandy Muddy Odors Oily

Remarks: _____

Samplers: Must Sign and Date Jay E. U- Date 9-7-16

**FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION
SURFACE WATER AND SEDIMENT SAMPLING COLLECTION RECORD**

Sampling Location: SW 004

Weather Conditions

Temperature: 75° F Wind Speed / Direction: S-10

Sunny Cloudy Foggy Rainy Humid Snowing

Other: _____

Surface Water Sample Information

Surface Water ID#: 23A-026058 Collection Date: 9-7-16

Sample Time	Temp °C	Specific Cond. (mS/cm)	pH	Eh (mv)	DO (ml/L)	Turbidity (NTU)	Hardness (mg/L)
1000	20.11	1.940	7.19	133.1	7.4 ND	1.7	

Muddy Clear Sediment Odors Oily Stagnant

Remarks: ALSO COLLECT USACE SPLIT, MS/MSD AND DUPLICATE (23A-026068 @ 1005)

Sediment Sample Information

Sediment ID#: NA Time (Military): _____

Fine Course Sandy Muddy Odors Oily

Remarks: No sample collected.

Samplers: Must Sign and Date [Signature] Date 9-7-16

APPENDIX E

Groundwater, Surface Water and QA/QC Analytical Data Tables

Table E-1 – Overburden GW Analytical Data

Table E-2 – Bedrock GW Analytical Data

Table E-3 – Surface Water Analytical Data

Table E-4 – Adjusted Gross Alpha Data Sheet

Table E-5 – Adjusted Gross Beta Data Sheet

Table E-6 – Trip Blank Analytic Data

Table E-7 – Field Blank Analytic Data

Table E-8 – Rinsate Blank Analytical Data

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W01S 12A-090052 08/22/16						B38W01S Duplicate 12A-090077 08/22/16						B38W14S 19A-090040 08/17/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.23	J	0.5	-	1
Arsenic	1.8	J	3	-	3	Arsenic	2.1	J	3	-	3	Arsenic	3	U	3	-	3
Lithium	874		500	-	730	Lithium	864		500	-	730	Lithium	106	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	4.55	J	1.07	0.81	15	Gross Alpha	4.49	J	1.1	0.83	15	Gross Alpha	5.51	J-	2.5	2.39	15
Gross Beta	25.69		1.39	1.46	50	Gross Beta	26.71		1.37	1.47	50	Gross Beta	12.43	J	2.70	2.23	50
Ra-226	0.105	U	0.261	0.161	-	Ra-226	0	U	0.111	0.346	-	Ra-226	0.227	J	0.196	0.198	-
Ra-228	0.246	J	0.184	0.235	-	Ra-228	0.649		0.167	0.253	-	Ra-228	0.149	U	0.203	0.357	-
Total Radium	0.351		-	-	5	Total Radium	0.649		-	-	5	Total Radium	0.376		-	-	5
Thorium-228	-0.011	U	0.233	0.079	-	Thorium-228	0.185	U	0.185	0.082	-	Thorium-228	-0.01	U	0.147	0.063	-
Thorium-230	1.11	J	0.161	0.421	-	Thorium-230	0.251	J	0.081	0.184	-	Thorium-230	0.178	J	0.092	0.172	-
Thorium-232	0	U	0.089	0.069	-	Thorium-232	0	U	0.071	0.055	-	Thorium-232	0.03	U	0.081	0.063	-
Total Thorium	1.095		-	-	-	Total Thorium	0.436		-	-	-	Total Thorium	0.198		-	-	-
U-234	0.144	J	0.078	0.131	-	U-234	0.049	U	0.176	2.01	-	U-234	0.455		0.082	0.24	-
U-235	0.019		0.142	0.061	-	U-235	0.029	U	0.143	0.085	-	U-235	0.03	U	0.082	0.064	-
U-238	0.029		0.078	0.061	-	U-238	0.116	J	0.079	0.119	-	U-238	0.383		0.148	0.223	-
Total Uranium	0.192		-	-	-	Total Uranium	0.194		-	-	-	Total Uranium	0.868		-	-	-
Total Uranium (ug/L)	0.086		-	-	30	Total Uranium (ug/L)	0.345		-	-	30	Total Uranium (ug/L)	1.14		-	-	30
Radon-222	381		16.90	16.4	-	Radon-222	NS		-	-	-	Radon-222	95.3		21.2	14.3	-
Potassium (ug/L)	30,400		10,000	-	-	Potassium (ug/L)	NS		-	-	-	Potassium (ug/L)	17,200		10,000	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W15S 20A-090044 08/17/16						B38W15S Duplicate 20A-090075 08/17/16						B38W17A 20A-090064 08/29/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3.3		3	-	3	Arsenic	2.1	J	3	-	3	Arsenic	0.96	J+	3	-	3
Lithium	1,820		500	-	730	Lithium	864		500	-	730	Lithium	309	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	44.2		15	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	33.4		15	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	233		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	22.4	J	100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.06	J	0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.06	J	0.10	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	0.20	U	0.20	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	81.7		10	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	6.90		0.11	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.05	U	0.05	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	5.20		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	23.4		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	6.9	J-	2.5	3.045	15	Gross Alpha	0.822	U	1.55	0.945	15	Gross Alpha	3.76		2.50	2.56	15
Gross Beta	74.68		2.44	5.263	50	Gross Beta	26.71		1.37	1.47	50	Gross Beta	21.27		3.15	3.94	50
Ra-226	0.192	U	0.201	0.186	-	Ra-226	0	U	0.111	0.346	-	Ra-226	0.113	U	0.207	0.149	-
Ra-228	0.532	J	0.205	0.279	-	Ra-228	0.649		0.167	0.253	-	Ra-228	0.243	J	0.172	0.215	-
Total Radium	0.724		-	-	5	Total Radium	0.649		-	-	5	Total Radium	0.356		-	-	5
Thorium-228	0.027	U	0.073	0.057	-	Thorium-228	0.017	U	0.185	0.082	-	Thorium-228	-0.019	U	0.163	0.062	-
Thorium-230	0.154	J	0.084	0.155	-	Thorium-230	0.251	J	0.081	0.184	-	Thorium-230	0.302	J	0.087	0.207	-
Thorium-232	0	U	0.073	0.057	-	Thorium-232	0	U	0.071	0.055	-	Thorium-232	0.056	U	0.076	0.082	-
Total Thorium	0.181		-	-	-	Total Thorium	0.268		-	-	-	Total Thorium	0.339		-	-	-
U-234	0.480		0.081	0.246	-	U-234	0.049	U	0.143	0.085	-	U-234	0.223		0.075	0.16	-
U-235	0.030	U	0.082	0.064	-	U-235	0.029	U	0.079	0.062	-	U-235	0.056	U	0.076	0.081	-
U-238	0.360		0.081	0.212	-	U-238	0.116	J	0.079	0.119	-	U-238	0.186		0.136	0.15	-
Total Uranium	0.870		-	-	-	Total Uranium	0.194		-	-	-	Total Uranium	0.465		-	-	-
Total Uranium (ug/L)	1.07		-	-	30	Total Uranium (ug/L)	0.345		-	-	30	Total Uranium (ug/L)	0.553		-	-	30
Radon-222	431		22.2	20.3	-	Radon-222	NS	-	-	-	-	Radon-222	573		21.2	21.5	-
Potassium (ug/L)	127,000		50,000	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	27,900		10,000	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W24S 10A-090011 08/09/16						B38W25SR 12B-090000 08/08/16						MISS01AR 12B-090016 08/10/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	1.6	J	3	-	3	Arsenic	3		3	-	3	Arsenic	3.5		3	-	3
Lithium	34.8	J	500	-	730	Lithium	1,780		500	-	730	Lithium	369	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	1,420		15	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	1,430		15	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	2,300		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	1,960		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.035	J	0.110	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.035	J	0.100	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	5.3		0.600	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	781		40	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	0.29		0.110	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	14.5	J	20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	5.4		1.65	1.18	15	Gross Alpha	10.22		1.62	1.32	15	Gross Alpha	6.17		1.40	1.08	15
Gross Beta	18.23		1.87	1.58	50	Gross Beta	77.52		1.76	2.62	50	Gross Beta	34.963	J	1.30	1.52	50
Ra-226	0.105	U	0.192	0.138	-	Ra-226	0.45		0.11	0.272	-	Ra-226	0.195	J	0.132	0.197	-
Ra-228	1.20		0.196	0.306	-	Ra-228	0.71	J-	0.218	0.318	-	Ra-228	0.862		0.132	0.197	-
Total Radium	1.30		-	-	5	Total Radium	1.16		-	-	5	Total Radium	1.06		0.247	0.379	5
Thorium-228	0.041	UJ	0.112	0.087	-	Thorium-228	0.06	U	0.079	0.085	-	Thorium-228	-0.064	U	0.290	0.096	-
Thorium-230	0.048	UJ	0.202	0.145	-	Thorium-230	0.23		0.090	0.187	-	Thorium-230	0.281		0.248	0.248	-
Thorium-232	0	UJ	0.111	0.087	-	Thorium-232	-0.01		0.142	0.061	-	Thorium-232	0	U	0.103	0.08	-
Total Thorium	0.089		-	-	-	Total Thorium	0.28		-	-	-	Total Thorium	0.22		-	-	-
U-234	0.027	U	0.215	0.102	-	U-234	0.09	J	0.085	0.111	-	U-234	0.078	U	0.143	0.104	-
U-235	0	U	0.072	0.225	-	U-235	0.03	U	0.085	0.067	-	U-235	-0.01	U	0.144	0.062	-
U-238	0.018	U	0.13	0.056	-	U-238	0.13	J	0.085	0.128	-	U-238	0.107	U	0.143	0.119	-
Total Uranium	0.045		-	-	-	Total Uranium	0.25		-	-	-	Total Uranium	0.18		-	-	-
Total Uranium (ug/L)	0.053		-	-	30	Total Uranium (ug/L)	0.37		-	-	30	Total Uranium (ug/L)	0.32		-	-	30
Radon-222	377		16.9	16.4	-	Radon-222	377.00		19.2	17.9	-	Radon-222	517		18.6	19.4	-
Potassium (ug/L)	19,600		10,000	-	-	Potassium (ug/L)	77,500		10,000	-	-	Potassium (ug/L)	40,200		10,000	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS02AR 12B-090019 08/10/16						MISS02AR Duplicate 12B-090072 08/10/16						MISS04A 10A-090069 09/22/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	2	U	2	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	135		3	-	3	Arsenic	131		3	-	3	Arsenic	2.7	J+	3	-	3
Lithium	4,090		500	-	730	Lithium	3,950		500	-	730	Lithium	23.5	J+	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	344		15	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	381		15	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	2,970		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	1,320		100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	1.5		0.11	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	1.5		0.1	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	15.4		2	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	1,110		100	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	1	J	2	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	201		0.55	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	6.6		1.3	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	40.5		2	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	102		20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	4.29		1.48	1.04	15	Gross Alpha	5.25		1.53	1.1	15	Gross Alpha	NS	-	-	-	-
Gross Beta	20.62		2.44	2.05	50	Gross Beta	23.42		2.56	2.18	50	Gross Beta	NS	-	-	-	-
Ra-226	0.05	U	0.463	0.223	-	Ra-226	0.049	U	0.398	0.189	-	Ra-226	NS	-	-	-	-
Ra-228	0.277	J	0.204	0.285	-	Ra-228	0.348	J	0.177	0.256	-	Ra-228	NS	-	-	-	-
Total Radium	0.327		-	-	5	Total Radium	0.397		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	0.042	U	0.243	0.121	-	Thorium-228	0.055	U	0.18	0.102	-	Thorium-228	NS	-	-	-	-
Thorium-230	0.30	J	0.186	0.227	-	Thorium-230	0.345		0.137	0.22	-	Thorium-230	NS	-	-	-	-
Thorium-232	0.021	U	0.156	0.067	-	Thorium-232	-0.01	U	0.136	0.058	-	Thorium-232	NS	-	-	-	-
Total Thorium	0.363		-	-	-	Total Thorium	0.39		-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.172		0.077	0.143	-	U-234	0.03	U	0.238	0.113	-	U-234	NS	-	-	-	-
U-235	0.057	U	0.078	0.084	-	U-235	0.03	U	0.08	0.062	-	U-235	NS	-	-	-	-
U-238	0.076	U	0.14	0.101	-	U-238	-0.01	U	0.144	0.062	-	U-238	NS	-	-	-	-
Total Uranium	0.305		-	-	-	Total Uranium	0.05		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	0.23		-	-	30	Total Uranium (ug/L)	-0.03		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	145		19.3	14.2	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	30,900		10,000	-	-	Potassium (ug/L)	29,600		10,000	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS05AR 12B-090032 08/15/16						MISS07AR 12B-090034 08/16/16						OVP217R 12B-090005 09/01/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3.9	J+	3	-	3	Arsenic	65.4		3	-	3	Arsenic	3	U	3	-	3
Lithium	768		500	-	730	Lithium	1,300		500	-	730	Lithium	2,060		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	637		15	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	5,920		45	-	-
Manganese, Filtered (ug/L)	583		15	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	5,860		45	-	-
Iron, Total (ug/L)	2,070		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	15,000		100	-	-
Iron, Filtered (ug/L)	1,320		100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	14,500		100	-	-
Nitrate (as N)	0.17		0.11	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.120		0.110	-	-
Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	0.17		0.10	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.120		0.100	-	-
Ammonia (as N)	2.6		0.20	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	34		4	-	-
Sulfate	434		30	-	-	Sulfate	NS	-	-	-	-	Sulfate	796		40	-	-
Sulfide	2	U	2	-	-	Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	63		0.11	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	3,710		5.5	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	1.6		0.25	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	7.8		1	-	-
Chemical Oxygen Demand (COD)	8.6	J	20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	46.7		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	2.60		1.62	1.08	15	Gross Alpha	6.74	J-	2.5	3.02	15	Gross Alpha	NS	-	-	-	-
Gross Beta	14.95		1.45	1.21	50	Gross Beta	40.42		2.14	3.72	50	Gross Beta	NS	-	-	-	-
Ra-226	0.167	U	0.224	0.185	-	Ra-226	0.135	J	0.122	0.159	-	Ra-226	NS	-	-	-	-
Ra-228	0.658		0.242	0.316	-	Ra-228	0.406	J	0.205	0.278	-	Ra-228	NS	-	-	-	-
Total Radium	0.825		-	-	5	Total Radium	0.54		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	0	U	0.092	0.072	-	Thorium-228	-0.011	U	0.153	0.066	-	Thorium-228	NS	-	-	-	-
Thorium-230	0.858		0.104	0.374	-	Thorium-230	0.622	J	0.095	0.304	-	Thorium-230	NS	-	-	-	-
Thorium-232	0.295		0.167	0.209	-	Thorium-232	0	U	0.084	0.065	-	Thorium-232	NS	-	-	-	-
Total Thorium	1.153		-	-	-	Total Thorium	0.611		-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.302		0.222	0.209	-	U-234	0.33		0.152	0.209	-	U-234	NS	-	-	-	-
U-235	0.068	U	0.17	0.105	-	U-235	0	U	0.084	0.262	-	U-235	NS	-	-	-	-
U-238	0.136	U	0.143	0.132	-	U-238	0.155		0.084	0.141	-	U-238	NS	-	-	-	-
Total Uranium	0.506		-	-	-	Total Uranium	0.485		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	0.40		-	-	30	Total Uranium (ug/L)	0.46		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	299		16.20	14.8	-	Radon-222	602		18.5	20	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	18,300		10,000	-	-	Potassium (ug/L)	57,600		10,000	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
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 J+ - Result is estimated and may be biased high.
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**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

OVPW1S 12B-090030 08/15/16						MW2S 23B-090049 08/18/16						MW3SR 12B-090108 08/31/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.16	J	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3	U	3	-	3	Arsenic	1.1	J	3	-	3	Arsenic	393		7.5	-	3
Lithium	1,210		500	-	730	Lithium	1,270		500	-	730	Lithium	1,430		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	2,470		15	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	2,500		15	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	2,930		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	2,380		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.07	J	0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.07	J	0.100	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	1.5		0.200	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	757		40	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	14.4		0.110	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.28		0.05	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	4.4		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	12.3	J	20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	4.35	J	1.8	1.34	15
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	31.19		1.921	2.462	50
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	0.105	U	0.193	0.139	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	0.303		0.177	0.225	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	0.408		-	-	5
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	0	U	0.087	0.067	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	0.002	U	0.098	0.093	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	0	U	0.086	0.067	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	0.002		-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	0.240		0.136	0.169	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	0.028	U	0.075	0.059	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	0.148	U	0.161	0.139	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	0.416		-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	0.440		-	-	30
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	133		17.3	12.7	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	46,300		10,000	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
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 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW6S 23B-090067 08/30/16						MW8S 23B-090060 09/08/16						MW24S 12B-090028 08/15/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.25	J	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	12		3	-	3	Arsenic	1.6	J	3	-	3	Arsenic	11		3	-	3
Lithium	11.89	J+	500	-	730	Lithium	3.7	J	500	-	730	Lithium	200	J+	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	3.00		2.5	2.11	15
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	20.24	J-	2.90	2.90	50
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	0.214	U	0.441	0.278	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	1.45		0.286	0.407	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	1.66		-	-	5
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	-0.009	U	0.131	0.056	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	0.223	J	0.132	0.181	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	0.026	U	0.072	0.056	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	0.24		-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	0.04	U	0.229	0.114	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	0.02	U	0.148	0.064	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	0.03	U	0.081	0.064	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	0.09		-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	0.09		-	-	30
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	89.9		16.4	11.4	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	24,600		10,000	-	-

Notes

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 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE

MW255 12B-090020 09/01/16						MW285 12B-090002 08/08/16						MW335 12B-090047 08/18/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	47.2		0.5	-	1
Arsenic	0.819	J	3	-	3	Arsenic	5.9		3	-	3	Arsenic	296		7.5	-	3
Lithium	18.29	J+	500	-	730	Lithium	2,270		500	-	730	Lithium	12,900		2,500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	6.79		1.74	1.28	15	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	26.10		1.84	1.73	50	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	0.108	U	0.197999999	0.143	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	0.662	J-	0.206	0.302	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	0.770		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	0.03	U	0.082	0.064	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	0.272	J	0.093	0.205	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	0.04	U	0.175999999	0.091	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	0.342		-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	0.353		0.180999994	0.221	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	0.052	U	0.152999997	0.091	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	0.342		0.202000007	0.221	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	0.747		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	1.02		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	295		19.2	16.7	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	25,900		10,000	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

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 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
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 J- - Result is estimated and may be biased low.
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**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW43SR 12B-090066 08/24/16						MW44S 12B-090039 08/16/16						MW46S 12B-090022 08/11/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	11.6		0.5	-	1
Arsenic	1.6	J	3	-	3	Arsenic	357		7.5	-	3	Arsenic	1.4	J	3	-	3
Lithium	668		500	-	730	Lithium	707		500	-	730	Lithium	3,400		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	900		15	-	-	Manganese, Total (ug/L)	1,770		15	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	937		15	-	-	Manganese, Filtered (ug/L)	1,860		15	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	2,920		100	-	-	Iron, Total (ug/L)	38,400		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	2,530		100	-	-	Iron, Filtered (ug/L)	40,200		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.042	J	0.10	-	-	Nitrate (as N)	0.093	J	0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.011		0.010	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.053	J	0.10	-	-	Nitrate and Nitrite (as N)	0.093	J	0.10	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	0.71		0.20	-	-	Ammonia (as N)	7.8		1	-	-
Sulfate	NS	-	-	-	-	Sulfate	558		30	-	-	Sulfate	940		50	-	-
Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	1.1		0.11	-	-	Methane (ug/L)	720		1.1	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.023	J	0.05	-	-	Phosphorus, Total	0.045	J	0.05	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	5.5		1	-	-	Total Organic Carbon (TOC)	61.2		3	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	12.5	J	20	-	-	Chemical Oxygen Demand (COD)	238		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

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 -- Not Applicable.
 Q - Qualifier.
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 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
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 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW47S 12B-090024 08/11/16						MW48S 12B-090026 08/11/16						MW48S Duplicate 12B-090073 08/11/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	2.7	J	3	-	3	Arsenic	1.6	J	3	-	3	Arsenic	1.6	J	3	-	3
Lithium	1,960		500	-	730	Lithium	241	J	500	-	730	Lithium	221	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	1,070		15	-	-	Manganese, Total (ug/L)	529		15	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	1,080		15	-	-	Manganese, Filtered (ug/L)	466		15	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	4,770		100	-	-	Iron, Total (ug/L)	133		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	4,660		100	-	-	Iron, Filtered (ug/L)	100	U	100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	0.038	J	0.11	-	-	Nitrate (as N)	4		0.11	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	0.006	J	0.01	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	0.038	J	0.100	-	-	Nitrate and Nitrite (as N)	4		0.10	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	7.19		1	-	-	Ammonia (as N)	0.10	J	0.20	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	700		30	-	-	Sulfate	217		10	-	-	Sulfate	NS	-	-	-	-
Sulfide	2	U	2	-	-	Sulfide	2	U	2	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	25.1		0.11	-	-	Methane (ug/L)	0.67		0.11	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	0.24		0.05	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	3.5		1	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	30		20	-	-	Chemical Oxygen Demand (COD)	12.5	J	20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J-- Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW51S 20A-090055 08/23/16						MW52S 20A-090070 09/21/16						MW53S 23B-090058 08/24/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	1.7	J	3	-	3	Arsenic	1.2	J+	3	-	3	Arsenic	25.3		3	-	3
Lithium	25.1	J	500	-	730	Lithium	132		500	-	730	Lithium	500	U	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-1
OVERBURDEN GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW54S 23B-090061 08/25/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1
Arsenic	1.5	J	3	-	3
Lithium	4.9	J+	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-
U-235	NS	-	-	-	-
U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W02D 12A-090053 08/22/16						B38W03B 10A-090037 08/16/16						B38W07B 10A-090036 08/16/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	0.87	J	3	-	3	Arsenic	0.42	J	3	-	3	Arsenic	0.5	J	3	-	3
Lithium	11.5	J+	500	-	730	Lithium	41	J	500	-	730	Lithium	121	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	2.00	UJ	2.5	1.99	15	Gross Alpha	2.28	UJ	2.50	1.78	15	Gross Alpha	NS	-	-	-	-
Gross Beta	0.918	U	2.39	1.42	50	Gross Beta	6.72	J	2.15	1.71	50	Gross Beta	NS	-	-	-	-
Ra-226	0.287		0.097	0.204	-	Ra-226	0.217	U	0.35	0.24	-	Ra-226	NS	-	-	-	-
Ra-228	0.396	J	0.186	0.25	-	Ra-228	1.107		0.184	0.30	-	Ra-228	NS	-	-	-	-
Total Radium	0.683		-	-	5	Total Radium	1.324		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	0.062	U	0.201	0.113	-	Thorium-228	0.029	U	0.079	0.062	-	Thorium-228	NS	-	-	-	-
Thorium-230	0.557	J	0.095	0.287	-	Thorium-230	0.347	J	0.090	0.224	-	Thorium-230	NS	-	-	-	-
Thorium-232	0	U	0.084	0.065	-	Thorium-232	0	U	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	0.619		-	-	-	Total Thorium	0.376		-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.336	J	0.141	0.203	-	U-234	0.052	U	0.152	0.09	-	U-234	NS	-	-	-	-
U-235	0.058	U	0.078	0.084	-	U-235	0.031	U	0.152	0.084	-	U-235	NS	-	-	-	-
U-238	0.134	U	0.141	0.131	-	U-238	0.062	U	0.084	0.066	-	U-238	NS	-	-	-	-
Total Uranium	0.528		-	-	-	Total Uranium	0.145		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	0.40		-	-	30	Total Uranium (ug/L)	0.18		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	1,010		17	23.6	-	Radon-222	1,070		18.4	24.8	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	1,090	J	10,000	-	-	Potassium (ug/L)	10,200		10,000	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W14D 19A-090041 08/17/16						B38W15D 20A-090045 08/17/16						B38W17B 20A-090065 08/29/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	0.77	J	3	-	3	Arsenic	9.1		3	-	3	Arsenic	1.3	J+	3	-	3
Lithium	32.7	J	500	-	730	Lithium	1,970		500	-	730	Lithium	1,290		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	616		15	-	-	Manganese, Total (ug/L)	4,860		45	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	608		15	-	-	Manganese, Filtered (ug/L)	4,860		45	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	249		100	-	-	Iron, Total (ug/L)	10,300		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	17.2		100	-	-	Iron, Filtered (ug/L)	9,940		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.34		0.11	-	-	Nitrate (as N)	0.056	J	0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.34		0.1	-	-	Nitrate and Nitrite (as N)	0.056	J	0.1	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	1.6		0.2	-	-	Ammonia (as N)	16.2		2	-	-
Sulfate	NS	-	-	-	-	Sulfate	477	U	20	-	-	Sulfate	611		30	-	-
Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	0.33		0.11	-	-	Methane (ug/L)	238		0.550	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.05	U	0.05	-	-	Phosphorus, Total	0.12		0.05	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	3.9		1	-	-	Total Organic Carbon (TOC)	7.9		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	10.2	J	20	-	-	Chemical Oxygen Demand (COD)	89.8		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	3.77	J-	2.5	2.64	15	Gross Alpha	6	J-	2.5	2.82	15	Gross Alpha	11.04	J	1.76	1.66	15
Gross Beta	3.82	J	3.19	2.25	50	Gross Beta	27.22	J	3.70	3.82	50	Gross Beta	105.68		1.875	3.174	50
Ra-226	1.40	U	0.246	0.094	-	Ra-226	-0.012	U	0.263	0.089	-	Ra-226	0.255		0.234	0.217	-
Ra-228	1.502		0.23	0.369	-	Ra-228	0.44	J	0.207	0.276	-	Ra-228	1.624		0.201	0.336	-
Total Radium	2.902		-	-	5	Total Radium	0.428		-	-	5	Total Radium	1.879		-	-	5
Thorium-228	0.018	U	0.134	0.058	-	Thorium-228	-0.041		0.214	0.073	-	Thorium-228	0.064	U	0.161	0.1	-
Thorium-230	0.047	U	0.085	0.111	-	Thorium-230	0.71		0.148	0.322	-	Thorium-230	0.345	J	0.137	0.22	-
Thorium-232	0.054	U	0.074	0.080	-	Thorium-232	0		0.081	0.063	-	Thorium-232	0.027	U	0.075	0.059	-
Total Thorium	0.119		-	-	-	Total Thorium	0.669		-	-	-	Total Thorium	0.436		-	-	-
U-234	0.904		0.082	0.343	-	U-234	4.12		0.142	0.814	-	U-234	0	U	0.072	0.223	-
U-235	0.091	J	0.082	0.107	-	U-235	0.09	J	0.079	0.103	-	U-235	0	U	0.072	0.224	-
U-238	0.421		0.081	0.230	-	U-238	1.48		0.079	0.442	-	U-238	0	U	0.072	0.223	-
Total Uranium	1.416		-	-	-	Total Uranium	5.69		-	-	-	Total Uranium	0		-	-	-
Total Uranium (ug/L)	1.25		-	-	30	Total Uranium (ug/L)	4.40		-	-	30	Total Uranium (ug/L)	0		-	-	30
Radon-222	968		21.1	26	-	Radon-222	951		22.20	26.6	-	Radon-222	299		20.80	17.5	-
Potassium (ug/L)	4,450	J	10,000	-	-	Potassium (ug/L)	38,000		10,000	-	-	Potassium (ug/L)	144,000		30,000	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W17B Duplicate 20A-090078 08/29/16						B38W18DR 12B-090008 08/09/16						B38W18DR Duplicate 12B-090010 08/09/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	1.1	J+	3	-	3	Arsenic	1.7	J	3	-	3	Arsenic	1.8	J	3	-	3
Lithium	1,350		500	-	730	Lithium	127	J	500	-	730	Lithium	132	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	12.05	J	1.82	1.72	15	Gross Alpha	5.33		2.50	2.67	15	Gross Alpha	2.53	J-	2.50	2.03	15
Gross Beta	117.93		2.43	3.47	50	Gross Beta	4.63		1.83	1.53	50	Gross Beta	2.09	J	1.82	1.29	50
Ra-226	0.204	U	0.265	0.205	-	Ra-226	0.217		0.118	0.197	-	Ra-226	0.036	U	0.234	0.11	-
Ra-228	1.687		0.18	0.312	-	Ra-228	1.504		0.214	0.346	-	Ra-228	0.932		0.219	0.321	-
Total Radium	1.891		-	-	5	Total Radium	1.721		-	-	5	Total Radium	0.968		-	-	5
Thorium-228	0.09	U	0.196	0.126	-	Thorium-228	0.056		0.076	0.082	-	Thorium-228	0.056	U	0.165	0.098	-
Thorium-230	0.109	U	0.149	0.15	-	Thorium-230	0.069		0.139	0.128	-	Thorium-230	0.039	U	0.103	0.119	-
Thorium-232	-0.01	U	0.148	0.064	-	Thorium-232	0		0.076	0.059	-	Thorium-232	-0.012	U	0.165	0.071	-
Total Thorium	0.189		-	-	-	Total Thorium	0.125		-	-	-	Total Thorium	0.083		-	-	-
U-234	0.171		0.077	0.142	-	U-234	1.93		0.08	0.508	-	U-234	2.12		0.233	0.564	-
U-235	0.048	U	0.14	0.083	-	U-235	0.173		0.078	0.144	-	U-235	0.051	U	0.15	0.089	-
U-238	0.057	U	0.077	0.083	-	U-238	1.69		0.078	0.472	-	U-238	2.20		0.083	0.568	-
Total Uranium	0.28		-	-	-	Total Uranium	3.79		-	-	-	Total Uranium	4.37		-	-	-
Total Uranium (ug/L)	0.17		-	-	30	Total Uranium (ug/L)	5.03		-	-	30	Total Uranium (ug/L)	6.53		-	-	30
Radon-222	NS	-	-	-	-	Radon-222	200		16.9	13.7	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	2,090		10,000	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

B38W24D 10A-090012 08/09/16						B38W25DR 12B-090021 08/08/16						MISS01BR 12B-090017 08/10/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	5	U	5	-	1	Benzene	1.3		0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	2.9	J	3	-	3	Arsenic	1.4	J	3	-	3	Arsenic	2		3	-	3
Lithium	142	J	500	-	730	Lithium	958		500	-	730	Lithium	128	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	10.859	J-	2.50	3.547	15	Gross Alpha	9.71		1.65	1.33	15	Gross Alpha	0.88	UJ	2.50	1.47	15
Gross Beta	18.004	J	2.49	2.642	50	Gross Beta	400.39		2.35	6.78	50	Gross Beta	3.48	J	2.25	1.71	50
Ra-226	0.322		0.109	0.23	-	Ra-226	0.28		0.206	0.225	-	Ra-226	0.03	U	0.22	0.095	-
Ra-228	1.251		0.212	0.332	-	Ra-228	0.476	J-	0.239	0.329	-	Ra-228	0.40	J	0.209	0.301	-
Total Radium	1.573		-	-	5	Total Radium	0.756		-	-	5	Total Radium	0.430		-	-	5
Thorium-228	0	U	0.087	0.068	-	Thorium-228	0.028	U	0.076	0.059	-	Thorium-228	-0.01	U	0.143	0.061	-
Thorium-230	0.002	U	0.099	0.094	-	Thorium-230	0.246	J	0.087	0.189	-	Thorium-230	-0.043	U	0.143	0.062	-
Thorium-232	-0.011	U	0.158	0.068	-	Thorium-232	0	U	0.076	0.059	-	Thorium-232	0.029	U	0.079	0.061	-
Total Thorium	-0.009		-	-	-	Total Thorium	0.274		-	-	-	Total Thorium	-0.024		-	-	-
U-234	0.072	U	0.132	0.095	-	U-234	0.529		0.084	0.263	-	U-234	0.194		0.143	0.157	-
U-235	-0.009	U	0.133	0.057	-	U-235	0.031	U	0.084	0.066	-	U-235	0.059	U	0.079	0.085	-
U-238	0.018	U	0.132	0.057	-	U-238	0.497		0.084	0.255	-	U-238	0.233		0.079	0.168	-
Total Uranium	0.08		-	-	-	Total Uranium	1.06		-	-	-	Total Uranium	0.49		-	-	-
Total Uranium (ug/L)	0.05		-	-	30	Total Uranium (ug/L)	1.48		-	-	30	Total Uranium (ug/L)	0.69		-	-	30
Radon-222	685		17	20.3	-	Radon-222	694		19.2	22.1	-	Radon-222	723		18.5	21.8	-
Potassium (ug/L)	20,000		10,000	-	-	Potassium (ug/L)	454,000		100,000	-	-	Potassium (ug/L)	1,860	J	10,000	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS02BR 12B-090018 08/10/16						MISS04B 10A-09004B 08/18/16						MISS05BR 12B-090033 08/15/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	137		0.5	-	1
Arsenic	1.6		3	-	3	Arsenic	0.57	J	3	-	3	Arsenic	3	U	3	-	3
Lithium	4,280		500	-	730	Lithium	51.1	J+	500	-	730	Lithium	7,980		2,500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	2,370		15	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	2,420		15	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	6,370		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	2,490		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.11		0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.11		0.10	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	2.5		0.20	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	1,380		100	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	1.5	J	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	4,000		5.5	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.021	J	0.050	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	20.5		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	190		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	6.61		1.36	1.05	15	Gross Alpha	NS	-	-	-	-	Gross Alpha	9.80		2.07	1.59	15
Gross Beta	26.58		2.09	1.93	50	Gross Beta	NS	-	-	-	-	Gross Beta	1,094.89	J	7.38	18.01	50
Ra-226	0.188	U	0.306	0.217	-	Ra-226	NS	-	-	-	-	Ra-226	0.228		0.123	0.206	-
Ra-228	0.508	J	0.199	0.297	-	Ra-228	NS	-	-	-	-	Ra-228	1.0930001		0.245	0.35	-
Total Radium	0.696		-	-	5	Total Radium	NS	-	-	-	-	Total Radium	1.321		-	-	5
Thorium-228	0.02	U	0.217	0.096	-	Thorium-228	NS	-	-	-	-	Thorium-228	0.032	U	0.088	0.068	-
Thorium-230	0.152	J	0.094	0.164	-	Thorium-230	NS	-	-	-	-	Thorium-230	-0.04	U	0.159	0.069	-
Thorium-232	0.03	U	0.083	0.064	-	Thorium-232	NS	-	-	-	-	Thorium-232	0.021	U	0.158	0.068	-
Total Thorium	0.202		-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	0.013		-	-	-
U-234	0.807		0.225	0.332	-	U-234	NS	-	-	-	-	U-234	0.104	U	0.139	0.115	-
U-235	-0.02	U	0.172	0.065	-	U-235	NS	-	-	-	-	U-235	0.028	U	0.077	0.06	-
U-238	0.363		0.171	0.218	-	U-238	NS	-	-	-	-	U-238	0	U	0.076	0.238	-
Total Uranium	1.15		-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	0.132		-	-	-
Total Uranium (ug/L)	1.08		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	0		-	-	30
Radon-222	502		18.8	19.3	-	Radon-222	NS	-	-	-	-	Radon-222	210		16.9	13.9	-
Potassium (ug/L)	33,800		10,000	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	1,560,000		400,000	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE 3-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MISS05BR Duplicate 12B-090074 08/15/16						MISS07B 12B-090035 08/16/16						BRP22 12B-090042 08/17/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	146		0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	46.9		0.5	-	1
Arsenic	3	U	3	-	3	Arsenic	51.6		3	-	3	Arsenic	1.4	J	3	-	3
Lithium	8,090		2,500	-	730	Lithium	5,420		1,000	-	730	Lithium	1,500		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	3,970		15	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	3,900		15	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	6,910		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	734		100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.096	J	0.11	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.096	J	0.10	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	0.71		0.20	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	2,230		100	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	18.4		0.11	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.43		0.05	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	5.2		1	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	15	J	20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	11.65		1.97	1.59	15	Gross Alpha	8.64		1.29	1.08	15	Gross Alpha	NS	-	-	-	-
Gross Beta	1,145.51		6.07	18.26	50	Gross Beta	20.65		4.21	3.02	50	Gross Beta	NS	-	-	-	-
Ra-226	0.087	U	0.352	0.188	-	Ra-226	-0.09	U	0.40	0.123	-	Ra-226	NS	-	-	-	-
Ra-228	1.027		0.204	0.297	-	Ra-228	0.44	J	0.21	0.289	-	Ra-228	NS	-	-	-	-
Total Radium	1.114		-	-	5	Total Radium	0.35		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	0.065	U	0.089	0.096	-	Thorium-228	0.01	U	0.18	0.069	-	Thorium-228	NS	-	-	-	-
Thorium-230	0.267	J	0.101	0.212	-	Thorium-230	0.28	J	0.09	0.21	-	Thorium-230	NS	-	-	-	-
Thorium-232	0	U	0.089	0.069	-	Thorium-232	0	U	0.08	0.065	-	Thorium-232	NS	-	-	-	-
Total Thorium	0.332		-	-	-	Total Thorium	0.29		-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.018	U	0.135	0.058	-	U-234	2.87		0.15	0.674	-	U-234	NS	-	-	-	-
U-235	0	U	0.075	0.233	-	U-235	0.19		0.09	0.157	-	U-235	NS	-	-	-	-
U-238	0.037	U	0.16	0.082	-	U-238	1.81		0.09	0.514	-	U-238	NS	-	-	-	-
Total Uranium	0.05		-	-	-	Total Uranium	4.87		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	0.11		-	-	30	Total Uranium (ug/L)	5.39		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	548		18.5	19.3	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	33,400		10,000	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

BRP23 12B-090043 08/17/16						BRP24 12B-090003 09/01/16						BRP25 12B-090004 08/08/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	15.4		0.5	-	1	Benzene	22.1		0.5	-	1	Benzene	2,610		13	-	1
Arsenic	3	U	3	-	3	Arsenic	6	U	6	-	3	Arsenic	2	J	3	-	3
Lithium	756		500	-	730	Lithium	1,410		500	-	730	Lithium	2,400		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	7,180		30	-	-	Manganese, Total (ug/L)	6,660		75	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	7,640		75	-	-	Manganese, Filtered (ug/L)	6,610		75	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	26,300		200	-	-	Iron, Total (ug/L)	29,700		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	22,900		100	-	-	Iron, Filtered (ug/L)	24,100		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.11		0.11	-	-	Nitrate (as N)	4.4		0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.11		0.11	-	-	Nitrate and Nitrite (as N)	4.4		0.10	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	4.1		0.40	-	-	Ammonia (as N)	2.3		0.20	-	-
Sulfate	NS	-	-	-	-	Sulfate	1,880		100	-	-	Sulfate	1,480		50	-	-
Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-	Sulfide	0.31	J	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	56.8		0.11	-	-	Methane (ug/L)	1,030		2.2	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	2.4		0.25	-	-	Phosphorus, Total	0.54		0.10	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	24.8		1	-	-	Total Organic Carbon (TOC)	45.8		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	140		20	-	-	Chemical Oxygen Demand (COD)	123		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

BRP29 12B-090013 08/09/16						MW2D 23B-090050 08/18/16						MW3DR 12B-090038 08/16/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	5.9		0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	1.2		0.5	-	1
Arsenic	1.2	J	3	-	3	Arsenic	2.4	J	3	-	3	Arsenic	3	U	3	-	3
Lithium	2,540		500	-	730	Lithium	1,460		500	-	730	Lithium	5,110		1,000	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	6,700		75	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	2,430		15	-	-
Manganese, Filtered (ug/L)	6,480		75	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	2,390		15	-	-
Iron, Total (ug/L)	14,600		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	98,000		200	-	-
Iron, Filtered (ug/L)	12,900		100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	96,400		200	-	-
Nitrate (as N)	0.093	J	0.11	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.15		0.11	-	-
Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	0.093	J	0.10	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.15		0.10	-	-
Ammonia (as N)	2.1		0.20	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	0.85		0.20	-	-
Sulfate	1,810		100	-	-	Sulfate	NS	-	-	-	-	Sulfate	1,770		100	-	-
Sulfide	0.31	J	2	-	-	Sulfide	NS	-	-	-	-	Sulfide	0.30	J	2	-	-
Methane (ug/L)	2,070		2.2	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	539		1.1	-	-
Phosphorus, Total	0.014	J	0.05	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.019	J	0.05	-	-
Total Organic Carbon (TOC)	15.6		1	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	46.2		1	-	-
Chemical Oxygen Demand (COD)	51		20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	40		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	5.81		1.88	1.34	15
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	12.88		2.47	1.83	50
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	-0.043	U	0.28	0.10	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	0.383	J	0.17	0.23	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	0.34		-	-	5
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	-0.013	U	0.261	0.088	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	0.22	J	0.181	0.212	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	0.036	U	0.099	0.078	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	0.24		-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	2.27		0.175	0.575	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	0.111	U	0.148	0.123	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	2.08		0.08	0.543	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	4.46		-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	6.17		-	-	30
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	115		19.10	13.4	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	13,400		10,000	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

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J- - Result is estimated and may be biased low.

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**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW6D 23B-090068 08/30/16						MW23D 12B-090054 08/22/16						MW24D 12B-090029 08/15/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	1.5		0.5	-	1
Arsenic	1.9	J	3	-	3	Arsenic	2.3	J	3	-	3	Arsenic	3	U	3	-	3
Lithium	19.7	J+	500	-	730	Lithium	1,020		500	-	730	Lithium	2,120		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	2,810		15	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	2,570		15	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	716		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	356		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.041	J	0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.041	J	0.10	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	0.24		0.2	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	1,270		50	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	476		1.1	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.014	J	0.05	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	7.1		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	23.4		20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	14.2		1.79	1.74	15
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	4.56		2.24	1.49	50
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	0.065	U	0.282	0.145	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	1.01		0.180	0.274	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	1.07		-	-	5
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	0.03	U	0.083	0.065	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	0.174	J	0.152	0.177	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	0.03	U	0.083	0.065	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	0.23		-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	6.39		0.172	1.10	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	0.06	U	0.081	0.087	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	2.45		0.145	0.597	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	8.90		-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	7.27		-	-	30
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	1,130		16.7	25.1	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	7,370	J	10,000		-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

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UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW25D 12B-090021 08/10/16						MW31D 20A-090051 08/18/16						MW32D 20A-090057 08/23/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	0.87		3	-	3	Arsenic	5.2		3	-	3	Arsenic	23.2		3	-	3
Lithium	1,210		500	-	730	Lithium	2,660		500	-	730	Lithium	5,310		2,500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	2,890		15	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	2,910		15	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	41,700		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	33,700		100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	0.069	J	0.11	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	0.069	J	0.10	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	3.8		0.40	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	598		30	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	2	U	2	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	404		0.55	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	0.034	J	0.05	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	6.2		1	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	26.6		20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW34D 12B-090031 08/15/16						MW39D 23B-090063 08/30/16						MW42D 12B-090014 08/09/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	14.2		0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	7.3		3	-	3	Arsenic	1.4	J	3	-	3	Arsenic	0.7	J	3	-	3
Lithium	3,410		500	-	730	Lithium	45.8	J+	500	-	730	Lithium	36	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	1,620		15	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	1,580		15	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	3,830		100	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	1,640		100	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	0.046	J	0.11	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	0.01	U	0.01	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	0.046	J	0.10	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	0.12	J	0.20	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	339		10	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	23.4		0.11	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.05	U	0.05	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	2.1		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	20	U	20	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW43D 12B-090015 08/09/16						MW45D 12B-090046 08/18/16						MW45D Duplicate 12B-090076 08/18/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	192		0.5	-	1	Benzene	171		0.5	-	1
Arsenic	71.6		3	-	3	Arsenic	2.2	J	3	-	3	Arsenic	1.9	J	3	-	3
Lithium	1,930		500	-	730	Lithium	2,230		500	-	730	Lithium	2,330		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	1,250		15	-	-	Manganese, Total (ug/L)	12,300		75	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	1,150		15	-	-	Manganese, Filtered (ug/L)	13,600		75	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	4,550		100	-	-	Iron, Total (ug/L)	51,500		100	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	30.2	J	100	-	-	Iron, Filtered (ug/L)	61,000		100	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	0.64		0.11	-	-	Nitrate (as N)	0.094	J	0.11	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	0.01	U	0.01	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	0.64		0.10	-	-	Nitrate and Nitrite (as N)	0.094	J	0.1	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	0.13	J	0.20	-	-	Ammonia (as N)	6.4		0.80	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	540		30	-	-	Sulfate	2,350		100	-	-	Sulfate	NS	-	-	-	-
Sulfide	2	U	2	-	-	Sulfide	2	U	2	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	8.4		0.11	-	-	Methane (ug/L)	2,630		5.5	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	0.05	U	0.05	-	-	Phosphorus, Total	0.016	J	0.05	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	1.8		1	-	-	Total Organic Carbon (TOC)	34.2		1	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	7	J	20	-	-	Chemical Oxygen Demand (COD)	105		20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW46D 12B-090023 08/11/16						MW47D 12B-090025 08/11/16						MW48D 12B-090027 08/11/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	219		5	-	1	Benzene	0.87		0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	0.98	J	3	-	3	Arsenic	214		7.5	-	3	Arsenic	13.6		3	-	3
Lithium	7,740		500	-	730	Lithium	14,600		500	-	730	Lithium	3,130		500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.

-- Not Applicable.

Q - Qualifier.

MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

J - Estimated concentration.

J+ - Result is estimated and may be biased high.

J- - Result is estimated and may be biased low.

R - Rejected result.

**TABLE E-2
BEDROCK GROUNDWATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

MW51D 20A-090056 08/23/16						MW52D 20A-090071 09/21/16						MW53D 23B-090059 08/24/16					
	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	1.2	J	3	-	3	Arsenic	2.2	J+	3	-	3	Arsenic	1.4	J	3	-	3
Lithium	52.6	J	500	-	730	Lithium	28.5	J+	500	-	730	Lithium	32.1	J	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)						Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-	Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-	Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

TABLE E-2
 BEDROCK GROUNDWATER SAMPLING RESULTS
 FUSRAP MAYWOOD SUPERFUND SITE

MW54D 23B-090062 08/25/16					
	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1
Arsenic	4.4		3	-	3
Lithium	6.2	J+	500	-	730
Geochemical Parameters (mg/L, unless otherwise noted)					
Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	-	-
Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	-	-	-	-
Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	-	-
Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	-	-
Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-
U-235	NS	-	-	-	-
U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-
Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.
 R - Rejected result.

**TABLE E-3
SURFACE WATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

SW-003 23A-026057 09/07/16						SW-004 23A-026058 09/07/16						SW-004 Duplicate 23A-026068 09/07/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	2.9	J	3	-	3	Arsenic	7.6		3	-	3	Arsenic	7.7		3	-	3
Lithium	15.4	J+	500	-	730	Lithium	556		500	-	730	Lithium	558		500	-	730
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	3.47		2.50	2.29	15	Gross Alpha	3.98		2.50	2.41	15	Gross Alpha	NS	-	-	-	-
Gross Beta	3.88		1.93	1.55	50	Gross Beta	23.34		2.19	3.08	50	Gross Beta	NS	-	-	-	-
Ra-226	0.18	U	0.19	0.17	-	Ra-226	0.336		0.234	0.245	-	Ra-226	NS	-	-	-	-
Ra-228	0.65		0.25	0.34	-	Ra-228	1.64		0.240	0.388	-	Ra-228	NS	-	-	-	-
Total Radium	0.83		-	-	5	Total Radium	1.973		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	0.02	U	0.138	0.059	-	Thorium-228	0.242		0.082	0.175	-	Thorium-228	NS	-	-	-	-
Thorium-230	0.16	J	0.087	0.162	-	Thorium-230	0.24	J	0.093	0.195	-	Thorium-230	NS	-	-	-	-
Thorium-232	0.00	U	0.076	0.059	-	Thorium-232	0	U	0.082	0.064	-	Thorium-232	NS	-	-	-	-
Total Thorium	0.18		-	-	-	Total Thorium	0.482		-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.38		0.145	0.218	-	U-234	0.50		0.156	0.262	-	U-234	NS	-	-	-	-
U-235	-0.02	U	0.173	0.066	-	U-235	0.064	U	0.087	0.093	-	U-235	NS	-	-	-	-
U-238	0.21		0.08	0.159	-	U-238	0.351		0.086	0.216	-	U-238	NS	-	-	-	-
Total Uranium	0.56		-	-	-	Total Uranium	0.915		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	0.62		-	-	30	Total Uranium (ug/L)	1.04		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.

**TABLE E-4
ADJUSTED GROSS ALPHA DATA SHEET
FUSRAP MAYWOOD SUPERFUND SITE**

Field Sample ID	Well ID Number	Media	U-234 Activity (pCi/L)	U-234 Qualifier	U-235 Activity (pCi/L)	U-235 Qualifier	U-238 Activity (pCi/L)	U-238 Qualifier	Total U (pCi/L)	Gross Alpha (pCi/L)	Validation Qualifier	Adjusted Gross Alpha (Gross Alpha - Total U)
12A-090052	B38W01S	GW	0.144	J	0.019	U	0.029	U	0.192	4.960	J	4.77
12A-090077	B38W01S (field duplicate)	GW	0.049	U	0.029	U	0.116	J	0.194	4.490	J	4.30
12A-090053	B38W02D	GW	0.336	J	0.058	U	0.134	U	0.528	2.004	UJ	1.48
10A-090037	B38W03B	GW	0.052	U	0.031	U	0.062	U	0.145	2.281	UJ	2.14
19A-090040	B38W14S	GW	0.904		0.091	J	0.421		1.416	5.510	J	4.09
19A-090041	B38W14D	GW	0.455		0.030	U	0.383		0.868	3.770	J	2.092
20A-090045	B38W15S	GW	0.480		0.030	U	0.360		0.870	6.927	J	6.06
20A-090075	B38W15S (field duplicate)	GW	0.530		0.020	U	0.200		0.750	4.800	J	4.05
20A-090044	B38W15D	GW	4.118		0.088	J	1.480		5.686	6.000	J	0.31
20A-090064	B38W17A	GW	0.223		0.056	U	0.186		0.465	3.762		3.30
20A-090065	B38W17B	GW	0.000	U	0.000	U	0.000	U	0.000	11.040	J	11.04
20A-090078	B38W17B (field duplicate)	GW	0.171		0.048	U	0.057	U	0.276	12.050	J	11.77
12B-090008	B38W18DR	GW	1.927		0.173		1.694		3.794	5.329	J	1.53
12B-090010	B38W18DR (field duplicate)	GW	2.120		0.050	U	2.200		4.370	2.530	J	-1.84
10A-090011	B38W24S	GW	0.072	U	-0.009	U	0.018	U	0.081	5.400		5.32
10A-090012	B38W24D	GW	0.027	U	0	U	0.018	U	0.045	10.859	J	10.81
12B-090000	B38W25SR	GW	0.529		0.031	U	0.497		1.057	10.220		9.16
12B-090001	B38W25DR	GW	0.094	J	0.032	U	0.126	J	0.252	9.710		9.46
12B-090016	MISS01AR	GW	0.078	U	-0.01	U	0.107	U	0.175	6.170		5.99
12B-090017	MISS01BR	GW	0.194		0.059	U	0.233		0.486	0.880	UJ	0.39
12B-090019	MISS02AR	GW	0.172		0.057	U	0.076	U	0.305	4.290		3.98
12B-090072	MISS02AR (field duplicate)	GW	0.030	U	0.03	U	-0.010	U	0.050	5.250		5.20
12B-090018	MISS02BR	GW	0.807		-0.02	U	0.363		1.150	6.610		5.46
12B-090032	MISS05AR	GW	0.302		0.068	U	0.136	U	0.506	2.600		2.09
12B-090033	MISS05BR	GW	0.104	U	0.028	U	0	U	0.132	9.800		9.67
12B-090074	MISS05BR (field duplicate)	GW	0.020	U	0.000	U	0.037	U	0.057	11.650		11.59
12B-090034	MISS07AR	GW	0.330		0	U	0.155		0.485	6.736	J	6.25
12B-090035	MISS07B	GW	2.871		0.189		1.813		4.873	8.640		3.77
12B-090108	MW3SR	GW	0.240		0.028	U	0.148	U	0.416	4.350	J	3.93
12B-090038	MW3DR	GW	2.272		0.111	U	2.077		4.460	5.810		1.35
12B-090028	MW24S	GW	0.040	U	0.02	U	0.03	U	0.090	3.002	J	2.91
12B-090029	MW24D	GW	6.390		0.06	U	2.45		8.898	14.200		5.30
12B-090002	MW28S	GW	0.353		0.052	U	0.34		0.747	6.790		6.04
23A-026057	SW003	SW	0.375		-0.02	U	0.207		0.562	3.470		2.91
23A-026058	SW004	SW	0.5		0.064	U	0.351		0.915	3.980		3.06

Notes

The MCL for Gross Alpha is 15.0 pCi/L, but excludes radon and uranium (40 CFR 141.66) (EPA 2004B)

Qualifiers

U - Non-detect
J - Estimated concentration
UJ - Estimated non-detect

**TABLE E-5
ADJUSTED GROSS BETA DATA SHEET
FUSRAP MAYWOOD SUPERFUND SITE**

Field Sample ID	Well ID Number	Potassium Concentration (ug/L)	Potassium Concentration (mg/L)	Specific Activity of K-40 per mg of natural K(pCi/mg) ⁽²⁾	Activity of K-40 (pCi/L)	Gross Beta Activity (pCi/L)	Adjusted Gross Beta Activity (pCi/L) ⁽³⁾
12A-090052	B38W01S	30,400	30.4	0.754	22.92	25.7	2.78
12A-090077	B38W01S (field duplicate)	30,400 ⁽¹⁾	30.4	0.754	22.92	26.7	3.78
22A-090053	B38W02D	1,090	1.09	0.754	0.82	0.92	0.098
10A-090037	B38W03B	10,200	10.2	0.754	7.69	6.72	-0.97
19A-090040	B38W14S	17,200	17.2	0.754	12.97	12.43	-0.54
19A-090041	B38W14D	4,450	4.45	0.754	3.36	3.82	0.46
20A-090044	B38W15S	127,000	127	0.754	95.76	74.7	-21.06
20A-090075	B38W15S (field duplicate)	127,000 ⁽¹⁾	127	0.754	95.76	83.6	-12.16
20A-090045	B38W15D	38,000	38	0.754	28.65	27.2	-1.45
20A-090064	B38W17A	27,900	27.9	0.754	21.04	21.3	0.26
20A-090065	B38W17B	144,000	144	0.754	108.6	106	-2.58
20A-090078	B38W17B (field duplicate)	144,000 ⁽¹⁾	144	0.754	108.6	118	9.42
12B-090008	B38W18DR	2,090	2.09	0.754	1.58	4.63	3.05
12B-090010	B38W18DR (field duplicate)	2,090 ⁽¹⁾	2.09	0.754	1.58	2.08	0.50
10A-090011	B38W24S	19,600	19.6	0.754	14.78	18.2	3.42
10A-090012	B38W24D	20,000	20	0.754	15.08	18	2.92
12B-090000	B38W25SR	77,500	77.5	0.754	58.44	77.5	19.07
12B-090001	B38W25DR	454,000	454	0.754	342.3	400	57.68
12B-090016	MISS01AR	40,200	40.2	0.754	30.31	35	4.69
12B-090017	MISS01BR	1,860	1.86	0.754	1.40	3.48	2.08
12B-090019	MISS02AR	30,900	30.9	0.754	23.30	20.6	-2.70
12B-090072	MISS02AR (field duplicate)	30,900 ⁽¹⁾	30.9	0.754	23.30	23.4	0.10
12B-090018	MISS02BR	33,800	33.8	0.754	25.49	26.6	1.11
12B-090032	MISS05AR	18,300	18.3	0.754	13.80	15	1.20
12B-090033	MISS05BR	1,560,000	1,560	0.754	1176	1,095	-81.24
12B-090074	MISS05BR (field duplicate)	1,560,000 ⁽¹⁾	1,560	0.754	1176	1,146	-30.24
12B-090034	MISS07AR	57,600	57.6	0.754	43.43	40.4	-3.03
12B-090035	MISS07B	33,400	33.4	0.754	25.18	20.6	-4.58
12B-090108	MW3SR	46,300	46.3	0.754	34.91	31.2	-3.71
12B-090038	MW3DR	13,400	13.4	0.754	10.10	12.9	2.80
12B-090028	MW24S	24,600	24.6	0.754	18.55	20.2	1.65
12B-090029	MW24D	7,370	7.37	0.754	5.56	4.56	-1.00
12B-090002	MW28S	25,900	25.9	0.754	19.53	26.1	6.57

Notes

Federal /NJDEP gross beta screening value is 50 pCi/L. The Federal screening value does not consider gross beta associated with naturally occurring Potassium - 40 (K-40) when developing the standard (40 CFR 141.66). The gross beta activity in Table 3-5 is adjusted for the detected potassium (K-40 activity) in each sample.

1. Please note that the potassium value shown is the value from the regular field sample associated with the field duplicate since the field dupe was not analyzed for potassium
2. Specific Activity for K-40 per mg of natural K is 0.847 pCi K-40/mg. This value is modified to account for K-40 decay by beta emission, which occurs 89% of the time. The 0.847 pCi K-40/mg of natural K is multiplied by 0.89 to obtain the applied specific activity of 0.754 pCi K-40/mg of natural K.
3. Net negative adjusted gross beta values may occur if potassium-40 is the primary or sole contributor to the gross beta due to the uncertainties associated with the gross beta and potassium measurements.

TABLE E-6
TRIP BLANK SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE

12B-090006 08/08/16					12B-090079 08/09/16					12B-090080 08/10/16					12B-090081 08/11/16				
Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW
Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW
12B-090082 08/15/16					12B-090083 08/16/16					12B-090084 08/17/16					12B-090085 08/18/16				
Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW
Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW
12B-090086 08/22/16					12B-090087 08/23/16					12B-090088 08/24/16					12B-090089 08/25/16				
Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW
Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW
12B-090090 08/29/16					12B-090104 08/30/16					12B-090105 08/31/16					12B-090106 09/01/16				
Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW
Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW
12B-026071 09/07/16					12B-090107 09/08/16					12B-090110 09/21/16					12B-090109 09/22/16				
Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW	Analyte	Result	Q	MDC	GW/SW
Benzene	0.5	U	0.5	SW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW

Notes

Q - Qualifier.

MDC - Minimum Detectable Concentration.

GW- Associated Groundwater Sample.

SW - Associated Surface Water Sample.

Qualifiers

U - Non-detect.

**TABLE E-7
FIELD BLANK SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

12B-090009 GROUNDWATER FB 08/08/16						12B-026073 SURFACE WATER FB 09/07/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3
Lithium	21	J	500	-	730	Lithium	5.7	J	500	-	730
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	0.741	UJ	1.28	0.872	15	Gross Alpha	0		4.32	-	15
Gross Beta	-0.356	U	1.97	1.09	50	Gross Beta	2		36.73	-	50
Ra-226	0.034	U	0.22	0.104	-	Ra-226	NS	-	-	-	-
Ra-228	0.247	J-	0.163	0.22	-	Ra-228	NS	-	-	-	-
Total Radium	0.281		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	-0.012	U	0.168	0.072	-	Thorium-228	NS	-	-	-	-
Thorium-230	0.43		0.2	0.275	-	Thorium-230	NS	-	-	-	-
Thorium-232	0.034	U	0.093	0.072	-	Thorium-232	NS	-	-	-	-
Total Thorium	0.452		-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.038	U	0.165	0.085	-	U-234	NS	-	-	-	-
U-235	-0.01	U	0.14	0.06	-	U-235	NS	-	-	-	-
U-238	0	U	0.077	0.24	-	U-238	NS	-	-	-	-
Total Uranium	0.028		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	0		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J- - Result is estimated and may be biased low.

**TABLE E-8
RINSATE BLANK SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

12B-090007 08/08/16						12B-090091 08/09/16						12B-090092 08/10/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3
Lithium	14.6	J	500	-	730	Lithium	2.3	J-	500	-	730	Lithium	12.2	J	500	-	730
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	0.431	UJ	1.23	0.716	15	Gross Alpha	0.045	UJ	1.25	0.507	15	Gross Alpha	0.80	UJ	1.41	0.942	15
Gross Beta	1.76	U	2.00	1.35	50	Gross Beta	0.405	U	1.93	1.09	50	Gross Beta	1.23		2.15	1.34	50
Ra-226	0.045	U	0.198	0.102	-	Ra-226	0.038	U	0.245	0.115	-	Ra-226	0.045	U	0.293	0.138	-
Ra-228	0.843	J-	0.251	0.365	-	Ra-228	0.435	J	0.19	0.256	-	Ra-228	0.102	U	0.265	0.355	-
Total Radium	0.888		-	-	5	Total Radium	0.473		-	-	5	Total Radium	0.147		-	-	5
Thorium-228	0.035	U	0.152	0.078	-	Thorium-228	-0.01	U	0.207	0.07	-	Thorium-228	0.05	U	0.216	0.113	-
Thorium-230	0.034	U	0.129	0.106	-	Thorium-230	0.298	J	0.17	0.216	-	Thorium-230	0.364		0.094	0.234	-
Thorium-232	0	U	0.071	0.055	-	Thorium-232	0	U	0.079	0.061	-	Thorium-232	-0.01	U	0.149	0.064	-
Total Thorium	0.069		-	-	-	Total Thorium	0.288		-	-	-	Total Thorium	0.404		-	-	-
U-234	-0.018	U	0.156	0.059	-	U-234	0.02	U	0.144	0.062	-	U-234	0.052	U	0.152	0.09	-
U-235	0.054	U	0.073	0.079	-	U-235	0	U	0.08	0.249	-	U-235	0.052	U	0.152	0.09	-
U-238	0.072	U	0.132	0.095	-	U-238	0.029	U	0.079	0.062	-	U-238	0.021	U	0.151	0.065	-
Total Uranium	0.108		-	-	-	Total Uranium	0.049		-	-	-	Total Uranium	0.125		-	-	-
Total Uranium (ug/L)	0.214		-	-	30	Total Uranium (ug/L)	0.086		-	-	30	Total Uranium (ug/L)	0.06		-	-	30

Notes

NS - Not Sampled.
 -- Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J- - Result is estimated and may be biased low.

**TABLE E-8
RINSATE BLANK SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

12B-090093 08/11/16						12B-090094 08/15/16						12B-090095 08/16/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3
Lithium	9.5	J	500	-	730	Lithium	34.3	J	500	-	730	Lithium	6.6	J	500	-	730
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	0.603	UJ	1.25	0.805	15	Gross Alpha	-0.134	U	1.30	0.582	15
Gross Beta	NS	-	-	-	-	Gross Beta	1.07		2.43	1.47	50	Gross Beta	0.251		1.88	1.02	50
Ra-226	NS	-	-	-	-	Ra-226	0.126	U	0.274	0.175	-	Ra-226	-0.046	U	0.37	0.118	-
Ra-228	NS	-	-	-	-	Ra-228	0.116	U	0.225	0.258	-	Ra-228	0.191	U	0.194	0.249	-
Total Radium	NS	-	-	-	-	Total Radium	0.242		-	-	5	Total Radium	0.145		-	-	5
Thorium-228	NS	-	-	-	-	Thorium-228	-0.039	U	0.203	0.069	-	Thorium-228	0	U	0.214	0.076	-
Thorium-230	NS	-	-	-	-	Thorium-230	0.158	J	0.141	0.165	-	Thorium-230	1.65		0.101	0.523	-
Thorium-232	NS	-	-	-	-	Thorium-232	0	U	0.078	0.06	-	Thorium-232	0	U	0.089	0.069	-
Total Thorium	NS	-	-	-	-	Total Thorium	0.119		-	-	-	Total Thorium	1.65		-	-	-
U-234	NS	-	-	-	-	U-234	0	U	0.087	0.271	-	U-234	0	U	0.086	0.268	-
U-235	NS	-	-	-	-	U-235	0.032	U	0.087	0.068	-	U-235	-0.021	U	0.185	0.071	-
U-238	NS	-	-	-	-	U-238	0	U	0.087	0.27	-	U-238	0	U	0.086	0.268	-
Total Uranium	NS	-	-	-	-	Total Uranium	0.032		-	-	-	Total Uranium	-0.021		-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	0		-	-	30	Total Uranium (ug/L)	0		-	-	30

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.

**TABLE E-8
RINSATE BLANK SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

12B-090096 08/17/16						12B-090097 08/18/16						12B-090098 08/22/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3
Lithium	500	U	500	-	730	Lithium	14.6	J	500	-	730	Lithium	6.4	J	500	-	730
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	0.258	UJ	1.18	0.604	15	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	0.192		2.31	1.27	50	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	0.217	-	0.187	0.189	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	0.892	-	0.243	0.348	-	Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	1.11	-	-	-	5	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	-0.01	U	0.202	0.068	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	0.156	J	0.14	0.163	-	Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	-	-
Thorium-232	0	U	0.077	0.06	-	Thorium-232	NS	-	-	-	-	Thorium-232	NS	-	-	-	-
Total Thorium	0.146	-	-	-	-	Total Thorium	NS	-	-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.009	U	0.162	0.062	-	U-234	NS	-	-	-	-	U-234	NS	-	-	-	-
U-235	0	U	0.076	0.236	-	U-235	NS	-	-	-	-	U-235	NS	-	-	-	-
U-238	0.019	U	0.136	0.059	-	U-238	NS	-	-	-	-	U-238	NS	-	-	-	-
Total Uranium	0.028	-	-	-	-	Total Uranium	NS	-	-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	0.056	-	-	-	30	Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.

**TABLE E-8
RINSATE BLANK SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

12B-090099 08/24/16						12B-090100 08/29/16						12B-090102 09/01/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3
Lithium	4.2	J	500	-	730	Lithium	10.4	J	500	-	730	Lithium	6	J	500	-	730
Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)						Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-	Gross Alpha	0.34	U	1.11	0.621	15	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	2.40		2.32	1.59	50	Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	0.024	U	0.178	0.077	-	Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-	Ra-228	0.27		0.195	0.242	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	0.294		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	0.018	U	0.20	0.088	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-	Thorium-230	0.098	U	0.139	0.14	-	Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-	Thorium-232	-0.01	U	0.138	0.059	-	Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-	Total Thorium	0.106		-	-	-	Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-	U-234	0.027	U	0.073	0.057	-	U-234	NS	-	-	-	-
U-235	NS	-	-	-	-	U-235	-0.009	U	0.132	0.057	-	U-235	NS	-	-	-	-
U-238	NS	-	-	-	-	U-238	-0.009	U	0.132	0.057	-	U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-	Total Uranium	0.009		-	-	-	Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-	Total Uranium (ug/L)	-0.027		-	-	30	Total Uranium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.

**TABLE E-8
RINSATE BLANK SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE**

12B-090103 09/21/16					
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1
Arsenic	3	U	3	-	3
Lithium	8.7	J	500	-	730
Radiological Constituents (pCi/L, unless otherwise noted)					
Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	-	-
Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-
Total Thorium	NS	-	-	-	-
U-234	NS	-	-	-	-
U-235	NS	-	-	-	-
U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-

Notes

NS - Not Sampled.
 - - Not Applicable.
 Q - Qualifier.
 MDC - Minimum Detectable Concentration/Minimum Detectable Activity.
 Bolded text indicates Groundwater Cleanup exceedance.
 Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.
 UJ - Estimated non-detect.
 J - Estimated concentration.
 J+ - Result is estimated and may be biased high.
 J- - Result is estimated and may be biased low.

APPENDIX F
**Quality Control Summary Report for the Annual
Long-Term Groundwater Monitoring Report, 2016**
*(Note: The QCSR Data Package and Validation Report Attachments
are provided on CD)*

QUALITY CONTROL SUMMARY REPORT FOR THE ANNUAL LONG TERM GROUNDWATER MONITORING REPORT, 2016

FUSRAP MAYWOOD SUPERFUND SITE MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION CONTRACT NO. W912DQ-13-D-3016 TASK ORDER 0002

Prepared for



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**100 West Hunter Avenue
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April 2017
Revision B

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QUALITY CONTROL SUMMARY REPORT FOR THE ANNUAL LONG TERM GROUNDWATER MONITORING REPORT, 2016

FUSRAP MAYWOOD SUPERFUND SITE MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION CONTRACT NO. W912DQ-13-D-3016 TASK ORDER 001

Prepared for



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April 2017
Revision B

Prepared by: Dr. Brian Tucker _____

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Chemical Quality Control
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ABBREVIATIONS AND ACRONYMS

%	percent
μ	method uncertainty
σ	sigma
ANSI	American National Standards Institute
Aq	Aqueous
As	arsenic
ASTM	ASTM International
Ba-133	barium 133
Cabrera	Cabrera Services, Inc.
CCC	Calibration check compound
COC	chain-of-custody
Conc	Concentration
CRDL	Contract Required Detection Limit
%D	percent difference
DOE	U.S. Department of Energy
EB	Equipment blank
Eh	oxidation / reduction potential
EPA	U.S. Environmental Protection Agency
FB	Field blank
FMSS	FUSRAP Maywood Superfund Site
FREP	field replicate
FUSRAP	Formerly Utilized Sites Remedial Action Program
GFPC	gas-flow proportional counting
ICP-MS	Inductively-coupled plasma mass spectrometer
ID	identification
J	estimated value
keV	kiloelectron volt
LCS	laboratory control sample
Li	lithium
LREP	laboratory replicate
LTGWMP	Long Term Groundwater Monitoring Program
MDA	minimum detectable activity
MS	matrix spike
MSD	matrix spike duplicate
NJDEP	New Jersey Department of Environmental Protection
pCi/L	picocuries per liter
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
QCSR	Quality Control Summary Report

R	rejected data
Ra-226	radium 226
Ra-228	radium 228
Rn-222	radon 222
RL	reporting limit
ROI	radionuclides of interest
RPD	relative percent difference
SDG	sample delivery group
SPCC	system performance check compound
STF	Sample Tracking Form
Th-228	thorium 228
Th-230	thorium 230
Th-232	thorium 232
U	non-detected (undetected)
U-234	uranium 234
U-235	uranium 235
U-238	uranium 238
UFML	USACE FUSRAP Maywood Laboratory
UJ	non-detected estimated
USACE	U.S. Army Corps of Engineers
VOC	Volatile organic compound

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1.0 INTRODUCTION

Cabrera Services, Inc., (Cabrera) conducted monitoring of the FUSRAP Maywood Superfund Site (FMSS) groundwater, and some of the surface waters (two of ten), as part of the Long Term Groundwater Monitoring (LTGWM) Program for 2016 during August and September of 2016.

This *Quality Control Summary Report (QCSR) for the Annual Long Term Groundwater Monitoring Report, 2016* addresses data collected from analysis of all groundwater and some surface water samples collected between August 7, 2016 and September 21, 2016.

Approximately 40% of the groundwater samples and all surface water samples were tested for radium 226 (Ra-226), radium 228 (Ra-228), thorium 228 (Th-228), thorium 230 (Th-230), thorium 232 (Th-232), uranium 234 (U-234), uranium 235 (U-235), uranium 238 (U-238), gross alpha, gross beta, potassium (K) and radon 222 (Rn-222). All groundwater samples were also tested for benzene, lithium (Li) and arsenic (As). All of the radiological data except Rn-222, as well as As, Li and benzene data, were validated. Approximately 30% of the groundwater samples were tested for the bioacceptor analytes total iron (Fe), field filtered Fe, total manganese (Mn), field filtered Mn, ammonia, nitrate, sulfide, sulfate and methane, as well as the bionutrient parameters total phosphorus and chemical oxygen demand (COD). The bionutrient, bioacceptor and potassium data were not validated and therefore are not discussed within this QCSR.

This QCSR will only discuss deviations in quality control (QC) criteria for the Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (FMSS) parameter results that were validated. A project QCSR will be prepared at the conclusion of the project. This QCSR for the 2016 LTGWM Program will support preparation of the project QCSR.

The QCSR for the 2016 LTGWM Program 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, Analytical and Quality Assurance / Quality Control Problems Encountered at Laboratories;
- Section **Error! Reference source not found., Error! Reference source not found.**; and,
- Section 7.0, References.

2.0 DATA COLLECTION

LTGWM data collection procedures were evaluated for any deviations or modifications that may have occurred in the areas of sample handling and custody, equipment calibration and maintenance, and analytical methods. Within this report, the terms batch, package, and Sample Delivery Group (SDG) are synonymous. An SDG is a data report that contains the various test results of one or more sample batches plus associated QC data such as calibrations, blank spike and matrix spike (MS) results, blanks, etc.

There were no sample collection anomalies during the 2016 sampling effort.

2.1 SAMPLE HANDLING AND CUSTODY – RADIOLOGICAL LABORATORY

Custody seals were not provided on samples provided to the onsite radiological laboratory since they were hand-delivered to the laboratory on the sampling date. The onsite laboratory does not generate condition upon receipt forms. All onsite laboratory chain-of-custodies (COCs) were properly signed and dated. All water samples for radiological analysis were preserved with nitric acid. All COCs indicate that aqueous (aq) sample pHs were less than 2.

2.2 SAMPLE HANDLING AND CUSTODY – CHEMICAL LABORATORY

All offsite chemical laboratory chain-of-custodies (COCs) were properly signed and dated and all samples were received in good condition. Custody seals were present on the sample coolers. The sample receipt checklist indicates that samples were received in good shape and were shipped on ice. Sample pHs were < 2. There were no offsite laboratory data package anomalies.

2.3 EQUIPMENT CALIBRATION AND MAINTENANCE

2.3.1 Field Instrument Measurement and Calibration

Field measurements were made for dissolved oxygen, oxidation/reduction potential (Eh), turbidity, temperature, specific conductivity, and pH in the 69 groundwater and two surface water samples. There were no discrepancies observed in the area of field equipment calibration and measurement for the 2016 Long Term Groundwater Monitoring Program.

2.3.2 Onsite Laboratory – Radiological Analyses

For radiological analyses conducted at the onsite laboratory, all criteria were met for initial and continuing instrument calibrations.

2.3.3 Offsite Laboratory – Chemical Analyses

For elements, the laboratory did provide initial calibration data for the inductively-coupled plasma mass spectrometer (ICP-MS) analyses and the inductively-coupled plasma atomic emission spectrometer (ICP-AES) analyses. Initial calibration verification results were submitted. All acceptance criteria were between 90-110% for all analyses. All ICP-MS and ICP-AES bracketing continuing calibration results supplied by the laboratory also met acceptance criteria for elemental analyses.

Also for elements, the laboratory analyzed an elements standard at or near 2 X the laboratory's reporting limit (Contract Required Detection Limit (CRDL) standard). The CRDL recoveries are between 70-130% for all data packages.

For VOC benzene analysis, all system performance check compound (SPCC) and calibration check compound (CCC) results are within the method acceptance criteria for both initial and continuing calibrations. In addition, all %RSD values for initial calibration response factors and %D values between the continuing calibration response factor and the initial calibration mean response factor are less than 20% with one exception. For the data package JC28136 closing continuing calibration, the benzene result had a %D value of 24.6%. For the closing continuing calibration, the %D limit is $\pm 50\%$. Therefore, no data was qualified.

2.4 ANALYTICAL METHODS

Three laboratories were employed for radiological analysis and two were employed for chemical analysis.

Radiological Analysis

U.S. Army Corps of Engineers (USACE) FUSRAP Maywood Laboratory (UFML)
100 West Hunter Avenue
Maywood, NJ 07607

Test America
13715 Rider Trail North
Earth City, MO 63045

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407

Chemical Analysis

Accutest Laboratory
2235 US Highway 130
Dayton, NJ 08810

Test America
13715 Rider Trail North
Earth City, MO 63045

UFML, operated by Cabrera Services, Inc., analyzed all groundwater and surface water samples using alpha spectroscopy and gas-flow proportional counting (GFPC).

The first offsite radiological laboratory, Test America in St. Louis, Missouri, analyzed USACE Quality Assurance (QA) split samples for the same radiological parameters analyzed by UFML as well as the groundwater chemical contaminants of concern. The QA split sample collection frequency is at least 5 percent (%).

The second offsite radiological laboratory, GEL Laboratories, LLC, analyzed all groundwater samples for Rn-222.

Accutest Laboratory analyzed groundwater samples for the chemical contaminants of concern benzene, arsenic, and lithium as well as potassium. Accutest also analyzed selected groundwater samples for bioremediation parameters. The methods employed by these laboratories are noted in the table below.

Analyte	Analysis Method
UFML	
Ra-226	Method 903.0 modified
Ra-228	Method 904.0
Isotopic Uranium	SM-7500-U
Isotopic Thorium	HASL-300
Gross Alpha/Gross Beta	Method 900.0 modified
Gross Alpha	SM 7110C
Test America	
Ra-226	Method 903.0
Ra-228	Method 904.0
Isotopic Uranium	A01R-U
Isotopic Thorium	A01R-Th
Gross Alpha/Gross Beta	Method 900.0
As and Li	SW-846 6020A
Benzene	SW-846 8260C
GEL	
Rn-222	SM 7500 Rn-B
Accutest - COCs	
As	SW-846 6020A
Li and K	SW-846 6010C
Benzene	SW-846 8260B
Accutest - Biogeochemical Analytes	
Manganese (Mn), total	SW-846 6010C
Manganese (Mn), filtered	SW-846 6010C
Iron (Fe), total	SW-846 6010C
Iron (Fe), filtered -	SW-846 6010C
Nitrate	MCA 353.2
Ammonia	SM4500NH3 H-11
Sulfate	MCA 300.0 / SW 9056A
Sulfide	SM4500S2 C,F-11/SW846 9034
Methane	SW-846 8015C modif.
Phosphorus (total)	MCA 365.3

2.5 MODIFICATIONS TO THE WORK PLAN

There were no modifications to the radiation measurement techniques or analytical methods described in the *General Environmental Protection Plan* (USACE 2013) and *Uniform Federal Projects – Quality Assurance Project Plan* (USACE, 2015).

3.0 DATA ANALYSIS AND VALIDATION

Kestrel Environmental Technologies, Inc. performed data evaluation of the radiological and chemical data. They evaluated 100% of the onsite laboratory radiological sample results and all of the non-QA split offsite laboratory sample results except for potassium, radon and bioremedial parameters. Radiological data were evaluated using the USACE's *Radionuclide Data Quality Evaluation Guidance* (USACE 2009), and chemical data were validated using EPA Region II Standard Operating Procedures (SOP)(USEPA 2012). In those instances where professional judgment was used by the data validator, the Maywood project's Chemical Quality Control Coordinator concurs with the data qualifications performed.

4.0 DATA SUMMARIES

Data summaries for the onsite and offsite laboratories' radiological and chemical data are presented in the *Annual Long Term Groundwater Monitoring Report, 2016* (USACE 2017).

5.0 ANALYTICAL AND QUALITY ASSURANCE / QUALITY CONTROL PROBLEMS ENCOUNTERED AT LABORATORIES

Included in the 69 groundwater and two surface water samples were eight groundwater field duplicates and one field duplicate for surface water. Four groundwater split samples and one surface water split sample were also collected. Thirteen rinsate blanks and one field blank sample were also collected. The frequency of split sample collection (5.8% for groundwater and 50% for surface water) met the required minimum frequency of 5% for this project (percentage based on total number of non-QC field samples).

All samples were analyzed for radiological and chemical parameters. The groundwater and surface water radiological samples were analyzed for Ra-226, Ra-228, Th-228, Th-230, and Th-232, U-234, U-235, U-238, gross alpha and gross beta at the onsite laboratory. All groundwater samples were analyzed for arsenic, lithium and benzene, and approximately one third of the groundwater samples were analyzed for either bioacceptor or bionutrient parameters at the Accutest offsite laboratory. All groundwater samples that were analyzed for radiological parameters at the onsite laboratory were also analyzed for Rn-222 at the GEL offsite laboratory, and for potassium at the Accutest offsite laboratory. The surface water chemical samples were only analyzed for arsenic, lithium and benzene at the Accutest offsite laboratory. All of the results from testing of these samples except for potassium, Rn-222, bioacceptors and bionutrients were validated. The validator noted the following general findings as discussed in Sections 5.1 through 5.13. A summary of the data qualifications is presented as follows:

Summary of Data Qualifications

A. Data Qualifier Definitions

Data Qualifier	Definition
U	A normal, non-detected (< critical value (radiological) or < MDL (chemical)) result

J	An uncertain or estimated result
R	A rejected result: the problems (quantitative or qualitative) are severe; rejected data may still be usable depending upon the intended use of the data and the reason for data rejection
UJ	A non-detect result that has an uncertain MDA value (for radiological results) or MDL value (for chemical results)

B. Qualification Reasons

Qualify a result rejected (R) for one of the following reasons:
 None

Qualify the following results non-detect (U) for one of the following reasons:

- The arsenic results for 12B-090029, 12B-090030, 12B-090033, 12B-090074 and 12B-090094 are reported as non-detected (U) at the RL, 3.0 ug/L due to arsenic levels in the rinsate blanks and/or method blanks.

Qualify the following results estimated non-detect (UJ) for one of the following reasons:

- The Th-228, Th-230 and Th-232 results for 10A-090011 due to low Th-229 tracer recovery of 79.9%.
- The GA results for 12B-090009, 12B-090007 and 12B-090091 (data package 16G-0316 and -0320); the Gross Alpha results for 12B-090017, 12B-090092, and 12B-090094 (data package 16G-0325 and -0332); the Gross Alpha results for 10A-090037, 12B-090095 and 12B-090096 (data package 16G-0335 and -0338); and the GA results for 12A-090053 and 20A-090098 (data package 16G-0344, -0360, etc.), since the MS recovery in each case is below the laboratory acceptance criteria.

Qualify a result estimated (J) for one of the following reasons:

1. The reported result is within the analytical window of the daily blank, the method blank, the field blank and/or the rinsate blank result.
2. Low LCS recovery.
3. The result is greater than the MDA and less than the 2 sigma uncertainty.
4. The absolute difference or relative percent difference between replicate pair results (field replicates, lab replicates, or QA split samples) exceeds the control limit for a given analyte.
5. Low Z score and low MS recovery for matrix spike results.
6. Result falls between the detection limit (DL) and the reporting limit (RL).

Reasons for Qualifying Sample Analyte Results Estimated J

Reason	Sample Numbers	Analyte(s)
1	12B-090000, 12B-090001, 12B-090002, 12B-090016, 12B-090019, 12B-090018, 12B-090072, 12B-090028, 12B-090029, 12B-090034, 12B-090034 LREP, 12B-090035, 10A-090037, 12B-090038, 19A-090040, 20A-090044, 20A-090045, 12A-090052, 12A-090053, 23A-026055, 23A-026056, 23A-026057, 23A-	Th-230

Reason	Sample Numbers	Analyte(s)
	026058, 23A-026055 LREP, 22A-026059, 22A-026060, 22A-026060 LREP 20A-090064, 20A-090065, 20A-090064 LREP, 22A-026069, 12B-090074, 20A-090075, 12A-090077, 12B-090091, 12B-090092, 12B-090094, 12B-090096, 12B-090098,	
1	12B-090009, 12B-090002, 12B-090001, 12B-090000, 12B-090017, 12B-090019, 12B-090018, 12B-090034, 12B-090035, 12B-090038, 12B-090034 LREP, 20A-090044, 20A-090045, 20A-090044 LREP, 12B-090072, 12B-090091, 12A-090052, 12A-090053, 12A-090053 LREP, 20A-090064,	Ra-228
1	19A-090040	Ra-226
1	12A-090052 LREP, 12A-090052 and 12A-090077	Gross Alpha
1	12A-090052, 12A-090053 and 12A-090053 LREP	U-234
1	12B-090032, 20A-090064, 20A-090065, 20A-090078, 20A-090070, 20A-090071, 10A-090069	Arsenic
1	12B-090009, 12B-090007, 12B-090091, 12B-090028, 10A-090037, 10A-090048, 12A-090053, 20A-090055, 23B-090059, 23B-090061, 23B-090062, 23B-090067, 23B-090068, 23B-090063, 12B-090020, 23A-026057, 20A-090071, 10A-090069	Lithium
2	12B-090000, 12B-090001, 12B-090002, 12B-090009 and 12B-090007	Ra-228
2	20A-090065, 20A-090078, 20A-090065 LREP and 12B-090108	Gross Alpha
3	12B-090000 and 12B-090019 LREP	U-234
3	19A-090041 and 20A-090045	U-235
3	12B-090000, 12B-090034 LREP and 12A-090077	U-238
3	12B-090016, 12B-090034 and 20A-090064 LREP	Ra-226
3	12B-090019	Ra-228
3	12B-090018, 12B-090029, 12B-090094, 12B-090096 and 20A-090044	Th-230
4	12B-090001, 12B-090001 LREP, 12B-090002, 10A-090012 and 12B-090010, 12B-090016, 12B-090017, 12B-090033, 12B-090033 LREP, 10A-090037, 19A-090040, 19A-090041, 20A-090045 and 20A-090075	Gross Beta
4	12a-090052 and 12b-090008	Ra-228
4	12b-090008	Th-228
4	All samples except for field replicate pairs that met criteria	Th-230
4	20A-090064	Gross Alpha
5	12B-090008, 12B-090008 LREP, 10A-090012, 12B-090010, 12B-090028, 12B-090034, 12B-090034 LREP, 19A-090040, 19A-090041, 20A-090044, 20A-090044 LREP, 20A-090045, 12A-090052, 12A-090052 LREP, 12A-090053 LREP, 20A-090075 and 12A-090077	Gross Alpha
6	12B-090009, 12B-090007, 12B-090008, 10A-090011, 10A-090012, 12B-090014, 12B-090010, 12B-090016, 12B-090017, 12B-090092, 12B-090026, 12B-090073, 12B-090093, 12B-090094, 10A-090036, 12B-090095, 19A-090040, 19A-090041, 10A-090048, 12B-090097, 12A-090053, 12B-090098, 20A-090055, 20A-090056, 12B-090099, 23B-090061, 23B-090062, 20A-090064, 12B-090100, 12B-090102, 12B-026073, 23B-	Lithium

Reason	Sample Numbers	Analyte(s)
	090060, 12B-090103, and 10A-090069	
6	12B-090001, 12B-090004, 12B-090008, 10A-090011, 10A-090012, 12B-090013, 12B-090014, 12B-090010, 12B-090017, 12B-090018, 12B-090021, 12B-090022, 12B-090023, 12B-090024, 12B-090026, 12B-090073, 10A-090036, 10A-090037, 19A-090041, 12B-090042, 12B-090046, 10A-090048, 23B-090049, 23B-090050, 12B-090076, 12A-090052, 12A-090053, 12B-090054, 12A-090077, 20A-090055, 20A-090056, 23B-090059 and 12B-090066, 23B-090061, 23B-090068, 23B-090063, 12B-090020, 23A-026057, 23B-090060, and 10A-090069	ARSENIC
6	12B-090030, 19A-090040 and 23B-090060	BENZENE

5.1 BLANK ANALYSES

ONSITE LABORATORY

In accordance with the USACE Radiological Data Evaluation Guidance, if a method blank result is within $\pm 3\mu$, where μ is the required method uncertainty, the blank result is within control limits. However, the validator may still choose to qualify a sample result using the following rationale: if the lower one sigma (σ) activity of the sample result (sample result – one sigma) is less than the upper one sigma activity of the blank (blank result + one sigma), then the result is qualified estimated J.

For daily blanks, a result is acceptable if it falls within the control limits of the mean $\pm 3\sigma$. Similar to the method blanks, the validator may still choose to qualify sample results if it is thought that they may be impacted by the blank result. Daily blanks were analyzed on each day that analyses were performed for gamma spectroscopy analyses and gross alpha/gross beta analyses. For alpha spectroscopy, there is no daily blank; only a preparation (or method) blank is analyzed. All daily blank results were within the mean $\pm 3\sigma$ criterion for gamma spectroscopy analyses and gross alpha/gross beta analyses. All acceptance criteria were also met for all weekly backgrounds. Some results for the radionuclides of interest (ROI) were qualified due to preparation (method) blank contamination, or using professional judgment, as described below.

Data Package 16G-0316 and -0320

All method blank results are reported as non-detected (U).

Rinsate blank sample 12B-090007 is associated with samples collected on 08/08/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Ra-228	16-2004	0.843	0.365	0.251

Based upon the Ra-228 rinsate blank result, the Ra-228 results for 12B-090009, 12B-090002, 12B-090001 and 12B-090000 are qualified as estimated (J).

Rinsate blank sample 12B-090091 is associated with samples collected on 08/09/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Ra-228	16-2005	0.435	0.256	0.190
Th-230	16-5005	0.298	0.216	0.170

No Ra-228 field sample results are qualified based upon the Ra-228 rinsate blank results since all associated Ra-228 results are substantially greater than the blank result. No Th-230 results are qualified because all Th-230 field sample results are reported as non-detected (U).

Field blank 12B-090009 was collected on 08/08/2016. These results are reported in laboratory data package 16G-0316. Positive field blank results are summarized below.

Radionuclide	STF	Lab ID	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Ra-228	16-2004	16-05613	0.247	0.220	0.163
Th-230	16-5004	16-05613	0.430	0.275	0.200

Based upon the field blank results, the Ra-228 result for rinsate blank sample 12B-090091 is qualified as estimated (J), and the Th-230 results for samples 12B-090000, 12B-090001, 12B-090002 and 12B-090091 are qualified as estimated (J).

Data Package 16G-0325 and -0332

Positive method blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Th-228	16-5006	0.105	0.107	0.071

No Th-228 results are qualified based upon the method blank result.

Rinsate blank sample 12B-090092 is associated with samples collected on 08/10/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Th-230	16-5006	0.364	0.234	0.094

Based upon the Th-230 rinsate blank result, the Th-230 results for 12B-090016, 12B-090019, 12B-090018 and 12B-090072 are qualified as estimated (J).

Rinsate blank sample 12B-090094 is associated with samples collected on 08/15/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Th-230	16-5007	0.158	0.165	0.141

Based upon the Th-230 rinsate blank result, the Th-230 results for 12B-090028, 12B-090029 and 12B-090074 are qualified as estimated (J).

Field blank 12B-090009 was collected on 08/08/2016. These results are reported in laboratory data package 16G-0316. Positive field blank results are summarized below.

Radionuclide	STF	Lab ID	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Ra-228	16-2004	16-05613	0.247	0.220	0.163
Th-230	16-5004	16-05613	0.430	0.275	0.200

Based upon the field blank results, the Ra-228 result for 12B-090017, 12B-090019, 12B-090018 and 12B-090072 are qualified as estimated (J), and the Th-230 results for samples 12B-090016, 12B-090019, 12B-090018, 12B-090072, 12B-090092, 12B-090028, 12B-090029, 12B-090074 and 12B-090094 are qualified as estimated (J).

Data Package 16G-0335 and -0338

Positive method blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Th-230	16-5008	0.317	0.215	0.090
Th-230	16-5009	0.139	0.155	0.089

Based upon the STF 16-5008 result the Th-230 results for 12B-090034 LREP, 12B-090035, 10A-090037 and 12B-090038 are qualified as estimated (J).

Based upon the STF 16-5009 result the Th-230 results for 19A-090040, 20A-090044, 12B-090096 and 20A-090075 are qualified as estimated (J).

Rinsate blank sample 12B-090095 is associated with samples collected on 08/16/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Th-230	16-5008	1.647	0.523	0.101

Based upon the Th-230 rinsate blank result, the Th-230 results for 12B-090034, 12B-090035, 10A-090037, 12B-090038 and 12B-090034 LREP are qualified as estimated (J).

Rinsate blank sample 12B-090096 is associated with samples collected on 08/17/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Ra-228	16-2009	0.892	0.348	0.243
Ra-226	16-3010	0.217	0.189	0.187

Based upon the Ra-228 rinsate blank result, the Ra-228 results for 20A-090044, 20A-090045 and 20A-090044 LREP are qualified as estimated (J).

Based upon the Ra-226 rinsate blank result, the Ra-226 result for 19A-090040 is qualified as estimated (J).

Field blank 12B-090009 was collected on 08/08/2016. These results are reported in laboratory data package 16G-0316. Positive field blank results are summarized below.

Radionuclide	STF	Lab ID	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Ra-228	16-2004	16-05613	0.247	0.220	0.163
Th-230	16-5004	16-05613	0.430	0.275	0.200

Based upon the field blank result, the Ra-228 results for 12B-090034, 12B-090035, 12B-090038, 20A-090044, 20A-090045 and 12B-090034 LREP are qualified as estimated (J).

Based upon the field blank result, the Th-230 results for samples 12B-090034, 12B-090035, 10A-090037, 12B-090038, 19A-090040, 20A-090044, 20A-090045, 12B-090096, 20A-090075 and 12B-090034 LREP are qualified as estimated (J).

Data Package 16G-0344, 0360, etc.

Positive method blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Gross Alpha	16-1046	-0.183	0.296	0.683
Ra-228	16-2010	0.240	0.286	0.228
U-234	16-4019	0.189	0.152	0.139
Th-230	16-5011	0.834	0.351	0.095
Th-230	16-5012	0.216	0.179	0.086
Th-230	16-5013	1.256	0.425	0.142

Based upon the STF 16-1046 method blank result the Gross Alpha results for 12A-090052, 12A-090077 and 12A-090052 LREP are qualified as estimated biased low (J-).

Based upon the STF 16-2010 method blank result the Ra-228 results for 12A-090052, 12A-090053 and 12A-090053 LREP are qualified as estimated (J).

Based upon the STF 16-4019 method blank result the U-234 results for 12A-090052, 12A-090053 and 12A-090053 LREP are qualified as estimated (J).

Based upon the STF 16-5011 method blank result the Th-230 results for 12A-090052, 12A-090053, 12A-090077, 12B-090098, 20A-090064, 20A-090065 and 20A-090064 LREP are qualified as estimated (J).

Based upon the STF 16-5012 method blank result the Th-230 results for 23A-026055, 23A-026056, 23A-026057, 23A-026058 and 23A-026055 LREP are qualified as estimated (J).

Based upon the STF 16-5013 method blank result the Th-230 results 22A-026059, 22A-026060, 22A-026069 and 22A-026060 LREP are qualified as estimated (J).

Rinsate blank sample 12B-090098 is associated with samples collected on 08/22/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Th-230	16-5011	0.827	0.353	0.153

The Th-230 result for 12B-090098 is qualified as estimated (J) based upon the Th-230 method blank result. No Th-230 results are qualified based upon the Th-230 rinsate blank result.

Rinsate blank sample 12B-090100 is associated with samples collected on 08/29/2016. Positive equipment rinsate blank results are summarized below.

Radionuclide	STF	Conc pCi/L	2 sigma uncertainty pCi/L	MDA pCi/L
Gross Beta	16-1048	2.399	1.591	2.324
Ra-228	16-2011	0.270	0.242	0.195

Gross Beta field sample results associated with this rinsate blank are at concentrations significantly greater than the field rinsate blank result. No Gross Beta results are qualified.

Based upon the Ra-228 rinsate blank result, the Ra-228 result for 20A-090064 is qualified as estimated (J).

Field blank 12B-028073 was collected on 09/07/2016. The sample is a smear sample and Gross Alpha and Gross Beta are the only target analytes. No results are qualified based upon the field blank results.

OFFSITE LABORATORY

Thirteen equipment rinsate blanks were collected with the 69 samples for the chemical contaminants of concern, while field blank results were reported in data packages JC25414 and JC27145.

All VOC trip blank, equipment rinsate blank, field blank and method blank results were reported as non-detected (U) in all chemical data packages.

For elements in several data packages, low level concentrations of arsenic, lithium and/or potassium were detected in the preparation blanks (also called method blanks), rinsate blanks, field blanks and/or laboratory instrument blanks (also known as initial calibration blanks (ICB) and continuing calibration blanks (CCB)). In most cases, the arsenic, lithium and potassium field sample concentrations are significantly greater than the blank results such that their results are not qualified. The exceptions to these are as follows:

- For data packages JC25414 and JC25502, the lithium method blank concentration, detection limit (DL) and reporting limit (RL) are shown below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	MP26625 Prep	1.8 ug/L	-5.2 ug/L	500 ug/L

Based upon the method blank result and using the professional judgment of the validator, the lithium results for field blank 12B-090009 and rinsate blank 12B-090007 (JC25414) and rinsate blank 12B-090091 (JC25502) are qualified as estimated (J). The results may be biased low.

- For data package JC25869, the maximum concentration of the contaminants detected in the method blanks, laboratory instrument blanks and rinsate blanks (RB) are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Arsenic	MP95494A Prep	0.41 ug/L	0.53 ug/L	3.0 ug/L
Arsenic	12B-090094 RB	0.41 ug/L	0.53 ug/L	3.0 ug/L
Lithium	12B-090094 RB	5.2 ug/L	34.3 ug/L	500 ug/L

The arsenic results for 12B-090029, 12B-090030, 12B-090033, 12B-090074 and 12B-090094 are reported as non-detected (U) at the RL, 3.0 ug/L. The arsenic result for 12B-090032 is qualified as estimated (J); the result may be biased high. The lithium result for 12B-090028 is qualified as estimated (J). The result may be biased high.

- For data package JC25918, the lithium rinsate blank concentration, DL and RL are shown below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	12B-090095 RB	5.2 ug/L	6.1 ug/L	500 ug/L

The lithium result for 10A-090037 is qualified as estimated (J). The result may be biased high.

- For data package JC26108, the lithium rinsate blank concentration is shown below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	Rinsate (12B-090097 RB)	250 ug/L	14.6 ug/L	500 ug/L

The lithium result for sample 10A-090048 is qualified as estimated high (J) due to the potential for blank contamination.

- For data package JC26264, the maximum concentration of the contaminants detected in the method blanks (MB), CCB and rinsate blanks are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	CCB	1.8 ug/L	5.9 ug/L	500 ug/L
Lithium	Rinsate (12B-090098 RB)	1.8 ug/L	6.4 ug/L	500 ug/L
Lithium	MB	1.8 ug/L	2.6 ug/L	500/L

The lithium result for sample 12A-090053 is qualified as estimated high (J) due to the potential for blank contamination.

- For data package JC26347, the maximum concentration of the contaminants detected in the MB, CCB and rinsate blanks are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	CCB	1.8 ug/L	4.4 ug/L	500 ug/L
Lithium	Rinsate (12B-090098 RB)	1.8 ug/L	6.4 ug/L	500 ug/L

Lithium	MB	1.8 ug/L	2.6 ug/L	500 ug/L
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The reported rinsate blank is sample 12B-090098 from package JC26264. The lithium result for sample 20A-090055 is qualified as estimated high (J) due to the potential for blank contamination.

- For data package JC26422, the maximum concentration of the contaminants detected in the method blanks, CCB and rinsate blanks and the reporting limit (RL) concentrations are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	RB (12B-090099)	1.8 ug/L	4.2 ug/L	500 ug/L
Lithium	CCB	1.8 ug/L	2.3 ug/L	500 ug/L

The lithium result for sample 23B-090059 is qualified as estimated high (J) based upon the potential for blank contamination.

- For data package JC26506, the maximum concentration of the contaminants detected in the method blanks, CCB and rinsate blanks is shown below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	CCB	1.8 ug/L	2.3 ug/L	500 ug/L

The rinsate blank and field blank associated with JC26506 samples are sample 12B-090099 from package JC26422, and 12B-090009 from package JC25414, respectively.

The lithium results for samples 23B-090061 and 23B-090062 are qualified as estimated high (J) due to the potential for blank contamination.

- For data package JC26684, the maximum concentration of the contaminants detected in the method blanks, laboratory instrument blanks, rinsate blank and field blank are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Arsenic	MB	0.41 ug/L	0.46 ug/L	3.0 ug/L
Lithium	RB	1.8 ug/L	10.4 ug/L	500 ug/L

The field blank associated with JC26684 results is sample 12B-090009 from package JC25414.

The arsenic results for samples 20A-090064, 20A-090065, and 20A-090078 are qualified as estimated high (J) due to the potential for blank contamination. Using professional judgement, lithium sample results are not qualified by the validator based upon the rinsate blank results.

- For data package JC26747, the maximum concentration of the contaminants detected in the preparation blanks, method blanks, rinsate blanks and field blanks are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
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Lithium	RB (JC26684)	1.8 ug/L	10.4 ug/L	500 ug/L
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The rinsate blank and field blank samples associated with the JC26747 samples are 12B-090100 from package JC26684, and 12B-09009 from package JC25414.

The lithium results for samples 23B-090067, 23B-090068, and 23B-090063 are qualified as estimated high (J) due to the potential for blank contamination.

- For data package JC26941, the maximum concentration of the contaminants detected in the method blanks, laboratory instrument blanks and field blanks and the reporting limit (DL) concentrations are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Lithium	ICB	1.8 ug/L	1.9 ug/L	500 ug/L
Lithium	Opening CCB	1.8 ug/L	2.1 ug/L	500 ug/L
Lithium	RB	1.8 ug/L	6.0 ug/L	500 ug/L

The RB is sample 12B-090102 and the field blank associated with JC26941 samples is 12B-090009 from package JC25414. Based upon the blank results, the lithium result for sample 12B-090020 is qualified as estimated high (J) due to the potential for blank contamination.

- For data package JC27145, the lithium result for sample 23A-026057 is qualified as estimated high (J) due to the potential for blank contamination from field blank 12B-026073, which contained lithium at a concentration of 5.7 ug/L.
- For data package JC28136, the maximum concentration of the contaminants detected in the method blanks, laboratory instrument blanks (CCB and ICB), RB and field blanks are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Arsenic	MB	0.41 ug/L	1.1 ug/L	3.0 ug/L
Lithium	ICB	1.8 ug/L	4.4 ug/L	500 ug/L
Lithium	CCB	1.8 ug/L	4.9 ug/L	500 ug/L
Lithium	CCB	1.8 ug/L	5.1 ug/L	500 ug/L
Lithium	MB	1.8 ug/L	5.4 ug/L	500 ug/L
Lithium	RB	1.8 ug/L	8.7 ug/L	500 ug/L

The field blank associated with this data package is sample 12B-090009 from package JC25414.

The arsenic results for samples 20A-090070 and 20A-090071, and the lithium result for sample 20A-090071 are qualified as estimated high (J) due to the potential for blank contamination.

- For data package JC28211, the maximum concentration of the contaminants detected in the method blanks, laboratory instrument blanks (ICB and CCB), RB and field blanks are summarized below:

Analyte	Type of Blank	DL	Blank Conc	RL
Arsenic	MB	0.41 ug/L	1.1 ug/L	3.0 ug/L

Lithium	ICB	1.8 ug/L	4.4 ug/L	500 ug/L
Lithium	CCB	1.8 ug/L	5.1 ug/L	500 ug/L
Lithium	CCB	1.8 ug/L	3.1 ug/L	500 ug/L
Lithium	MB	1.8 ug/L	5.4 ug/L	500 ug/L
Lithium	RB (JC28136)	1.8 ug/L	8.7 ug/L	500 ug/L

The rinsate blank and field blank associated with JC28211 samples are 12B-090100 (from JC28136) and 12B-090009 (from JC25414), respectively.

Based upon the blank results, the arsenic and lithium results for sample 10A-090069 are qualified as estimated high (J) due to the potential for blank contamination.

5.2 SAMPLE SPECIFIC CHEMICAL (TRACER) RECOVERIES (RADIOLOGICAL RESULTS ONLY)

The laboratory did tabulate the radioisotope tracer recoveries on the Form 1s. Laboratory derived tracer recoveries were used for this evaluation. The laboratory derived tracer acceptance criteria are summarized below.

Tracer	% Recovery
Th-229	85.4-134.5%
U-232	84.0-136.3%
Ba-133	50.0-90.0%

All tracer recoveries fell within these limits in all groundwater and surface water radiological data packages except for the following: within data package 16G-0316 and -0320, the Th-229 tracer recovery for 10A-090011 is 79.9%, below the laboratory derived acceptance limit. The Th-228, Th-230 and Th-232 results for 10A-090011 are therefore qualified as non-detected estimated (UJ).

5.3 MATRIX SPIKE AND MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ONSITE LABORATORY - RADIOLOGICAL

For all water analyses except gross alpha and gross beta, a chemical tracer is added that serves as an MS (see Section 5.2 for a discussion of tracer recoveries). Matrix spikes were performed for gross alpha and gross beta samples in all water sample batches. Gross alpha and gross beta MS recoveries were within laboratory acceptance criteria; i.e., had a Z-score between -3 and +3, in all water packages with the following exceptions.

- Within data package 16G-0316 and -0320, matrix spike results that do not meet the acceptance criteria are summarized below.

Radionuclide	STF ID	Lab ID	Z Factor	% Recovery
Gross Alpha	16-1039	12B-090008	-5.43	64%

The gross alpha results for 12B-090008, 12B-090008 LREP, 10A-090012 and 12B-090010 are qualified as estimated biased low (J-). The gross alpha results for 12B-090009, 12B-090007 and

12B-090091 are qualified as non-detected estimated (UJ). The MS recovery is below the laboratory acceptance criteria. The MS recovery is 64%.

- Within data package 16G-0325 and -0332, matrix spike results that do not meet the acceptance criteria are summarized below.

Radionuclide	STF ID	Lab ID	Z Factor	% Recovery
Gross Alpha	16-1039	12B-090008	-5.43	64%
Gross Beta	16-1039	12B-090019	-8.81	74%
Gross Alpha	16-1042	16-05944	-6.72	59%
Gross Alpha	16-1042	16-06013	-4.52	69%

The Gross Beta MS recovery for 12B-090019 (STF 16-1039) is 74%. No Gross Beta results in STF 16-1039 are qualified. The Gross Alpha results for 12B-090017 and 12B-090092 (STF 16-1039) are qualified as non-detected estimated (UJ).

Based upon the Gross Alpha MS results for STF 16-1042, the Gross Alpha result for 12B-090028 is qualified as estimated biased low (J-) and the Gross Alpha result for 12B-090094 is qualified as non-detected estimated (UJ).

- Within data package 16G-0335 and -0338, matrix spike results that do not meet the acceptance criteria are summarized below.

Radionuclide	STF ID	Lab ID	Z Factor	% Recovery
Gross Alpha	16-1042	12B-090034	-6.72	59%
Gross Alpha	16-1042	20A-090044	-4.52	69%

Based upon the Gross Alpha MS result for STF 16-1042 the Gross Alpha results for 12B-090034, 12B-090034 LREP, 19A-090040, 19A-090041, 20A-090044, 20A-090044 LREP, 20A-090045 and 20A-090075 are qualified as estimated biased low (J-) and the Gross Alpha results for 10A-090037, 12B-090095 and 12B-090096 are qualified as non-detected estimated (UJ).

- Within data package 16G-0344, -0360, etc., matrix spike results that do not meet the acceptance criteria are summarized below.

Radionuclide	STF ID	Lab ID	Z Factor	% Recovery
Gross Alpha	16-1046	12A-090052	-6.38	64%
Gross Alpha	16-1045	12A-090053	-3.93	71%

Based upon the Gross Alpha MS result for STF 16-1046, the Gross Alpha results for 12A-090052, 12A-090077 and 12A-090052 LREP are qualified as estimated biased low (J-).

Based upon the Gross Alpha MS result for STF 16-1045 the Gross Alpha results for 12A-090053 and 20A-090088 are qualified as non-detected estimated (UJ) and the Gross Alpha result for 12A-090053 LREP is qualified as estimated biased low (J-).

OFFSITE LABORATORY – CHEMICAL

For elements, the following Maywood samples were the aqueous MS/MSD pairs for arsenic using ICP-MS and/or lithium using ICP-AES:

- 12B-090002 (data package JC25414, arsenic only);
- 12B-090008 (data package JC25502, arsenic and lithium);

- 12B-090019 (data package JC25584, arsenic and lithium);
- 12B-090022 (data package JC25696, arsenic only);
- 12B-090028 (data package JC25869, arsenic and lithium);
- 20A-090044 (data package JC26014, arsenic and lithium);
- 12B-090046 (data package JC26108, arsenic only);
- 12A-090052 (data package JC26264, arsenic and lithium);
- 23B-090059 (data package JC26422, lithium only);
- 20A-090064 (data package JC26684, arsenic and lithium);
- 12B-090108 (data package JC26821, arsenic only);
- 12B-090005 (data package JC26941, arsenic only);
- 23A-026058 (data package JC27145, arsenic and lithium); and
- 12B-090103, arsenic; and 20A-090070, lithium (data package JC28136);

All acceptance criteria were met with recoveries between 75-125% and relative percent differences (RPDs) less than 20%. For all other chemical elements data packages (or the packages listed above that only report Maywood sample MS/MSD results for one of the two analytes), a non-Maywood sample was analyzed as the MS sample or the MS/MSD pair, or an MS/MSD was analyzed from a LTGWM Maywood groundwater sample associated with another data package. In those other packages, no results were qualified based upon the absence of MS or MS/MSD results.

For VOCs, the following Maywood samples were analyzed as aqueous MS/MSD pairs, unless noted as MS only:

- 12B-090008 (data package JC25502);
- 12B-090019 (data package JC25584; specifically for the analytical batch associated with samples 12B-090019 and 12B-090072);
- 12B-090035 (data package JC25918 (MS sample associated with analytical batch VC7807));
- 20A-090044 (data package JC26014);
- 23B-090049 (data package JC26108, MS only);
- 12B-090066 (data package JC26422);
- 20A-090064 (data package JC26684);
- 23A-026058 (data package JC27145);
- 20A-090071 (data package JC28136, MS only);
- 10A-090069 (data package JC28211, MS only);

All VOC MS/MSD results met acceptance criteria with recoveries within laboratory-derived acceptance criteria of 46-141% and relative percent differences (RPDs) less than 20%. For VOC data packages JC25414, JC25696, JC26264, JC26506, JC26941 and JC27219, a non-Maywood sample was analyzed as the MS/MSD pair. In addition, for data packages JC25869, JC26347, JC26747 and JC26821, there were no VOC MS/MSD results. No results were qualified based upon the absence of MS/MSD results. The project-required collection frequency for VOC MS/MSD samples was met.

5.4 LABORATORY CONTROL SAMPLES

ONSITE LABORATORY - RADIOLOGICAL

All LCS recoveries for aqueous sample alpha spectrometry and gross alpha/gross beta analyses (groundwater and surface water samples) were within the laboratory's acceptance criteria with the following exceptions:

- For data package 16G-0316 and -0320, the Ra-228 LCS recovery for STF 16-2004 is -30.0% (acceptance range -26.1% to 28.5%). Based upon the low biased LCS recovery the Ra-228 results for 12B-090000, 12B-090001, 12B-090002, 12B-090009 and 12B-090007 are qualified as estimated (J-). The reported results may be biased low.
- For data package 16G-0344, -0360, etc., LCS recoveries that exceed the laboratory derived acceptance criteria are summarized below.

Radionuclide	STF ID	Lab ID	% Deviation Range	% Deviation
Gross Alpha	16-1049	16-06303	12.4%-32.2%	-39.2%
Gross Alpha	16-1049 Rerun	16-06423	12.4%-32.2%	-19.0%

The first LCS run was outside of control limits while the rerun was within control limits. Using professional judgment, the Gross Alpha results for 20A-090065, 20A-090078, 20A-090065 LREP and 12B-090108 are qualified as estimated biased low (J-) by the validator.

For alpha spectroscopy LCS results, Th-228 and Th-232 are not reported because Th-230 is the only thorium isotope in the LCS.

OFFSITE LABORATORY – CHEMICAL

For elements analyzed using ICP-AES or ICP-MS, all aqueous LCS results were within the laboratory's acceptance criteria of 80-120%.

For VOCs, all LCS and LCSD recoveries were within acceptance limits of 79-117% and the RPDs between LCS and LCSD recoveries, for those data packages in which LCS/LCSD results were reported, were all less than the not-to-exceed value of 20%.

5.5 FIELD REPLICATES AND LABORATORY REPLICATES

5.5.1 Field Replicates - Radiological

There are no replicate precision QC limits for thorium isotopes in water since there are no action levels for these analytes. The control limits of 4.24μ , where μ is the required method uncertainty, are shown in the "Control Limits when Mean of the Replicate Pair less than Action Level" tables (hereafter referred to as the Tables) below. A more detailed discussion of the origin of these limits is described within the *Radionuclide Data Quality Evaluation Guidance* (USACE 2009). For thorium isotopes, the validator compared the difference between a given set of results relative to the method blank results. If the difference between the field replicate results was less than the method blank result, the data were not qualified.

Please note that the radiological control limits shown in the Tables are applied to both the field replicate and laboratory replicate results and are only applicable when the mean of the replicate results is less than the action level. If the mean is greater than the action level, the control limit value will be presented in the narrative bullets below.

Control Limits when Mean of the Replicate Pair less than Action Level

Sediment	
Radionuclide	Control Limit Difference Factor 4.24μ (pCi/g)
Pb-214	0.464
Ac-228	0.689
Th-234	8.65

Water	
Radionuclide	Control Limit Difference Factor 4.24μ (pCi/L)
Ra-226	1.17
Ra-228	1.93
U-234	3.24
U-238	1.99
Gross Alpha (900.0)	6.11
Gross Beta (900.0)	5.91
Gross Alpha (7110C)	4.73

The following field replicate (FREP) pairs were submitted for both radiological and chemical parameters (except for groundwater pairs 12B-090026/ 12B-090073 and 12B-090046/ 12B-090076, and surface water pair 23A-026058 / 23A-026068, which were only analyzed for chemical contaminants of concern).

Field Replicate Pairs Submitted		
12B-090008 / 12B-090010	12B-090019 / 12B-090072	12B-090033 / 12B-090074
20A-090044 / 20A-090075	12A-090052 / 12A-090077	20A-090065 / 20A-090078
23A-026058 / 23A-026068	12B-090026 / 12B-090073	12B-090046 / 12B-090076

All field replicate pair radiological results were within USACE QC limits shown in the Tables for the ROI.

5.5.2 Field Replicates - Chemical

For the chemical testing, the MISS groundwater field replicate sample pairs are listed above in the Field Replicate Pairs Submitted table. Field duplicate RPDs are less than 20% for all positive elements results greater than 5X the reporting limit or differ by less than the reporting limit for all positive elements results less than 5X the reporting limit. For VOC (benzene) analyses, all RPD values are less than 50%.

5.5.3 Laboratory Replicates – Radiological

The following aqueous laboratory replicate pairs were submitted for radiological analyses.

Laboratory Replicate Pairs Submitted		
12B-090000	12B-090001	12B-090008
10A-090011	12B-090018	12B-090019

12B-090029	12B-090032	12B-090033
12B-090072	12B-090074	12B-090034
12B-090035	12B-090038	12B-090044
12A-090052	12A-090053	20A-090064
20A-090065	20A-090078	23A-090055
22A-090060		

All laboratory replicate difference factors are within the control limits except for the following:

a. Within data package 16G-0316 and -320, sample 12B-090001 was analyzed as a laboratory replicate sample for gross beta isotopic analyses. Results are summarized below.

Analyte	12B-090001			12B-090001 LREP		
	Result pCi/L	Uncertainty	MDA	Result pCi/L	Uncertainty	MDA
Gross Beta	400.395	6.778	2.345	282.259	5.548	2.226

The gross beta difference factor is 34.6% and the control limit is $\leq 11.8\%$. Using professional judgment, the gross beta results for 12B-090001, 12B-090001 LREP, 12B-090002, 10A-090012 and 12B-090010 in this data package, as well as the 12B-090016 and 12B-090017 gross beta results in data package 16G-0325 and -0332 are qualified as estimated (J) by the validator.

b. Within data package 16G-0325 and -0332, sample 12B-090033 was analyzed as a laboratory replicate sample for Gross Beta analyses. Results are summarized below.

Analyte	12B-090033			12B-090033 LREP		
	Result pCi/L	Uncertainty	MDA	Result pCi/L	Uncertainty	MDA
Gross Beta	1094.894	18.008	7.381	1252.178	19.485	8.192

The Gross Beta difference factor is 13.4%, exceeding the 11.8% upper control limit. Using professional judgment, the Gross Beta results for 12B-090033 and 12B-090033 LREP in this data package, as well as the Gross Beta results for samples 10A-090037, 19A-090040, 19A-090041, 20A-090045 and 20A-090075 in data package 16G-0335 and -0338, are qualified as estimated (J) by the validator. Other Gross Beta laboratory replicate results in STF 16-1042 were within acceptance criteria.

5.5.4 Laboratory Replicates – Chemical

For VOCs, the following Maywood samples were analyzed as laboratory duplicate samples:

- 12B-090022 in data package JC25696. Both results were reported as non-detected (U). Also in JC25696, a non-Maywood sample was analyzed as a laboratory duplicate associated with analytical batch VC7807. Sample matrices may not be comparable.
- In data package JC25869, Maywood sample 12B-090028 was analyzed as a laboratory duplicate sample. Both results were reported as non-detected (U).
- In data package JC25918, Maywood sample 12B-090034 was analyzed as a laboratory duplicate sample. Both results were reported as non-detected (U).

- 12B-090047 in data package JC26108. The laboratory duplicate relative percent difference (RPD) is acceptable at 4%.
- 20A-090070 in data package JC28136. Results for both runs were reported as non-detect (U). No results are qualified based upon these results.

In each case, the method acceptance criterion was met.

For elements, there were no laboratory replicate analyses performed on Maywood samples. In most cases, an MS/MSD was performed to evaluate analytical precision.

5.6 QUALITY ASSURANCE (QA) SPLIT SAMPLES

In addition to field replicates, there were four QA split groundwater samples collected and sent to an independent laboratory, Test America-St. Louis, (TA) which performed the same radiological analyses as the samples sent to UFML, as well as arsenic, lithium and benzene analyses. The four samples are: 12B-090008, 12B-090019, 12A-090052, and 20A-090064.

QA split sample results for surface water samples are addressed in the 2016 Annual Environmental Monitoring Report QCSR.

The QC acceptance criteria for the QA split sample pairs are that the results must be within a factor of two for aqueous pairs. Split pair results between a factor of two and three of each other should be considered as a minor discrepancy and data greater than a factor of three should be considered a major discrepancy. If one result was non-detect and the other a low-level positive detect, professional judgment was used to evaluate and qualify the data if needed.

Please also note that split samples for GA and GB will no longer be collected since the Ra-224 and its alpha and beta-emitting progeny will begin decaying away when the sample has been collected. Since the GA must be analyzed by the onsite lab within 48 hours of collection, the difference in the analysis times translates to a difference in the degree of decay of these radioisotopes making comparison less meaningful. Therefore, the GA and GB QA split results are not discussed here. All split results were within the QC limits noted above with the following exceptions. Please note that for the split results, all data qualification recommendations are made by the Maywood project Chemical Quality Control Coordinator (CQCC).

Radiological

- For groundwater split sample 12b-090008, the Ra-228 results from the UFML and TA labs are 1.5 pCi/L and 0.39 U pCi/L, respectively. The MDC for the TA result is 0.57 pCi/L. The UFML result is between a factor of two and three of the TA MDC and so the UFML result is qualified estimated J. Using professional judgment, no additional qualification is made to other Ra-228 results. The UFML and TA results for Th-228 are 0.06 U pCi/L and 0.14 pCi/L, respectively; and for Th-230 are 0.07 U pCi/L and 0.24 pCi/L, respectively. The TA Th-228 and Th-230 results should be considered estimated. No additional qualifications are made to the UFML results.
- For groundwater split sample 12b-090019, the Ra-228 results from the UFML and TA labs are 0.28 J pCi/L and 0.88 U pCi/L, respectively. The positive UFML is near the MDL of 0.20 and is already qualified estimated J. No additional qualifiers are applied. The isotopic thorium and uranium results are shown in the table below.

Parameter	Test America			UFML		
	Result	Uncertainty	MDA	Result	Uncertainty	MDA
Th-228	1.1	0.56	0.57	0.04 U	0.12	0.24
Th-230	1.0	0.50	0.40	0.3	0.23	0.19
Th-232	0.16	0.19	0.16	0.02 U	0.07	0.16
U-234	0.34 U	0.37	0.54	0.17	0.14	0.08
U-238	0.22	0.25	0.22	0.076 U	0.10	0.14

The TA Th-228 result is within a factor of two of its MDA and should be considered estimated as the UFML result is non-detect. The UFML result may have a small low bias. The Th-230 results are different by a factor of 3.3. The UFML Th-230 result should be estimated J and may be biased low. The TA Th-232 and U-238 results are at their respective MDA values and the UFML results for Th-232 and U-238 are non-detect. No additional qualifiers are applied to these results. The UFML U-234 result is within a factor of two of the U-234 ND value generated by TA; therefore, no qualifier is applied to the UFML U-234 result.

- For groundwater split sample 12a-090052, the Ra-228 results are 1.14 pCi/L and 0.25 pCi/L at TA and UFML, respectively. The UFML value is close to its MDA of 0.18 pCi/L, and it is recommended that the UFML value be qualified estimated J. The Th-228 results are 0.14 pCi/L and -0.01 U pCi/L at TA and UFML, respectively. Since the positive TA value is very close to its MDA of 0.13 pCi/L, no additional qualification of the ND UFML result is required. For Th-230, the results are 0.10 and 1.10 pCi/L at TA and UFML, respectively. While both values are low, they differ by a factor of 11. It is recommended that the UFML Th-230 result be qualified estimated J in sample 12a-090052.
- For groundwater split sample 20a-090064, the GA UFML result of 3.7 pCi/L is slightly more than two times the ND GA value from TA of 1.77 U pCi/L. It is recommended that the UFML GA result be qualified estimated J. The TA and UFML Ra-226 results are 0.20 and 0.11 U, respectively. Since the positive TA result is within a factor of two of the UFML detection limit, no additional qualifiers are applied. For Th-228, the TA regular result was positive (1.56 pCi/L) and the UFML result was ND (-0.02 U pCi/L). However, since the TA lab replicate result is ND, no additional qualification is made. The low level positive U-234 and U-238 results from UFML were within a factor of two of the TA detection limit for these analytes. The TA results were ND. The UFML results are therefore not qualified. For Th-230, it is recommended to qualify the UFML result of 0.30 pCi/L estimated J since it is more than a factor of four lower than the TA result of 1.32 pCi/L.

Looking at all split sample radiological results and the frequency of exceedances of the QA split sample acceptance criteria, the CQCC recommends that all positive Th-230 results generated at UFML be qualified estimated J.

Chemical

All chemical results for arsenic, lithium and benzene were within QC limits for the split samples.

5.7 RADIONUCLIDE QUANTITATION AND IMPLIED DETECTION LIMITS (RADIOLOGICAL)

The laboratory reported the results with analytical uncertainties.

Some results are reported as negative results within the water data packages. Based upon USACE Guidance *Radionuclide Data Quality Evaluation Guidance* (USACE 2009), “Negative results that have uncertainties greater than the absolute value of the result, qualify the results U” and “for negative results that have uncertainties smaller than their absolute value, qualify the data “R” as rejected.” All reported negative results are qualified as non-detected (U) or non-detected estimated (UJ) in all data packages.

If a result is greater than its minimum detectable activity (MDA), but less than its uncertainty, the probability that the result is greater than the MDA is greater than the probability that the result is less than the MDA. Such results are qualified as estimated (J) and are listed below for each data package.

Data Package 16G-0316 and -0320.

Sample ID	Radionuclide	Result pCi/L	2 Sigma	MDA
12B-090000	U-234	0.094	0.111	0.085
12B-090000	U-238	0.126	0.128	0.085

Data Package 16G-0325 and -0332.

Sample ID	Radionuclide	Result pCi/L	2 Sigma	MDA
12B-090016	Ra-226	0.195	0.197	0.132
12B-090019	Ra-228	0.277	0.285	0.204
12B-090018	Th-230	0.152	0.164	0.094
12B-090029	Th-230	0.174	0.177	0.152
12B-090094	Th-230	0.158	0.165	0.141
12B-090019LREP	U-234	0.112	0.115	0.076

Data Package 16G-0335, -0338.

Sample ID	Radionuclide	Result pCi/L	2 Sigma	MDA
12B-090034	Ra-226	0.135	0.159	0.122
12B-090034 LREP	U-238	0.089	0.105	0.080
19A-090041	U-235	0.091	0.107	0.082
20A-090044	Th-230	0.154	0.155	0.084
20A-090045	U-235	0.088	0.106	0.079
12B-090096	Th-230	0.156	0.163	0.140

Data Package 16G-0344, -0360, etc.

Sample ID	Radionuclide	Result pCi/L	2 Sigma	MDA
20A-0290077	U-238	0.116	0.119	0.079
23A-026055	Th-230	0.119	0.150	0.093
20A-090064 LREP	Ra-226	0.121	0.142	0.109

5.8 CHEMICAL SEPARATION SPECIFICITY (RADIONUCLIDES)

The energy of the radionuclide of interest must be within 40 kiloelectron volt (keV) of the theoretical energy for that radionuclide for samples analyzed by alpha spectroscopy. This criterion is not applied to results that are less than the MDA. All energies for radionuclides of interest analyzed by alpha spectroscopy were within 40 keV of their theoretical energies.

5.9 MISCELLANEOUS METALS QC

The following Maywood samples were analyzed as serial dilution samples:

- 12B-090002 (data package JC25414 for arsenic)
- 12B-090008, (data package JC25502 for arsenic and lithium)
- 12B-090019 (data package JC25584 for arsenic and lithium)
- 12B-090022 (data package JC25696 for arsenic)
- 12B-090028 (data package JC25869 for arsenic and lithium);
- 20A-090044 (data package JC26014 for arsenic and lithium);
- 12B-090046 (data package JC26108 for arsenic);
- 12A-090052 (data package JC26264 for arsenic and lithium);
- 23B-090059 (data package JC26422 for lithium);
- 20A-090064 (data package JC26684 for arsenic and lithium);
- 12B-090108 (data package JC26821 for arsenic);
- 12B-090005 (data package JC26941 for arsenic);
- 23A-026058 (data package JC27145 for arsenic and lithium);
- 12B-090103, arsenic; and 20A-090070, lithium (data package JC28136);

All acceptance criteria were met for the serial dilution results. For data packages that did not have serial dilution results, no results were qualified due to the absence of a serial dilution.

All method acceptance criteria, recoveries within 60-125%, were met for ICP-MS internal standard recoveries.

All ICP-MS and ICP-AES interference check sample criteria were met (80-120%) for the ICSA and ICSAB solutions.

5.10 MISCELLANEOUS VOC QC

For VOC, the laboratory reported three surrogates, 4-bromofluorobenzene, toluene-d8 and dibromofluoromethane. All surrogate recoveries were within the laboratory's acceptance criteria for aqueous samples.

All VOC internal standard results were within the laboratory's acceptance criteria, and all acceptance criteria for instrument tuning were met for all samples.

5.11 HOLDING TIMES

All sample analyses holding time requirements were satisfied.

6.0 DISCUSSION

All data, except as noted in Section 3.0, was validated by an independent third party data validator. All data was generated using methods acceptable to the NJDEP as evidenced by current laboratory certification for these methods. The results of the validation indicate that 100% of the data was acceptable; i.e., not rejected. Attachments A and B contain the radiological onsite laboratory data packages and chemical (plus radon) offsite laboratory data packages, respectively. Attachment C contains the data validation reports.

7.0 REFERENCES

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American National Standards Institute (ANSI) 1999, *Calibration and Use of Germanium Spectrometers for the Measurement of Gamma-Ray Emissions Rates of Radionuclides*. ANSI N42.14-99.

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U.S. Department of Energy (DOE) 1997, *US DOE Environmental Measurements Laboratory, Method Ga-01-R, Gamma Radioassay*. HASL-300, 28th Ed., February 1997.

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U.S. Environmental Protection Agency (EPA), Hazardous Waste Support Section, SOP No. HW-34, Revision 3, Trace Volatile Organic Data Validation, February 2013.

U.S. Environmental Protection Agency (EPA), Hazardous Waste Support Section, SOP No. HW-2a, Revision 15, ICP-AES Data Validation, December 2012.

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ATTACHMENT A RADIOLOGICAL DATA PACKAGES

(On CD only)

ATTACHMENT B
CHEMICAL DATA PACKAGES
(On CD only)

ATTACHMENT C DATA VALIDATION REPORTS

(On CD only)

APPENDIX G
Electronic Data Deliverable
(Note: The contents of this appendix are on CD)