

Final

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

Formerly Utilized Sites Remedial Action Program Maywood Superfund Site



Contract No. W912DQ-13-D-3016

October 2018

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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:

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza, Room 1811
New York, New York 10278

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Prepared by:

Cabrera Services, Inc. 100 West Hunter Avenue Maywood, New Jersey 07607

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Reviewed/Approved by:	Christopher Beres, PE Project Manager	Date:
Reviewed/Approved by:	E. Joseph Fort, Jr. Contractor QC System Manager	Date:
Reviewed/Approved by:	Robert DeMott, P.G. Project Hydrogeologist	Date:

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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 (µg/L)
- Lithium $-730 \mu g/L$
- Benzene 1 μ 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 be 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 μS/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 Ziploc® 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-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 onsite 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 μ g/L arsenic cleanup level in overburden groundwater samples, with a maximum detected concentration of 395 μ g/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 $3.0~\mu g/L$ arsenic cleanup level in bedrock groundwater samples, with a maximum detected concentration of $214~\mu g/L$ 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 μ g/L lithium cleanup level in overburden groundwater samples, with a maximum detected concentration of 12,900 μ g/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 μ g/L lithium cleanup level in bedrock groundwater samples, with a maximum detected concentration of 14,600 μ g/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 μ g/L benzene cleanup level, with a maximum detected concentration of 47.2 μ g/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 μ g/L benzene cleanup level, with a maximum detected concentration of 2,510 μ g/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 μ g/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.

<u>Off-site Laboratory – Chemical Analysis</u>

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 bioremedial parameters, which are described in Section 2.3.5 and Table 2-4. Bioremedial 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 bioremedial 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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- EPA, 2010. Low Stress (low-flow) Purging and Sampling Procedures for the Collection of Ground Water Samples from Monitoring Wells (April 1996, Revised January 2010), EPA/540/S/95/504.
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- NJDEP, 2011. Field Sampling Procedures Manual, August 2011.
- USACE, 2003. Record of Decision for Soils and Buildings at the FUSRAP Maywood Superfund Site, Maywood, New Jersey. Prepared for USACE by Stone & Webster, Inc., August 2003.
- USACE, 2005. Final Groundwater Remedial Investigation, FUSRAP Maywood Superfund Site Report. Prepared by Shaw Environmental, Inc., July 2005.
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- USACE, 2011. *Phases 16 and 19 Construction Dewatering Work Plan*, Prepared by Shaw Environmental, Inc., June 2011.
- USACE, 2012. Final Groundwater Record of Decision, FUSRAP Maywood Superfund Site, Prepared by USACE, May 2012.
- USACE, 2014. *General Environmental Protection Plan, Revision 1.* Prepared by Cabrera Services, Inc., January 2014.
- 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.

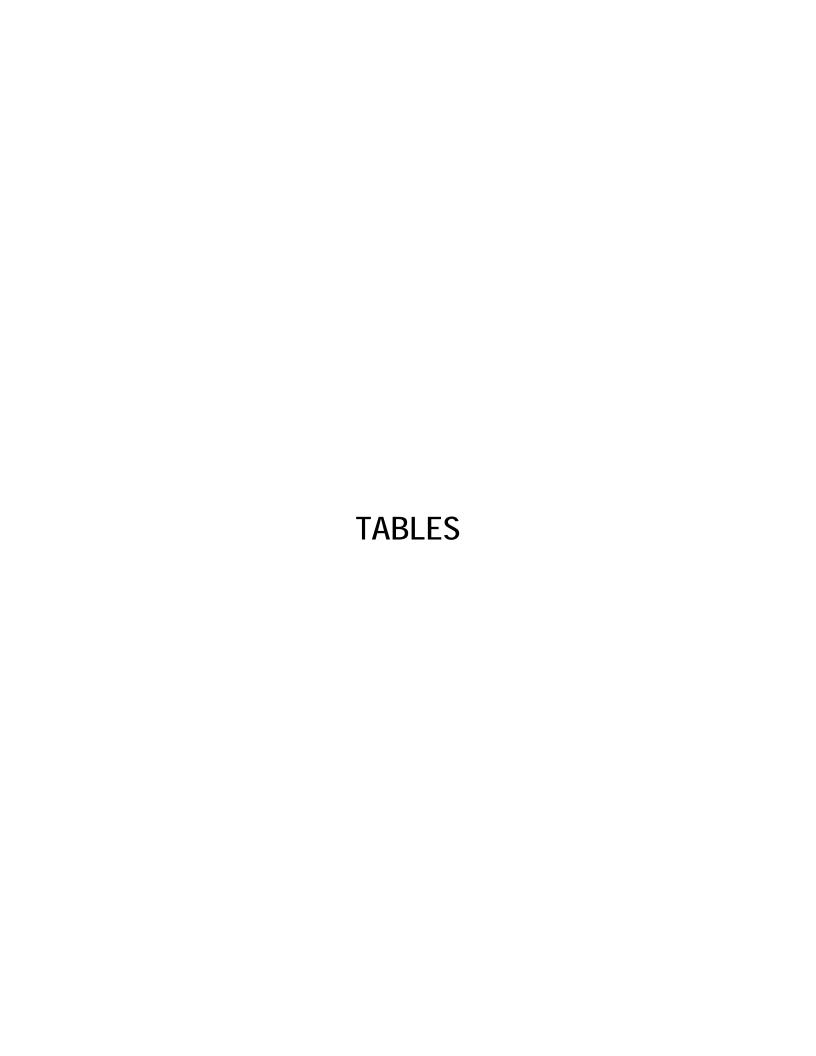


Table 1-1 Groundwater Cleanup Levels FUSRAP Maywood Superfund Site

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 °	
Gross Beta	50 ^d	
Total Radium (Ra-226 and Ra-228)	5 ^e	
Total Uranium (U-234, U-235, and U-238)	$30^{ m f}$	

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

			Well	Well	Screen Slot	Well	W. II.D	Ground	Top of Inner	Screen	Screen Inte	erval (ft bgs)	Screen Inte	erval (ft msl)
Well ID	LTM Well	Well Permit Number	Surface Design	Riser Diameter (inches)	Size (or open borehole)	Riser Material	Well Depth (ft bgs)	Elevation (ft msl)	Casing Elevation (ft msl)	Length (ft)	Тор	Bottom	Тор	Bottom
						В	edrock Wells	3						
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

	T (TDA 4	W.II D	Well	Well	Screen Slot	Well	W.II D dle	Ground	Top of Inner	Screen	Screen Inte	erval (ft bgs)	Screen Inte	rval (ft msl)
Well ID	LTM Well	Well Permit Number	Surface Design	Riser Diameter (inches)	Size (or open borehole)	Riser Material	Well Depth (ft bgs)	Elevation (ft msl)	Casing Elevation (ft msl)	Length (ft)	Тор	Bottom	Тор	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

	T (T) A	W II D 4	Well	Well	Screen Slot	Well	W II D . d	Ground	Top of Inner	Screen	Screen Inte	erval (ft bgs)	Screen Inte	rval (ft msl)
Well ID	LTM Well	Well Permit Number	Surface Design	Riser Diameter (inches)	Size (or open borehole)	Riser Material	Well Depth (ft bgs)	Elevation (ft msl)	Casing Elevation (ft msl)	Length (ft)	Тор	Bottom	Тор	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
						Ov	erburden We	lls						
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

	I TIM	W. II D '4	Well	Well	Screen Slot	Well	W.II D dle	Ground	Top of Inner	Screen	Screen Inte	erval (ft bgs)	Screen Inte	rval (ft msl)
Well ID	LTM Well	Well Permit Number	Surface Design	Riser Diameter (inches)	Size (or open borehole)	Riser Material	Well Depth (ft bgs)	Elevation (ft msl)	Casing Elevation (ft msl)	Length (ft)	Тор	Bottom	Тор	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

20.00

17.70

11.50

19.20

57.36

58.19

46.80

60.49

PVC

PVC

PVC

PVC

10 slot

10 slot

10 slot

10 slot

Well **Screen Slot** Top of Inner Screen Interval (ft bgs) Screen Interval (ft msl) Well Screen Ground Well Depth Riser Size Casing Elevation Surface Riser Length Diameter (ft bgs) Elevation (or open Design Material (ft msl) (ft) Top **Bottom** Top **Bottom** borehole) (inches) (ft msl)

57.07

57.79

46.56

60.22

10.00

10.00

5.00

10.00

9.00

7.40

6.00

8.70

19.00

17.40

11.00

18.70

48.36

50.79

46.80

51.79

38.36

40.79

41.80

41.79

Key:

Well ID

BP310

BP311

BP312

BP313

ft bgs = feet below ground surface

LTM

Well

Well Permit

Number

P200908464

P200908465

P200909011

P200908466

Well

Flush

Flush

Flush

Flush

2.00

2.00

2.00

2.00

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	ОВ	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	ОВ	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)	ОВ	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	ОВ	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	ОВ	55.09	11.54	43.55	
MISS05BR	USACE	MISS	BR	54.58	11.05	43.53	
MISS07AR	USACE	MISS	ОВ	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	ОВ	54.49	10.09	44.40	
OVPW1S	USACE	MISS	OB	53.06	7.86	45.20	
MW2S	USACE	Becker Avenue, Rochelle Park	ОВ	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	ОВ	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	ОВ	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	ОВ	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).	ОВ	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	ОВ	43.96	5.70	38.26	
MW52D	USACE	Becker Avenue, Rochelle Park	BR	43.7	3.89	39.81	
MW53S	USACE	Eccleston Place, Maywood	ОВ	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	ОВ	54.25	4.01	50.24	
MW54D	USACE	Hergesell Avenue, Maywood	BR	54.17	0.00	54.17	
MW7S	USACE	Central Avenue (Machionne)	ОВ	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)	ОВ	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	ОВ	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	ОВ	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	ОВ	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	ОВ	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	ОВ	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	ОВ	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	ОВ	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	ОВ	X	X		
15	B38W25BR	USACE	MISS	BR	X	X		
16	MISS01AR	USACE	MISS	ОВ	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	ОВ	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	ОВ	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	ОВ	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	ОВ	X			
53	MW43D	USACE	MISS	BR	X		X	X
54	MW44S	USACE	MISS	ОВ	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	ОВ	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	ОВ	X			
69	MW54D	USACE	Hergesell Avenue, Maywood	BR	X			

Notes:

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

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 (NO₃⁻/NH₄⁺), manganese (Mn⁴⁺/Mn²⁺), ferric/ferrous iron (Fe³⁺/Fe²⁺), sulfate/sulfide (SO₄²⁻/S²⁻), and methane (CH₄).

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

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.	pН	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.	pН	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.	pН	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 welll 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

 μ S/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			
		Cont	aminants of Concern	l					
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				
		Rad	iological Parameters		!				
Gross Alpha		EPA 900.00							
Gross Beta		(by GFPC)							
Radium-226		EPA 903.0 (modified)							
Radium-228		EPA 904.0							
Thorium-228	EMP Radiogical Sampling Parameters		4 L container	HNO_3 to $pH < 2$	6 months	The UFML analyzes all groundwater and surface water samples using			
Thorium-230	i di differens	Eichrom ACWO1				apha spectroscopy.			
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						
		Biog	eochemical Analytes									
Manganese, total	Manganese, total Alternate Electron Acceptor SW-846 6020A 250 ml polyethylene bottle Cool to 4 °C 6 more											
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

 Fe^{2+} = ferrous iron

GFPC = gas-flow proportional counting

GW = groundwater

HCl = hydrochloric acid

 $HNO_3 = nitric acid$

 H_2SO_4 = sulfuric acid

ICP-MS = inductively-coupled plasma-mass spectometry

L = liter

LTM = long-term monitoring

ml = milliliter

 Mn^{2+} = manganese ion

NaOH = sodium hydroxide

ROD = Record of Decision

12A	8W01S -090052 /22/16				12A-(S Duplicate 090077 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, unle	ss otherwis	e note	d)		Geochemical Parameters (mg/L, unles	s otherwise	note	d)		Geochemical Parameters (mg/L, un	less otherwis	e 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, unle	ss otherwis	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, ur	nless otherwis	e noted	l)	
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.

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.

- (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.

20/	38W15S A-090044 B/17/16				20A	5S Duplicat -090075 /17/16	:e			20.	38W17A A-090064 8/29/16			
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, unles	ss otherwi	se not	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e not	ed)		Geochemical Parameters (mg/L, un	less otherv	vise no	oted)	
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	ı	-	-	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	1	-	-	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	ı	-	-	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, unle	ss otherwi	se not	ted)		Radiological Constituents (pCi/L, unles	s otherwi	se not	ed)		Radiological Constituents (pCi/L, ur	less other	wise n	oted)	
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.

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.

10A-	3W24S -090011 '09/16				12B-	W25SR 090000 08/16				12B	SS01AR -090016 /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	J	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, unles	s otherwise	noted	d)		Geochemical Parameters (mg/L, unless	s otherwise	e noted	l)		Geochemical Parameters (mg/L, un	less othe	erwise	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, unles	s otherwise	e note	d)		Radiological Constituents (pCi/L, unles	s otherwis	e noted	d)		Radiological Constituents (pCi/L, ur	less oth	erwise	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		-		Total Uranium (ug/L)	0.32		-	30

<u>Notes</u>

Qualifiers

NS - Not Sampled.

U - Non-detect.

- - Not Applicable.

UJ - Estimated non-detect.

Q - Qualifier.

J - Estimated concentration.

MDC - Minimum Detectable Concentration.

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

Bolded text indicates Groundwater Cleanup exceedance.

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

Please see Table 1 for description of Groundwater Cleanup Levels.

^{(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.

	MISS02AI 12B-09001 08/10/16	. 9				MIS	SO2AR Dupl 12B-090072 08/10/16						MISS0 10A-090 09/22	0069			
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, unle	ess otherwise	note	d)	•		Geochemical Parameters (mg/L, unles	s otherwise	noted)				Geochemical Parameters (mg/L, un	less other	wise not	ed)		
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	-	1	-	-	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	-	1	-	-	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	-	1	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	40.5		2	-	-	Total Organic Carbon (TOC)	NS	-	1	-	-	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, unle	ess otherwis	e note	d)			Radiological Constituents (pCi/L, unles	s otherwise	noted)			Radiological Constituents (pCi/L, ur	less other	wise no	ted)		
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

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.

- (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.

12B-	SS05AR -090032 /15/16				12B-(S07AR 090034 16/16				12	OVPZ17R 2B-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, unles	ss otherwis	e note	d)		Geochemical Parameters (mg/L, unless	s otherwise	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	ted)	
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, unles	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	wise no	oted)	
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> </u>
U-235	0.068	U	0.17	-	U-235	0	U	0.084	-	U-235	NS	-	-	<u> </u>
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.

12B-	/PW1S -090030 /15/16				23B-	W2S 090049 18/16				12	MW3SR B-090108 8/31/16			
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	J	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, unles	s otherwis	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwise	e note	d)		Geochemical Parameters (mg/L, un	less other	wise no	oted)	
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, ur	nless other	wise n	oted)	
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

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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.

- (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.

23B-	1W6S -090067 /30/16				23B-	W8S 090060 08/16				12	MW24S B-090028 8/15/16			
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, unles	ss otherwis	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, un	less other	wise no	oted)	
Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-	Manganese, Total (ug/L)	NS	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	ı	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	ı	-	-	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	ı	-	-	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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, ur	nless other	wise n	oted)	
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

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Qualifiers

U - Non-detect.

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J - Estimated concentration.

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

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

- (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.

12B	IW25S -090020 /01/16				12B-	W28S 090002 08/16				12	MW33S B-090047 8/18/16			
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, unle	ss otherwis	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	ted)	
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)		Radiological Constituents (pCi/L, u	nless other	wise no	oted)	
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.

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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.

- (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.

12B	W43SR -090066 /24/16				12B-(N44S 090039 16/16				12	MW46S B-090022 8/11/16			
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	ď	MDC	Cleanup Level	Analyte	Result	ď	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, unle	ss otherwis	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, un	less other	wise no	oted)	
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	J	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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, ur	less other	wise n	oted)	
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.

- (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.

12B	W47S -090024 /11/16				12B-	W48S 090026 11/16				12	8S Duplica B-090073 8/11/16	te		
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	ď	MDC	Cleanup Level	Analyte	Result	ď	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, unles	ss otherwis	se note	d)		Geochemical Parameters (mg/L, unles	s otherwise	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	ted)	
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, un	nless other	wise n	oted)	
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.

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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.

- (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.

20A	W51S -090055 /23/16				20A-	W52S 090070 21/16				23	MW53S B-090058 8/24/16			
Analyte	Result	Q	MDC	Cleanup Level	Analyte	Result	ď	MDC	Cleanup Level	Analyte	Result	ď	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, unles	s otherwis	se note	:d)		Geochemical Parameters (mg/L, unles	s otherwise	e note	d)		Geochemical Parameters (mg/L, ur	less other	vise no	oted)	
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	-	ı	ı	Nitrite (as N)	NS	•	-	-	Nitrite (as N)	NS	ı	•	-
Nitrate and Nitrite (as N)	NS	-	-	-	Nitrate and Nitrite (as N)	NS	•	-	-	Nitrate and Nitrite (as N)	NS	1	•	-
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	wise n	oted)	
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	1	-	-
Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	-	-	-	Total Thorium ⁽²⁾	NS	1	-	_
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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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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J - Estimated concentration.

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

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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.

23	MW54S 8B-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, unl	ess otherwis	se note	ed)	
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, un	less otherwi	se note	ed)	
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.

Please see Table 1 for description of Groundwater Cleanup Levels.

U - Non-detect.

Qualifiers

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.

12A	8W02D -090053 /22/16				10A-0	W03B 090037 16/16				10	38W07B A-090036 8/16/16			
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	J	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, unles	ss otherwis	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwise	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	oted)	
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	ı	-	-	Sulfide	NS	ı	•	-
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, un	nless other	wise n	oted)	
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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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.

194	38W14D A-090041 3/17/16				20A-	W15D 090045 17/16				20	338W17B 0A-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, unle	ess otherwi	se note	d)		Geochemical Parameters (mg/L, unles	s otherwise	noted	(k		Geochemical Parameters (mg/L, ur	less other	wise no	oted)	
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, unl	ess otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	ss otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	wise n	oted)	
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		-		Total Uranium (ug/L)	0		-	30

Notes

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Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

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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.

20A	7B Duplicat A-090078 3/29/16	e			12B-	W18DR 090008 09/16				B38	W18DR Dเ 12B-0900 08/09/1	10	2	
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, unle	ss otherwis	se note	d)		Geochemical Parameters (mg/L, unles	s otherwis	e noted	l)		Geochemical Parameters (mg/L, un	less other	wise n	oted)	
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	-	1	-	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	-	1	-	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, unle	ess otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	ss otherwis	e note	d)		Radiological Constituents (pCi/L, ur	less other	wise n	oted)	
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

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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.

10A	8W24D -090012 /09/16				12B-	W25DR 090021 08/16					MISS01B 12B-0900 08/10/1	17		
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, unle	ss otherwis	e note	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, un	less other	wise n	oted)	
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, unle	ess otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	se note	d)		Radiological Constituents (pCi/L, ur	nless other	wise n	oted)	
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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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.

12B-	SS02BR -090018 /10/16				10A-(SS04B 09004B 18/16					MISS05B 12B-09003 08/15/16	33		
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, unles	ss otherwis	e note	d)		Geochemical Parameters (mg/L, unles	s otherwis	e noted	l)		Geochemical Parameters (mg/L, un	less otherw	ise not	ed)	
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, un	less otherw	ise not	ted)	
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

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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.

12B-	R Duplicat 090074 15/16	e			128	ISS07B 3-090035 1/16/16				12	BRPZ2 B-090042 8/17/16			
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, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, unless	s otherwis	e note	i)		Geochemical Parameters (mg/L, un	less other	wise no	oted)	
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, unles	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, ur	nless other	wise n	oted)	
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	-	-	_

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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.

12B	BRPZ3 B-090043 B/17/16				12B-(RPZ4 090003 01/16					BRPZ5 2B-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,unles	ss otherwis	e note	d)		Geochemical Parameters (mg/L,unless	otherwise	noted)		Geochemical Parameters (mg/L,un	less otherv	vise no	ted)	
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, unle	ess otherwi	se not	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, un	nless other	wise n	oted)	
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 Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

12B	RPZ9 -090013 /09/16				23B-0	W2D 090050 18/16				12	MW3DR 2B-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, unles	s otherwi	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise n	oted)	
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, unle	ss otherwis	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	wise n	oted)	
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

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Please see Table 1 for description of Groundwater Cleanup Levels.

Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

 $\label{eq:concentration} \mbox{\bf J-Estimated concentration}.$

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.

238	MW6D 3-090068 3/30/16				12B-	W23D 090054 22/16				12	MW24D 2B-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, unle	ess otherwis	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	oted)	
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, unle	ess otherwi	se not	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	wise n	oted)	
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

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.

12B	W25D -090021 /10/16				20A-0	V31D 090051 18/16				20	MW32D A-090057 8/23/16			
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, unles	s otherwis	e note	ed)		Geochemical Parameters (mg/L, unless	s otherwis	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	oted)	
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	J	0.01	•	Nitrite (as N)	NS	-	1	-	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	-	1	-	Sulfate	NS	-	-	-
Sulfide	2	J	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	-	1	-	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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	wise n	oted)	
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	-		-

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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.

128	1W34D 3-090031 3/15/16				23B-	W39D 090063 30/16				12	MW42D 2B-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, unle	ess otherwis	se note	ed)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	oted)	
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, unle	ess otherwi	se not	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	wise n	oted)	
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 Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

12B	IW43D 3-090015 3/09/16				12B	W45D -090046 /18/16				12	5D Duplica B-090076 8/18/16	ite		
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, unles	ss otherwis	e note	d)		Geochemical Parameters (mg/L, unles	s otherwis	e note	d)		Geochemical Parameters (mg/L, ur	less other	wise no	ted)	
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	-	1	-
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	-	1	-
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, ui	nless other	wise n	oted)	
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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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.

R - Rejected result.

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

MW46D 12B-090023 08/11/16					MV 12B- 08/	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)	12B-090027 08/11/16 Result Q MDC Cleanup Level CS (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, unle	ss otherwis	se note	d)		Geochemical Parameters (mg/L, unles	s otherwise	note	d)		Geochemical Parameters (mg/L, u	12B-090027 08/11/16 Result Q MDC Cleanup Level			
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, unle	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, u	nless other	Property Property		
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	1	-	-	Total Radium ⁽²⁾	NS	-	-	- 1
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 Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

M\ 20A- 08/	MV 20A-0 09/2	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)	Analyte Result Q MDC Le				
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, unles	s otherwis	se note	d)		Geochemical Parameters (mg/L, unless	s otherwis	e note	d)	_	Geochemical Parameters (mg/L, ur	less other	### Part			
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	-	ı	•	Sulfide	NS	-	-	-	Sulfide	NS	-	ı	-	
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, unles	ss otherwi	se note	ed)		Radiological Constituents (pCi/L, unles	s otherwis	e note	d)		Radiological Constituents (pCi/L, un	nless other	O.5			
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	-	-	- 1	
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 Gross Beta calculations are provided in Appendix E, Tables E-4 and E-5.

23B	W54D -090062 /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, unle	ss otherwis	e note	d)	
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, unle	ss otherwi	se note	ed)	
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 Qualifiers

NS - Not Sampled. U - Non-detect.

- - Not Applicable. UJ - Estimated non-detect.

Q - Qualifier. J - Estimated concentration.

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

Bolded text indicates Groundwater Cleanup exceedance. J- - Result is estimated and may be biased low.

Please see Table 1 for description of Groundwater Cleanup Levels. 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.

MDC - Minimum Detectable Concentration.

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

SW-003 23A-026057 09/07/16					SW 23A-(09/0	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)					
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, unles	s otherwis	e note	d)		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		1	-	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.

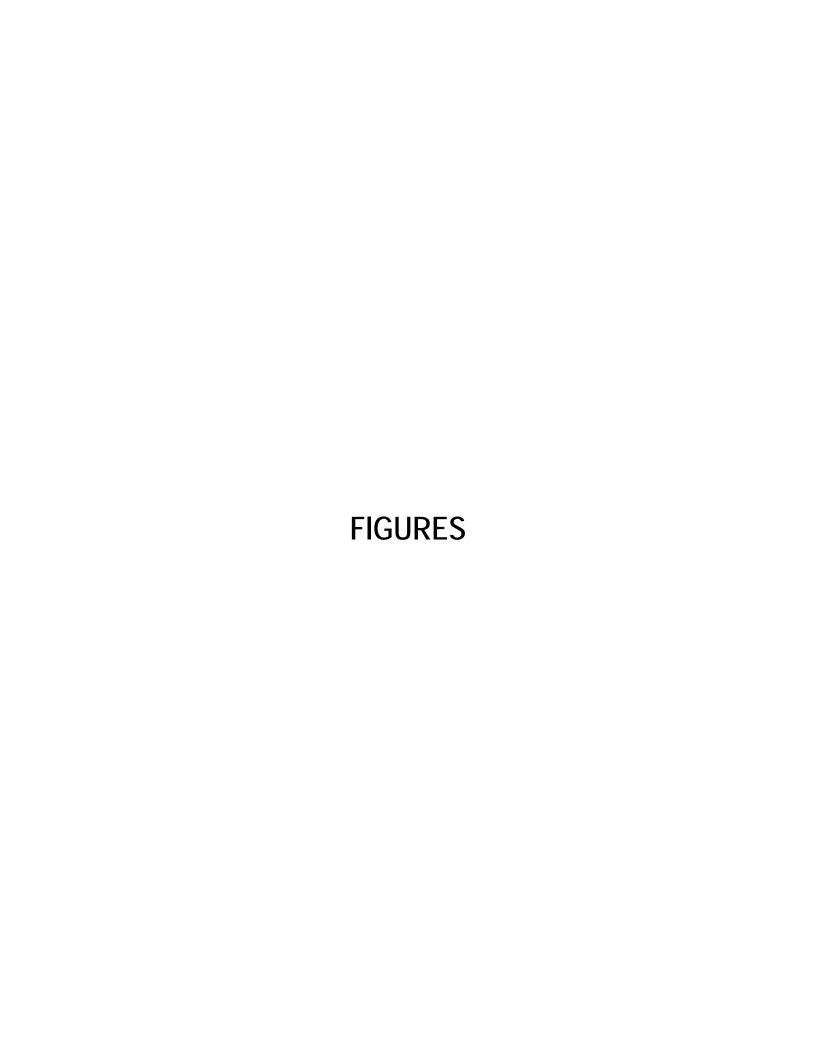
Qualifiers

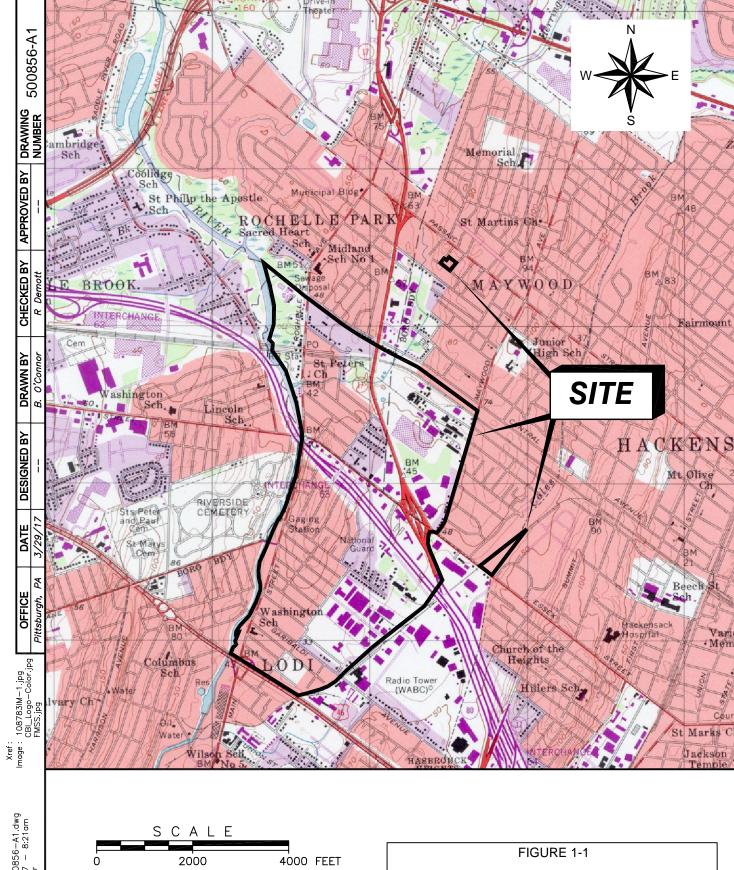
U - Non-detect.

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.





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SITE LOCATION MAP

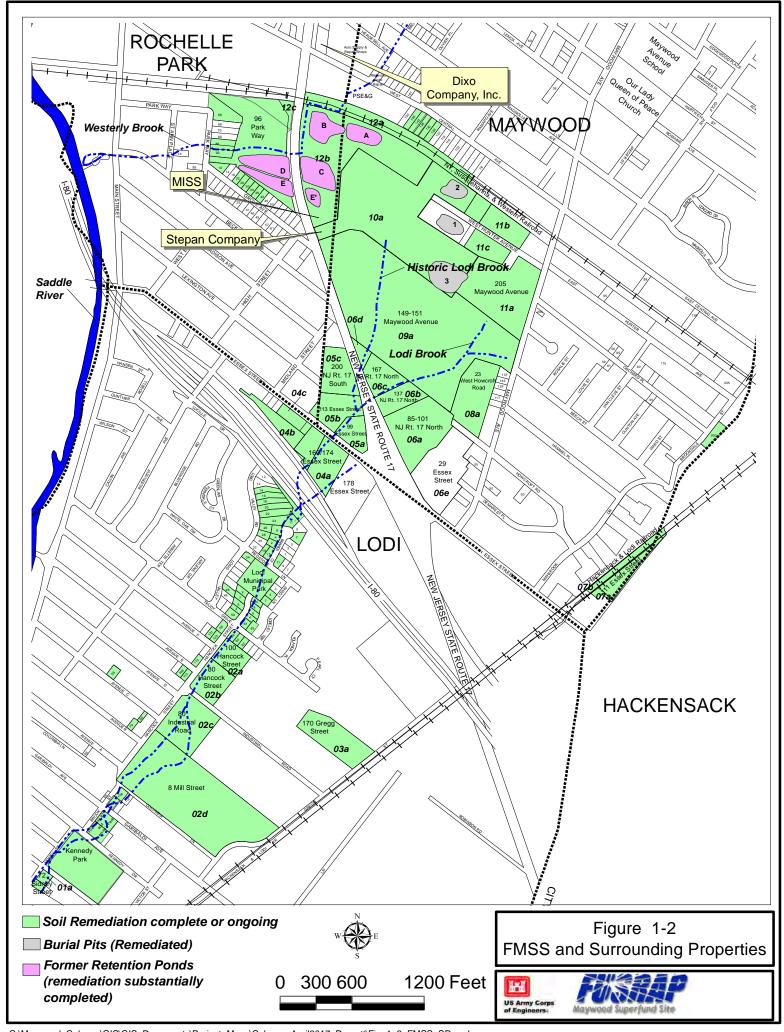
MAYWOOD SUPERFUND SITE, NEW JERSEY



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







THIS DRAWING NOT TO SCALE

FIGURE 1-3 GENERALIZED GEOLOGIC CROSS-SECTION

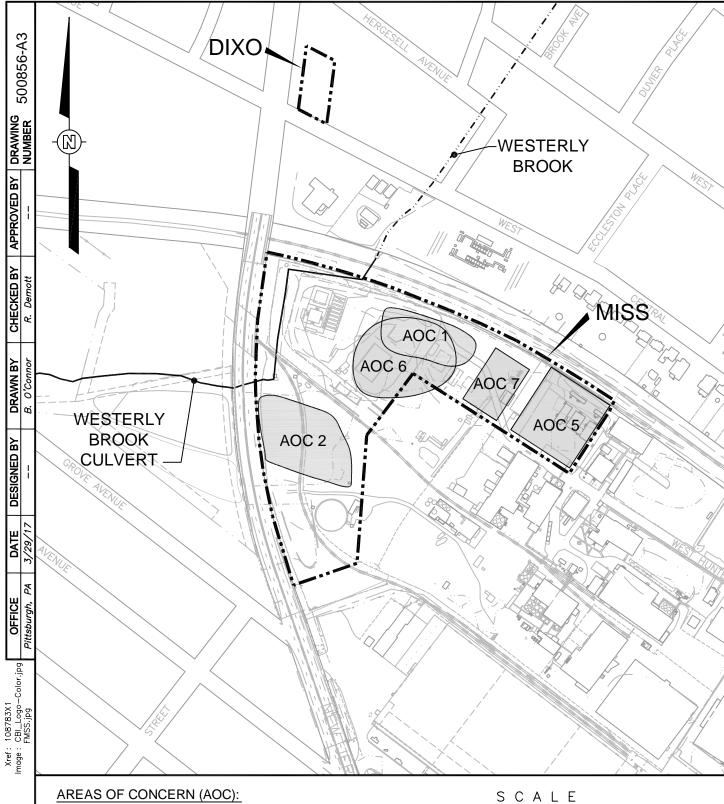
MAYWOOD SUPERFUND SITE, NEW JERSEY





File: 0:\project\500856\500856-A2.dwg Plot Date/Time: Mar 29, 2017 - 9:17am Plotted By: bernadette.oconnor

Xref: Image: CBL_Logo-Color.jpg FMSS.jpg



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

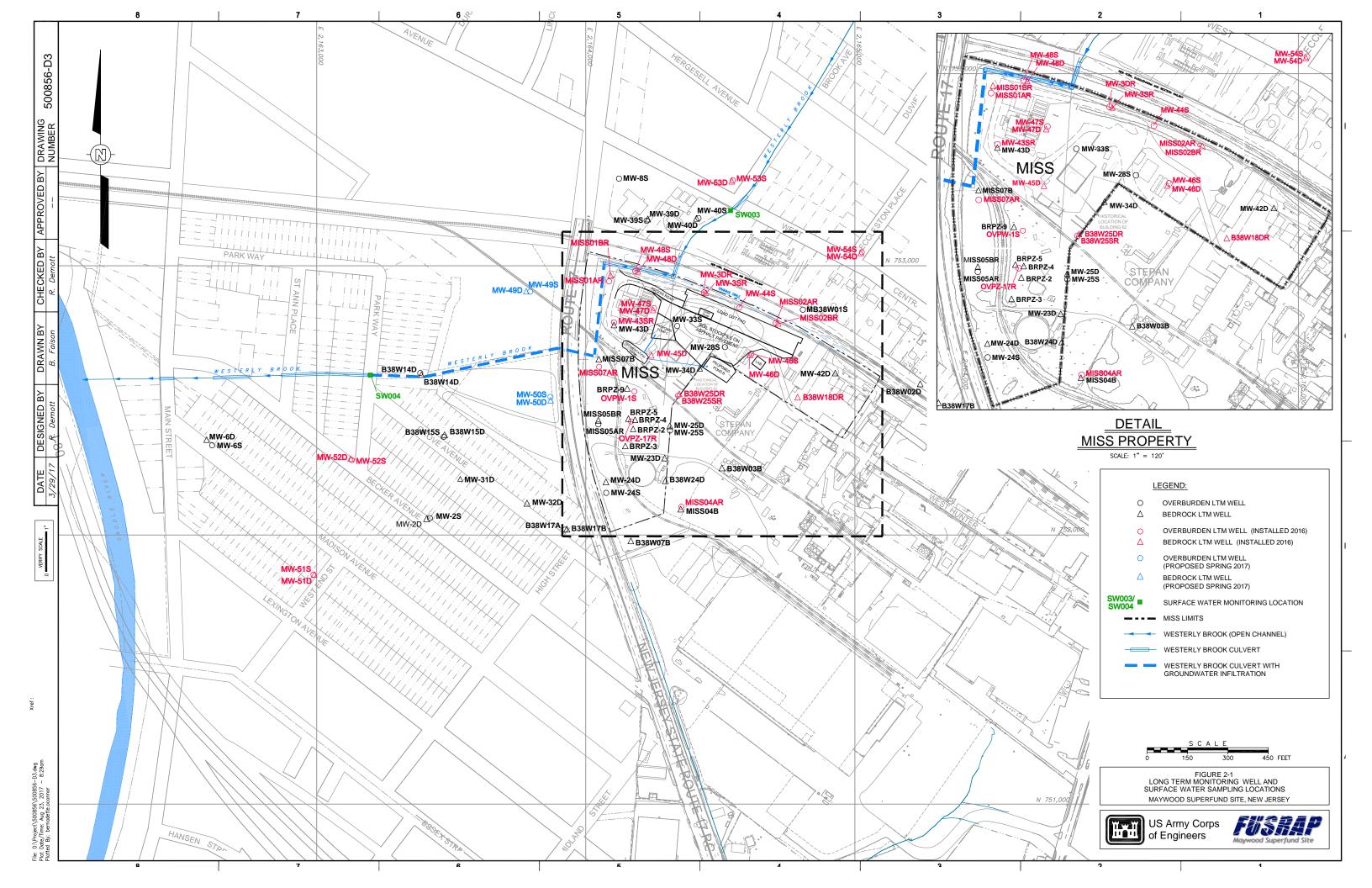
AOC 6 - BENZENE

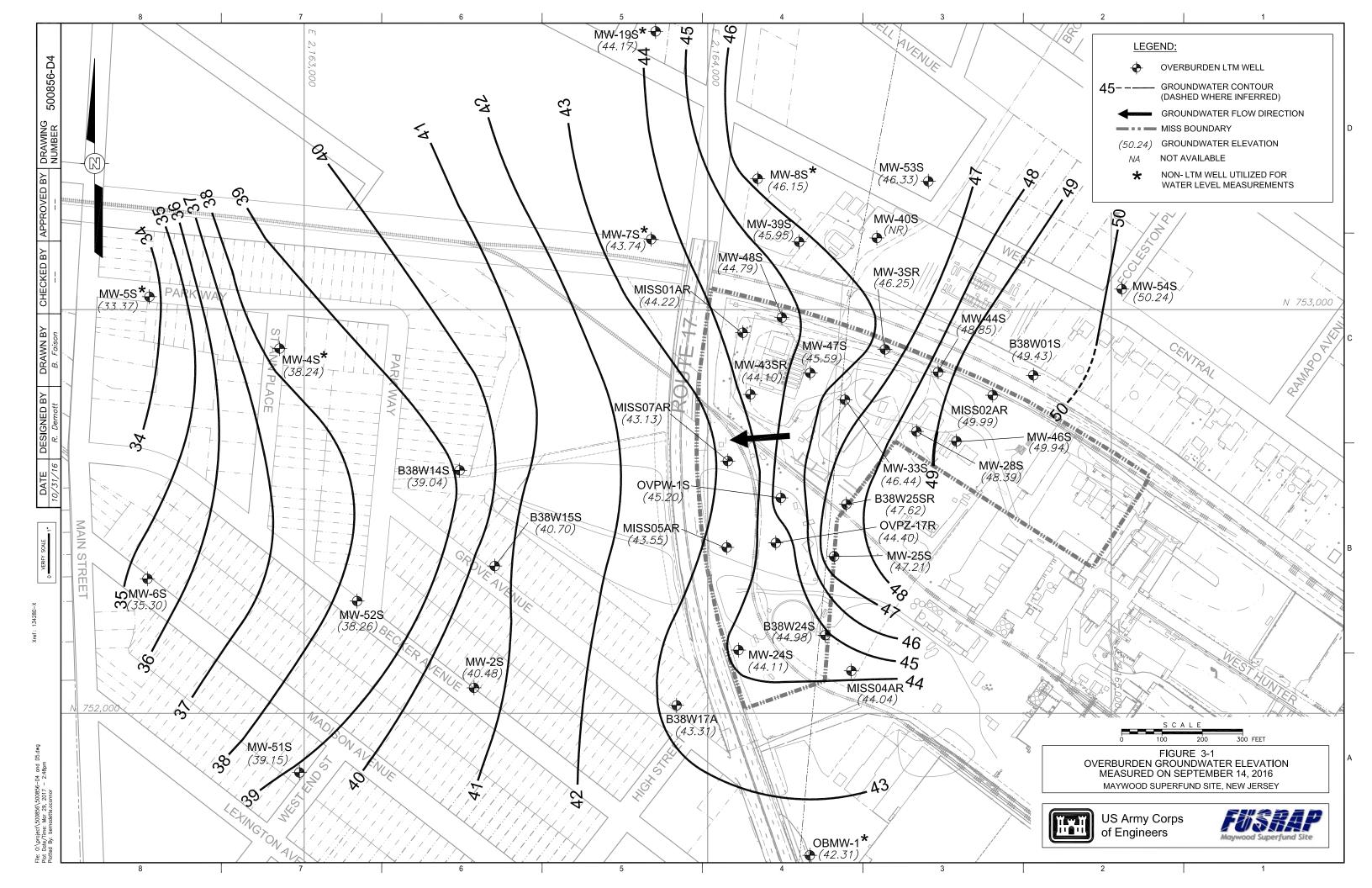


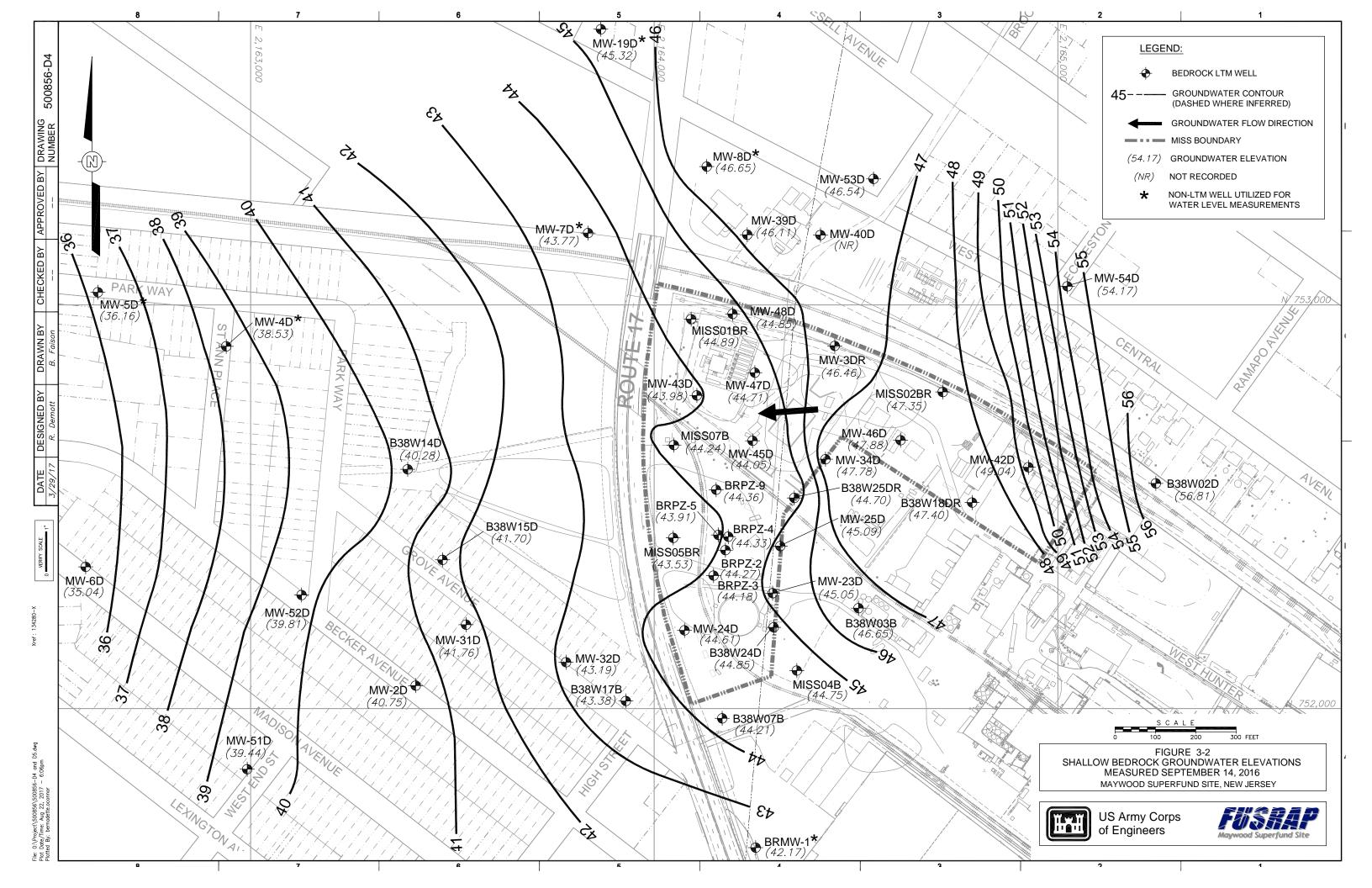
FIGURE 1-4
GROUNDWATER AREAS OF CONCERN
MAYWOOD SUPERFUND SITE, NEW JERSEY

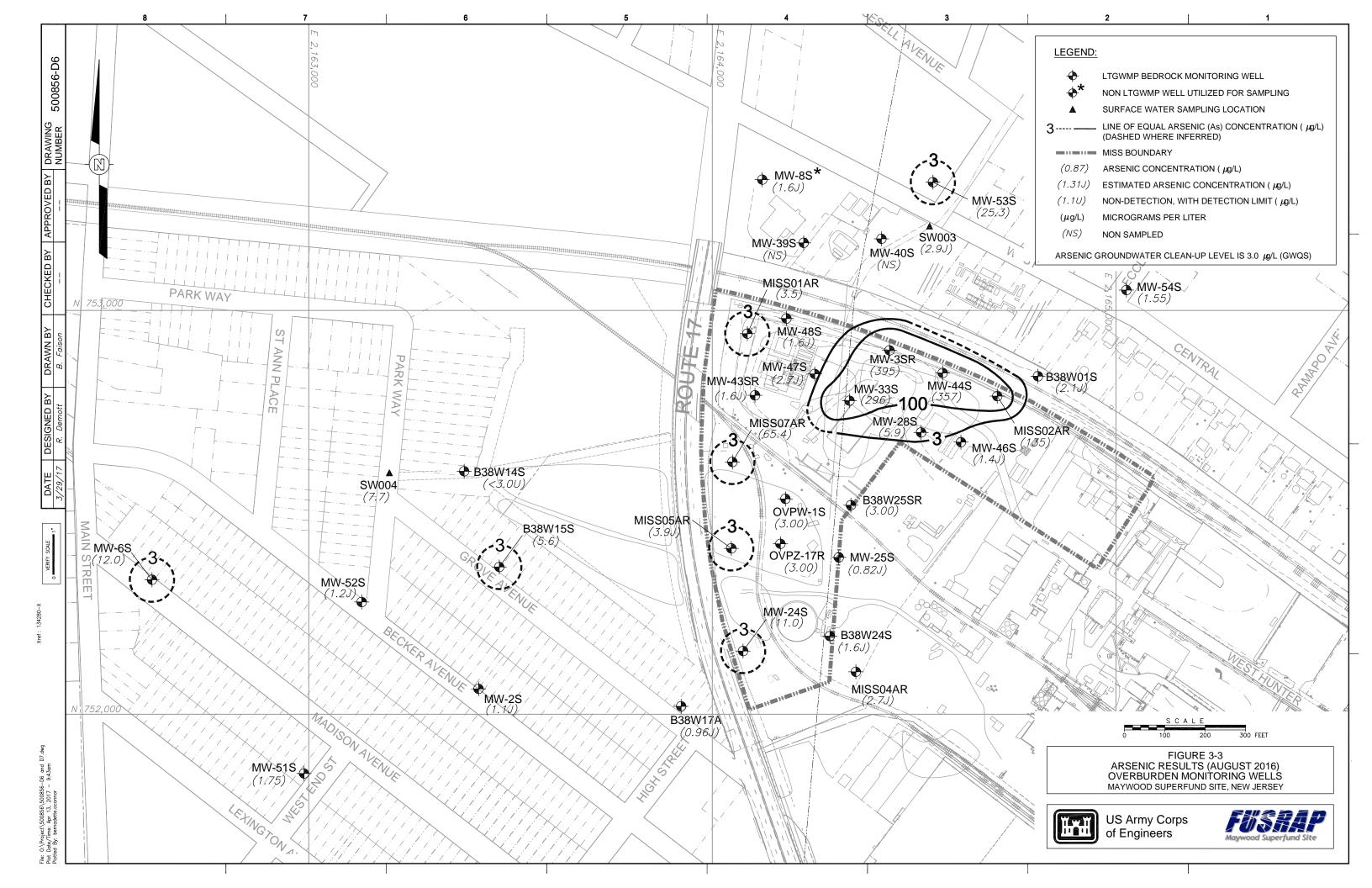


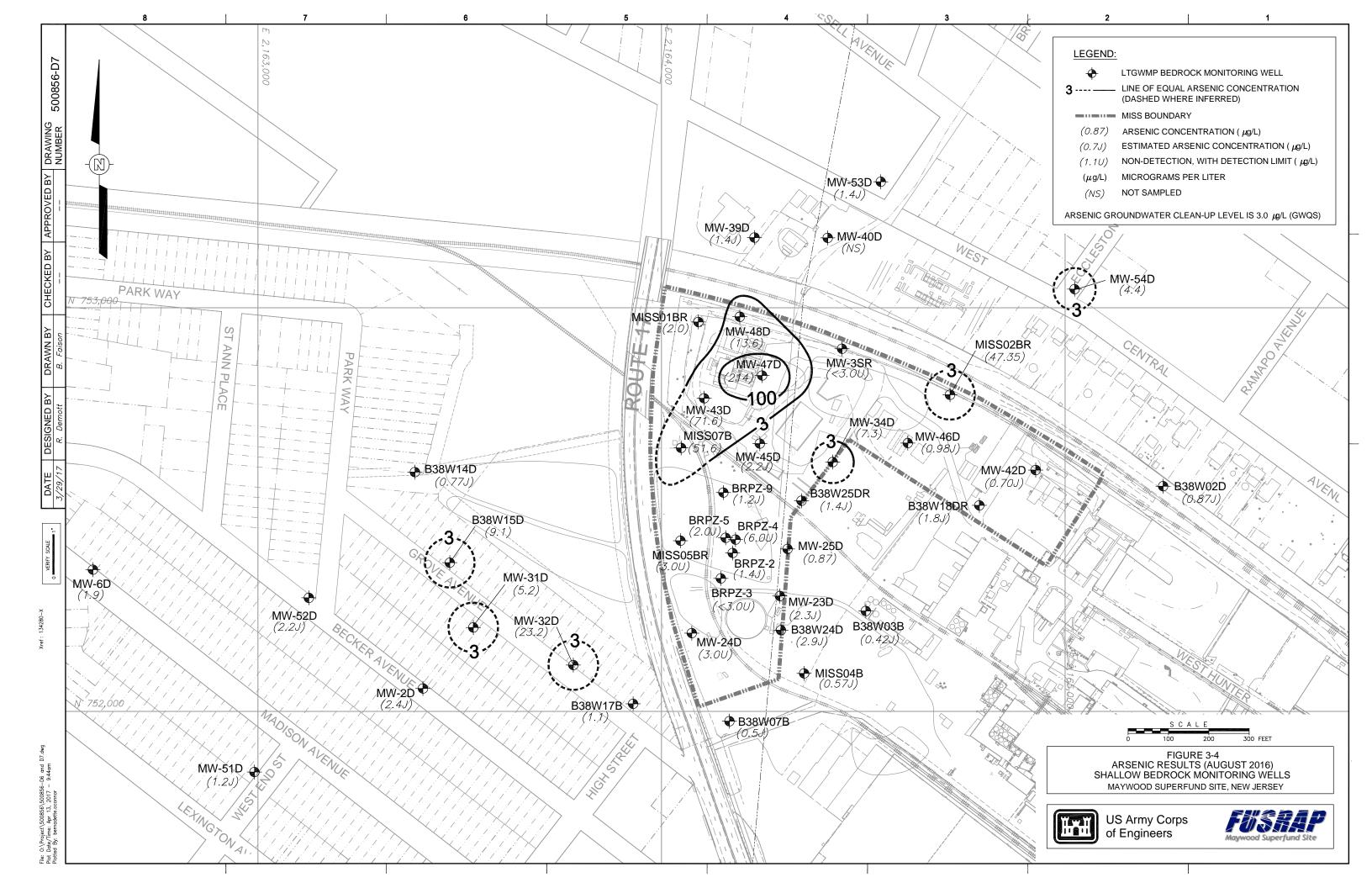


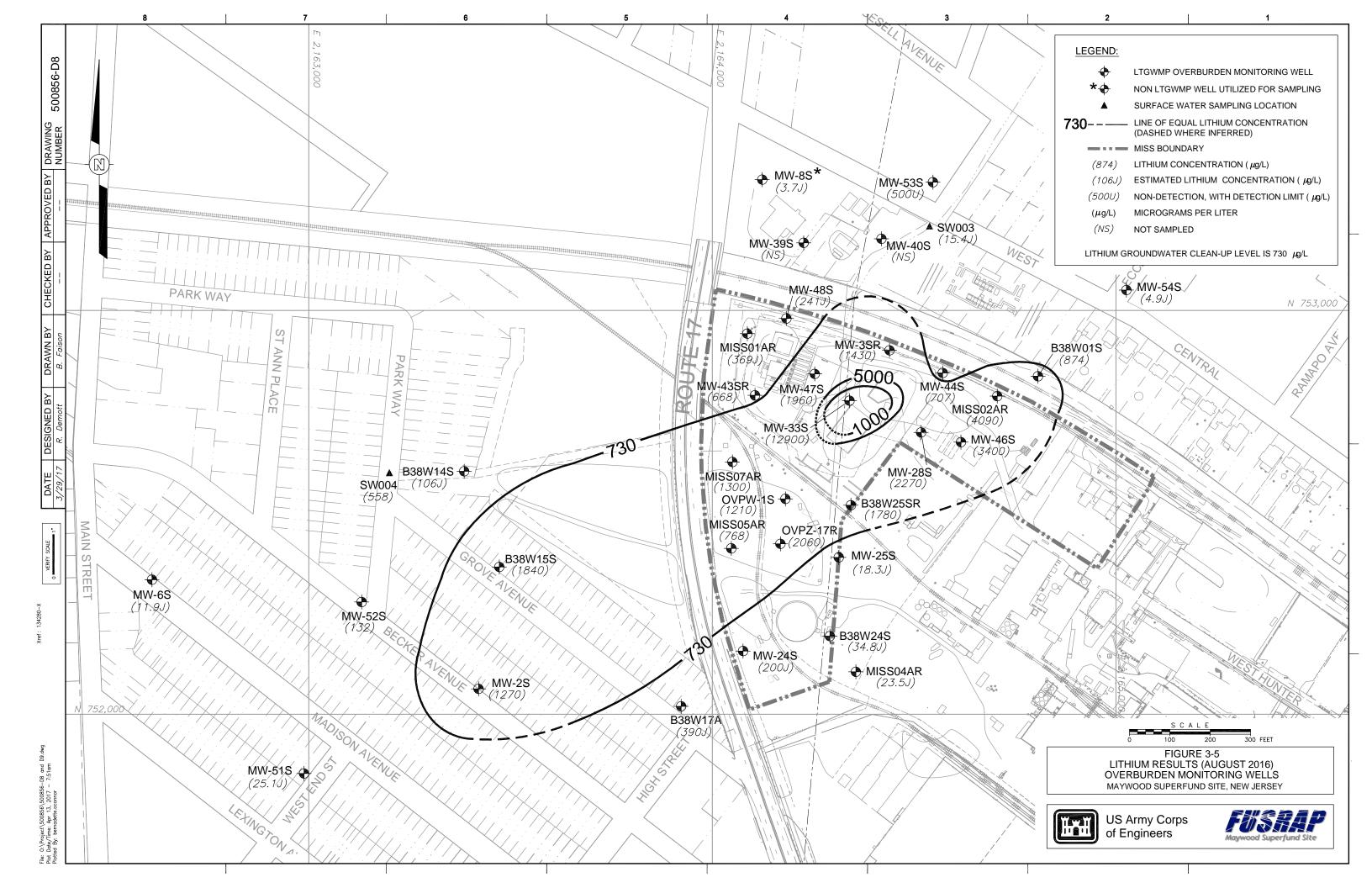


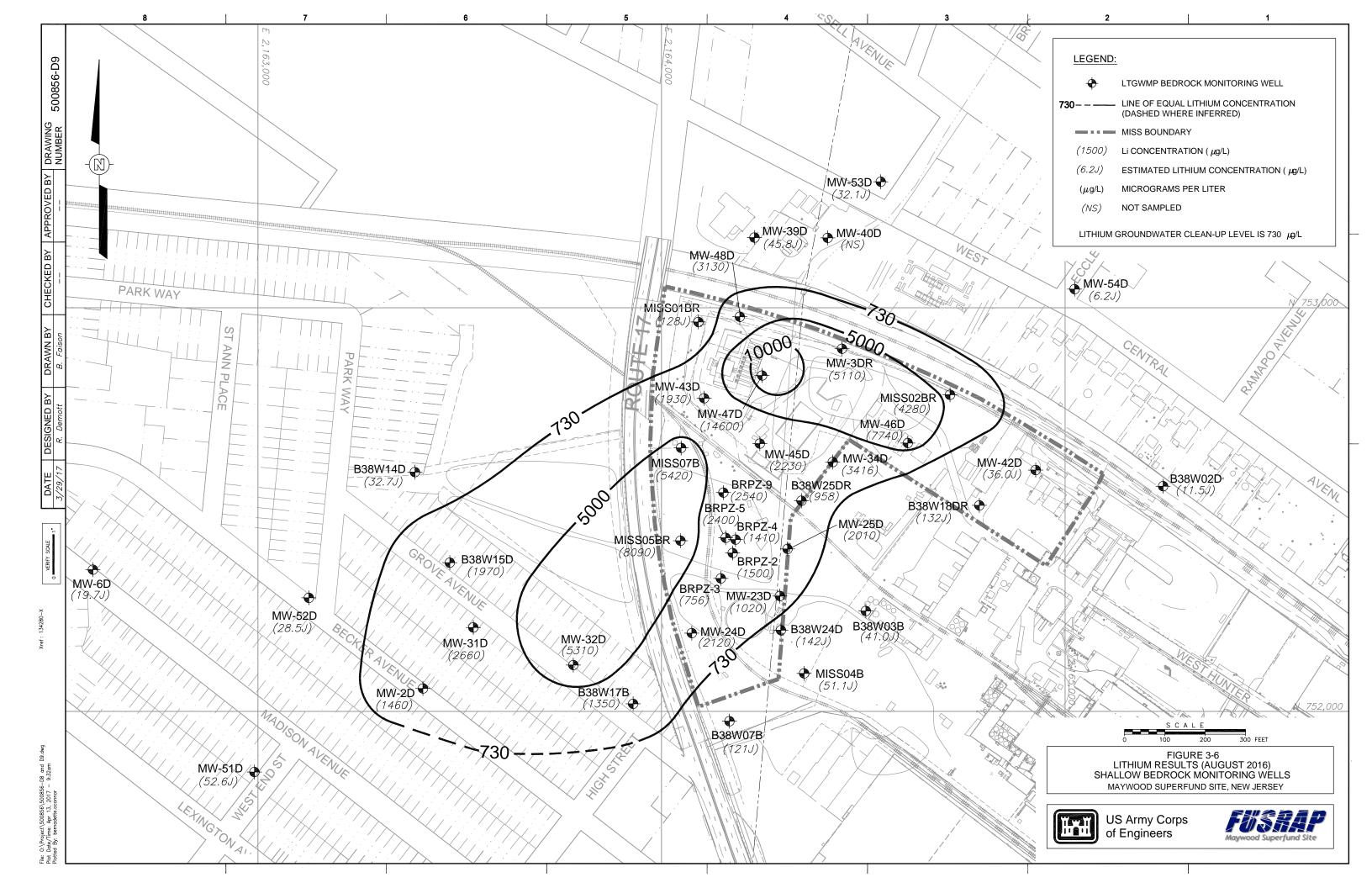


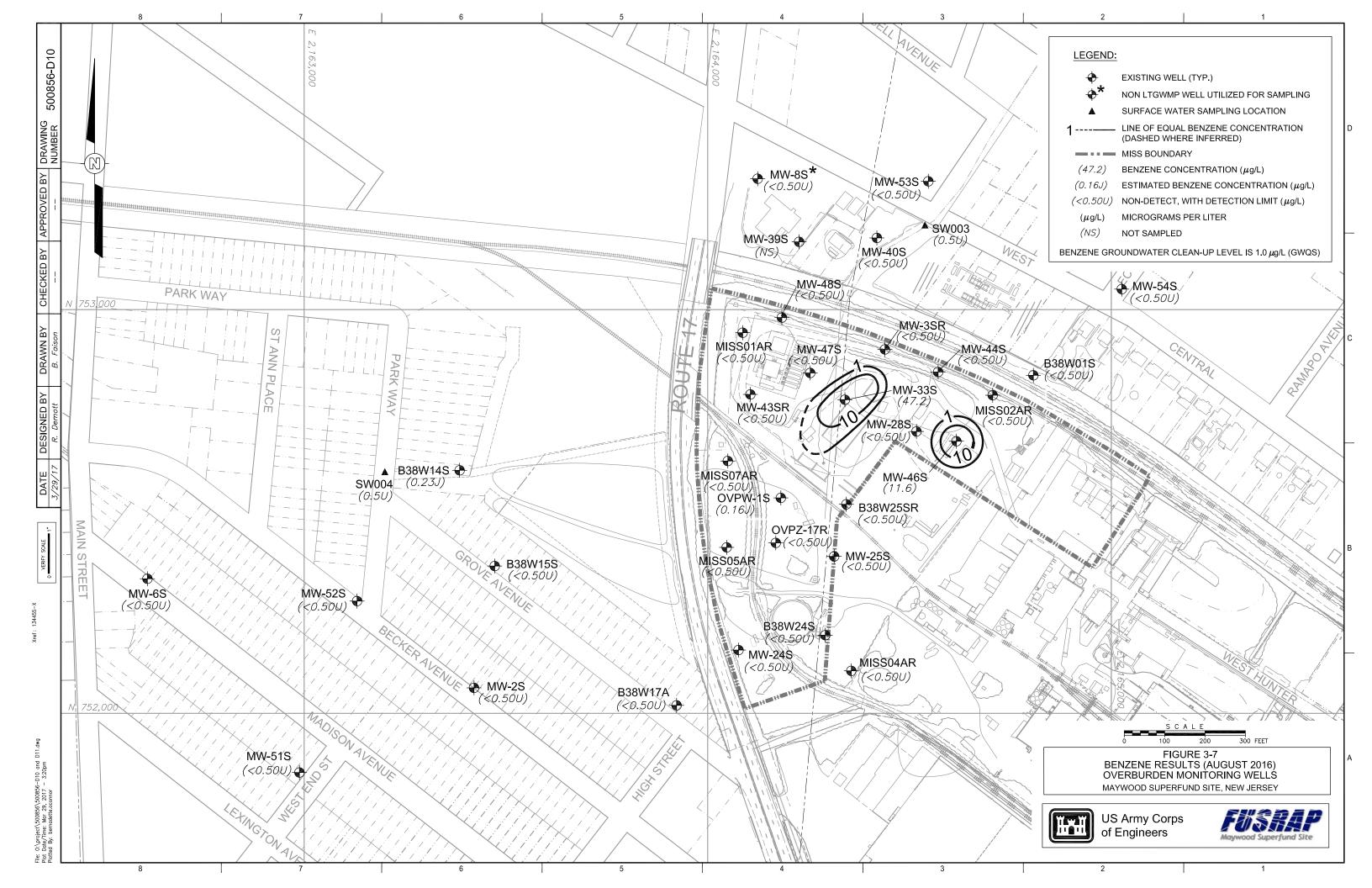


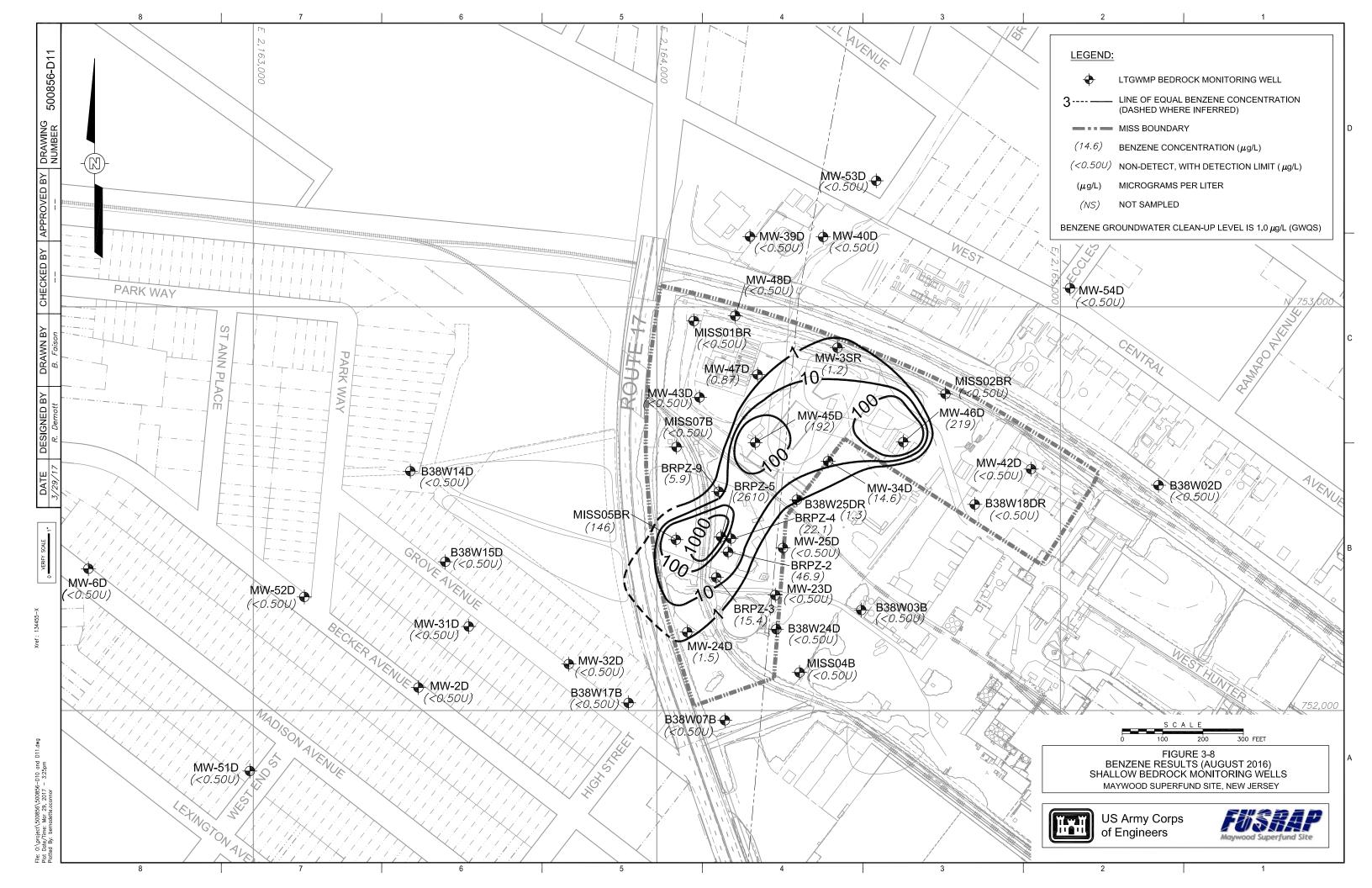


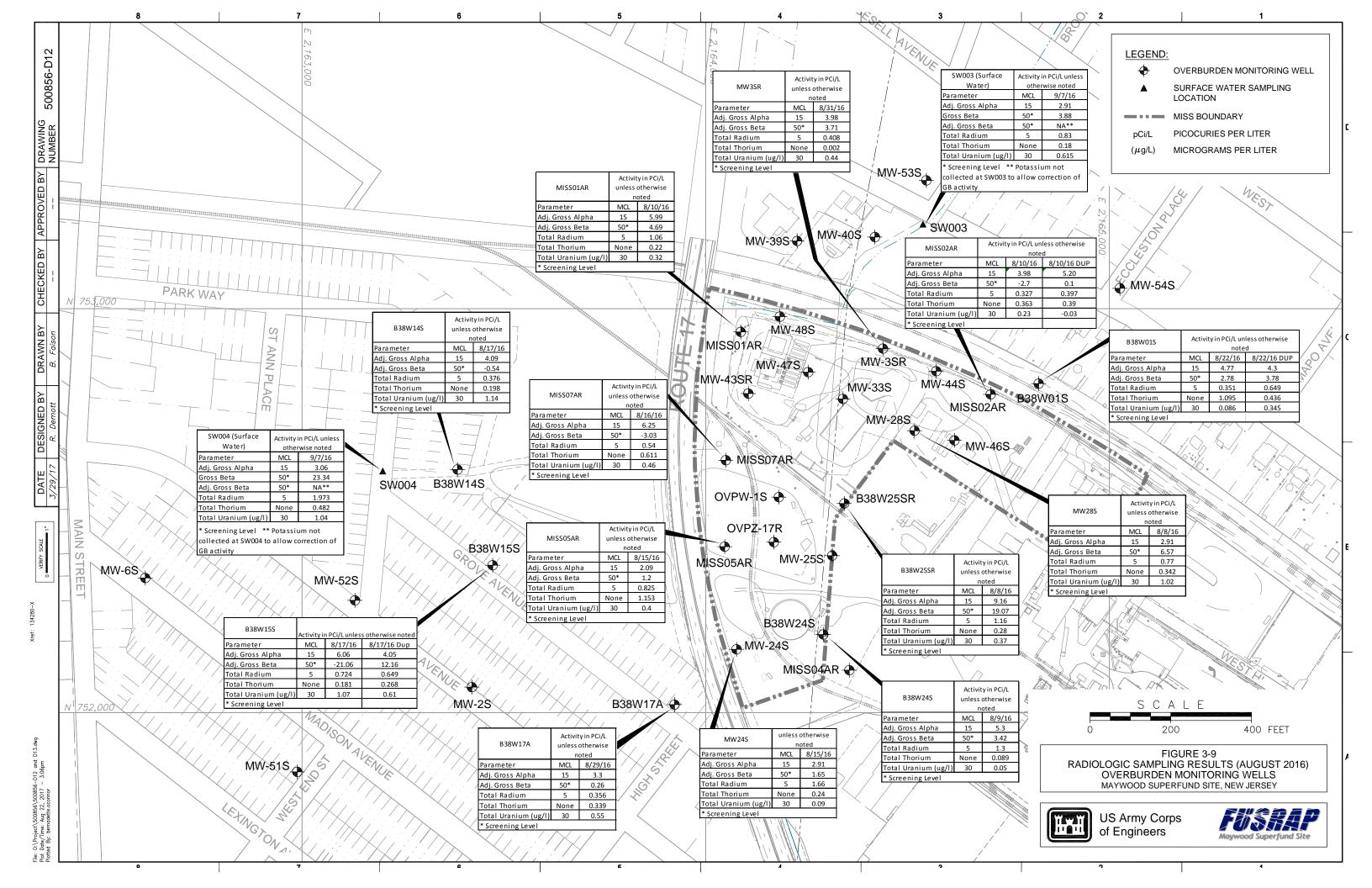


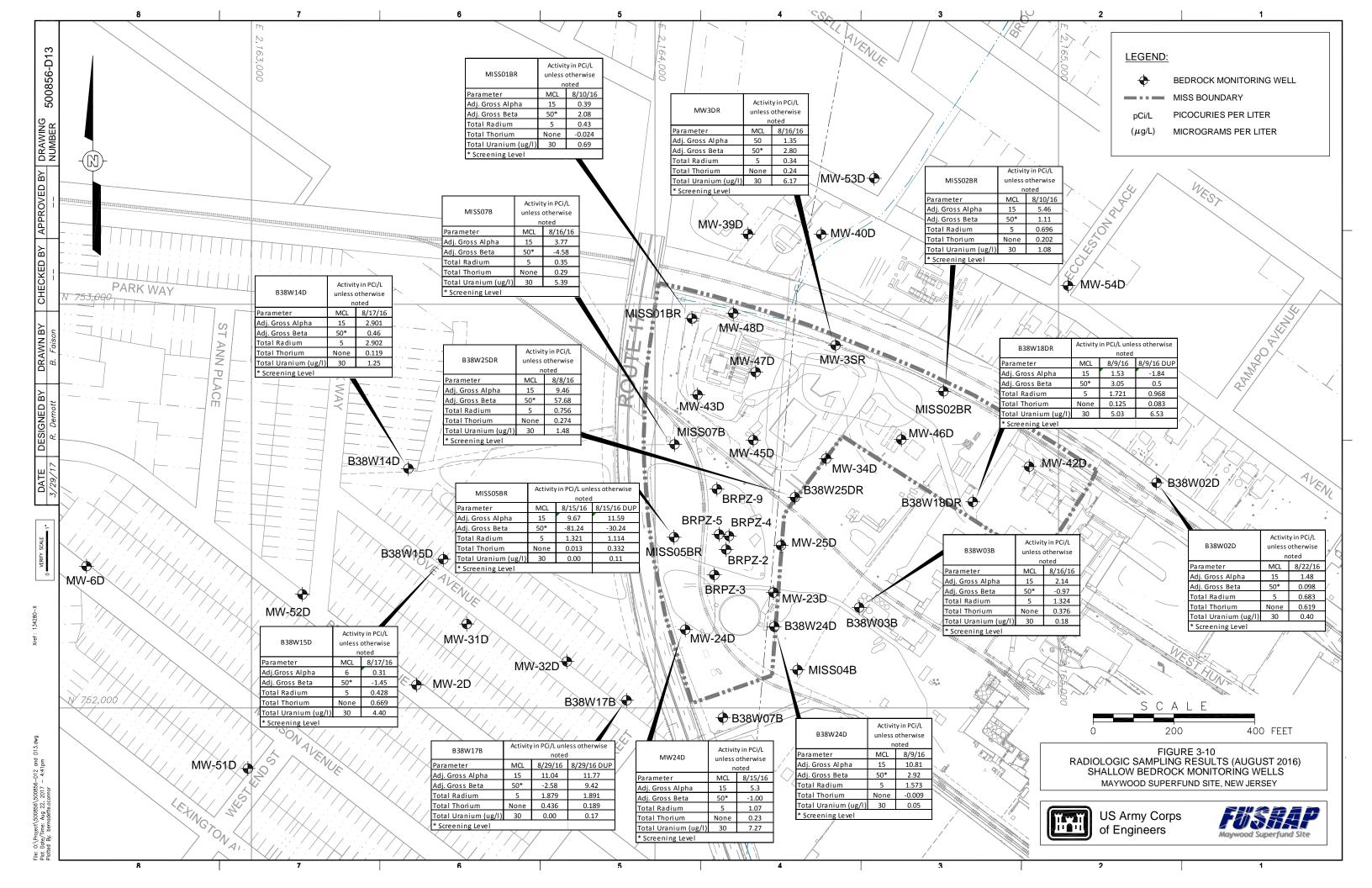












Appendix A NJDEP Permits, Well Records and Survey Forms (Form B) for Modified and New LTM Wells

APPENDIX A

NJDEP PERMITS FOR MODIFIED AND NEW LTM WELLS

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201604681

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, JOURN	EYMAN 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	<u>-</u>						
City: Washington State: District or	f Columbia Zip Code: 20006						
PROPOSED WELL LOCATION							
Facility Name: FURSRAP Maywood Project							
Address: 100 W. HUNTER AVE. / BRPZ-2							
County: Bergen Municipality: Rochelle Park Two	D 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							
·							
	. 0.						
	Denn D. P. lauski						

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 -- Page 1 of 2

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Wells PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201604681

WELL PERMIT

	Modification of 2600061466
DEVIATION INFORMATION	ON
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/F	REQUIREMENTS
A copy of this permit shall be l	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of W	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is a vater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	ion 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, [N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.
	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be ch 7:9D-1]	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water su	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and I.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 w	vater supply well, the well must be constructed by a Master well driller, which would include having a l times during construction of the well, as specified in the Well Construction and Abandonment
	ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new
	perty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writte notification shall be submitted of Submit Well Permit Cancellation	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
	Il not be construed in any way to affect the title or ownership of property, and shall not make the New
	nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
any future application. [N.J.A.C	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on C. 7:9D-1]
	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 n 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 Number E201604691

WELL PERMIT

Modification of 2600061467

accompanying same application, and applicable laws and regular enumerated in the supporting documents which are agreed to by	tions. This permit is also subject to further conditions and stipulations
Certifying Driller: NICHOLAS A FALLUCCA, JOURN	
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	f Columbia Zip Code: 20006
PROPOSED WELL LOCATION	
Facility Name: FUSRAP Maywood Project	
Address: 100 W. HUNTER AVE. / BRPZ-3 confirmed by clie	nt
County: Bergen Municipality: Rochelle Park Tw	p Lot: 1 Block: 19.01
Easting (X): 610316 Northing (Y): 752062	Local ID: BRPZ-3
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	
	Jerry D. P. lauski

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201604691

WELL PERMIT Modification of 2600061467

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

i di poso.	
Unusual Conditions:	•
Reason for Deviation:	
Proposed Well Construction	
•	
GENERAL CONDITIONS/RE	QUIREMENTS
A copy of this permit shall be ke	pt at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of Wa	by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is ter Systems and Well Permitting the well record shall be submitted electronically through the New Jersey rotection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
All well drilling/pump installation	on activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
[N.J.A.C. 7:9D-1]	he well approved in this permit shall be constructed within one year of the effective date of the permit.
the Bureau of Water Systems and	is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of d Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be characteristic of the well is to be characteristic.	nged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water sup Abandonment Regulations at N.J redesignated as a community wa Master well driller on-site at all t	r intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or oply wells), the well must be constructed as a Category 1 well per the Well Construction and J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well ter supply well, the well must be constructed by a Master well driller, which would include having a times during construction of the well, as specified in the Well Construction and Abandonment w Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Prop	erty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior written notification shall be submitted el	constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation ectronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal a by the expiration date of this permit. [N.J.A.C. 7:9D-1]
	ed, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a
seq. [N.J.A.C. 7:9D-1]	ersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
	not be construed in any way to affect the title or ownership of property, and shall not make the New
	ntal 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 any future application. [N.J.A.C.	not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on 7:9D-11
	ther expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	btaining 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]

Well Permit Number E201604693

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, JOURN	NEYMAN LICENSE # 0001302		
Permit Issued to: SGS NORTH AMERICA INC.			
Company Address: PO BOX 423 WEST CREEK, NJ O	08092		
PROPERTY OWNER			
Name: NA UNITED STATES OF AMERICA			
Organization: United States of America			
Address: 1800 Pennsylvania Ave			
City: Washington State: District or	f Columbia Zip Code: 20006		
PROPOSED WELL LOCATION			
Facility Name: FUSRAP Maywood Project			
Address: 100 W HUNTER AVE / BRPZ-4 confirmed by client	t ,		
County: Bergen Municipality: Rochelle Park Twr	D Lot: 1 Block: 19.01		
Easting (X): 610362 Northing (Y): 752062 Coordinate System: NJ State Plane (NAD83) - USFEET	Local ID: BRPZ-4		
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			
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	ness & Plancki		

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 Number **E201604693**

WELL PERMIT Modification of 2600060716

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]
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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.
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.
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.
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]

Well Permit Number **E201604695**

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, JOUR		
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	<u>.</u>	
Address: 1800 Pennsylvania Ave		
City: Washington State: District of	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 Tw	7p 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	
	· · · · · · · · · · · · · · · · · · ·	
Attachments:		
SPECIFIC CONDITIONS/REQUIREMENTS		
·		
+_		
	near & Planeti	
	Man A Planets	

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 Number E201604695

WELL PERMIT

	Modification of 2600060717
DEVIATION INFORMATION	ON
Purpose:	·
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/I	REQUIREMENTS
	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of W	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is later Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	tion activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
[N.J.A.C. 7:9D-1]	, the well approved in this permit shall be constructed within one year of the effective date of the permit.
the Bureau of Water Systems a	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be cl 7:9D-1]	hanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water s Abandonment Regulations at N redesignated as a community w Master well driller on-site at al	ner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well water supply well, the well must be constructed by a Master well driller, which would include having a li times during construction of the well, as specified in the Well Construction and Abandonment lew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new
	operty 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 no cancellation. Unless prior writt notification shall be submitted Submit Well Permit Cancellati	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit ten approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandomanner satisfactory to the New seq. [N.J.A.C. 7:9D-1]	oned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
The granting of this permit sha Jersey Department of Environn	Il not be construed in any way to affect the title or ownership of property, and shall not make the New nental 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 sha any future application. [N.J.A.	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
This permit conveys no rights,	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid on 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]

Well Permit Number **E201604708**

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, JOURI			
Permit Issued to: SGS NORTH AMERICA INC.			
Company Address: PO BOX 423 WEST CREEK, NJ			
PROPERTY OWNER			
Name: NA UNITED STATES OF AMERICA			
Organization: United States of America			
Address: 1800 Pennsylvania Ave			
City: Washington State: District of	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 Tw	p 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			
·			
	<u> </u>		
	Mara & Planeti		

Approved by the authority of:
Bob Martin

Approval Date: April 22, 2016

Expiration Date: April 22, 2017

Commissioner

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Terry Pilawski, Chief Bureau of Water Allocation and Well Permitting

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201604708

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	У
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	<u>. </u>
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	tal
notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Port Submit Well Permit Cancellation: by the expiration date of this permit.[N.J.A.C. 7:9D-1]	tai
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 of	'n
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]

Well Permit Number E201604771

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 C	08092		
PROPERTY OWNER			
Name: MOHAMMAD BAJWA			
Organization: Mohammad Bajwa			
Address: 90 Parkway			
City: Rochelle Park Twp State: New Jerse			
PROPOSED WELL LOCATION Facility Name: FUSRAP Maywood Project			
Address: 90 Parkway / B38W14S Grade change. New prot.casi County: Bergen Municipality: Rochelle Park Twp			
Easting (X): 609387 Northing (Y): 752376 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:			
CRECIPIC CONDUCTOR OF CHAPTER AND CONTROL OF			
SPECIFIC CONDITIONS/REQUIREMENTS			

Approved by the authority of:

Approval Date: April 25, 2016

Expiration Date: April 25, 2017

Bob Martin Commissioner

Bureau of Water Allocation and Well Permitting

Well Permit -- Page 1 of 2

Jerry D. P. lawski Terry Pilawski, Chief

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201604771

WELL PERMIT

·	Modification of 2600014043	
DEVIATION INFORMATION	DN	
Purpose:		
Unusual Conditions:		
Reason for Deviation:		
Proposed Well Construction		
Troposed from Community		
GENERAL CONDITIONS/R	EQUIREMENTS	
A copy of this permit shall be k	cept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]	
obtained from the Bureau of W	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is later Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is	
	ion 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, [N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.	
	r is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of nd Well Permitting. [N.J.A.C. 7:9D-1]	
If the use of the well is to be ch 7:9D-1]	anged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.	
public non-community water su Abandonment Regulations at N redesignated as a community w Master well driller on-site at all	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and I.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well rater supply well, the well must be constructed by a Master well driller, which would include having a string construction of the well, as specified in the Well Construction and Abandonment ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new [N.J.A.C. 7:9D-1.7((a))1i]	
	perty 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]		
manner satisfactory to the New seq. [N.J.A.C. 7:9D-1]	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et	
	I not be construed in any way to affect the title or ownership of property, and shall not make the New nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]	
	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on	
	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]	
	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid	
	n until such time as all other required approvals and permits have been obtained IN IAC 7:9D-11	

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number **E201604770**

Terry Pilawski, Chief

Bureau of Water Allocation and Well Permitting

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 regular enumerated in the supporting documents which are agreed to by		
Certifying Driller: NICHOLAS A FALLUCCA, JOURN	IEYMAN LICENSE # 0	001302
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 Jerse	Э	Zîp Code: 07607
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 90 Parkway / B38W14D Grade change. New prot.cas	ing/pad	
County: Bergen Municipality: Rochelle Park Two	Lot: 39.02	Block: 17.01
Easting (X): 609387 Northing (Y): 752376 Coordinate System: NJ State Plane (NAD83) - USFEET	Local ID:	B38W14D
SITE CHARACTERISTICS		
PROPOSED CONSTRUCTION		
WELL USE: MONITORING	Other Use(s):	
Diameter (in.): 2	Regulatory Program Requiring Wells/Borin	gs:
Depth (ft.): 60		
Pump Capacity (gpm): 0		N
Drilling Method:		
Attachments:		
		· · · · · · · · · · · · · · · · · · ·
SPECIFIC CONDITIONS/REQUIREMENTS		
		
		Jerry D. P. lawski
Á 11	y the authority of:	- ()

Bob Martin

Commissioner
Well Permit -- Page 1 of 2

Approval Date: April 25, 2016

Expiration Date: April 25, 2017

Well Permit Number E201604770

	Modification of 2600014042
DEVIATION INFORMATIO	N
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/RI	FOUNDEMENTS
	ept 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 obtained from the Bureau of Wa Department of Environmental P completed.[N.J.A.C. 7:9D-1]	by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is ster Systems and Well Permitting the well record shall be submitted electronically through the New Jersey rotection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	on 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, [N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.
If the pump capacity applied for the Bureau of Water Systems an	is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of d Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed 7:9D-1]	inged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water sup Abandonment Regulations at N. redesignated as a community wa Master well driller on-site at all	r intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or oply wells), the well must be constructed as a Category 1 well per the Well Construction and J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well atter supply well, the well must be constructed by a Master well driller, which would include having a times during construction of the well, as specified in the Well Construction and Abandonment well Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new [N.J.A.C. 7:9D-1.7((a))1i]
	perty 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 cancellation. Unless prior written otification shall be submitted el	constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit napproval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation lectronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal n: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandon	ed, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
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 ental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
	ither expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	btaining 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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608290

WELL PERMIT

Modification of 2600058962

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments

	documents which are agreed to by the		otance of the permit
Certifying Driller: N	ICHOLAS A FALLUCCA, JOURNEY	MAN LICENSE # 0	001302
Permit Issued to: SC	GS NORTH AMERICA INC.		
Company Address: PC	DBOX 423 WEST CREEK, NJ 080	92	
PROPERTY OWNER			
Name: NA UNITED ST.	ATES OF AMERICA		
Organization: United States	of America		
Address: 1800 Pennsylvania	a Avenue		
City: Washington	State: District of C	olumbia	Zip Code: 20006
PROPOSED WELL LOCA	TION		
Facility Name: FUSRAP Ma	aywood Project		•
Address: Madison Ave /MV			
County: Bergen	Municipality: Rochelle Park Twp	Lot: ROW	Block: ROW
Easting (X): 608753	Northing (Y): 752067	Local ID:	MW-6D
	State Plane (NAD83) - USFEET	Local ID.	191 14 - 012
SITE CHARACTERISTICS	3		,
PROPOSED CONSTRUCT	TION		
WELL USE: MONITORIN	IG O	ther Use(s):	
Diameter (in). 1	R	egulatory Program	
Diameter (in.): 1			gs:
Depth (ft.): 54			V
Pump Capacity (gpm): 0 Drilling Method: Other			<u>Y</u>
	0716 Resubmitted Deviation Request	-1c	A3.3 - 4044
Attaonments. 0110+3_2010		.pui	
SPECIFIC CONDITIONS/	REQUIREMENTS		
Well must be built in accordant	nce with submitted deviation [N.J.A.C.	7.9D-2.8]	
	<u> </u>		
			na & Plance
			Jerry D. P. Lawski
Approval Date: July 18, 201	Approved by the Bob M		Terry Pilawski, Chief

Commissioner Well Permit -- Page 1 of 2 Bureau of Water Allocation and Well Permitting

Expiration Date: July 18, 2017

Well Permit Number **E201608290**

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

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]

any future application. [N.J.A.C. 7:9D-1]

Well Permit Number E201604710

WELL PERMIT

Modification of 2600065218

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments

enumerated in the supporting documents which are agreed to by	ations. This permit is also subject to further conditions and stipulations y the permittee upon acceptance of the permit	
Certifying Driller: NICHOLAS A FALLUCCA, JOUR	RNEYMAN 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		
PROPOSED CONSTRUCTION WELL USE: MONITORING	Other Use(s):	
WELL USE: MONITORING	Other Use(s): Regulatory Program	
WELL USE: MONITORING Diameter (in.): 6	Regulatory Program Requiring Wells/Borings:	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: _N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method: Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method: Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method: Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 6 Depth (ft.): 50 Pump Capacity (gpm): 0 Drilling Method: Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	

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 Number E201604710

WELL PERMIT Modification of 2600065218

DEVIATION INFORMATION	ON	
Purpose:	1	
Unusual Conditions:		
Reason for Deviation:		
Proposed Well Construction		

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 visite the obtaining of Enderel or other State or level. Government concept when processory. This permit is not valid.

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]

Well Permit Number E201605161

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants accompanying same application, and applicable laws and regular enumerated in the supporting documents which are agreed to by	tions. This permit is also subject to further conditions and stipulations
Certifying Driller: NICHOLAS A FALLUCCA, JOURN	
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 o	f Columbia Zip Code: 20006
PROPOSED WELL LOCATION	
Facility Name: FUSRAP Maywood Project	
Address: 100 W HUNTER AVE / B38W18DR confirmed by c	lient / 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	
E.	
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	
	n. Dlauck

Approval Date: May 3, 2016 Expiration Date: May 3, 2017 Approved by the authority of:

Bob Martin

Commissioner

Terry Pilawski, Chief Bureau of Water Allocation and Well Permitting

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605161

WELL PERMIT

	New Well
DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/REQU	IREMENTS
	t the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of Water S	the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is systems and Well Permitting the well record shall be submitted electronically through the New Jersey ction's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	ctivities 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 w [N.J.A.C. 7:9D-1]	well approved in this permit shall be constructed within one year of the effective date of the permit.
If the pump capacity applied for is le the Bureau of Water Systems and We	ss than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of ell Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed 7:9D-1]	I a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water supply Abandonment Regulations at N.J.A.C redesignated as a community water s Master well driller on-site at all times	end to redesignate this well as a Category 1 well (domestic, non-public, community water supply or wells), the well must be constructed as a Category 1 well per the Well Construction and C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well upply well, the well must be constructed by a Master well driller, which would include having a s during construction of the well, as specified in the Well Construction and Abandonment resey Department of Environmental Protection will not allow the well to be redesignated, and a new A.C. 7:9D-1.7((a))1i]
	Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior written app notification shall be submitted electro Submit Well Permit Cancellation: by	tructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit proval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation onically through the New Jersey Department of Environmental Protection's Regulatory Services Portally the expiration date of this permit.[N.J.A.C. 7:9D-1]
manner satisfactory to the New Jerses seq. [N.J.A.C. 7:9D-1]	the Owner or Well driller shall assume full responsibility for having the well decommissioned in a y Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
	be construed in any way to affect the title or ownership of property, and shall not make the New
The issuance of this permit shall not	Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1] be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
any future application. [N.J.A.C. 7:9]	expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtain	ning of Federal or other State or local Government consent when necessary. This permit is not valid 1 such time as all other required approvals and permits have been obtained IN IA C. 7:9D-11

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number **E201605089**

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			
n '41 14 GGONODTHANGDIGADIG			
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 o	f Columbia	Zip Code:	
PROPOSED WELL LOCATION			
Facility Name: FUSRAP Maywood Project			
Address: 100 W HUNTER AVE / B38W25SR confirmed by c	lient / 5845		
County: Bergen Municipality: Maywood Boro	Lot:_45	Block: 124	
Easting (X): 610497 Northing (Y): 752237	Local ID:	B38W25SR	
Coordinate System: NJ State Plane (NAD83) - USFEET		·	
SITE CHARACTERISTICS			
PROPOSED CONSTRUCTION			
WELL USE: MONITORING			
Diameter (in.): 2	Regulatory Program Requiring Wells/Borir	ngs:	
Depth (ft.): _22			
Pump Capacity (gpm): 0	Deviation Requested:	N	
Drilling Method: Hollow Stem Augers	·		
Attachments:			
SPECIFIC CONDITIONS/REQUIREMENTS			
·			
		Jerry D. P. lawski	

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 Number E201605089

	New Well
DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/REQUI	
	the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
	ne well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is
	stems and Well Permitting the well record shall be submitted electronically through the New Jersey
Department of Environmental Protect completed.[N.J.A.C. 7:9D-1]	ion's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
All well drilling/pump installation act	ivities 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 we [N.J.A.C. 7;9D-1]	ell approved in this permit shall be constructed within one year of the effective date of the permit.
	s than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of
the Bureau of Water Systems and Wel	
	a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
7:9D-1]	
	nd to redesignate this well as a Category 1 well (domestic, non-public, community water supply or
	wells), the well must be constructed as a Category 1 well per the Well Construction and
	. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well
	pply well, the well must be constructed by a Master well driller, which would include having a
	during construction of the well, as specified in the Well Construction and Abandonment
	ey Department of Environmental Protection will not allow the well to be redesignated, and a new
well would have to be installed. [N.J.A	
	Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
	ructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit
	roval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation
	nically through the New Jersey Department of Environmental Protection's Regulatory Services Portal
	the expiration date of this permit.[N.J.A.C. 7:9D-1]
	e Owner or Well driller shall assume full responsibility for having the well decommissioned in a
seq. [N.J.A.C. 7:9D-1]	Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
	e construed in any way to affect the title or ownership of property, and shall not make the New
	Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	e 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	
This permit conveys no rights, either e	expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaini	ing of Federal or other State or local Government consent when necessary. This permit is not valid
	such time as all other required approvals and permits have been obtained IN I A C 7.9D-11

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number **E201605090**

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments

	the permittee upon accep	tance of the permit
Certifying Driller: NICHOLAS A FALLUCCA, JOURI	NEYMAN LICENSE # 00	001302
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	of Columbia	Zip Code: 20006
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / B38W25BR confirmed by c	client / 5845	
County: Bergen Municipality: Maywood Boro	Lot: 45	Block: 124
Easting (X): 610496 Northing (Y): 752239	Local ID:	B38W25BR
Coordinate System: NJ State Plane (NAD83) - USFEET		
SITE CHARACTERISTICS		
PROPOSED CONSTRUCTION	· · · · · · · · · · · · · · · · · · ·	
WELL USE: MONITORING	Other Use(s):	
Diameter (in.): 2	Regulatory Program	•
Diameter (in.): 2 Depth (ft.): 55	Regulatory Program Requiring Wells/Boring	gs:
Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Boring Case ID Number:	gs:
Depth (ft.): _55	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	gs:
Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N
Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N

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

PO BOX 420 Trenton, NJ -08625-0420 Tel: 609-984-6831

Well Permit Number E201605090

WELL PERMIT

	New Well
DEVIATION INFORMATION	ON
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/I	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	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is
obtained from the Bureau of W	ater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey
	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 installar	tion activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
	, the well approved in this permit shall be constructed within one year of the effective date of the permit.
[N.J.A.Ć. 7:9D-1]	
If the pump capacity applied for	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of
	and Well Permitting. [N.J.A.C. 7:9D-1]
	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
7:9D-1]	
	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or
	upply wells), the well must be constructed as a Category 1 well per the Well Construction and
	I.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 w	rater supply well, the well must be constructed by a Master well driller, which would include having a
Master well driller on-site at al	l times during construction of the well, as specified in the Well Construction and Abandonment
Regulations. Otherwise, the N	ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new
well would have to be installed	
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit
	en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation
	electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal
	on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a
	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]	
	Il not be construed in any way to affect the title or ownership of property, and shall not make the New
	nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
any future application. [N.J.A.0	
This permit conveys no rights,	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid
and no work shall be undertake	n 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]

Well Permit Number E201605165

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
C. del D. W. Avgyol de A. P. H. Lyccol de Victoria de Constante de Con

enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit			
Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LI	CENSE # 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 L	ot: 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 Requiring V	Program /ells/Borings:		
Depth (ft.): 20 Case ID Nu	mber:		
Pump Capacity (gpm): 0 Deviation R	equested: N		
Drilling Method: Hollow Stem Augers			
Attachments:			
SPECIFIC CONDITIONS/REQUIREMENTS			
	·		

Approved by the authority of:

Approval Date: May 3, 2016

Expiration Date: May 3, 2017

Bob Martin

Commissioner

Terry Pilawski, Chief Bureau of Water Allocation and Well Permitting

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605165

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 appropriate to the Bureau of Water Systems and Well Permitting.			
obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New			
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]	3		
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 per	mit.		
[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 approv	al 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. 7:9D-1]	J.A.C.		
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supp	Jy or		
public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and	ily Oi		
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	1		
redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having			
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 pe	rmit		
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 Service	s 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 i			
manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D	i-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. 7:9I			
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protect	tion 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]	-1:4		
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not	vand		
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]

Well Permit Number **E201605156**

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 regular enumerated in the supporting documents which are agreed to by	tions. This permit is also subject to further conditions and stipulations 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	of Columbia Zip Code: 20006		
PROPOSED WELL LOCATION Facility Name: FUSRAP Maywood Project Address: 100 W HUNTER AVE / MISS01BR confirmed by cl	ient / 5845		
County: Bergen Municipality: Rochelle Park Two			
Easting (X): 610243 Northing (Y): 752686 Coordinate System: NJ State Plane (NAD83) - USFEET SITE CHARACTERISTICS	Local ID: MISS01BR		
PROPOSED CONSTRUCTION			
WELL USE: MONITORING	Other Use(s):		
Diameter (in.): 2 Depth (ft.): 55	Regulatory Program Requiring Wells/Borings: Case ID Number:		
Pump Capacity (gpm): 0	Deviation Requested: N		
Drilling Method: Air Rotary/HSA			
Attachments:			
SPECIFIC CONDITIONS/REQUIREMENTS			

Approved by the authority of:

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Bob Martin Commissioner Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605156

WELL PERMIT

	New Well		
DEVIATION INFORMATION	ON .		
Purpose:			
Unusual Conditions:			
Reason for Deviation:			
Proposed Well Construction			
GENERAL CONDITIONS/R	REQUIREMENTS		
A copy of this permit shall be k	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	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is		
obtained from the Bureau of W	ater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey		
Department of Environmental I	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 installat	ion 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, [N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.		
	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of		
	nd Well Permitting. [N.J.A.C. 7:9D-1]		
	langed 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 own	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or		
public non-community water su	apply wells), the well must be constructed as a Category 1 well per the Well Construction and		
Abandonment Regulations at N	I.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well		
	rater 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			
	perty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]		
	constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit		
	en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation		
	electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal		
	on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]		
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a		
	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]			
	I not be construed in any way to affect the title or ownership of property, and shall not make the New		
	nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]		
	Il 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			
inis permit conveys no rights, e	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]		
	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid		
and no work shall be undertaken	n 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]

Well Permit Number **E201605096**

WELL PERMIT

New Well

accompanying same application, and applicable laws and regular enumerated in the supporting documents which are agreed to by	tions. This permit is also subject to further conditions and stipulations	
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	of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MISS02AR confirmed by cl	lient / 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		
	nou & Planski	

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605096

WELL PERMIT

	New Well
DEVIATION INFORMATION	ON .
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/R	
A copy of this permit shall be k	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of W Department of Environmental I completed.[N.J.A.C. 7:9D-1]	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is a fater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
All well drilling/pump installat	ion 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, [N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.
	r is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of nd Well Permitting. [N.J.A.C. 7:9D-1]
	anged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water su Abandonment Regulations at N redesignated as a community w Master well driller on-site at all Regulations. Otherwise, the Ne	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and I.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well rater supply well, the well must be constructed by a Master well driller, which would include having a times during construction of the well, as specified in the Well Construction and Abandonment we Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new
well would have to be installed	
	perty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writte notification shall be submitted of	constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandon manner satisfactory to the New seq. [N.J.A.C. 7:9D-1]	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
Jersey Department of Environm	I not be construed in any way to affect the title or ownership of property, and shall not make the New tental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1] I 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	
This permit conveys no rights, e	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This manuals do no - as arraines show	-h4-1-1

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]

Well Permit Number **E201605097**

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.		3	
Company Address: PO BOX 423 WEST CREEK, NJ		·	
PROPERTY OWNER			
Name: NA UNITED STATES OF AMERICA			
Organization: United States of America			
Address: 1800 Pennsylvania Ave			
City: Washington State: District o	f Columbia	Zip Code: 20006	
PROPOSED WELL LOCATION			
Facility Name: FUSRAP Maywood Project			
Address: 100 W HUNTER AVE / MISS02BR confirmed by cl	ient / 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	ne:	
Diameter (in.): 2 Depth (ft.): 22	Case ID Number	gs:	
Pump Capacity (gpm): 0		N	
Drilling Method: Hollow Stem Augers	Dovimon requested.		
Attachments:			
SPECIFIC CONDITIONS/REQUIREMENTS			
	•	•	
· · · · · · · · · · · · · · · · · · ·			
		Jerry D. P. Variski	

Approved by the authority of:

Bob Martin

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Commissioner

Terry Pilawski, Chief Bureau of Water Allocation and Well Permitting

Well Permit Number E201605097

WELL PERMIT

	New Well
DEVIATION INFORMATION	ON
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/I	
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]
obtained from the Bureau of W	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is /ater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
All well drilling/pump installar	tion 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 [N.J.A.C. 7:9D-1]	, the well approved in this permit shall be constructed within one year of the effective date of the permit.
	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be che 7:9D-1]	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
If you or a future property own	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or
	upply wells), the well must be constructed as a Category 1 well per the Well Construction and
	N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well
	vater supply well, the well must be constructed by a Master well driller, which would include having a
	l times during construction of the well, as specified in the Well Construction and Abandonment
well would have to be installed	ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new I. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Pro	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writt notification shall be submitted	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal and the Author of this power DLLA C. 7000.
In the event this well is should	on: by the expiration date of this permit.[N.J.A.C. 7:9D-1] ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a
	Persey 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 sha	Il not be construed in any way to affect the title or ownership of property, and shall not make the New
	mental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
any future application. [N.J.A.6]	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on 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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201610593

WELL PERMIT

New Well

accompanying same applic	nt of Environmental Protection grants ation, and applicable laws and regulat ng documents which are agreed to by	tions. This permit is also	subject to further conditions an	
Certifying Driller: NICHOLAS A FALLUCCA, JOURNEYMAN LICENSE # 0001302				
Permit Issued to:	SGS NORTH AMERICA INC.			
Company Address:	PO BOX 423 WEST CREEK, NJ	08092	ar	
PROPERTY OWNER				
Name: NA STEPAN	CHEMICAL COMPANY			
Organization: Stepan Che	emical Company			
Address: 22 West Fronta	•			
City: Northfield	State: Illinois		Zip Code: 60093	,
PROPOSED WELL LOC	CATION			
Facility Name: FUSRAP	Maywood Project			
Address: 100 W HUNTE	R AVE / MISS04AR confirmed by cl	ient		
County: Bergen	Municipality: Maywood Boro	Lot: 31.01	Block: 124	
Easting (X): 610499	Northing (Y): 751834	Local ID:	MISS04AR	
Coordinate System: 1	NJ State Plane (NAD83) - USFEET			
SITE CHARACTERIST	ics .			
PROPOSED CONSTRUC	CTION			
WELL USE: MONITOR	RING			<u> </u>
Diameter (in.): 2	·	Regulatory Program Requiring Wells/Boring	gs:	
			N	
Drilling Method: Hollow	Stem Augers			
Attachments:				
SPECIFIC CONDITION	S/REQUIREMENTS			
	<u>`</u>			<u>.</u>
		•		
	·		-	
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			Jerry D. P.	austi

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201610593

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 approva obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jer 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]	f
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 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 of 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 P Submit Well Permit Cancellation: by the expiration date of this permit.[N.J.A.C. 7:9D-1]	ortal
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 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 any future application. [N.J.A.C. 7:9D-1]	ı on
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 valiand 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]	d

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number **E201608024**

WELL PERMIT

New Well

	lations. This permit is also subject to further conditions and stipulations by the permittee upon acceptance of the permit	
Certifying Driller: NICHOLAS A FALLUCCA, JOUR	tifying 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		
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: Rear Rochelle Ave / MISS07AR confirmed by clie	nt / 5845	
County: Bergen Municipality: Rochelle Park T		
Easting (X): 610203 Northing (Y): 752361	Local ID: MISS07AR	
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		
	Jerry D. P. Lawski	

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608024

WELL PERMIT

New Well		
DEVIATION INFORMATION	ON	
Purpose:		
Unusual Conditions:		
Reason for Deviation:		
Proposed Well Construction		
CENEDAL CONDUCTORO	DECLUDEMENTS	
GENERAL CONDITIONS/I		
A copy of this permit shall be i	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1] ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is	
obtained from the Bureau of W Department of Environmental completed.[N.J.A.C. 7:9D-1]	Vater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is	
All well drilling/pump installat	tion 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 [N.J.A.C. 7:9D-1]	, the well approved in this permit shall be constructed within one year of the effective date of the permit.	
If the pump capacity applied for	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of und Well Permitting. [N.J.A.C. 7:9D-1]	
If the use of the well is to be ch	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.	
7:9D-1]		
	her intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and	
	N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well	
	vater supply well, the well must be constructed by a Master well driller, which would include having a I times during construction of the well, as specified in the Well Construction and Abandonment	
	ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new	
well would have to be installed	l. [N.J.A.C. 7:9D-1.7((a))1i]	
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]	
	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit	
	en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation	
	electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]	
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a	
	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]		
	ll not be construed in any way to affect the title or ownership of property, and shall not make the New	
	nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]	
any future application. [N.J.A.C	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on 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	

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number **E201605108**

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants accompanying same application, and applicable laws and regulat enumerated in the supporting documents which are agreed to by	tions. This permit is also subject to further conditions and stipulations
Certifying Driller: NICHOLAS A FALLUCCA, JOURN	NEYMAN 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	f Columbia Zip Code: 20006
PROPOSED WELL LOCATION	
Facility Name: FUSRAP Maywood Project	
Address: 100 W HUNTER AVE / OVPZ-17R confirmed by cli	ient / 5845
County: Bergen Municipality: Rochelle Park Twp	
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
Diameter (in.): 2	Requiring Wells/Borings:
Depth (ft.): 20 Pump Capacity (gpm): 0	Case ID Number: Deviation Requested: N
Drilling Method: Hollow Stem Augers	Deviation requested. 1
Attachments:	
SPECIFIC CONDITIONS/REQUIREMENTS	
·	
	near & Plancki

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605108

WELL PERMIT

•	New Well	
DEVIATION INFORMATION	ON	_
Purpose:		
Unusual Conditions:		_
	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	
Reason for Deviation:		
Proposed Well Construction		
CENEDAL CONDUCTORS	DECLUDEMENTS	_
GENERAL CONDITIONS/I		
A copy of this perint shall be	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]	
obtained from the Bureau of W	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is atter Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is	
All well drilling/pump installar	tion 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 [N.J.A.C. 7:9D-1]	, the well approved in this permit shall be constructed within one year of the effective date of the permit.	
	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of	
	nd Well Permitting. [N.J.A.C. 7:9D-1]	
If the use of the well is to be cl 7:9D-1]	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.	
	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or	
	upply wells), the well must be constructed as a Category 1 well per the Well Construction and	
	I.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well	
	vater supply well, the well must be constructed by a Master well driller, which would include having a	
	l times during construction of the well, as specified in the Well Construction and Abandonment	
	ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new	
well would have to be installed		
In accepting this permit the Pro	perty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]	_
	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation	
	electronically through the New Jersey Department of Environmental Protection's Regulatory Services Porta	<u>. 1</u>
	on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]	11
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a	_
	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]	Total Department of Environmental Protection in accordance with the provisions of Passaries. Fish Passaries	
	ll not be construed in any way to affect the title or ownership of property, and shall not make the New	_
	nental 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 sha	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on	ī
any future application. [N.J.A.G	C. 7:9D-1]	
	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]	_
	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]

Well Permit Number **E201605093**

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments

enumerated in the supporting documents which are agreed to by		
Certifying Driller: NICHOLAS A FALLUCCA, JOUR	NEYMAN 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	of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MW-3SR confirmed by client	ent / 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		
PROPOSED CONSTRUCTION WELL USE: MONITORING	Other Use(s):	
WELL USE: MONITORING	Regulatory Program	
WELL USE: MONITORING Diameter (in.): 2	Regulatory Program Requiring Wells/Borings:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 22 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605093

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 writte	
obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the	
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 approve	/al. [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	
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 the	
redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include	
Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonme	
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]	17
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D	
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of	
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 Fortai
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 decommiss	ionad in p
manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C	
seq. [N.J.A.C. 7:9D-1]	7. 7.9D-1 Ct
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	the New
Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.	
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental	
any future application. [N.J.A.C. 7:9D-1]	1 TOLOGUEON ON
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:	

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number E201605094

WELL PERMIT

New Well

	tions. 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	·	
	f Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MW-3DR confirmed by clie	ent / 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		
	Jerry D. Planski	

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605094

	New Well
DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
	· · · · · · · · · · · · · · · · · · ·
GENERAL CONDITIONS/REQUIRE	EMENTS
	worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
	well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is
obtained from the Bureau of Water Syste	ems 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 activity	ties shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
[N.J.A.C. 7:9D-1]	approved in this permit shall be constructed within one year of the effective date of the permit.
	nan 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of
the Bureau of Water Systems and Well P	ermitting. [N.J.A.C. 7:9D-1]
	well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
7:9D-1]	THE PROPERTY OF THE PROPERTY O
	to redesignate this well as a Category 1 well (domestic, non-public, community water supply or
	ls), the well must be constructed as a Category 1 well per the Well Construction and
	0D-1.1 et seq. In addition, if the current or future property owner intends to have this well
	ly well, the well must be constructed by a Master well driller, which would include having a
	ring construction of the well, as specified in the Well Construction and Abandonment
	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	
	ner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
	ted the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit
	al is obtained from the Bureau of Water Systems and Well Permitting the Cancellation
	ally through the New Jersey Department of Environmental Protection's Regulatory Services Portal
In the executive well is should need the C	e expiration date of this permit.[N.J.A.C. 7:9D-1] Owner or Well driller shall assume full responsibility for having the well decommissioned in a
manner satisfactory to the New Jersey De	epartment 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]	spartinent of Environmental Protection in accordance with the provisions of N.J.A.C. 7.7D-1 of
	onstrued in any way to affect the title or ownership of property, and shall not make the New
	tection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	eemed 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]	
	ressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	of Federal or other State or local Government consent when necessary. This permit is not valid
, i	ch time as all other required approvals and permits have been obtained IN LA C 7-9D-11

This permit is NONTRANSFERABLE [N.J.A.C, 7:9D]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605111

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 regula enumerated in the supporting documents which are agreed to by		
Certifying Driller: NICHOLAS A FALLUCCA, JOURI	NEYMAN 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	of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MW-43SR confirmed by cl	ient / 5845	
County: Bergen Municipality: Rochelle Park Tw	p Lot: 1 Block: 19.01	
Easting (X): 610249 Northing (Y): 752507	Local ID: MW-43SR	
Coordinate System: NJ State Plane (NAD83) - USFEET		
SITE CHARACTERISTICS		
PROPOSED CONSTRUCTION		
PROPOSED CONSTRUCTION WELL USE: MONITORING	Other Use(s):	
WELL USE: MONITORING	Regulatory Program	
WELL USE: MONITORING Diameter (in.): 2	Regulatory Program Requiring Wells/Borings:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 20 Pump Capacity (gpm): 0 Drilling Method: Hollow Stem Augers Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	

Bob Martin Commissioner

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Approved by the authority of:

Terry Pilawski, Chief

Well Permit -- Page 1 of 2

Bureau of Water Allocation and Well Permitting

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605111

WELL PERMIT New Well

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

Purpose:		
Unusual Conditions:	•	
Reason for Deviation:		
Proposed Well Construction		
GENERAL CONDITIONS/I		
	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]	
	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is	
	/ater 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 installa	tion activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]	
	, 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	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of	
	and Well Permitting. [N.J.A.C. 7:9D-1]	
If the use of the well is to be cl	hanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.	
7:9D-1]		
	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or	
	upply wells), the well must be constructed as a Category 1 well per the Well Construction and	
	N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well	
	vater supply well, the well must be constructed by a Master well driller, which would include having a	
	I times during construction of the well, as specified in the Well Construction and Abandonment	
	ew 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]		
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]	
	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit	
	en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation	
	electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal	
	on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]	
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a	
	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]		
	ll not be construed in any way to affect the title or ownership of property, and shall not make the New	
	nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]	
	ll 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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605095

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants accompanying same application, and applicable laws and regula enumerated in the supporting documents which are agreed to by	tions. This permit is also subje	ect to further conditions and stipulations
Certifying Driller: NICHOLAS A FALLUCCA, JOUR	NEYMAN LICENSE # 00013	02
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	of Columbia Zip	Code: 20006
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project	•	
Address: 100 W HUNTER AVE / MW-44S confirmed by clie	ent / 5845	
County: Bergen Municipality: Maywood Boro	Lot: 46	Block: 124
Easting (X): 610713 Northing (Y): 752572 Coordinate System: NJ State Plane (NAD83) - USFEET	Local ID: _MV	V-44S
SITE CHARACTERISTICS		
	UJRAURA AURE	
PROPOSED CONSTRUCTION		
WELL USE: MONITORING	Other Use(s):	
Diameter (in) 2	Regulatory Program	
Diameter (in.): 2		<u> </u>
Depth (ft.): 22		
Pump Capacity (gpm): 0	Deviation Requested: N	
Drilling Method: Hollow Stem Augers		
Attachments:		
SPECIFIC CONDITIONS/REQUIREMENTS		
SI BOILTO COMPITOTO/ME COMPINENTS		
	,	Derry D. P. lawski

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605095

WELL PERMIT

	New Well	
DEVIATION INFORMATION	N	
Purpose:		
Unusual Conditions:		
Reason for Deviation:		
Proposed Well Construction		
GENERAL CONDITIONS/RI	EQUIREMENTS	
A copy of this permit shall be ke	ept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]	
obtained from the Bureau of Wa	by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is ster Systems and Well Permitting the well record shall be submitted electronically through the New Jersey rotection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is	
	on 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, t [N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.	
the Bureau of Water Systems and	is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of d Well Permitting. [N.J.A.C. 7:9D-1]	
If the use of the well is to be cha 7:9D-1]	unged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.	
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]		
	perty 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]		
	not be construed in any way to affect the title or ownership of property, and shall not make the New ental 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 any future application. [N.J.A.C.	not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on 7:9D-1]	
	ither expressed, or implied to divert water. [N.J.A.C. 7:9D-1]	
	btaining of Federal or other State or local Government consent when necessary. This permit is not valid until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]	
This permit is NONTRANSFER		

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605158

WELL PERMIT

New Well

	s 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	of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MW-45D confirmed by client	ent / 5845	
County: Bergen Municipality: Rochelle Park Tw	vp Lot: 1 Block: 20.01	
Easting (X): 610433 Northing (Y): 752385	Local ID: MW-45D	
Coordinate System: NJ State Plane (NAD83) - USFEET		
SITE CHARACTERISTICS		
PROPOSED CONSTRUCTION		
PROPOSED CONSTRUCTION WELL USE: MONITORING	Other Use(s):	
WELL USE: MONITORING	Regulatory Program	
WELL USE: MONITORING Diameter (in.): 2	Regulatory Program Requiring Wells/Borings:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:	

Bob Martin

Approval Date: May 2, 2016

Expiration Date: May 2, 2017

Commissioner

Terry Pilawski, Chief Bureau of Water Allocation and Well Permitting

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605158

WELL PERMIT

	New Well
DEVIATION INFORMATION	ON
Purpose:	
Unusual Conditions:	
Reason for Deviation:	· · · · · · · · · · · · · · · · · · ·
Proposed Well Construction	
Proposed well Construction	
GENERAL CONDITIONS/I	REQUIREMENTS
	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 submitt	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is
obtained from the Bureau of W	Vater 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]	•
	tion activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
	, 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]	
	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of
	and Well Permitting. [N.J.A.C. 7:9D-1]
	hanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
7:9D-1]	
nublic non community water s	ner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and
	N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well
	vater supply well, the well must be constructed by a Master well driller, which would include having a
	Il times during construction of the well, as specified in the Well Construction and Abandonment
	lew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new
well would have to be installed	
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit
	ten 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 Cancellati	on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
	oned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a
	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]	
	ll not be construed in any way to affect the title or ownership of property, and shall not make the New
	nental 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 sha	all not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
any future application. [N.J.A.	
	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid
and no work shan de undertake	en until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]

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

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number E201605091

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: Distric	t of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MW-46S confirmed by cl		
County: Bergen Municipality: Maywood Boro	Lot: 46 Block: 124	
Easting (X): 610766 Northing (Y): 752397 Local ID: MW-46S 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.):	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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605091

WELL PERMIT

	New Well
DEVIATION INFORMATION	V
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/RE	QUIREMENTS
A copy of this permit shall be ke	pt at the worksite / on the property and shall be exhibited upon request. [N.J.A.C, 7:9D-1]
obtained from the Bureau of Wat	by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is the Systems and Well Permitting the well record shall be submitted electronically through the New Jersey otection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	n 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 [N.J.A.C. 7:9D-1]	he well approved in this permit shall be constructed within one year of the effective date of the permit.
If the pump capacity applied for it the Bureau of Water Systems and	is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of I Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be char 7:9D-1]	nged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water sup Abandonment Regulations at N.J redesignated as a community wat Master well driller on-site at all ti	intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or ply wells), the well must be constructed as a Category 1 well per the Well Construction and I.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well ter supply well, the well must be constructed by a Master well driller, which would include having a times during construction of the well, as specified in the Well Construction and Abandonment of Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new N.J.A.C. 7:9D-1.7((a))11
	erty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior written notification shall be submitted ele Submit Well Permit Cancellation	constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation ectronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
manner satisfactory to the New Joseq. [N.J.A.C. 7:9D-1]	ed, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a ersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
The granting of this permit shall a	not be construed in any way to affect the title or ownership of property, and shall not make the New ntal 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.	
	ther expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	btaining of Federal or other State or local Government consent when necessary. This permit is not valid

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number **E201605092**

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, JOUR	NEYMAN LICENSE # 0001302	
Permit Issued to: SGS NORTH AMERICA INC.		
Company Address: PO BOX 423 WEST CREEK, NJ		
PROPERTY OWNER		
Name: NA UNITED STATES OF AMERICA		
Organization: United States of America		
Address: 1800 Pennsylvania Ave		
City: Washington State: District of	of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MW-46D confirmed by clie	ent / 5845	
County: Bergen Municipality: Maywood Boro	Lot: 46 Block: 124	
Easting (X): 610753 Northing (Y): 752391 Coordinate System: NJ State Plane (NAD83) - USFEET		
SITE CHARACTERISTICS		
SATE CHARACTERISTICS		
PROPOSED CONSTRUCTION		
WELL USE: MONITORING	Other Use(s):	
	Regulatory Program	
Diameter (in.): 2	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		
SI BEITTE CONDITIONS/REQUIREMENTS		
	Jerry D. P. lauski	

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605092

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 Permittin	g. Unless prior written approval is
obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted elec	
Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within nine completed.[N.J.A.C. 7:9D-1]	ty (90) days after the well is
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-	
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 to	or 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-pu	blic, community water supply or
public non-community water supply wells), the well must be constructed as a Category 1 well per the W	ell Construction and
Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property ow	ner intends to have this well
redesignated as a community water supply well, the well must be constructed by a Master well driller, we	vhich would include having a
Master well driller on-site at all times during construction of the well, as specified in the Well Construction	
Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the we	ll 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 condi	tions [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 an	d Well Permitting of the permit
cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Peri	nitting the Cancellation
notification shall be submitted electronically through the New Jersey Department of Environmental Pro-	tection'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	
manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the	provisions of N.J.A.C. 7:9D-1 et
seg. [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	
Jersey Department of Environmental Protection or the State a party in any suit or question of ownership	
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department	nt 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 ne	cessary. This permit is not valid
and no work shall be undertaken until such time as all other required approvals and permits have been o	btained. [N.J.A.C. 7:9D-1]

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605110

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants accompanying same application, and applicable laws and regula enumerated in the supporting documents which are agreed to by	tions. This permit is also subject to further conditions and stipulations
Certifying Driller: NICHOLAS A FALLUCCA, JOURI	
Permit Issued to: SGS NORTH AMERICA INC.	
Company Address: PO BOX 423 WEST CREEK, NJ	
PROPERTY OWNER	
Name: NA UNITED STATES OF AMERICA	
Organization: United States of America	
Address: 1800 Pennsylvania Ave	
City: Washington State: District of	f Columbia Zip Code: 20006
PROPOSED WELL LOCATION	
Facility Name: FUSRAP Maywood Project	
Address: 100 W HUNTER AVE / MW-47S confirmed by clie	nt / 5845
County: Bergen Municipality: Rochelle Park Tw	p Lot: 1 Block: 20.01
Easting (X): 610410 Northing (Y): 752564 Coordinate System: NJ State Plane (NAD83) - USFEET	Local ID: MW-47S
SITE CHARACTERISTICS	
	· · · · · · · · · · · · · · · · · · ·
PROPOSED CONSTRUCTION	
WELL USE: MONITORING	Other Use(s):
Diameter (in): 2	Regulatory Program Requiring Wells/Borings:
Diameter (in.): 2 Depth (ft.): 20	Case ID Number:
Pump Capacity (gpm): 0	Deviation Requested: N
Drilling Method: Hollow Stem Augers	
Attachments:	·
SPECIFIC CONDITIONS/REQUIREMENTS	
·	Jerry D. Planski

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605110

WELL PERMIT New Well

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

Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/J	REQUIREMENTS
	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of W	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is Vater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	tion activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
	, the well approved in this permit shall be constructed within one year of the effective date of the permit.
the Bureau of Water Systems a	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of und Well Permitting. [N.J.A.C. 7:9D-1]
[7:9D-1]	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water s Abandonment Regulations at N redesignated as a community v Master well driller on-site at al	per intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and J.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well water supply well, the well must be constructed by a Master well driller, which would include having a 1 times during construction of the well, as specified in the Well Construction and Abandonment ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new l. [N.J.A.C. 7:9D-1.7((a))1i]
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writt notification shall be submitted	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandomanner satisfactory to the New seq. [N.J.A.C. 7:9D-1]	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
	Il not be construed in any way to affect the title or ownership of property, and shall not make the New nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on

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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605159

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 ()8092	
PROPERTY OWNER Name: NA UNITED STATES OF AMERICA		
Address: 1800 Pennsylvania Ave		
City: Washington State: District o	f Columbia	Zip Code: 20006
PROPOSED WELL LOCATION Facility Name: FUSRAP Maywood Project Address: 100 W HUNTER AVE / MW-47D confirmed by clie	nt / 5845	
County: Bergen Municipality: Rochelle Park Tw		Block: 20.01
Easting (X): 610405 Northing (Y): 752550 Coordinate System: NJ State Plane (NAD83) - USFEET		MW-47D
SITE CHARACTERISTICS		
	-	
PROPOSED CONSTRUCTION		
WELL USE: MONITORING	Other Use(s):	
Diameter (in.): 2	Regulatory Program Requiring Wells/Boring	ngs:
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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605159

WELL PERMIT

•	New Well
DEVIATION INFORMATION	ON
Purpose:	
Unusual Conditions:	· · ·
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/I	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	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is
obtained from the Bureau of W	ater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey
	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 installar	tion 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]	
	or 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 a	nd Well Permitting. [N.J.A.C. 7:9D-1]
	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
7:9D-1]	
	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or
	upply wells), the well must be constructed as a Category 1 well per the Well Construction and
	J.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well
	vater supply well, the well must be constructed by a Master well driller, which would include having a
	times during construction of the well, as specified in the Well Construction and Abandonment
	ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new
well would have to be installed	
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit
	en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation
	electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal
	on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a
	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]	
	Il not be construed in any way to affect the title or ownership of property, and shall not make the New
	nental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	ll 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	
	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1] obtaining of Federal or other State or local Government consent when necessary. This permit is not valid
	in until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
and no work shall be undertake	in units such time as an other required approvats and permits have been obtained, [N.J.A.C. 7.9D-1]

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number E201605155

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	470-40-	
Address: 1800 Pennsylvania Ave		
City: Washington State: District of	of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION	-	
Facility Name: FUSRAP Maywood Project	·	
Address: 100 W HUNTER AVE / MW-48S confirmed by clie	ent / 5845	
County: Bergen Municipality: Rochelle Park Tw	7p Lot: 1 Block: 20.01	
Easting (X): 610334 Northing (Y): 752704	Local ID: MW-48S	
Coordinate System: NJ State Plane (NAD83) - USFEET		
SITE CHARACTERISTICS		
STE CHIRECTERISTICS		
STIP CAMBRICIDAD TO		
PROPOSED CONSTRUCTION		
	Other Use(s):	
PROPOSED CONSTRUCTION WELL USE: MONITORING	Regulatory Program	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2	Regulatory Program Requiring Wells/Borings:	
PROPOSED CONSTRUCTION WELL USE: MONITORING	Regulatory Program	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	
PROPOSED CONSTRUCTION WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number: Deviation Requested: N	

Approval Date: May 2, 2016 Expiration Date: May 2, 2017 Approved by the authority of: Bob Martin Commissioner

Bureau of Water Allocation and Well Permitting

Well Permit -- Page 1 of 2

Terry Pilawski, Chief

Well Permit Number **E201605155**

WELL PERMIT

New Well

DEVIATION INFORMATIO	N .
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/R	EQUIREMENTS
	ept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of Wa	d by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is ater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
All well drilling/pump installati	on activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
[N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.
	r is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be charged 7:9D-1]	anged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water su Abandonment Regulations at N redesignated as a community wa Master well driller on-site at all	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or pply wells), the well must be constructed as a Category 1 well per the Well Construction and J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well atter supply well, the well must be constructed by a Master well driller, which would include having a times during construction of the well, as specified in the Well Construction and Abandonment aw Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Prop	perty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writte notification shall be submitted e	constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit on approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal in: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandon	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
	not be construed in any way to affect the title or ownership of property, and shall not make the New
The issuance of this permit shall any future application. [N.J.A.C	ental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1] I not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
	ither expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the o	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid
and no work shall be undertaken This nermit is NONTRANSFER	n until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]

Well Permit Number E201605154

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	of Columbia Zip Code: 20006	
PROPOSED WELL LOCATION		
Facility Name: FUSRAP Maywood Project		
Address: 100 W HUNTER AVE / MW-48D confirmed by clie		
County: Bergen Municipality: Rochelle Park Tw	p Lot: 1 Block: 20.01	
Easting (X): 610334 Northing (Y): 752702 Coordinate System: NJ State Plane (NAD83) - USFEET	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		
Drilling Method: Air Rotary/HSA		
Attachments:		
SPECIFIC CONDITIONS/REQUIREMENTS		
	. 0.	
	no X Plancki	

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 Number E201605154

	New Well
DEVIATION INFORMATION	ON
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/I	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 obtained from the Bureau of W. Department of Environmental completed.[N.J.A.C. 7:9D-1]	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is Vater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	tion activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
[N.J.A.C. 7:9D-1]	, the well approved in this permit shall be constructed within one year of the effective date of the permit.
If the pump capacity applied for the Bureau of Water Systems a	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of and Well Permitting. [N.J.A.C. 7:9D-1]
7:9D-1]	hanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water s Abandonment Regulations at N redesignated as a community v Master well driller on-site at al	ner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well water supply well, the well must be constructed by a Master well driller, which would include having a li times during construction of the well, as specified in the Well Construction and Abandonment lew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new
	operty 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 no cancellation. Unless prior writt notification shall be submitted Submit Well Permit Cancellati	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit ten approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abando	oned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a value per Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
The granting of this permit sha	Il not be construed in any way to affect the title or ownership of property, and shall not make the New nental 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 sha any future application. [N.J.A.	all not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the and no work shall be undertake	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid on until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFE	RABLE [N.J.A.C. 7:9D]

Well Permit Number E201607079

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 regule enumerated in the supporting documents which are agreed to be	ations. This permit is also subject to further conditions and stipulations y the permittee upon acceptance of the permit		
Certifying Driller: NICHOLAS A FALLUCCA, JOUI	RNEYMAN 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 Je	rsey 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 T	wp 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		
Diameter (in.): 2 Depth (ft.): 20	Requiring Wells/Borings: Case ID Number:		
Pump Capacity (gpm): 0	Deviation Requested: N		
Drilling Method: Hollow Stem Augers	Deviation residence:		
Attachments:			
SPECIFIC CONDITIONS/REQUIREMENTS			
	•		
	0 > 01		

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201607079

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]
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 Porta 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]

Well Permit Number **E201607077**

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 Twp State: New Jersey Zip Code: 07662			
PROPOSED WELL LOCATION			
Facility Name: 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 Local ID: MW-51D			
Coordinate System: NJ State Plane (NAD83) - USFEET	•		
SITE CHARACTERISTICS			
PROPOSED CONSTRUCTION			
WELL USE: MONITORING Other Use(s):			
Regulatory Program Diameter (in.): 6 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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201607077

WELL PERMIT

	New Well
DEVIATION INFORMATION	ON
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/I	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]
obtained from the Bureau of W Department of Environmental completed.[N.J.A.C. 7:9D-1]	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is /ater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	tion 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 [N.J.A.C. 7:9D-1]	, the well approved in this permit shall be constructed within one year of the effective date of the permit.
If the pump capacity applied for	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of und Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be of	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
7:9D-1]	langed a went permit for the proposed use of the went shall be submitted for review and approval. [14.5.1.c.
public non-community water s	ner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and
	N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well
	water supply well, the well must be constructed by a Master well driller, which would include having a
	I times during construction of the well, as specified in the Well Construction and Abandonment
Regulations. Otherwise, the N well would have to be installed	ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new I. [N.J.A.C. 7:9D-1.7((a))1i]
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writt notification shall be submitted	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a
	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 sha	ll not be construed in any way to affect the title or ownership of property, and shall not make the New
Jersey Department of Environm	nental 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 sha	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
any future application. [N.J.A.0	C. 7:9D-1]
	either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
	obtaining of Federal or other State or local Government consent when necessary. This permit is not valid
and no work shall be undertake	n 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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number **E201609990**

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants accompanying same application, and applicable laws and regular enumerated in the supporting documents which are agreed to by	tions. This permit is also subject to further conditions and stipulations
Certifying Driller: NICHOLAS A FALLUCCA, JOURN	NEYMAN 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 Jers	ey Zip Code: <u>07662</u>
PROPOSED WELL LOCATION	
Facility Name: FUSRAP Maywood Project	
Address: near 107 Parkway / MW-52S confirmed by client / 58	
County: Bergen Municipality: Rochelle Park Tw	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:	
<u></u>	
SPECIFIC CONDITIONS/REQUIREMENTS	
·	Gerry D. P. lawski

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201609990

WELL PERMIT New Well

DEVIATION INFORMATION	ON	
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-11 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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201609991

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 TOWNSHIP OF ROCHELLE PARK	100		
Organization: Township of Rochelle Park	May -		
Address: 151 West Passaic Street			
City: Rochelle Park State: New Jers	ey Zip Code: <u>07662</u>		
PROPOSED WELL LOCATION	•		
Facility Name: FUSRAP Maywood Project	0.45		
Address: near 107 Parkway / MW-52D confirmed by client / 5 County: Bergen Municipality: Rochelle Park Tw			
Easting (X): 609285 Northing (Y): 752011 Coordinate System: NJ State Plane (NAD83) - USFEET	Local ID: MW-52D		
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:			
A. S			
SPECIFIC CONDITIONS/REQUIREMENTS			
	<u> </u>		
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	Mars & Planck		

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201609991

WELL PERMIT

	New Well
DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/RE	QUIREMENTS
	pt 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 Wat	er Systems and Well Permitting the well record shall be submitted electronically through the New Jersey
	otection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
completed.[N.J.A.C. 7:9D-1]	n 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 well dtl	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]	ie wen approved in this permit shan be constructed within one year of the enective date of the permit.
	is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of
	Well Permitting. [N.J.A.C. 7:9D-1]
	nged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
7:9D-1]	
	intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or
	ply wells), the well must be constructed as a Category 1 well per the Well Construction and
	A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well
	er supply well, the well must be constructed by a Master well driller, which would include having a
	imes during construction of the well, as specified in the Well Construction and Abandonment
well would have to be installed.	Viersey Department of Environmental Protection will not allow the well to be redesignated, and a new
	erty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
	onstructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit
	approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation
	ectronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal
	by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandone	d, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a
	ersey 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 provisions of Environmental Procession in accordance with the provisions of 14.54 t.e. 1.55 x every
	not be construed in any way to affect the title or ownership of property, and shall not make the New
	ntal Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	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.	
	her expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the ob	otaining of Federal or other State or local Government consent when necessary. This permit is not valid
and no work shall be undertaken u	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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608452

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, JOURN	NEYMAN LICENSE # 0	001302		
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		·		
Àddress: 15 Park Avenue				
City: Maywood Boro State: New Jerse	еу	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/Boring	gs:		
Depth (ft.): 55				
Depui (i). 55	Case ID Number:		_	
Pump Capacity (gpm): 0		N		
		N		
Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA				
Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA				
Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA				
Pump Capacity (gpm): 0 Drilling Method: _Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:			
Pump Capacity (gpm): 0 Drilling Method: _Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:			
Pump Capacity (gpm): 0 Drilling Method: _Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:	N		
Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:	N		
Pump Capacity (gpm): 0 Drilling Method: _Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:			
Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:	N		
Pump Capacity (gpm): 0 Drilling Method: _Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:	N		
Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Deviation Requested:	N		

Approval Date: July 15, 2016 Expiration Date: July 15, 2017 Bob Martin

Commissioner

Terry Pilawski, Chief Bureau of Water Allocation and Well Permitting

PO BOX 420 Trenton, NJ 08625-0420 Tei: 609-984-6831

Well Permit Number E201608452

WELL PERMIT

	New Well
DEVIATION INFORMATION	ON .
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
Troposed Well Constitution	
GENERAL CONDITIONS/F	EQUIREMENTS
A copy of this permit shall be l	kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of W	ed by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is a vater Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
All well drilling/pump installat	ion activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
[N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.
	or is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be ch 7:9D-1]	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
public non-community water su Abandonment Regulations at N redesignated as a community w Master well driller on-site at al	er intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or upply wells), the well must be constructed as a Category 1 well per the Well Construction and I.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well vater supply well, the well must be constructed by a Master well driller, which would include having a l times during construction of the well, as specified in the Well Construction and Abandonment ew Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new [N.J.A.C. 7:9D-1.7((a))1i]
	operty 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 cancellation. Unless prior writt notification shall be submitted	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abando	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
The granting of this permit shall Jersey Department of Environm	Il not be construed in any way to affect the title or ownership of property, and shall not make the New nental 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 sha any future application. [N.J.A.C	Il not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on C. 7:9D-1]
	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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608451

WELL PERMIT

New Well

accompanying same application, and applicable laws and regula enumerated in the supporting documents which are agreed to by	tions. This permit is also	subject to fu	
Certifying Driller: NICHOLAS A FALLUCCA, JOUR	NEYMAN LICENSE # 00	01302	
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 Jers	sey	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			
PROPOSED CONSTRUCTION WELL USE: MONITORING	Other Use(s):		
WELL USE: MONITORING	Regulatory Program		
WELL USE: MONITORING Diameter (in.): 2	Regulatory Program Requiring Wells/Boring	gs:	***
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55	Regulatory Program Requiring Wells/Boring Case ID Number:	gs:	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	***
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0 Drilling Method: Air Rotary/HSA Attachments: SPECIFIC CONDITIONS/REQUIREMENTS	Regulatory Program Requiring Wells/Boring Case ID Number: Deviation Requested:	N	

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

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608451

WELL PERMIT

•	New Well
DEVIATION INFORMATIO	N
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/RI	
A copy of this permit shall be ke	ept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
obtained from the Bureau of Wa	by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is ster Systems and Well Permitting the well record shall be submitted electronically through the New Jersey rotection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is
	on 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, [N.J.A.C. 7:9D-1]	the well approved in this permit shall be constructed within one year of the effective date of the permit.
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 d Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed 7:9D-1]	anged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
If you or a future property owne public non-community water sur Abandonment Regulations at N. redesignated as a community was Master well driller on-site at all Regulations. Otherwise, the New Well would have to be installed.	
	perty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writter notification shall be submitted e Submit Well Permit Cancellation	constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit n approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation lectronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal n: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
manner satisfactory to the New J seq. [N.J.A.C. 7:9D-1]	ed, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
	not be construed in any way to affect the title or ownership of property, and shall not make the New ental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
	not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on
This permit conveys no rights, e	ither expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the o	btaining 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]

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608454

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 Jers	sey Zip Code: <u>07607</u>	
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 Coordinate System: NJ State Plane (NAD83) - USFEET	Local ID: MW-54S	
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		
	•.	
· · · · · · · · · · · · · · · · · · ·		
	Man & Plancki	

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 Number E201608454

WELL PERMIT

	New Well
DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
GENERAL CONDITIONS/I	
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 installar	tion 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 [N.J.A.C. 7:9D-1]	, the well approved in this permit shall be constructed within one year of the effective date of the permit.
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 ch 7:9D-1]	nanged a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C.
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]	
	operty Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
cancellation. Unless prior writt notification shall be submitted	t constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit en approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal on: by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abando manner satisfactory to the New seq. [N.J.A.C. 7:9D-1]	ned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et
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

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 conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]

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

any future application. [N.J.A.C. 7:9D-1]

This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]

Well Permit Number **E201608453**

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants accompanying same application, and applicable laws and regula			tions
enumerated in the supporting documents which are agreed to by			
Certifying Driller: NICHOLAS A FALLUCCA, JOUR	NEYMAN LICENSE # 000	1302	
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 Jers	sey 2	Zip Code: 07607	
PROPOSED WELL LOCATION	·		
Facility Name: FUSRAP Maywood Project	·		
Address: Eccelston Avenue / MW-54D confirmed by client		<u>-</u>	
County: Bergen Municipality: Maywood Boro	Lot: ROW	Block: ROW	
Easting (X): 611195 Northing (Y): 752788	Local ID:	∕W-54D	
Coordinate System: NJ State Plane (NAD83) - USFEET	_		
SITE CHARACTERISTICS			
PROPOSED CONSTRUCTION			
PROPOSED CONSTRUCTION WELL USE: MONITORING	Other Use(s):		
WELL USE: MONITORING	Regulatory Program	""	
WELL USE: MONITORING Diameter (in.): 2	Regulatory Program Requiring Wells/Borings:		
WELL USE: MONITORING	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): 2 Depth (ft.): 55 Pump Capacity (gpm): 0	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:		
WELL USE: MONITORING Diameter (in.): _2 Depth (ft.): _55 Pump Capacity (gpm): _0 Drilling Method: _Air Rotary/HSA Attachments:	Regulatory Program Requiring Wells/Borings: Case ID Number:		

Approved by the authority of:
Bob Martin

Approval Date: July 15, 2016

Expiration Date: July 15, 2017

Commissioner

ner

Terry Pilawski, Chief Bureau of Water Allocation and Well Permitting

Well Permit -- Page 1 of 2

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Wells

PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608453

WELL PERMIT

New Well	
DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	
CENEDAL CONDUCTOROUGHENTS	
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	
obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jerse	еy
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.0 7:9D-1]	Ċ.
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 I 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 Poly	rtal
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 greating of this normit shall not be construed in any year to affect the title or ownership of property, and shall not make the New	

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]

APPENDIX A

NJDEP WELL RECORD FOR MODIFIED AND NEW LTM WELLS

Well Permit Number **E201604681**

			1/10/11/1	OIGHTO TIE	DD ICCORD				
PROPERTY OWNER: NA UNITED STATES OF AMERICA									
Company/Org	ganization: _U	nited States of	America						
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006				
WELL LOC	ATION: FU	IRSRAP Mayv	vood Project						
Address: 10	0 W. HUNTE	R AVE. / BRF	PZ-2						
County: Be	rgen	_ Municipalit	y: Rochelle Pa	ırk Twp	Lot;1	Block: _1	9.01		
Facting (Y):	610357	Northing	(Y): <u>752112</u>		DATE WELLS	FARTED: April 25, 2	016		
			(1). <u></u>	EET n		PLETED: April 25, 2			
	PIEZOMET		. ,		ALE WELL COM	1 DE 1 ED . 11 pm 23, 2	.010_		
•	-				Local ID: BF	RPZ-2	<u>.</u>		
WELL CONSTRUCTION									
Total Depth	Drilled (ft.):_	62	Finished We	ell Depth (ft.):_	62	Well Surface: Abo	ve Grade		
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter Material Wgt/Rating/Screen # Used (lbs/ch no.)						
Borehole	0	40	10	s) (IDS/CII IIO.)					
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	Depth to	Outer	Inner		Material			
	Top (ft.)	Bottom (ft.)	Diameter (in.)	, ,	` /	Neat Cement (lbs.)	Water (gal.)		
Grout Grout	0	42 40	6 10	6	36 42	584 858	45 50		
Gravel Pack	40 .	62	6	2		#1 sand	30		
Grouting Met	hod: Pressure	e method (Trer	nie Pipe)	Dri	lling Method:				
ADDITIONA	L INFORMA	ATION	<u> </u>						
Protective Ca	sing: <u>Yes</u>				np Capacity: _ gpm				
Static Water I Water Level N		elow land surf	ace		al Design Head: _ ft lling Fluid:				
Well Develop					ll Rig: <u>DK-5</u>				
Method of De					alth and Safety Plan	Submitted? Yes			
Pump Type: ATTACHMI	ENTS:								
GEOLOGIC									
0 - 25: white t		Other fill			.				
25 - 38: red bi	own SM - Silt	y sands, sand-s	silt mixtures						
38 - 40: red bi									
40 - 62: red bi	own CR - Con	npetent Rock b	edrock			· 			
ADDITIONA	L INFORMA	ATION: well i	nstalled 2001 w	ith flush mount	. SGS modified to 8'	' stick up.			
Driller of Rec		M Eichfeld,	500040		Can	SGS NORTH AME	DICA INC		
Dunct of Kec	uia: iVIASTE	IN LIVENSE #	- 272040		Company:	- acta NUKLII AME	RICA INC.		

Well Permit Number **E201604691**

MONITORING WEDD RECORD									
PROPERTY	OWNER:	NA UNITED	STATES OF A	MERICA		<u> </u>			
Company/Or	ganization: _U	nited States of	America				<u> </u>		
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 200	006				
WELL LOC	ATION: FU	SRAP Maywo	od Project						
Address: 10	00 W. HUNTE	R AVE. / BRP	Z-3 confirmed	by client					
County: Be	rgen	Municipalit	y: Rochelle Pa	rk Twp	Lot: 1	Block: 19	9.01		
			(Y): <u>752062</u> NAD83) - USF	EET D.		FARTED: <u>April 25, 2</u> PLETED: April 25, 2			
WELL USE: PIEZOMETER									
Other Use(s): Local ID: BRPZ-3									
WELL CON	STRUCTION	i							
Total Depth	Drilled (ft.):_	57	Finished We	ell Depth (ft.):	57	Well Surface: Abo	ve Grade		
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		g/Screen # Used s/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		
İ	Depth to	Depth to	Outer	Inner		Material			
	Top (ft.)	Bottom (ft.)	Diameter (in.)	, ,		Neat Cement (lbs.)	Water (gal.)		
Grout Grout	0	37 35	6 10	6	584 658	36 42			
Gravel Pack	35	57	6	2	0.50	#1 sand			
Grouting Met	hod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Air	Rotary			
Protective Ca Static Water I Water Level M Well Develop		elow land surf tape 4 hrs.	ace	Tot Dril Dril	np Capacity: _ gpm al Design Head: _ ft Iling Fluid: Il Rig: <u>T-450</u> Ilth and Safety Plan		(
<u>ATTACHMI</u>	ENTS:								
GEOLOGIC									
	to black OT - C								
		y sands, sand-s							
		npetent Rock b							
				ith flush mount	SGS modified to 8	" stick up			
	Wesley	M Eichfeld,					NGA DIG		
Driller of Rec	ord: MASTE	R LICENSE #	592848		Company:	SGS NORTH AMER	CICA INC.		

Well Permit Number **E201604693**

			MONIT	ORING WE	LL RECURD				
PROPERTY	OWNER:	NA UNITED	STATES OF AN	MERICA				<u> </u>	
Company/Or	ganization: U	nited States of	America						
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 200	006		- -		
WELL LOC	ATION: FU	JSRAP Maywo	od Project						
Address: 10	00 W HUNTE	R AVE / BRP2	C-4 confirmed by	client/					
County: Be	rgen	Municipalit	y: Rochelle Pa	rk Twp	Lot: 1		Block: 19	0.01	
			(Y): <u>752062</u> NAD83) - USFI	EET D	DATE WELL S				
WELL USE: PIEZOMETER Coordinate System: NJ State Plane (NAD83) - USFEET DATE WELL COMPLETED: April 25, 2016 WELL USE: PIEZOMETER									
Other Use(s): Local ID: BRPZ-4									
				· · · · · · · · · · · · · · · · · · ·	10cm 1D	<u> </u>			
WELL CONSTRUCTION									
Total Depth Drilled (ft.): 61 Finished Well Depth (ft.): 61 Well Surface: Above Grade								ve Grade	
	Depth to	Depth to	Diameter						
Borehole	Top (ft.) 0	Bottom (ft.)	(inches)	(lbs/ch no.)			s/cn no.)		
Borehole	40	61	6					<u> </u>	
Casing	0	40	6		Steel		19	lbs/schd	
Screen									
	Depth to	Depth to	Outer	Inner	···		Material		
	Top (ft.)	Bottom (ft.)		Diameter (in)	Bentonite (lbs.)	Ne	eat Cement (lbs.) Water (gal.)		
Grout	. 0	40	10	6	48		752	50	
Gravel Pack				-					
Grouting Met	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method: Air	Rota	гу		
Grouting Method: Pressure method (Tremie Pipe) ADDITIONAL INFORMATION Protective Casing: Yes Pump Capacity: _gpm Static Water Level: 25 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: air lift, surge, and pump Health and Safety Plan Submitted? Yes Pump Type:									
ATTACHMI	ENTS:								
GEOLOGIC 0 - 25: white t		Other fill							
		y sands, sand-s	ilt mixtures						
37 - 61: red bi	own CR - Cor	npetent Rock b	edrock						
			en hole 40-61" modified to stic	k up.					

Well Permit Number **E201604695**

MONITORING WELL RECORD

			MONII	UMING WE	LL RECURD					
PROPERTY	OWNER:	NA UNITED	STATES OF A	MERICA						
Company/Or	ganization: U	Inited States of	America							
			ngton, District o	of Columbia 20	006					
WELL LOC	ATION: FU	JSRAP Maywo	od Project			,				
Address: 10	OO W HUNTE	R AVE / BRPZ	Z-5							
				ırk Twp	Lot: 1	Block: _19	9.01			
			(Y): <u>752221</u> NAD83) - USE	EET 5		FARTED: April 25, 2				
Coordinate System: NJ State Plane (NAD83) - USFEET DATE WELL COMPLETED: April 25, 2016 WELL USE: PIEZOMETER										
Other Use(s): Local ID: BRPZ-5										
WELL CONSTRUCTION										
Total Depth	Drilled (ft.):			л рерти (п.):		Well Surface: Abo				
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)				g/Screen # Used os/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	Depth to	Outer	Inner		Material				
0	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)			
Grout Grout	0	40	6 10	6	36 48	584 752	30 45			
Gravel Pack	40	62	6	2	70	#1 sand				
	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method: Air l					
-	L INFORMA		•							
Protective Ca	sing: Yes			Pui	np Capacity: _ gpm					
		elow land surf	ace		al Design Head: _ ft	•				
	Measure Tool: ment Period: _				lling Fluid: Il Rig: <u>T-450</u>					
		<u>rge, air lift, pur</u>	mping		olth and Safety Plan	Submitted? Yes				
Pump Type:		-	-		_					
<u>ATTACHMI</u>	ENTS:									
GEOLOGIC										
		Other fill mater			· · · ·					
		ty sands, sand-seathered Rocks			,					
		npetent Rock b								
				:4 Al		-11 4 - 0# -4: -1				
AUULLIUNA	L INFURIMA	MITON: Well I	nstaned 2001 w	ilin a tiush moui	ii. 5G5 modified w	ell to 8" stick up protec	nive casing.			
			ı				•			
							<u></u>			
	Wesley	M Eichfeld,								

Company: SGS NORTH AMERICA INC.

Driller of Record: MASTER LICENSE # 592848

Well Permit Number **E201604708**

PROPERTY OWNER: NA UNITED STATES OF AMERICA									
Company/Org	ganization: U	nited States of	America						
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 20	006		<u> </u>		
WELL LOC	ATION: FU	JSRAP Maywo	od Project				··· ·		
Address: 10	00 W. HUNTE	R AVE. / BRP	Z-9						
County: Be	rgen	_ Municipalit	y: <u>Rochelle Pa</u>	rk Twp	_ Lot:_1	Block: _1	9.01		
Easting (X):	610296	Northing	(Y): 752290		DATE WELL S	TARTED: April 26, 2	2016		
Coordi	nate System: N	IJ State Plane (NAD83) - USF	EET D	ATE WELL COM	PLETED: April 26, 2	016		
WELL USE:	PIEZOMET	ΓER							
Other Use(s)	:				Local ID: BI	RPZ-9			
WELL CONSTRUCTION									
Total Depth Drilled (ft.): 56 Finished Well Depth (ft.): 56 Well Surface: Above Grade									
	Depth to	Depth to	Diameter		Material		g/Screen # Used		
Borehole	Top (ft.)	Bottom (ft.)	(inches)			(10	os/ch no.)		
Borehole	32	56	6						
Casing	0	32	6	Steel 19 lbs/schd					
Screen	Screen								
	Depth to	Depth to	Outer	Inner Material					
Count	Top (ft.)	Bottom (ft.)	Diameter (in.)	, ,		Neat Cement (lbs.)	Water (gal.)		
Grout Gravel Pack	0	32	10	6	48	752			
	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method: Air	Rotary			
_	L INFORM								
Protective Ca	sing: <u>Yes</u>				np Capacity: _ gpm				
	Level: <u>25</u> ft. b Measure Tool:	elow land surf	ace		al Design Head: _ f lling Fluid:	t.			
	ment Period:				ll Rig: <u>T-450</u>				
		rge, airlift, pun	np		alth and Safety Plan	Submitted? Yes			
ATTACHMI	ENTS:								
GEOLOGIC									
	to black OT - 0								
		ty sands, sand-s							
		eathered Rock :							
		ATION: 6" op sh mount. SGS	en hole 32-56' modified to stic	ck up.					
						-			
		M Eichfeld,							
Driller of Rec	ord: MASTE	ER LICENSE #	592848		Company:	SGS NORTH AME	RICA INC.		

Well Permit Number **E201604710**

		-	17201111	OIGINO WE	EE RECORD				
PROPERTY OWNER: NA UNITED STATES OF AMERICA									
Company/Or	ganization: U	nited States of	America						
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006				
WELL LOC	ATION: FU	JSRAP Maywo	od Project						
Address: G	ROVE AVEN	UE / MW34D							
County: Be	rgen	_ Municipalit	y: <u>Maywood E</u>	Вого	Lot: 45	Block: 12	24		
Easting (X):	610804	Northing	(Y): 752258		DATE WELL S	FARTED: April 26, 2	016		
Coordi	nate System: N	NJ State Plane (NAD83) - USF	EET D	ATE WELL COM	PLETED: April 26, 2	016		
WELL USE: MONITORING									
Other Use(s)					Local ID: M	W34D			
WELL CONSTRUCTION									
Total Depth	Drilled (ft.):_	53	Finished We	ell Depth (ft.):_	53	Well Surface: Abo	ve Grade		
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	É	Material		g/Screen # Used s/ch no.)		
Borehole	0	18	14			(IO	#OH 110.)		
Borehole	18	28	10						
Casing	0	28	. 6		Steel		19 lb		
Casing	. 0	18	10		Steel		40		
Screen									
	Depth to	Depth to	Outer	Inner		Material			
	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)		
Grout	0	28	10	6	47	859	73		
Grout Gravel Pack	0	18	14	10	45	828	70		
	thod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Air	Rotary			
ADDITIONA	AL INFORMA	ATION							
Protective Ca	sing: <u>Yes</u>				np Capacity: _ gpm				
	Level: <u>23</u> ft. b Measure Tool:	elow land surf	ace		al Design Head: _ fl				
	ment Period:				lling Fluid: Il Rig: <u>IRT4W</u>				
Method of De		,			olth and Safety Plan	Submitted? Yes			
Pump Type:			•						
ATTACHMI									
GEOLOGIC		r crushed stone	& mulch						
		ey sands, sand-							
	•	eathered Rock	<u> </u>						
ADDITIONA	AL INFORMA	ATION: 6" op	en hole well 28		1:6-11	- (l) : J - J - J - J	1011 atials are		
_wen instanted	∠uu∠ with 6" 8	100ve grade cas	ang. It was dan	laged and SGS I	modified by repairin	g 6" casing and adding	12 SUCK up.		
		M Eichfeld,			_	0-0-1			
Driller of Rec	ord: <u>MAS</u> TI	ER LICENSE #	592848		Company:	SGS NORTH AMER	UCA INC.		

Well Permit Number E201604771

			MONIT(<u>ORING WE</u>	LL RECORD				
PROPERTY	OWNER:	MOHAMMAD	BAJWA						
Company/Or	ganization: N	lohammad Baj	wa						
Address: 90) Parkway Roc	helle Park Tw	o, New Jersey 0	7662					
WELL LOC	CATION: FU	JSRAP Maywo	od Project		•				
			change. New pr	rot.casing/pad	· · · · · · · · · · · · · · · · · · ·				
County: Be	rgen	Municipalit	y: Rochelle Pa	rk Twp	Lot: 39.02	Block: 17.	.01		
Fasting (V)	600467	Northing	(V). 750411						
			(Y): <u>752411</u> NAD83) - USFI	EET D	DATE WELL STAR		<u></u> ,		
	Coordinate System: NJ State Plane (NAD83) - USFEET DATE WELL COMPLETED: May 4, 2016 WELL USE: MONITORING								
1.5					Local ID: B38W	145			
	•				Local ID. B30W	1+3			
	STRUCTION		T1 / 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
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		/Screen # Used /ch no.)		
Borehole	0	14	6	(los/en no.)					
Casing	0	5	2	Stainless Steel 316			316		
Screen	5	14	2	sta	inless steel		020		
	Depth to	Depth to	Outer	Inner		Material			
Grout	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.) No.	eat Cement (lbs.)	Water (gal.)		
Gravel Pack	3	. 14	6	2		#1 sand			
Grouting Method: Pressure method (Tremie Pipe) ADDITIONAL INFORMATION Protective Casing: Yes Pump Capacity: _ gpm Static Water Level: 8 ft. below land surface Total Design Head: _ ft. Water Level Measure Tool: tape Drilling Fluid: Well Development Period: 1 hrs. Drill Rig: Method of Development: pump Health and Safety Plan Submitted? Yes									
ADDITIONA Protective Ca Static Water I Water Level M Well Develop	AL INFORMA sing: Yes Level: 8 ft. be Measure Tool: oment Period: _	ATION low land surfatape 1 hrs.		Pur Tot Dri Dri	np Capacity: _ gpm al Design Head: _ ft. lling Fluid: ll Rig:	mitted? <u>Yes</u>			
ADDITIONA Protective Ca Static Water I Water Level N Well Develop Method of De	AL INFORMA sing: Yes Level: 8 ft. be Measure Tool: oment Period: _ evelopment: pu	ATION low land surfatape 1 hrs.		Pur Tot Dri Dri	np Capacity: _ gpm al Design Head: _ ft. lling Fluid: ll Rig:	mitted? <u>Yes</u>			
ADDITIONA Protective Ca. Static Water I Water Level N Well Develop Method of De Pump Type: ATTACHMI	AL INFORMA sing: Yes Level: 8 ft. be Measure Tool: oment Period: _ evelopment: pu	ATION low land surfatate tape 1 hrs. mp	ce	Pur Tot Dri Dri Hea	np Capacity: _ gpm al Design Head: _ ft. Iling Fluid: Il Rig: Ilth and Safety Plan Sub	mitted? <u>Yes</u>			
ADDITIONA Protective Ca Static Water I Water Level N Well Develop Method of De Pump Type: ATTACHMI GEOLOGIC 0 - 5: white to	AL INFORMA sing: Yes Level: 8 ft. be Measure Tool: bevelopment: pu ENTS: LOG black SP - Po	ATION Iow land surfatape 1 hrs. mp	ce ads and gravelly	Pur Tot Dri Dri Hea	np Capacity: _ gpm al Design Head: _ ft. Iling Fluid: Il Rig: Ilth and Safety Plan Sub	mitted? <u>Yes</u>			
ADDITIONA Protective Ca Static Water I Water Level N Well Develop Method of De Pump Type: ATTACHMI GEOLOGIC 0 - 5: white to 5 - 14: red bro	AL INFORMA sing: Yes Level: 8 ft. be Measure Tool: bevelopment: pu ENTS: LOG black SP - Po bwn SP - Poorl AL INFORMA	ATION low land surfatape 1 hrs. mp orly graded sarty graded sands	ds and gravelly and gravelly sa	Pur Tot Dri Dri Hea sands, little or n	np Capacity: _ gpm al Design Head: _ ft. Iling Fluid: Il Rig: Ilth and Safety Plan Sub		nd finished with a		

Record -- Page 1 of 1

Company: SGS NORTH AMERICA INC.

Wesley M Eichfeld,

Driller of Record: MASTER LICENSE # 592848

Well Permit Number **E201604770**

			MONT	Olding WE	LL RECORD				
PROPERTY	OWNER: _	MOHAMMAD	BAJWA						
Company/Or	ganization: <u>N</u>	10hammad Baj	wa						
Address: 90	Park Way Ro	ochelle Park Tv	vp, New Jersey	07607	11.50				
WELL LOC	ATION: FU	JSRAP Maywo	od Project						
Address: 90) Parkway / B3	88W14D Grade	change. New p	rot.casing/pad					
County: Be	rgen	_ Municipalit	y: Rochelle Pa	rk Twp	_ Lot: 39.02		Block: _1′	7.01	
			(Y): <u>752414</u> NAD83) - USFI	PRT _	DATE WELL ST				
	<u> </u>	······································	INADOS) - USITI	D.	ATE WELL COM	PLETI	ED: May 4, 20	16	
	: MONITOR								
Other Use(s)) :				Local ID: B3	8W141	D		
WELL CON	STRUCTION	1							
Total Depth	Drilled (ft.):_	52	Finished We	ell Depth (ft.):	52	Well S	Surface: Flus	sh Mount	
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material Wgt/Rating/Screen # Use (lbs/ch no.)				
Borehole	- 1 (****)	,	(
<u> </u>	·								
Screen									
•	Depth to	Depth to	Outer	Inner					
Grout	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.)	Neat	Cement (lbs.)	Water (gal.)	
Gravel Pack					•	<u> </u>			
Grouting Met	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method:				
Protective Ca Static Water I Water Level I	Level: _ ft. belomeasure Tool: oment Period: _	ow land surface	3	Tot Dri Dri	np Capacity: _ gpm al Design Head: _ fl Iling Fluid: Il Rig: ılth and Safety Plan	t.	tted?		
<u>ATTACHM</u>	ENTS:						•		
GEOLOGIC									
		ther fill materia			· ·				
		I-graded sands	and gravelly sar	nds, little or no i	ines				
					<u></u>				
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.									
	Wesley	M Eichfeld,							
Driller of Rec		ER LICENSE #	592848		Company:	SGS	NORTH AME	RICA INC.	

Well Permit Number E201605161

BB C BEB TV					EL RECORD				
	_		STATES OF A	MERICA					
Company/Or	ganization: <u>U</u>	Inited States of	America						
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006				
		JSRAP Maywo							
Address: 10	00 W HUNTE	R AVE / B38W	/18DR confirme	ed by client / 58	45				
County: Be	rgen	Municipalit	y: <u>Maywood E</u>	Boro	Lot: 46.01	Block: 124			
			(Y): <u>752226</u>	PPT -		'ARTED: June 14, 201			
			NAD83) - USF	EEI D	ATE WELL COM	PLETED: July 7, 2016			
	: MONITOR		•						
Other Use(s)):			<u> </u>	Local ID: B3	8W18DR			
WELL CONSTRUCTION									
Total Depth	Drilled (ft.):_	71	Finished We	ell Depth (ft.):_	71	Well Surface: Flush	Mount		
Depth to Depth to Diameter Material Wgt/Rating/Screen # Used Top (ft.) Bottom (ft.) (inches) (lbs/ch no.)									
Borehole	0	46	10						
Borehole	46	71	6						
Casing	0	46	6	6 Steel sch 40					
Screen									
	Depth to	Depth to	Outer	Inner		Material			
	Top (ft.)	Bottom (ft.)	Diameter (in.)			Neat Cement (lbs.)	Water (gal.)		
Grout Dool	0	46	10	6	45	1128	84		
Gravel Pack	Lade Descrip	o	uia Dina)	n	 				
-		e method (Trer	nie Pipe)	Dr	illing Method: <u>Air I</u>	Cotary			
Protective Car	L INFORMA	<u>ATION</u>		Dire	mp Capacity: gpm				
		below land sur:	face		tal Design Head: _ ft				
Water Level N	Measure Tool:	m scope		Dri	illing Fluid:				
	ment Period: _				Il Rig: schramm T 4:				
Method of De Pump Type:	velopment: all	<u> </u>		He	alth and Safety Plan	Submitted? <u>Yes</u>			
ATTACHMI	ENTS:					·			
GEOLOGIC	LOG								
0 - 15: black (
			d gravelly sands	s, little or no fir	les				
		ered Rock shale			····				
36 - 71: redish	1 CR - Compet	ent Rock shale	-						
ADDITIONA	L INFORMA	TION: open	rock hole						
•									
		•				•			
		•							
Driller of Pag	Larry L		NGE # 0024436		Componiu	CCS NODTH AMEDI	— — —		

Well Permit Number E201605089

	MONITORING WELL RECORD								
			STATES OF A	MERICA		•			
Company/Or	ganization: <u>U</u>	nited States of	America				****		
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006				
WELL LOC	ATION: FU	SRAP Maywo	od Project						
Address: 10	00 W HUNTE	R AVE / B38W	/25SR confirme	d by client / 584	45				
County: Be	rgen	_ Municipalit	y: Maywood E	Boro	Lot: 45	Block: 124	ļ		
			(Y): <u>752237</u> NAD83) - USF	EET D		FARTED: May 9, 2016 PLETED: May 10, 201			
	MONITOR		,		TIE WELL COM	DE1ED: 1714y 10, 201			
Other Use(s)					Local ID: B3	8W25SR			
WELL CONSTRUCTION									
Total Depth	Drilled (ft.):_	13	Finished We	ell Depth (ft.):_	12.5	Well Surface: Above	e Grade		
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)						
Borehole	0	13	7			(3.5)			
Casing	0	7.5	2		PVC	sc	h 40		
Screen	7.5	12.5	2		PVC .010				
	Depth to	Depth to	Outer	Inner Material					
	Top (ft.)	Bottom (ft.)	Diameter (in.)	, ,	` '	Neat Cement (lbs.)	Water (gal.)		
Grout Gravel Pack	4	6	7	2 2	5	86 #00 Filpro	7		
Gravel Pack	6	13	7	2		#1 Filpro			
Grouting Met	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method: Holl	ow Stem Augers			
ADDITIONA Protective Cas	L INFORM Asing: Yes Level: 6 ft. be Measure Tool: ment Period: _ velopment: Pu	ATION low land surface m scope l hrs.		Pur Tot Dri Dri	np Capacity:gpm al Design Head: _ ft Iling Fluid: Il Rig: <u>Mobile B-80</u> Ilth and Safety Plan				
ATTACHME	ENTS:								
GEOLOGIC		7.11							
0 - 5: Brown-I			and available	ands, little or no	£				
_			s and graveny savel-sand-silt mi	•	ines				
ADDITIONA	L INFORMA	TION:				·			
Driller of Reco		s A Fallucca, EYMAN LICE	NSE # 0001302	2	Company:	SGS NORTH AMERI	CA INC.		

Company: SGS NORTH AMERICA INC.

Well Permit Number E201605090

			MOMI	ORTHO WE	LE RECORD						
PROPERTY	OWNER: _	NA UNITED	STATES OF A	MERICA			<u> </u>				
Company/Organization: United States of America											
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 20	006						
WELL LOC	ATION: FU	JSRAP Maywo	od Project								
Address: 10	00 W HUNTE	R AVE / B38W	/25BR confirme	ed by client / 584	45		,				
County: Be	rgen	_ Municipalit	y: <u>Maywood E</u>	Boro	Lot: 45	Block: 12	4				
Easting (X):	610496	Northing	(Y): 752239		DATE WELL S	FARTED: May 18, 20	16				
Coordi	nate System: N	J State Plane (NAD83) - USF	EET D.	ATE WELL COM	PLETED: May 24, 20	16				
WELL USE: MONITORING											
Other Use(s)	:				Local ID: B3	8W25BR					
WELL CONSTRUCTION											
Total Depth	Drilled (ft.):	58	Finished We	ell Depth (ft.):	58	Well Surface: Abov	ve Grade				
Depth to Depth to Diameter Material Wgt/Rating/Screen # Used Ton (ft) Bottom (ft) (inches)											
Top (ft.) Bottom (ft.) (inches) (lbs/ch no.)											
Borehole	33	58	6				·				
Casing	0	33	6		Steel		.280				
Screen						•					
Depth to Depth to Outer Inner Material											
	Top (ft.)	Bottom (ft.)	Diameter (in.)	, ,		Neat Cement (lbs.)	Water (gal.)				
Grout Gravel Pack	0	33	10	6	56	1012	86				
	hod: Pressur	e method (Tren	nie Pine)	Dri	lling Method: Air	Rotary/HSA	<u> </u>				
_		• •	ilic i ipc)		ning Method. An	Rotal y/115/1	· · · · · · · · · · · · · · · · · · ·				
Protective Ca	AL INFORMA sing: Yes	ATION		Pur	np Capacity: _ gpm						
Static Water I	Level: <u>5</u> ft. be	low land surfa	ce	Tot	al Design Head: _ f						
	Measure Tool:				lling Fluid:		•				
	ment Period: _ velopment: air				ll Rig: <u>Mobile B-80</u> alth and Safety Plan						
Pump Type:					•						
ATTACHMI	ENTS:						· .				
GEOLOGIC											
0 - 5: Brown-			1114!	-t							
		rty gravers, grav Veathered Rock	vel-sand-silt mix	ctures							
				e							
19 - 23: Brown/red WR - Weathered Rock Sandstone/Shale 23 - 58: Brown/red CR - Competent Rock Sandstone/Shale											
ADDITIONAL INFORMATION:											
		s A Fallucca,					TO A DIG				
Driller of Rec	ord: JOURN	IEYMAN LICE	ENSE # 0001302	2	Company:	SGS NORTH AMER	UCA INC.				

Well Permit Number E201605165

	•	•	MONIT	<u>ORING WE</u>	LL 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: 10	00 W HUNTEI	R AVE / MISS	01AR confirme	d by client / 584	.5							
County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01												
Easting (X): 610253 Northing (Y): 752688 DATE WELL STARTED: June 7, 2016												
Coordinate System: NJ State Plane (NAD83) - USFEET DATE WELL STARTED: June 7, 2016 DATE WELL COMPLETED: June 7, 2016												
JAME WEBS COMMEDIATES												
WELL USE: MONITORING Other Heads: MONITORING												
Other Use(s): Local ID: MISS01AR												
WELL CON	STRUCTION	I										
Total Depth Drilled (ft.): 15 Finished Well Depth (ft.): 14 Well Surface: Above Grade												
Depth to Depth to Diameter Material Wgt/Rating/Screen # Used Top (ft.) Bottom (ft.) (inches) (lbs/ch no.)												
Borehole 0 15 7 (Inches)												
Casing 0 9 2 PVC sch 40												
Screen	Screen 9 14 2 PVC .010											
	Depth to	Depth to	Outer	Inner		Material						
	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)					
Grout Deals	0	5 6	7	2 2	6	108	9					
Gravel Pack Gravel Pack	5	15	7	2		#00 Filpro #1 Filpro						
					lling Method: Holl	*						
Grouting Method: Pressure method (Tremie Pipe) ADDITIONAL INFORMATION Protective Casing: Yes Pump Capacity: _ gpm Static Water Level: 10 ft. below land surface Total Design Head: _ ft. Water Level Measure Tool: m scope Drilling Fluid: Well Development Period: 1 hrs. Drill Rig: Mobile B-80 Method of Development: Pump / Surge Health and Safety Plan Submitted? Yes ATTACHMENTS:												
GEOLOGIC 0 - 8: Brown-		17111		· · · · · · · · · · · · · · · · · · ·			<u>.</u>					
			silt mixtures				<u> </u>					
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: JOURNEYMAN LICENSE # 0001302

Nicholas A Fallucca,

Company: SGS NORTH AMERICA INC.

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605156

PROPERTY	OWNER:	NA UNITED	STATES OF A	MERICA		•					
Company/Organization: United States of America											
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 20	006	the set of					
WELL LOC	CATION: _FU	JSRAP Maywo	od Project				2000				
Address: 10	00 W HUNTE	R AVE / MISS	01BR confirme	d by client / 584	15						
County: Ber	rgen	Municipalit	y: Rochelle Pa	rk Twp	_ Lot:_1	Block: _20	.01				
Easting (X):	610243	Northing	(Y): 752686		DATE WELL S	FARTED: May 31, 20	16				
			NAD83) - USF			PLETED: August 22,					
WELL USE:	MONITOR	ING									
Other Use(s)):				Local ID: M	ISS01BR					
WELL CON	STRUCTION	N					·				
Total Depth	Drilled (ft.):_	61	Finished We	il Depth (ft.):_	61	Well Surface: Abov	ve Grade				
	Depth to	Depth to	Diameter		Material		z/Screen # Used				
Borehole	Top (ft.)	Bottom (ft.)	(inches)			(lbs	s/ch no.)				
Borehole	38	61	6								
Casing	0	38	6		Steel	5	sch40				
Screen											
	Depth to	Depth to	Outer	Inner		Material					
Grout	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.) 60	Neat Cement (lbs.)	Water (gal.)				
Gravel Pack		30	10			, ,,,,					
Grouting Met	hod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Air	Rotary					
	AL INFORM	<u>ATION</u>									
Protective Cas		elow land surf			np Capacity: _ gpm al Design Head: _ f	.					
	Measure Tool:		ace		lling Fluid:	.	•				
Well Develop	ment Period:	<u>1</u> hrs.		Dri	ll Rig: schramm t45						
Method of De Pump Type:	evelopment: <u>ai</u>	<u>r lift</u>		He	alth and Safety Plan	Submitted? Yes					
ATTACHMI	ENTS:				·						
GEOLOGIC	LOG										
0 - 10: brown						•					
			ıd-silt mixtures								
		ered Rock sand									
		tent Rock bedro	• • •								
ADDITIONA	ADDITIONAL INFORMATION: open hole bedrock										
,			•								
	Wesley	M Eichfeld,			4						
Driller of Rec		ER LICENSÉ #	592848		Company:	SGS NORTH AMER	RICA INC.				

Well Permit Number E201605096

			MONIT	<u>ORING WE</u>	LL RECORD							
PROPERTY	OWNER:	NA UNITED	STATES OF A	MERICA								
Company/Org	ganizàtion: U	nited States of	America									
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 200)06	•						
WELLIOC	'ATION: FI	SRAP Maywo	od Project									
				d by client / 584	5							
			y: Maywood E			Block: 12						
		-			-							
l .			(Y): <u>752512</u>			FARTED: July 5, 201						
L			NAD83) - USF	EE1 DA	ATE WELL COM	PLETED: July 20, 20	16					
	MONITOR											
Other Use(s)	:			· · · · · ·	Local ID: M	ISS02AR						
WELL CON	STRUCTION	Ĭ										
Total Depth	Drilled (ft.):_	19	Finished We	ell Depth (ft.):	19	Well Surface: Flus	h Mount					
	Depth to	Depth to	Diameter		Material		g/Screen # Used					
Borehole	Top (ft.) 0	Bottom (ft.)	(inches)			(lb:	s/ch_no.)					
Casing	0	14	2		PVC	S	sch 40					
Screen												
[Depth to	Depth to	Outer	Inner	· ·	Material						
Grout	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.) 282	Water (gal.)					
Gravel Pack	12	19	8	2	1 2	#1 filpro						
Grouting Met	hod: Gravity	method		Dri	lling Method: Hol	low Stem Augers						
Protective Cas Static Water I Water Level M Well Develop		low land surfa m scope 1 hrs.	ce	Tot Drii Drii	np Capacity: _ gpm al Design Head: _ fi lling Fluid: l Rig: <u>schramm T 4</u> lth and Safety Plan	<u>50</u>						
<u>ATTACHM</u>	ENTS:				•							
GEOLOGIC												
0 - 5: brown C		ilty sands, sand	Leilt mivturee									
			i-siit iiiixtuies									
ADDITIONA	AL INFORMA	ATION:				·						
				٠								

Company: SGS NORTH AMERICA INC.

Larry Lynch, Driller of Record: MONITORING LICENSE # 0024436

Well Permit Number **E201605097**

					<u>EE RECORD</u>	*	•				
PROPERTY	OWNER: _	NA UNITED	STATES OF A	MERICA	u.,						
Company/Organization: United States of America											
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006	****					
WELL LOC	ATION: FU	JSRAP Maywo	od Project								
Address: 10	00 W HUNTE	R AVE / MISS	02BR confirme	d by client / 584	15						
County: Be	rgen	_ Municipalit	y: <u>Maywood B</u>	Boro	_ Lot: 46	Block: 1	24				
Easting (X):	610860	Northing	(Y): <u>752493</u>		DATE WELL ST	FARTED: June 21, 2	016				
Coordi	nate System: N	IJ State Plane (NAD83) - USF	EET D	ATE WELL COM	PLETED: July 7, 201	7				
WELL USE:	MONITOR	ING									
Other Use(s)	:			_	Local ID: M	SS02BR					
WELL CONSTRUCTION											
Total Depth Drilled (ft.): 62 Finished Well Depth (ft.): 62 Well Surface: Flush Mount											
	Depth to	Depth to	Diameter		Material		g/Screen # Used				
Borehole	Top (ft.)	Bottom (ft.)	(inches)			(10	s/ch no.)				
Borehole 38 62 6											
Casing 0 38 6 Steel sch 40											
Screen											
Depth to Depth to Outer Inner Material											
_	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)				
Grout Gravel Pack	0	38	10	6	30	940	60				
	hod: Pressur	e method (Tren	nie Pine)	Dri	lling Method: Air	Rótary					
_		. ,	ine i ipej	DII	ming Michou. Am	Rotary					
Protective Ca	AL INFORMA sing: No	ATION		Pur	np Capacity: gpm						
Static Water I	Level: <u>16</u> ft. b	elow land surf	ace	Tot	al Design Head: _ fl						
	Measure Tool: ment Period:				lling Fluid: Il Rig: <u>schramm t 45</u>	:0					
	velopment: <u>ai</u>				alth and Safety Plan						
Pump Type:			•								
ATTACHMI	ENTS:										
GEOLOGIC											
0 - 10: brown											
		sands, sand-cla ered Rock shale			 						
		tent Rock shale									
	ADDITIONAL INFORMATION: open rock hole										
	•										
Dailles - CD	Larry L		VIOTE # 0004404		C	CCC NODTH A C	DICA INC				
Driller of Rec	ora: <u>MUNII</u>	OKING LICE	NSE # 0024436		Company:	SGS NORTH AME	RICA INC.				

Well Permit Number E201610593

			MONIT	ORING WE	LL RECORD							
PROPERTY	OWNER: _	NA STEPAN	CHEMICAL CO	OMPANY								
Company/Or	ganization: S	tepan Chemica	l Company				·					
Address: 22	2 West Frontag	ge Rd Northfiel	d, Illinois 6009	3								
WELL LOC	CATION: _FU	JSRAP Maywo	od Project				·					
Address: 10	00 W HUNTE	R AVE / MISS	04AR confirme	d by client		·						
County: Be	rgen	_ Municipalit	y: <u>Maywood B</u>	Boro	_ Lot: 31.01	Block: _12	24					
Easting (X):	610499	Northing	(Y): <u>751834</u>		DATE WELL ST	FARTED: September	6, 2016					
Coordi	nate System: N	IJ State Plane (NAD83) - USF	EET D	ATE WELL COMI	PLETED: September	6, 2016					
WELL USE	: MONITOR	ING										
Other Use(s)):				Local ID: MI	SS04AR						
WELL CON	STRUCTION	1	•									
Total Depth	Drilled (ft.):_	15	Finished We	ell Depth (ft.):_	15	Well Surface: Abo	ve Grade					
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		g/Screen # Used s/ch no.)					
Borehole	0	15	7									
Casing	0	10	2		PVC		sch 40					
Screen 10 15 2 PVC .010												
Depth to Depth to Outer Inner Material Top (ft.) Bottom (ft.) Diameter (in.) Diameter (in) 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 Met	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method: Holl	ow Stem Augers						
Protective Ca Static Water I Water Level I Well Develop	Level: 13 ft. b Measure Tool: oment Period: _ evelopment: <u>Pu</u>	pelow land surf m scope 1 hrs.	ace	Tot Dri Dri	np Capacity: _ gpm al Design Head: _ ft Iling Fluid: Il Rig: <u>Mobile B-80</u> Ilth and Safety Plan							
ATTACHM	ENTS:											
GEOLOGIC												
0 - 5: Brown-			•1									
		ty sands, sand-s ilty gravels, gra	silt mixtures avel-sand-silt mi	ixtures								
ADDITIONA												
		s A Fallucca,			,							
	BIOHOIRI	з гапцеса,										

Company: SGS NORTH AMERICA INC.

Driller of Record: JOURNEYMAN LICENSE # 0001302

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608024

					LL RECORD						
			STATES OF AL	MERICA							
	-	nited States of					· .				
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006						
WELL LOC	ATION: FL	JSRAP Maywo	od Project				Ser.				
Address: R	ear Rochelle A	ve / MISS07A	R confirmed by	client / 5845							
County: Be	rgen	_ Municipalit	y: Rochelle Pa	rk Twp	Lot: 1	Block: 19	.01				
Easting (X): 610203 Northing (Y): 752361 DATE WELL STARTED: July 7, 2016 Coordinate System: NJ State Plane (NAD83) - USFEET DATE WELL COMPLETED: July 7, 2016											
Coordi	nate System: N	IJ State Plane (NAD83) - USF	EET D	ATE WELL COM	PLETED: July 7, 2016	5				
WELL USE: MONITORING											
Other Use(s)) :				Local ID: MI	SS07AR					
WELL CON	STRUCTION	1			-	·					
Total Depth	Drilled (ft.):_	12.5	Finished We	ell Depth (ft.):_	12.5	Well Surface: Abov	e Grade				
. į	Depth to	Depth to	Diameter		Material		/Screen # Used				
Borehole	Top (ft.)	Bottom (ft.)	(inches)			(lbs	/ch no.)				
Casing	0	12.5 7.5	2		PVC		ch 40				
Screen 7.5 12.5 2 PVC Scri 40											
Borcon	I			·	1,0						
	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Bentonite (lbs.)	Material 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 Met	thod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Air	Rotary					
Protective Ca Static Water I Water Level I Well Develop	Level: <u>8</u> ft. be Measure Tool: oment Period: evelopment: <u>ai</u>	elow land surfa m scope 1.5 hrs.	ce	Tot Dri Dri	mp Capacity: _ gpm al Design Head: _ ft Illing Fluid: Il Rig: <u>Schramm 450</u> alth and Safety Plan	<u>)</u>	·				
<u>ATTACHMI</u>	ENTS:					·					
GEOLOGIC	LOG Red OT - Othe	£:II									
			avel-sand-silt m	nixtures							
•	AL INFORMA										
	-2 ALIE CHUIT		Table (Mar)								
				-							

Nicholas A Fallucca,

Driller of Record: JOURNEYMAN LICENSE # 0001302 Company: SGS NORTH AMERICA INC.

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting

Well Permit Number Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831 E201605093

MONITORING WELL RECORD

					<u>LE RECORD</u>							
PROPERTY	OWNER: _	NA UNITED	STATES OF A	MERICA								
Company/Or	ganization: <u>L</u>	Inited States of	America			·						
Address: 18	Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006											
WELL LOC	ATION: FU	JSRAP Maywo	od Project									
Address: 10	00 W HUNTE	R AVE / MW-:	3SR confirmed	by client / 5845								
County: Be	rgen	Municipalit	y: Maywood E	Boro	_ Lot: <u>46</u>	Block: 12	24					
Easting (X): 610585 Northing (Y): 752623 DATE WELL STARTED: June 1, 2016 Coordinate System: NJ State Plane (NAD83) - USFEET DATE WELL COMPLETED: June 1, 2016												
	: MONITOR		<u> </u>	D	ATE WELL COM	LETED. June 1, 201						
					Local ID: M	W-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		g/Screen # Used s/ch no.)					
Borehole	0	20	8			(10)						
Casing	0	14	2		PVC	S	sch 40					
Screen 14 19 2 PVC .010												
Depth to Depth to Outer Inner Material												
	Top (ft.)	Bottom (ft.)	Diameter (in.)		Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)					
Grout	0	10	8	2	16	287	24					
Gravel Pack Gravel Pack	10 12	12 20	8	2 2		#00 Filpro #1 Filpro	· <u>.</u>					
		e method (Tren			lling Method: Holl							
-					mig momou	o a broni i ragoro	1. m.					
Protective Car	AL INFORMA sing: Yes	ATION		Pun	np Capacity: _ gpm							
Static Water I	Level: <u>12</u> ft. l	elow land surf	ace	Tot	al Design Head: _ ft							
	Measure Tool:				lling Fluid:							
Well Develop Method of De	ment Period:				Il Rig: Mobile B-80							
Pump Type:	velopinent: <u>Ft</u>	imp / Surge		пеа	ılth and Safety Plan	Submitted? <u>1 es</u>						
ATTACHMI	ENTS:											
GEOLOGIC												
0 - 7: Brown-l												
		ty sands, sand-s		1.0 ***	1 6 1							
					r clayey fine sands Weathered Rock	·						
ADDITIONA	L INFORMA	ATION:										
						•	•					
					•							
		•										
	Nichola	s A Fallucca,										
Driller of Rec			NSE # 0001302	2	Company:	SGS NORTH AMER	RICA INC.					

Record -- Page 1 of 1

Well Permit Number **E201605094**

			MONII	OKING WE	LL RECORD						
PROPERTY	OWNER: _	NA UNITED	STATES OF A	MERICA							
Company/Or	ganization: <u>U</u>	nited States of	America			,					
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006						
WELL LOC	ATION: FU	SRAP Maywo	ood Project		· · · · · · · · · · · · · · · · · · ·						
Address: 10	00 W HUNTE	R AVE / MW-	3DR confirmed	by client / 5845							
County: Ber	rgen	_ Municipalit	y: Maywood I	Boro	Lot: 46]	Block: <u>12</u> 4	<u> </u>			
Easting (X):	610597	Northing	(Y): 752619		DATE WELL S	Г АRTED: N	May 26, 201	16			
			(NAD83) - USF		ATE WELL COM						
WELL USE:	MONITOR	ING									
					Local ID: M	W-3DR					
WELL CON	STRUCTION	1									
Total Depth	Drilled (ft.):_	63	Finished We	ell Depth (ft.):_	63	Well Surface	:Flush	Mount			
	Depth to	Depth to	Diameter		Material			/Screen # Used			
Borehole	Top (ft.)	Bottom (ft.)	(inches)				(lbs/	ch no.)			
Borehole	38	63	6								
Casing	0	38	6		Steel		SC	h 40			
Screen											
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (in.)		Bentonite (lbs.)	Neat Ceme		Water (gal.)			
Grout	0	38	10,≆	6	15	940		60			
Gravel Pack											
-		e method (Trer	nie Pipe)	Dri	lling Method: Air	Rotary					
	AL INFORMA	<u>ATION</u>		T.	a :						
Protective Car Static Water I		elow land surf	ace		np Capacity: _ gpm al Design Head: _ fi	t.					
Water Level N	Measure Tool:	m scope	400	Dri	lling Fluid:						
	ment Period: _				ll Rig: <u>schramm t45</u>		_				
Method of De Pump Type:	evelopment: aiı	<u>lift</u>		Hea	alth and Safety Plan	Submitted? \(\)	<u>(es</u>				
ATTACHMI											
GEOLOGIC	LOG				·			_			
0 - 10: brown											
		sands, sand-cla									
19 - 63: redish	n CR - Compet	ent Rock shale	;								
ADDITIONA	AL INFORMA	ATION: open	rock hole								
								-			
								·			
	I amme I	rench									
Driller of Rec	Larry L ord: MONIT		NSE # 0024436		Company	SGS NOR	TH AMER!	ICA INC			

Well Permit Number E201605111

•			MONIT	ORING WE	LL RECORD							
PROPERTY OWNER: NA UNITED STATES OF AMERICA												
Company/Or	ganization: <u>U</u>	nited States of	America									
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 200	006							
WELL LOC	ATION: FU	ISRAP Maywo	od Project									
Address: 10	00 W HUNTE	R AVE / MW-	43SR confirmed	by client / 5845	5							
County: Be	rgen	Municipalit	y: Rochelle Pa	rk Twp	Lot: 1	Block: 19.	01					
Easting (X):	610249	Northing	(Y): <u>752507</u>		DATE WELL ST	ARTED: May 11, 201	16					
Coordi	nate System: N	JJ State Plane (NAD83) - USF	EET D.	ATE WELL COM	PLETED: May 11, 201	16					
WELL USE: MONITORING												
Other Use(s): Local ID: MW-43 SR												
WELL CONSTRUCTION												
	Drilled (ft.):_	8.5	Finished We	ell Depth (ft.):	8.5	Well Surface: Abov	e Grade					
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		/Screen # Used /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 Depth to Outer Inner Material												
	Top (ft.)	Bottom (ft.)	Diameter (in.)			Neat Cement (lbs.)	Water (gal.)					
Grout Gravel Pack	1.5	1.5 2.5	8	2 2	2	#00 Filpro	4					
Gravel Pack	2.5	8.5	8	2		#1 Filpro						
	hod: Gravity	· · · · · · · · · · · · · · · · · · ·	<u> </u>		lling Method: Holl	<u> </u>						
ADDITIONA Protective Car Static Water I Water Level M Well Develop	AL INFORMA sing: Yes Level: 6 ft. be Measure Tool: ment Period: _ evelopment: Pu	ATION low land surfaction m scope hrs.	ce	Pun Tot Dri Dri	np Capacity: _ gpm al Design Head: _ ft Iling Fluid: Il Rig: <u>Mobile B-80</u> Ilth and Safety Plan							
ATTACHMI												
0 - 5: Brown-		r Fill										
0 - 5: Brown-Red OT - Other Fill 5 - 8.5: Brown-Red SM - Silty sands, sand-silt mixtures Weathered Rock												
ADDITIONAL INFORMATION:												
ADDITIONAL INVALIATION.												

Driller of Record: JOURNEYMAN LICENSE # 0001302

Nicholas A Fallucca,

Record -- Page 1 of 1

Company: SGS NORTH AMERICA INC.

Well Permit Number E201605095

			MUNIT	URING WE	LL RECURD						
PROPERTY	OWNER: _	NA UNITED S	STATES OF AN	MERICA							
Company/Or	ganization: U	nited States of	America								
Address: 1	800 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 20	006		***				
WELL LOC	ATION: FU	SRAP Maywo	od Project				<u>,</u>				
Address: 10	00 W HUNTE	R AVE / MW-4	14S confirmed b	y client / 5845							
County: Be	rgen	_ Municipality	y: <u>Maywood B</u>	oro	Lot: 46		Block: 12	24			
Easting (X):	610713	Northing	(Y): <u>752572</u>		DATE WELL S	TART	ΓΕD: June 2, 201	.6			
Coordi	nate System: N	IJ State Plane (NAD83) - USFI	BET D	ATE WELL COM	PLET	ΓED: June 6, 201	6			
WELL USE	MONITOR	ING									
Other Use(s)	:				Local ID: M	W-44	<u>S</u>				
WELL CON	STRUCTION	I			•						
Total Depth	Drilled (ft.):_	14	Finished We	ll Depth (ft.):_	14	Well	Surface: Flus	h Mount			
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material			g/Screen # Used s/ch no.)			
Borehole	0	14	(menes) 8				(10	s/cii iio. j			
Casing	0	9	2		PVC			sch 40			
Screen 9 14 2 PVC .010											
Depth to Depth to Outer Inner Material											
	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)		Nea	at Cement (lbs.)	Water (gal.)			
Grout	0	6	8	2	10	<u> </u>	172	15			
Gravel Pack Gravel Pack	<u>6</u> 8	8 14	8	2 2			#00 Filpro #1 Filpro				
		e method (Tren			lling Method: Hol	low S	<u> </u>				
ADDITIONAProtective Ca Static Water I Water Level I Well Develop	AL INFORM/ sing: Yes Level: 10 ft. b Measure Tool: ment Period: Evelopment: Pu	ATION below land surform scope 1 hrs.	•	Pui Toi Dri	mp Capacity: _ gpm al Design Head: _ f lling Fluid: Il Rig: <u>Mobile B-80</u> alth and Safety Plan	t.					
<u>ATTACHMI</u>	ENTS:										
GEOLOGIC		P:11									
	Red OT - Othe		vel-sand-silt mix	rtures							
		ly gravers, grav		atures			· 				
ADDITIONA	L INFORMA	TION:									
Driller of Rec		s A Fallucca,	NSE # 0001302)	Company	90	S NORTH AME	RICA INC			

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605158

Company Organization: United States of America	PROPERTY	OWNER: _	NA UNITED	STATES OF A	MERICA								
WELL LOCATION: FUSRAP Maywood Project	Company/Or	ganization: <u>U</u>	Inited States of	America		•							
Address 100 W HUNTER AVE / MW-45D confirmed by client / 5845	Address: 1800 Pennsylvania Ave Washington, District of Columbia 20006												
County: Bergen Municipality: Rochelle Park Twp Lot: 1 Block: 20.01			,										
Date	Address: 10	0 W HUNTE	R AVE / MW-	45D confirmed l	by client / 5845			·					
Coordinate System: NJ State Plane (NAD83) - USFEET	County: Be	rgen	Municipalit	y: Rochelle Pa	rk Twp	Lot: 1	Block: 20	0.01					
Coordinate System: NJ State Plane (NAD83) - USFEET													
Note Use(s) Local ID: MW-45D													
Material Wgt/Rating/Screen # Used User Wgt/Rating/Screen # Used User Wgt/Rating/Screen # Used User Wgt/Rating/Screen # Used User	WELL USE:	MONITOR	ING		-		 						
Depth to Depth to Depth to Top (ft.) Depth to Diameter (inches) Diameter	Other Use(s)					Local ID: M	W-45D						
Depth to Depth to Top (ft.) Bottom (ft.) Cinches													
Top (ft.) Bottom (ft.) (inches) (lbs/ch no.)	Total Depth Drilled (ft.): 63 Finished Well Depth (ft.): 63 Well Surface: Above Grade												
Borehole 0 38 63 6													
Borehole 38 63 6 Steel sch 40													
Casing O 38 6 Steel sch 40													
Depth to Top (ft.) Depth top													
Depth to Depth to Top (ft.) Bottom (ft.) Diameter (in.) Dentonite (lbs.) Neat Cement (lbs.) Water (gal.)													
Top (ft.) Bottom (ft.) Diameter (in.) Diameter (in) 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 Drilling Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary Drilling Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary Drilling Method: Pressure method (Tremie Pipe) Drilling Method: Air Rotary D		D41- 4-	D1- 4	O::4-::	T								
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. 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		•				Rentonite (lbs.)		Water (gal.)					
Grouting Method: Pressure method (Tremie Pipe) ADDITIONAL INFORMATION Protective Casing: Yes Pump Capacity: _gpm Static Water Level: 10 ft. below land surface Total Design Head: _ft. Water Level Measure Tool: m scope Drilling Fluid: Well Development Period: _l hrs. Drill Rig: schramm T450 Method of Development: airlift Health and Safety Plan Submitted? Yes Pump Type: 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	Grout		` '	, ,	` ,		'						
ADDITIONAL INFORMATION Protective Casing; Yes	Gravel Pack												
Protective Casing: Yes Static Water Level: 10 ft. below land surface Water Level Measure Tool: m scope Well Development Period: 1 hrs. Drill Rig: schramm T450 Health and Safety Plan Submitted? Yes Pump Type: 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	Grouting Met	hod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: <u>Air</u>	Rotary	<u></u>					
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	ADDITIONAL INFORMATION Protective Casing: Yes Pump Capacity: _ gpm Static Water Level: 10 ft. below land surface Total Design Head: _ ft. Water Level Measure Tool: m scope Drilling Fluid: Well Development Period: 1 hrs. Drill Rig: schramm T450 Method of Development: airlift Health and Safety Plan Submitted? Yes												
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	<u>ATTACHMI</u>	ENTS:											
21 - 28: redish WR - Weathered Rock sandstone 28 - 63: redish CR - Competent Rock siltstone ADDITIONAL INFORMATION: openhole 38/63			1			To real of the second s							
28 - 63: redish CR - Competent Rock siltstone ADDITIONAL INFORMATION: openhole 38/63	12 - 21: redish	SP - Poorly g	graded sands an	d gravelly sand	s, little or no fin	es							
ADDITIONAL INFORMATION: openhole 38/63													
	28 - 63: redish	CR - Compet	tent Rock siltst	one				<u>.</u>					
Larry Lynch,	ADDITIONA	L INFORMA	ATION: openh	nole 38/63		·							
Larry Lynch,													
Driller of Record: MONITODING LICENSE # 0024/36 Company: SGS NORTH AMEDICA INC													

Well Permit Number E201605091

			MONT	ORING WE	DD KECOKD		
PROPERTY	OWNER: _	NA UNITED S	STATES OF AN	MERICA			· ·
Company/Org	ganization: <u>U</u>	nited States of	America				<u> </u>
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 200	006		
WELL LOC	ATION: FU	SRAP Maywo	od Project				
Address: 10	00 W HUNTE	R AVE / MW-4	46S confirmed b	y client / 5845			
County: Ber	rgen	_ Municipalit	y: Maywood B	Soro	Lot: 46	Block: 12	24
			(Y): <u>752397</u> NAD83) - USF	EET DA		FARTED: May 10, 20 PLETED: May 10, 20	
WELL USE:	MONITOR	ING		-		-	
23				· · · · · · · · · · · · · · · · · · ·	Local ID: M	W-46S	
WELL CON	STRUCTION	Į					
Total Depth	Drilled (ft.):_	18	Finished We	ell Depth (ft.):	17.5	Well Surface: Abo	ove Grade
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		ng/Screen # Used os/ch no.)
Borehole	0	18	8	(105/OII NO.)			
Casing	0	12.5	2		PVC		sch 40
Screen	12.5	17.5	2		PVC		.010
	Depth to	Depth to	Outer	Inner		Material	
	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout Deals	9	9	8	2 2	14	259	22
Gravel Pack Gravel Pack	11.5	11.5 18	8	2		#00 Filpro #1 Filpro	
· · · · · · · · · · · · · · · · · · ·		e method (Tren		<u>-</u>	lling Method: Holl		
Protective Cas	Level: 11 ft. b Measure Tool: ment Period:	pelow land surfi m scope 1 hrs.	ace	Tot Drii Drii	np Capacity: _ gpm al Design Head: _ ft Iling Fluid: Il Rig: <u>Mobile B-80</u> Ith and Safety Plan		
ATTACHMI							
GEOLOGIC 0 - 5: Brown-		e Fill			•		
		ty sands, sand-	silt mixtures				<u>-</u>
		<u> </u>	gravel-sand-clay	mixtures			
ADDITIONA	L INFORMA	ATION:					
	Nichola	s A Fallucca,					
Driller of Rec			ENSE # 0001302	2	Company:	SGS NORTH AME	RICA_INC.

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201605092

PROPERTY	OWNER:	NA UNITED	STATES OF A	MERICA			
Company/Or	ganization: _U	Inited States of	America				
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006		
WELL LOC	CATION: FU	JSRAP Maywo	od Project				
Address: 10	00 W HUNTE	R AVE / MW-	46D confirmed	by client / 5845			
County: Be	rgen	Municipalit	y: <u>Maywood E</u>	Boro	Lot: 46	Block: 12	24
Easting (X):	610753	Northing	(Y): 752391		DATE WELL S	TARTED: May 18, 20	016
			NAD83) - USF	EET D		PLETED: June 6, 201	
WELL USE:	: MONITOR	ING					
Other Use(s)):				Local ID: M	W-46D	
WELL CON	STRUCTION	N					
Total Depth	Drilled (ft.):_	57	Finished We	ell Depth (ft.):_	57	Well Surface: Abo	ve Grade
	Depth to	Depth to	Diameter		Material		g/Screen # Used
Borehole	Top (ft.)	Bottom (ft.)	(inches)			(lb	s/ch no.)
Borehole	32	57	6				
Casing	0	32	6		Steel	5	sch 40
Screen							
	Depth to	Depth to	Outer	Inner Material			
Grout	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in)	Bentonite (lbs.) 40	Neat Cement (lbs.) 1100	Water (gal.)
Gravel Pack	0	32	10	U	40	1100	
Grouting Met	hod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Air	Rotary	
Protective Ca Static Water I Water Level N		pelow land surf	àce	Tot Dri	np Capacity: _ gpm al Design Head: _ f Iling Fluid: Il Rig: schramm T 4	t.	
Method of De Pump Type:					olth and Safety Plan		
ATTACHMI	ENTS:			•			•
GEOLOGIC							
0 - 10: black (
<u> </u>		ınds, sand-silt r					
		ered Rock shale tent Rock shale	1				·
ADDITIONA	AL INFORMA	ATION:					
							•
		•				•	
				•			
	. Larry I	vnch.					
Driller of Rec			NSE # 0024436		Company:	SGS NORTH AME	NICA INC.

Well Permit Number E201605110

			MONIT	<u>ORING W</u>	ELL RECORD					
PROPERTY	OWNER: _	NA UNITED S	STATES OF A	MERICA						
Company/Or	ganization: <u>U</u>	Inited States of	America							
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	f Columbia 2	20006					
WELL LOC	ATION: FU	ISRAP Maywo	od Project							
Address: 10	00 W HUNTE	R AVE / MW-4	47S confirmed b	y client / 584	5					
County: Be	rgen	_ Municipalit	y: Rochelle Pa	rk Twp	Lot: 1	Block: 2	0.01			
			(Y): <u>752564</u>		DATE WELL S	Г АRTED: <u>Мау 12, 2</u>	016			
Coordi	nate System: N	JJ State Plane (NAD83) - USF	EET	DATE WELL COM	PLETED: May 12, 2	016			
WELL USE:	MONITOR	ING		 ,						
Other Use(s)	:				Local ID: M	W-47S				
WELL CONSTRUCTION										
Total Depth	Drilled (ft.):	13	Finished We	ll Depth (ft.):	12	Well Surface: Abo	ove Grade			
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		ng/Screen # Used os/ch no.)			
Borehole	0	13	8				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Casing	0	7	2		PVC sch 40					
Screen	7	12	2		PVC		.010			
	Depth to	Depth to	Outer	Inner		Material				
a .	Top (ft.)	Bottom (ft.)	Diameter (in.)	Diameter (in		Neat Cement (lbs.)	Water (gal.)			
Grout Gravel Pack	<u>0</u> 4	6	8	2 2	6	115 #00 Filpro	10			
Gravel Pack	6	13	8	2		#1 Filpro				
Grouting Met	hod: Pressure	e method (Tren	nie Pipe)	D	rilling Method: Hol	low Stem Augers				
Water Level N Well Develop Method of De Pump Type:	sing: <u>Yes</u> Level: <u>5</u> ft. be Measure Tool: ment Period: _ velopment: <u>Pu</u>	low land surface m scope 1 hrs.	ce	P T D	ump Capacity: _ gpm otal Design Head: _ fi rilling Fluid: rill Rig: <u>Mobile B-80</u> ealth and Safety Plan	t.				
ATTACHMI										
GEOLOGIC 0 - 5: Brown-		r Fill								
		ty sands, sand-s	silt mixtures							
		eathered Rock								
ADDITIONA	L INFORMA	ATION:								
				·						
	Nichola	s A Fallucca,								
Driller of Rec		,	NSE # 0001302	2	Company:	SGS NORTH AME	RICA INC.			

Well Permit Number E201605159

			MONIT	ORING WE	DD RECORD				
PROPERTY	OWNER: _	NA UNITED	STATES OF A	MERICA					
Company/Or	ganization: _U	Inited States of	America			,,,			
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006	3			
WELL LOC	CATION: FU	JSRAP Maywo	od Project	•			·		
Address: 10	00 W HUNTE	R AVE / MW-	47D confirmed	by client / 5 8 45			·		
County: Be	rgen	Municipalit	y: <u>Rochelle Pa</u>	ırk Twp	_ Lot:_1	Block: _20	10.0		
Facting (X)	610405	Northing	(Y): 752550		DATE WELLS	Γ ARTED: June 2, 201	16		
į.			(1): <u>732330</u> NAD83) - USF			PLETED: August 22,			
	: MONITOR		·		THE WEDE COM	1 DD 1 DD . 134 gabt 22,	2010		
	_				Local ID: M	W-47D			
	STRUCTION								
	Drilled (ft.):_		Finished We	ell Depth (ft.):	63	Well Surface: Abo	ve Grade		
	Depth to	Depth to	Diameter		Material	Wgt/Ratin	g/Screen # Used		
	Top (ft.)	Bottom (ft.)	(inches)				s/ch no.)		
Borehole	0	38	10						
Borehole	38	63 38	6		Steel		sch 40		
Casing Screen	0	30	0	•	Steel Still 40				
	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Bentonite (lbs.)	Material Neat Cement (lbs.)	Water (gal.)		
Grout	0	38	10	6	60	940	64		
Gravel Pack									
Grouting Met	thod: Pressure	e method (Trer	nie Pipe)	Dri	lling Method: _Air	Rotary			
	AL INFORMA	ATION		_					
Protective Ca Static Water I		low land surfa	ce.		np Capacity: _ gpm al Design Head: _ fl				
	Measure Tool:				lling Fluid:	•			
	ment Period: _			Dri	ll Rig: schramm T4:				
Method of De Pump Type:	evelopment: air	<u>rlift</u>		Hea	alth and Safety Plan	Submitted? <u>Yes</u>			
ATTACHMI									
GEOLOGIC	LOG								
	OT - Other fil								
				ly sands, little or	no fines				
		ered Rock sand ent Rock sand							
ADDITIONA	AL INFORMA	ATION: openl	nole 38/63						
			•						
	Larry L	ynch,							
Driller of Rec			NSE # 0024436		Company:	SGS NORTH AME	RICA INC.		

Well Permit Number E201605155

			MONII	OKING WE	LL KECOKD	·		
PROPERTY	OWNER: _	NA UNITED	STATES OF A	MERICA				
Company/Or	ganization: <u> </u>	Inited States of	America				**************************************	
Address: 18	800 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006		· -	
WELL LOC	CATION: FU	JSRAP Maywo	od Project					
Address: 10	00 W HUNTE	R AVE / MW-	48S confirmed b	by client / 5845			<u> </u>	
County: Be	rgen	_ Municipalit	y: Rochelle Pa	ırk Twp	_ Lot: 1	Block: 20	0.01	
1			(Y): <u>752704</u>			ΓARTED: June 1, 20	<u> </u>	
			NAD83) - USF	EET D	ATE WELL COM	PLETED: June 1, 20	16	
	: MONITOR		· · · · · · · · · · · · · · · · · · ·				÷	
Other Use(s)):			·	Local ID: M	W-48S		
WELL CON	ISTRUCTION	4						
Total Depth	Drilled (ft.):_	20	Finished We	ell Depth (ft.):_	19	Well Surface: Abo	ve 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	Depth to	Outer	Inner	Inner Material			
Grout	Top (ft.)	Bottom (ft.)	Diameter (in.)	. ` '		Neat Cement (lbs.)	Water (gal.)	
Gravel Pack	10	13	8	2 2	16	287 #00 Filpro	24	
Gravel Pack	13	20	8	2		#1 Filpro		
Grouting Met	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method: Holl	ow Stem Augers		
ADDITIONA Protective Cas Static Water I Water Level M Well Develop Method of De Pump Type:	sing: <u>Yes</u> Level: <u>12</u> ft. b Measure Tool: ment Period: _e velopment: <u>Pu</u>	pelow land surf m scope 1 hrs.	ace	Tot Dri Dri	np Capacity: _ gpm al Design Head: _ ft Iling Fluid: Il Rig: <u>Mobile B-80</u> Ith and Safety Plan			
ATTACHME								
GEOLOGIC		·			·			
0 - 7: Brown-l						-		
		ty sands, sand-s	silt mixtures avel-sand-silt m	t	1314			
			vel-sand-silt mix					
ADDITIONA			., ., _					
	Nichola	s A Fallucca,			•			
Driller of Reco			NSE # 0001302	2	Company:	SGS NORTH AMEI	RICA INC.	

Well Permit Number E201605154

			MONIT	ORING WE	<u>DD RECORD</u>			
PROPERTY	OWNER: _	NA UNITED	STATES OF AM	MERICA	•		- mv 1 war	
Company/Org	ganization: <u>U</u>	nited States of	America	٠		4.4.		
Address: 18	300 Pennsylva	nia Ave Washi	ngton, District o	of Columbia 20	006			
WELL LOC	ATION: FU	JSRAP Maywo	od Project					
Address: 10	00 W HUNTE	R AVE / MW-	48D confirmed l	by client / 5845				
County: Be	rgen	_ Municipalit	y: Rochelle Pa	rk Twp	Lot:_1	Block: 20	0.01	
			(Y): <u>752702</u>		DATE WELL STA	RTED: May 24, 20	16	
Coordi	nate System: N	JJ State Plane (NAD83) - USF	EET D	ATE WELL COMPI	LETED: May 31, 20	16	
WELL USE:	MONITOR	ING						
Other Use(s)	:		<u></u>		Local ID: MW	-48D		
WELL CON	STRUCTION	1						
Total Depth	Drilled (ft.):_	63	Finished We	ell Depth (ft.):	63 W	ell Surface: Abo	ve Grade	
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	1			g/Screen # Used s/ch no.)	
Borehole	0	38	10					
Borehole	38	63	6	·				
Casing	0	38	6	Steel .280				
Screen			·					
	Depth to	Depth to	Outer	Inner	D. G. W. (Her)	Material	Water (aul.)	
Grout	Top (ft.)	Bottom (ft.)	Diameter (in.) 10	Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.) 99	
Gravel Pack		30	10			1105		
Grouting Met	hod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Air Ro	otary/HSA		
Protective Ca. Static Water I	Level: 12 ft. b Measure Tool: ment Period: velopment: air	pelow land surf m scope 1 hrs.	ace	Tot Dri Dri	np Capacity: _ gpm ral Design Head: _ ft. Iling Fluid: Il Rig: <u>Mobile B-80</u> alth and Safety Plan St	ıbmitted? <u>Yes</u>		
ATTACHMI				,				
GEOLOGIC 0 - 7: Brown-	Red OT - Othe							
		ty sands, sand-						
		eathered Rock	avel-sand-silt m	ixtures	·			
			Sandstone/Shale	<u> </u>				
						 		
AUUITIONA	L INFORMA	ATION: open	поле		•			
Driller of Rec		s A Fallucca, EYMAN LICE	ENSE # 000130	2	Company	SGS NORTH AME	RICA INC.	

Well Permit Number **E201607079**

			14101111	OMING WE	LL RECORD		
PROPERTY	OWNER: _	JOHN AND JA	AMIE GRYCTI	ζO			
Company/Or	ganization: H	Iomeowner					
Address: 6	1 Madison Ave	e Rochelle Park	k, New Jersey 0	7662			
		JSRAP Maywo					
			client / MW-51			- · · · · · · · · · · · · · · · · · · ·	
County: Be	rgen	_ Municipalit	y: Rochelle Pa	rk Twp	_ Lot: <u>26</u>	Block: <u>5</u>	
			(Y): <u>751619</u> NAD83) - USFI			TARTED: June 29, 20 PLETED: July 7, 201	 -
WELL USE:	MONITOR	ING				· · · · · · · · · · · · · · · · · · ·	
					Local ID: M	W-51S	
WELL CON	STRUCTION	1					
Total Depth	Drilled (ft.):_	19	Finished We	ell Depth (ft.):	19	Well Surface: Flus	sh Mount
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		g/Screen # Used s/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)	Bentonite (lbs.)	Material Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	2	5	94	6
Gravel Pack	7	19	6	2		#1 filpro	
Grouting Met	hod: Gravity	method		Dri	lling Method: Air	Rotary	
Protective Ca Static Water I Water Level M Well Develop		elow land surfa m scope 1 hrs.	ce	Tot Dri Dri	np Capacity: _ gpm al Design Head: _ f lling Fluid: Il Rig: <u>schramm T4</u> llth and Safety Plan	i. 50	
<u>ATTACHMI</u>	ENTS:						
GEOLOGIC	LOG						
0 - 5: brown (
	· · · · · · · · · · · · · · · · · · ·	ds, sand-silt mi ered Rock shale					
			<i>-</i>				
ADDITIONA	AL INFORMA	ATION:				A SAGAR CARRA	· · · · · ·
Driller of Rec	Larry Lord: MONIT		NSE # 0024436		Company:	SGS NORTH AME	RICA INC.

Well Permit Number **E201607077**

			14101111	ORTHO ME	DD RECORD		,		
PROPERTY	OWNER: _	JOHN AND JA	MIE GRYCTI	ζO					
Company/Or	ganization: H	lomeowner							
Address: 6	l Madison Ave	Rochelle Park	Twp, New Jers	sey 07662					
WELL LOC	ATION: FU	JSRAP Maywo	od Project						
Address: 61	l Madison Ave	confirmed by	client / MW-51	D					
County: Be	rgen	Municipalit	y: Rochelle Pa	rk Twp	Lot: 26	Block: 5			
1									
			(Y): <u>751619</u> NAD83) - USFI	EET D		FARTED: June 27, 20			
	: MONITOR		141200) 001	<u>.</u>	ATE WELL COM	PLETED: July 7, 2016) 		
					Local ID: MV	V-51D			
			<u>. </u>		20cm 12				
	STRUCTION		P!!	11 D 41- (Q.)	54	W.H.G., C.,	. Manuet		
1 otal Depth	Drilled (ft.):					Well Surface: Flusl			
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		r/Screen # Used /ch no.)		
Borehole	0	29	10		· · · · · · · · · · · · · · · · · · ·	(105			
Borehole	29	54	6	6					
Casing	0	29	6	Steel sch 40					
Screen									
	Depth to	Depth to	Outer	Inner		Material			
	Top (ft.)	Bottom (ft.)	Diameter (in.)			Neat Cement (lbs.)	Water (gal.)		
Grout Gravel Pack	. 0	29	10	6	30	752	48		
	hod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Air l	Rotary			
	AL INFORMA		1 /				20 July 400		
Protective Ca	sing: <u>No</u>				np Capacity: _ gpm				
		elow land surf	ace		al Design Head: _ ft	•	•		
	Measure Tool: ment Period: _				lling Fluid: Il Rig: <u>schramm t 45</u>	0			
	velopment: air				alth and Safety Plan				
Pump Type:									
<u>ATTACHMI</u>	,								
0 - 5: brown 0					<u>-</u>		<u></u>		
		ds, sand-silt m	ixtures			· · · · · · · · · · · · · · · · · · ·			
	•	ered Rock shale							
		ent Rock shale							
ADDITIONA	L INFORMA	TION: open	rock hole						
Driller of Rec	Larry L		NSE # 0024436		Company	SGS NORTH AMER	ICA INC.		

Well Permit Number **E201609990**

PROPERTY	OWNER: _1	NA TOWNSH	IP OF ROCHE	LLE PARK					
Company/Org	ganization: T	ownship of Ro	chelle Park						
Address: 15	1 West Passai	c Street Roche	lle Park, New Je	rsev 07662		•			
				, <u></u>				_	
		SRAP Maywo					W#=		
Address: ne	ar 107 Parkwa	ıy / MW-52S c	onfirmed by clie	ent / 5845					
County: Ber	rgen	_ Municipality	y: <u>Rochelle Pa</u>	rk Twp	_ Lot:_ROW		Block: R	OW	
Easting (X):	609275	Northing	(Y): 752018		DATE WELL ST	TART	ED: August 31,	2016	
			NAD83) - USFI	EET D	ATE WELL COM			<u> </u>	
WELL USE:	MONITOR	ING							
Other Use(s)	•				Local ID: M	W-525	S		
.,					2001.121_112				
WELL CON	STRUCTION	I			•				
Total Depth	Drilled (ft.):	11	Finished We	ll Depth (ft.):_	11	Well	Surface: Flus	sh Mount	
[Depth to	Depth to	Diameter	Material				g/Screen # Used	
D 1.1	Top (ft.)	Bottom (ft.)	(inches)				. (lb	s/ch no.)	
Borehole	0	6	7 2		PVC			sch 40	
Casing Screen	6	1I	2		PVC			.010	
Screen					140	I			
	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Bentonite (lbs.)	Material Neat Cement (lbs.) Water		Water (gal.)	
Grout	0	4	7	2	53	INCA	86	7	
Gravel Pack	4	- 11	7	2		'	#1 Filpro		
Grouting Met	hod: Pressure	e method (Tren	nie Pipe)	Dr	illing Method: Holl	low St	tem Augers		
ADDITIONA Protective Cas Static Water I Water Level M Well Develop Method of De Pump Type:	sing: <u>Yes</u> Level: <u>7</u> ft. be Measure Tool: ment Period: _	low land surfa m scope 1 hrs.	ce	To Dr Dr	mp Capacity: _ gpm tal Design Head: _ ft illing Fluid: ill Rig: <u>Schramm 450</u> alth and Safety Plan	<u>0</u>	nitted? <u>Yes</u>		
ATTACHME	ENTS:								
GEOLOGIC LOG 0 - 5: Brown-Red OT - Other Fill 5 - 11: brown/red SM - Silty sands, sand-silt mixtures									
			ii iiiiAtul CS						
ADDITIONA	L INFORMA	ATION:							

Well Permit Number E201609991

			MONII	ORIGINE	LL RECORD				
PROPERTY	OWNER: _	NA TOWNSH	IIP OF ROCHE	LLE PARK					
Company/Or	ganization: _T	ownship of Ro	chelle Park			,	·		
Address: 15	51 West Passai	ic Street Roche	lle Park, New Jo						
WELL LOC	ATION: FU	JSRAP Maywo	od Project						
Address: ne	ear 107 Parkwa	ay / MW-52D o	confirmed by cli	ent / 5845					
County: Be	rgen	_ Municipalit	y: <u>Rocheile Pa</u>	rk Twp	Lot: ROW	Block: <u>R</u>	OW		
Easting (X):	609285	Northing	(Y): 752011		DATE WELL S	TARTED: August 29	, 2016		
Coordi	nate System: N	NJ State Plane (NAD83) - USF	EET D	ATE WELL COM	(PLETED: August 30	, 2016		
WELL USE:	: MONITOR	ING							
Other Use(s)):				Local ID: _M	W-52D			
WELL CON	STRUCTION	N				•			
Total Depth	Drilled (ft.):_	62	Finished We	ell Depth (ft.):_	62	Well Surface: Flu	sh Mount		
	Depth to	Depth to	Diameter		Material		ng/Screen # Used		
Borehole	Top (ft.)	Bottom (ft.)	(inches)			(16	os/ch no.)		
Borehole	37	62	6						
Casing	0	37	6		Steel		.280		
Screen									
	Depth to	Depth to	Outer	Inner		Material			
	Top (ft.)	Bottom (ft.)		Diameter (in)	Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)		
Grout	0	37	10	6	63	1135	97		
Gravel Pack	Lade Desagne	o mosthod (Tuor	nio Dino)	D-:	Ili- a Mathada Air	Datas			
-		e method (Trer	nie Pipe)	Dr.	lling Method: <u>Air</u>	Rotary	**************************************		
Protective Ca	AL INFORMA	ATION		Pur	np Capacity: gpm	1			
Static Water I	Level: <u>58.5</u> ft	. below land su	rface	Tot	al Design Head: _ :				
	Measure Tool:		•		lling Fluid:	· •			
	oment Period: _ evelopment: air		\$	Dri Hea	ll Rig: <u>Schramm 45</u> alth and Safety Plar	ov Submitted? Yes	•		
Pump Type:					·				
<u>ATTACHMI</u>	ENTS:								
GEOLOGIC		C11							
	Red OT - Othe	sands, sand-si	lt mivtures						
			el-sand-silt mix	dures			. <u></u>		
		eathered Rock				· .			
27 - 62: brown	n/red CR - Co	mpetent Rock s	andstone		<u> </u>		<u> </u>		
ADDITIONA	AL INFORMA	ATION: Open	Rock Hole 37-6	52'					
		•							
		•							
Driller of Rec		s A Fallucca, EYMAN LICI	ENSE # 0001302	2	Company	SGS NORTH AME	RICA INC.		

Well Permit Number E201608452

MONITORING WELL PECORD

		11101111	Olding 1112	LL RECORD						
OWNER:	NA BOROUG	H OF MAYWO	OD							
ganization: B	orough of May	wood								
5 Park Avenue	Maywood Bor	o, New Jersey	07607		•					
ATION: FU	SRAP Maywo	od Project				-				
ergesell Avenu	ie / MW-53S c	onfirmed by clie	ent	•						
rgen	_ Municipalit	y: <u>Maywood B</u>	oro	Lot: ROW	Block: RO	OW				
			FFT N		-					
,-		141003) 0011	<u> </u>	ALE WELL COM	PLETED: July 20, 201					
				Local ID: M	W-53S					
				2001121						
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	, ,	g/Screen # Used s/ch no.)				
0	16	. 8								
0	11	2		PVC	S	ch 40				
11	16	2		PVC		.010				
Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Bentonite (lbs.)	Material Neat Cement (lbs.)	Water (gal.)				
0	7	8	2	6	141	8				
		8	2		#1 filpro					
AL INFORMA sing: Yes Level: 6 ft. be Measure Tool: oment Period: _ evelopment: wi	ATION blow land surfarm scope 1 hrs.	ce	Pur Tot Dri Dri	np Capacity: _ gpm al Design Head: _ f Iling Fluid: Il Rig: <u>schramm T</u> 4	ì. 1 <u>50</u>	,				
	ilty sands, sand	l-silt mixtures				· · · · · · · · · · · · · · · · · · ·				
AL INFORMA	ATION:									
	ganization: B 5 Park Avenue CATION: FU dergesell Avenue 610699 nate System: N : MONITOR b: MONITOR Drilled (ft.): Depth to Top (ft.) 0 0 11 Depth to Top (ft.) 0 9 thod: Gravity AL INFORM sing: Yes Level: 6 ft. be Measure Tool: be welopment: wle ENTS: CLOG DT - Other fill brown SM - S	ganization: Borough of May S Park Avenue Maywood Bor CATION: FUSRAP Maywood dergesell Avenue / MW-53S corgen Municipality 610699 Northing nate System: NJ State Plane (: MONITORING b: STRUCTION Drilled (ft.): 16 Depth to Depth to Top (ft.) Bottom (ft.) 0 16 0 11 11 16 Depth to Depth to Top (ft.) Bottom (ft.) 0 7 9 16 thod: Gravity method AL INFORMATION using: Yes Level: 6 ft. below land surfate Measure Tool: m scope oment Period: 1 hrs. evelopment: whale pump ENTS: CLOG OT - Other fill	ganization: Borough of Maywood S Park Avenue Maywood Boro, New Jersey of Sergesell Avenue / MW-53S confirmed by clienter of Municipality: Maywood Boro, New Jersey of Municipality: Maywood Boro, Northing (Y): 753050 In at Experimental Maywood Boro, New Jersey of Municipality: Maywood Boro, New Jersey of Maywood Boro, Northing Maywood Boro, New Jersey of Maywood Boro, New Jersey of Maywood B	ganization: Borough of Maywood S Park Avenue Maywood Boro, New Jersey 07607 CATION: FUSRAP Maywood Project Gergesell Avenue / MW-53S confirmed by client Gregen Municipality: Maywood Boro 610699 Northing (Y): 753050 Inate System: NJ State Plane (NAD83) - USFEET IMONITORING STRUCTION Depth to Depth to Diameter Top (ft.) Bottom (ft.) (inches) 0 16 8 0 11 2 11 16 2 Depth to Depth to Diameter (inches) 11 1 2 11 16 2 Depth to Depth to Diameter (inches) O 7 8 2 9 16 8 2 Hod: Gravity method Dri AL INFORMATION sing: Yes Grevelopment: whale pump ENTS: ELOG DT - Other fill brown SM - Silty sands, sand-silt mixtures	ganization: Borough of Maywood 5 Park Avenue Maywood Boro, New Jersey 07607 CATION: FUSRAP Maywood Project lergesell Avenue / MW-53S confirmed by client rgen	GWNER: NA BOROUGH OF MAYWOOD ganization: Borough of Maywood 5 Park Avenue Maywood Boro, New Jersey 07607 CATION: FUSRAP Maywood Project legesell Avenue / MW-53S confirmed by client regen				

Larry Lynch,

Driller of Record: MONITORING LICENSE # 0024436

Record -- Page 1 of 1

Company: SGS NORTH AMERICA INC.

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608451

MONITORING WELL RECORD

PROPERTY	OWNER:	NA BOROUG	H OF MAYWO	OOD			
Company/Or	ganization: _B	orough of May	wood				
Address: 1	5 Park Avenue	Maywood Bor	ro, New Jersey	07607			
WELL LOC	ATION: FU	JSRAP Maywo	od Project				
Address: H	ergesell Aveni	ue / MW-53D c	confirmed by cli	ent			•
County: Be	rgen	Municipality	y: Maywood E	Boro	Lot: ROW	Block: R	ow
Fasting (V)	610712	Northing	(V). 752010		DATE WELLS	TADTED. Ink. 10. 20	116
				EET D			
WELL USE:	MONITOR	ING					· · · · · · · · · · · · · · · · · · ·
					Local ID: M	W-53D	
WELL CON	STRUCTION	V		,			
Total Depth	Drilled (ft.):_	62	Finished We	ell Depth (ft.):	62	Well Surface: Flus	sh Mount
Depth to Depth to Diameter Material Wgt/Rating/Screen # Used (lbs/ch no.)							
Porcholo		· · · · · · ·				(lb	s/ch no.)
					7-4.		
		-			Steel		sch 40
Screen			<u> </u>		5.00.		
	Denth to	Depth to	Outer	Innar		Motorial	
					Bentonite (lbs.)		Water (gal.)
Grout			` ′				
				*******	<u> </u>		
Grouting Met	hod: Pressur	e method (Tren	nie Pipe)	Dri	lling Method: _Air	Rotary	
		<u>ATION</u>		_			
		alow land curfa	20				
			CE			ı .	
Well Develop	ment Period:	1 hrs.		Dri	ll Rig: schramm T4		
	evelopment: air	<u>r lift</u>		Hea	alth and Safety Plan	Submitted? Yes	
	ENTS:						
		1					
10 - 25: redisl	n SM - Silty sa	nds, sand-silt n	nixtures				
25 - 32: redisl	WR - Weath	ered Rock shale	e		101		
32 - 62: redish	n CR - Compet	tent Rock shale	,				
ADDITIONA	L INFORMA	ATION: open	rock hole				
		,		***************************************		THE MAN AND AND AND AND AND AND AND AND AND A	
					•		
-							
Driller of Rec	Larry I		NSE # 0024436		Company:	SGS NORTH AME	RICA INC.

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number **E201608454**

MONITORING WELL RECORD

	-	NA BOROUG	H OF MAYWO	OOD				
• •	_		o, New Jersey	7607				
		•	<u> </u>	37007			•	
		JSRAP Maywo						
Address: Ed	ccelston Avenu	ue / MW-54S c	onfirmed by clie	ent				
County: Ber	rgen	_ Municipalit	y: <u>Maywood B</u>	oro	_ Lot:_ROW		Block: R	ow
Easting (X):	611200	Northing	(Y): <u>752798</u>		DATE WELL ST	TAR	ΓED: July 28, 20	16
Coordi	nate System: N	J State Plane (NAD83) - USFI	EET DA	ATE WELL COM	PLET	ΓΕD: July 28, 20	16
WELL USE:	MONITOR	ING						
Other Use(s)	ŧ				Local ID: M	W-54	S	
WELL CON	STRUCTION	1			•		••	
Total Depth	Drilled (ft.):	11	Finished We	ll Depth (ft.):	10.5	Well	Surface: Flus	sh Mount
	Depth to	Depth to	Diameter		Material			g/Screen # Used
Borehole	Top (ft.) 0	Bottom (ft.)	(inches)				(Ib	s/ch no.)
Casing	0	5.5	2		PVC			sch 40
Screen	5.5	10.5	2		PVC	-		.010
				7		!	34.4.1	,
	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Bentonite (lbs.)	Nea	Material at Cement (lbs.)	Water (gal.)
Grout	0	4	7	2	5		86	7
Gravel Pack	4	11	7	2	+		#1 Filpro	
Grouting Met	hod: Pressur	e method (Trer	nie Pipe)	Dri	lling Method: Holl	low S	tem Augers	
Protective Cas	_evel: 7 ft. be Measure Tool: ment Period:	low land surfa m scope 1 hrs.	ce	Tot Drii Drii	np Capacity: _ gpm al Design Head: _ fi Iling Fluid: Il Rig: <u>Schramm 450</u> Ith and Safety Plan	t. <u>0</u>	nitted? <u>Yes</u>	
ATTACHME	ENTS:							
GEOLOGIC								
0 - 5: Brown-l			***. * .					
5 - 11: Brown	-Ked SM - Sil	ty sands, sand-	siit mixtures	·····	<u></u>			
ADDITIONA	L INFORMA	ATION:						

Nicholas A Fallucca,

Driller of Record: JOURNEYMAN LICENSE # 0001302

Company: SGS NORTH AMERICA INC.

New Jersey State Department of Environmental Protection Bureau of Water Allocation and Well Permitting

Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number E201608453

MONITORING WELL RECORD

PROPERTY	OWNER:	NA BOROUG	H OF MAYWO	OOD		·	
Company/Or	ganization: B	orough of May	wood				
•	—		ro, New Jersey	07607			
WELL LOC	ATION: FU	JSRAP Maywo	od Project				
Address: Ed	ccelston Aven	ue / MW-54D	confirmed by cli	ent			1
County: Be	rgen	Municipalit	y: Maywood E	Boro	Lot: ROW	Block: R	OW
Facting (Y):	611105	Northing	(Y): 752788	· ·	DATE WELL ST	Г АRTED: July 25, 20	16
			NAD83) - USF	EET D.		PLETED: July 27, 20	
WELL USE:	MONITOR	ING					
					Local ID: M	W-54D	· · · · · · · · · · · · · · · · · · ·
WELL CON	STRUCTION	J		_			
	Drilled (ft.):		Finished We	ell Depth (ft.):	78.5	Well Surface: Flus	h Mount
1 otal 2 op in			•				
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)		Material		g/Screen # Used s/ch no.)
Borehole	0	38	10			(15)	
Borehole	38	79	6				·=·
Casing	0	58.5	2		PVC	S	sch 40
Casing	0	. 38	6		Steel		.280
Screen	58.5	78.5	2		PVC		.010
1	Depth to	Depth to	Outer	Inner		Material	
ļ	Top (ft.)	Bottom (ft.)	Diameter (in.)	·	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	11. 36.1 1 4.5	#1 Filpro	
		e method (Trei	nie Pipe)	Dri	lling Method: Air	Kotary	
ADDITIONA Protective Cas		ATION		Pur	np Capacity: _ gpm		
		elow land surf	ace		al Design Head: _ ft	•	•
Water Level N				Dri	lling Fluid:		
Well Develop					ll Rig: <u>Schramm 45</u> 0		
Method of De .Pump Type:	velopment: an	r litt		Hea	alth and Safety Plan	Submitted? <u>Yes</u>	
ATTACHMI	ENTS:						•
GEOLOGIC							
0 - 5: Brown-		er fill					
		ty sands, sand-	silt mixtures				
			gravel-sand-clay	mixtures			
		eathered Rock	· · · · · · · · · · · · · · · · · · ·				
28 - 79: browi	n/red CR - Coi	npetent Rock s	andstone				
ADDITIONA	L INFORMA	ATION:					
					<u></u>		
Driller of Rec		s A Fallucca, EYMAN LICE	ENSE # 000130:	2	Company:	SGS NORTH AME	RICA INC.

APPENDIX A

NJDEP SURVEY FORM B FOR MODIFIED AND NEW LTM WELLS



Monitoring Well Certification Form B - Location Certification

	(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	
Name of Well Owner USACE	
2. Well Location (Street Address) 90 Park Way, Rochelle P	ark, 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 affi	ked to the well casing): E201604771
2. Site Well Number (As shown on application or plans): B38	
Geographic Coordinate NAD 83 to nearest 1/100 of a secon	
Latitude: North 40 53 52.87	Longitude: West 74 04 30.94
4. New Jersey State Plane Coordinates NAD 83 datum, US su	rvey 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 Ele	vation of ground: 44.54
Check one: ☑ NAVD 88 ☐ NVGD29 ☐ On Site D	Datum Other
6. Source of elevation datum (benchmark, number/description here, assume datum of 100', and give approximated actual e	
NAVD88 ESTABLISHED BY GPS METHODS.	
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION	SEAL
I certify under penalty of law that I have personally examined and an	m familiar with the
information submitted in this document and all attachments and that those individuals immediately responsible for obtaining the information	, based on my inquiry of
submitted information is true, accurate and complete. Lam aware the	fattere are significant
penalties for submitting false information including the possibility of	
Professional Land Surveyor's Signature:	Date //20/17
Surveyor's Name: PAUL EMILIUS, Jr.	License Number: 37186
Firm Name: LAYOUT, INC.	Certificate of Authorization #: 24GA28114600
Mailing Address 24 KANOUSE ROAD	NJ Zin Code: 07435
City/Town: NEWFOUNDLAND State	(OTO) 000 0 (OO
Phone Number (973) 249-0900 Ext.:	Fax: (973) 838-6433



Monitoring Well Certification Form B - Location Certification

	:		(For Department use only)
SECTION A. SITE N	NAME AND LOCATION		
Site Name: FUSR	AP Maywood Superfund Site		
List all AKAs:			
Street Address: 10	00 West Hunter Avenue		
Municipality: Mayv	vood	(Township, Borough	or City)
County: Bergen		Zip Code: 07607	
Program Interest (PI)	Number(s):	Case Tracking No	umber(s):
SECTION B. WELL	OWNER AND LOCATION		-
1. Name of Well Ow	vner USACE	·	·
2. Well Location (St	reet Address) 90 Park Way, Rochell	e Park, NJ	
3. Well Location (M	unicipal Block and Lot) Block#	41.01	Lot # 17.01
SECTION C. WELL	LOCATION SPECIFICS		
1. Well Permit Num	ber (This number must be permanently	affixed to the well casing): E20	01604770
	r (As shown on application or plans):	• · —	
•	rdinate NAD 83 to nearest 1/100 of a se		·
Latitude: North		Longitude: West 74 0	4 30.85
	e Plane Coordinates NAD 83 datum, US	•	
North 752325	· .	East 609543	
5. Elevation of Top	of Inner Casing (cap off) at reference m		
		Elevation of ground: 44.53	
Check one: 🗵	NAVD 88 NVGD29 On Si	te Datum	
	on datum (benchmark, number/descripti tum of 100', and give approximated actu		
NAVD88 EST	ABLISHED BY GPS METHODS.		·
7. Significant observ	vations and notes:	•	
7. Significant observ	vations and flotes.		
SECTION D. LAND	SURVEYOR'S CERTIFICATION		EAL
	of law that I have personally examined an		
information submitted	in this document and all attachments and	that, yased on my inquiry of	
submitted information	ediately responsible for obtaining the information is true, accurate and complete. I am awar	e that there are significant	
penalties for submitting	g false information including the possibility	of fine and imprisonment.	
Professional Land Su	·		Date 1/20/17
Surveyor's Name: F		License	e Number: 37186
Firm Name: LAYOU	IT, INC.	Certificate of Author	rization #: 24GA28114600
Mailing Address	24 KANOUSE ROAD		
City/Town: NEWFO	DUNDLAND Sta	ate NJ	Zip Code: <u>07435</u>
Phone Number	(973) 249-0900 Ex	t.: Fa:	x: (973) 838-6433



Monitoring Well Certification Form B - Location Certification

	(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	
Name of Well Owner USACE	
2. Well Location (Street Address) 100 West Hunter Aven	ue
3. Well Location (Municipal Block and Lot) Block#	9.01 Lot # 1
SECTION C. WELL LOCATION SPECIFICS	
1. Well Permit Number (This number must be permanently a	ffixed to the well casing): E201604681
2. Site Well Number (As shown on application or plans): BF	RPZ-2
3. Geographic Coordinate NAD 83 to nearest 1/100 of a sec	ond:
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 ma	rk (nearest 0.01'): 54.62
Elevation Top of Outer casing: 53.28	levation of ground: 53.28
Check one: ☑ NAVD 88 ☐ NVGD29 ☐ On Site	Datum Dother
6. Source of elevation datum (benchmark, number/description here, assume datum of 100', and give approximated actual	n and elevation/datum). If an on-site datum is used, identify l elevation (referencing NAVD 88).
NAVD88 ESTABLISHED BY GPS METHODS.	
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION	/ SEAL
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 the those individuals immediately responsible for obtaining the information of the information in the	
submitted information is true, accurate and complete I am aware penalties for submitting false information including the possibility	that there are significant
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	A11
City/Town: NEWFOUNDLAND Sta	
Phone Number (973) 249-0900 Ext.	: Fax: (973) 838-6433



Monitoring Well Certification Form B - Location Certification

	(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	
Name of Well Owner USACE	
Well Location (Street Address) 100 West Hunter Avenue	, Rochelle Park, NJ
Well Location (Municipal Block and Lot) Block# 19.	01 Lot # 1
SECTION C. WELL LOCATION SPECIFICS	
Well Permit Number (This number must be permanently affix	red to the well casing): E201604691
2. Site Well Number (As shown on application or plans): BRP	Z-3
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second	d:
Latitude: North 40 53 50.12	Longitude: West 74 04 21.04
4. New Jersey State Plane Coordinates NAD 83 datum, US sur	vey feet units, to nearest foot:
North <u>752055</u>	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 Elev	vation of ground: 53.22
Check one: NAVD 88 □ NVGD29 □ On Site D	atum 🔲 Other
Source of elevation datum (benchmark, number/description a here, assume datum of 100', and give approximated actual e	
NAVD88 ESTABLISHED BY GPS METHODS.	
7. Significant observations and notes:	
organicant observations and notes.	
	.
SECTION D. LAND SURVEYOR'S CERTIFICATION	SEAL
l certify under penalty of law that I have personally examined and an	n familiar with the
information submitted in this document and all attachments and that those individuals immediately responsible for obtaining the information	
submitted information is true, accurate and complete. I am aware the	at there are significant
penalties for submitting false information including the possibility of f	ine and imprisonment.
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



Monitoring Well Certification Form B - Location Certification

			(For Department use only)
SECTION A. SITE NAME AND LOCATION			•
Site Name: FUSRAP Maywood Superfund Site			
List all AKAs:		<u>_</u>	
Street Address: 100 West Hunter Avenue			<u> </u>
Municipality: Maywood		(Township, Borough or	· City)
County: Bergen		Zip Code: 07607	
Program Interest (PI) Number(s):		Case Tracking Num	ber(s):
SECTION B. WELL OWNER AND LOCATION			
Name of Well Owner USACE	_		
		Rochelle Park, NJ	·
Well Location (Municipal Block and Lot) Block	ock# 19.0	<u>1</u> Lo	t# <u>1</u>
SECTION C. WELL LOCATION SPECIFICS			
1. Well Permit Number (This number must be permane	ently affixe	ed to the well casing): E2016	604693
2. Site Well Number (As shown on application or plans	s): BRPZ	4	· ·
3. Geographic Coordinate NAD 83 to nearest 1/100 of	a second:		
Latitude: North 40 53 51.03		Longitude: West 74 04 2	20.68
4. New Jersey State Plane Coordinates NAD 83 datum	n, US surv	ey feet units, to nearest foot	
North <u>752146</u>		East 610325	
5. Elevation of Top of Inner Casing (cap off) at referen	ce mark (ı	nearest 0.01'): 55.11	
Elevation Top of Outer casing: 55.39	Eleva	tion of ground: 53.00	
Check one: NAVD 88 □ NVGD29 □ C	On Site Da	tum 🔲 Other	
Source of elevation datum (benchmark, number/des here, assume datum of 100', and give approximated			
NAVD88 ESTABLISHED BY GPS METHO	DS.		
7. Significant observations and notes:			
SECTION D. LAND SURVEYOR'S CERTIFICATION		SEA	
I certify under penalty of law that I have personally examine	ed and am i	familiar with the	•
information submitted in this document and all attachments those individuals immediately responsible for obtaining the			
submitted information is true, accurate and complete. Jam	aware that	there are significant	
penalties for submitting false information including the poss	ibility of in	e and imprisonment.	.4 1 -
Professional Land Surveyor's Signature:	////		Date 12a/17
Surveyor's Name: PAUL EMILIUS, Jr.			lumber: 37186
Firm Name: LAYOUT, INC.		_ Certificate of Authoriz	ation #: 24GA28114600
Mailing Address 24 KANOUSE ROAD			
City/Town: NEWFOUNDLAND	_ State	NJ	Zip Code: <u>07435</u>
Phone Number (973) 249-0900	Fxt ·	Fax [.]	(973) 838-6433



Monitoring Well Certification Form B - Location Certification

·		·	(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):	<u>_</u> _
SECTION B. WELL OWNER AND LOCATION			
Name of Well Owner USACE			
2. Well Location (Street Address) 100 West Hunter	Avenue, Roc	chelle Park, NJ	
3. Well Location (Municipal Block and Lot) Blo	ck# 19.01	Lot # 1	
SECTION C. WELL LOCATION SPECIFICS			
Well Permit Number (This number must be permane	ently affixed t	o the well casing): E201604695	
2. Site Well Number (As shown on application or plans	Ÿ	<u> </u>	
3. Geographic Coordinate NAD 83 to nearest 1/100 of	,		
Latitude: North 40 53 51.10	-	ongitude: West 74 04 20.93	
4. New Jersey State Plane Coordinates NAD 83 datum			
North 752154		East 610305	·
5. Elevation of Top of Inner Casing (cap off) at reference			
Elevation Top of Outer casing: 54.33	Elevatio	n of ground: 52.02	
Check one: ⊠ NAVD 88 ☐ NVGD29 ☐ O	n Site Datum	n	 -
6. Source of elevation datum (benchmark, number/deschere, assume datum of 100', and give approximated			itum is used, identify
NAVD88 ESTABLISHED BY GPS METHOL			
	50.		
7. Significant observations and notes:			
	•		
CECTION D. LAND QUENTYORIO CERTIFICATION		<u> </u>	···
SECTION D. LAND SURVEYOR'S CERTIFICATION I certify under penalty of law that I have personally examine		SEAL SEAL	\$
information submitted in this document and all attachments	and that, bas	ed on my inquiry of	
those individuals immediately responsible for obtaining the i	information [believe the	en e
submitted information is true, accurate and complete. I ampenalties for submitting false information including the possi	aware macane ibility of fine a	ere are significant and imprisonment.	
Professional Land Surveyor's Signature:			Date 1/2017
Surveyor's Name: PAUL EMILIUS, Jr.		License Number:	~
Firm Name: LAYOUT, INC.		Certificate of Authorization #:	
Mailing Address 24 KANOUSE ROAD			
City/Town: NEWFOUNDLAND	State N	NJ Zip C	ode: 07435
Phone Number (973) 249-0900	Ext.:	Fax: (973)	838-6433



Monitoring Well Certification Form B - Location Certification

	<u> </u>		(For Department use only)
SECTION A. SITE NAME AND LOCATION			
Site Name: FUSRAP Maywood Superfund Site			<u> </u>
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	s):
SECTION B. WELL OWNER AND LOCATION			
Name of Well Owner USACE			
2. Well Location (Street Address) 100 West Hunter A	Avenue, Roc	helle Park, NJ	
Well Location (Municipal Block and Lot) Block	k# <u>19.01</u>	Lot #	1
SECTION C. WELL LOCATION SPECIFICS			
1. Well Permit Number (This number must be permaner	ntly affixed to	the well casing): E2016047	08
2. Site Weil 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	L	ongitude: West 74 04 20.89	
4. New Jersey State Plane Coordinates NAD 83 datum,	US survey f	eet units, to nearest foot:	i
North 752270	E	ast 610308	
5. Elevation of Top of Inner Casing (cap off) at reference			
Elevation Top of Outer casing: 53.53		of ground: 51.47	
Check one: NAVD 88 NVGD29 OI	— n Site Datum	☐ Other	
6. Source of elevation datum (benchmark, number/desc	ription and e	levation/datum). If an on-site	datum is used, identify
here, assume datum of 100', and give approximated a	actual elevat	on (referencing NAVD 88).	
NAVD88 ESTABLISHED BY GPS METHOD	DS.		
7. Significant observations and notes:			
SECTION D. LAND SURVEYOR'S CERTIFICATION		SEAL	
I certify under penalty of law that I have personally examined	d and am fam	liar with the	*
information submitted in this document and all attachments a those individuals immediately responsible for obtaining the in			
submitted information is true, accurate and complete. I ame	ware that the	re are significant	
penalties for submitting false information including the possit	bility of fine a	nd-imprisonment.	
Professional Land Surveyor's Signature:			Date 1/20/f
Surveyor's Name: PAUL EMILIUS, Jr.		License Numb	
Firm Name: LAYOUT, INC.		Certificate of Authorization	1#: 24GA28114600
Mailing Address 24 KANOUSE ROAD			
City/Town: NEWFOUNDLAND	State N		p Code: <u>07435</u>
Phone Number (973) 249-0900	Ext.:	Fax: _(97	73) 838-6433



Monitoring Well Certification Form B - Location Certification

			or Department use only)
SECTION A. SITE NAME AND LOCATION			
Site Name: FUSRAP Maywood Superfund Sit	e		
List all AKAs:			
Street Address: 100 West Hunter Avenue	· 		_
Municipality: Maywood	(T	ownship, Borough or City)	
County: Bergen	Zi	o Code: 07607	
Program Interest (PI) Number(s):		Case Tracking Number(s):	
SECTION B. WELL OWNER AND LOCATION			
Name of Well Owner USACE		·	
2. Well Location (Street Address) 100 W. Hu	unter Avenue, Maywood	Borough, NJ	<u> </u>
3. Well Location (Municipal Block and Lot)	Block# 124	Lot # 46	
SECTION C. WELL LOCATION SPECIFICS			
1. Well Permit Number (This number must be p	ermanently affixed to the	well casing): E201604710	·
2. Site Well Number (As shown on application of			
3. Geographic Coordinate NAD 83 to nearest 1.	/100 of a second:		
Latitude: North 40 53 53.01	Long	itude: West 74 04 17.38	
4. New Jersey State Plane Coordinates NAD 83	3 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	<u> </u>
Elevation Top of Outer casing: 59.52	Elevation of	ground: <u>57.25</u>	
Check one: ☑ NAVD 88 ☐ NVGD29	☐ On Site Datum	Other	
Source of elevation datum (benchmark, numbere, assume datum of 100', and give approx			ım is used, identify
NAVD88 ESTABLISHED BY GPS M	ETHODS.		
7. Significant observations and notes:			
SECTION D. LAND SURVEYOR'S CERTIFICA	TION	SEAL	
I certify under penalty of law that I have personally		with the	
information submitted in this document and all attact those individuals immediately responsible for obtain	hments and that, based on ing the information A belie	my inquiry of leave the	
submitted information is true, accurate and complete	e. I am aware that there a	re significant	
penalties for submitting false information including t	he possibility of the and in	mprisonment.	112/2
Professional Land Surveyor's Signature:			Date 1/20/17
Surveyor's Name: PAUL EMILIUS, Jr.			37186
Firm Name: LAYOUT, INC.		ertificate of Authorization #:	24GAZ01140UU
Mailing Address 24 KANOUSE ROAD			07425
City/Town: NEWFOUNDLAND	State NJ	Zip Co	
Phone Number (973) 249-0900	Ext.:	Fax: <u>(973)</u> 8	38-6433



Monitoring Well Certification Form B - Location Certification

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 Jerssey 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 ROSS METHODLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NOS MARKER RV3423.
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 NYGD29 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
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 METH-OOCLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS
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
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
Program Interest (PI) 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
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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): 838W-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
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
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
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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.
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.
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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.
7. Significant observations and notes:
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL
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 am any fire that there are significant penalties for submitting false information including the possibility of fine and imprisonment.
Professional Land Surveyor's Signature:
Surveyor's Name: PAULEMILIUS, Jr. License Number: 37156
Surveyor's Name.
Firm Name: LAYOUT, INC. Certificate of Authorization # 24GA281114600
Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600 Mailing Address 24 KANQUSE ROAD
Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600 Mailing Address



Monitoring Well Certification Form B - Location Certification

· ·	(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	
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-14	
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 (ne	arest 0.01'): 44.45
Elevation Top of Outer casing: 44.77 Elevation	on of ground: 44.53
Check one: ☑ NAVD 88 ☐ NVGD29 ☐ On Site Datu	m □.0ther
6. Source of elevation datum (benchmark, number/description and here, assume datum of 100', and give approximated actual elevations.	elevation/datum). If an on-site datum is used, identify ation (referencing NAVD 88).
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODO REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS M	DLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS MARKER KV3423.
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION	SEAL
I certify under penalty of law that I have personally examined and am fainformation submitted in this document and all attachments and that, ba	miliar with the
those individuals immediately responsible for obtaining the information	believe the
submitted information is true, accurate and complete. I am away that the penalties for submitting false information including the possibility of time	here are significant
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	
	NJ Zip Code: 07435
Phone Number (973) 249-0900 Ext.:	Fax: (973) 838-6433



Monitoring Well Certification Form B - Location Certification

(FOI L	Jepartinesic use omy)
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	-
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	
Well Permit Number (This number must be permanently affixed to the well casing): E201605161	
Site Well Number (As shown on application or plans): B38W18DR	
Geographic Coordinate NAD 83 to nearest 1/100 of a second:	
Latitude: North 40 53 51.87 Longitude: West 74 04 12.69	
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 here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).	is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEIC REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	A SMARTNET GNSS
7. Significant observations and notes:	•
the control of the co	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
Lecrtify 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 the and imprisonment.	
	rate Mhill
	186
Firm Name: LAYOUT, INC. Certificate of Authorization #: 24	
Mailing Address 24 KANOUSE ROAD	
City/Town: NEWFOUNDLAND State NJ Zip Code	07435



Monitoring Well Certification Form B - Location Certification

	(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)	i:
SECTION B. WELL OWNER AND LOCATION	
1. Name of Well Owner USACE	·
Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ	
3. Well Location (Municipal Block and Lot) Block# 124 Lot # 4	5
SECTION C. WELL LOCATION SPECIFICS	
1. Well Permit Number (This number must be permanently affixed to the well casing): E20160508	9
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 here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSI REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	EY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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. Delieve the	
submitted information is true, accurate and complete. I am avere that there are significant penalties for submitting false information including the possibility of fine and imprisonment.	
Professional Land Surveyor's Signature:	Date /1/2///6
Surveyor's Name: PAUL EMILIUS, Jr. License Numb	
Firm Name: LAYOUT, INC. Certificate of Authorization	
Mailing Address 24 KANOUSE ROAD	
	Code: 07435
	3) 838-6433



Monitoring Well Certification Form B - Location Certification

	(For Department use only)
SECTION A. SITE NAME AND LOCATION	
Site Name: FUSRAP Maywood Superfund Site	
List all AKAs:	VIII.
Street Address: 100 West Hunter Avenue	7
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	,
Name of Well Owner USACE	
Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ	
3. Well Location (Municipal Block and Lot) Block# 124 Lot # 4	15
SECTION C. WELL LOCATION SPECIFICS	
1. Well Permit Number (This number must be permanently affixed to the well casing): E2016050	90
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	<u> </u>
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	
 Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88). 	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	SEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
	·
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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 the and imprisonment.	
Professional Land Surveyor's Signature:	Date 11/2//16
Surveyor's Name: PAUL EMILIUS, Jr. License Num	ber: 37186
Firm Name: LAYOUT, INC. Certificate of Authorization	n#: 24GA28114600
Mailing Address 24 KANOUSE ROAD	
	ip Code: 07435
Phone Number (973) 249-0900 Ext.: Fax: (9	73) 838-6433



Monitoring Well Certification Form B - Location Certification

(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
Name of Well Owner USACE
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
Well Permit Number (This number must be permanently affixed to the well casing): E201605165
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 ☐ 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 SEAL
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, believe the
submitted information is true, accurate and complete. Yam aware that there are significant penalties for submitting false information including the possibility of the and imprisonment.
Professional Land Surveyor's Signature:
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



Monitoring Well Certification Form B - Location Certification

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	
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	
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	
Geographic Coordinate NAD 83 to nearest 1/100 of a second:	
Latitude: North 40 53 56.19 Longitude: West 74 04 21.78	
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, ide	ntifv
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 REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	GNSS
7. Significant observations and notes:	
	- 1
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
I certify under penalty of law that I have personally examined and am/familiar with the	1
information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, believe the	
submitted information is true, accurate and complete. Yam await that there are significant	
penalties for submitting false information including the possibility of fine and imprisonment.	
	2//16
Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186	
Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA2811460	0
Mailing Address 24 KANOUSE ROAD	
City/Town: NEWFOUNDLAND State NJ Zip Code; 07435	
Phone Number (973) 249-0900 Ext.: Fax: (973) 838-6433	



Monitoring Well Certification Form B - Location Certification

A PARIMENT.	(For Department use only)
SECTION A. SITE NAME AND LOCATION	
Site Name: FUSRAP Maywood Superfund Site	
List all AKAs:	- Individual and the second se
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	
Name of Well Owner USACE	
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): E20160509	6
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	A direction of the second of t
Elevation Top of Outer casing: 54.29 Elevation of ground: 51.79	
Check one: NAVD 88 NVGD29 On Site Datum Other	
Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSE REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	Y LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	. 1
I certify under penalty of law that I have personally examined and any 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 believe the submitted information is true, accurate and complete. I are aware that there are significant	
penalties for submitting false information including the possibility of the and imprisonment.	
Professional Land Surveyor's Signature:	Date 4/2//6
Surveyor's Name: PAUL EMILIUS, Jr. License Numb	er. 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:	3) 838-6433



Monitoring Well Certification Form B - Location Certification

. -	(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	
Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ	
3. Well Location (Municipal Block and Lot) Block# 124 Lot # 4	6
SECTION C. WELL LOCATION SPECIFICS	
1. Well Permit Number (This number must be permanently affixed to the well casing): E20160509	7
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 here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSI REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	EY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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, believe the	
submitted information is true, accurate and complete. I am available there are significant penalties for submitting false information including the possibility of fine and impresentent.	
Professional Land Surveyor's Signature:	Date 11/2//6
Surveyor's Name: PAUL EMILIUS, Jr. License Numb	
Firm Name: LAYOUT, INC. Certificate of Authorization	
Mailing Address 24 KANOUSE ROAD	
	Code: 07435
Phone Number (973) 249-0900 Ext.: Fax: (97	3) 838-6433



Monitoring Well Certification Form B - Location Certification

(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
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
 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 GNS: REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.
7. Significant observations and notes:
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL
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 the and imprisonment.
Professional Land Surveyor's Signature: Date 1/2//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
Phone Number (973) 249-0900 Ext.: Fax: (973) 838-6433



Monitoring Well Certification Form B - Location Certification

(For Department use on	(y)
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	
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	
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).	, Lig
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GN REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	188
7. Significant observations and notes:	
	y M
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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 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 fire and imprisonment.	1.,
Professional Land Surveyor's Signature: Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186	/6
	-
Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600 Mailing Address 24 KANOUSE ROAD	
	-
Phone Number (973) 249-0900 Ext.: Fax: (973) 838-6433	1.51



Monitoring Well Certification Form B - Location Certification

			(For Departm	nent use only)
SEC	CTION A. SITE NAME AND LOCATION			
Site	Name: FUSRAP Maywood Superfund Site			
List	all AKAs:			
Stre	eet Address: 100 West Hunter Avenue			
Mur	nicipality: Maywood		(Township, Borough or City)	
Cot	inty: Bergen	<u></u>	Zip Code: 07607	
Pro	gram Interest (PI) Number(s):		Case Tracking Number(s):	
SEC	CTION B. WELL OWNER AND LOCATION			
1.	Name of Well Owner USACE			,
2.	Well Location (Street Address) 100 West Hunter	r Avenue, Ro	ochelle Park TWP	
3.	Well Location (Municipal Block and Lot) Bk	ock# 19.01	Lot # 1	· .
SE	CTION C. WELL LOCATION SPECIFICS			
1.	Well Permit Number (This number must be perman	ently affixed	to the well casing): 26-61466	
2.	Site Well Number (As shown on application or plans			
	Geographic Coordinate NAD 83 to nearest 1/100 of		, , , , , , , , , , , , , , , , , , ,	
	Latitude: North 40 53 50.71		Longitude: West 74 04 20.71	
l	New Jersey State Plane Coordinates NAD 83 datur	 m. US surve		
	North 752114	.,	East 610323	
5.	Elevation of Top of Inner Casing (cap off) at referen	nce mark (ne		-
	Elevation Top of Outer casing: 53.28	•	ion of ground: 53.28	
		On Site Date		
6.	Source of elevation datum (benchmark, number/de here, assume datum of 100', and give approximated			ed, identify
	NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GN		•	RTNET GNSS
_	REFERENCE NETWORK. PERIODIC CHECKS WERE MA	ADE TO NGS	MARKER KV3423.	
7.	Significant observations and notes:			
<u> </u>				
i .	CTION D. LAND SURVEYOR'S CERTIFICATION		SEAL	
	rtify under penalty of law that I have personally examin rmation submitted in this document and all attachment			
thos	se individuals immediately responsible for obtaining the	information,	Thelieve the	
sub	mitted information is true, accurate and complete. I an alties for submitting false information including the pos	n aware that sibility of how	Mere are significant	
l l	ofessional Land Surveyor's Signature:		Date	11/2/11
1	veyor's Name: PAUL EMILIUS, Jr.	// 0	License Number: 37186	1115110
	m Name: LAYOUT, INC.		Certificate of Authorization #: 24GA28	114600
i	iling Address 24 KANOUSE ROAD			
1	//Town: NEWFOUNDLAND	State	NJ Zip Code: 07	7435
1	one Number (973) 249-0900	Ext.:	Fax: (973) 838-6433	- W LIFE



Monitoring Well Certification Form B - Location Certification

(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
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
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 GNS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.
7. Significant observations and notes:
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL
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 parinquiry of those individuals immediately responsible for obtaining the information, believe the
submitted information is true, accurate and complete. Vam aware that there are significant
penalties for submitting false information including the possibility of fine and imprisonment.
Professional Land Surveyor's Signature: Date 1/2//
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



Monitoring Well Certification Form B - Location Certification

	(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	y)
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	
Well Location (Street Address)	
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): E201605	108
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 20.7	'6
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	
 Source of elevation datum (benchmark, number/description and elevation/datum). If an on-sit here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88). 	te datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JER REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	RSEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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 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 time and imprisonment.	
Professional Land Surveyor's Signature:	Date 11/2/16
Surveyor's Name: PAUL EMILIUS, Jr. License Num	
Firm Name: LAYOUT, INC. Certificate of Authorizati	
Mailing Address 24 KANOUSE ROAD	1
	Zip Code: 07435
	973) 838-6433



Monitoring Well Certification Form B - Location Certification

			For Department use only)
SECTION A. SITE NAME AND LO			
Site Name: FUSRAP Maywood	Superfund Site		···
List all AKAs:			
Street Address: 100 West Hunte	r Avenue		
Municipality: Maywood		(Township, Borough or City)	
County: Bergen	The state of the s	Zip Code: 07607	
Program Interest (PI) Number(s):		Case Tracking Number(s):	
SECTION B. WELL OWNER AND	LOCATION	•	
Name of Well Owner USACE			
2. Well Location (Street Address)	100 West Hunter Avenue, R	ochelle Park TWP	
3. Well Location (Municipal Block	and Lot) Block# 19.01	Lot # 1	
SECTION C. WELL LOCATION S	PECIFICS		
1. Well Permit Number (This num	ber must be permanently affixed	to the well casing): 26-60716	
2. Site Well Number (As shown o	n application or plans): BRPZ-	1	
3. Geographic Coordinate NAD 8	3 to nearest 1/100 of a second:		
Latitude: North 40 53 51.03		Longitude: West 74 04 20.68	
4. New Jersey State Plane Coord	linates NAD 83 datum, US surve	y feet units, to nearest foot:	
North 752146		East 610325	
5. Elevation of Top of Inner Casin	ng (cap off) at reference mark (n	earest 0.01'): 55.11	
Elevation Top of Outer casing:	55.39 Elevat	ion of ground: 53.00	
Check one: NAVD 88	☐ NVGD29 ☐ On Site Date	um 🗌 Other	
	nchmark, number/description and nd give approximated actual elem	d elevation/datum). If an on-site da vation (referencing NAVD 88).	tum is used, identify
	TABLISHED BY RTK GNSS METHOD DIC CHECKS WERE MADE TO NGS	OOLOGY UTILIZING THE NEW JERSEY MARKER KV3423	LEICA SMARTNET GNSS
7. Significant observations and n	otes:		an a light
SECTION D. LAND SURVEYOR	S CERTIFICATION	SEAL	
I certify under penalty of law that I have			
information submitted in this docume those individuals immediately response			
submitted information is true, accurate penalties for submitting false information	ite and complete. Jam aware the	there are significant	en de la companya de La companya de la co
		e and imprisonment.	Data 12 1/21
Professional Land Surveyor's Sign Surveyor's Name: PAUL EMILIU		Liannan Numbar	Date 11/21/15 37186
Firm Name: LAYOUT, INC.		License Number: Certificate of Authorization #:	
Mailing Address 24 KANOUS	E ROAD		
City/Town: NEWFOUNDLAND	State	NJ Zip C	ode: 07435
Phone Number (973) 249-09			838-6433
7	— — — — — — — — — — — — — — — — — — —	1 070 1-3-7	



Monitoring Well Certification Form B - Location Certification

	(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	
Name of Well Owner USACE	
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	
 Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88). 	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	EY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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, believe the submitted information is true, accurate and complete. Lam aware that there are significant	
penalties for submitting false information including the possibility of fipe and imprisonment.	
Professional Land Surveyor's Signature:	Date <u>11/21//6</u>
Surveyor's Name: PAUL EMILIUS, Jr. License Numb	
Firm Name: LAYOUT, INC. Certificate of Authorization	1#: 24GA28114600
Mailing Address 24 KANOUSE ROAD	
City/Town: NEWFOUNDLAND State NJ Zi	p Code: 07435
Phone Number (973) 249-0900 Ext.: Fax: (97	73) 838-6433



Monitoring Well Certification Form B - Location Certification

	(Por 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 C	ity)
County: Bergen Zip Code: 07607	
Program Interest (PI) Number(s): Case Tracking Number	er(s):
SECTION B. WELL OWNER AND LOCATION	
Name of Well Owner USACE	
Well Location (Street Address) 100 West Hunter Avenue, Rochelle Park TWP	
3. Well Location (Municipal Block and Lot) Block# 19.01 Lot #	<u> 1 </u>
SECTION C. WELL LOCATION SPECIFICS	. :
1. Well Permit Number (This number must be permanently affixed to the well casing): 26-6070)3
2. Site Well Number (As shown on application or plans): OVPW-1S	
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-shere, assume datum of 100', and give approximated actual elevation (referencing NAVD 88)	
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JE REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	· ·
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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 the and imprisonment.	5.4. 2.1. 14
Professional Land Surveyor's Signature: Surveyor's Name: PAUL EMILIUS, Jr. License Nu	Date
	tion #: 24GA28114600
	HOH # 2TO/1201 1TOO
	Zip Code: 07435
	Zip Code: 07435 (973) 838-6433
Phone Number (973) 249-0900 Ext.: Fax:	(0, 0) 000-0-00



Monitoring Well Certification Form B - Location Certification

(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
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
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
 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 SEAL
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 of 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 the and imprisonment.
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



Monitoring Well Certification Form B - Location Certification

		(For Department use only)
SECTION A	A. SITE NAME AND LOCATION	
Site Name:	FUSRAP Maywood Superfund Site	
List all AKA	s:	
Street Addr	ess: 100 West Hunter Avenue	
Municipality	Maywood (Township, Borough or City)	
County:	Bergen Zip Code: 07607	
Program In	terest (PI) Number(s): Case Tracking Number(s)	:
SECTION I	B. WELL OWNER AND LOCATION	
1. Name o	of Well Owner USACE	
2. Well Lo	cation (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ	
3. Well Lo	cation (Municipal Block and Lot) Block# 124 Lot # 46	3
SECTION	C. WELL LOCATION SPECIFICS	
1. Well Pe	ermit Number (This number must be permanently affixed to the well casing): E20160509	4
2. Site We	ell Number (As shown on application or plans): MW-3SR	
3. Geogra	phic Coordinate NAD 83 to nearest 1/100 of a second:	
Latitude	e: North 40 53 55.75 Longitude: West 74 04 17.19	
4. New Je	ersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:	,
North	752626 East 610590	
5. Elevati	on of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 57.18	
Elevati	on Top of Outer casing: 57.68 Elevation of ground: 57.68	
Check	оле: ☑ NAVD 88 ☐ NVGD29 ☐ On Site Datum ☐ Other	
	of elevation datum (benchmark, number/description and elevation/datum). If an on-site essume datum of 100', and give approximated actual elevation (referencing NAVD 88).	datum is used, identify
	8 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSE ENCE NETWORK, PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	Y LEICA SMARTNET GNSS
7. Signific	ant observations and notes:	
	D. LAND SURVEYOR'S CERTIFICATION SEAL	
information those indivi	er penalty of law that I have personally examined and am familiar with the submitted in this document and all attachments and that, based for my inquiry of duals immediately responsible for obtaining the information. I believe the formation is true, accurate and complete. I am aware that there are significant	
	r submitting false information including the possibility of the and imprisonment.	
Profession	al Land Surveyor's Signature:	Date 11/2/11
Surveyor's	Name: PAUL EMILIUS, Jr. License Number	
Firm Name	E LAYOUT, INC. Certificate of Authorization	#: 24GA28114600
Mailing Ad	dress 24 KANOUSE ROAD	
City/Town:	NEWFOUNDLAND State NJ Zip	Code: 07435
Phone Nur	nber (973) 249-0900 Ext.: Fax: (973)	3) 838-6433



Monitoring Well Certification Form B - Location Certification

		[(Fo	r Department use only)
SEC	CTION A. SITE NAME AND LOCATION		
Site	Name: FUSRAP Maywood Superfund Site		
List	all AKAs:	The state of the s	
Stre	eet Address: 100 West Hunter Avenue		
Mui	nicipality: Maywood (7	Township, Borough or City)	
Cou	unty: Bergen Z	ip Code: 07607	
Pro	gram Interest (PI) Number(s):	Case Tracking Number(s):	
SEC	CTION B. WELL OWNER AND LOCATION		
1.	Name of Well Owner USACE		
2.	Well Location (Street Address) 100 W. Hunter Avenue, Maywood	l Borough, NJ	
3.	Well Location (Municipal Block and Lot) Block# 124	Lot # 46	
SE	CTION C. WELL LOCATION SPECIFICS		
1.	Well Permit Number (This number must be permanently affixed to th	e well casing): E201605095	
2.	Site Well Number (As shown on application or plans): MW-3DR	3	***
3.	Geographic Coordinate NAD 83 to nearest 1/100 of a second:		
	Latitude: North 40 53 55.72 Long	gitude: West 74 04 17.08	
4,	New Jersey State Plane Coordinates NAD 83 datum, US survey feet	t units, to nearest foot:	
	North 752623 East	610599	
5.	Elevation of Top of Inner Casing (cap off) at reference mark (neares	st 0.01'): 57.14	
	Elevation Top of Outer casing: 57.62 Elevation of	f ground: <u>57.62</u>	
	Check one: ☐ NAVD 88 ☐ NVGD29 ☐ On Site Datum	☐ Other	
6.	Source of elevation datum (benchmark, number/description and elevation assume datum of 100', and give approximated actual elevation		m is used; identify
	NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOG REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARK		ICA SMARTNET GNSS
7.	Significant observations and notes:		
<u> </u>	The second secon	2 1	
l	CTION D. LAND SURVEYOR'S CERTIFICATION	SEAL	
info	ertify under penalty of law that I have personally examined and am familia prination submitted in this document and all attachments and that, based	r with the	
tho	se individuals immediately responsible for obtaining the information () el	ieve the	
	mitted information is true, accurate and complete. I am aware that there natties for submitting false information including the possibility of the and		
1	ofessional Land Surveyor's Signature:		Date 11/7/1/
1	rveyor's Name: PAUL EMILIUS, Jr.	License Number:	37186
		Certificate of Authorization #:	24GA28114600
1	iling Address 24 KANOUSE ROAD	·	
1	y/Town: NEWFOUNDLAND State NJ	Zip Coo	de: 07435
1	one Number (973) 249-0900 Ext.:		88-6433



Monitoring Well Certification Form B - Location Certification

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-8D 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 NAVD 88 NORDS 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). NAVDBS ELEVATIONS WERE ESTABLISHED SY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS REFRENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423. SECTION D. LAND SURVEYOR'S CERTIFICATION Locatify under penalty of Jaw that I have personally examined and ap-familiar with the information submitted in this document and all attachments and Jirat, based on my-inquiry of those the	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: Latifude: 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 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 Daturn 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). NAVD8E LEVATIONS WERE ESTABLISHED BY RTK KNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTINET GNS: REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NAS MARKER KV3423. 5. Significant observations and notes: SECTION D. LAND SURVEYOR'S CERTIFICATION 1. Certify under penalty of law that I have personally examined and ap-familiar with the information submitting false information including the possibility of false are significant penalties for submitting false information including the possibility of false are significant penalties for submitting false information including the possibility of false are significant penalties for submitting false information including the possibility of false are significant penalties for submitting false information including the	(For Department use one	<u> </u>
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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 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. Libetieve the	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 Check one: NAVD 88 NAVD 88 NAVGD29 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 GNS: 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 triat, based on my-inquiry of those individuals immediately responsible for obtaining the information, Leefew the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. Professional Land Surveyor's Signature: Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186 Certificate of Authorization #: 24GA28114600 Mailing Address 24 KANOUSE ROAD City/Town: NEWFOUNDLAND State NJ Zip Code: 07435	Latitude: North 40:53:50.43 Longitude: West 74:04:41.33	
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 41.62 Elevation Top of Outer casing: 42.01	5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 41.62 Elevation Top of Outer casing: 42.01	4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:	
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 41.62 Elevation Top of Outer casing: 42.01	5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 41.62 Elevation Top of Outer casing: 42.01	North 752078 East 608739	_
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, Legieve the	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 GNS: 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 application in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information of the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of false and imprisonment. Professional Land Surveyor's Signature: Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186 Certificate of Authorization #: 24GA28114600 Mailing Address 24 KANOUSE ROAD City/Town: NEWFOUNDLAND State NJ Zip Code: 07435		
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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, Leelieve the	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. Lective the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fize and imprisonment. Professional Land Surveyor's Signature: Surveyor's Name: PAUL EMILIUS, Jr. 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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penalties for submitting false information including the possibility of fize and imprisonment.	Professional Land Surveyor's Signature: Surveyor's Name: PAUL EMILIUS, Jr. Firm Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600 Mailing Address	penalties for submitting false information including the possibility of fize and imprisonment.	
	Surveyor's Name: PAUL EMILIUS, Jr. Firm Name: LAYOUT, INC. Mailing Address 24 KANOUSE ROAD City/Town: NEWFOUNDLAND State NJ License Number: 37186 Certificate of Authorization #: 24GA28114600 Zip Code: 07435		1/4
	Firm Name: LAYOUT, INC. Mailing Address 24 KANOUSE ROAD City/Town: NEWFOUNDLAND State NJ Zip Code: 07435		-,
	Mailing Address 24 KANOUSE ROAD City/Town: NEWFOUNDLAND State NJ Zip Code: 07435		
	City/Town: NEWFOUNDLAND State NJ Zip Code: 07435		
07405		07405	
	Phone Number (973) 249-0900 Ext.: Fax: (973) 838-6433		



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 Nu	umber(s):		
SECTION B. WELL OWNER AND LOCATION			
Name of Well Owner USACE			
Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ			
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): E20	01109552		
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 0	4 16.19		
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest for	oot:		
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			
 Source of elevation datum (benchmark, number/description and elevation/datum). If an here, assume datum of 100', and give approximated actual elevation (referencing NAVE) 			
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NE REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	W JERSEY LEICA SMARTNET GNSS		
7. Significant observations and notes:			
SECTION D. LAND SUDVENODIO SECTION			
	SEAL		
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. Voelieve the submitted information is true, accurate and complete. Jam aware that there are significant			
penalties for submitting false information including the pessibility of fine and imprisonment.			
Professional Land Surveyor's Signature:	Date <u> </u>		
Surveyor's Name: PAUL EMILIUS, Jr. License Number: 37186			
Firm Name: LAYOUT, INC. Certificate of Author	orization #: 24GA28114600		
Mailing Address 24 KANOUSE ROAD			
City/Town: NEWFOUNDLAND State NJ	Zip Code: 07435		
Phone Number (973) 249-0900 Ext.: Fa	ax; (973) 838-6433		



Monitoring Well Certification Form B - Location Certification

	(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	
Name of Well Owner USACE	
Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ	
3. Well Location (Municipal Block and Lot) Block# 124 Lot # 46	5
SECTION C. WELL LOCATION SPECIFICS	
1. Well Permit Number (This number must be permanently affixed to the well casing): 26-65218	
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	THIAS - W
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	WHEN AND THE RESERVE
Elevation Top of Outer casing: 59.52 Elevation of ground: 57.25	
Check one: NAVD 88 NVGD29 On Site Datum Other	
 Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88). 	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSE REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	EY LEICA SMARTNET GNSS
7. Significant observations and notes:	'
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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 polyinguity of	† 4.
those individuals immediately responsible for obtaining the information, 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 figurate imprisonment.	
Professional Land Surveyor's Signature:	Date 21//2
Surveyor's Name: PAUL EMILIUS, Jr. License Number	
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: (97	3) 838-6433



Monitoring Well Certification Form B - Location Certification

	(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	s):
SECTION B. WELL OWNER AND LOCATION	
Name of Well Owner USACE	
Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ	
3. Well Location (Municipal Block and Lot) Block# 124 Lot # 4	46
SECTION C. WELL LOCATION SPECIFICS	
1. Well Permit Number (This number must be permanently affixed to the well casing): E2011100	50 ⁻
2. Site Well Number (As shown on application or plans): MW-42D	
Geographic Coordinate NAD 83 to nearest 1/100 of a second:	
Latitude: North 40 53 52.72 Longitude: West 74 04 10.83	3
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	
Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).	e datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	SEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
f	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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, 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 the and imprisonment.	
Professional Land Surveyor's Signature:	Date 11/21/16
Surveyor's Name: PAUL EMILIUS, Jr. License Num	ber: 37186
Firm Name: LAYOUT, INC. Certificate of Authorizatio	
Mailing Address 24 KANOUSE ROAD	
City/Town: NEWFOUNDLAND State NJ Z	ip Code: 07435
Phone Number (973) 249-0900 Ext.: Fax: (9	73) 838-6433



Monitoring Well Certification Form B - Location Certification

		(For Depai	rtment use only)
SEC	CTION A. SITE NAME AND LOCATION		
Site	Name: FUSRAP Maywood Superfund Site		
List	all AKAs:		
Stre	eet Address: 100 West Hunter Avenue		i.
Mur	nicipality: Maywood	(Township, Borough or City)	
Çou	Inty: Bergen	Zip Code: 07607	
Prog	gram Interest (PI) Number(s):	Case Tracking Number(s):	
SEC	CTION B. WELL OWNER AND LOCATION		
1.	Name of Well Owner USACE		
2.	Well Location (Street Address) 100 West Hunter Avenue, Rock	nelle Park TWP	
3.	Well Location (Municipal Block and Lot) Block# 20.01	Lot # 1	
SEC	CTION C. WELL LOCATION SPECIFICS		
1,	Well Permit Number (This number must be permanently affixed to	the well casing): E201605111	
	Site Well Number (As shown on application or plans): MW-43SR		
	Geographic Coordinate NAD 83 to nearest 1/100 of a second:		
		ongitude: West 74.04.21.54	
4.	New Jersey State Plane Coordinates NAD 83 datum, US survey for		
	North 752515	ast 610257	
5.	Elevation of Top of Inner Casing (cap off) at reference mark (near	est 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 e here, assume datum of 100', and give approximated actual elevation	levation/datum). If an on-site datum is uon (referencing NAVD 88).	sed, identify
	NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOL REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MA	OGY UTILIZING THE NEW JERSEY LEICA SM RKER KV3423.	MARTNET GNSS
7.	Significant observations and notes:		
		•	
l	CTION D. LAND SURVEYOR'S CERTIFICATION	SEAL	
info	rtify under penalty of law that I have personally examined and am fam rmation submitted in this document and all attachments and that, base	liar with the	
thos	se individuals immediately responsible for obtaining the information X	retreve the	
pen	mitted information is true, accurate and complete. I am aware that the alties for submitting false information including the possibility of the a	ns are significant lid imprisonment.	
l	fessional Land Surveyor's Signature:	Date	11/21/16
l .	veyor's Name: PAUL EMILIUS, Jr.	License Number: 37186	
1	n Name: LAYOUT, INC.		28114600
ı	iling Address 24 KANOUSE ROAD		
City	//Town: NEWFOUNDLAND State N	J Zip Code:	07435
Pho	one Number (973) 249-0900 Ext.:	Fax: (973) 838-643	33



Monitoring Well Certification Form B - Location Certification

		(For bepartment use only)
SEC	CTION A. SITE NAME AND LOCATION	,
Site	Name: FUSRAP Maywood Superfund Site	
List	all AKAs:	
Stre	eet Address: 100 West Hunter Avenue	
Mui	nicipality: Maywood	(Township, Borough or City)
Cou	unty: Bergen	Zip Code: 07607
Pro	gram Interest (PI) Number(s):	Case Tracking Number(s):
SE	CTION B. WELL OWNER AND LOCATION	
1.	Name of Well Owner USACE	
2.	Well Location (Street Address) 100 West Hunter Avenu	ie, Rochelle Park TWP
3.	Well Location (Municipal Block and Lot) Block# 2	0.01 Lot # 1
SE	CTION C. WELL LOCATION SPECIFICS	
1.	Well Permit Number (This number must be permanently af	fixed to the well casing): E201110054
2.	Site Well Number (As shown on application or plans): MV	
3.	Geographic Coordinate NAD 83 to nearest 1/100 of a seco	ond:
	Latitude: North 40.53 54.62	Longitude: West 74 04 21.55
4.	New Jersey State Plane Coordinates NAD 83 datum, US s	survey feet units, to nearest foot:
	North 752510	East 610256
5.	Elevation of Top of Inner Casing (cap off) at reference man	k (nearest 0.01'): 52.70
	Elevation Top of Outer casing: 52.97	levation of ground: 50.67
	Check one: ☑ NAVD 88 ☐ NVGD29 ☐ On Site	Datum
6.	Source of elevation datum (benchmark, number/descriptio here, assume datum of 100', and give approximated actual	n and elevation/datum). If an on-site datum is used, identify I elevation (referencing NAVD 88).
	NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS MEREFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO	THODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS NGS MARKER KV3423.
7.	Significant observations and notes:	
	CTION D. LAND SURVEYOR'S CERTIFICATION	SEAL
l ce	ertify under penalty of law that I have personally examined and rmation submitted in this document and all attachments and the	am familiar with the
tho	se individuals immediately responsible for obtaining the inform	ation. I believe the
sub	omitted information is true, accurate and complete. A am aware nalties for submitting false information including the possibility.	that there are significant
	ofessional Land Surveyor's Signature:	Date /1/21/16
1	rveyor's Name: PAUL EMILIUS, Jr.	License Number: 37186
1	m Name: LAYOUT, INC.	Certificate of Authorization #: 24GA28114600
	illing Address 24 KANOUSE ROAD	Soldingtic of Additional Info
1	y/Town: NEWFOUNDLAND State	te NJ Zip Code: 07435
1 ~	one Number (973) 249-0900 Ext.	



Monitoring Well Certification Form B - Location Certification

	(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	
Well Location (Street Address) 100 W. Hunter Avenue, Maywood Borough, NJ	
Well Location (Municipal Block and Lot) Block# 124 Lot # 46	3
SECTION C. WELL LOCATION SPECIFICS	
	5
 Well Permit Number (This number must be permanently affixed to the well casing): E20160509 Site Well Number (As shown on application or plans): MW-44S 	
Site vivel Number (As snown on application or plans):	A
Latitude: North 40 53 55.19 Longitude: West 74 04 15.48	
New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:	
North 752570 East 610722	
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	^
 Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site of here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88). 	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSE REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	Y LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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 or my inquiry of those individuals immediately responsible for obtaining the information. 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 the and imprisonment.	
Professional Land Surveyor's Signature:	Date 11821/16
Surveyor's Name: PAUL EMILIUS, Jr.	
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)	3) 838-6433



Monitoring Well Certification Form B - Location Certification

	(For Department use only)
SECTION A. SITE NAME AND LOCATION	,
Site Name: FUSRAP Maywood Superfund Site	, , , and the same of the same
List all AKAs:	
Street Address: 100 West Hunter Avenue	
Municipality: Maywood (Township, Borough or Cit	y)
County: Bergen Zip Code: 07607	- Language and the same and the
Program Interest (PI) Number(s): Case Tracking Number	(\$):
SECTION B. WELL OWNER AND LOCATION	
Name of Well Owner USACE	
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): E201605	158
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 19.7	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 ☐ NVGD29 ☐ On Site Datum ☐ Other	
 Source of elevation datum (benchmark, number/description and elevation/datum). If an on-si here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88). 	te datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JEF REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	RSEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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. believe the submitted information is true, accurate and complete. Lam aware that there are significant	
penalties for submitting false information including the possibility of time and imprisonment.	
Professional Land Surveyor's Signature:	Date 11/21/16
Surveyor's Name: PAUL EMILIUS, Jr. License Nur	nber: 37186
Firm Name: LAYOUT, INC. Certificate of Authorizati	on#: 24GA28114600
Mailing Address 24 KANOUSE ROAD	
City/Town: NEWFOUNDLAND State NJ	Zip Code: 07435
Phone Number (973) 249-0900 Ext.: Fax:	973) 838-6433



Monitoring Well Certification Form B - Location Certification

	(For Department use only)	
SEC	TION A. SITE NAME AND LOCATION	
Site	Name: FUSRAP Maywood Superfund Site	
List	all AKAs:	
Stre	et Address: 100 West Hunter Avenue	
Mun	icipality: Maywood (Township, Borough or City)	
Cou	nty: Bergen Zip Code: .07607	
Prog	ram Interest (PI) Number(s): Case Tracking Number(s):	
SEC	TION 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	
SEC	TION C. WELL LOCATION SPECIFICS	
1.	Well Permit Number (This number must be permanently affixed to the well casing): E201605091	
	Site Well Number (As shown on application or plans): MW-46S	
	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	
	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:	
ı	CTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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, believe the		
sub	mitted information is true, accurate and complete. I am aware that there are significant alties for submitting false information including the possibility of fire and imprisonment.	
Pro	fessional Land Surveyor's Signature:	
Sur	veyor's Name: PAUL EMILIUS, Jr. License Number: 37186	
Firn	Name: LAYOUT, INC. Certificate of Authorization #: 24GA28114600	
Mai	ling Address 24 KANOUSE ROAD	
City	/Town: NEWFOUNDLAND State NJ Zip Code: 07435	
Pho	ne Number (973) 249-0900 Ext.: Fax: (973) 838-6433	



Monitoring Well Certification Form B - Location Certification

(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
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
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
 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 SEAL
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; to believe the submitted information is true, accurate and complete an aware that there are significant penalties for submitting false information including the possibility of tine and imprisonment.
Professional Land Surveyor's Signature: Date 11/2/1/b
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



Monitoring Well Certification Form B - Location Certification

Date Stamp

7.0 4 .7	(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, Boro	ough or City)
County: Bergen Zip Code: 076	07
Program Interest (PI) Number(s): Case Tracking	ng Number(s):
SECTION B. WELL OWNER AND LOCATION	
Name of Well Owner USACE	
Well Location (Street Address) 100 W. Hunter Avenue, Rochelle Park TWP	
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
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 near	est 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	,
 Source of elevation datum (benchmark, number/description and elevation/datum). here, assume datum of 100', and give approximated actual elevation (referencing). 	
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING TH REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	HE NEW JERSEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION	SEAL
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	of .
those individuals immediately responsible for obtaining the information, believe the	
submitted information is true, accurate and complete. Fam aware that there are significant penalties for submitting false information including the possibility of time and implisonment.	
Professional Land Surveyor's Signature:	Date 1/2/1/16
Surveyor's Name: PAUL EMILIUS, Jr.	icense Number: 37186
	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



Monitoring Well Certification Form B - Location Certification

				For Department use only)
	NAME AND LOCATION			
Site Name: FUS	RAP Maywood Superfun	nd Site	**************************************	
List all AKAs:				
Street Address:	100 West Hunter Avenue	9		
Municipality: Ma	ywood		(Township, Borough or City)	
County: Berger	**************************************		Zip Code: 07607	
Program Interest (I	'I) Number(s):		Case Tracking Number(s):	
SECTION B. WEL	LOWNER AND LOCAT	TION		
1. Name of Well (Owner USACE			
2. Well Location	Street Address) 100 '	W. Hunter Avenue, Roc	helle Park TWP	
3. Well Location	Municipal Block and Lot)	Block# 20.01	Lot # 1	
SECTION C. WEL	L LOCATION SPECIFIC	cs		
1. Well Permit Nu	mber (This number must	t be permanently affixed	to the well casing): E201605159	
	oer (As shown on applica		_	
	ordinate NAD 83 to near			
Latitude: Nort			Longitude: West 74 04 19.65	
4. New Jersey St	ate Plane Coordinates N	AD 83 datum, US surve	y feet units, to nearest foot:	
North 752560			East 610402	
5. Elevation of To	op of Inner Casing (cap o	ff) at reference mark (n	earest 0.01'): 53.17	
Elevation Top	of Outer casing: 53.73	Elevat	ion of ground: 51.70	
Check one:	NAVD 88 🔲 NVG	D29 ☐ On Site Dat	um 🗌 Other	
			d elevation/datum). If an on-site da vation (referencing NAVD 88).	atum is used, identify
	TIONS WERE ESTABLISHE ETWORK, PERIODIC CHEC		OOLOGY UTILIZING THE NEW JERSEY MARKER KV3423.	LEICA SMARTNET GNSS
Significant obs	ervations and notes:			
<u> </u>			\mathcal{A}	
	D SURVEYOR'S CERTI		SEAL	
	ity of law that I have perso ed in this document and al			
those individuals in	mediately responsible for	obtaining the information	I believe/the	
submitted informati	on is true, accurate and co ting false information inclu	omplete/Lam aware mat uding the acssibility of fin	there are significant e and imprisonment.	
1'.	Surveyor's Signature:			Date 11/21/16
	PAUL EMILIUS, Jr.	 	License Number	37186
Firm Name: LAY			Certificate of Authorization #	
Mailing Address	24 KANOUSE ROAD		white and a find the second of the	
	FOUNDLAND	State	NJ Zip (Code: 07435
Phone Number	(973) 249-0900	Ext.:		838-6433



Monitoring Well Certification Form B - Location Certification

	(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	
Name of Well Owner USACE	
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): E20160515	55
Site Well Number (As shown on application or plans): MW-48S	
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	
Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERS. REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	EY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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, basel on my inquiry of those individuals immediately responsible for obtaining the information 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 the and imprisonment.	
Professional Land Surveyor's Signature:	Date 4/2///6
Surveyor's Name: PAUL EMILIUS, Jr. License Numb	per: 37186
Firm Name: LAYOUT, INC. Certificate of Authorization	1#: 24GA28114600
Mailing Address 24 KANOUSE ROAD	
City/Town: NEWFOUNDLAND State NJ Zi	p Code: 07435
Phone Number (973) 249-0900 Ext.: Fax: (97	73) 838-6433



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	
Name of Well Owner USACE	
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): E20160515	54
2. Site Well Number (As shown on application or plans): MW-48D	
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:	1
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	i i i i i i i i i i i i i i i i i i i
 Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88). 	datum is used, identify
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERS REFERENCE NETWORK: PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	EY LEICA SMARTNET GNSS
7. Significant observations and notes:	
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
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 believe the	
submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.	
Professional Land Surveyor's Signature:	Date 1/2//6
Surveyor's Name: PAUL EMILIUS, Jr. License Numb	
Firm Name: LAYOUT, INC. Certificate of Authorization	
Mailing Address 24 KANOUSE ROAD	
City/Town: NEWFOUNDLAND State NJ Zi	p Code: 07435
Phone Number (973) 249-0900 Ext.: Fax: (97	73) 838-6433



Monitoring Well Certification Form B - Location Certification

	(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	·
Name of Well Owner USACE	
Well Location (Street Address) 61 Madison Avenue, Roch	elle Park TWP
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	ed to the well casing): E201607079
2. Site Well Number (As shown on application or plans): MW-5	i1S
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 sun	/ey 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 Elev	ation of ground: 54.77
Check one: ☑ NAVD 88 ☐ NVGD29 ☐ On Site D	atum
Source of elevation datum (benchmark, number/description a here, assume datum of 100', and give approximated actual el	nd elevation/datum). If an on-site datum is used, identify evation (referencing NAVD 88).
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHOREREFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NO	DDOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
· · · · · · · · · · · · · · · · · · ·	
SECTION D. LAND SURVEYOR'S CERTIFICATION	SEAL
I certify under penalty of law that I have personally examined and an	familiar with the
information submitted in this document and all attachments and that those individuals immediately responsible for obtaining the information	
submitted information is true, accurate and complete. Jam aware in penalties for submitting false information including the possibility of the	
Professional Land Surveyor's Signature:	
Surveyor's Name: PAUL EMILIUS, Jr.	Date /1/2//// License Number: 37186
Firm Name: LAYOUT, INC.	License Number: 37186 Certificate of Authorization #: 24GA28114600
Mailing Address 24 KANOUSE ROAD	Certificate of Authorization #: 230720114000
City/Town: NEWFOUNDLAND State	NJ Zip Code: 07435
Phone Number (973) 249-0900 Ext.:	Fax: (973) 838-6433
Thomas realition (5.5).2.10.0000	Fax. (070) 000-0400



Monitoring Well Certification Form B - Location Certification

(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
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
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).
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSEY LEICA SMARTNET GNS REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.
7. Significant observations and notes:
, a
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL
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, betieve the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of the analysis of the proprisonment.
Professional Land Surveyor's Signature: Date 11/21/1
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



Monitoring Well Certification Form B - Location Certification

(For Department dise 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
Name of Well Owner USACE
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
Well Permit Number (This number must be permanently affixed to the well casing): E201609990
Site Well Number (As shown on application or plans): MW-52S
Geographic Coordinate NAD 83 to nearest 1/100 of a second:
Latitude: North 40 53 49.68 Longitude: West 74 04 34.28
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.
7. Significant observations and notes:
SECTION D. LAND SURVEYOR'S CERTIFICATION SEAL
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 pry inquiry of
those individuals immediately responsible for obtaining the information of 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 the and imprisonment.
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



Monitoring Well Certification Form B - Location Certification

	(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	r City)
County: Bergen Zip Code: 07607	
Program Interest (PI) Number(s): Case Tracking Num	nber(s):
SECTION B. WELL OWNER AND LOCATION	
Name of Well Owner USACE	
Well Location (Street Address) Becker Avenue, Rochelle Park, Rochelle Park TWP	
3. Well Location (Municipal Block and Lot) Block# ROW Location	ot # ROW
SECTION C. WELL LOCATION SPECIFICS	
1. Well Permit Number (This number must be permanently affixed to the well casing): E201	609991
Site Well Number (As shown on application or plans); MW-52D	North Street, Control of the Control
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	t:
North 752009 East 609276	
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 43.70	The state of the s
Elevation Top of Outer casing: 44.19 Elevation of ground: 44.19	
Check one: NAVD 88 NVGD29 On Site Datum Other	
 Source of elevation datum (benchmark, number/description and elevation/datum). If an o here, assume datum of 100', and give approximated actual elevation (referencing NAVD 8 	
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	JERSEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
	EAL
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, 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 the and imprisonment.	
Professional Land Surveyor's Signature:	Date 1//2//14
	Number: 37186
	ization #: 24GA28114600
Mailing Address 24 KANOUSE ROAD	·
City/Town: NEWFOUNDLAND State NJ	Zip Code: 07435
Phone Number (973) 249-0900 Ext.: Fax:	



Monitoring Well Certification Form B - Location Certification

				or Department use only)
SEC	TION A. SITE NAME AND LOCATION			
Site	Name: FUSRAP Maywood Superfund Site			
	all AKAs:			
Stre	et Address: 100 West Hunter Avenue			
Mur	icipality: Maywood		(Township, Borough or City)	
Cou	nty: Bergen		Zip Code: 07607	
Pro	gram Interest (PI) Number(s):		Case Tracking Number(s):	
SEC	TION B. WELL OWNER AND LOCATION			
1.	Name of Well Owner USACE			
2.	Well Location (Street Address) Eccleston Place	e, Maywood, I	Vlaywood Boro	
3.	Well Location (Municipal Block and Lot)	Block# ROW	Lot# ROV	/
SE	CTION C. WELL LOCATION SPECIFICS			
1.	Well Permit Number (This number must be perma	anently affixed	to the well casing): E201698452	
2.	Site Well Number (As shown on application or pla			
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 dat	tum, US surve	y feet units, to nearest foot:	
	North 753042		East 610699	
5.	Elevation of Top of Inner Casing (cap off) at refer	ence mark (ne	earest 0.01'): 51.86	
	Elevation Top of Outer casing: 52.18	Elevati	on of ground: 52.18	
	Check one: NAVD 88 □ NVGD29 □	On Site Datu	ım 🔲 Other	
6.	Source of elevation datum (benchmark, number/ here, assume datum of 100', and give approxima			um is used, identify
	NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK REFERENCE NETWORK. PERIODIC CHECKS WERE			EICA SMARTNET GNSS
7.	Significant observations and notes:			
	74 J			
1	CTION D. LAND SURVEYOR'S CERTIFICATION	<i>Y</i>	SEAL	
l ce	rtify under penalty of law that I have personally exan rmation submitted in this document and all attachme	nined and am fa	apriliar with the	
tho	se individuals immediately responsible for obtaining	the information	Voetieve the	
sub	mitted information is true, accurate and complete. alties for submitting false information including the p	am aware that	Mere are significant	
'	fessional Land Surveyor's Signature:	20010MY 0000	The state of the s	Date ///2/////
1	veyor's Name: PAUL EMILIUS, Jr.	//	License Number:	
	n Name: LAYOUT, INC.		Certificate of Authorization #:	· · · · · · · · · · · · · · · · · · ·
	iling Address 24 KANOUSE ROAD		. Serundate of Authorization #.	
1	//Town: NEWFOUNDLAND	State	NJ Zip Co	ode: 07435
1 '	one Number (973) 249-0900	Ext.:		338-6433
1 - '''	, , , , , , , , , , , , , , , , , , , ,			



Monitoring Well Certification Form B - Location Certification

	(For Department use only)
SECTION A. SITE NAME AND LOCATION	
Site Name: FUSRAP Maywood Superfund Site	
List all AKAs:	45.00
Street Address: 100 West Hunter Avenue	
Municipality: Maywood (Township, Bo	prough or City)
County: Bergen Zip Code: 07	7607
Program Interest (PI) Number(s): Case Track	king Number(s):
SECTION B. WELL OWNER AND LOCATION	
Name of Well Owner USACE	
2. Well Location (Street Address)	
Well Location (Municipal Block and Lot) Block# ROW	Lot # ROW
SECTION C. WELL LOCATION SPECIFICS	
Well Permit Number (This number must be permanently affixed to the well casing	n): E201608451
Site Well Number (As shown on application or plans): MW-53D	
Geographic Coordinate NAD 83 to nearest 1/100 of a second:	
Latitude: North 40 53 59.81 Longitude: Wes	t 74 04 15.81
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nea	
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.	
Check one: NAVD 88 □ NVGD29 □ On Site Datum □ Other	
 Source of elevation datum (benchmark, number/description and elevation/datum here, assume datum of 100', and give approximated actual elevation (referencing 	
NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	THE NEW JERSEY LEICA SMARTNET GNSS
7. Significant observations and notes:	
	<u> </u>
SECTION D. LAND SURVEYOR'S CERTIFICATION	SEAL
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, besed on any inquiry those individuals immediately responsible for obtaining the information believe the submitted information is true, accurate and complete. If am aware that there are significant penalties for submitting false information including the possibility of the and impressement	nt
Professional Land Surveyor's Signature:	Date // /2///
Surveyor's Name: PAUL EMILIUS, Jr.	License Number: 37186
Firm Name: LAYOUT, INC. Certificate o	f 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



Monitoring Well Certification Form B - Location Certification

(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
Name of Well Owner USACE
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
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 SEAL
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those individuals immediately responsible for obtaining the information believe the
submitted information is true, accurate and complete. I am away that there are eignificant penalties for submitting false information including the possibility of fine and imprisonment.
Professional Land Surveyor's Signature: Date 11/2///
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



Monitoring Well Certification Form B - Location Certification

		(For Department use only)
SEC	CTION A. SITE NAME AND LOCATION	
Site	Name: FUSRAP Maywood Superfund Site	
List	all AKAs:	
Stre	eet Address: 100 West Hunter Avenue	
Mur	nicipality: Maywood (Township, Borough or City)	
Cou	Inty: Bergen Zip Code: 07607	
Pro	gram Interest (PI) Number(s): Case Tracking Number(s)	
SEC	CTION 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 # R	OW
SE	CTION C. WELL LOCATION SPECIFICS	
1.	Well Permit Number (This number must be permanently affixed to the well casing): E20160845	3
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 here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).	datum is used, identify
	NAVD88 ELEVATIONS WERE ESTABLISHED BY RTK GNSS METHODOLOGY UTILIZING THE NEW JERSE REFERENCE NETWORK. PERIODIC CHECKS WERE MADE TO NGS MARKER KV3423.	Y LEICA SMARTNET GNSS
7.	Significant observations and notes:	
	CTION D. LAND SURVEYOR'S CERTIFICATION SEAL	
	ertify under penalty of law that I have personally examined and am familiar with the personal submitted in this document and all attachments and that, based on my inquiry of	
tho	se individuals immediately responsible for obtaining the information, likelieve the	
sub	mitted information is true, accurate and complete. I am aware that there are significant natities for submitting false information including the possibility of fine and imprisonment.	
	ofessional Land Surveyor's Signature:	Date 11/21/14
	rveyor's Name: PAUL EMILIUS, Jr. License Numb	
	m Name: LAYOUT, INC. Certificate of Authorization	
	iling Address 24 KANOUSE ROAD	
ļ		Code: 07435
		3) 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

СВе				DRING LO				B38W18DF	
CBé				PROJEC	T: Mayv	ood FUSRAP Superfund Site	јов ним	BER:	500102
	&I FEDI	ERAL S	SERVICES	LOCATI	ON:	Maywood, NJ	CLIENT:		USACE
				CONTRA	ACTOR:	SGS			
				ŀ			DRILLER	: La	rry Lynch
				WELL P.	ERMIT NUMBER:	E201605161	FIELD RE	P: Je	ff Cook
		1	CANADA ED	CASING	CORE BARREL	DEPTH	LOE CROUND	WATED	
	ТҮРЕ		SAMPLER NA	steel ·	NA	DATE: 6/20/201	OF GROUND	WAIEK	
	SIZE (ID) MER WEIGHT	r	NA . NA	6" NA	NA NA	Groundwater Depth (Feet):		~8	
	MER FALL		NA	NA	NA			r	
DEPTH	PID	RAD			DESCRIPTION OF M	ATERIALS		BOREHOLE	CASIN
(Feet)	(ppm)	(cpm)		 		<u> </u>		DIAM (in)	DIAM (i
1			1						
			-						
2			1		Hand-cleared 0 to	5 feet.			
3 .			7						
4						•			
5			<u> </u>			·			
6			-			•			
							*		
7			-						
8			SANDSTONE, extens	ively weathered,	red-brown, soft. Top of b	edrock ~8'			
9]						
10		·	-						
11		****							
			-					•	
12									
13									
14									
15			}					9-7/8	. 6
16		·							
17			_						
18			-						
19			1			Drive 10" conduct	or casing to 19'.		
20									
21									
22			-						ę
			1			•			
23									
24			SANDSTONE, extensí	vely weathered,	red-brown, soft. High war	er yield (24-30').		,	
25									
26									
27									
28									
29			}		(continued on Pag	e 2)			
on i mio e	IG TEVEL		Cobron T 450			1	EC 00		-
ULLING R			Schramm T-450			SURFACE ELEVATION:	56.99		
DREHOLE I	DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	6/15/201	6	
ELL INSTA	ALLED;		Yes			END DATE:	6/20/201	6	
ES:									

ppm = parts per million

			В	ORING L	OG		BC	ORING NUM B38W18DR	
				PROJE		wood FUSRAP Superfund Site	JOB NUME		500102
CB	&I FED	ERAL S	SERVICES	LOCAT	TION:	Maywood, NJ	CLIENT:		USACE
				CONTR	RACTOR;	SGS			
				WELL	PERMIT NUMBER:	E201605161	DRILLER:	Lai	ту Lynch
							FIELD REI	P: Je	ff Cook
			SAMPLER	CASING	CORE BARREL		OF GROUNDY	VATER	
S	TYPE SIZE (ID)		NA NA	steel 6"	NA NA	DATE: 6/20/201	16		
	MER WEIGH MER FALL	Г	NA NA	NA NA	NA NA	Groundwater Depth (Feet):		~8	
DEPTH	PID	RAD	1		DESCRIPTION OF M	IATERIALS		BOREHOLE	CASING
(Feet)	(ppm)	(cpm)	II (20 22D		DESCRIPTION OF IN			DIAM (in)	DIAM (in
30			Harder (30-33').				-		
31			<u> </u>						
32			-						-
33	_		SANDSTONE, fractu	red, reddish bro	own (5YR4/3), soft. Yield	~20 gpm (33-38').			
34	·								
35									
36									
37			-						
38								9-7/8	6
39			-				,		
					·		-		
40			MUDSTONE, reddisi	i brown (5YR4/	3), competent rock.				
41			-						
42	0.0		-						
43			Harder.						
44									
45			-				ner 9-7/8" to 46'.		
46		 	-			Install 6" st	eel casing to 46'.		··
47							1		
48			-						
			-	,					
49	0.0		MUDSTONE, reddish	brown.					
. 50			-						
51			Fracture. Yield ~0.0 gpm.						
52			-						Орел
53			- - -					5-7/8	Borehole
54	0.0		Fracture. MUDSTONE, clayey/	sandy, reddish b	prown.				
55			-						
56			Yield ~ 0.0 gpm.						
57									
58									
59	0.0		MUDSTONE, reddish	brown.	(continued on Pa	ge 3)			
	IG TYPE:		Schramm T-450			SURFACE ELEVATION:	56.99		
DRILLING R			Schramm T-450 , 5-7/8" (open borehole)			SURFACE ELEVATION: START DATE:	56.99 6/15/2016		

Page 2 of 3

Depths measured from ground surface
NA = not applicable
cpm = counts per minute

ppm = parts per million

gpm = gallons per minute

B38W18DR-2

			В	ORING LO	OG		В	ORING NUM	
				PROJEC		od FUSRAP Superfund Site	JOB NUM		500102
CB	&I FED	ERAL :	SERVICES	LOCAT	ION:	Maywood, NJ	CLIENT:		USACE
				CONTR	ACTOR:	SGS			
				1		E201605161	DRILLER	: Lar	ry Lynch
				WELL	PERMIT NUMBER:	E201603161	FIELD RE	IP: Je	ff Cook
			SAMPLER	CASING	CORE BARREL	DEP'	TH OF GROUND	WATER	
	TYPE SIZE (ID)		NA NA	steel 6"	NA NA	DATE: 6/20/2		<u> </u>	
HAM	MER WEIGH	г	NA	NA	NA.	Groundwater Depth (Feet):		~8	
HAI	MMER FALL		NA NA	NA	NA NA			1	
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	TERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)
60			1						
61			Fracture (61-62'). Yield ~0.0 gpm.						
62									
63			Softer (63-66').	ah haar					
65	0.0		SANDSTONE, reddi	sn prown.					Open
			Viold - 0.5					5-7/8	Borehole
66			Yield ~0.5 gpm.						
67									
68	0.0		MUDSTONE, reddisi	h benun					
	0.0			i otowii.					-
70			Softer (70-71'). Total yield ~0.5 gpm.	•	(2.1.42)		mmer 5-7/8" to 71'.		
71			<u> </u>		(End of Boring at 71	feet)			
72									
73			_						
74					1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	•			
75			_					-	
76									
77			- - -						
78				•					
79			1			·			
80					•		1	ļ	
81									
82				-					
83					-				
84									
85									
86									
87	·		ŀ						
88									
89									
DRILLING F	RIG TYPE:		Schramm T-450			SURFACE ELEVATION	I: 56.99		
BOREHOLE	DIAM;	9-7/8",	5-7/8" (open borehole)			START DATE:	6/15/201	6	
WELL INST	ALLED:		Yes			END DATE:	6/20/201	6	
TES:									

Page 3 of 3

Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million

gpm = gallons per minute,

B38W18DR-3

		· <u>.</u>	ВО	RING L	.OG					NUMBER: v25SR
				PROJE		Maywo	od FUSRAP Superfund Site		JOB NUMBER:	500102
СВ	&I FEDI	ERAL SE	ERVICES	LOCAT	TION:		Maywood, NJ		CLIENT:	USACE
-				CONTR	RACTO	R;	SGS			
						T NUMBER:	E201605089		DRILLER:	Tom Lynch
				THE SEE	IBIONI	I NUMBER	1201003009		FIELD REP:	Jeff Cook
			SAMPLER	CASING	C	ORE BARREL	DI	ЕРТН ОБ	GROUNDWATER	
	TYPE SIZE (ID)		Split-spoon 2"	NA NA		NA NA		9/2016		
HAM	MER WEIGH	r	140 lbs.	NA		NA	Groundwater Depth (Feet):		~	
	MMER FALL		30 in.	NA		NA				
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVE (Feet)			DESCRIPTIO	ON OF M.	ATERIALS	
0										
i										
2	NA	NA.	NA	NA.			Hand-cle	eared 0 to	5 feet.	
3										
4	11				-	olloot culit space ser	nple through hand-cleared ma	nterial that	was heal-filled into one	hole
5	25 33						ne to coarse, some fine to coa			,,
6	25 27	0.0	NA .	0.8		dense (GW).	ame as above), wet (GW).			
	23	0.0	NA NA	1.3			some silt, wet, medium dense	e (SP).		
7	20 21									
. 8	13 30	0.0			0.	.0 - 0.7' SAND, medi dense (SP).	um, trace fine/coarse sand, tra	ace silt, ve	ry dark gray (7.5YR3/I)	wet, medium
9	77 100/4"	0.0	. NA	1.3	0.		E, weathered, dark reddish bi	rown (5YE	R3/3), moist.	
10	34				0.	.0 - 0.9' SANDSTON	E (same as above), more wea	athered, we	et.	
11	100/5"	0.0	NA NA	0.9						
12				<u> </u>		dvance augers throug	sh weathered rock to 13 feet.			
13					⊦		(End of B	Boring at 1	3 feet)	· · · · · · · · · · · · · · · · · · ·
14										
15										
	····									
16							$\mathcal{L}_{\mathcal{A}} = \mathcal{L}_{\mathcal{A}} = \mathcal{L}_{\mathcal{A}}$		÷	
17					İ					
18										
19										
20										
21									_	
22			į							
23										
24										
25									•	
26										
27										
28							•			
29										
DBILLIVIÇA	אוכ יייסיי.	Makila D 90) Hallow stem *····				GIBEACE DI ENVER	ON:	53,16	
DRILLING F		мовие в-80) Hollow-stem Auger				SURFACE ELEVATI	ON:		
BOREHOLE	DIAM:		8 1/4"				START DATE:		5/9/2016	
WELL INST.	ALLED:		Yes				END DATE:		5/9/2016	
OTES:										
	easured from gr applicable	round surface				B38W25S			Page	lofl

ppm = parts per million

			BOR	ING LO	OG.		В	ORING NUM B38W25BR	
				PROJEC		od FUSRAP Superfund Site	JOB NUMI		500102
CB	&I FEDI	ERAL S	SERVICES	LOCAT	ION:	Maywood, NJ	CLIENT:		USACE
				CONTR	ACTOR:	SGS			-
				WELL F	ERMIT NUMBER:	E201605090	DRILLER:		n Lynch
							FIELD RE	P; Je	ff Cook
				ASING	CORE BARREL		TH OF GROUNDY	VATER	
	TYPE SIZE (ID)		NA NA	steel 6 st	NA NA	DATE: 5/24/	2016		
HAM	MER WEIGH MMER FALL	Г	NA NA	NA NA	NA NA	Groundwater Depth (Feet):		10.9	
					DESCRIPTION OF MA	TERIALO		BOREHOLE	CASING
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	TERIALS		DIAM (in)	DIAM (in)
0									
]									
2					Hand-cleared 0 to 5	feet.			
3						•		•	
4:									
5									
6									
7								`	
8					Pariso I as for such				
9				See	Boring Log for overburden	WEII DJOW 235K.			
10									
11				•				15	
12			-						
[3									
								İ	
14									6
15			}						
16									
17									
18									
19									
20								1	
21									
22									
			MIDSTONE - 15.1.1	um (EUM 4 m			er 10-1/4" ID to 23'.		
23	0.0		MUDSTONE, reddish brov	wn (5 Y K4/3		. Air nami	mer 9-7/8 bit to 33'		
24									
25									
26			-					9-7/8	
27									
28									
29									
				•	(continued on Page	2)			
DRILLING	RIG TYPE:		Mobile B-80			SURFACE ELEVATION	N; , 53.68		
BOREHOLI	E DIAM:	9-7/81,	5-7/8* (open borehole)	-		START DATE:	5/18/2016	5	
		,					Shinos		
WELL INST	ALLED;		Yes			END DATE:	5/24/2016	,	
OTES:			•						
	neasured from g t applicable	round surface	e gpm = gallons per	minute				Page 1 of 2	
cpm = co	unts per minute arts per million	•			B38W25DR-1				

:			ВС	DRING L	og	•	B	ORING NUN B38W25BR	
				PROJE		ood FUSRAP Superfund Site	JOB NUM		500102
СВ	&I FED	ERAL S	SERVICES	LOCAT	ΓΙΟN:	Maywood, NJ	CLIENT:		USACE
				CONTI	RACTOR:	SGS			
-	-				PERMIT NUMBER:	E201605090	DRILLER	To	m Lynch
				WEEL	I BRITI NUMBER.		FIELD RE	P: Je	ff Cook
			SAMPLER	CASING	CORE BARREL	l n	EPTH OF GROUND	VATER	
	ТУРЕ		NA	steel	NA		4/2016		
HAMI	SIZE (ID) MER WEIGH	<u>г</u>	NA NA	6ª NA	NA NA	Groundwater Depth (Feet):		10.9	
HAN	MMER FALL		NA NA	NA	NA NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	ATERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)
30	(5511.7	(0),	1					X-7	
31			1					9-7/8	6
32	-		-			· Air	hammer 9-7/8" to 33'.		
33						Instal	l 6" steel casing to 33'.		
34			-						
35			Fracture, first water, y	ield minimal.					
36			1						
37			Fracture.						
38			MUDSTONE, reddish	brown.					
			-						
39			-						
40			1						
41			_			-			
42			MUDSTONE, reddish	brown.					
43			Fracture.					İ	
44					-				
45								5-7/8	Open Borehole
46							-		Borenote
47			MUDSTONE, reddish	brown.					
			1						
48									
49									
50				•					
51									
52			Fracture, water bearing	t.					
			MUDSTONE, reddish			•			
53									
. 54						•			
55					-				
56						•			
57									
			Total yield ~2 gpm.		/E-1-£D-1		hammer 5-7/8" to 58'.		
58					(End of Boring at 58	rectj			
59								·	
DDIIING	IG TVDE		Mahila D 00			Gilbeyte et en ta	ON: 53.69		
DRILLING R			Mobile B-80			SURFACE ELEVATI			
BOREHOLE	DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	5/18/201	5	
WELL INSTA	ALLED:		Yes	-		END DATE:	5/24/2016		
NOTES:	•								
Depths me NA = not com = cou	easured from g applicable ints per minute ts per million		gpm = gallons	s per minute	B38W25DR-2			Page 2 of 2	

			В	ORING LO)G	BURING NUMBER: MISSIAR		
		-		PROJEC	T: Maywo	ood FUSRAP Superfund Site	JOB NUMBER:	500102
СВ	&I FEDE	RAL SE	ERVICES	LOCATIO	ON:	Maywood, NJ	CLIENT:	USACE
				CONTRA	CTOR:	SGS		
				WELL PI	ERMIT NUMBER:	E201605165	DRILLER:	Tom Lynch
							FIELD REP:	Jeff Cook
	SAMPLER CASING CORE BARREL DEPTH OF GROUNDWATER					·		
	TYPE SIZE (ID)		Split-spoon 2"_	NA NA	NA NA	DATE: 6/7/2016		
	MER WEIGHT MMER FALL		140 lb. 30 in.	NA NA	NA NA	Groundwater Depth (Feet):		
DEPTH	BLOW	PID	RAD	RECOVER	ov T	DESCRIPTION OF 1	MATERIALS	
(Feet)	COUNTS	(ppm)	(cpm)	(Feet)		DESCRIPTION OF I	ATEXILES	
0								
1	NA					Hand-cleared 0 t	n 5 feet	
2	, MA	NA	NA	NA		Hand-created of	·	
3								
4	12				Collect split-spoon sa	mple through hand-cleared material th	at was backfilled into op	en hole.
. 5	16 39	0.0	NA NA	1.2		ine to coarse, some fine to coarse sand	, trace silt, dark gray (5Y	4/1), wet, dense
6	NA 49				(SW) (FILL). 0.0 - 1.1' GRAVEL (s	ame as above) (SW) (FILL).	·	
7	40 34	0.0	NA	1.6		and SILT, reddish brown (5YR4/4), see cobble, reddish brown (5YR4/4).	some black staining, moi	st, dense (SM).
8	41					some rock fragments, trace silt, black	(5VP2 5/1) yest dones	(CD)
	9	0.0	NA	1.2	0,0 - 1,2 SAND, line,	some rock fragments, trace sitt, orack	(31K2.3/1), wei, dense	(SF).
9	27 38							
10	20	0.0	N/A	1.0	0.0 - 0.6' SAND (same 0.6 - 1.0' MUDSTON:	e as above) (SP). E, weathered, clayey, reddish brown (:	5YR4/4), wet.	*
11	57 64	0.0	NA	1.0				
12	48				0.0 - 1.0 MUDSTON	E (same as above), some dark gray sta	ining.	,
13	37	0.0	NA	1.0				
14	43 33				0,0 - 0,9' MUDSTON	E, weathered/harder, little clayey fine	sand, reddish brown (5Y	R4/4), some dark gray
15	100/4"	0.0	NA	0.9	staining, wet.	(End of Boring at	15 feet)	
16								
17								
18						•		
19								
20				i e				
21								
22				-				
23								
24							٠	
25								
26								
27								
28								
. 29		•	1					
DRILLING R	RIG TYPE:	Mobile B-80	Hollow-stem Auge	er -		SURFACE ELEVATION:	51.72	
	,		8 1/4"			START DATE:	6/7/2016	
BOREHOLE	NIWIAI:		0 1/4			SIGNI DAIE.		
WELL INSTA	ALLED:		Yes			END DATE:	6/7/2016	
NA = not cpm = cou	easured from gro applicable unts per minute rts per million	und surface			MISS01AR		Page	ol of I

				ORING LO	ng		В	ORING NUM	IBER:
					PROJECT: Maywood FUSRAP Superfund Site			BER:	500102
СВ	&I FED	ERAL S	SERVICES	LOCAT		Maywood, NJ	CLIENT:		USACE
				l	ACTOR:	SGS			
							DRILLER:	Lar	гу Lупсһ
				WELLE	PERMIT NUMBER:	E201605156	FIELD RE	P: Je	ff Cook
			SAMPLER	CASING	CORE BARREL	DEPTH	F GROUNDY	VATER	
	TYPE SIZE (ID)		NA	steel	NA NA	DATE: 6/2/2016	71 GROEND	TATER	
HAM	MER WEIGH	Т	NA NA	6" NA	NA NA	Groundwater Depth (Feet):		~10	,
НА	MMER FALL		NA j	NA	NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	TERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)
0									
1			1 .			4			
2			1		Hand-cleared 0 to 5	feet			
3		<u> </u>	1	•	Hala-cicaled v to 3				
4.			-			•			
5			1						
	<u> </u>		-						
6	<u> </u>	ļ	1						
7	<u> </u>		-						
8									
9									
10				See	Boring Log for overburden	well MISS1AR.			
11									
12			_						
13	Ī								
14			-						
			- -					9-7/8	6
15						Drive 10° conductor of	asing to 15.5'.		
16			Ī			•			
17									
18			1						
19			SANDSTONE, reddish	brown (5YR4/	/3), wet.				
20									
21									
22			Softer rock.						
23						•			
24	0.0		MUDSTONE, reddish	hrowe wet					
	0.0		INCESTONE, REGUIST	oromi, wel.		•			
25							ſ		
26			Softer rock (26-27').						
27			Competent rock at ~27'.						
28					•				
29					(a	2)			
	l .	<u> </u>			(continued on Page	1	i_	<u> </u>	
DRILLING	RIG TYPE:	;	Schramm T-450			SURFACE ELEVATION:	51.79		
BOREHOLE	E DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	5/31/2016	5	
WELL INST	TALLED:		Yes			END DATE:	6/2/2016		
NOTES:							Τ		

Page 1 of 3

Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million

gpm = gallons per minute

MISS01BR-1

	2 12	· ·	· B(ORING L	og		В	ORING NUM MISSIBR	IBER:	
				PROJE		vood FUSRAP Superfund Site	JOB NUM	JOB NUMBER: 500102		
СВ	&I FED	ERAL :	SERVICES	CES LOCATION: Maywood,			CLIENT:		USACE	
				1	RACTOR:	SGS				
							DRILLER	: Lar	Larry Lynch Jeff Cook	
				· WELL	PERMIT NUMBER:	E201605156	FIELD RE	P: Je		
			SAMPLER	CASING	CORE BARREL	DEPTH	OF GROUND	WATER		
	TYPE SIZE (ID)		NA NA	steel 6"	NA NA	DATE: 6/2/2010				
HAM	IMER WEIGH		NA	NA	NA	Groundwater Depth (Feet):		~10		
	MMER FALL	<u>. </u>	NA NA	NA NA	NA				······	
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF M	ATERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)	
30			-							
31			-							
32			1							
33							-			
34								9-7/8	6	
35			-							
		-	-					ļ		
36			_			•				
37			-				ner 9-7/8" to 38', eel casing to 38',			
38			-				<u> </u>			
39			MUDSTONE, reddist	ı brown, dry.				,		
40										
4]	·	-	_							
42										
		ļ	Fracture (42.5-43.5'),	water bearing, (0.5 GPM (total).					
43										
44	0.0	<u> </u>	MUDSTONE, sandy,	reddish brown.						
45		<u> </u>								
46			-							
47			- - 							
48			·	_					0	
49	0.0		MUDSTONE, reddish Fracture.	i brown.		e e		5-7/8	Open Borehole	
50		ļ	-							
51			Fracture.							
			[
52					•					
53										
54	0.0		MUDSTONE, clayey,	reddish brown,	wet.					
55										
56			Fracture, water bearing	3, 3 GPM (total)).				-	
57										
58			Soft Seam, water beari	ng, ~15 gpm.	•					
59	0.0		MUDSTONE, reddish	brown.		•		1		
			L		(continued on Pag	ge 3)				
DRILLING I	RIG TYPE;		Schramm T-450			SURFACE ELEVATION:	51.79			
BOREHOLE	EDIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	5/31/201	6		
WELL INST	`ALLED:		Yes			END DATE:	6/2/2016	.		
TES:			. 			1	3,2,2010			
	easured from g	mound enrifer	e gpm = gallon:	s ner minute				Page 2 of 3		
NA = not	applicable		с вриг – ва поп	o per minute	MICCOACO			1 agc 2 OI 3		
	unts per minute rts per million	e			MISS01BR-2					

	BORING LOG									BORING NUMBER: MISSIBR		
				P	PROJE	CT: Maywo	od FUSRAP Superfund Site		JOB NUMBER: 500102			
СВ	&I FEDI	EKAL S	SERVICES	L	OCAT	TION:	Maywood, NJ	Maywood, NJ CLIENT:		USACE		
				c	CONTR	RACTOR:	SGS		DRILLER:	lar	ry Lynch	
				v	VELL I	PERMIT NUMBER:	E201605156		FIELD RE		ff Cook	
						T	T***					
	TYPE		SAMPLER NA	CAS ste	el	CORE BARREL NA		EPTH OF 1 2/2016	GROUNDY	VATER	,	
HAM	SIZE (ID) MER WEIGH	г	NA NA	6 N	A	NA NA	Groundwater Depth (Feet):			~10		
	MMER FALL		NA .	N.	A	NA NA	<u> </u>					
DEPTH (Feet)	PID (ppm)	RAD (cpm)				DESCRIPTION OF MA	TERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)	
60										5-7/8	Open Borehole	
61			Total yield ~15 gpm.			(End of Boring at 61		iammer 5-7,	/8" to 61.5'.			
62			}									
63											ľ	
64												
65											İ	
66												
67												
68												
69			,									
70		<u> </u>										
71												
.72												
73			,						Ì			
74												
75												
76												
									l	,		
77												
78									Ì			
79												
80												
81												
82												
83												
84												
85												
86												
87									ļ			
88											ŀ	
89												
l												
DRILLING I			Schramm T-450				SURFACE ELEVATI	ION:	51.79	,		
BOREHOLE		9-7/8", :	5-7/8" (open borehole)				START DATE:		5/31/2016			
WELL INST	'ALLED:		Yes				END DATE:	 -	6/2/2016			
NA = not cpm = co	neasured from g t applicable unts per minute uts per million		gpm = gallons	s per mir	nute	MISSO1BR-3				Page 3 of 3		

BORING NUMBER: BORING LOG MISS2AR PROJECT: Maywood FUSRAP Superfund Site JOB NUMBÉR: 500102 **CB&I FEDERAL SERVICES** LOCATION: Maywood, NJ CLIENT: USACE CONTRACTOR: SGS DRILLER: Larry Lynch WELL PERMIT NUMBER: E201605096 FIELD REP: Jeff Cook SAMPLER CASING CORE BARREL DEPTH OF GROUNDWATER TYPE DATE Split-spoon NA NA 7/5/2016 SIZE (ID) ΝÀ NA HAMMER WEIGHT 140 lb. NA NA Groundwater Depth (Feet): HAMMER FALL 30 in. NA NA BLOW RECOVERY DEPTH PID RAD DESCRIPTION OF MATERIALS (Feet) (ppm) (cpm) (Feet) 0 NA NA NΑ NA Hand-cleared 0 to 5 feet. 4 5 Auger through fill to 8 feet. NA NA NA NA 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). 0.9 0.0 NA 14 10 34 0.0 - 0.9' SAND and GRAVEL (same as above), wet, dense (GW) (FILL). 27 0.0 NΑ 0.9 11 17 15 12 31 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 30 0.0 NA 1.5 13 26 dense (SC). 1.3 - 1.5' SAND, fine, very dark grayish brown (10YR3/2), wet, medium dense (SP). 27 14 16 0.0 - 1.5' SAND, fine, black (10YR2/1), few layers of (clay and fine sand, very dark gray (10YR3/1)), wet, 12 medium dense (SP/SC). 0.0 1.5 NA 15 14 15 16 10 0.0 - 1.7 (SAND, fine) and (CLAY and SAND, fine) layers, black (10YR2/1) to very dark gray (10YR3/1) 12 to dark grayish brown (10YR4/2), wet, medium dense (SC). 1.7 0.0 NA 17 16 15 18 0.0 - 1.2' SAND, fine, and SILT, little clay, dark grayish brown (10YR4/2), little black, wet, medium dense (SC). 0.0 NA 1.3 19 12 1.2 - 1.3' MUDSTONE, weathered, reddish brown (SYR4/3). 14 20 (End of Boring at 20 feet) 21 22 23 24 25 26 27 28 29 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

MISS02AR

Page 1 of 1

NOTES:

Depths measured from ground surface

NA = not applicable

opm = counts per minute ppm = parts per million

			В	ORING L	og		B	ORING NUM MISS2BR	IBER:			
				PROJECT: Maywood FUSRAP Superfund Site				JOB NUMBER: 500102				
CB	&I FED	ERAL	SERVICES	RVICES LOCATION: Maywood, NJ CLIENT:					USACE			
				CONTR	RACTOR:	SGS						
				WELL	PERMIT NUMBER:	E201605097	DRILLER		ry Lynch			
			<u> </u>				FIELD RI	EP: Je	ff Cook			
	ТҮРЕ		SAMPLER NA	CASING steel	CORE BARREL NA		PTH OF GROUND /2016	TH OF GROUNDWATER				
	SIZE (ID) IMER WEIGH		NA NA	6" NA	NA NA	Groundwater Depth (Feet):						
	MMER FALL		NA NA NA									
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF M	ATERIALS		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				0	a Bosina Lan fee accel.	n well MCC2 AP						
13				Se	e Boring Log for overburde	и жен миоо2АК.						
T4												
15			7					9-7/8	6			
16												
17												
18												
19												
20			 									
21			_ _				ĺ					
			_									
22			MIDOTONIE	h (6108.15	2)							
23			MODSTONE, reddish	urown (5 Y K4/.	3), weathered, soft, wel			,				
24			- .									
25			_			Drive 10" con	ductor casing to 25'.					
26												
27			_									
28			Competent rock at ~28 MUDSTONE, reddish		3), parts fractured (28-38').							
29					(continued on Pag	e 2)						
DRILLING E	RIG TYPE:		Schramm T-450			SURFACE ELEVATIO	N: 58.12					
BOREHOLE		9-7/8	", 5-7/8" (open borehole)			START DATE:	6/21/201	6				
WELL INST.		3 1,2	Yes			END DATE:	6/23/201	•				
OTES:	, UUUU,		. 162			END DATE.	G/23/201	·				
Depths m NA = not cpm = cor	easured from g applicable unts per minute ds per million		ace gpm = galion	s per minute	MISS02BR-1			Page 1 of 3				

N

-			RU	RING L	oc ·			В	ORING NUM MISS2BR	BER:
-				PROJE		ood FUSRAP Super	fund Site	JOB NUMI		500102
CB	&I FED	ERAL S	SERVICES		LOCATION: Maywood, NJ			CLIENT:		USACE
	•						,	CDIENT		CONCE
				CONTR	ACTOR:	SGS		DRILLER:	Lar	ry Lynch
				WELL	PERMIT NUMBER:	E20160	5097	FIELD RE	P: Je	ff Cook
										
	TYPE		SAMPLER NA	CASING steel	CORE BARREL NA	DATE:	DEPTH O: 6/23/2016	I OF GROUNDWATER 6		
LAN	SIZE (ID) IMER WEIGH	-	NA NA	6" NA	NA NA	Groundwater Dep				
	HAMMER FALL NA NA NA							~ 0		
DEPTH	PID	RAD	<u> </u>		DESCRIPTION OF M	ATERIALS			BOREHOLE	CASING
(Feet) 30	(ppm)	(cpm)	<u> </u> 			·			DIAM (in)	DIAM (ir
31			1							
						•				
32				_				·		
33	ļ		MUDSTONE, reddish b	rown.				j	0.78	,
34			_						9-7/8	6
35			- -							
36	<u> </u>		-							
37			-		•		Air hammer	9-7/B" to 38'.		
			- -				Install 6" steel			
38			-							
39	0.0		MUDSTONE, reddish b	rown.						
40			1							
41					÷		•			
42	ļ		Softer (42-44').							
43										
			.]]							
44	0.0		Fracture. MUDSTONE, reddish b	rown.				i		
45			•							
46			-							
47			Fracture.							
48			Yield ∼0.25 gpm.					ļ		_
49	 				•	•			5-7/8	Open Borehole
50			Softer, water-bearing (49	9.5-53').						
51]							
: 52							•			
53			Yìeld ~5 gpm.							
54	0.0		MUDSTONE, reddish br	OWN.				-		
55										
56										
									ļ	
57									İ	
58							÷			
59	0.0		MUDSTONE, reddish br	own.	(continued on Pag	e 3)				
DRILLING	RIG TYPE:	:	Schramm T-450			SURFACE E	LEVATION:	58.12		
BOREHOLI	E DIAM:	9-7/8",	5-7/8" (open borehole)			START DAT	E:	6/21/2016		

Page 2 of 3

Depths measured from ground surface NA = not applicable cpm = counts per minute

ppm = parts per million

gpm = gallons per minute

MISS02BR-2

			В		BORING NUMBER: MISS2BR						
				PROJE	CT: Maywo	ood FUSRAP Superfund Site	JOB NUM	IBER: 500102			
CB	&I FED	ERAL S	SERVICES	LOCAT	TON:	Maywood, NJ	CLIENT:	CLIENT: USACE			
				CONTR	ACTOR:	SGS	· L				
			-	WELL 1	PERMIT NUMBER:	E201605097	DRILLER	: Lai	ту Lynch		
							FIELD RE	P: Je	fF Cook		
			SAMPLER	CASING	CORE BARREL			TH OF GROUNDWATER			
	TYPE SIZE (ID)		NA ·	steel 6"	NA NA	DATE: 6/23	3/2016				
HAM	MER WEIGH MMER FALL	Γ	NA NA	NA NA	NA NA	Groundwater Depth (Feet):	~10				
DEPTH	PID	nin			DESCRIPTION OF MA	TEDILLE		BOREHOLE	CASING		
(Feet)	(ppm)	RAD (cpm)			DESCRIPTION OF MA	AT ERIALS		DIAM (in)	DIAM (in)		
60								5-7/8	Open		
61			Total yield ~5 gpm.			Air	hammer 5-7/8" to 62'.	3 770 .	Borehole		
62					(End of Boring at 62						
63											
- 64											
65	<u> </u>										
66							·				
67											
68											
69									-		
70											
71											
72											
73											
74											
			:								
75	- · · · · · · · · · · · · · · · · · · ·										
76											
77									Ì		
78											
79											
80		· · · · · · · · · · · · · · · · · · ·									
81											
82											
83						•					
84									.		
85											
86					•						
87											
88					·						
89					_						
						1 '	<u>i</u>				
DRILLING F	RIG TYPE:	5	Schramm T-450			SURFACE ELEVATION	N: 58.12				
BOREHOLE	DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	6/21/2016	5			
WELL INST.	ALLED:		Yes			END DATE:	6/23/2016	5			
OTES:						<u> </u>					
	easured from g	round surface	gpm = gallon	s per minute				Page 3 of 3			
NA = not	applicable unts per minute				MISS02BR-3						
	rts per million		•								

			R	ORING LO	nc			NUMBER: SS4AR
				PROJEC		od FUSRAP Superfund Site	JOB NUMBER:	500102
СВ	&I FEDE	ERAL SE	ERVICES	LOCATIO		Maywood, NJ	CLIENT:	USACE
				CONTRA		SGS		55152
							DRILLER:	Tom Lynch
				WELLERI	ERMIT NUMBER:	E201610593	FIELD REP:	Jeff Cook
			SAMPLER	CASING	CORE BARREL	DEPTH (F GROUNDWATER	
	TYPE		Split-spoon	NA	NA NA	DATE: 9/6/2016		
HAM	SIZE (ID) MER WEIGHT		2" 140 lb.	NA NA	NA NA	Groundwater Depth (Feet):	~	13
HA	MMER FALL		30 in.	NA	NA	· · · · · · · · · · · · · · · · · · ·		
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVER (Feet)	RY	DESCRIPTION OF	MATERIALS	
0							· · · · · · · · · · · · · · · · · · ·	
1					·		-	
2	NA NA	NA	NA NA	NA		Hand-cleared 0	to 5 feet.	
3								
4								
5	10				0.0 - 0.6' SAND fine	and SILT, trace fine gravel, very dar	k gravish brown (10VR3/	2) fabric at hottom
	37	0.0	NA	1.8	moist, (SM) (FILL)			
6	35				moist, dense (SP).			
7	15 40	0.0	NA.	1.3	dense (SM).	and SILT, little medium to coarse sa	-	
8	33 60	0.0	141		0.7 - 1.3' SAND, fine, a brown sandstone, fe	and SILT, dark reddish brown (5YR w rounded pebbles, dry, dense (SM)	3/2) to black (5YR2,5/1), (TILL).	some pieces of reddish
9	40 30					LT (same as above) (SM).		
10	27 48	0.0	. NA	0.7				
11	31				0.0 - 0.4' SANDSTON	E, weathered, reddish brown (5YR4	/3), dry.	
12	100/4"	0.0	NA NA	0.4				·
13	100/4"				0.0 - 0.4' SANDSTON	E (same as above), wet.		
14		0,0	NA	0.4	Auger to 15'. Softer dr	illing 14-15'.		
15			İ			(End of Boring a	t 15 feet)	
16						(End of Dorling a	113 1000	
					,	·		
17								
18								
19						•		
20					·	•		
21								
22								
23								
24						•		
25								
26		:			,			
27								
28								
29					1			
DRILLING F	UG TYPE:	Sch	nramm T-450			SURFACE ELEVATION:	53.41	
BOREHOLE	DIĄM:		B 1/4"			START DATE:	9/6/2016	
WELL INST.	ALLED;		Yes			END DATE:	9/6/2016	
OTES:				***		-, t		
	easured from gr	ound surface					Page	l of I
cpm = cor	applicable unts per minute				MISS04AR			
ppm = pa	rts per million					· .		

			RO	RING LO	nc		1	S NUMBER:
				PROJEC		nd FUSRAP Superfund Site	JOB NUMBER:	500102
CBe	&I FEDE	RAL SE	RVICES	LOCATIO	-		CLIENT:	USACE
			-	- 1		Maywood, NJ	CLIENT:	USACE
				CONTRA	CTOR:	SGS	DRILLER:	Larry Lynch
				WELL PI	ERMIT NUMBER:	E201608024	FIELD REP:	Jeff Cook
			T					
	TYPE		SAMPLER Split-spoon	CASING NA	NA	DEPTH OI DATE: 7/7/2016	GROUNDWATER	
	SIZE (ID)		2"	NA	NA			-7
	MER WEIGHT MMER FALL		140 lbs. 30 in.	NA NA	NA NA	Groundwater Depth (Feet):		~1
DEPTH	BLOW	PID	RAD	RECOVER	Y I	DESCRIPTION OF M	IATERIALS	
(Feet)	COUNTS	(ppm)	(cpm)	(Feet)				
0								
. 1				İ				}
2	NA	NA	NA	NA.		Hand-cleared 0 to	5 feet.	
3								
4								
5	2 8				0.0 - 0.8' SAND, fine, medium dense (SP)	trace medium to coarse sand, trace clay	y, dark yellowish brown	1 (10YR4/4), moist,
6	29	0.0	NA	1.2	0.8 - 1.2' SAND, fine,	and SILT, dark gray (10YR4/1) to blac	ck (10YR2/1), some m	idstone fragments at base,
7	26 7]		dry, dense (SM). 0.0 - 1.7' SAND, fine,	and SILT, little fine gravel and clay, to	ace medium to coarse s	and, few rock pieces,
8	11	0.0	NA	1.7	reddish brown (5Y)	R4/3) and black (IOYR2/1), moist, med	dium dense (SM) (TILI	a).
	10							
9	55 50				0.0 - 0.7' MUDSTONE	e, weathered, reddish brown (5YR4/3)	, wet.	
10	100/2"	0,0	NA	0.7	Auger refusal at 10.5'.			
11					Air Hammer to 12.5			
12					MUDSTONE, weather	red, reddish brown (5YR4/3), wet.		
						(End of Boring at 1	2.5 feet)	
13	· ·				1			
14								
15					Ì			
i6								
17								
18								
19								
20								
21			-					•
22								
23								
24								
25								
26								
27								
28								
29								
DRILLING F	RIG TYPE;	Sch	ramm T-450	<u> </u>	_1,	SURFACE ELEVATION:	51,20	
BOREHOLE	DIAM:	8 1/4" (0-1	0'), 5 7/8" (10-12.5')			START DATE:	7/7/2016	
WELL INST.		•	Yes			END DATE:	7/7/2016	
OTES;	THELLY.		163			DID DATE.	,,,,,,,,,,,	
Depths many NA = not cpm = coa	easured from gro applicable unts per minute rts per million	und surface			MISS07AR		Pag	elofl

			BO	RING L	റദ			BORING NUMBER: OVPZ17R		
				PROJE			od FUSRAP Superfund Site	JOB NUMBER:	500102	
СВ	&I FEDI	ERAL S	ERVICES	LOCAT	ION:		Maywood, NJ	CLIENT:	USACE	
				CONTR			SGS			
								DRILLER:	Tom Lynch	
				WELL	PERM	MIT NUMBER:	E201605108	FIELD REP:	Jeff Cook	
			SAMPLER	CASING		CORE BARREL	рерти (F GROUNDWATER	_	
	TYPE		Split-spoon	NA		NA	DATE: 5/16/2016	OF GROUNDWATER		
	SIZE (ID) MER WEIGH	Г	2" 140 lb.	NA NA	_	NA NA	Groundwater Depth (Feet):	~	10	
HA	MMER FALL		30 in.	NA		NA			_	
DEPTH	BLOW	PID	RAD	RECOVE		<u> </u>	DESCRIPTION OF	MATERIALS		
(Feet)	COUNTS	(ppm)	(cpm)	(Feet)						
1										
	NA NA						Hand-cleared 0	to 5 feet.		
2		NA	NA	. NA						
3										
4	27				~	Collect split-spoon san	ple through hand-cleared material th	nat was backfilled into ope	n hole.	
5	5	0.0	NA	0.1		0.0 - 0.1' SAND, media	um to coarse, trace clay, olive brown	(2.5Y4/3), moist, loose (SW) (FILL).	
6	5		1,			0.0 - 1.3' SAND, fine to	o coarse, some fine to coarse gravel,	brown (10YR4/3), dry, de	ense (SW) (FILL).	
7	28 36	0.0	NA	1,3						
	46		-	<u> </u>						
8	41 57	0.0	N/A	1.4			as above), dry (SW) (FILL). race silt, black (7.5YR2.5/I), wet, d	ense (SP).		
9	51 35	0.0	NA	1.4					-	
10	12					0.0 - 1.4' SAND, fine to	o medium, trace to little coarse sand,	very dark gray (7.5YR3/), wet, dense (SW).	
- 11	26 34	0.0	NA	1.4						
12	35 23		-			0.0 - 0.4' SAND (same	as ahove) (SW)	·		
	30	0.0	NA	0.8			ne sand, black (2.5YR2.5/1), moist, I	nard (ML).	.	
13	37									
14	17	0.0		,,,		0.0 - 1.5' SAND, fine, t (7.5YR3/1), wet, me	race medium sand, trace silt (few sil edium dense (SP).	t layers), dark gray (7.5YI	R4/1) to very dark gray	
15	17 26	0,0	NA	1.5			,			
16	21		1				as above), wet, some fine lamination			
17	43 45	0.0	NA	2.0			im to coarse, very durk gray (7.5YR3) ie to coarse gravel, trace fine to coar		YR4/3), moist, hard	
18	36 28		1	<u> </u>		(ML) (TILL). 0.0 - 0.9' SANDSTON	E, weathered, reddish brown (5YR4/	3), some dark gray (7,5Y	R4/I), wet.	
19	16	0.0	NA	0.9			(End of Boring a			
	- 2000 0						(End of Bornig a	19 1661)		
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
DRILLING	RIG TYPE:	Mobile B	-80 Hollow-stem Auger				SURFACE ELEVATION:	52.77	_	
			8 1/4"				START DATE:	5/16/2016		
BOREHOLE										
WELL INST	ALLED:		Yes				END DATE:	5/16/2016		
NOTES:										
	easured from g applicable	round surface						Page	:1 of 1	
NA = not applicable cpm = counts per minute ppm = parts per million						OVPZ17R				
ррия — ри	ber munder'									

			во	RING LO	LOG ,			BORING NUMBER:	
				PROJEC		Maywoo	nd FUSRAP Superfund Site	JOB NUMBER: 500102	
CB	&I FEDI	ERAL S	ERVICES	LOCATI	ION:		Maywood, NJ	CLIENT: USACE	
				CONTRA		n.		00.102	
				CONTRA	ACIO	K:	SGS	DRILLER: Tom Lynch	
				WELL P	PERMI	T NUMBER:	E201605094	FIELD REP: Jeff Cook	
				1				TALLED ALLA	
	ТҮРЕ		SAMPLER Split-spoon	CASING NA	C	ORE BARREL NA	DEPTH : 6/1/2016	OF GROUNDWATER	
	SIZE (ID)		2"	NA		NA			
	MER WEIGHT MMER FALL	Γ	140 lb. 30 in.	NA NA		NA NA	Groundwater Depth (Feet):	~12	
DEPTH	BLOW	PID	RAD	RECOVE	יסע [DESCRIPTION OF	MATERIALS	
(Feet)	COUNTS	(ppm)	(cpm)	(Feet)			DESCRITION OF	HA I EXIADO	
0									
]					-				
2	NA	NA NA	NA	NA	ı		Hand-cleared 0	to 5 feet.	
3		141		""					
	£1				ŀ				
. 4	51 45						ple through hand-cleared material t		
5	53 52	0.0	NA	2.0	0	0.0 - 2.0' GRAVEL, fin very dense (GW) (F		d, trace silt, very dark brown (2.5Y3/2), dry,	
6									
7		NA	NA	NA					
8						•	Auger to 10	feet.	
		NA	NA	NA					
9								·	
10	15 16				0	.0 - 0.8' SANDSTONI sand (0.2 - 0.5'), dry		YR4/4), some light gray (7.5YR7/1) clayey fine	
11	22	0.0	NA	0.8		sand (0,2 - 0.5), dry	to moisi.		
12	21 30				0	.0 - 0.7' SANDSTONI	E, very weathered, dark reddish bro	wn (5YR3/3), some very dark gray (7.5YR3/1)	
	29 39	0.0	NA	0.7		sand/gravel, wet.			
13	31								
14	33				0	.0 - 1.2 SANDSTONE brown (5YR4/4), we		dark reddish brown (5YR3/3) becoming reddish	
15	36	0,0	NA	1.2		,,,,,,,			
16	33 28		-				(same as above), reddish brown (5		
17	19 48	0.0	NA	1.4		.2 - 1.1' SAND, fine, a .1 - 1.4' SANDSTONI		brown (5YR4/4), moist (more like TILL).	
	45				- 1			(7 SVP2 (1) G	
18	18 25	0.0	NA	1.2	0	.0 - 0.5' SANDSTONE .5 - 1.2' SANDSTONE	s, very weathered, mostly very dark s, very weathered, mostly reddish b	gray (7.5YR3/1) fine sand, little fine gravel, wet. rown (5YR4/4) rock chips, wet.	
19	34 44	0.0	NA.						
20		-					(End of Boring a	t 20 feet)	
21									
22			-		_		·		
23									
24									
25									
26									
27									
28									
29									
DRU I DIC	NG TYPE	M-LT F	90 Heller des		I		CIREA CE EL EVATION	57.69	
DRILLING I		MIODILE H-	80 Hollow-stem Auger				SURFACE ELEVATION:	57.68	
BOREHOLE	DIAM:		8 1/4"				START DATE:	6/1/2016	
WELL INST	ALLED:		Yes				END DATE:	6/1/2016	
NOTES:									
	easured from g	round surface					-	Page 1 of 1	
cpm = co	applicable unts per minute					MW3SR			
ppm = pa	rts per million								

			R(ORING L	ng.		В	ORING NUM MW3DR	BER:
	· · · · · · · · · · · · · · · · · · ·		~~~?	PROJEC		od FUSRAP Superfund Site	JOB NUM		500102
CB	&I FED	ERAL S	SERVICES	LOCAT	ION:	Maywood, NJ	CLIENT:		USACE
				CONTR	ACTOR:	SGS	DRILLER		ry Lynch
				WELL	PERMIT NUMBER:	E201605095	FIELD RE		f Cook
		ı.	1						
	TYPE		SAMPLER NA	CASING steel	CORE BARREL NA	DEPTH DATE: 5/31/2016	OF GROUND	WATER	
HAM	SIZE (ID) IMER WEIGH	Γ	NA NA	6" NA	NA NA	Groundwater Depth (Feet):	<u> </u>	~12	
HA	MMER FALL		NA]	NA	. NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	TERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)
0									
1									
2					Hand-cleared 0 to 5	feet.			
3			1						
. 4									
5									
6									
7									
8									
9									
10									
11									
12				Se	e Boring Log for overburden	well MW3SR.			
13									
14								0.75	
15								9-7/8	6
16									
17							-		
18									
19	0,8					Drive 10" conducto	or casing to 191.		
20	0,8								
21									
22		L	MUDSTONE, weather	red, reddish bro	wп (5YR4/3), soft, wet.				
23									
24									
25									
26									
27			Competent rock at ~27						
28	0.0		MUDSTONE, reddish	brown, hard, lit	tle water (27-38).				
29					According to the	2)			
DRUING	DIG TYPE		Enhance T 450		(continued on Page	1	57.62		-
DRILLING :			Schramm T-450			SURFACE ELEVATION: START DATE:	5/25/201	6	
		y-1/6",	5-7/8" (open borehole) Yes			END DATE:	5/31/201		
WELL INST	ALLED.		168			DAD DATE,	5/31/201		
	neasured from g	round surface	e gpm = gallon:	s per minute				Page 1 of 3	
NA = not	t applicable ounts per minute				MW3DR-1				-
	arts per million								

			B(ORING L	OG		ВС	ORING NUM MW3DR	BER:
				PROJE	•	od FUSRAP Superfund Site	JOB NUMI		500102
CB	&I FED	ERAL S	SERVICES	LOCAT	TION:	Maywood, NJ	CLIENT:		USACE
				CONTR	RACTOR:	SGS			
				WELL 1	PERMIT NUMBER:	E201605095	DRILLER:	Lar	ry Lynch
							FIELD REI): Je	ff Cook
			SAMPLER	CASING	CORE BARREL		F GROUNDY	VATER	
	TYPE SIZE (ID)		NA NA	steel 6"	NA NA	DATE: 5/31/2016			
	MER WEIGH MMER FALL	Γ	NA NA	NA NA	NA NA	Groundwater Depth (Feet):		~12	
DEPTH	PID	RAD			DESCRIPTION OF MA	TERIALS		BOREHOLE	CASING
(Feet)	(ppm)	(cpm)						DIAM (in)	DIAM (in)
31									
			- -			~	İ		
32	0.0								
33			_					9-7/8	6
34	<u> </u>							<i>y-110</i>	v
35									
36								·	
37							9-7/8" to 38'.		
38						Install 6" steel	casing to 38'.		
39	0.0		MUDSTONE, reddish	ı brown, dry.					
40									
41						·			
42			-						
			-						
43			Fracture.						
44	0.0		MUDSTONE, reddish	ı brown, dry.					
45	i					•		i	
46									
47							ŀ		
48									Open
49	0.0		MUDSTONE, reddish	brown, dry.				5-7/8	Borehole
50									
51									
52	<u> </u>					,			
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 v	vet. (continued on Page	3)			
DRII I ING	RIG TÝPE:	ı	Schramm T-450	,		SURFACE ELEVATION:	57,62		
BOREHOL	E DIAM:	9-7/8",	5-7/8" (open borehole)		•	START DATE:	5/25/2016		
WELL INST	ralled;		Yeş		-	END DATE:	5/31/2016		
TES:									
	neasured from g t applicable	round surfac	e gpm = gailon	s per minute				Page 2 of 3	
	ounts per minute arts per million	;			MW3DR-2		'		

•				BORING NUMBER: MW3DR					
	· · · · ·			PROJE		ood FUSRAP Superfund Site	JOB NUMI		500102
CB	&I FED	ERAL S	SERVICES	LOCAT	TON:	Maywood, NJ	CLIENT:		USACE
				CONTR	ACTOR:	SGS			
-				WELL	PERMIT NUMBER:	E201605095	DRILLER:		ry Lynch
					•		FIELD RE	P: Jes	ff Cook
			SAMPLER	CASING	CORE BARREL		OF GROUNDY	VATER	
	TYPE SIZE (ID)		NA NA	steel 6"	NA NA				
HAM HA	MER WEIGH MMER FALL	T	NA NA	NA NA	NA NA	Groundwater Depth (Feet):	J	~12	
DEPTH	PID	RAD			DESCRIPTION OF M.	ATERIALS		BOREHOLE	CASING
(Feet) 60	(ppm)	(cpm)		-	<u> </u>	<u> </u>		DIAM (in)	DIAM (in)
61			-					5-7/8	Open
62			1					3-1/6	Borehole
63			Total yield ~1.5 gpm.		(End of Boring at 6		ner 5-7/8" to 63'.		
					(Zire or Doring at c	- 104/			
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 I	RIG TYPE:		Schramm T-450			SURFACE ELEVATION:	57.62		
BOREHOLE	EDIAM:	9-7/8 ¹ ,	5-7/8" (open borehole)			START DATE:	5/25/2016	5	
WELL INST	'ALLED:		Yes			END DATE:	5/31/2016	5	
OTES:						F			
NA = not cpm = co	neasured from g applicable unts per minute		gpm = gallons	per minute	MW3DR-3		:	Page 3 of 3	

			BO	RING LO	og		BORING NUMBER: MW438	
	······································	· · · · · · · · · · · · · · · · · · ·		PROJECT		od FUSRAP Superfund Site	JOB NUMBER:	500102
CB	&I FEDI	ERAL SE	ERVICES	LOCATIO	N:	Maywood, NJ	CLIENT:	USACE
				CONTRAC	CTOR:	B&B Drilling		
				WELL PE	RMIT NUMBER:		DRILLER:	Dave Myerchin
				117 202 12	ami nomber.		FIELD REP:	Robert DeMott
	,		SAMPLER	CASING	CORE BARREL	DEPTH	OF GROUNDWATER	
	TYPE SIZE (ID)		Split-spoon 2"	NA NA	NA NA	DATE: 6/30/2011	1	
HAM	MER WEIGHT	г	140 lbs. 30 in.	NA NA	NA NA	Groundwater Depth (Feet):	1	.21
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)	<u> </u>	DESCRIPTION OF	MATERIALS	
0	-							
!]							
2								
3	NA NA	NA	NA	NA	FILL			
4	· ·							
5								
6	1				0.0 - 0.7' SLUDGE, la	minated, interbedded white silt and	tan clay, moist, soft.	
7	2 2	NA	40	0.7				
8	4 5				0.0.00011005	minated, interbedded white to light	and all with alon maint	
	5	NA	<40	0,8	0.0 - 0.8 SLODGE, 12	iminated, interbedded write to light	gray sin with clay, moist, s	ion.
9	5							
10 .	2 2	NA	<40	1.6		hite silt with tan laminations, wet, so hite silt interbedded with gray silt ar		
11	2 2			1.0				
12	W.O.H. W.O.H.	-			0.0 - 0.81 SLUDGE, in	terbedded white and dark gray silt,	wet, very soft.	
13	3	NA	<40	0.8				
14	2					terbedded white and gray silt, wet, v		
15	. 4 8	NA	160	1.7	0.9 - 1.1' SAND, fine t	iterbedded gray silt and sand, wet, fi to medium, organic, black, wet, firm		
16	9 8			<u> </u>		to medium, red-brown, wet, dense. ne, and SAND, red-brown, wet, den	ise.	
17	12	NA	40 - 60	1.0	0.0 - 1.0' GRAVEL, fi	ne, and SAND, medium to coarse, v	with little silt, wet, dense.	
18	10				0.0 - 0.7' GRAVEL fi	ne, with some sand interbeds, red-br	rown wet very dense, wez	thered rock/till at base.
19	10	NA	NA	0.7	0.0 0.1 0.01.1 0.3, 1.		·,,,,	-
	50				au mamonia (a)	IDOTONIA		
20	NA .	NA	NA	NA.	SILISIONE and SAN	NDSTONE, weathered, wet, red-bro	wn. Advance willi auger i	illo weathered fock.
21								
22						(End of Boring	at 22 feet)	
23								
24						-		
25								
26								
27								
28					-			
29								
Dellanca	DIG TURE	D 69 17	allow etc Ar			SURFACE ELEVATION:	NA NA	
DRILLING I		D-37 EC	6 7/8"				6/30/2011	
BOREHOLE						START DATE:		
WELL INST	ALLED:		Yes			END DATE:	6/30/2011	
	namural C	round	MOn	tht of homes			n	elof1
NA = not	easured from gr applicable		W.O.H. = weig	an or nammer	MW43S		Pag	
	unts per minute rts per million				MITTOG			
	· · · · · · · · · · · · · · · · · · ·							

			BO	RING L	റദ			F	BORING NUMBER: MW448
				PROJEC		Maywo	od FUSRAP Superfund Site	JOB NUM	
СВ	&I FEDI	ERAL SE	RVICES	LOCAT	ION:		Maywood, NJ	CLIENT:	USACE
				CONTR	ACT	OR:	SGS		
						IIT NUMBER:	E201605095	DRILLE	R: Tom Lynch
				1,125	LIGI	III IVONIDEN.	120100000	FIELD R	EP: Jeff Cook
			SAMPLER	CASING		CORE BARREL		OF GROUND	OWATER
	TYPE SIZE (ID)		Split-spoon 2"	NA NA		NA NA	DATE: 6/6/2016		
HAM	MER WEIGHT MMER FALL		140 lb. 30 in.	NA NA		NA NA	Groundwater Depth (Feet):		~10
		nin	· ·		DV.		DECCRIPTION OF	MATERIAL	
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVE (Feet)	ЖҮ		DESCRIPTION OF	MATERIAL	· · · · · · · · · · · · · · · · · ·
0									
1									
2	NA NA	NA	, NA	NA			Hand-cleared 0	to 5 feet.	
3									
4									
5									
6									
7		,					4	10.5	
8	NA NA	NA	NA NA	NA			Auger through fil	I to 10 feet.	*
9									
10	100/5"	0.0	NA	0,4			E, weathered, dark reddish brown (5YR3/3), wet.	
<u>I1.</u>	100/4"	0.0	NA	0,3		0.0 - 0.3' SANDSTON		-	
12	11					0.0 - 0.9' SANDSTON	E, extensively weathered, soft, dark	reddish brown	1 (5YR3/3), moist.
13	14 100/1°	0.0	NA NA	1.3		0.9 - 1.3' MUDSTONE	, weathered, hard, dark reddish bro	wn (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									
					l				
DRILLING	RIG TYPE:	Mobile B-80	Hollow-stem Auger				SURFACE ELEVATION:	57.62	2
BOREHOLE	DIAM:		8 1/4 ⁿ				START DATE:	6/2/201	16
WELL INST	ALLED:		Yes				END DATE:	6/6/20	16
NOTES:		~							
	neasured from g	round surface							Page 1 of 1
cpm = co	t applicable unts per minute					MW44S			
ppm = pa	ırts per million					<u></u> -			

			ВС	ORING L	og		B	ORING NUN MW45D	1BER:
		•		PROJE		ood FUSRAP Superfund Site	ЈОВ NUM	BER:	- 500102
CB	&I FED	ERAL	SERVICES	LOCAT	ΓΙΟN:	Maywood, NJ	CLIENT:	•	USACE
			•	CONTI	RACTOR:	SGS			
				WELL	PERMIT NUMBER:	E201605158	DRILLER	: La	ry Lynch
							FIELD RE	P: Je	ff Cook
			SAMPLER	CASING	CORE BARREL		OF GROUND	WATER	
	TYPE SIZE (ID)		NA NA	steel 6"	NA NA	DATE: 6/13/201	6		
	IMER WEIGH MMER FALL		NA NA	NA NA	NA NA	Groundwater Depth (Feet):	<u> </u>	11.5	
DEPTH	PID	RAD	-		DESCRIPTION OF MA	ATERIALS		BOREHOLE	CASING
(Feet)	(ppm)	(cpm)						DIAM (in)	DIAM (in)
1			1						
2			1						
		-	1		Hand-cleared 0 to 5	feat.			
3									
4									
5	<u></u>		-						
6			-		•		i		
7		-	Sludge black laminat	ed with white s	silt (to 10.5 feet, bgs.), moist				
8					(, -8,,				
9			_						
10			_						
11			-						
12	ļ		SAND and SILT, w/ s	ome fine grave	l (FILL), moist				
13			SAND, f-m, organic, b	lack, wet					
14				ĺ					
15			TILL, red-brown, v. de Top of Weathered Bed					9-7/8	6
			Trop or weathered bed	IOCK					•
16			-						
17			-						
18			-						,
19									
20			MUDSTONE, extensiv	velv weathered.	, soft, reddish brown (5YR4/	i), wet.			
21					,,	,,			
22									
23		ļ							•
24			1						
25									
26						Drive 10" conductor	casing to 25.51.		
27			Competent rock at ~27						
28					3) dec				
	· · · · · ·		MUDSTONE, reddish	orown (3 Y K4/.	ச _{த்} வழ.				
29					(continued on Page	: 2)			
DRILLING F	RIG TYPE:		Schramm T-450			SURFACE ELEVATION:	55.89		
BOREHOLE	DIAM:	9-7/8".	5-7/8" (open borehole)			START DATE:	6/7/2016	i i	
								•	
WELL INST	ALLED;		Yes			END DATE:	6/13/201	<i>,</i>	
								n	
NA = not	applicable		e gpm = gallons	per minute	,			rage 1 of 3	
NA = not cpm = cor	easured from g applicable unts per minute rts per million		e gpm = gallons	s per minute	MW45D-1			Page 1 of 3	

			B	ORING L	OG		В	ORING NUN MW45D	1BER:
СВ	&I FED	ERAL	SERVICES	PROJE6 LOCAT	CT: May	wood FUSRAP Superfund Site Maywood, NJ	JOB NUM CLIENT:		500102 USACE
				CONTR	ACTOR:	SGS	DRILLER	La	rry Lynch
				WELL 1	PERMIT NUMBER:	E201605158	FIELD RE	P: Je	eff Cook
			SAMPLER	CASING	CORE BARREL	DEPT	H OF GROUND	VATED	
	TYPE		NA	steel	NA	DATE: 6/13/20		WAIER	
HAM	SIZE (ID) MER WEIGH	T .	NA NA	6" NA	NA NA	Groundwater Depth (Feet):		11.5	
	MMER FALL	<u> </u>	NA NA	NA	NA				
DEPTH (Feet)	PID (ppm)	RAD (epm)			DESCRIPTION OF I	MATERIALS		BOREHOLE DIAM (in)	CASING DIAM (in
30		i	-						
31			MUDSTONE, reddis	h brown (5YR4/	3) dry				
32			-		-), 4-).				
33			- -						
34								9-7/8	6
35			SANDSTONE, reddis	sh brown, wet.		•	İ		
36			-						
37							ımer 9-7/8" to 38'.		
38	0.0		 MUDSTONE, sandy,	reddish brown.		Install 6"	steel casing to 38'.	· .	
39			Fracture.						
40			1						
41									
42				•					
			-						
43	0.0		MUDSTONE, reddish	i brown.					
44			-						
45			-						
46			Fracture.						
47			-					'	
48	0.0		MUDSTONE, sandy, : Yield ~0.0 gpm.	reddish brown.					Open
49								5-7/8	Borehole
50			-						
51			-					;	
52]						
53	0.0		MUDSTONE, sandy,	reddish brown.					
54			Yield ~0.25 gpm.						
55									
56]						
57									
	0.0		MUDSTONE, reddish	brown.					
58 I			Yield ~1.5 gpm.	- -					
58					(continued on Pa	age 3)			
59									
	LIG TYPE:		Schramm T-450			SURFACE ELEVATION:	55.89		
59			Schramm T-450 5-7/8" (open borehole)			SURFACE ELEVATION: START DATE:	55.89 6/7/2016		

Page 2 of 3

Depths measured from ground surface NA = not applicable cpm = counts per minute ppm = parts per million

gpm = gallons per minute

MW45D-2

			ВС	DRING L	OG			Be	ORING NUM MW45D	IBER:
				PROJE		ood FUSRAP Superfund Sit	e	JOB NUM		500102
CB	&I FED	ERAL :	SERVICES	LOCAT	'ION:	Maywood, NJ		CLIENT:		USACE
		•		l	ACTOR:	SGS				
					PERMIT NUMBER:	E201605158		DRILLER:	Lar	ry Lynch
				WELL	FERMIT NUMBER:	E201005136		FIELD RE	P; Je	ff Cook
			SAMPLER	CASING	CORE BARREL	1	DEPTH OF	GROUNDA	VATER	
	TYPE		NA	steel	NA		5/13/2016	dicocito		
HAM	SIZE (ID) IMER WEIGH	Т	NA NA	6" NA	NA NA	Groundwater Depth (Feet):		11.5	
HAI	MMER FALL		NA I	NA	NA	1				
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	ATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
60		(-P2-0)								
61			_						5-7/8	Open
62			-							Borehole
63			Total yield ~1.5 gpm.	•	(End of Boring at 6	2 family	Air hammer 5	-7/8" to 63'.		
			1		o is girroe to una)	3 leet)				
64			1							
65										
66			-			·				
67			-							
68			_							
69										
			_							
70			_							
71			-							
72			-							
73			1							
74		-								÷
			- -	•						
75		l								
76			}							
77										
78			_							
79			-					-		
80			-							
			1			•				
81	<u> </u>	ļ								
. 82										
83]							
84			,							
85			<u> </u>							
								}		
86										
87										
88										
89										
J		<u> </u>	<u> </u>							
DRILLING F	RIG TYPE:		Schramm T-450			SURFACE ELEVA	TION:	55.89		
BOREHOLE	EDIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:		6/7/2016	i	
WELL INST.	ALLED:		Yes			END DATE:		6/13/201	5 '	
OTES:										
	easured from g	ground surfac	e gpm = gallons	s per minute					Page 3 of 3	
	applicable unts per minute	3			MW45D-3	•	İ			
	rts per million									

			ВО	RING LOC	· · · · · · · · · · · · · · · · · · ·		BORING NUMBER:			
	-			PROJECT:		od FUSRAP Superfund Site	JOB NUMBER: 500102			
CB	&I FEDI	ERAL SE	ERVICES	LOCATION	N:	Maywood, NJ	CLIENT: USACE			
				CONTRAC	TOR:	SGS	·			
					MIT NUMBER:	E201605091	DRILLER: Tom Lynch			
				WELLTER	WIII NOMBER,	E201003091	FIELD REP: Jeff Cook			
			SAMPLER	CASING	CORE BARREL	DEP	TH OF GROUNDWATER			
	TYPE SIZE (ID)		Split-spoon	NA NA	NA NA	DATE: 5/10/				
HAM	MER WEIGHT	Γ	140 lb.	NA	NA	Groundwater Depth (Feet):	~11			
	MMER FALL		30 in.	NA	NA NA					
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVERY (Feet)		DESCRIPTION	OF MATERIALS			
0										
1										
2	NA	NA	NA	NA		Hand-clear	ed 0 to 5 feet.			
3			:							
4	24				Collect chlit-choon say	anle through hand-cleared mate	rial that was backfilled into open hole.			
5	19				1	-	e sand, trace silt, dark gray (7.5YR4/1), dry, mediu	ım		
6	21 26	0.0	NA	1.4	dense (GW) (FILL					
7	27	0.0	NA NA	1.2	0.0 - 1.2 GR74 LE (a)	and as above, any to inous (or) (110D).			
	24				0.0 - 0.7' GRAVEL (same as above), moist (GW) (FILL).					
8	20 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					
9	14	0.0	11/1	1.0	medium dense (SP).					
10	<u>9</u> 8				0.0 - 1.0' SILT, clayey, little gravel, fine sand lens 0.1 - 0.2', reddish brown (5YR4/3), moist, stiff (ML) (TILL).					
11	11	0.0	NA	1.0	()(
12	19				0.0 - 0.8' SILT (same as above), moist (ML) (TILL). 0.8 - 1.1' SILT (same as above), more gravelly, wet (ML) (TILL).					
13	20 32	0.0	NA	1.1	0.8 - 1.1' SILT (same a	s above), more gravelly, wet (M	IL) (TILL).			
14	69 12				0.0 - 0.9' SILT (same a	s 0.0 - 0.8' above), moist (ML)	TILL).			
15	35 53	0.0	NA	1.3	0.9 - 1.3' SANDSTON	E, weathered, dark reddish brov	vn (5YR3/2), wet.			
16	68				0.0 - 0.3' SANDSTON	E, weathered, 5YR3/2, wet.				
17		0.0	NA	0.3		h weathered rock to 18 feet.				
					Advance augers unoug					
18						(End of Bor.	ing at 18 feet)			
19		7								
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
DRILLING R	UG TYPE:	Mobile B-80	Hollow-stem Auger			SURFACE ELEVATION	N: 60.26			
BOREHOLE	DIAM:		8 1/4"			START DATE:	5/10/2016			
WELL INSTA	ALLED;		Yes			END DATE:	5/10/2016			
NA = not cpm = con	easured from gr applicable ints per minute ts per million				MW46S		Page 1 of 1			

			RC	DRING L	OG		В	ORING NUM MW46D	1BER:
				PROJEC		od FUSRAP Superfund Site	JOB NUMI		500102
CB	&I FED	ERAL	SERVICES	LOCAT	TON:	Maywood, NJ	CLIENT:		USACE
				CONTR	ACTOR:	SGS		-,	
				WELL	PERMIT NUMBER:	E201605092	DRILLER:		m Lynch
				-			FIELD RE	P: Je	eff Cook
			SAMPLER	CASING	CORE BARREL		H OF GROUNDY	VATER	
	TYPE SIZE (ID)		NA NA	stee! 6"	NA NA	DATE: 5/24/20	J16		
	IMER WEIGH MMER FALL		NA NA	NA NA	NA , NA	Groundwater Depth (Feet):		7.0	
DEPTH	PID	RAD			DESCRIPTION OF MA	TERIALS		BOREHOLE	CASING
(Feet)	(ppm)	(cpm)						DIAM (in)	DIAM (in)
1									
2									
					Hand-cleared 0 to 5	feet.			
3									
4									
5			-						
6			-					15	
7									
8									
9			7						-
10		-							
11			_	S	ee Boring Log for overburde	n well MW46S.			-
12									
13			_				10-1/4" ID to 13'. nmer 9-7/8" to 32'		
14	-								
15									6 ·
16									
17			7						
18			_						
19			MI IDSTONE extensis	uely weathered	reddish brown (5YR4/3).				
			- INO DO TONE, CACASA	very wouldered,	recordi brown (5 1 kms).				
20			-						
21								9-7/8	
22			Competent rock at ~22						
23			_						
24									
25			MUDSTONE, reddish	brown.					
26									
27									
28			-						
29			_		(continued on Page				
DRILLING	RIG TYPE:	l	Mobile B-80		(continued on rage	SURFACE ELEVATION	: 60.22		
BOREHOLI	E DIAM:	9-7/8	", 5-7/8" (open borehole)			START DATE:	5/17/2010	S	
WELL INST	TALLED:		Yes			END DATE:	5/24/2016	5	
NA = nc cpm = cc	neasured from g it applicable ounts per minute arts per million	ground surfi	ace gpm = gallons	s per minute	MW46D-1			Page I of 2	

BORING NUMBER: MW46D **BORING LOG** Maywood FUSRAP Superfund Site PROJECT: JOB NUMBER: 500102 **CB&I FEDERAL SERVICES** LOCATION: Maywood, NJ CLIENT: USACE CONTRACTOR: SGS DRILLER: Tom Lynch WELL PERMIT NUMBER: E201605092 FIELD REP: Jeff Cook CORE BARREL NA SAMPLER NA DEPTH OF GROUNDWATER 5/24/2016 CASING TYPE DATE: steel

	TYPE			steel	NA NA	DATE:	5/24/2016		
	SIZE (ID)		NA	6"	NA		· · · · · · · · · · · · · · · · · · ·		
HAM	MER WEIGH	1	NA NA	NA NA	NA NA	Groundwater Dep	th (Feet):	7.0	
HA	MMER FALL		NA	NA	. NA			-	
DEPTH	PID	RAD	+	1	DESCRIPTION OF	AATERIALS		BOREHOLE	CASING
(Feet)	(ppm)	(cpm)			DESCRIPTION OF)	IN LENIALS		BOREHOLE DIAM (in)	DIAM (in
30	(F.F)	(<u> </u>						1
								D 7/0	
31			1		100		Air hammer 9-7/8" to	9-7/8	6
			1				Install 6" steel casing to		
32									
			_						1
33	ļ		1						1
	 		4						
34	ļ								
35	 -		MUDSTONE, reddish brow	an.					
			INODSTONE, readistrotow	111,					
36			1						
		1							
37								1	
								1	
38									
			4,,,,,,,					1	
39			Yield < I gpm.						-
40			-						
			-						
41			••						
					* *			1	1
42			Fracture (42-43').						
43			_				'		1 .
			-						Open
44	··		•					5-7/8	Borehole
45			MUDSTONE, more sand, re	eddish brown.	. softer.				20.000
					,				
46									
]						
47	ļ		-					1	
40			-						
48	l		1 '						
49			Fracture - water-bearing.					ļ	
			1					1	
50	0.0		Yield ∼2.5 gpm.						
			_						
51			4						
52	<u> </u>		-						
- 32		 	1						
53			1						
			1						
54									
			MUDSTONE, reddish brown	n, softer.					
55	0.0		1					1	
		<u></u>	-		-				
56			Takal mintid . 2 5				Air hous 6 7/0" ·	571	
57			Total yield ~2.5 gpm.		(End of Boring at	57 feet)	Air hammer 5-7/8" to	31.	
31			1		(with or points at	5 / 100)			
58		-	1						
			1					,	1
59									
									<u> </u>

58 59			
DRILLING RIG TYPE: Mobile B-80 BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole) WELL INSTALLED: Yes	SURFACE ELEVATION: START DATE: END DATE:	60.22 5/17/2016 5/24/2016	
NOTES: Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute ppm = parts per million MW46D-2	1	Page 2 of 2	

			D.C.	RING LO	c	BORING NUMBER: MW478				
				PROJEC		od FUSRAP Superfund Site	JOB NUMBER: 500102			
CB	&I FEDI	ERAL SE	RVICES	LOCATIO	•	Maywood, NJ	CLIENT: USACE			
				CONTRA		SGS				
				WELL PI	RMIT NUMBER:	E201605110	DRILLER: Tom Lynch			
							FIELD REP: Jeff Cook			
			SAMPLER	CASING	CORE BARREL		OF GROUNDWATER			
	TYPE SIZE (ID)		Split-spoon 2"	NA NA	NA NA	DATE: 5/12/2016				
	MER WEIGHT MMER FALL		140 lb. 30 in.	NA NA	NA NA	Groundwater Depth (Feet):	~5			
DEPTH	BLOW	PID	RAD	RECOVER	Y	DESCRIPTION OF	MATERIALS			
(Feet)	COUNTS	(ppm)	(cpm)	(Feet)			<u> </u>			
1	-									
	NA					Hand-cleared 0	to 5 feet.			
3		NA	NA.	NA						
	10						to the term of the			
4	11				0.0 - 0.4' GRAVEL, fir		d, trace silt, dark gray (7.5YR4/1), wet, medium			
5	11	0,0	NA	0.8		and CLAY, silty, very dark gray (7.5				
	6 30 0.0 - 1.0' SAND, fine, (becoming medium to coarse, little finedium dense (SW).						me), trace clay, dark gray (7.5 Y K4/1), wet,			
7	21 27			1.0						
. 8	16 16	0.0	NIA	1.0	0.0 - 0.4' SAND, fine, 0.4 - 1.0' SAND, media	e (SP). m, black (7.5YR2.5/I), wet, medium dense (SW).				
9	9 13 19									
10	19 20				0.0 - 0.9' SAND, fine to	o medium, trace coarse sand, black (7.5YR2.5/I), wet, medium dense (SW).			
11	26 31	0.0	NA	0.9						
12	10				0.0 - 0.3' SILT, clayey, Advance augers to 13 f	black (7.5YR2.5/1), wet, stiff. Few	broken rock fragments at bottom.			
13	100/0"	. 0.0	NA	0.3	ridvance augers to 12.	(End of Boring a	t 13 feet)			
14										
15										
16										
17										
18										
19		:		Ì						
20	:				•					
21							•			
22										
23										
24										
25										
26										
27										
28										
29										
DRILLING I	RIG TYPE:	Mobile B-80) Hollow-stem Auger			SURFACE ELEVATION:	51,94			
BOREHOLE DIAM: 8 1/4"						START DATE:	5/12/2016			
WELL INST	ALLED:		Yes			END DATE:	5/12/2016			
OTES:										
Depths m	easured from gr	ound surface					Page 1 of 1			
NA = not applicable opm = counts per minute					MW47S					
	rts per million									
										

BORING LOG PROJECT: Maywood FUSRAP Superfund Site JOB NI		
	JMBER:	500102
CB&I FEDERAL SERVICES LOCATION: Maywood, NJ CLIEN	Т:	USACE
CONTRACTOR: SGS		
WELL PERMIT NUMBER: E201605159	ER: La	rry Lynch
FIELD	REP: Jo	eff Cook
SAMPLER CASING CORE BARREL DEPTH OF GROU	DWATER	
TYPE NA steel NA DATE: 6/7/2016 SIZE (ID) NA 6" NA		
HAMMER WEIGHT NA NA NA Groundwater Depth (Feet): HAMMER FALL NA NA NA	~6	
	BOREHOLE	CASING
(Feet) (ppm) (cpm)	DIAM (in)	DIAM (in)
0		
2 Hand-cleared 0 to 5 feet.		
3	1	
4.		
5	-	
6		
7		
8 See Boring Log for overburden well MW47S.		
9		
10		!
11		
12	İ	
13	-	
14		
15	9-7/8	6
18 MUDSTONE, weathered, reddish brown (SYR4/3)		
19		
20		
21		
22		
23		
24		
Drive 10" conductor casing to 24	5'.	
25		
26 0.0 MUDSTONE, reddish brown (5YR4/3).		
27		
28		
29		
(continued on Page 2)		L
DRILLING RIG TYPE: Schramm T-450 SURFACE ELEVATION: 51.	70	
BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole) START DATE: 6/2/2	016	
WELL INSTALLED: Yes END DATE: 67/72	016	
NOTES:		
Depths measured from ground surface gpm = gallons per minute	Page 1 of 3	
NA = not applicable cpm = counts per minute MW47D-1		
ppm = parts per million		

			R	ORING L	OC .		В	ORING NUM	IBER:
			В	PROJEC		rood FUSRAP Superfund Site	JOB NUM		500102
CBa	&I FED	ERAL S	SERVICES	LOCAT	ŕ	Maywood, NJ	CLIENT:		USACE
					ACTOR:				
				CONTR	ACTOR:	\$GS	DRILLER	: La	τy Lynch
				WELL I	WELL PERMIT NUMBER: E201605159			GP: Je	ff Cook
	•								
	TYPE	-	SAMPLER NA	CASING steel	CORE BARREL NA	DATE: 6/7/2	TH OF GROUND	WATER	
	IZE (ID)		NA	6"	NA				
	MER WEIGH MER FALL	Т	NA NA	NA NA	NA NA	Groundwater Depth (Feet):		~6	
EDDI	DID.	T 5.5			DESCRIPTION OF M	A PEDIAL C		BOREHOLE	CASIN
EPTH (Feet)	PID (ppm)	RAD (cpm)	·.		DESCRIPTION OF W	ATERIALS		DIAM (in)	DIAM (i
30	0.0		SANDSTONE, reddis						
31				•					
32		-							
]						
33			-		*			9-7/8	6
34			1					3-110	0
35	0.0		SANDSTONE, reddis	sh brown.					
36			-						
37		<u> </u>	-				mmer 9-7/8" to 38'. " steel casing to 38'.		
38] .				· ·		
39			1						
40			}						
41	0.0		SANDSTONE, reddis Yield ~0.25 gpm.	sh brown, dry.					
42									
43			-						
44			-						
			1						
45			Fracture (45-46'), water	er bearing, 0.5 G	iPM.				
46 -									
47			-						
48									
								5-7/8	Open
49			MUDSTONE, clayey,	reddish brown.				2 110	Borehol
50									
51									
52									
53.			Fracture, water bearing	g, 1 GPM (total)					

55 56 57 58 59 (continued on Page 3) 51.70 DRILLING RIG TYPE: Schramm T-450 SURFACE ELEVATION: START DATE: 6/2/2016 BOREHOLE DIAM: 9-7/8", 5-7/8" (open borehole) WELL INSTALLED: Yes END DATE: 6/7/2016 NOTES: Page 2 of 3 Depths measured from ground surface gpm = gallons per minute NA = not applicable MW47D-2 cpm = counts per minute ppm = parts per million

54

0.0

MUDSTONE, reddish brown.

			ВС	RING L	oG	·	В	ORING NUM MW47D	BEK:		
				PROJE	CT: Maywo	od FUSRAP Superfund Site	JOB NUM	BER:	500102		
CB	&I FED	ERAL S	SERVICES	LOCAT	ION:	Maywood, NJ	CLIENT:		USACE		
				CONTR	ACTOR:	SGS					
		-		WELL	PERMIT NUMBER:	E201605159	DRILLER		ry Lynch		
							FIELD RE	CP: Je	ff Cook		
			SAMPLER	CASING	CORE BARREL		OF GROUND	WATER			
	TYPE SIZE (ID)		NA NA	steel 6"	NA NA	DATE: 6/7/201	5				
HAM HA	MER WEIGH MMER FALL	Г	NA NA	NA NA	NA NA	Groundwater Depth (Feet):	<u> </u>	~6			
DEPTH	PID	RAD			DESCRIPTION OF MA	TERIALS		BOREHOLE	CASING		
(Feet)	(ppm)	(cpm)					* 16***	DIAM (in)	DIAM (in)		
(Open		
61			Fracture, water bearing	,, 2.5 GPM (to	etal)			5-7/8	Borehole		
62	0.0		MUDSTONE, reddish Total yield ~2.5 GPM.	brown.			ner 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 I	RIG TYPE:	s	Schramm T-450			SURFACE ELEVATION:	51.70				
BOREHOLE	DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	6/2/201	6			
WELL INST	ALLED:		Yes			END DATE:	6/7/201	6			
OTES:											
NA = not cpm = cor	Depths measured from ground surface gpm = gallons per minute Page 3 of 3 NA = not applicable cpm = counts per minute MW47D-3 ppm = parts per million										

-			RO.	RING LO)C		BORING NUMBER: MW48S
			ВО	PROJEC		od FUSRAP Superfund Site	JOB NUMBER: 500102
СВ	&I FEDE	ERAL SE	RVICES	LOCATI	•	Maywood, NJ	CLIENT: USACE
				CONTRA		SGS	
-		-					DRILLER: Tom Lynch
				WELL	ERMIT NUMBER:	E201605155	FIELD REP: Jeff Cook
			SAMPLER	CASING	CORE BARREL	рертн о	F GROUNDWATER
	TYPE		Split-spoon	NA	NA	DATE: 5/31/2016	
HAM	SIZE (ID) MER WEIGHT		2" 140 lb.	NA NA	NA NA	Groundwater Depth (Feet):	~12
HAI	MMER FALL		30 in.	NA	NA	<u> </u>	
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVEI (Feet)	RY	DESCRIPTION OF I	MATERIALS
0		(Print)	(
11							
2	NA	NA	NA.	NA NA		Hand-cleared 0 t	o 5 feet.
3							
4	25				0.11		to the Control of the
5	24 32					nple through hand-cleared material th	, trace silt, dark gray (7.5YR4/1), dry, medium
	27	0.0	NA NA	1.7	dense (GW) (FILL)	<u></u>	
6	30 51	0.0	NA.	1.2	0.0 - 1.2 GRAVEL (SE	ame as above), dry, dense (GW) (FILI	۵).
7	39 40	0.0	7				
8	35 26				0.0 - 1.7' GRAVEL (se	ame as above), very dark grayish brow	m (2.5Y3/2), dry, medium dense (GW) (FILL).
9	21	0.0	NA NA	1.7			•
10	18					ame as above), dry (moist at interface)	
- 11	22 24	0.0	NA NA	1.3	(5YR4/4), dry, very		um to coarse sand, trace clay, reddish brown
12	22 42			 	0.0 - 1.1' SILT and SA	ND, fine, little fine to coarse gravel, t	race medium to coarse sand, trace clay, reddish
13	21	0.0	NA NA	1.1	brown (5YR4/4), w	et, very stiff (SM) (TILL).	
14	17 8				OO-11'SAND fine	little clay and fine gravel, reddish bro	wn (5VR4/4) wet loose (SP)
	8 -	0.0	NA	1.3		E, weathered, reddish brown (5YR4/	
. 15	19						
16	22 20	0.0	NA.	0.8		and SILT, some fine to coarse gravel, R4/4), moist, medium dense (SM) (TI	trace medium to coarse sand, trace clay, LL).
17	100/5"	5.5	144				
18	51 43				0,0 - 1,0' SANDSTON	E, weathered, reddish brown (5YR4/	4), wet.
19	29 53	0,0	NA NA	1.0			
20					· ·	(End of Boring at	20 feet)
21							
22					<u> </u>		
23							
24							
25							
							•
26	·						
27							
28							
29							
DRILLING	RIG TYPE:	Mobile B-80	Holiow-stem Auger			SURFACE ELEVATION:	57.37
BOREHOLE	DIAM:		8 1/4°			START DATE:	5/31/2016
						END DATE:	5/31/2016
WELL INST	ALLED:		Yes			DATE.	3/3/12010
Depths m NA = not cpm = co	neasured from gr applicable unts per minute rts per million	ound surface			MW48S		Page I of I
							L

			P.C	ORING L	OC.			Be	ORING NUM MW48D	BER:	
			ь	PROJE		vood FUSRAP Superfu	and Site	JOB NUM		500102	
CB	&I FED	ERAL S	SERVICES	LOCAT		Maywood, NJ		CLIENT:		USACE	
	-				RACTOR:	SGS					
					PERMIT NUMBER:	E2016051		DRILLER:	: Tor	n Lynch	
				WELL	PERMIT NUMBER:	E2010031	34	FIELD RE	P: Je	ff Cook	
			SAMPLER	CASING	CORE BARREL	T	рертн о	! F GROUND\	WATER		
	TYPE SIZE (ID)		Split-spoon 2"	steel 6"	NA NA	DATE:	5/31/2016				
HAM	MER WEIGH	r	NA	NA	NA	Groundwater Depth	(Feet):		~12	·	
	MMER FALL		NA NA	NA	NA NA						
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF M	IATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)	
0			-								
1			1								
2			-		Hand-cleared 0 to	5 feet.					
, 3											
4											
5											
6											
7											
8			-								
9			[
10			-					-			
11					-		٠		15		
12			-	S	ee Boring Log for overburd	en well MW48S.			-		
13			1		•						
14			Collect split-spoon sam	ple from 14-16	6'.						
15	0.0		MUDSTONE, weather	ed, sandy, redd	lish brown (5YR4/3).					6	
16											
17											
18											
. 19											
20			18.5 - 25' SANDSTON Extensively fractured re		reddish brown, up to 4" pie gpm.	ces recovered.					
21											
22											
23							Auger 10-1/4 Air hammer				
24								. ,,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
25			More competent rock at	t ~25'.							
26											
27									9-7/8		
28				-							
29									,		
					(continued on Pa	ge 2)					
DRILLING I	RIG TYPE:		Mobile B-80			SURFACE EL	EVATION:	57,75			
BOREHOLE	DIAM:	9-7/81,	5-7/8" (open borehole)			START DATE	3:	5/24/2010	6		
WELL INST	'ALLED:		Yes			END DATE:		5/31/2010	6		
OTES:							·				
	neasured from g	round surface	gpm = gallons	per minute					Page 1 of 3		
cpm = co	t applicable unts per minute				MW48D-1						
ppm = pa	nts per million										

			ВС	DRING LO	OG			l B	ORING NUN MW48D	ABER:
				PROJEC		vood FUSRAP Sup	erfund Site	ЈОВ NUM		500102
СВ	&I FED	ERAL	SERVICES	LOCAT	ION:	Maywood, i	LN	CLIENT:		USACE
				CONTR	ACTOR:	SGS			•	
		-		WELL P	ERMIT NUMBER:	E2016	605154	DRILLER		ım Lynch
								FIELD RE	P: Je	eff Cook
	TYPE		SAMPLER Split-spoon	CASING steel	CORE BARREL NA	DATE:	DEPTH O 5/31/2016	F GROUNDY	WATER	
	SIZE (ID) MER WEIGH		2"	6"	NA ,				12	
	MER WEIGH	1	NA NA	NA NA	NA NA	Groundwater D	epui (reet):		~12	
DEPTH	PID	RAD			DESCRIPTION OF MATERIALS					CASING
(Feet)	(ppm)	(cpm)					<u> </u>		DIAM (in)	DIAM (in)
31			Fracture (31-32').		1	•				
32	0.4		MUDSTONE, sandy,	reddish brown.						
33										
34			-						9-7/8	6
35 ,	0.4				•					*
	U. 4		_			•				
36			_							
37			_				Air hammer Install 6" steel	9-7/8" to 38'. casing to 38'.		
38			-							
39			MUDSTONE, reddish	brown, wet.						
40			Fracture (40-41'), wate Yield ~0.5 gpm.	r bearing.						
41			1 Teit ~0.5 gpm.							Į.
42			 							
43			Fracture (43-44').							
44			MUDSTONE, reddish	brown, wet.				į		
45	0.0		_							
46			-							
47			-							
48			Fracture, water bearing Yield ~1.0 gpm.						,	
49				· · · · · · · · · · · · · · · · · · ·				İ	5-7/8	Open Borehole
			MUDSTONE, reddish	brown, wet.				i		Borenose
50	0,0		Yield ~2.0 gpm.							
51			-							
52				•		•				
53								ļ		
54	0.0		MUDSTONE, sandy, re Fracture.	eddish brown, w	et.					
55			- Indiane.				•			
56			Fracture, water bearing			٠				
57			Yield ~2.5 gpm.							
58			Fracture (58-58.5').							
59	<u> </u>		MUDSTONE, sandy, re	eddish brown, w	ret.					
			J		(continued on Pa	ge 3)				
DRILLING R	IG TYPE:		Mobile B-80			SURFACE	E ELEVATION:	57.75		
BOREHOLE	DIAM;	9-7/8",	, 5-7/8" (open borehole)		•	START D	ATE:	5/24/2010	5	
WELL INSTA	ALLED:		Yes			END DAT	`E:	5/31/2016	5	
OTES:	• •		<u> </u>							
Depths measured from ground surface gpm = gallons per minute								Page 2 of 3		
Depths me	NA = not applicable cpm = counts per minute MW48D-2									

			В	BORING NUMBER: MW48D						
				DRING L		od FUSRAP Superfund Site	JOB NUM		500102	
CB	&I FED	ERAL S	SERVICES	LOCAT	ION:	Maywood, NJ	CLIENT:		USACE	
				CONTR	ACTOR:	SGS			* * *	
				WELL	PERMIT NUMBER:	E201605154	DRILLER	,	n Lynch	
							FIELD RE	FIELD REP: Jeff Cook		
	TYPE		SAMPLER Split-spoon	CASING steel	CORE BARREL NA	PTH OF GROUND /2016	WATER			
HAN	SIZE (ID) IMER WEIGH	Т	2" NA	6" NA	NA NA		~12			
	MMER FALL		NA I	NA	NA	Groundwater Depth (Feet):		I		
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	TERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)	
60			-							
61								5-7/8	Open Borehole	
62			Total yield ~3.0 gpm.			Air h	ammer 5-7/8" to 63'.			
63	ļ		- Total yield 15.0 gpm.		(End of Boring at 63	3 feet)	ammer o mo to do.			
64			1				•			
65	<u> </u>		†							
66	ļ		-							
67			-			,				
68			-						ļ	
69]							
70			-							
			- -							
71			-							
72										
73										
74		ļ								
75										
76										
77			· ·							
78										
79										
80		,								
81										
82			-							
83										
84										
85			,							
86										
87			·	•						
88										
89										
DRILLING	RIG TYPE;		Mobile B-80			SURFACE ELEVATIO	N: 57.75			
BÖREHOLE	E DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE	5/24/201	6		
WELL INST	'ALLED:		Yes			END DATE:	5/31/201	6		
OTES:					·	1				
Depths measured from ground surface gpm = gallons per minute NA = not applicable cpm = counts per minute MW48D-3 ppm = parts per million										

			BO	RING LO	BORING NUMBER MWSIS					
				PROJEC		od FUSRAP Superfund Site	JOB NUMBER: 500102			
CB	&I FEDI	ERAL SE	RVICES	LOCATI	-	Maywood, NJ	CLIENT: USACE	3		
·				CONTRA		SGS				
				- 1			DRILLER: Larry Lynch			
				WELL P	ERMIT NUMBER:	E201607079	FIELD REP: Jeff Cook			
-		1 .	SAMPLER	CASING	CORE BARREL	ПЕРТН	OF GROUNDWATER			
	TYPE		Split-spoon	NA	NA	DATE: 6/29/201				
HAM	SIZE (ID) MER WEIGHT		2" 140 lb,	NA NA	NA NA	Groundwater Depth (Feet):	~14			
HA	MMER FALL		30 in.	NA	NA					
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (epm)	RECOVE (Feet)	RY	DESCRIPTION O	MATERIALS			
0		(PP)	(4),	(200)						
2	NA	NA	NA NA	NA.		Hand-cleared	1 to 5 feet			
3	l No.	IVA	l MA	I NA	Hand-cleared 0 to 5 feet.					
4										
						0.0 1.0 SH T trace fine to coorse conditions fine ground raddish brown (2.5 VR4/4) dry bard (MI				
5	26 44	0.0	NA.	1.0	0.0 - 1.0' SILT, trace t	0.0 - 1.0' SILT, trace fine to coarse sand, trace fine gravel, reddish brown (2.5YR4/4), dry, hard (ML)				
6	42 56	0.0	141	1						
7	20 40				0.0 - 1.5' SILT, clayey	, trace fine to coarse sand, reddish l	rown (2.5YR4/4), moist, hard (ML).			
8	46 72	0.0	NA NA	1.5						
9	30					E/MUDSTONE, very weathered, fir	e sandy, reddish brown (2.5YR4/4), brittle,			
10	45 ·52	0.0	NA	1.4	dry, hard at base.					
11	105 33									
12	46 100/5.5"	0.0	NA.	1.5	0.0 - 1,5' SILTSTONE	MUDSTONE, weathered, fine sar	dy, reddish brown, brittle, moist, hard at base	2 .		
13	52 · 89	0.0	NA.	1.5	0.0 - 1.5' SILTSTONE	MUDSTONE, weathered, fine sar	dy, reddish brown, brittle, wet at 14 '.			
14	. 66	0.0	7,7.							
15	100/5,5"				0.0 - 0.4' SILTSTONE	MUDSTONE, weathered, fine sar	dy, reddish brown, brittle, hard, wet.			
16		0.0	NA	0.4		,	, , ,			
17				1	Air Hammer to 19'.	0.10				
18		NA	NA	NA	SILTSTONE/MUDST	ONE, weathered, reddish brown, h	ard, wet.			
19					 	(End of Boring	at 19 feet)			
20										
21										
· ·										
22										
23										
24										
25										
26							•			
27							•			
28										
29										
DRILLING	DRILLING RIG TYPE: Schramm T-450 SURFACE ELEVATION: 54.77									
BOREHOLE	E DIAM:		5 7/8"			START DATE:	6/29/2016			
WELL INST	WELL INSTALLED: Yes END DATE: 6/29/2016									
NOTES:										
Depths m	ieasured from gi	ound surface					Page 1 of 1			
NA = not	applicable unts per minute				MW51S	•	V			
	nts per million									

			В	ORING L	OG		Be	ORING NUN MW51D	ABER:
				PROJEC		ood FUSRAP Superfund Site	JOB NUMI		500102
CB	&I FED	ERAL S	SERVICES	LOCAT	ION:	Maywood, NJ	CLIENT:		USACE
				CONTR	ACTOR:	SGS			
				WELL I	PERMIT NUMBER:	E201607077	DRILLER:	La	rry Lynch
							FIELD RE	P: Je	eff Cook
			SAMPLER	CASING	CORE BARREL		OF GROUNDY	VATER	
	TYPE SIZE (ID)		NA NA	stee! 6"	NA NA	DATE: 6/28/2016			
	MER WEIGH MMER FALL	Γ	NA NA	NA NA	NA NA	Groundwater Depth (Feet):		~14	
DEPTH	PID	RAD			DESCRIPTION OF MA	ATERIALS		BOREHOLE	CASING
(Feet)	(ppm)	(cpm)	<u> </u>					DIAM (in)	DIAM (in)
1			-		•				
2			-				•		
			, -		Hand-cleared 0 to	5 feet.			
3	·		-						
4			-						
5									
6						Drive 10 ⁿ conducto	casing to 6.5'.		
7				Se	ee Boring Log for overburde	n well MW-51S.			
8			1						
9			Top of weathered roc	k					
10									
11			SILTSTONE and MI	IDSTONE, exter	nsively weathered, red-brow	n (SYR4/3) soft			
12			-	DD TOTIL, CAR	instruty washered, tod brow	11, (0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
13			-						
14			1					9-7/8	. 6
15			SILTSTONE and MU	DSTONE, exter	nsively weathered, red-brow	n, (5YR4/3), soft			
16									
17			-						
18									
19			Competent rock at ~1	9.					
20					e, reddish brown (5YR4/3) ((19-26).			
21									
22									
23									
24					.*				
25									
26			MUDSTONE, shaley,	reddish brown (26-28.5').				
27									
28			MUDSTONE and SA	NDSTONE, red	dish brown (28.5-29').		г 9-7/8" to 29'. I casing to 29'.		
29					(continued on Pag			5-7/8	Open Boreho
RILLING F	IG TYPE	-	Schramm T-450	-	,	SURFACE ELEVATION:	54.66		
								4	
OREHOLE VELL INST		9-7/8",	5-7/8" (open borehole) Yes			START DATE: END DATE:	6/28/2010		
TES:		-	1 03			DID DAIL.	0.25/2010		
	easured from g	d C	e gpm = gallon					Page 1 of 2	
	applicable	Daniuk	Britt Bullot						

BORING LOG

PROJECT:

Maywood FUSRAP Superfund Site

JOB NUMBER:

500102

CB&I FEDERAL SERVICES

LOCATION:

Maywood, NJ

CLIENT:

USACE

CONTRACTOR:

SGS

DRILLER:

Larry Lynch

WELL PERMIT NUMBER:

E201607077

Jeff Cook FIELD REP:

BORING NUMBER:

	SAMPLER	CASING	CORE BARREL	DEPTH	OF GROUNDWATER
TYPE	NA	steel	NA NA	DATE: 6/28/201	5
SIZE (ID)	NA	6 ^H	NA		
HAMMER WEIGHT	NA	NA	NA	Groundwater Depth (Feet):	~14
HAMMER FALL	NA.	NA	NA		

		,		DODDING B GASIN		
DEPTH (Feet)	PID (ppm)	RAD (cpm)	DESCRIPTION OF MATERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)	
30						
31	0.0		SANDSTONE, fine, reddish brown, soft.			
	0,0		JOHN D. TURE, TEGUISH OTOWN, SOIL			
32						
33			Fracture (33-34').			
34			Yield ~0.0 gpm.			
			Tiou voo gan.		· ·	
35		<u> </u>	·			
36	0.0		SANDSTONE, fine, reddish brown, soft.			
37			· ·			
38						
39			Yield ~0.0 gpm.			
40						
41	0.0		SANDSTONE, fine, reddish brown, soft.	5-7/8	Ореп	
42				5-1/0	Borehole	
43						
			Fracture.			
44			MUDSTONE, reddish brown, harder. Yield ~0.0 gpm. Fracture.			
45						
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').			
			Total yield ~0.5 gpm. Air hammer 5-7/8" to 54.			
54	·		(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 NA = not applicable

gpm = gallons per minute

cpm = counts per minute ppm = parts per million

MW51D-2

Page 3 of 3

			Tr.	ODINGIO				NUMBER:	
			ВС	ORING LO		ood FUSRAP Superfund Site	JOB NUMBER:	W528 500102	
CB	&I FEDE	RAL SE	ERVICES	LOCATIO	•	Maywood, NJ	CLIENT:	USACE	
				CONTRA		SGS	CLIENT:	BACE	
							DRILLER:	Larry Lynch	
				WELL PE	RMIT NUMBER:	E201609990	FIELD REP:	Jeff Cook	
		ì	SAMPLER	CASING	CORE BARREL	ПЕРТИ	DEPTH OF GROUNDWATER		
	ТУРЕ		Split-spoon	NA	NA	DATE: 8/31/2016			
HAM	SIZE (ID) MER WEIGHT		2" 140 lbs.	NA NA	NA NA	Groundwater Depth (Feet):		-6	
HA	MMER FALL		30 in.	NA	NA	1			
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVER (Feet)	Y	DESCRIPTION OF	MATERIALS		
0		· · · · · · · · · · · · · · · · · · ·							
1								•	
2	NA.	NA	NA	NA.		Hand-cleared 0	to 5 feet		
3 .									
4			,			. ,			
5	20		<u> </u>		0.0 - 1.3/SAND 655	to medium, little coarse sand, trace fi	ne gravel and silt brown	7.5YR4/3) moist to	
	18	0.0	NA	1.3	wet, medium dense		grave, and only browill		
6	15								
7	78	0,0	NA.	1.7		and CLAY, reddish brown (5YR4/4)			
8	93 49	0.0	11/4	1.7		E, weathered, reddish brown (5YR4/4			
9	33 84				0,0 - 1.0' MUDSTON	E, weathered, some medium to coarse	e sand, reddish brown (5Y	R4/4), wet.	
10	35 31	0.0	NA	1.0					
11	31					(End of Boring a	t 11 feet)		
12						·			
13									
14									
15								`	
16									
17									
18									
19									
20						•	•		
21								ļ	
22									
23									
24									
25								İ	
26				1					
27									
28									
29									
DRILLING F	RIG TYPE:	Sah	ramm T-450			SURFACE ELEVATION:	44,34		
		acıı			•				
BOREHOLE	DIAM:		8 1/4"			START DATE:	8/31/2016		
WELL INST.	ALLED:		Yes			END DATE:	8/31/2016		
OTES:	*								
	easured from gro	und surface					Page	l of l	
NA = not applicable cpm = counts per minute ppm = parts per million					MW52S				
pu	,						1		

Z

		ВО	RING LO			I	BORING NUN MW52D	IBER:
			PROJECT		ood FUSRAP Superfund Sit	e JOB NUN		500102
CB&I FEI	DERAL :	SERVICES	LOCATIO	N:	Maywood, NJ	CLIENT:		USACE
			CONTRAC		SGS			
						DRILLEI	R: La	ту Lynch
			WELL PE	RMIT NUMBER:	E201609991	FIELD R	EP: Je	eff Cook
		SAMPLER	CASING	CORE BARREL	<u>, </u>	DEPTH OF GROUND	WATED	
ТҮРЕ		NA	steel	NA NA		30/2016	WAIER	
SIZE (ID) HAMMER WEIG		NA NA	6" NA	NA NA	Groundwater Depth (Feet):	~6	· · · · · · · · · · · · · · · · · · ·
HAMMER FAL	L T	NA I	NA	NA				
DEPTH PID	RAD]	DESCRIPTION OF MA	ATERIALS		BOREHOLE	CASING
(Feet) (ppm) 0	(cpm)					·	DIAM (in)	DIAM (in)
1		-						
2		-						
		-		Hand-cleared 0 to	feet.			
3		-						
4	1							
5	ļ						1	
6		-						
7		-					1	
		1	See B	loring Log for overburde	n well MW-52S.			
8	 	-						
9		-]						
10		1						
11	-	Top of weathered rock					-	
		1 ' ' '						
12								
13	· ·	-						
14	1	SANDSTONE, weathere	ed raddich brow-	(SVP4/2)]	
15		STATES TO IVE, WEARINGTO	م, reudisii DIOWI	() I NWJ),			9-7/8	6
16					Drive 10" co	nductor casing to 15.5'.		
17						•		
18							İ	
19		SANDSTONE, weathere	ed reddieh brown	(5YR4/3)				
20		Z. I. 150 I OTTE, Weathere	e, resulati DIQWII	, (o 1 10-11),				
21	<u> </u>							
22		More competent bedrock	at ~221					
			,,, ded.,					
23								
24	-							
25		MUDSTONE, reddish bro	own (5YR4/3)					
26								
27								
	İ							
28								
29				(continued on Page	. 2)			
DDILL DIG TO THE				Jeonnanea on rage	1			
DRILLING RIG TYPE:	5	Schramm T-450			SURFACE ELEVAT	10N: 44.19		
BOREHOLE DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	8/29/201	6	
WELL INSTALLED:		Yes			END DATE:	8/30/201	6	
OTES:								
Depths measured from	recound outs	an o 11	or minute				b 1 -65	,
-epais incastion it off	e ourie anitace	gpm = gallons pe	or minute.				Page 1 of 3	

ppm = parts per million

			В	ORING LO	OG			ORING NUM MW52D	BEK:
				PROJEC		od FUSRAP Superfund Site	JOB NUM	BER:	500102
CB	&I FEDI	ERAL :	SERVICES	LOCATI	ON:	Maywood, NJ	CLIENT:		USACE
				CONTRA	ACTOR:	SGS	PRI 1 PR	T	. I
				WELL P	ERMIT NUMBER:	E201609991	DRILLER		ry Lynch
							FIELD RE	P: Je	ff Cook
	TYPE		SAMPLER NA	CASING steel	CORE BARREL NA	DATE: 8/30/2	<mark>TH OF GROUND'</mark> 016	WATER	
	SIZE (ID) MER WEIGH	Γ	NA NA	6" NA	NA NA	Groundwater Depth (Feet):	.	· ~6	
	MER FALL		NA I	NA	NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)		•	DESCRIPTION OF MA	TERIALS		BOREHOLE DIAM (in)	CASING DIAM (ii
30									
31			-						
32			- -						
33			MUDSTONE, reddis	ih brown.				9-7/8	6
34			-						
35			-						
36			-				mmer 9-7/8" to 37'.		
37			-			install 6	steel casing to 37'.		
38	0.0		MUDSTONE, reddis	h brown.		-			
39								;	
40			_			4			
41			Fracture.						
42	0.0		MUDSTONE, reddis	h brown.					
43			Yield ~0.25 gpm.						
44	0.0		MUDSTONE, fine sa	ındy, reddish brov	vn.				
45									
46								:	
47			Yield ~0.25 gpm.						
48			Fracture.					5.50	Open
49	0.0		MUDSTONE, fine se	indv. reddish brow	vn			5-7/8	Borehol
50	0.0		Fracture.	andy, reducing 51011					
51			Tradition .						
52			Fracture. Yield ~0.5 gpm.						
53			. годо.э вриг.						
54	0,0		SANDSTONE, fine,	raddieh heo					
55	0,0		DAINDO I VINE, TIRE, I	edulari UIUWN,					
56			Softer (54 571)						
			Softer (56-57').						
57			Yield ~0.5 gpm.						
58			Soft/fractured (58-59)						
59	0.0		SANDSTONE, reddi	sn brown.	(continued on Page	3)			
rilling r	IG TYPE:		Schramm T-450			SURFACE ELEVATION	i: 44.19		
OREHOLE	DIAM:	9-7/8",	5-7/8" (open borehole			START DATE:	8/29/201	6	
ELL INSTA	ALLED:		Yes			END DATE:	8/30/201	6	
ES:						ļ			

MW52D-2

cpm = counts per minute ppm = parts per million

			В	ORING L	OG			BC	ORING NUM	BER:
				PROJE		wood FUSRAP Superf	und Site	JOB NUME		500102
CBe	&I FED	ERAL	SERVICES	LOCAT	ION:	Maywood, NJ		CLIENT:		USACE
					ACTOR:	SGS				
								DRILLER:	Lar	ry Lynch
				WELL	PERMIT NUMBER:	E201609	991	FIELD REI	?: Je	ff Cook
					 -			<u> </u>		
	TYPE		SAMPLER NA	CASING steel	NA CORE BARREL	DATE:	8/30/2016	F GROUNDY	VATER	
	SIZE (ID) MER WEIGH		NA NA	6" NA	NA NA	Groundwater Dept	h (Post):		~6	
	MER FALL	<u> </u>	NA NA	NA NA	NA NA	Groundwater Dept	ii (i eet).			
DEPTH	PID	RAD			DESCRIPTION OF M	IATERIALS			BOREHOLE	CASING
(Feet)	(ppm)	(cpm)	1						DIAM (in)	DIAM (in)
			<u>-</u>						5-7/8	Open
61			SANDSTONE, reddis Total yield ~1.5 gpm.				Air hammer	5-7/8" to 62'.		Borehole
62			-		(End of Boring at	62 feet)				
63										
64			_							
65										
			-							
66			_							
67			-							
68										
69			_							
70										
									-	
71			-					j		
72										
73			1							
74										
75			-							
76]							
77			-							
78										
79	·									
80							• •			
81										
82			-							
83			-							
84										
85			1							
86			-							
			-							
87										
88			-							
89										
1			I			1		1	-	
DRILLING R	IG TYPE:		Schramm T-450			SURFACE E	LEVATION:	44.19		
BOREHOLE	DIAM:	9-7/8"	, 5-7/8" (open borehole)			START DAT	E:	8/29/2016	5	
WELL INSTA	ALLED:		Yes			END DATE:		8/30/2016		
TES:			-							
	10								Dec. 2 - 62	
NA = not	easured from g applicable ints per minute		ee gpm = gallon	s per minute	MW52D-3				Page 3 of 3	

ppm = parts per million

			RC	RING L	റ്റ				NUMBER:	
			В	PROJEC		laywood	FUSRAP Superfund Site	JOB NUMBER:	500102	
CB	&I FEDE	RAL SE	RVICES	LOCAT	ION:		Maywood, NJ	CLIENT:	USACE	
					ACTOR:		SGS			
					PERMIT NUMBER:		E201698452	DRILLER:	Larry Lynch	
				THE SECTION	ERMIT (TOPIDER.			FIELD REP:	Jeff Cook	
 -			SAMPLER	CASING	CORE BARREI	L	рертн о	F GROUNDWATER		
	TYPE SIZE (ID)		Split-spoon 2"	NA NA	NA NA	1	DATE: 7/21/2016			
HAM	MER WEIGHT MMER FALL		140 lbs. 30 in.	NA NA	NA NA	(Groundwater Depth (Feet):	~6		
~							DESCRIPTION OF A	AATEDIAL C		
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD (cpm)	RECOVE (Feet)	-	-	DESCRIPTION OF M	TATERIALS		
0										
1		٠								
2	NA	NA	,NA	NA NA			Hand-cleared 0 to	o 5 feet.		
3										
4										
55	15				0.0 - 1.2' SAND,	0.0 - 1.2' SAND, fine, little medium sand, trace silt, dark gray (10YR4/1), moist to wet, loose (SP).				
6	11 8	0.0	NA	1.2						
7	5				0.0 - 1.2 SAND	0.0 - 1.2 SAND (same as above), wet (SP).				
8	6 8	0.0	NA	1.2						
9	11 15					0.0 - 1.0' SAND, fine, little medium sand, dark grayish brown (10YR3/2), wet, loose, at bottom, becoming				
10	9	0.0	NA	1.0	SAND, fine to	o mediu	m, little coarse sand, dark olive gray	(5Y3/2) (SP/SW).		
11	W.O.H.				0.0 - 0.8' SAND.	mediun	n to coarse, dark olive gray (5Y3/2),	wet, very loose (SW).		
12	W.O.H.	0.0	NA	0.8	,		,			
13	3				0.0. 1.2(\$4ND	a di	n to coarse, trace fine gravel, dark of	live area (SV2/2) west loo	20 (EW)	
	4	0.0	NA	1.2	0.0 - 1.2 3AND,	meatan	ii to coatse, trace tine gravet, dark oi	1170 gray (3 1 3/2), wel, 100	se (5 11).	
14	6			<u> </u>		_				
15	6	0.0	NA	0.8	0.0 - 0.8' SAND ((same a	s above) (SW).			
16	7 8									
17	5	0.0	NA	0.9	loose (SP).		ry dark grayish brown (10YR4/2) to	·)Y R4/4), wet,	
18	100/6"	0.0		4,3	0.7 - 0.9' SANDS	STONE,	, weathered, reddish brown (5YR4/3	1).		
19							(End of Boring at	19 feet)		
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
DRILLING F	RIG TYPE:	Sch	amm T-450				SURFACE ELEVATION:	52.18		
BOREHOLE	DIAM:		8 1/4"				START DATE:	7/21/2016		
WELL INST	ALLED:		Yes				END DATE:	7/21/2016		
OTES:	· · · · · · · · · · · · · · · · · · ·			-, ,,,		··	1			
Depths m NA = not cpm = cor	easured from gr applicable unts per minute rts per million	ound surface	W.O.H. ≈ weig	ght of hammer	MW53S			Page	of l	

			BO	RING L	OC.			В	ORING NUM MW53D	IBER:
			<u>DC</u>	PROJE		vood FUSRAP Superfi	und Site	JOB NUMI		500102
CB	&I FED	ERAL S	SERVICES	LOCAT		Maywood, NJ		CLIENT:		USACE
				- 1	RACTOR:	SGS				
							4.5.1	DRILLER:	· Lar	ry Lynch
				WELL	PERMIT NUMBER:	E201608-	+51	FIELD RE	P: Je	ff Cook
			SAMPLER	CASING	CORE BARREL		DEPTH C	F GROUNDY	VATER	
	TYPE SIZE (ID)		NA NA	steel 6"	NA NA	DATE:	7/21/2016			
HAM	MER WEIGH	Т	NA	NA	NA	Groundwater Depti	h (Feet):		~10	
	MMER FALL		NA .	NA	NA					
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF M	IATERIALS			BOREHOLE DIAM (in)	CASING DIAM (in)
0		ļ								
1			-							
2		ļ	1		Hand-cleared 0 to	5 feet.				
3	ļ		1						ļ	
4			1							
5										
6]							
]							
7			1							
8			-							
9										
10			-		•			Ì		
11										
12			}	Se	ee Boring Log for overburd	en well MW-53S.				
13	,									
14							•			
									9-7/8	6
15				·						
16										
17										
18										
19			Top of weathered bedro	ck.						
20										
21										
22			SANDSTONE, reddish	brown (5YR4,	/3), extensively weathered,	soft.				
23				•	-					
24										
						Drive	10" conductor ca	asing to 24.7'.		
25									ļ	
26									ŀ	
27			SANDSTONE, reddish	brown (5YR4/	/3), weathered, soft.					
28										
29					Zanadino di con	no 7)				
			<u> </u>		(continued on Pa	1				
DRILLING I	RIG TYPE:	:	Schramm T-450			SURFACE E	LEVATION:	52,23		
BOREHOLE	EDIAM:	9-7/8",	5-7/8" (open borehole)			START DAT	E:	7/19/2016	i	
WELL INST.	ALLED:		Yes ,			END DATE:		7/21/2016	j	`
OTES:			•			ı				
Dontho -	easured from g	round surface	gpm = gallons	per minute					Page 1 of 3	
	applicable									

BORING NUMBER: **BORING LOG** MW53D PROJECT: Maywood FUSRAP Superfund Site JOB NUMBER: 500102 **CB&I FEDERAL SERVICES** LOCATION: Maywood, NJ CLIENT: USACE CONTRACTOR: SGS DRILLER: Larry Lynch WELL PERMIT NUMBER: E201608451 Jeff Cook FIELD REP: SAMPLER CASING DEPTH OF GROUNDWATER CORE BARREL TYPE steel DATE: SIZE (ID) NA NΑ HAMMER WEIGHT NΑ NA NA Groundwater Depth (Feet): ~10 HAMMER FALL NA NΑ NA CASING DIAM (in) DEPTH DESCRIPTION OF MATERIALS PID RAD BOREHOLE (Feet) (cpm) DIAM (in) (ppm) 30 31 SANDSTONE, reddish brown (5YR4/3), weathered, soft. 32 More competent rock (32-42'). 33 34 35 9-7/8 SANDSTONE, reddish brown (5YR4/3). 36 37 38 39 40

SANDSTONE, reddish brown (5YR4/3).

SANDSTONE, reddish brown (5YR4/3).

SANDSTONE, reddish brown.

MUDSTONE and SANDSTONE, fine grained, reddish brow

(continued on Page 3)

MW53D-2

SURFACE ELEVATION:

START DATE:

END DATE:

Yield ~0.1 gpm.

Yield ~0.1 gpm.

Schramm T-450

9-7/8", 5-7/8" (open borehole)

Yes

gpm = gallons per minute

Fracture.

Air hammer 9-7/8" to 421.

Open

Borehole

5-7/8

52.23

7/19/2016

7/21/2016

Page 2 of 3

Install 6" steel casing to 42".

41

42 43 44

51

52

53 54

55

56 57

58 59

NOTES:

DRILLING RIG TYPE:

BOREHOLE DIAM:

WELL INSTALLED:

NA = not applicable

cpm = counts per minute ppm = parts per million

0.0

0.0

0.0

Depths measured from ground surface

	В	ORING NUM MW53D	BER:						
-		,		ORING L PROJE		od FUSRAP Superfund Site	JOB NUM		500102
CB	&I FEDI	ERAI	SERVICES	LOCAT	ION:	Maywood, NJ	CLIENT:		USACE
				CONTR	RACTOR:	SGS			
				WELL I	PERMIT NUMBER:	E201608451	DRILLER		ry Lynch
				[FIELD RE	P: Je	ff Cook
	ТУРЕ		SAMPLER	CASING	CORE BARREL		PTH OF GROUND	WATER	-
	SIZE (ID)		NA NA	steel 6"	NA NA		1/2016		
HAM	MER WEIGH MMER FALL	<u> </u>	NA NA	NA NA	NA NA	Groundwater Depth (Feet):		~10	
DEPTH	PID	RAI			DESCRIPTION OF MA	TERIALS		BOREHOLE	CASING
(Feet) 60	(ppm)	(cpm	Soft seam(s), water b	earing				DIAM (in)	DIAM (in)
61		<u> </u>	·					5-7/8	Open Borehole
62	 		Total yield ~15 gpm.	 -	(End of Boring at 62		nammer 5-7/8" to 62'.		
63	ļ		10 march		,	•			
64	ļ							İ	
65									
66		ļ	_				:		
67									
68			-						
69									
70		ļ							
71									
72		:							
73									
74									
75									
76									
77			_						
78									
79									
80					•				
81									
82 .									
83									
84									
85									
86									
87			1 .						
88								·	
89									
DRILLING I	RIG TYPE:		Schramm T-450			SURFACE ELEVATIO	N: 52.23		
BOREHOLE	DIAM:	9-7/	3", 5-7/8" (open borehole)			START DATE:	7/19/2016		
WELL INST	'ALLED:		Yes			END DATE:	7/21/2016	5	
OTES:						<u> </u>			
NA = not cpm = cor	eessured from gr applicable unts per minute rts per million		ace gpm = gallon	s per minute	MW53D-3			Page 3 of 3	

								BORIN	NG NUMBER:		
		· 	BC	DRING L			- JEHODADO O LOS	IOD WILLIAM	MW54S		
CP	ei eeni	ERAL SE	DVICES	PROJE	CT:	Maywo	od FUSRAP Superfund Site	JOB NUMBER:	500102		
СВ	WI FED!	eral se	KVICES	LOCAT	ΓΙΟN:		Maywood, NJ	CLIENT:	USACE		
				CONTR	RACTO	R:	SGS				
				WELL	PERMI	IT NUMBER;	E201608454	DRILLER:	Larry Lynch		
								FIELD REP:	Jeff Cook		
		s	AMPLER	CASING	C	ORE BARREL	DEPTH	I OF GROUNDWATE	R		
	TYPE SIZE (ID)		Split-spoon 2"	NA NA		NA NA	DATE: 7/28/201	16			
HAM	MER WEIGHT	Γ	140 lbs.	NA	NA NA Groundwater Depth (Feet): ~5						
HAI	MMER FALL		30 in.	NA	NA NA						
DEPTH (Feet)	BLOW COUNTS	PID (ppm)	RAD	RECOVI (Feet)			DESCRIPTION O	F MATERIALS			
0	CODITIS	(ррин	(cpm)	(1 eet)	'						
1		,			1						
2	NA	NA	NA	NA			Hand-cleared	0 to 5 feet.	•		
3											
4											
5	3	i				0.0 - 1.3' SAND, medium, little fine and coarse sand, brown (7.5YR4/4), wet, loose to medium dens					
6	4 10	0,0	NA	1.3							
	15			ļ .							
7	8 17	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).					
8	14	0.0	INA	1.1		0.5 - 1.1 SEL1, flace the said and only, flown (7.5 Few-7), filest, meaning delise (MD).					
9	9					0.0 - 0.9' SILT (same a					
10	22 23	0.0	NA	1.6	C),9 - 1,6' MUDSTONE	E, weathered, reddish brown (5YR)	4/3), wet.			
- 11	100/3"			ļ	<u>F</u>	lard augering to 11'	(End of Boring	11 C4\			
							(End of Borng	g at () reet)			
12											
13								_			
14											
15											
16											
17					ĺ						
18		i							÷		
19								•			
20											
					ł				•		
21											
. 22											
23											
24											
25							•				
26					ĺ	,					
27									4		
28											
29											
DRUISIS) (C Trunt		T 150				OVER LOS ST.	C1.55			
DRILLING F	dG TYPE;		amm T-450				SURFACE ELEVATION:	54.57			
BOREHOLE	DIAM:		8 1/4"				START DATE:	7/28/2016			
WELL INST.	ALLED:		Yes				END DATE:	7/28/2016			
OTES:							1				
	easured from g	round surface						P	age l of l		
NA = not applicable cpm = counts per minute						MW54S					
	rts per million										

BORING NUMBER: MW54D **BORING LOG** PROJECT: Maywood FUSRAP Superfund Site JOB NUMBER: 500102 **CB&I FEDERAL SERVICES** LOCATION: CLIENT: USACE Maywood, NJ CONTRACTOR: SGS DRILLER: Larry Lynch WELL PERMIT NUMBER: E201608453 FIELD REP: Jeff Cook SAMPLER NA NA NA DEPTH OF GROUNDWATER 7/27/2016 CASING CORE BARREL TYPE SIZE (ID) HAMMER WEIGHT DATE: steel NA NA NA 6"

	SIZE (ID)	_	NA	6"	NA NA			
	MER WEIGHT	<u> </u>	NA NA	NA NA		Groundwater Depth (Feet):	~6	
HA	MMER FALL		NA I	NA	NA `			
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MAT	FERIALS	BOREHOLE DIAM (in)	CASING DIAM (in)
0		<u> </u>						
<u> </u>			4					
			-					
2			1		Hand-cleared 0 to 5 f	eet.		
3			- · · · · · · · · · · · · · · · · · · ·	ń.				
			1					
4								
5			· · · · · · · · · · · · · · · · · · ·					
							Ì	
6			4					
7			j .					
				S	ee boring log for overburden v	vell MW-54S.		
88			· ·					
9]	
10			4					
			-					
11			Top of weathered bed	rock.				
12			MUDSTONE, weathe	ered, reddish bro	оwп (5 Y R4/3).			
]					
13			-					
14			SANDSTONE, fine, v	veathered, reddi	ish brown (5YR4/3), very soft.			
				.,		4	9-7/8	6
15						•		
16						Drive 10" conductor casis	ng to 16'.	
			-					
17			,					
18								
19	i		-					
			<u> </u>					
20			a thinamakin d		III (GIID (D) 0			
21			SANDSTONE, tine, w	veatnered, reddi	sh brown (5YR4/3), soft.			
22			Harder.					
23								
24								
25								
26								
20						•		
27			SANDSTONE, fine, re	eddish brown (5	YR4/3).			
28			Competent rock at ~28	1.				
29	.	J#1911 A			(continued on P	n		
<u></u>			ı		(continued on Page 2			1
DRILLING F	RIG TYPE:	:	Schramm T-450			SURFACE ELEVATION:	54.42	
BOREHOLE	DIAM.	D 7/08	5-7/8" (open barebale)			START DATE	7/25/2016	
AUKEHULE	LHAM'	9-1/8"	a- //A" (open porebole)			T STAKT DATE:	HZNZUIN	

	·	(continued on Page 2)				
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		MW54D-1			Page 1 of 3	

BORING NUMBER: **BORING LOG** MW54D PROJECT: Maywood FUSRAP Superfund Site JOB NUMBER: 500102 **CB&I FEDERAL SERVICES** LOCATION: Maywood, NJ CLIENT: USACE CONTRACTOR: SGS DRILLER: Larry Lynch WELL PERMIT NUMBER: E201608453 FIELD REP: Jeff Cook SAMPLER CORE BARREL DEPTH OF GROUNDWATER CASING TYPE DATE NA 7/27/2016 steel NA SIZE (ID) HAMMER WEIGHT NA NA 6" Groundwater Depth (Feet): NA NA NA ~6 HAMMER FALL NA NA NA BOREHOLE DIAM (in) CASING DIAM (in) DEPTH RAD DESCRIPTION OF MATERIALS PID (Feet) (ppm) (cpm) 30 Softer (30-31'). 31 32 SANDSTONE, fine, reddish brown (5YR4/3). 33 9-7/8 34 35 36 37 SANDSTONE, fine, reddish brown (5YR4/3) Air hammer 9-7/8" to 381 Softer (37.5-38'). Install 6" steel casing to 38" 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. See Note 2, 5-7/8 49 Fracture. Page 3 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: END DATE: 7/27/2016 Yes

Page 2 of 3

NOTES:

Depths measured from ground surface

NA = not applicable

cpm = counts per minute ppm = parts per million gpm = gallons per minute

MW54D-2

	···		ROR	ING L	oc		В	ORING NUM MW54D	IBER:
			DOK.	PROJEC		od FUSRAP Superfund Site	JOB NUM		500102
СВ	&I FED	ERAL S	SERVICES	LOCAT	-	Maywood, NJ	CLIENT:		USACE
				1	ACTOR:	SGS	İ		;
				1			DRILLER	La	ту Lynch
				WELL	PERMIT NUMBER:	E201608453	FIELD RE	P: Je	ff Cook
			SAMPLER C	ASING	CORE BARREL	DEPTH	OF GROUND	VATER	
	TYPE .		NA	stee!	NA	DATE: 7/27/201		WALLER	
	SIZE (ID) IMER WEIGH	Т	NA NA	6" NA	NA NA	Groundwater Depth (Feet):		~6	
НА	MMER FALL		NA	NA	NA				
DEPTH (Feet)	PID (ppm)	RAD (cpm)			DESCRIPTION OF MA	TERIALS		BOREHOLE DIAM (in)	CASING DIAM (in)
60									
61									
62	0.0		SANDSTONE, silty fine, r	eddish bro	wn.				
63			Yield ~0.0 gpm.						
64									
65									
66	<u> </u>		-						
67	0.0		MUDSTONE, fine sandy, i	reddish bro	own, harder.				
68			Yield ~0.0 gpm,						
69								5-7/8	See Note 2
70			Fracture.						Below
71									
	0.0		MIDSTONE and disk have	L					
72	0.0		MUDSTONE, reddish brov	vn, narder.		-			
73			Yield ~0.0 gpm.						
74									
75			Fracture.						
76			Traciore.						
77									
78			SANDSTONE, fine, reddis	h brown.					
79			Total yield - 0.17 GPM (see		elow). (End of Boring at 79		ner 5-7/8" to 79',		
			Nata I. Bereite - Const.	tant f-11		/			
80					ving completion of borehole: a after ~85 minutes (approx. 0	.17 gpm). 24 hour GW level is a	ırtesian.		
81			Note 2: Installed 2" diamete	er PVC wel	ll screen (0.010-inch slotted)	within 5-7/8" borehole, from 58.5	· 78.5 feet.		
82			Installed #00 sand	(54 - 56')	and #1 sand (56 - 79') filter pa	ack. Grouted up from 54 feet.			
83									
84									
85									
86									
87									
88									
89									
Danis	DIGTURE		Pahrama T 450			GIDEYCE EL BATECA	51.40		
DRILLING			Schramm T-450			SURFACE ELEVATION:	54.42		
BOREHOLI	E DIAM:	9-7/8",	5-7/8" (open borehole)			START DATE:	7/25/201	5	
WELL INST	TALLED:		Yes			END DATE:	7/27/201	5	
NOTES:						1			
	neasured from g	round surface	e gpm = gallons per	minute				Page 3 of 3	
cpm = cc	t applicable aunts per minute	:			MW54D-3				
ppm ≃ pa	arts per million								

APPENDIX B

CONSTRUCTION DIAGRAMS FOR MODIFIED AND NEW LTM WELLS

Monitoring Well Construction Form Project: Maywood FUSRAP Well No.: B38W14S Location: Maywood, NJ Site Location: Rochelle Park Client: USACE Installation Date: 11/4/88 Subcontractor: Northing: 752328.56 Driller: Easting: 609536.42 Field Representative: J. Lord NAD: 83 NGVD: 88 Protective Roadbox: Type: Steel Dimensions (in): 9 - check 44.54 Land Surface Elev. (ft): Length (ft): Top of Riser Elev. (ft): 44.17 Guard / Post: No Ground Seal (Surface Pad) Approximate Diameter Of Borehole (in): 16" Diameter - check Dimensions: Concrete Type: Well Riser Diameter (in): Annular Space Seal Type: Cement/Bentonite Grout Gravity Tremie Pumped Installation: ∇ Depth to Water (ft): 3 (approx) Bentonite Seal (Pellets) Type: Slurry Installation: 6-in. lifts One Section Gravity Tremie Pumped Hydration Time (hrs): Filter Pack Material Top of Bentonite (ft): #1 4.5 Volume Added (ft3): NA Installation: Gravity Tremie Top of Filter Pack (ft): Filter Pack Well Riser Formation SW 316 Stainless Steel Type: Diameter (in): Top of Screen Interval (ft): Well Screen Bottom of Screen Interval (ft): 13.5 316 Stainless Steel (2") Type: Slot Size (in): 0.010 (10-slot) Slot Type: Cont. Wrap Factory slot Bottom of Well (ft): 316 Stainless Steel (2") Sump/End Cap: Bottom of Filter Pack (ft): Backfill Material: None Bottom of Borehole (ft):

Note: NJDEP Well Permit E201604711 is a modification of NJDEP Well Permit 26-14043-8.

		Monitorii	ng Well C	onstruction	Form	
Project:	Maywo	od FUSRAP			Well No.:	B38W14D
Location:	Maywo				Site Location:	Rochelle Park
Client:	USACE				Installation Date:	11/4/88
Subcontractor:					Northing:	752324.83
Driller:					Easting:	609543.09
Field Representative:	J. Lord				NAD: 83	NGVD: 88
						· · ·
					Protective Roadbo	κ:
					Type:	Steel
		── ► 	E-X403		Dimensions (in):	9 - check
Land Surface Elev. (ft):	44.53				Length (ft):	1
Top of Riser Elev. (ft):	44.45	_] .	Guard / Post:	<u>No</u>
Diameter Occasi Beneficiale (%)	. 40				One and Const (Const	and Dark
Diameter, Cased Borehole (in)				1	Ground Seal (Surfa	
Diameter, Open Borehole (in):	8	_			Dimensions:	16" Diameter - check
					Type:	Concrete
Well Riser Diameter (in):	2	_			Annular Space Sea	ai
					Type:	Cement/Bentonite Grout
					Installation:	Gravity Tremie (Pumped)
Depth to Water (ft):	3 (approx)			-	Bentonite Seal	
					Type:	Pellets Slurry
					Installation:	6-in. lifts One Section
						Gravity Tremie Pumped
					Hydration Time (hrs):
					, , , , , , , , , , , , , , , , , , ,	
Bottom of Steel Casing (ft):	23		<u> </u>			
		_			Filter Pack Material	
Top of Bentonite (ft):	25	_			Size:	#1
					Volume Added (1	
					Installation:	Gravity Tremie
Top of Filter Pack (ft):	30		→	500000	Matt Diam.	
Filter Pack	#1	-			Well Riser	
Formation	Bedrock				Type:	316 Stainless Steel
				-	Diameter (in):	2
Top of Screen Interval (ft):	46				Well Screen	
						316 Ctriplose Stool (3")
Bottom of Screen Interval (ft):	51.5	_			Type:	316 Stainless Steel (2")
					Slot Size (in):	0.010 (10-slot)
					Slot Type:	Cont. Wrap Factory slot
Bottom of Well (ft):	51.5				1	
D-41	50	\neg \mid \vdash			Sump/End Cap:	316 Stainless Steel (2")
Bottom of Filter Pack (ft):	52		>		Backfill Material:	None
Bottom of Borehole (ft):	52	<u> </u>				

			Monito	ing W	ell Co	nstru	ction F	orm		
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative) :	Maywoo USACE SGS Larry Ly						Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	B38W18DR MISS 6/20/16 752234.33 610938.01 NGVD: 88	
Land Surface Elev. (ft): Top of Casing Elev. (ft):	<u>56.99</u> <u>56.65</u>		·					Protective Roadbox Type: Dimensions (in): Length (ft): Guard / Post:	Steel	
Diameter, Cased Borehole (in)	: 9 7/8							Ground Seal (Surfa		
Diameter, Open Borehole (in):	5 7/8							Dimensions:	24" Diam.	
Well Casing Diameter (in):	c							Туре:	Concrete	2.071
vveii Casing Diameter (iii).	<u> </u>							Annular Space Sea	I	
								Type:	Portland Cem	ent Grout
							7	Installation:	Gravity Tre	
Depth to Water (ft):	8 (appi	rox.)		\ <u> </u>	+			Bentonite Seal - No	ne	
								Туре:	Pellets	Slurry
								Installation:	6-in. lifts	One Section
Bottom of Casing (ft):	46		·	}				Hydration Time (I Filter Pack Material Size: Volume Added (fi	- None	
								Well Casing		
				-				Туре:	Steel	
								Diameter (in):	6	
								Wall Career Name		
					.	,		Well Sçreen - None Type:		
								Slot Size (in):	•	
								Slot Type:	Cont Wran	Factory slot
								Olot Type.	Cont. Priup	·
				-				Sump/End Cap:	None	
								Backfill Material:	None	
Bottom of Open Borehole (ft):	71		¬,	•						

Droject		Marana	-4 E) II	CDAD				Well No.:	DOUNDECD	
Project: Location:		Maywoo						Site Location:	B38W25SR MISS	
Client:		USACE						Installation Date:	5/10/16	
Subcontractor:		SGS						Northing:	752242.53	
Driller:		Tom Ly	nch					Easting:	610493.88	
CB&I Field Representative	e:	Jeff Cod						NAD: 83	NGVD: 88	
		·			•					
Protective Cover Stickup (ft):	2.28				→			Protective Cover		
Top of Riser Elev. (ft):	55.04		- ¬_					Type:	Steel	
Top of Riser Stickup (ft):	1.88		_					Dimensions (in):	6	
and Surface Elev. (ft):	53.16							Length (ft):	5	
						!		Guard / Post:	No	
Approximate Diameter Of Borehole (in):	8 1/4							Ground Seal (Surfa		
(,		-	_				ŀ	Dimensions:	16" Diameter	
								Type:	Concrete	
Well Riser Diameter (in):	2		-					Annular Space Sea	1	
						ĺ		Туре:	Portland Cement	Grout
							1	Installation:	Gravity Tremie	
								mstallation.	Glavity Heilin	Fullipe
Depth to Water (ft):	6 (appr	ox)		-	•	_ .		Bentonite Seal - No	ne	
								Type:	Pellets S	Slurry
								Installation:	6-in, lifts C	ne Section
					1.		1		Gravity Tremie	Pumne
								. Idealection Times (•	
								Hydration Time (hrs):	
								-		
								Filter Pack Material		
Γop of #00 Sand (ft):	4		. —	→				Size:	#00 and #1	
								Volume Added (f	t ³): <u>NA</u>	
For all Filter Deals (ft)	^							Installation:	Gravity	Tremie
op of Filter Pack (ft): Filter Pack	<u>6</u> #1		·		::::::::::::::::::::::::::::::::::::::	5000000	8			
Formation	SP		-					Well Riser		
	-							Type:	Sch 40 PVC	
et.			_					Diameter (in):	2	
op of Screen Interval (ft):	7.4							Well Screen		
Sottom of Screen Interval (ft):	12.4							Type:	Sch 40 PVC (2"	١
iotion of ourcon interval (it).	12,7							-		
								Slot Size (in):	0.010 (10-slot)	
ottom of Well (ft):	12.4			٦. ا				Slot Type:	Cont. Wrap	actory slot
								Sump/End Cap:	Sch 40 PVC (2")
ottom of Filter Pack (ft):	13					≡		Backfill Material:	None	
ottom of Borehole (ft):	13						*			
Tatalia of Bolonolo (ity.										

		Monitori	ng Well Co	onstruction	Form	
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative	Maywo USACE SGS Tom Ly	od FUSRAP od, NJ : nch ok			Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	B38W25DR MISS 5/24/16 752247.23 610497.67 NGVD: 88
Protective Cover Stickup (ft): Top of Casing Elev. (ft): Top of Casing Stickup (ft): Land Surface Elev. (ft):	2.25 55.55 1.87 53.68				Protective Cover Type: Dimensions (in): Length (ft): Guard / Post:	<u>Steel</u> 8 5 No
Diameter, Cased Borehole (in): Diameter, Open Borehole (in): Well Casing Diameter (in):		_			Ground Seal (Surfa Dimensions: Type: Annular Space Sea Type:	24" Diameter Concrete Type III Portland Grout
Depth to Water (ft):	5 (approx)		▽		Installation: Bentonite Seal - No Type: Installation: Hydration Time (one Pellets Slurry
Bottom of Casing (ft):	33				Filter Pack Material Size: Volume Added (f Installation:	- None
					Well Casing Type: Diameter (in): Well Screen - None Type:	Steel 6
Bottom of Open Borehole (ft):	<u>58</u>	¬			Slot Size (in): Slot Type: Sump/End Cap: Backfill Material:	Cont. Wrap Factory slot None None

								on For			
Project:		1aywoo		RAP					Well No.:	MISS1AR	
Location:		<u>laywoo</u>							Site Location:	MISS	
Client:		ISACE		~~~					nstallation Date:	6/7/16	· · · · · · · · · · · · · · · · · · ·
Subcontractor: Driller:	_	GS om Lyn	oh.						Northing: Easting:	752667.89 610237.91	
CB&I Field Representative		eff Coo							Lasting. NAD: 83	NGVD: 88	
- Court for top for the first	<u>. </u>	011 000						<u> </u>			
Protective Cover Stickup (ft):	1.82				→		_		Protective Cover		
Top of Riser Elev. (ft):	52.79		\neg						Type:	Steel	
Top of Riser Stickup (ft):	1.07				-				Dimensions (in):		
Land Surface Elev. (ft):	51.72		<u></u>	>		├	- 0.040	A	Length (ft):		
Land Sandos Liov. (ii).	<u>01.72</u>								Guard / Post:	No .	
Approximate Diameter Of Borehole (in):	8 1/4								Ground Seal (Surfa		
or Borellole (III).	0 1/4				1				Dimensions:	16" Diame	ter
									Туре:	Concrete	
Well Riser Diameter (in):	2								Annular Space Sea	al	
									Type:	Portland Cer	ment Gmut
									Installation:		remie Pumpe
									поданацоп.	Glavity	cinic i dinpo
Depth to Water (ft):	10 (appro	ox)		→					Bentonite Seal - No	one	
	•								Type:	Pellets	Slurry
									Installation:	6-in. lifts	One Sectio
										Gravity T	remie Pumpe
									Hydration Time (
	•								Filter Pack Material	Į.	
Top of #00 Sand (ft):	5			-					Size:	#00 and #1	
									Volume Added (i	ft³): <u>NA</u>	
	_								Installation:	Gravity	Tremie
Гор of Filter Pack (ft): Filter Pack	7 #1				888888888	1888	888888				
Formation	SP / Wea	ath, BR							Well Riser		
									Type:	Sch 40 PV	<u>C</u>
									Diameter (in):	2	•
op of Screen Interval (ft):	9		J						Well Screen		
Bottom of Screen Interval (ft):	14	_							Type:	Sch 40 PV	C (2")
· · · · · · · · · · · · · · · · · · ·									Slot Size (in):	0.010 (10-	
									Slot Type:		Factory slot
Bottom of Well (ft):	14	-							olot Typo.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
			l						Sump/End Cap:	Sch 40 PV	C (2")
Bottom of Filter Pack (ft):	<u>15</u>		ا ر						Backfill Material:	None	
Sottom of Borehole (ft):	15	_									
				→							

		Monitori	ng Well C	onstruction	Form		
Project:	Maywoo	d FUSRAP			Well No.:	MISS1BR	
Location:	Maywoo	od, NJ			Site Location:	MISS	
Client:	USACE				Installation Date:	6/2/16	
Subcontractor:	SGS				Northing:	752512.40	
Driller:		nch			Easting:	610856.90	
CB&I Field Representative:		k				NGVD: 88	
	2.50		→ ┌──		Protective Cover		
Top of Casing Elev. (ft):	53.60	. 7		_	Type:	Steel	
Top of Casing Stickup (ft):	1.81	. 」			Dimensions (in):	8.5	
Land Surface Elev. (ft):	51.79				Length (ft):	5	
					Guard / Post:		
Diameter, Cased Borehole (in):	9 7/8				Ground Seal (Surfa	ce Pad)	
					Dimensions:	24" Diamete	er
Diameter, Open Borehole (in):	<u>5 //8</u>	-			Type:	Concrete	
Well Casing Diameter (in):	6	-			Annular Space Sea	I	
					Type:	Portland Cerr	ent Gmut
					Installation:		emie) Pumpe
					installation:	Gravity	
Depth to Water (ft):	10 (approx)			-	Bentonite Seal - No	ne	
					Type:	Pellets	Slurry
					Installation:	6-in. lifts	One Section
						Gravity Tre	emie Pumpe
					Hydration Time (I	hrs):	
					Filter Pack Material	- None	
Bottom of Casing (ft):	38				Size:		
					Volume Added (f	t³):	
					Installation:	Gravity	Tremie
					Well Casing		
,					Туре:	Steel	
					Diameter (in):	6	
					Well Screen - None		
					Type:		
					Slot Size (in):		
					Slot Type:	Cont. Wrap	Factory slo
					Sump/End Cap: ,	None	
					Backfill Material:	None	
Bottom of Open Borehole (ft):	61.5						
		—	<u> </u>				

Project:	Ma	ywood FUS	SRAP			Well No.:	MISS2AR
Location:		ywood, NJ				Site Location:	MISS
Client:		ACE			<u> </u>	Installation Date:	7/5/16
Subcontractor:	SG					Northing:	752666.06
Driller:		ry Lynch				Easting:	610244.94
CB&I Field Representative	e Jef	f Cook				NAD: 83	NGVD: 88
	<u> </u>					1010.00	
						Protective Roadbox	c
						Туре:	Steel
						* -	
and Confine Flags (A).	57.05		→	50000 L		Dimensions (in):	9
and Surface Elev. (ft):	57.85		3393			Length (ft):	1
Гор of Riser Elev. (ft):	57.37	**************************************				Guard / Post:	No
Approximate Diameter						Ground Seal (Surfa	ce Pad\
Of Borehole (in):	8 1/4						·
··· · · · · · · · · · · · · · · · ·	<u> </u>					Dimensions:	24" Diameter
						Туре:	Concrete
Well Riser Diameter (in):	2					Annular Space Sea	I
						•	
						Type:	Portland Cement Grout
						Installation:	Gravity Tremie Pumpe
epth to Water (ft):	10 (approx				_	Bentonite Seal - No	ne
						Type:	Peliets Slurry
						* *	
						Installation:	
							Gravity Tremie Pumpe
						Hydration Time (I	nrs):
		•				Filter Pack Material	
op of #00 Sand (ft):	<u>10</u>					Size:	#00 and #1
						Volume Added (fi	³): <u>NA</u>
						Installation:	Gravity (Tremie)
op of Filter Pack (ft):	12						
Filter Pack	#1		-			Well Riser	
Formation	SC/SM/SP						0-1- 40 D) / 0
4. 1					(2000) (2000) (2000) (2000)	Type:	Sch 40 PVC
				<u></u>	=	Diameter (in):	2
op of Screen Interval (ft):	14					Well Screen	
ottom of Screen Interval (ft):	19					Type:	Sch 40 PVC (2")
ocom or coreen interval (it).	13				∃ ‱∭		
			1		3	Slot Size (in):	0.010 (10-slot)
ottom of Well (ft):	19		,			Slot Type:	Cont. Wrap Factory slo
• ,							0 1 40 5) (0 (0))
ottom of Filter Pack (ft):	20 .			****	∄ ‱∭	Sump/End Cap:	Sch 40 PVC (2")
			—			Backfill Material:	None
ottom of Borehole (ft):	20						

· · · · · · · · · · · · · · · · · · ·			Construction	,	
Project:		d FUSRAP		Well No.:	MISS2BR
Location:	<u>Maywoo</u>			Site Location:	MISS
Client:	USACE			Installation Date:	6/23/16
Subcontractor:	SGS	- a b		Northing:	<u>752508.50</u>
Driller: CB&I Field Representative		nch v		Easting:	610865.60 NGVD: 88
CBai Fleiu Representative	: <u>Jeff Coo</u>	<u>K</u>		NAD: 83	
					•
				Protective Roadbox	
				Type:	Steel
			KOZ SIR PAGAN	Dimensions (in):	
Land Surface Elev. (ft):	58.12			Length (ft):	1
Top of Casing Elev. (ft):	57.68		$\neg \mid \mid$	Guard / Post:	<u>No</u>
Diameter Connel Boroholo (in)	. 0.7/0	.]]		Control Cont /Curfs	B
Diameter, Cased Borehole (in):]]	Ground Seal (Surfa	
Diameter, Open Borehole (in):	5 7/8			Dimensions:	24" Diameter Concrete
Well Casing Diameter (in):	6			Туре:	Concrete
The second and second second	<u> </u>			Annular Space Sea	al
				Type:	Portland Cement Grout
				Installation:	Gravity Tremie Pumped
Depth to Water (ft):	12 (approx.) -			·	
John to Water (it).	ΙΖ (αρρί σχ.)		_	Bentonite Seal - No	one
· ·				Type:	Pellets Slurry
•				Installation:	6-in. lifts One Section
					Gravity Tremie Pumped
				Hydration Time (hrs):
	•			Filter Pack Material	None
Bottom of Casing (ft):	38				- None
rottom or occome try.	<u>JC</u>			Size:	
					t³):
i e				Installation:	Gravity Tremie
				Well Casing	
				Type:	Steel
				Diameter (in):	6
				Well Screen - None	
				Туре:	
				Slot Size (in):	
					Cont Minn Footon alet
				Slot Type:	Cont. Wrap Factory slot
				Sump/End Cap:	None
				Backfill Material:	None
Bottom of Open Borehole (ft):	62			,	
ionalii di opoli Balandia (ily.					•
		•			

Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83 Protective Cover Type: Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	5 No face Pad) 16" Diameter
Installation Date: Northing: Easting: NAD: 83 Protective Cover Type: Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	9/6/16 751829.83 610505.43 NGVD: 88 Steel b): 6 5 No
Northing: Easting: NAD: 83 Protective Cover Type: Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	751829.83 610505.43 NGVD: 88 Steel): 6 5 No face Pad) 16" Diameter
Easting: NAD: 83 Protective Cover Type: Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	610505.43 NGVD: 88 Steel 5 No face Pad) 16" Diameter
Protective Cover Type: Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	NGVD: 88 Steel 6 5 No face Pad) 16" Diameter
Type: Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	5 No face Pad)
Type: Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	5 No face Pad)
Dimensions (in Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type:	5 No face Pad)
Length (ft): Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	5 No face Pad) 16" Diameter
Guard / Post: Ground Seal (Sur Dimensions: Type: Annular Space Se	No face Pad) 16" Diameter
Ground Seal (Sur Dimensions: Type: Annular Space Se	face Pad) 16" Diameter
Dimensions: Type: Annular Space Se	16" Diameter
Dimensions: Type: Annular Space Se	16" Diameter
Type: Annular Space Se	
· ·	Concrete
· ·	
Trans.	eal
Type:	Portland Cement Grout
Installation:	Gravity Tremie Pumpe
Bentonite Seal - N	None
	Pellets Slurry
Type:	•
Installation:	6-in. lifts One Section Gravity Tremie Pumpe
Hydration Time	e (hrs):
Filter Pack Materia	
Size:	#00 and #1
Volume Added	(ft³): NA
Installation:	Gravity Tremie

60000000	
330000	Sch 40 PVC
Diameter (in):	. 2
Well Screen	
Туре:	Sch 40 PVC (2")
0000000	0.010 (10-slot)
Slot Type:	Cont. Wrap Factory slo
0000000	Sch 40 PVC (2")
Backilli Material.	None
	Type: Slot Size (in):

Desirati	14				384-U N I	MICCZAD
Project:		ood FUSRAI			Well No.:	MISS7AR
Location:	Mayw	ood, NJ			Site Location:	MISS
Client: Subcontractor:	USAC SGS	<u>L</u>			Installation Date:	7/7/16
Driller:		Limoh			Northing:	752350.20 610200.41
CB&I Field Representative	<u>Larry</u> e: Jeff C	1-			Easting: NAD: 83	610200.41 NGVD: 88
CDXI FIEIU Nepresentauvu). <u>Jen o</u>	OOK .			NAD. 00	
Protective Cover Stickup (ft):	2.90		L		Protective Cover	
Top of Riser Elev. (ft):	53.79				Type:	Steel
Top of Riser Stickup (ft):	2.59	_		\neg	Dimensions (in):	
Land Surface Elev. (ft):	51.20				Length (ft):	5
Latid Guilago Elot, (ig.	01.20					
•					Guard / Post:	<u>No </u>
Approximate Diameter					Ground Seal (Surf	ace Pad)
Of Borehole (in):	8 1/4	<u>.</u>			Dimensions:	16" Diameter
					Type:	Concrete
Well Riser Diameter (in):	2				- 46	
, , , , , , , , , , , , , , , , , , ,		_			Annular Space Sea	af
					Type:	Portland Cement Grout
					Installation:	Gravity Tremie Pumpeo
Depth to Water (ft):	7 (approx)			_		
Soptific Fractor (ity.	/ (GPP) G.S.				Bentonite Seal - N	
					Type:	Pellets Slurry
					Installation:	6-in. lifts One Section
				.	•	Gravity Tremie Pumped
					Hydration Time	(hrs):
					Filter Pack Materia	1
T (4),	0 E					
Top of #00 Sand (ft):	3.5	_			Size:	#00 and #1
					Volume Added (
Гор of Filter Pack (ft):	5.5				Installation:	Gravity Tremie
Filter Pack	#1		►		MATERIA DE LA CARRESTA DEL CARRESTA DE LA CARRESTA DEL CARRESTA DE LA CARRESTA DE	
Formation	SM				Well Riser	
					Type:	Sch 40 PVC
					Diameter (in):	2
Top of Screen Interval (ft):	7.5					
					Well Screen	- 1 - 10 THO (0)
Bottom of Screen Interval (ft): -	12.5		I 🐘 📕		Type:	Sch 40 PVC (2")
					Slot Size (în):	0.010 (10-slot)
Bottom of Well (ft):	12.5				Slot Type:	Cont. Wrap Factory slot
,	_1 10	_			S/E-d O	0 1 10 0 10 (0")
	12.5				Sump/End Cap:	Sch 40 PVC (2")
Bottom of Filter Pack (ft):		1	 100 000000000 		Backfill Material:	None
, ,						
, ,	12.5					
, ,	12.5		-			
, ,	12.5	-7	-			

		Monitorin	ng Well Const	ruction Fo	orm	
Project: Location: Client: Subcontractor: Driller: Field Representative:	Maywoo Maywoo USACE Rexrode Richard Robert I	Tabor			Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	BRPZ2 MISS 7/24/01 752114.41 610322.64 NGVD: 88
Protective Cover Stickup (ft): Top of Riser Elev. (ft): Top of Riser Stickup (ft): Land Surface Elev. (ft):	2.10 54.62 1.34 53.28				Protective Cover: Type: Dimensions (in): Length (ft): Guard / Post:	<u>Steel</u> 8.5 5 No
Diameter, Cased Borehole (in): Diameter, Open Borehole (in):	6 .				Ground Seal (Surfa Dimensions: Type:	ce Pad) 13" Diameter Concrete
Well Casing Diameter (in): Depth to Water (ft):	9 (approx.)	·	∇		Annular Space Seal Type: Installation: Bentonite Seal - No	Cement Bentonite Grout Gravity Tremie Pumped
						Pellets Slurry 6-in. lifts One Section Gravity Tremie Pumped ars):
Bottom of Casing (ft):	<u>37.4</u> <u>36.4</u>				Filter Pack Material Size: Volume Added (ft Installation:	#0 and #1 3): NA Gravity Tremie
Top of Filter Pack (ft): Filter Pack	<u>36.9</u> #1				Well Casing Type: Diameter (in):	Steel 6
	Bedrock 39.4				Well Riser Type: Diameter (in):	Sch 40 PVC 2
Bottom of Filter Pack (ft): Bottom of Bentonite and	59.4 60.4				Well Screen Type: Slot Size (in): Slot Type:	Sch 40 PVC (2") 0.010 (10-slot) Cont. Wrap Factory slot
Borehole (ft):	112.4			. ·	Sump/End Cap: Backfill Material:	Sch 40 PVC (2") None

Note: NJDEP Well Permit E201604681 is a modification of NJDEP Well Permit 26-61466.

	Monitori	ing Well Construction	Form	
Project: Location: Client: Subcontractor: Driller: Field Representative:	Maywood FUSRAP Maywood, NJ USACE ADT Richard Tabor Robert DeMott		Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	BRPZ3 MISS 7/24/01 752054.51 610297.94 NGVD: 88
Protective Cover Stickup (ft): Top of Riser Elev. (ft): Top of Riser Stickup (ft): Land Surface Elev. (ft):	2.03 54.91 1.69 53.22		Protective Cover: Type: Dimensions (in): Length (ft): Guard / Post:	Steel 8.5 5 No
Diameter, Cased Borehole (in) Diameter, Open Borehole (in): Well Casing Diameter (in):			Ground Seal (Surfa Dimensions: Type: Annular Space Sea Type:	16" Diameter Concrete
Depth to Water (ft):	10 (approx.)		Installation: Bentonite Seal - No Type: Installation: Hydration Time (Gravity Tremie Pumped Pellets Slurry 6-in. lifts One Section Gravity Tremie Pumped hrs):
Bottom of Casing (ft): Top of #0 Sand (ft):	31.3 → 30.3 . →	>	Filter Pack Material Size: Volume Added (f Installation:	#0 and #1
Top of Filter Pack (ft): Filter Pack Formation Top of Screen Interval (ft):	30.8 #1 Bedrock	*	Well Casing Type: Diameter (in): Well Riser	Steel 6
Top of Screen Interval (ft): Bottom of Screen Interval (ft): Bottom of Filter Pack (ft):	53.3 56.3		Type: Diameter (in): Well Screen Type: Slot Size (in): Slot Type:	Sch 40 PVC (2") 0.010 (10-slot) Cont. Wrap Factory slot
Bottom of Bentonite and Borehole (ft):	120.3		Sump/End Cap: Backfill Material:	Sch 40 PVC (2") None

Note: NJDEP Well Permit E201604691 is a modification of NJDEP Well Permit 26-61467.

		Monitori	ng We	II Co	nstruc	tion i	Form		
Project: Location: Client: Subcontractor: Driller: Field Representative:	Maywoo USACE ADT Richard	l Tabor				_	Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	BRPZ4 MISS 5/17/01 752146.10 610324.53 NGVD: 88	
Protective Cover (ft): Top of Casing Elev. (ft): Top of Casing (ft):	2.39 55.11 2.11	- ¬	*				Protective Cover: Type:		
Land Surface Elev. (ft):	53.00						Dimensions (in): Length (ft): Guard / Post:	5	
Diameter, Cased Borehole (in)	: 10	-					Ground Seal (Surfa	ice Pad)	
Diameter, Open Borehole (in):	6	_					Dimensions:		ter
							Туре:	Concrete	
Well Casing Diameter (in):	6	-					Annular Space Sea	il	
							Type:		tonite Grout
							Installation:	Gravity T	remie Pumped
Depth to Water (ft):	10 (approx.)						Bentonite Seal - No	пе	
							Type:	Pellets	Slurry
							Installation:	6-in. lifts	One Section
								Gravity T	remie Pumped
							Hydration Time (hrs):	
Bottom of Casing (ft);	37.7						Filter Pack Material Size: Volume Added (f		
							Installation:	Gravity	Tremie
							Well Casing Type:	Steel	
							Diameter (in):	6	
4.1							Well Screen Casing	ı - None	
							Туре:		
							Slot Size (in):		
							Slot Type:	· Cont. Wrap	Factory slot
							Sump/End Cap:	None	
							Backfill Material:	None	
Bottom of Open Borehole (ft):	58.7	\neg							
		-		LJ					

Note: NJDEP Well Permit E201604693 is a modification of NJDEP Well Permit 26-60716.

		Monitorin	ng Well Const	ruction F	orm	
Project: Location: Client: Subcontractor: Driller: Field Representative:	Maywood Maywood USACE ADT Richard T Robert De	abor	-		Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	BRPZ5 MISS 8/7/01 752153.78 610305.23 NGVD: 88
Protective Cover Stickup (ft): Top of Riser Elev. (ft): Top of Riser Stickup (ft): Land Surface Elev. (ft):	2.31				Protective Cover: Type: Dimensions (in): Length (ft): Guard / Post:	Steel 8.5 5
Diameter, Cased Borehole (in)		į			Ground Seal (Surfa Dimensions: Type:	ce Pad) 13" Diameter Concrete
Well Casing Diameter (in):	6				Annular Space Sea Type: Installation:	Cement Bentonite Grout Gravity Tremie Pumped
Depth to Water (ft):	9 (approx.) —		$\overline{\nabla}$		Bentonite Seal - No Type: Installation:	Pellets Slurry 6-in. lifts One Section
·					Filter Pack Material	Gravity Tremie Pumped
Bottom of Casing (ft):	36.8	 			Size: Volume Added (fi Installation:	#1 i³): NA Gravity Tremie
Top of Filter Pack (ft): Filter Pack Formation	36.8 #1 Bedrock		·		Well Casing Type: Diameter (in):	<u>Steel</u> 6
Top of Screen Interval (ft):	38.8	·····•			Well Riser Type: Diameter (in):	Sch 40 PVC 2
Bottom of Screen Interval (ft): Bottom of Filter Pack (ft):	58.8				Well Screen Type: Slot Size (in): Slot Type:	Sch 40 PVC (2") 0.010 (10-slot) Cont. Wrap Factory slot
Bottom of Bentonite and Borehole (ft):	109.8				Sump/End Cap: Backfill Material:	Sch 40 PVC (2") None

Note: NJDEP Well Permit E201604695 is a modification of NJDEP Well Permit 26-60717.

		Monitoria	ng Well (Constructio	on Form	
Project: Location: Client: Subcontractor: Driller: Field Representative:	Maywoo USACE ADT Richard	T-L			Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	BRPZ9 MISS 5/24/01 752269.85 610308.11 NGVD: 88
Protective Cover (ft): Top of Casing Elev. (ft): Top of Casing (ft): Land Surface Elev. (ft):	2.06 53.21 1.74 51.47				Protective Cover: Type: Dimensions (in): Length (ft): Guard / Post:	<u>Steel</u> 8.5 5
Diameter, Cased Borehole (in) Diameter, Open Borehole (in): Well Casing Diameter (in):		-			Ground Seal (Surfa Dimensions: Type:	ce Pad) 16" Diameter Concrete
Depth to Water (ft):	10 (approx.)				Annular Space Sea Type: Installation:	Cement Bentonite Grout Gravity Tremie Pumped
Depui to vvater (it).	TO (approx.)				Bentonite Seal - No Type: Installation:	Pellets Slurry 6-in. lifts One Section Gravity Tremie Pumped hrs):
Bottom of Casing (ft):	27.4	. ——•			Filter Pack Material Size:	
. 1 - 1 - 1 : 1 : 1 : 1 : 1 : 1 : 1 : 1 : 1 : 1			3		Well Casing Type: Diameter (in):	Steel 6
					Well Screen Casing Type: Słot Size (in): Slot Type:	- None Cont. Wrap Factory slot
Bottom of Open Borehole (ft):	<u>51.4</u> _				Sump/End Cap: Backfill Material:	None None

Note: NJDEP Well Permit E201604708 is a modification of NJDEP Well Permit 26-61469.

		Monitorii	ng Well C	onstruction	Form	
Project:		FUSRAP			Well No.:	OVPZ17R
Location:	<u>Maywood</u>	, NJ			Site Location:	MISS
Client:					Installation Date:	5/16/16
Subcontractor:	SGS				Northing:	752147.21
Driller:	Tom Lync				Easting:	610318.96 NGVD: 88
CB&I Field Representative	E Jell Cook			-	NAD: 83	NGVD: 00
Protective Cover Stickup (ft):	2.07		_		Protective Cover	
Top of Riser Elev. (ft):	54.49	_	* [Chal
Top of Riser Stickup (ft):	1.72		→	¬	Type:	Steel
Land Surface Elev. (ft):	52.77	>			Dimensions (in):	 ,
Land Sunace Elev. (ii).	52.11				Length (ft):	5
					Guard / Post:	<u>No</u>
Approximate Diameter					Ground Seal (Surfa	ıce Pad)
Of Borehole (in):	8 1/4				Dimensions:	16" Diameter
					Type:	Cement
Well Riser Diameter (in):	2					
					Annular Space Sea	ıl
					Туре:	Portland Cement Grout
					Installation:	Gravity (Tremie Pumped
				1		
Depth to Water (ft):	10 (approx)			-	Bentonite Seal - No	one
					Type:	Pellets Slurry
					Installation:	6-in. lifts One Section
					***************************************	Gravity Tremie Pumped
					Hydration Time (hrs):
					Tiyaradon Timo (
-		_			Filter Pack Material	
Top of #00 Sand (ft):	9.5	-			Size:	#00 and #1
					Volume Added (f	t³): <u>NA</u>
					Installation:	Gravity Tremie
Top of Filter Pack (ft):	11.5	· ·				
Filter Pack	#1	-			Well Riser	
Formation	SP				Type:	Sch 40 PVC
					Diameter (in):	2
Top of Screen Interval (ft):	13					
100 0. 25.22					Well Screen	
Bottom of Screen Interval (ft):	18				Туре:	Sch 40 PVC (2")
					Slot Size (in):	0.010 (10-slot)
					Slot Type:	Cont. Wrap Factory slot
Bottom of Well (ft):	18				• • •	
					Sump/End Cap:	Sch 40 PVC (2")
Bottom of Filter Pack (ft):	<u>19</u>	7 <u> </u>		3	Backfill Material:	None
		└		4000000000	Барқіні мадолаі.	Hone
Bottom of Borehole (ft):	19	1				
						
				-		

			Monite	oring W	ell Const	truction	Form		
Project:	ļ	Maywood	d FUSRA	νP			Well No.:	MW3SR	
Location:		Maywood					Site Location:	MISS	
Client:		USACE					Installation Date:	6/1/16	
Subcontractor:		SGS					Northing:	752625.90	
Driller:		Tom Lyn		***************************************			Easting:	610590.28	
CB&I Field Representative	e: .	Jeff Cool	<u>k</u>				NAD: 83	NGVD: 88	
							Protective Roadbox	x:	
							Type:	Steel	
							Dimensions (in):	9	
Land Surface Elev. (ft):	57.68						Length (ft):	1	
Top of Riser Elev. (ft):	57.18						Guard / Post:		
Approximate Diameter							Ground Seal (Surfa	ice Pad)	
Of Borehole (in):	<u>8 1/4</u>						Dimensions:	24" Diamete	er
							Туре:	Concrete	
Well Riser Diameter (in):	2								
							Annular Space Sea		
				ŀ			Type:	Portland Cem	
							Installation:	Gravity Tre	Pumped
Depth to Water (ft):	12 (appr	rox)		→			Bentonite Seal - No	nne	
				- 1			Type:	Pellets	Slurry
* .							Installation:	6-in, lifts	One Section
							mstallation.		
							1144: T : 1		mie Pumped
							Hydration Time (nrs):	
							Filter Pack Material		
Top of #00 Sand (ft):	10			→			Size:	#00 and #1	
							Volume Added (f	t³): <u>N</u> A	
							Installation:	Gravity	Tremie
Top of Filter Pack (ft):	<u>12</u>								
Filter Pack	#1						Well Riser		
Formation	<u>SM</u>						Туре:	Sch 40 PVC	;
est to							Diameter (in):	2	
Top of Screen Interval (ft):	14								
rop or ocieen interval (it).	14						Well Screen		
Bottom of Screen Interval (ft):	19	_		1			Type:	Sch 40 PVC	(2")
							Slot Size (in):	0.010 (10-sl	
							Slot Type:		Factory slot
Bottom of Well (ft):	19						Gloc Typo.	Outre Mak	1 40.01, 61.01
							Sump/End Cap:	Sch 40 PVC	(2")
Bottom of Filter Pack (ft):	20	-	┑ └─				Backfill Material:	None	\- /
.			L	-			Dackiii Walciidi.	MONG	
Bottom of Borehole (ft):	20		L						
							•		

			Monitori	ng Wel	II Constr	uction F	orm	
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative	<u> </u>	Maywoo USACE SGS Larry Ly	L				NAD: 83	MW3DR MISS 5/31/16 752622.93 610598.66 NGVD: 88
Land Surface Elev. (ft): Top of Casing Elev. (ft): Diameter, Cased Borehole (in):	57.62 57.14 9 7/8			*			Protective Roadbox Type: Dimensions (in): Length (ft): Guard / Post: Ground Seal (Surfa	<u>Steel</u> <u>9</u> <u>1</u> <u>No</u>
Diameter, Open Borehole (in):	5 7/8		•				Dimensions:	24" Diameter
							Туре:	Concrete
Well Casing Diameter (in): Depth to Water (ft):	6 12 (appi	rox)		\triangleright			Annular Space Seal Type: Installation:	Portland Cement Grout Gravity Tremie Pumped
			ŕ				Bentonite Seal - Nor Type: Installation: Hydration Time (h	Pellets Slurry
Bottom of Casing (ft):	38						Filter Pack Material Size: Volume Added (ft Installation:	- None
							Well Casing Туре: Diameter (in): Well Screen - None	<u>Steel</u> 6
							Type: Slot Size (in): Slot Type: Sump/End Cap: Backfill Material:	Cont. Wrap Factory slot None
Bottom of Open Borehole (ft):	63		~					

Project: Location: Client: Subcontractor: Driller: CB&I Field Representative	ə :	Maywoo Maywoo USACE SGS Larry Ly Jeff Coo	nch				-	Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	MW-6D (Mo Rochelle Pa 1/25/01, Mo 752078.22 608739.38 NGVD: 88	
			,					Protective Roadbox		
								Type:	Steel	
_				considebile	1269	200600000000000000000000000000000000000	881	Dimensions (in):	9	
Land Surface Elev. (ft):	<u>42.01</u>							Length (ft):	1	
Top of Casing Elev. (ft):	41.62					7		Guard / Post:	No	
Diameter, Cased Borehole (in)): 7-7/8 ⁽	1)						Ground Seal (Surfa	ce Pad)	
				•	']	'		Dimensions:	, 24" X 24"	
Diameter, Open Borehole (in):	3-7/8	1)						Type:	Concrete	
Steel Well Casing Diameter (ir	n): <u>4</u>							.,,,,	<u> </u>	
PVC Well Riser Diameter (in):				ľ				Annular Space Seal		
								Туре:	Portland Cen	ent Grout
								Installation:	Gravity Tre	emie) Pumped
Depth to Water (ft):	6.58				$\overline{}$					
Sopar to viator (ity.	0.00			•				Bentonite Seal - No	ne	
								Туре:	Pellets	Slurry
								Installation:	6-in. lifts	One Section
					İ				Gravity Tre	emie Pumped
								Hydration Time (h	-	
								Filter Pack Material		
					ŀ			Size:	#00 and #1	
Bottom of Steel Casing (ft):	29 (1)			"L	\longrightarrow			Volume Added (ft		
					1			Installation:	Gravity	Tremie
Гор of #00 Sand (ft):	<u>38</u>									
								Well Casing		
Гор of Filter Pack (ft):	40							Type:	Steel	
Filter Pack	#1				D000000	2000000		Diameter (in):	4	
Formation	Bedroo	k								
								Well Riser		
Fop of Screen Interval (ft):	42					∄		Туре:	Sch 40 PVC	
								Diameter (in):	<u>1 · </u>	14787
						300000				
						=		Well Screen (pre-pa	cked)	
						1		Туре:	Sch 40 PVC	(1")
Bottom of Screen Interval (ft):	52			-		∄		Slot Size (in):	0.010 (10-sl	ot)
					100000000000000000000000000000000000000	00000001 00000000		Slot Type:	Cont. Wrap	(Factory slot)
Bottom of Filter Pack (ft):	<u>54</u>			-						
)-H	<i>-</i>			,				Sump/End Cap:	Sch 40 P <u>VC</u>	(1")
Bottom of Borehole (ft):	<u>54</u>			→		10.042R9999		Backfill Material:	None	

Monitoring Well Construction Form

(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).

			Moni	torir	ng We	II Coi	nstru	ction F	orm		
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative	:	Maywoo USACE B&B Dri	lling yerchin		****				Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	MW34D MISS 9/16/02 752347.85 610577.34 NGVD: 88	
Protective Cover (ft): Top of Casing Elev. (ft): Top of Casing (ft): Land Surface Elev. (ft):	2.27 59.13 1.88 57.25		·	•	*				Protective Roadbox Type: Dimensions (in): Length (ft): Guard / Post:	<u>Steel</u> <u>11</u> <u>5</u>	
Diameter, Cased Borehole (in)									Ground Seal (Surfa	ice Pad) 16" Diamet	er
Diameter, Open Borehole (in):	6		•		:				Type:	Cement	
Well Casing Diameter (in):	6								Annular Space Sea Type: Installation:	Cement Ben	tonite Grout emie Pumped
Depth to Water (ft):	<u>9.5</u>	<u> </u>		→	∇				Bentonite Seal - No Type: Installation: Hydration Time (I	Pellets 6-in. lifts Gravity Tr	Slurry One Section emie Pumped
Bottom of Casing (ft):	<u>26.9</u>			→		_			Filter Pack Material Size: Volume Added (fi Installation:		Tremie
e e e e e e e e e e e e e e e e e e e									Well Casing Type: Diameter (in):	Steel6	
									Well Screen Casing Type: Slot Size (in): Slot Type:		Factory slot
Bottom of Open Borehole (ft):	<u>51.9</u>		\neg						Sump/End Cap: Backfill Material:	None None	
				-	•						

Note: NJDEP Well Permit E201604710 is a modification of NJDEP Well Permit 26-65218.

Well Riser Diameter (in): 2	99			Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83 Protective Cover Type: Dimensions (in): Length (ft): Guard / Post: Ground Seal (Surface)	MW43SR MISS 5/11/16 752515.10 610256.63 NGVD: 88 Steel 6 5
Client: Subcontractor: Driller: CB&l Field Representative: Protective Cover Stickup (ft): 1.86 Top of Riser Elev. (ft): 51.9 Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	USACE SGS Tom Lynch Jeff Cook			Installation Date: Northing: Easting: NAD: 83 Protective Cover Type: Dimensions (in): Length (ft): Guard / Post:	5/11/16 752515.10 610256.63 NGVD: 88 Steel 6 5
Subcontractor: Driller: CB&l Field Representative: Protective Cover Stickup (ft): 1.86 Top of Riser Elev. (ft): 51.9 Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	SGS Tom Lynch Jeff Cook			Northing: Easting: NAD: 83 Protective Cover Type: Dimensions (in): Length (ft): Guard / Post:	752515.10 610256.63 NGVD: 88 Steel 6 5
Driller: CB&l Field Representative: Protective Cover Stickup (ft): 1.86 Top of Riser Elev. (ft): 51.9 Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	Tom Lynch Jeff Cook			Easting: NAD: 83 Protective Cover Type: Dimensions (in): Length (ft): Guard / Post:	610256.63 NGVD: 88 Steel 6 5
CB&I Field Representative: Protective Cover Stickup (ft): 1.86 Top of Riser Elev. (ft): 51.9 Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	Jeff Cook			NAD: 83 Protective Cover Type: Dimensions (in): Length (ft): Guard / Post:	Steel
Protective Cover Stickup (ft): 1.86 Top of Riser Elev. (ft): 51.9 Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	59 59			Protective Cover Type: Dimensions (in): Length (ft): Guard / Post:	Steel
Top of Riser Elev. (ft): 51.9 Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	59			Type: Dimensions (in): Length (ft): Guard / Post:	6 5 No
Top of Riser Elev. (ft): 51.9 Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	59			Type: Dimensions (in): Length (ft): Guard / Post:	6 5 No
Top of Riser Stickup (ft): 1.4 Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	59			Dimensions (in): Length (ft): Guard / Post:	6 5 No
Land Surface Elev. (ft): 50.5 Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	<u>59</u>			Length (ft): Guard / Post:	5
Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2				Guard / Post:	No
Approximate Diameter Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2				Guard / Post:	No
Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	4			Ground Seal (Surfa	
Of Borehole (in): 8 1/4 Well Riser Diameter (in): 2	4			Ground Seal (Surfa	
				Dimensions:	ce Pad) 16" Diameter
		1 1 1		Туре:	Cement
Depth to Water (ft): <u>6 (ar</u>				Annular Space Seal	t
Depth to Water (ft): <u>6 (ar</u>				Type:	Portland Cement Grout
Depth to Water (ft): <u>6 (ar</u>				Installation:	Gravity Tremie Pumpe
Depth to Water (ft): <u>6 (a</u> r				motalianon.	
*	pprox)	▶		Bentonite Seal - No	ne
				Type:	Pellets Slurry
				- · · · · ·	•
				Installation:	6-in. lifts One Section
					Gravity Tremie Pumpe
				Hydration Time (h	hrs):
				Filter Pack Material	
Top of #00 Sand (ff): 1.7		>		Size:	#00 and #1
				Volume Added (ft	-3\· NΔ
					·
Top of Filter Pack (ft): 2.7				Installation:	Gravity Tremie
Filter Pack #1		> 000000000	00000000		• .
				Well Riser	
Formation ML				Type:	Sch 40 PVC
V				Diameter (in):	2
Γορ of Screen Interval (ft): 3.3				Digitiotol (iii).	-
<u>5.5</u>				Well Screen	
Bottom of Screen Interval (ft): 8.3		ı		Type:	Sch 40 PVC (2")
				Slot Size (in):	0.010 (10-slot)
				Slot Type:	Cont. Wrap Factory slo
Bottom of Well (ft): 8.3				olot Typo.	Cont. Triap Tablery dis
					0.1.40.03.40.40
Bottom of Filter Pack (ft): 8.3	_			Sump/End Cap:	Sch 40 PVC (2")
<u>5.0</u>	<u> </u>			Backfill Material:	None
Bottom of Borehole (ft): 8.3	_				
solution borelione (ity. 0.3		•			
•					

			Monitor	ing Wel	l Constru	ction F	orm	
Project:		Mavwoo	d FUSRAP				Well No.:	MW44S
Location:		Maywoo					Site Location:	MISS
Client:		USACE					Installation Date:	6/6/16
Subcontractor:		SGS					Northing:	752569.69
Driller:		Tom Lyn	ich	-			Easting:	610721.95
CB&I Field Representative	e :	Jeff Coo	k			_	NAD: 83	NGVD: 88
						L		
							Protective Roadbox	c
							Type:	Steel
				and converted to head	Ness and		Dimensions (in):	9
Land Surface Elev. (ft):	57.62		<u>ا</u> ا				Length (ft):	1
Top of Riser Elev. (ft):	57.07						Guard / Post:	No
Approximate Diameter Of Borehole (in):	8 1/4						Ground Seal (Surfa	•
(,							Dimensions:	24" Diameter
MARIE D'ALLES	_						Type:	Concrete
Well Riser Diameter (in):	2	· Ar					Annular Space Sea	I
·							Type:	Portland Cement Grout
							Installation:	Gravity Tremie Pumped
Depth to Water (ft):	<u>10 (ap</u>	prox)					Bentonite Seal - No	ne
,							Type:	Pellets Slurry
							Installation:	6-in. lifts One Section
								Gravity Tremie Pumped
							Hydration Time (hrs):
					`			
							Filter Pack Material	•
Top of #00 Sand (ft):	6						Size:	#00 and #1
1 (.4	-						Volume Added (f	t³): NA
							Installation:	Gravity Tremie
Top of Filter Pack (ft):	8			22222000				
Filter Pack Formation	#1 SM		·		8000000		Well Riser	
· omiadon	<u> </u>						Type:	Sch 40 PVC
•							Diameter (in):	2
Top of Screen Interval (ft):	9		J					
Bottom of Screen Interval (ft):	14	_					Well Screen	Sah 40 DVC (0")
bollom of Screen interval (it).	14						Type: Slot Size (in):	Sch 40 PVC (2") 0.010 (10-slot)
		-					Slot Type:	Cont. Wrap Factory slot
Bottom of Well (ft):	14						Giot Type.	Cont. Wiap 1 actory sict
Dallana of Filler David (ff)	4.4						Sump/End Cap:	Sch 40 PVC (2")
Bottom of Filter Pack (ft):	14	-					Backfill Material:	None
Bottom of Borehole (ft):	14							

		Monitori	.9				
Project:	Maywood				Well No.:	MW45D	
Location:	Maywood,	, NJ			Site Location:	MISS	
Client:					Installation Date:	6/13/16	
Subcontractor: Driller:	SGS				Northing:	752388.68	
Offiler: CB&I Field Representative:				-,/	Easting: NAD: 83	610394.59 NGVD: 88	
Obdit ield Ropidoomaass.	. <u>QQII QQQI.</u>				INAD. 00	,	
Protective Cover Stickup (ft):	1.97			····	Protective Cover		
Top of Casing Elev. (ft):	57.55	_			Type:	Ste e l	
	1.66			7	Dimensions (in):	 -	
	55.89				Length (ft):	5	
wild Gallage Hills (17)	00.03				Guard / Post:		
					Guarg / Fost.	<u>No</u>	•
Diameter, Cased Borehole (in):	: 9 7/8				Ground Seal (Surfa	ice Pad)	
Diameter, Open Borehole (in):	c 7/0				Dimensions:	24" Diam.	
					Туре:	Concrete	
Well Casing Diameter (in):	6				Annular Space Seal	- I	
					·		
					Type:	Portland Ceme	
	÷				Installation:	Gravity Trei	mie) Pumper
Depth to Water (ft):	12 (approx) —			-	Bentonite Seal - N o	one	
					Туре:	Pellets	Slurry
			-		Installation:	6-in. lifts	One Section
					···	Gravity Tren	
					Hydration Time (h	-	
					Filter Pack Material	- None	
Bottom of Casing (ft):	38 -				Size:		
					Volume Added (ft		
					Installation:	Gravity	
					Well Casing		
					Type:	Steel	
					Diameter (in):	6	
					Diameter (m).	<u>0</u>	
					Well Screen - None		
•					Type:		
					Slot Size (in):		
					Slot Type:	Cont. Wrap	Factory slot
					Sump/End Cap:	None	<u></u>
					Backfill Material:	None	
Bottom of Open Borehole (ft):	62				Duo	1701.0	
ottom or open perended (19)						•	
		and the second second					

B : :		1 = 1101				14/ 11/1	100
Project:		vood FUSI	RAP		 	Well No.:	MW46S
Location:	Maywood, NJ USACE					Site Location:	MISS
Client:	SGS			•		Installation Date: Northing:	<u>5/10/16</u> 752398.21
Subcontractor: Driller:						Easting:	610766.88
CB&I Field Representative	i loff (Lynch Cook				NAD: 83	NGVD: 88
	s. <u>yen c</u>					14AD. 03	11010.00
Protective Cover Stickup (ft):	1.84				. •	Protective Cover	
Top of Riser Elev. (ft):	62.01						
		— ¬—		┿┌┈	- I	Type:	Steel
Top of Riser Stickup (ft):	1.75]		Dimensions (in):	6
Land Surface Elev. (ft):	60.26					Length (ft):	5
				'	. 4	Guard / Post:	No
Approximate Diameter Of Borehole (in):	8 1/4					Ground Seal (Surfa	
or Boronola (my.	9					Dimensions:	16" Diameter
						Type:	Concrete
Well Riser Diameter (in):	2					Annular Space Sea	al
						Type:	Portland Cement Grout
						Installation:	Gravity (Tremie Pumpe
			-	$\overline{}$,
Depth to Water (ft):	11 (approx)			<u>*</u>	-	Bentonite Seal - N	one
						Туре:	Pellets Slurry
						Installation:	6-in. lifts One Section
							Gravity Tremie Pumpe
						Hydration Time	(hrs):
						Filter Pack Materia	I
Гор of #00 Sand (ft):	9		→ -			Size:	#00 and #1
· • • • • • • • • • • • • • • • • • • •						Volume Added (
						Installation:	Gravity Tremie
Γορ of Filter Pack (ft):	11.5		9			motalitation.	Glavity
Filter Pack	#1	_	→ 🐘			Well Riser	
Formation	ML						C-F 40 DVC
						Type:	Sch 40 PVC
				-		Diameter (in):	2
Top of Screen Interval (ft):	12.5					Well Screen	
Bottom of Screen Interval (ft):	17.5		— 🐰			Type:	Sch 40 PVC (2")
()						Slot Size (în):	0.010 (10-slot)
						Slot Type:	Cont. Wrap Factory slot
Bottom of Well (ft):	17.5					· ,	
		1				Sump/End Cap:	Sch 40 PVC (2")
Bottom of Filter Pack (ft):	18	[Backfill Material:	None
, , , , , , , , , , , , , , , , , , , ,	4.5	L				Daokiii Material.	110110
Bottom of Borehole (ft):	18						

				Construction	1	
Project:		od FUSRAP			Well No.:	<u>MW46D</u>
Location:					Site Location:	MISS
Client:	USACE				Installation Date:	5/24/16
Subcontractor:	<u>sgs</u>				Northing:	752390.45
Driller:	lom Lyi	nch / Larry L			Easting:	610762.09
CB&I Field Representative	: <u>Jeπ Coc</u>	ok / Robert D	emott		NAD: 83	NGVD: 88
Protective Cover Stickup (ft):	2.77	,			Broto ethic Course	
Top of Casing Elev. (ft):					Protective Cover	
• • • • • •	62.10	- 7		_,	Type:	Steel
op of Casing Stickup (ft):	1.88				Dimensions (in):	8.5
and Surface Elev. (ft):	60.22				Length (ft):	5
					Guard / Post:	No
Diameter, Cased Borehole (in)	· Q 7/9				Ground Seal (Surfa	on Rad\
Marrieter, Cased Borenoie (iii)	. 9 110	-				
Diameter, Open Borehole (in):	5 7/8			1	Dimensions:	24" Diameter
Vell Casing Diameter (in):	6				Type:	<u>Concrete</u>
Ton ozonig Biamotor (m).	<u></u>	•			Annular Space Sea	l
					Type:	Portland Cement Grout
					Installation:	Gravity Tremie Pumpe
					motanation.	Grand Homes
epth to Water (ft):	10 (approx)			-	Bentonite Seal - No	ne
•					Туре:	Pellets Slurry
					Installation:	6-in. lifts One Section
•					mstallation.	
						Gravity Tremie Pumpe
					Hydration Time (h	nrs):
	•					
-					Filter Pack Material	- None
ottom of Casing (ft):	32			 	Size:	
					Volume Added (ff	3):
					Installation:	Gravity Tremie
					Well Casing	
					•	Stool
			-	1	Туре:	Steel
9					Diameter (in):	6
					Well Screen - None	
	•			1	Type:	
					Slot Size (in):	
				1	Slot Type:	Cont. Wrap Factory slo
					Siot Type.	Cont. Wisp Factory Sion
					Sump/End Cap:	None
					Backfill Material:	None
ottom of Open Borehole (ft):	57	_				
		——		J		•

Client: USACE Installation Date: 5/2716 Side Northing: 752567.91 Easting: 752567.91	Client: USACE Subcontractor: SGS Subcontractor: Rich Reiss Driller: Rich Reiss CB&l Field Representative: Jeff Cook Protective Cover Stickup (ft): 1.95 Top of Riser Elev. (ft): 53.56 Top of Riser Stickup (ft): 1.62 Land Surface Elev. (ft): 51.94 Approximate Diameter Of Borehole (in): 8.1/4 Dimensions Type: Installation: Bentonite Sea Type: Installation: Bentonite Sea Type: Installation: Hydration T Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 7 Bottom of Screen Interval (ft): 12 Bottom of Filter Pack (ft): 12 Sump/End Ca Backfill Materia	MW47S MISS
Driller Rich Reiss Jeff Cook NAD: 83 NGVD: 88	Driller: CB&i Field Representative: Rich Reiss Jeff Cook Protective Cover Stickup (ft): 1.95 Top of Riser Elev. (ft): 53.56 Top of Riser Elev. (ft): 51.94 Approximate Diameter Of Borehole (in): Well Riser Diameter Of Borehole (in): Depth to Water (ft): 5 (approx) Depth to Water (ft): 5 (approx) Depth to Water (ft): 5 (approx) Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 7 ype: Diameter (in) For of Screen Interval (ft): 7 Well Screen Type: Diameter (in) Size: Volume Add Installation: For of Screen Interval (ft): 12 Sottom of Filter Pack (ft): 13 Sottom of Filter Pack (ft): 15 Sottom of Filter Pack (ft): 16 Sottom of Filter Pack (ft): 17 Sottom of Filter Pack (ft): 18 Sump/End Cal Backfill Materia	
CB&I Field Representative: Jeff Cook NAD: 83 NGVD: 88 Protective Cover Slickup (ft): 1.95 Top of Riser Elev. (ft): 53.56 Top of Riser Slickup (ft): 1.62 Land Surface Elev. (ft): 51.94 Approximate Diameter Of Borehole (in): 9.1/4 Nell Riser Diameter (in): 2 Approximate Diameter (in): 2 Approximate Diameter (in): 2 Annular Space Seal Type: Qoncrete Annular Space Seal Type: Pellets Slurry Installation: Gravity Tremie Pump Hydration Time (hrs): Top of #00 Sand (ft): 4 Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 7 Joe of Screen Interval (ft): 7 Joe of Screen Interval (ft): 12 Joe of Filter Pack (ft): 13 Joe of Filter Pack (ft): 13 Joe of Filter Pack (ft): 13 Joe of Filter Pack (ft): 13 Joe of Filter Pack (ft): 13 Joe of Filter Pack (ft): 13 Joe of Filter Pack (ft): 13	CB8I Field Representative: Jeff Cook NAD: 83 Protective Cover Stickup (ft): 1.95 Top of Riser Elev. (ft): 53.56 Top of Riser Stickup (ft): 1.62 Land Surface Elev. (ft): 51.94 Approximate Diameter Of Borehole (in): 8.1/4 Depth to Water (ft): 5 (approx) Depth to Water (ft): 5 (approx) Depth to Water (ft): 5 (approx) Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 7 Swell Riser Diameter (in): 9 Annular Space Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Filter Pack (ft): 6 Filter Pack (ft): 7 Well Riser Type: Diameter (in): 9 Swell Riser Type: Stot Size (in Siot Size (in Siot Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in Size (in	752567.91
Protective Cover Stickup (#): 5.9.56 Top of Riser Elev. (#): 1.95 Top of Riser Elev. (#): 1.92 Land Surface Elev. (#): 5.9.4 Approximate Diameter DI Borehole (in): 5.1/4 Well Riser Diameter (in): 2 Annular Space Seal Type: Concrete Annular Space Seal Type: Portional Coment Grout Installation: Gravity Tremie Pumps Top of #00 Sand (#): 4 Top of #100 Sand (#): 4 Top of Filter Pack (#): 8 Filter Pack (#): 8 Filter Pack (#): 7 Joe of Screen Interval (#): 7 Joe of Screen Interval (#): 12 Joe of Well (R): 12 Joe of Filter Pack (#): 13 Joe of Filter Pack (#): 15 Joe of Filter Pack (#): 15 Joe of Screen Interval (#): 12 Joe of Screen Interval (#): 12 Joe of Filter Pack (#): 13 Joe of Filter Pack (#): 14 Joe of Filter Pack (#): 15 Joe of Filter Pack (#): 15 Joe of Filter Pack (#): 15 Joe of Filter Pack (#): 16 Joe of Filter Pack (#): 16 Joe of Filter Pack (#): 17 Joe of Filter Pack (#): 18 Joe of	Protective Cover Stickup (ft): 1.95 Top of Riser Elev. (ft): 53.56 Top of Riser Stickup (ft): 1.62 Land Surface Elev. (ft): 51.94 Approximate Diameter Of Borehole (in): 8.1/4 Dimensions Type: Installation: Depth to Water (ft): 5 (approx) Depth to Water (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 7 Soutom of Screen Interval (ft): 7 Soutom of Filter Pack (ft): 12 Soutom of Filter Pack (ft): 13 Protective Co Type: Dimensions Count Seal (Dimensions Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Well Riser Type: Diameter (in) Well Screen Type: Siot Size (in) Siot Size (in) Siot Size (in) Siot Size (in) Siot Size (in) Siot Size (in) Size Size Size Size Size Size Size Size	
Top of Riser Elev. (ft):	Top of Riser Elev. (ft): 53.56 Type: Dimensions Length (ft): 51.94 Approximate Diameter Of Borehole (in): 8 1/4 Depth to Water (ft): 5 (approx) Depth to Water (ft): 5 (approx) Top of #00 Sand (ft): 4 Filter Pack (ft): 6 Filter Pack (ft): 6 Filter Pack (ft): 7 Bottom of Screen Interval (ft): 7 Bottom of Filter Pack (ft): 12 Bottom of Filter Pack (ft): 13 Bottom of Filter Pack (ft): 13 Sump/End Cal Backfill Materia	NGVD: 88
Top of Riser Elev. (ft):	Top of Riser Elev. (ft): 53.56 Type: Dimensions Length (ft): 51.94 Approximate Diameter Of Borehole (in): 8 1/4 Approximate Diameter (in): 8 1/4 Approximate Diameter (in): 8 1/4 Depth to Water (ft): 5 (approx) Depth to Water (ft): 5 (approx) Filter Pack (ft): 6 Frilter Pack (ft): 6 Frilter Pack (ft): 7 Sottom of Screen Interval (ft): 12 Sottom of Filter Pack (ft): 13 Source Filter Pack (ft): 13 Source Filter Pack (ft): 13 Source Filter Pack (ft): 13 Sump/End Cal Backfill Materia	
Top of Riser Stickup (ft): 1.62	Top of Riser Stickup (ft): Land Surface Elev. (ft): 51.94 Approximate Diameter Of Borehole (in): Well Riser Diameter (in): Depth to Water (ft): 5 (approx) Bentonite Sea Type: Installation: Hydration T Filter Pack (ft):	
Land Surface Elev. (ft): 51.94 Length (ft): 5 Guard / Post: No Approximate Diameter Of Borehole (in): 8 1/4 Approximate Diameter Of Borehole (in): 8 1/4 Dimensions: 16* Diameter Type: Concrete Annular Space Seal Type: Portland Cement Grout Installation: Gravity Tremie Pumpi Bentonite Seal - None Type: Pellets Sturry Installation: G-in. lifts One Section Gravity Tremie Pumpi Hydration Time (hrs): Filter Pack Material Size: #00 and #1 Volume Added (ft): NA Installation: Gravity Tremie Well Riser Type: Sch 40 PVC Diameter Type: Sch 40 PVC (2*) Sict Size (in): 0.010 (10-slot) Sict Type: Cont. Wray Factory siction of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2*) Backfill Material: None	Land Surface Elev. (ft): 51.94 Length (ft): Guard / Por Approximate Diameter Of Borehole (in): 8 1/4 Dimensions Type: Installation: Depth to Water (ft): 5 (approx) Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Filter Pack (ft): Filter Pack (ft	
Approximate Diameter Of Borehole (in): 8.1/4 Dimensions: 16* Diameter Type: Concrete Annular Space Seal Type: Portland Cement Grout. Installation: Gravity Tremie Pumpi Depth to Water (ft): Seption of #00 Sand (ft): 4 Filter Pack Material Size: #00 and #1 Volume Added (ft): NA. Installation: Gravity Tremie Filter Pack (ft): 6 Filter Pack (ft): 7 Well Riser Type: Sch 40 PVC (2*) Siot Size (in): 0.010 (10-slot) Siot Type: Conc. Wrage Factory site Sump/End Cap: Sch 40 PVC (2*) Backfill Material: None	Approximate Diameter Of Borehole (in): 8 1/4 Dimensions Type: Annular Space Type: Installation: Bentonite Sea Type: Installation: Hydration T Filter Pack (ft): Filter P	
Approximate Diameter Di Borehole (in): 8 1/4 Mell Riser Diameter (in): 2 Annular Space Seal Type: Concrete Annular Space Seal Type: Portiand Cement Grout Installation: Gravity Tremie Pumpi Bentonite Seal - None Type: Pellets Slurry Installation: Gravity Tremie Pumpi Hydration Time (hrs): Filter Pack Material Size: #00 and #1 Volume Added (ft ³): NA Installation: Gravity Tremie Well Riser Type: Sch 40 PVC Diameter (in): 2 Well Screen Type: Sch 40 PVC (2") Siot Size (in): 0.010 (10-slot) Siot Type: Cont. Wrap Factory sic	Approximate Diameter Of Borehole (in): 8 1/4 Dimensions Type: Annular Space Type: Installation: Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Top of Filter Pack (ft): Filter Pack Formation Top of Screen Interval (ft): Bettom of Screen Interval (ft): Top of Screen Interval (ft): Bottom of Filter Pack (ft): Bot	5
Dimensions: 16" Diameter Type: Concrete Nell Riser Diameter (in): 2 Annular Space Seal Type: Portland Cement Grout Installation: Gravity Tremie Pumpi Depth to Water (ft): 5 (approx) Bentonite Seal - None Type: Pellets Slurry Installation: Gravity Tremie Pumpi Hydration Time (hrs): Filter Pack Material Size: #00 and #1 Volume Added (ft ³): NA Installation: Gravity Tremie Well Riser Type: Sch 40 PVC Diameter (in): 2 Well Screen Type: Sch 40 PVC (2") Slottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Of Borehole (in): 8 1/4 Dimensions Type: Annular Space Type: Installation: Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Well Riser Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Well Riser Type: Diameter (in): Well Riser Type: Diameter (in): Sw Size: Volume Add Installation: Well Riser Type: Diameter (in): Sw Size: Volume Add Installation: Well Screen Type: Diameter (in): Souttom of Screen Interval (ft): Souttom of Well (ft): Souttom of Filter Pack (ft): Souttom of Filter Pack (ft): Sump/End Cal Backfill Materia	ı: <u>No</u>
Dimensions: 16" Diameter Type: Concrete Annular Space Seal Type: Portland Cement Grout Installation: Gravity Tremie Pumpi Bentonite Seal - None Type: Pellets Slurry Installation: Gravity Tremie Pumpi Bentonite Seal - None Type: Pellets Slurry Installation: Gravity Tremie Pumpi 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") Slottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Of Borehole (in): 8 1/4 Dimensions Type: Annular Space Type: Installation: Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Well Riser Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Well Riser Type: Diameter (ir) Well Riser Type: Diameter (ir) Well Screen Type: Siot Size (in Siot Type: Siot Size (in Siot Type: Siot Size (in Siot Type: Siot Type: Siot Size (in Siot Type: Sio	Surface Pad)
Type: Concrete Annular Space Seal Type: Portland Cement Grout Installation: Gravity Tremie Pumpi Bentonite Seal - None Type: Pellets Slurry Installation: Gravity Tremie Pumpi Bentonite Seal - None Type: Pellets Slurry Installation: Gravity Tremie Pumpi 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*) Slottom of Well (ft): 12 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2*) Backfill Material: None	Well Riser Diameter (in): 2	
Annular Space Seal Type: Portland Cement Grout Installation: Gravity Tremie Pumpr Bentonite Seal - None Type: Pellets Slurry Installation: Gravity Tremie Pumpr Hydration Time (hrs): Filter Pack Material Size: #00 and #1 Volume Added (ft*): NA Installation: Gravity Tremie Well Riser Type: Sch 40 PVC (2") Slottom of Well (ft): 12 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Annular Space Type: Installation: Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Formation Well Riser Type: Diameter (ir Well Screen Type: Sottom of Screen Interval (ft): Sottom of Well (ft): Sottom of Filter Pack (ft): Sump/End Ca Backfill Materia	
Type: Portland Cement Growt Installation: Gravity Tremie Pumping Bentonite Seal - None Type: Pellets Slurry Installation: 6-in. lifts One Section Gravity Tremie Pumping Pump	Type: Installation: Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Filter Pack (ft): 6 Filter Pack (ft): 7 Formation SW Formation 12 Sottom of Screen Interval (ft): 12 Sottom of Filter Pack (ft): 13 Sump/End Cal Backfill Materia	
Depth to Water (ft): Supprox Supprox	Depth to Water (ft): 5 (approx) Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Formation Sw Well Riser Type: Diameter (ir Well Screen Type: Diameter (ir): Sottom of Screen Interval (ft): Bentonite Sea Type: Installation: Well Riser Type: Diameter (ir): Sump/End Cal Backfill Materia	Seal
Bentonite Seal - None Type: Pellets Slurry Installation: 6-in. lifts One Secti Gravity Tremie Pumpe Hydration Time (hrs): Filter Pack Material Size: #00 and #1 Volume Added (ft*): NA Installation: Gravity Tremie Well Riser Type: Sch 40 PVC Diameter (in): 2 Well Screen Type: Sch 40 PVC (2") Slottom of Screen Interval (ft): 12 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Depth to Water (ft): 5 (approx) Bentonite Sear Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Top of Filter Pack (ft): Filter Pack #1 Formation Well Riser Type: Diameter (in Size in Type: Diameter (in Size in Type: Diameter (in Size in Type: Diameter (in Size in Size in Size in Size in Size in Size (in Size in Size (in Siz	Portland Cement Grout
Bentonite Seal - None Type: Pellets Slurry Installation: G-in. lifts One Section Gravity Tremie Pumping Hydration Time (hrs): Filter Pack Material Size: #00 and #1 Volume Added (ft³): NA Installation: Gravity Tremie Tremie Gravity Tremie Tremie Type: Sch 40 PVC Diameter (in): 2 Sottom of Screen Interval (ft): 12 Sottom of Filter Pack (ft): Sottom of Filter Pack (ft): 13 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None Sump/End Cap: Sch 40 PVC (2") Backfill Material: None Sump/End Cap: Sch 40 PVC (2") Backfill Material: None Sump/End Cap: Sch 40 PVC (2") Backfill Material: None Sump/End S	Depth to Water (ft): 5 (approx) Bentonite Sea Type: Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Top of Filter Pack (ft): Filter Pack #1 Formation Well Riser Type: Diameter (in Type: Diameter (in Slot Size (in Slot Type: Slot Type: Slot Size (in Slot Type: Slot Type: Slot Size (in Slot Type:	Gravity Tremie Pumpe
Type: Sch 40 PVC (2") Sottom of Filter Pack (ft): 12 Section of Filter Pack (ft): Sottom of Filter Pack (ft): None	Top of #00 Sand (ft): If iter Pack Massize: Volume Add Installation: Well Riser Type: Diameter (in Sottom of Screen Interval (ft): Bottom of Well (ft): Sottom of Filter Pack (ft): So	
Installation: 6-in. lifts One Section Gravity Tremie Pumper 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) Slottom of Well (ft): 12 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Installation: Hydration T Filter Pack Ma Size: Volume Add Installation: Top of Filter Pack (ft): Filter Pack (ft): Filter Pack #1 Formation SW Well Riser Type: Diameter (ir Top of Screen Interval (ft): Formation 12 Souttom of Screen Interval (ft): Souttom of Filter Pack (ft): Bottom of Filter Pack (ft): Sump/End Cal Backfill Materia	- None
Gravity Tremie Pumper 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") Slottom of Screen Interval (ft): 12 Well Screen Type: Sch 40 PVC (2") Slot Size (in): 0.010 (10-slot) Slot Type: Cont. Wrap Factory slot Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Top of #00 Sand (ft): Top of Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Filter Pack (ft): Well Riser Type: Diameter (in Well Screen Type: Slot Size (in Slot Type: Slot Type: Sump/End Cal Backfill Materia	Pellets Slurry
Filter Pack Material Size: #00 and #1 Volume Added (ft³): NA Installation: Gravity Tremie Filter Pack (ft): 6 Filter Pack (ft): 5 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Well Riser Fype: 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 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Filter Pack Ma Size: Volume Add Installation: Well Riser Type: Diameter (ir Well Screen Type: Slot Size (in Slot Type:	6-in. lifts One Section
Filter Pack Material Size: #00 and #1 Volume Added (ft³): NA Installation: Gravity Tremie Filter Pack (ft): 6 Filter Pack (ft): 5 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Filter Pack (ft): 7 Well Riser Fype: 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 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Fifter Pack Ma Size: Volume Add Installation: Well Riser Type: Diameter (ir Bottom of Screen Interval (ft): Bottom of Filter Pack (ft): Southom of Filter Pack (ft): Southom of Filter Pack (ft): Southom of Filter Pack (ft): Sump/End Cal Backfill Materia	Gravity Tremie Pumpe
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") Slottom of Screen Interval (ft): 12 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Top of #00 Sand (ft): Top of Filter Pack (ft): Filter Pack Formation Size: Volume Add Installation: Well Riser Type: Diameter (in Slot Size in Size: Volume Add Installation: Well Riser Type: Diameter (in Slot Size in Slot Type: Slot Size in Slot Type: Slot Type: Sump/End Cal Backfill Materia	me (hrs):
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") Slottom of Screen Interval (ft): 12 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Top of #00 Sand (ft): Top of Filter Pack (ft): Filter Pack Formation Size: Volume Add Installation: Well Riser Type: Diameter (in Slot Size in Size: Volume Add Installation: Well Riser Type: Diameter (in Slot Size in Slot Type: Slot Size in Slot Type: Slot Type: Sump/End Cal Backfill Materia	
Volume Added (ft³): NA Installation: Gravity Tremie Well Riser Type: Sch 40 PVC Diameter (in): 2 Well Screen Sottom of Screen Interval (ft): 12 Sottom of Well (ft): 12 Sottom of Filter Pack (ft): 13 Sottom of Filter Pack (ft): 13 Volume Added (ft³): NA Installation: Gravity Tremie Well Riser Type: Sch 40 PVC Diameter (in): 2 Sump/End Cap: Sch 40 PVC (2") Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Volume Add Installation: Top of Filter Pack (ft): Filter Pack #1 Formation Well Riser Type: Diameter (in Storeen Interval (ft): Bottom of Screen Interval (ft): Bottom of Well (ft): Bottom of Filter Pack (ft): Sump/End Cal Backfill Materia	erial
Installation: Gravity Tremie Filter Pack (ft): 6 Filter Pack #1 Formation SW 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 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Top of Filter Pack (ft): Filter Pack Formation Well Riser Type: Diameter (in Top of Screen Interval (ft): Bottom of Screen Interval (ft): Bottom of Well (ft): Bottom of Filter Pack (ft): 12 Sump/End Cal Backfill Materia	#00 and #1
Filter Pack (ft): Filter Pack #1 Formation SW Well Riser Type: Sch 40 PVC Diameter (in): 2 Well Screen Type: Sch 40 PVC (2") Sottom of Screen Interval (ft): 12 Sottom of Well (ft): 12 Sottom of Filter Pack (ft): 13 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Top of Filter Pack (ft): Filter Pack Formation SW Well Riser Type: Diameter (in Top of Screen Interval (ft): Bottom of Screen Interval (ft): Bottom of Well (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Sw Sump/End Cal Backfill Materia	ed (ft³); <u>NA</u>
Filter Pack Formation SW Well Riser Type: Sch 40 PVC Diameter (in): 2 Well Screen 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 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Filter Pack Formation SW Type: Diameter (in Top of Screen Interval (ft): Bottom of Screen Interval (ft): Bottom of Well (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Well Screen Type: Stot Size (in Slot Type: Sump/End Cal Backfill Material	Gravity Tremie
Formation SW Type: Sch 40 PVC Diameter (in): 2 Well Screen Type: Sch 40 PVC (2") Well Screen Type: Sch 40 PVC (2") Slot Size (in): 0.010 (10-slot) Sottom of Well (ft): 12 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Formation SW Type: Diameter (in Top of Screen Interval (ft): Bottom of Screen Interval (ft): Bottom of Well (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): SW Well Riser Type: Diameter (in Series Size (in Slot Type: Sump/End Cal Backfill Materia	
Type: Sch 40 PVC Diameter (in): 2 Well Screen 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 Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Type: Diameter (ir Top of Screen Interval (ft): 7 Well Screen Type: Slot Size (in Slot Type: Slot Type: Sump/End Cal Backfill Materia	
Well Screen Type: Sch 40 PVC (2") Sottom of Screen Interval (ft): 12 Sottom of Well (ft): 12 Sottom of Filter Pack (ft): 13 Sottom of Filter Pack (ft): 13 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	Top of Screen Interval (ft): Bottom of Screen Interval (ft): Bottom of Well (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft):	Sch 40 PVC
Sottom of Screen Interval (ft): 12 Sottom of Well (ft): 12 Sottom of Well (ft): 12 Sottom of Filter Pack (ft): 13 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	Bottom of Screen Interval (ft): 12 Bottom of Well (ft): 12 Bottom of Filter Pack (ft): 13 Well Screen Type: Slot Size (in Slot Type: Sump/End Cal Backfill Materia	<u>2</u>
Sottom of Screen Interval (ft): 12 Type: Sch 40 PVC (2") Slot Size (in): 0.010 (10-slot) Slot Type: Cont. Wrap Factory slot Sottom of Well (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Bottom of Screen Interval (ft): 12 Slot Size (in Slot Type: 12 Bottom of Filter Pack (ft): 13 Backfill Materia	
Slot Size (in): 0.010 (10-slot) Slot Type: Cont. Wrap Factory slot Sottom of Filter Pack (ft): 13 Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Slot Size (in Slot Type: Bottom of Well (ft): Bottom of Filter Pack (ft): 13 Backfill Materia	0 1 10 70 10 100
Sottom of Well (ft): Sottom of Filter Pack (ft): Bottom of Filter Pack (ft): Bottom of Filter Pack (ft): South Type: Sump/End Cap: Backfill Material: None	Slot Type: Bottom of Well (ft): 12 Sump/End Cal Backfill Materia	
Sottom of Well (ft): 12	Bottom of Well (ft): 12 Sump/End Cal Backfill Materia	
Sump/End Cap: Sch 40 PVC (2") Backfill Material: None	Sump/End Cal Backfill Materia	Cont. Wrap Factory slo
Backfill Material: None	Backfill Materia	
Backfill Material: None	Backfill Materia	Sch 40 PVC (2")
lottom of Borehole (ft):	Bottom of Borehole (ft): 13	l: <u>None</u>
		•
	<i>r</i>	

				Construction			
Project:		d FUSRAP			Well No.:	MW47D	
Location:	Maywood	d, NJ			Site Location:	MISS	
Client:	USACE				Installation Date:	<u>6/7/16</u>	
Subcontractor:	<u>sgs</u>				Northing:	752559.75	
Driller:	<u>Larry Lyr</u>				Easting:	610401.82	
CB&I Field Representative	: <u>Jeff Cool</u>	k			NAD: 83	NGVD: 88	
Protoctive Course Stinkers (ff)	0.00				•		
Protective Cover Stickup (ft):	2.03		→ ┌──	 -	Protective Cover		
op of Casing Elev. (ft):	53.17	7	<u> </u>	_	Type:	Steel	
op of Casing Stickup (ft):	1.47				Dimensions (in):	11	
and Surface Elev. (ft):	51.70	>			Length (ft):		
	91110						
					Guard / Post:	NO	
Diameter, Cased Borehole (in):	9 7/8				Ground Seal (Surfa	ce Pad)	
					Dimensions:	24" Diamet	er
Diameter, Open Borehole (in):	<u>5 7/8 </u>] [Туре:	Concrete	
Vell Casing Diameter (in):	6				• •		
					Annular Space Sea	!	
					Type:	Portland Cen	nent Grout
					Installation:	Gravity Tr	emie) Pumpe
						5.2	
Pepth to Water (ft):	6 (approx) -		•		Bentonite Seal - No	ne	
					Type:	Pellets	Slurry
					Installation:	6-in, lifts	One Section
					motanation.		
					Hydration Time (I	-	emie Pumpe
					Filter Pack Material	- None	
Bottom of Casing (ft):	38		L		Size:		
					Volume Added (fl		
	,				Installation:	Gravity	Tremie
					Well Casing		
					Type:	Steel _	
					Diameter (in):	6	
					Well Screen - None		
					Type:		
					Slot Size (in):		
					Slot Type:	Cont Mran	Factory slo
					зірі туре.	Cont. Wrap	i actory sio
				:	Sump/End Cap:	None	
					Backfill Material:	None	
ottom of Open Borehole (ft):	63	7					
		_	<u> </u>	_			

Project:	Masswood	FUSRAP	<u> </u>	nstruction	Well No.:	MW48S	
Location:	ent: Maywood, NJ USACE					MISS	
Client:						6/1/16	
Subcontractor:						752705.45	
Driller:					Northing: Easting:	610334.94	
CB&I Field Representative	: <u>Jeff Cook</u>				NAD: 83	NGVD: 88	
Protective Cover Stickup (ft):	2.35		,		Protective Cover		
Top of Riser Elev. (ft):	58.45					Otaal	
Top of Riser Stickup (ft):	1.08		-> ┌┐		Type:	Steel	
					Dimensions (in):		
Land Surface Elev. (ft):	57.37 -				Length (ft):	5	
					Guard / Post:	<u>No</u>	
Approximate Diameter					Ground Seal (Surfa	ace Pad)	
Of Borehole (in):	8 1/4				Dimensions:	16" Diameter	
					Туре:	Concrete	
Well Riser Diameter (in):	2				Annula: Order O		
•					Annular Space Sea		
•					Туре:	Portland Cement Grout	
			$\overline{\nabla}$		Installation:	Gravity Tremie Pumped	
Depth to Water (ft):	12 (approx)	>	 -		Bentonite Seal - No	one	
					Type:	Pellets Slurry	
			·		Installation:	6-in, lifts One Section	
				İ		Gravity Tremie Pumped	
					Hydration Time (hrs):	
					Filter Pack Material		
Ton of #00 Cond (#):	10				Size:	#00 and #1	
Top of #00 Sand (ft):	10						
					Volume Added (f	· · · · · · · · · · · · · · · · · · ·	
Гор of Filter Pack (ft):	13				Installation:	Gravity Tremie	
Filter Pack	#1			*******	Well Riser		
Formation	SM				Type:	Sch 40 PVC	
					•		
op of Screen Interval (ft):	14		*=		Diameter (in):	2	
op or screen interval (it).					Well Screen		
Bottom of Screen Interval (ft):	<u>19</u>				Type:	Sch 40 PVC (2")	
				**************************************	Slot Size (in):	0.010 (10-slot)	
					Slot Type:	Cont. Wrap Factory slot	
Bottom of Well (ft):	<u> 19</u>						
Bottom of Filter Pack (ft):	20				Sump/End Cap:	Sch 40 PVC (2")	
ottom or rinter Fact (It).					Backfill Material:	None	
Sottom of Borehole (ft):	20						
		•					
•						·	

Designation	3 2		_	Construction		NAVACED.	
Project:		ood FUSRAP			Well No.: Site Location:	MW48D	
Location: Client:						MISS 5/31/16	
Subcontractor:	SGS				Installation Date: Northing:	752702.93	
Driller:		ynch			Easting:	610345.16	
CB&I Field Representative	: Jeff Co				NAD: 83	NGVD: 88	
,	. <u>John Jo</u>				1415.00		
Protective Cover Stickup (ft):	3.08				Protective Cover		
Top of Casing Elev. (ft):	59.39	_				Ctool	
Top of Casing Stickup (ft):		_	─	¬	Type:		
	1.64	- ┤▶	West of the second		Dimensions (in):		
Land Surface Elev. (ft):	57.75				Length (ft):	<u>5</u>	
					Guard / Post:	No	
Diameter, Cased Borehole (in):	9.7/8				Ground Seal (Surfa	ce Pad)	
Dizmotor, Oused Boronole (m).	2.179	-			Dimensions:	•	O#
Diameter, Open Borehole (in):	5 7/8	<u> </u>			-		er
Well Casing Diameter (in):	6				Type:	Concrete	
Troil duoling Blathotol (III).					Annular Space Sea	I	
					Туре:	Portland Cen	nent Grout
					Installation:		emie) Pumpe
					motunation,	0.11.1.	
Depth to Water (ft):	12 (approx)		<u> </u>	-	Bentonite Seal - No	ne	
					Туре:	Pellets	Slurry
					Installation:		One Sectio
					motanation.		emie Pumpe
					Hydration Time (_	
					· · · · · · · · · · · · · · · · · · ·	,.	
					Filter Dock Material	None	
Bottom of Casing (ft):	38		ļ		Filter Pack Material		•
solloin of Casing (it).	50	_			Size:		
					Volume Added (f	^{[3}):	
					Installation:	Gravity	Tremie
		,			Well Casing		
					Type:	Steel	
					Diameter (in):	6	
					Well Screen - None		
					Type:	_	
					Slot Size (in):		
					Slot Type:	Cont Mrss	Factory slot
					Slot Type.	Cont. Wrap	Factory Stot
					Sump/End Cap:	None	
					Backfill Material:	None	
Bottom of Open Borehole (ft):	63						
		└	<u> </u>				

Project:	Maywood	FUSRAP			Well No.:	MW51S
Location:	ion: <u>Maγwood, NJ</u>					Rochelle Park
Client:						6/29/16
Subcontractor:	SGS				Northing:	751580.67
Driller:	<u>Larry Lynd</u>				Easting:	609137.49
CB&I Field Representative	e: <u>Jeff Cook</u>				NAD: 83	NGVD: 88
					Protective Roadbo	v ·
				÷	Type:	Steel
					Dimensions (in):	
Land Surface Elev. (ft):	54.77 -				Length (ft):	1
Top of Riser Elev. (ft):	54.41		 	-	Guard / Post:	No
. op 01 1 1001 2101. (10).	9.1.11				Guald 7 FOSt.	110
Approximate Diameter					Ground Seal (Surfa	ace Pad)
Of Borehole (in):	8 1/4				Dimensions:	24" x 24"
					Type:	Concrete
Well Riser Diameter (in):	2					
					Annular Space Sea	
					Type:	Portland Cement Grout
					Installation:	Gravity Tremie Pumpe
Depth to Water (ft):	14 (approx)			_	Bentonite Seal - No	200
					Type:	Pellets Slurry
			ļ.		Installation:	6-in. lifts One Section
					mstallation.	Gravity Tremie Pumpe
					Hydration Time (hrs):
					rijalaaan riino (
					Filter Pack Material	
op of #00 Sand (ft):	5				Size:	#00 and #1
op 0. 200 0aa (19)	<u>-</u>				Volume Added (f	
					Installation:	Gravity Tremie
op of Filter Pack (ft):	7					
Filter Pack	#1				Well Riser	
Formation	ML				Type:	Sch 40 PVC
+1+ · · ·				\$0000000 00000000 00000000	Diameter (in):	2
op of Screen Interval (ft):	<u>9</u>					
					Well Screen	
Sottom of Screen Interval (ft):	<u>19</u>				Туре:	Sch 40 PVC (2")
					Slot Size (in):	0.010 (10-slot)
ottom of Well (ft):	19	<u> </u>			Slot Type:	Cont. Wrap Factory slo
• •					Sump/End Cap:	Sch 40 PVC (2")
lottom of Filter Pack (ft):	<u>19</u>	, L <u>-</u>			Backfill Material:	None
lottom of Borehole (ft):	19				Daoriik Material.	HOLIG
outin or boreliole (it).	13	-				

	Monitori	ing Well Construction I	Form	
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative:	USACE SGS Larry Lynch		Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	MW51D Rochelle Park 6/28/16 751578.76 609140.41 NGVD: 88
Obai Field Representative:	Jeff Cook		NAD: 63	NGVD: 00
			Protective Roadbox	
			Type:	Steel
Land Surface Elev. (ft):	54.66		Dimensions (in): Length (ft):	9
	54.27		Guard / Post:	1 No
Diameter, Cased Borehole (in):	9 7/8		Ground Seal (Surfa	ce Pad)
Diameter, Open Borehole (in): إ	5 7/8		Dimensions:	24" x 24"
Mail Oneire Die weter (in)			Туре:	Concrete
Well Casing Diameter (in):	<u>6</u>		Annular Space Sea	!
			Type:	Portland Cement Grout
			Installation:	Gravity Tremie Pumped
Depth to Water (ft):	14 (approx.)		Bentonite Seal - No	ne
			Туре:	Pellets Slurry
			Installation:	6-in. lifts One Section
			Hydration Time (I	Gravity Tremie Pumped
			Filter Pack Material	- None
Bottom of Casing (ft):	29		Size:	
•				3):
			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
Bottom of Open Borehole (ft): 5				
	L			
		e .		
	4			

			Monit	torir	ng We	eli Cor	nstruc	tion F	orm	
Project:	N	Maywoo	d FUSR	ΑP					Well No.:	MW52S
Location:							_	Site Location:	Rochelle Park	
Client:		JSACE				~			Installation Date:	8/31/16
Subcontractor:		SGS							Northing:	752005.09
Driller:	· <u>I</u>	_arry Lyr	ıch	•	•			_	Easting:	609281.16
CB&I Field Representative	e: <u>J</u>	leff Cool	<u>k</u>					_	NAD: 83	NGVD: 88
					•			L	Protective Roadbox	
									Type:	Steel
									Dimensions (in):	9
Land Surface Elev. (ft):	44.34								Length (ft):	1
Top of Riser Elev. (ft):	43.96				 				Guard / Post:	No
Approximate Diameter	• • • •								Ground Seal (Surfa	ce Pad)
Of Borehole (in):	<u>8 1/4</u>								Dimensions:	16" Diameter
									Type:	Concrete
Well Riser Diameter (in):	2								Annular Space Sea	I
									Type:	Portland Cement Grout
									Installation:	Gravity Tremie Pumped
					\neg	! [.			installation.	Glavity Heline Fulliped
Depth to Water (ft):	6 (appro	x)		→	<u> </u>	1			Bentonite Seal - No	ne
				-					Type:	Pellets Slurry
									Installation:	6-in. lifts One Section
										Gravity Tremie Pumped
									Hydration Time (f	nrs):
									Filter Pack Material	
Top of #00 Sand (ft):	3			→					Size:	#00 and #1
									Volume Added (ft	³): <u>NA</u>
									Installation:	Gravity Tremie
Top of Filter Pack (ft):	4									
Filter Pack	<u>#1</u>			_					Well Riser	
Formation	SP / We	ath. BR							Туре:	Sch 40 PVC
									Diameter (in):	2
•									Diameter (iii).	
Top of Screen Interval (ft):	6		J						Well Screen	
Bottom of Screen Interval (ft):	11	_							Type:	Sch 40 PVC (2")
	•								Slot Size (in):	0.010 (10-slot)
									• •	Cont. Wrap Factory slot
Bottom of Well (ft):	<u>11</u>								Slot Type:	Cont. Wrap Factory slot
Ballon stew B. Com	4.4								Sump/End Cap:	Sch 40 PVC (2")
Bottom of Filter Pack (ft):	11								Backfill Material:	None
Bottom of Borehole (ft):	11		1							
				•						

			Monitori	ing Wel	I Construction	Form	
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative	ə :	Maywood USACE SGS Larry Lyr	nch			Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	MW52D Rochelle Park 8/30/16 752009.06 609276.39 NGVD: 88
Land Surface Elev. (ft): Top of Casing Elev. (ft):	44.19 43.70					Protective Roadbox Type: Dimensions (in): Length (ft): Guard / Post:	Steel 9 1 No
Diameter, Cased Borehole (in):						Ground Seal (Surfa Dimensions: Type:	ce Pad) 16" Diam. Concrete
Well Casing Diameter (in):	6		٠			Annular Space Sea Type: Installation:	Portland Cement Grout Gravity Tremie Pumped
Depth to Water (ft):	6 (app	rox.) _		∇		Bentonite Seal - No Type: Installation:	ne Pellets Slurry 6-in. lifts One Section Gravity Tremie Pumped
Bottom of Casing (ft):	37					Filter Pack Material Size:	nrs):
						Installation: Well Casing Type: Diameter (in):	Gravity Tremie Steel 6
						Well Screen - None Type: Slot Size (in): Slot Type:	Cont. Wrap Factory slot
Bottom of Open Borehole (ft):	62	· · · · · ·	└			Sump/End Cap: Backfill Material:	None None
			·				

		Monitor	ing Well	Constructio	on Form	
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative	Maywo USACI SGS Larry L	Lynch	14-		Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	MW53S Maywood 7/21/16 753042.15 610698.56 NGVD: 88
					Protective Roadbo	x :
					Type:	Steel
					Dimensions (in):	
Land Surface Elev. (ft):	<u>52.18</u>				Length (ft):	1
Top of Riser Elev. (ft):	51.86	_ _	+++	7	Guard / Post:	No
Approximate Diameter					Ground Seal (Surfa	ace Pad)
Of Borehole (in):	8 1/4	_			Dimensions:	16" Diameter
		•			Туре:	Concrete
Well Riser Diameter (in):	2					
		_			Annular Space Sea	al
					Туре:	Portland Cement Grout
					Installation:	Gravity Tremie Pumped
D16 1- 181-1-4/20.	2 ()					
Depth to Water (ft):	6 (арргох)		`	_	Bentonite Seal - No	one
					Type:	Pellets Slurry
					Installation:	6-in. lifts One Section
					Hydration Time (Gravity Tremie Pumped (hrs):
					Filter Pack Materia	l
Top of #00 Sand (ft):	7		*		Size:	#00 and #1
					Volume Added (ñ³): <u>NA</u>
- (Fr. B. J. (A).	~				Installation:	Gravity Tremie
Top of Filter Pack (ft): Filter Pack	<u>9</u> #1		00000000	1000000000		
Formation	#1 SW	-			Well Riser	•
Tomination.	<u></u>	_			Type:	Sch 40 PVC
\$		<u></u>			Diameter (in):	2
Top of Screen Interval (ft):	11					
	,			⊒ ‱∭	Well Screen	
Bottom of Screen Interval (ft):	<u>16</u>	_		∄ ‱∭	Type:	Sch 40 PVC (2")
				∄‱∭	Slot Size (in):	0.010 (10-slot)
Bottom of Well (ft):	16				Slot Type:	Cont. Wrap Factory slot
= 0	4=			∄ ‱∭	Sump/End Cap:	Sch 40 PVC (2")
Bottom of Filter Pack (ft):	17	-		∄	Backfill Material:	None
Bottom of Borehole (ft):	17	, ,			-	
			·——			

			Monitori	ng We	II Co	nstruc	tion F	orm		
Project: Location: Client: Subcontractor: Driller: CB&I Field Representative		Maywoo Maywoo USACE SGS Larry Lyr Jeff Coo	nch					Well No.: Site Location: Installation Date: Northing: Easting: NAD: 83	MW53D Maywood 7/21/16 753037.14 610694.60 NGVD: 88	
Land Surface Elev. (ft): Top of Casing Elev. (ft): Diameter, Cased Borehole (in): Diameter, Open Borehole (in): Well Casing Diameter (in):	51.92 : 9 7/8 5 7/8			•				Protective Roadbox Type: Dimensions (in): Length (ft): Guard / Post: Ground Seal (Surfation Dimensions: Type:	<u>Steel</u> 9 1 No	
								Annular Space Seal Type: Installation:	Portland Ceme	ent Grout emie Pumped
Depth to Water (ft):	<u>10 (ap</u>	prox.) -						Bentonite Seal - No Type: Installation: Hydration Time (h	Pellets 6-in. lifts Gravity Tre	Slurry One Section mie Pumped
Bottom of Casing (ft):	<u>42</u>							Filter Pack Material Size: Volume Added (ft Installation:		Tremie
					; ;			Well Casing Type: Diameter (in): Well Screen - None	Steel 6	
								Type: Slot Size (in): Slot Type:	· · · · · · · · · · · · · · · · · · ·	Factory slot
Bottom of Open Borehole (ft):	62		~					Sump/End Cap: Backfill Material:	None None	

Designation					·		struc	··	•	A DAVE AC
Project:			d FUSR	AP				_	Well No.:	MW54S
Location: Client:		/laywood						-	Site Location:	Maywood 7/28/16
Subcontractor:	<u> </u>	<u>SGS</u>							Installation Date: Northing:	752774.12
Driller:	_	arry Lyr						-	Easting:	611177.38
CB&I Field Representative		eff Cool							NAD: 83	NGVD: 88
		,								
									Protective Roadbox	
									Type:	Steel
	-4		>		90209.		Vinterior	1983	Dimensions (in):	9
Land Surface Elev. (ft):	<u>54.57</u>		_						Length (ft):	1
Top of Riser Elev. (ft):	54.25								Guard / Post:	No
Approximate Diameter									Ground Seal (Surfa	ace Pad)
Of Borehole (in):	8 1/4								Dimensions:	TBD
									Туре:	Concrete
Well Riser Diameter (in):	2								Annular Space Sea	ıl
						į			Type:	Portland Cement Grout
									•	
					$\overline{\ }$				Installation:	Gravity Tremie Pumpe
Depth to Water (ft):	5 (appro	x)		-	•				Bentonite Seal - No	one
					,				Type:	Pellets Slurry
									Installation:	6-in. lifts One Section
										Gravity Tremie Pumpe
					1				Hydration Time (hrs):
									Filter Pack Material	
Top of #00 Sand (ft):	2.5			_					Size:	#00 and #1
									Volume Added (f	
Top of Filter Pack (ft):	<i>1</i> E						-		Installation:	Gravity Tremie
Filter Pack	<u>4.5</u> #1			→	30200000	1999	90000			_
Formation	SP/ML								Well Riser	
Formation	3F/IVIL								Type:	Sch 40 PVC
						:33 :33			Diameter (in):	2
Top of Screen Interval (ft):	5.5									•
									Well Screen	
Bottom of Screen Interval (ft):	10.5			7 B					Type:	Sch 40 PVC (2")
					: ::::E				Slot Size (in):	0.010 (10-slot)
									Slot Type:	Cont. Wrap Factory slo
Bottom of Well (ft):	10.5									
D-#-1-1E9-1D-1-20	4.4					\blacksquare \otimes			Sump/End Cap:	Sch 40 PVC (2")
Bottom of Filter Pack (ft):	11		7 L						Backfill Material:	None
				→						
Bottom of Borehole (ft):	11									

			Moni	torir	ng We	II Cons	truction	Form		
Project: Location:		Maywoo		AP			·	Well No.: Site Location:	MW54D Maywood	
Client:		<u>USACE</u>						Installation Date:	7/27/16	
Subcontractor:		SGS						Northing:	752769.99	
Driller: CB&I Field Representative		<u>Larry Ly</u> Jeff Cod						Easting: NAD: 83	611174.34 NGVD: 88	·
Obdit fold Nepresentative	••	<u> </u>	<u></u>					NAD: 00		
								Protective Roadbox	,	
									 Steel	
								Type:		
Land Surface Elev. (ft):	54.42							Dimensions (in):		
			·	500324040			Section Scarce Co.	Length (ft):		···
Top of Riser Elev. (ft):	54.17	······	-					Guard / Post:	<u>No</u>	
Diameter, Cased Borehole (in)	: 9 7/8							Ground Seal (Surfa	ce Pad)	
Diameter, Open Borehole (in):	5.7/8							Dimensions:	16" Diam.	· · · · · · · · · · · · · · · · · · ·
	<u>0 170</u>		•					Type:	Concrete	
Well Casing Diameter (in):	6		•	i			-	Annular Space Sea	I	
								Туре:	Portland Cerr	nent Grout
								Installation:	Gravity (Tr	emie Pumped
D 11. 1. 34/ ((f))					∇					
Depth to Water (ft):	6 (appro	OX.)		->				Bentonite Seal - No	ne	
								Type:	Pellets	Slurry
					,			Installation:	6-in. lifts	One Section
									Gravity Tre	emie Pumped
								Hydration Time (h	ırs):	
								Filter Pack Material		
								Size:	#00 and #1	
Bottom of Casing (ft):	42			→ !			┯′	Volume Added (ft	3): <u>NA</u>	
Top of #00 Sand (ft):	<u>54</u>				-			Installation:	Gravity	Tremie
								Well Casing		
Top of Filter Pack (ft):	56							Type:	Steel	
Filter Pack	#1		-		- 0000000	200000	-	Diameter (in):	6	
Formation	Bedrock	(8000				
							30000 30000	Well Riser	4	
Top of Screen Interval (ft):	<u>58.5</u>					\equiv		Type:	Sch 40 PVC	<u> </u>
								Diameter (in):	2	
							ğ Ç	Well Screen		
								Type:	Sch 40 PVC	(2")
Bottom of Screen Interval (ft):	78.5			-				Slot Size (in):	0.010 (1 <u>0-sl</u>	ot)
===0 o. oon moreal (it).								Slot Type:		Factory slot
Bottom of Filter Pack	70							<u> </u>	a ,=::-	COIN
and Borehole (ft):	<u>79</u>				- <u></u>		ن	Sump/End Cap:	Sch 40 PVC	; (2")
								Backfill Material:	None	

APPENDIX C Development Forms for Existing and New LTM Wells

APPENDIX C

WELL DEVELOPMENT FORMS FOR EXISTING AND NEW LTM WELLS

PAGE	1	of	1

DATE: 4-6-16	WELL ID: B38V	B38W01S STATIC WATE		LEVEL (FT. TIC):	6.20	WELL DEPTH (F	T. TIC): 26.00
WATER COLUMN (FT.): 19.80 SLUDGE THICKNESS (FT.)			NESS (FT.): ~0.1	(FT.): ~0.1 WELL CASING DIAMETER (IN			2
WELL CASING/BOREHOLE VOLU	JME (GALS.): 3.	23		FILTER PACK DI	AMETER (IN.): 8	3	FILTER PACK LENGTH (FT.): 9
FILTER PACK WATER VOLUME ((GALS.): 4.43	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 7.66		TOTAL PURGE VOLUME (X 3): 23
FIELD PERSONNEL: J Cook, M S	ieger						

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	117411111111111111111111111111111111111
13:50	12.90	0.33		13.30	2.406	6.70	-56.7	4.75	305.1	
14:00		0.33		13.82	2.457	6.82	-48.7	4.71	308.2	1-
14:00	12.80	0.33		13.82	2.457	6.82	-48.7	4.71	308.2	
-1	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: Grund	ios Submersible		
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant		
COMMENTS: Surge with pump. YSI read	dings collected from cup during surging and from flow-	through cell after surging.	

PAGE __1__ of ___1__

DATE: 4-6-16	WELL ID: B38V	V02D	STATIC WATER LEVEL (FT. TIC): 16.55 WELL DEPTH			WELL DEPTH (F	T. TIC): 45.80
WATER COLUMN (FT.): 29.25 SLUDGE THICKNESS (FT.): ~0.1 WELL CASING DIAMETER (IN):					2		
WELL CASING/BOREHOL	E VOLUME (GALS.): 4.	В		FILTER PACK DI	AMETER (IN.): 8	3	FILTER PACK LENGTH (FT.): 29.5
FILTER PACK WATER VOL	UME (GAL5.): 14.45	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 19.25		TOTAL PURGE VOLUME (X 3): 58
EIFI D DEDSONNEL : I Coo	k M Singer	·		ľ			·

FIELD PERSONNEL: J Cook, M Sieger	
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	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PII
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
8:19	Start								ļ	
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): S8	WATER QUALITY METER: YSI 6920										
PUMP AND OTHER EQUIPMENT: Grundfos Submersible											
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant										
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-throug	gh cell after surging.									
,											
	•										

PAGE ____ of ____1__

DATE: 3-15-16	WELL ID: B38V	LL ID: B38W03D STATIC WATER			9.49	WELL DEPTH (F	т. TIC): 42.16	
WATER COLUMN (FT.): 32.67		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	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 FI	LTER PACK PUR	GE VOLUME (GA	LS.): 10.0		TOTAL PURGE VOLUME (X 3): 30.0	
FIELD PERSONNEL: J Cook, R D	eMott							

					Specific				1	Γ
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рH	ORP	DO	(NTU)	(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									
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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.							

PAGE	- 1	of	1	

DATE: 3-15-16	WELL ID: B38V	V07B	STATIC WATER	LEVEL (FT. TIC):	8.81	WELL DEPTH (FT. TIC): 42.46		
WATER COLUMN (FT.): 32.65		SLUDGE THICK	NESS (FT.): < 0.2	- 	WELL CASING D	VELL CASING DIAMETER (IN): 2		
WELL CASING/BOREHOLE VOLU	JME (GALS.): 5.	33		FILTER PACK DI	AMETER (IN.): 6	5	FILTER PACK LENGTH (FT.): 14	
FILTER PACK WATER VOLUME	GALS.): 4.3	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 9.67	•	TOTAL PURGE VOLUME (X 3): 29.0	
FIELD PERSONNEL: J Cook, R D	eMott	•					-	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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								_	
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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.								
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PAGE	1	of	1	

DATE: 3-28-16	WELL ID: B38V	/14S	STATIC WATER	WATER LEVEL (FT. TIC): 4.20 WELL DEPTH (FT. TIC): 13.63		т. TIC): 13.63		
WATER COLUMN (FT.): 9.43		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	G DIAMETER (IN): 2		
WELL CASING/BOREHOLE VOLU	JME (GALS.): 1.	54		FILTER PACK DI	AMETER (IN.): 6	;	FILTER PACK LENGTH (FT.): 8.0	
FILTER PACK WATER VOLUME (GALS.): 1.64	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 3.18		TOTAL PURGE VOLUME (X 3): 9.54	
FIELD PERSONNEL: J Cook, K G	erdes	•						

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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							
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TOTAL WATER PURGED (GALS): 23	WATER QUALITY METER: YSI 6920						
PUMP AND OTHER EQUIPMENT: Grundfos Submersible							
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant						
COMMENTS: Surge with pump. YSI readings of membrane to be replaced.	ollected from cup during surging and from flow-through cell after surging. * = DO readings appear to be in error, DO						

PAGE	1	of	1	

DATE: 3-28-16	WELL ID: B38V	V14D	STATIC WATER	LEVEL (FT. TIC):	2.34	WELL DEPTH (F	т. т (C): 50.85
WATER COLUMN (FT.): 48.51 SLUDGE THICKNESS (FT.):			NESS (FT.): ~0.2	2 WELL CASING DIAMETER (IN): 2			2
WELL CASING/BOREHOLE VOLUME (GALS.): 7.9				FILTER PACK DI	AMETER (IN.): 8	3	FILTER PACK LENGTH (FT.): 22.0
FILTER PACK WATER VOLUME (GALS.): 10.80 CASING AND FILTER PACK			LTER PACK PUR	GE VOLUME (GA	د.): 18.7 0		TOTAL PURGE VOLUME (X 3): 56.1
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Time	Water Level (Ft. TiC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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									
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TOTAL WATER PURGED (GALS): 65	WATER QUALITY METER: Y5I 6920	
PUMP AND OTHER EQUIPMENT: Grundfor	Submersible	
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readin replaced.	gs collected from cup during surging and from flow-through cell after surging. * = DO readings over 100%, DO membrane	to be

PAGE	1	of	1	

DATE: 3-29-16	WELL ID: B38V	/15S STATIC WATER LEVEL (F		LEVEL (FT. TIC):	4.88	WELL DEPTH (FT. TIC): 16.12
WATER COLUMN (FT.): 11.24 SLUDGE THICKNESS (FT.): ~C			NESS (FT.): ~0.1	WELL CASING DIAMETER (IN): 2		
WELL CASING/BOREHOLE VOLUME (GALS.): 1.84				FILTER PACK DI	AMETER (IN.): 6	6 FILTER PACK LENGTH (FT.): 9.5
FILTER PACK WATER VOLUME (GALS.): 1.94 CASING AND FILTER PACK PA			LTER PACK PUR	GE VOLUME (GA	LS.): 3.8	TOTAL PURGE VOLUME (X 3): 11.
FIELD PERSONNEL: J Cook, K Gerdes					1	

					Specific		Τ	1	T	1
	Water Level	Discharge	Volume		Conductivity				Turbidity	QVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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									
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TOTAL WATER PURGED (GALS): 19	WATER QUALITY METER: YSI 6920							
PUMP AND OTHER EQUIPMENT: Grundfo	is Submersible							
DEVELOPMENT WATER DISPOSAL: MISS	DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant							
COMMENTS: Surge with pump. YSI readi	ngs collected from cup during surging and from flow-through cell after surging.							
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DATE: 3-29-16	WELL ID: B38V	V15D	STATIC WATER LEVEL (FT. TIC): 4.26 WELL DEPTH (FT.			T. TIC): 46.50	
WATER COLUMN (FT.): 42.34		SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 2				2	
WELL CASING/BOREHOLE VOLUME (GALS.): 6.9				FILTER PACK DI	AMETER (IN.): 1	10	FILTER PACK LENGTH (FT.): 19.5
FILTER PACK WATER VOLUME (GALS.): 16.7 CASING AND FILTER PACK PU			LTER PACK PUR	GE VOLUME (GA	LS.): 23.6		TOTAL PURGE VOLUME (X 3): 71
FIELD PERSONNEL: LCook, K Go	ordos					-	

					Specific					
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рH	ORP	DO	(NTU)	(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						<u> </u>	
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									
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TOTAL WATER PURGED (GALS): 103	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfo	s Submersible
DEVELOPMENT WATER DISPOSAL: MISS C	n-Site Treatment Plant
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.

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DATE: 3-28-16	WELL ID: B38V	V17S STAT	IC WATER LEVEL (F	WELL DEPTH (FT. TIC): 16.75			
WATER COLUMN (FT.):	8.52	SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 2					
WELL CASING/BOREHO	LE VOLUME (GALS.): 1.	4	FILTER P	ACK DIAMETER (IN.):	8 FILTER PACK LENGTH (FT.): 9.	0	
FILTER PACK WATER VO	LUME (GALS.): 4.4	CASING AND FILTER	PACK PURGE VOLU	ME (GALS.): 5.8	TOTAL PURGE VOLUME (X 3):	17.4	
FIELD PERSONNEL: J Cor	ok. K Gerdes					_ .	

	Water Level	Discharge	Volume	•	Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рH	ORP	DO *	(NTU)	(PPM)
13:20	Start									ļ
13:30	11.40	0.2		11.66	0.574	7.71	S.4	No Reading	5\$7.4	
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									
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TOTAL WATER PURGED (GALS): 18	WATER QUALITY METER: YSI 6920		
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible		
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	L	
COMMENTS: Surge with pump. YSI read replaced.	ngs collected from cup during surging and fr	om flow-through cell after surging. * = DO readings ove	r 100%, DO membrane to be
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PAGE	1	of .	1	

DATE: 3-29-16	WELL ID: B3BW17D 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						2		
WELL CASING/BOREHOLE VOLUME (GALS.): 5.6				FILTER PACK DIAMETER (IN.): 6 FILTER F			FILTER PACK LENGTH (FT.): 28.3	
FILTER PACK WATER VOLUME (GALS.): 5.8 CASING AND FILTER PAC			LTER PACK PUR	PACK PURGE VOLUME (GALS.): 11.4			TOTAL PURGE VOLUME (X 3): 34.2	
FIELD PERSONNEL: J Cook, K G	erdes				i			

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	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PIC
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH	ORP	DO	(NTU)	(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							
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TOTAL WATER PURGED (GALS): 60	WATER QUALITY METER: Y5I 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	is Submersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI read	ngs collected from cup during surging and from flow-through cell after surging.	
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DATE: 7-5-16, 7-6-16	WELL ID: B38V	V18DR	STATIC WATER	LEVEL (FT. TIC):	8.00	WELL DEPTH (F	-T. TIC): 73.00
WATER COLUMN (FT.): 65.00		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	DIAMETER (IN):	6
WELL CASING/BOREHOLE VOL	UME (GAL5.): 95	.5		FILTER PACK DI	AMETER (IN.): I	NONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME	(GALS.): NONE	CASING AND F	ILTER PACK PUR	GE VOLUME (GA	LS.): 95.5		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3	X VOLUME AND	.OSS) (GALS.): 2	286.5	FIELD PERSONA	IEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTÜ)	OVA/PID (PPM)
6/21/16		f	165							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.						
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				7-70					
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 5	ubmersible	
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.	
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DATE: 7-5-16, 7-6-16	WELL ID: B38W18DR STATIC WATER I			LEVEL (FT. TIC): 8.00 WELL DEPTH (F			FT. TIC): 73.00
WATER COLUMN (FT.): 65.00 SLUDGE THICKNESS (FT.): 0.0				WELL CASING DIAMETER (IN): 6			6
WELL CASING/BOREHOLE VOLUME (GALS.): 95.S				FILTER PACK DIAMETER (IN.): NONE			FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PUR						WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X	86.5	FIELD PERSONNEL: K Gerdes					

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NTU)	(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
8:5\$	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: Y5I 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.							

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DATE: 7-5-16, 7-6-16	WELL ID: B38V	V18DR	STATIC WATER	LEVEL (FT. TIC):	8.00	WELL DEPTH (FT. TIC): 73.00		
WATER COLUMN (FT.): 65.0	00	SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	IAMETER (IN	1): 6	
WELL CASING/BOREHOLE V	OLUME (GALS.): 95	.5		FILTER PACK DI	AMETER (IN.): N	ONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUM	1E (GALS.): NONE	CASING AND F	ILTER PACK PUR	GE VOLUME (GA	LS.): 95.S		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME	(3X VOLUME AND I	.OSS) (GALS.): 2	286.5	FIELD PERSONN	EL: K Gerdes		•	

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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	- 9 9.8	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	6.0	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
PUMP AND OTHER EQUIPMENT: Grundfos Sub	mersible
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant
COMMENTS: Surge with pump. YSI readings co	liected from cup during surging and from flow-through cell after surging.

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DATE: 7-5-16, 7-6-16	WELL ID: B38V	V18DR	STATIC WATER	LEVEL (FT. TIC):	8.00	WELL DEPTH (FT. TIC): 73.00		
WATER COLUMN (FT.): 65.00		SLUDGE THICK	IESS (FT.): 0.0		WELL CASING D	IAMETER (IN):	6	
WELL CASING/BOREHOLE VOLU	JME (GAL5.): 95	.5		FILTER PACK DI	AMETER (IN.): N	IONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE	CASING AND FI	TER PACK PUR	GE VOLUME (GA	LS.): 95.S		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X	VOLUME AND I	OSS) (GALS.): 2	86.5	FIELD PERSONN	IEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/6/16 11:30	17.20	0.3	99	16.98	0.806	7.05	-88.1	0.81	0.0	0.0
11:35	17.20	0.3	100.5	16.65	0.805	7.03	-87.9	0.81	0.3	No Reading
11:40	17.20	0.3	102	16.67	0.804	7.04	-88.4	0.80	0.6	0.0
11:45	17.20	0.3	103.5	16.77	0.803	7.04	-90.0	0.80	0.2	No Reading
11:50	17.20	0.3	105	16.91	0.801	7.05	-92.2	0.80	0.1	0.0
11:55	17.20	0.3	106.5	16.75	0.799	7.06	-94.5	0.80	0.9	No Reading
12:00	17.20	0.3	108	17.03	0.798	7.07	-96.9	0.80	0.0	0.0
12:05	17.20	0.3	109.5	17.10	0.796	7.08	-99.9	0.79	0.0	No Reading
12:10	17.20	0.3	111	17.30	0.795	7.10	-102.2	0.79	0.0	0.0
12:15	17.20	0.3	112.5	17.37	0.795	7.09	-104.0	0.79	0.0	No Reading
12:20	17.20	0.3	114	17.09	0.794	7.10	-105.0	0.79	0.0	0.0
12:25	17.20	0.3	115.5	17.16	0.794	7.10	-104.9	0.79	0.0	No Reading
12:30	17.20	0.3	117	17.22	0.794	7.10	-104.7	0.79	0.0	0.0
12:35	17.20	0.3	118.5	17.14	0.793	7.09	-104.1	0.79	0.0	No Reading
12:40	17.20	0.3	120	17.41	0.794	7.09	-103.7	0.78	0.0	0.0
12:45	17.20	0.3	121.5	17.11	0.794	7.07	-101.3	0.79	0.0	No Reading
12:50	17.20	0.3	123	16.71	0.793	7.04	- 9 7.8	0.79	0.0	0.0
12:55	17.20	0.3	124.5	16.65	0.793	7.04	-96.7	0.79	0.0	No Reading
12:55	Stop Pump									
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TOTAL WATER PURGED (GALS): 289.5	WATER QUALITY METER: YSI 6920		
PUMP AND OTHER EQUIPMENT: Grundfos	submersible		-
DEVELOPMENT WATER DISPOSAL: MISS OF	-Site Treatment Plant	,	
COMMENTS: Surge with pump. YSI reading	s collected from cup during surging and from flow-throu	gh cell after surging.	

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DATE: 6-21-16	WELL ID: B38	W245	STATIC WATER	LEVEL (FT. TIC):	10.89	9 WELL DEPTH (FT. TIC): 17.00		
WATER COLUMN (FT.): 6.1:	L .	SLUDGE THI	CKNESS (FT.): 0.0		WELL CASING D	DIAMETER (IN):	2	
WELL CASING/BOREHOLE V	OLUME (GALS.): 1	0		FILTER PACK DI	AMETER (IN.): 8	3	FILTER PACK LENGTH (FT.): 8.11	
FILTER PACK WATER VOLUM	ΛΕ (GALS.): 5.58	CASING AND	FILTER PACK PURG	SE VOLUME (GA	LS.): 6.58		TOTAL PURGE VOLUME (X 3): 19.8	
FIELD PERSONNEL: K Gerde	5	1					·	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DD	Turbidity (NTU)	OVA/PID (PPM)
14:20	11.70	0.25	0	23.77	0.018	7.22	-5.0	2.83	249.7	No Reading
14:25	11.90	0.25	1.25	22.43	1.896	6.94	3.4	3.59	127 3.6	No Reading
14:30	11.80	0.25	2.5	22,29	1.944	6.73	13.5	3.29	1273.1	No Reading
14:35	11.80	0.25	3.75	22.16	2.225	6.62	16.3	3.25	1270.0	No Reading
14:40	12.00	0.25	5	21.88	3.858	6.54	17.7	3.00	624.5	No Reading
14:45	11.95	0.25	6.25	21.62	2.002	6.46	15.1	3.51	493.2	No Reading
14:50	12.00	0.25	7.5	21.90	0.220	6.40	16.8	2.94	107.4	No Reading
14:55	11.80	0.25	8.75	22.12	3.830	6.31	21.1	2,20	37.0	No Reading
	Stop Surging						, , , , , , , , , , , , , , , , , , , ,			
15:00	11.95	0.25	10	21.56	3.782	6.23	21.0	0.80	27.6	No Reading
15:05	11.95	0.25	11.25	21.59	3.794	6.21	20.2	0.72	10.7	No Reading
15:10	11.90	0.25	12.5	21.63	3.785	6.21	19.9	0.69	3.8	No Reading
15:15	11.90	0.25	13.75	21.78	3.771	6.21	19.7	0.68	2.5	No Reading
15:20	11.90	0.25	15	21.67	3.754	6.21	19.5	0.67	2.6	No Reading
15:25	11.90	0.25	16.25	21.73	3.751	6.21	19.5	0.67	1.7	No Reading
15:30	11.85	0.25	17.5	21.82	3.742	6.21	19.7	0.66	1.0	No Reading
15:35	11.85	0.25	18.75	21.80	3.735	6.20	20.1	0.66	0.4	No Reading
15:40	11.85	0.25	20	21.95	3.725	6.19	20.3	0.66	0.7	No Reading
15:40	Stop Pump	~								
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TOTAL WATER PURGED (GALS): 20	WATER QUALITY WEIER: 751 0520
PUMP AND OTHER EQUIPMENT: Grundfos Subn	mersible
DEVELOPMENT WATER DISPOSAL: MISS On-Site	e Treatment Plant
COMMENTS: Surge with pump. YSI readings col	llected from cup during surging and from flow-through cell after surging.

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DATE: 3-15-16	WELL ID: B38V	V24D	STATIC WATER	LEVEL (FT. TIC);	9.55	WELL DEPTH (FT. TfC): 28.83		
WATER COLUMN (FT.): 19.28		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	IAMETER (IN):	2	
WELL CASING/BOREHOLE VOL	UME (GALS.): 3.	15		FILTER PACK DI	AMETER (IN.): 6	i	FILTER PACK LENGTH (FT.): 12.3	
FILTER PACK WATER VOLUME	(GALS.): 4.3	CASING AND FI	ILTER PACK PUR	GE VOLUME (GA	LS.): 7.45		TOTAL PURGE VOLUME (X 3): 22.35	
FIELD PERSONNEL: J Cook							*	

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	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
Tille	(Ft. He)	(GFIVI)	ruigeu (gai)	remp. (C)	(may cm)	pn pn	UNP	00	(NETO)	(FFIVI)
13:05	Start		·							
13:15	10.28	0.5		16.14	1.660	6.34	-60.3	1.61	23.9	
13:25	10.19	0.5		16.33	1.686	6.20	-85.4	1.07	38.6	
13:35	10.19	0.5		16.36	1.719	6.22	-93.4	0.73	45.8	
	Stop Surging					, , ,				
13:45	10.18	0.5	20	16.37	1.706	6.20	-101.1	1.08	8.9	
13:55	10.22	0.5		16.34	1.727	6.21	-104.7	1.07	10.2	
14:05	10.20	0.5	30	16.36	1.720	6.21	-108.6	1.22	13.4	
14:05	Stop Pump									
14:12	9.62	· · · · ·								
44.12	3.02			-						
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TOTAL WATER PURGED (GALS): 30	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundf	os S ubm ersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	<u> </u>
COMMENTS: Surge with pump. YSI read	ings collected from cup during surging and from flow-through cell after surging.	
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DATE: 7-7-16	WELL ID: B381	W25SR	STATIC WATER	LEVEL (FT. TIC):	5.92	WELL DEPTH (F	T. TIC): 14.14
WATER COLUMN (FT.): 8	.22	SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	IAMETER (IN):	2
WELL CASING/BOREHOLE	VOLUME (GALS.): 1.	3		FILTER PACK DI	AMETER (IN.): 8	3	FILTER PACK LENGTH (FT.): 9
FILTER PACK WATER VOL	UME (GALS.): 5.5	CASING AND FI	ILTER PACK PUR	GE VOLUME (GA	LS.): 6.8		WATER LOSS DURING INSTALL (GALS.): 20
REQUIRED PURGE VOLUM	NE (3X VOLUME AND	LOSS) (GALS.): 8	10.4	FIELD PERSONN	EL: K Gerdes		-

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gai)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/8/16			90							
	Initial driller de	velopment by s	urging/overpum	ping.					•	
	No visible sedin	nent at complet	ion of developm	ent.						
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	3.46 6	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: Grundfor	Submersible
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.

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DATE: 7-7-16	WELL ID: B38V	V25SR	STATIC WATER	LEVEL (FT. TIC):	5.92	WELL DEPTH (FT. TIC): 14.14		
WATER COLUMN (FT.): 8.22		SLUDGE THICK	NESS (FT.): 0.0	**	WELL CASING D	IAMETER (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 F	ILTER PACK PUR	GÉ VOLUME (GA	LS.): 6.8		WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3)	VOLUME AND	_O\$5) (GALS.): 8	30.4	FIELD PERSONN	IEL: K Gerdes			

Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)			ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7.30	0.3	30	17.87	3.302	6.23	-81.8	1.01	41.7	0.0
7.30	0.3	31.5	17.90	3.290	6.23	-84.1	0.95	27.9	No Reading
7.30	0.3	33	17.78	3.281	6,22	-85.5	0.92	21.5	0.0
7.30	0.3	34.5	18.52	3.344	6.21	-86.8	0.88	18.0	No Reading
7.30	0.3	36	18.25	3.290	6.22	-88.0	0.87	14.6	0.0
7.30	0.3	37.5	18.40	3.292	6.21	-88.9	0.86	12.9	No Reading
7.30	0.3	39	18.34	3.283	6.21	-89.5	0.85	9.8	0.0
Stop Pump									
		"							
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	7.30 7.30 7.30 7.30 7.30 7.30 7.30 7.30	(Ft. TIC) (GPM) 7.30 0.3 7.30 0.3 7.30 0.3 7.30 0.3 7.30 0.3 7.30 0.3 Stop Pump	(Ft. TiC) (GPM) Purged (gal) 7.30 0.3 30 7.30 0.3 31.5 7.30 0.3 34.5 7.30 0.3 36 7.30 0.3 37.5 7.30 0.3 39 Stop Pump	(Ft. TiC) (GPM) Purged (gal) Temp. (C) 7.30 0.3 30 17.87 7.30 0.3 31.5 17.90 7.30 0.3 33 17.78 7.30 0.3 34.5 18.52 7.30 0.3 37.5 18.40 7.30 0.3 39 18.34 Stop Pump 30 30 30 30 30 30 30 30 30 30 30	Water Level (Ft. TIC) Discharge (GPM) Volume Purged (gal) Temp. (C) Conductivity (ms/cm) 7.30 0.3 30 17.87 3.302 7.30 0.3 31.5 17.90 3.290 7.30 0.3 33 17.78 3.281 7.30 0.3 34.5 18.52 3.344 7.30 0.3 37.5 18.40 3.292 7.30 0.3 39 18.34 3.283 Stop Pump 3 39 18.34 3.283 Stop Pump 3 30 <td< td=""><td>Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (C) Conductivity (mS/cm) pH 7.30 0.3 30 17.87 3.302 6.23 7.30 0.3 31.5 17.90 3.290 6.23 7.30 0.3 33 17.78 3.281 6.22 7.30 0.3 34.5 18.52 3.344 6.21 7.30 0.3 37.5 18.40 3.292 6.21 7.30 0.3 39 18.34 3.283 6.21 Stop Pump 5 5 5 7<!--</td--><td>Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (c) Conductivity (ms/cm) pH ORP 7.30 0.3 30 17.87 3.302 6.23 -81.8 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 7.30 0.3 33 17.78 3.281 6.22 -85.5 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 7.30 0.3 36 18.25 3.290 6.22 -88.0 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 7.30 0.3 39 18.34 3.283 6.21 -89.5 Stop Pump 30<td>Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (C) Conductivity (mS/cm) pH ORP DO 7.30 0.3 30 17.87 3.302 6.23 -81.8 1.01 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 0.95 7.30 0.3 33 17.78 3.281 6.22 -85.5 0.92 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 0.88 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 0.86 7.30 0.3 39 18.34 3.283 6.21 -89.5 0.85 Stop Pump 30</td></td></td></td<> <td>Water Level (Ft. Tic) Discharge (spM) Volume (purged (gal)) Temp. (C) Conductivity (mS/cm) pH ORP DO Turbidity (NTU) 7.30 0.3 30 17.87 3.302 5.23 -81.8 1.01 41.7 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 0.95 27.9 7.30 0.3 33 17.78 3.281 6.22 -85.5 0.92 21.5 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 0.88 18.0 7.30 0.3 36 18.25 3.290 6.22 -88.0 0.87 14.6 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 0.86 12.9 7.30 0.3 39 18.34 3.283 6.21 -89.5 0.85 9.8 Stop Pump 30 30 30 30 30 30 30 30 30 30<</td>	Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (C) Conductivity (mS/cm) pH 7.30 0.3 30 17.87 3.302 6.23 7.30 0.3 31.5 17.90 3.290 6.23 7.30 0.3 33 17.78 3.281 6.22 7.30 0.3 34.5 18.52 3.344 6.21 7.30 0.3 37.5 18.40 3.292 6.21 7.30 0.3 39 18.34 3.283 6.21 Stop Pump 5 5 5 7 </td <td>Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (c) Conductivity (ms/cm) pH ORP 7.30 0.3 30 17.87 3.302 6.23 -81.8 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 7.30 0.3 33 17.78 3.281 6.22 -85.5 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 7.30 0.3 36 18.25 3.290 6.22 -88.0 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 7.30 0.3 39 18.34 3.283 6.21 -89.5 Stop Pump 30<td>Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (C) Conductivity (mS/cm) pH ORP DO 7.30 0.3 30 17.87 3.302 6.23 -81.8 1.01 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 0.95 7.30 0.3 33 17.78 3.281 6.22 -85.5 0.92 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 0.88 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 0.86 7.30 0.3 39 18.34 3.283 6.21 -89.5 0.85 Stop Pump 30</td></td>	Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (c) Conductivity (ms/cm) pH ORP 7.30 0.3 30 17.87 3.302 6.23 -81.8 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 7.30 0.3 33 17.78 3.281 6.22 -85.5 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 7.30 0.3 36 18.25 3.290 6.22 -88.0 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 7.30 0.3 39 18.34 3.283 6.21 -89.5 Stop Pump 30 <td>Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (C) Conductivity (mS/cm) pH ORP DO 7.30 0.3 30 17.87 3.302 6.23 -81.8 1.01 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 0.95 7.30 0.3 33 17.78 3.281 6.22 -85.5 0.92 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 0.88 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 0.86 7.30 0.3 39 18.34 3.283 6.21 -89.5 0.85 Stop Pump 30</td>	Water Level (Ft. TiC) Discharge (GPM) Volume Purged (gal) Temp. (C) Conductivity (mS/cm) pH ORP DO 7.30 0.3 30 17.87 3.302 6.23 -81.8 1.01 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 0.95 7.30 0.3 33 17.78 3.281 6.22 -85.5 0.92 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 0.88 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 0.86 7.30 0.3 39 18.34 3.283 6.21 -89.5 0.85 Stop Pump 30	Water Level (Ft. Tic) Discharge (spM) Volume (purged (gal)) Temp. (C) Conductivity (mS/cm) pH ORP DO Turbidity (NTU) 7.30 0.3 30 17.87 3.302 5.23 -81.8 1.01 41.7 7.30 0.3 31.5 17.90 3.290 6.23 -84.1 0.95 27.9 7.30 0.3 33 17.78 3.281 6.22 -85.5 0.92 21.5 7.30 0.3 34.5 18.52 3.344 6.21 -86.8 0.88 18.0 7.30 0.3 36 18.25 3.290 6.22 -88.0 0.87 14.6 7.30 0.3 37.5 18.40 3.292 6.21 -88.9 0.86 12.9 7.30 0.3 39 18.34 3.283 6.21 -89.5 0.85 9.8 Stop Pump 30 30 30 30 30 30 30 30 30 30<

TOTAL WATER PURGED (GALS): 129	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI read	ings collected from cup during surging and from flow-through cell after surging.	
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PAGE	1	of	3

DATE: 7-7-16, 7-11-16	WELL ID: B38V	/25DR	STATIC WATER	LEVEL (FT. TIC):	9.64	WELL DEPTH (FT. TIC): 60.00		
WATER COLUMN (FT.): 50.36		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	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 FI	LTER PACK PUR	GE VOLUME (GA	LS.): 74		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X	VOLUME AND I	.OSS) (GALS.): 2	22	FIELD PERSONN	IEL: K Gerdes			

	101-41	Dist.	Valuation		Specific				Toucht die.	OVA/PID
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gai)	Temp. (C)	Conductivity (mS/cm)	pН	ORP	DQ	Turbidity (NTU)	(PPM)
6/16/16			165							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.						
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	4.95\$	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 Sub	mersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	ollected from cup during surging and from flow-through cell after surging.	

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DATE: 7-7-16, 7-11-16	WELL ID: B38V	38W25DR STATIC WATER		LEVEL (FT. TIC):	9.64	WELL DEPTH (F	न. TIC): 60.00
WATER COLUMN (FT.): 50.36 SLUDGE THICKNESS (FT.): 0.0				WELL CASING D	HAMETER (IN):	6	
WELL CASING/BOREHOLE VOLUME (GALS.): 74			FILTER PACK DI	AMETER (IN.): 1	ONE	FILTER PÁCK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUM	/IE (GALS.): NONE	CASING AND F	ILTER PACK PUR	GE VOLUME (GA	L5.): 74		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 222			FIELD PERSONN	IEL: K Gerdes			

	Water Level	Discharge	Volume	- •	Specific Conductivity	-			Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	ро	(NTU)	(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	OTAL WATER PURGED (GALS): 231.25 WATER QUALITY METER: Y5I 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.

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DATE: 7-7-16, 7-11-16	WELL ID: B38V	/25DR	STATIC WATER	LEVEL (FT. TIC):	9.64	WELL DEPTH (F	T. TIC): 60.00
WATER COLUMN (FT.): 50.36 SLUDGE THICKNESS (FT.): 0.0					WELL CASING D	IAMETER (IN):	6
WELL CASING/BOREHOLE VOLUME (GALS.): 74				FILTER PACK DI	AMETER (IN.): N	IONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PUR				GE VOLUME (GA	LS.): 74		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 222				FIELD PERSONN	EL: K Gerdes		

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Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gai)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
Time	(Ft. IIC)	(GPIVI)	Purged (gai)	remp. (C)	(ms/cm)	pn	UKP	1 00	(NIO)	<u> </u>
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									
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TOTAL WATER PURGED (GALS): 231.25	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos S	ubmersible	
DEVELOPMENT WATER DISPOSAL: MISS On	-Site Treatment Plant	
COMMENTS: Surge with pump. Y51 reading	s collected from cup during surging and from flow-through cell after surging.	

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DATE: 3-22-16	WELL ID: BRP	Z-2 STATIC WATE	R LEVEL (FT. TIC):	9.05 W	/ELL DEPTH (FT. TIC): 62.28
WATER COLUMN (FT.):	53.23	SLUDGE THICKNESS (FT.): 0.0	1	WELL CASING DIA	METER (IN): 2
WELL CASING/BOREHOL	.7 .	FILTER PACK DI	AMETER (IN.): 6	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME (GALS.): 7.9 CASING AND FILTER PACK PUR			RGE VOLUME (GA	LS.): 16.6	TOTAL PURGE VOLUME (X 3): 49.8

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pΗ	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
13:08	Start	- · ·	, ,	7	, , , , , ,	•				
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: Grundfo	os Submersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI read	ings collected from cup during surging and from flow-through cell after surging.	

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DATE: 3-22-16	WELL ID: BRPZ	-3	STATIC WATER	LEVEL (FT. TIC):	(FT. TIC): 10.27 WELL DEPTH (FT. TIC): 57.40			
WATER COLUMN (FT.): 47.	13	SLUDGE THICK	NESS (FT.): ~0.4	· ·	WELL CASING	DIAMETER (IN): 2		
WELL CASING/BOREHOLE V	OLUME (GALS.): 7.	7		FILTER PACK DI	AMETER (IN.): 6	6 FILTER PACK LENGTH (FT.): 25.0		
FILTER PACK WATER VOLUM	ЛЕ (GALS.): 7.87	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 15.57	TOTAL PURGE VOLUME (X 3): 46.71		
FIELD PERSONNEL: J Cook		1						

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	Water Level	P	Volume		Specific			1		
Time		Discharge		Tama (6)	Conductivity		900		Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	ρH	ORP	DO	(NTU)	(PPM)
8:10	Start	•	· i			+				
8:20	13.70	0.67		43.05	F 350	F 00		- 07	4470.4	0.0
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			1		1		j	
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	
		0.023		44,60	3.378	0.32	-73.3	0.00	35.3	
9:55	Stop Pump									
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TOTAL WATER PURGED (GALS): 65	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	Submersible	
DEVELOPMENT WATER DISPOSAL: MISS C	n-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-through cell after surging.	

PAGE ___1__ of ___1__

DATE: 3-23-16	WELL ID: BRPZ	-4	STATIC WATER	TATIC WATER LEVEL (FT. TIC): 9.55 WEL			WELL DEPTH (FT. TIC): 62.75		
WATER COLUMN (FT.): 53.20		SLUDGE THICK	NESS (FT.): ~1.5		WELL CASING D	ELL CASING DIAMETER (IN): 6			
WELL CASING/BOREHOLE VOLUME (GALS.): 78.2				FILTER PACK DIAMETER (IN.): NONE FILTER S			FILTER PACK LENGTH (FT.): NONE		
FILTER PACK WATER VOLUME	(GALS.): NONE	CASING AND F	ILTER PACK PURG	GE VOLUME (GA	LS.): 78.2		TOTAL PURGE VOLUME (X 3): 235		
FIELD PERSONNEL: J Caok		•		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					

_	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PII
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
8:43	Start								<u> </u>	
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 Er	ror on Pump /	Switch Out Pump	<u> </u>						
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							· · · · · · · · · · · · · · · · · · ·		
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TOTAL WATER PURGED (GALS): 240	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	s Submersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	
COMMENTS: Surge with pump. Y5I readi	ngs collected from cup during surging and from flow-through cell after surging.	

PAGE	1	of	2

DATE: 3-23-16, 3-24-16	WELL ID: BRPZ	-5 STATIC WATER	LEVEL (FT. TIC):	8.82	WELL DEPTH (F	T. TIC): 62.30	
WATER COLUMN (FT.): 53.48		SLUDGE THICKNESS (FT.): ~1.0		WELL CASING D	DIAMETER (IN):	2	
WELL CASING/BOREHOLE VOLU	WELL CASING/BOREHOLE VOLUME (GALS.): 8.72				5	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME	(GALS.): 7.9	CASING AND FILTER PACK PURG	GE VOLUME (GA	LS.): 16.6		TOTAL PURGE VOLUME (X 3): 49.6	
FIELD PERSONNEL: J Cook		•				***	

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_	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рH	ORP	DO	(NTU)	(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 - Y	'Si Unavailable					
10:15	39.40			No Readings - Y	'SI Unavailable					
10:30	40.40			No Readings - Y	'SI Unavailable					
10:45	40.60			No Readings - Y	'SI Unavailable					
10:50			20			!				
11:00	40.60	325 ml/min		No Readings - Y	SI Unavailable					
11:15	41.50			No Readings - Y	'SI Unavailable					
11:30	41.70			No Readings - Y	SI Unavaîlable					
11:45	41.60	375 ml/min		No Readings - Y	Si 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		18.11	15.44	6.35	-98.6	0.11	13.7	0.0
13:36 to 13:42	Stop Pump	Re-fuel Generator								

TOTAL WATER PURGED (GALS): 57	WATER QUALITY METER: YSI 6920	,	
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible		
DEVELOPMENT WATER DISPOSAL: MISS	On-5ite Treatment Plant		
COMMENTS: Surge with pump. YSI read	ings collected from cup during surging and from flow-t	hrough cell after surging.	
		•	

PAGE 2 of 2

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 THICK	NESS (FT.): ~1.0		WELL CASING D	PIAMETER (IN):	2	
WELL CASING/BOREHOLE VOLU	JME (GALS.): 8.	72		FILTER PACK DI	AMETER (IN.): 6	i	FILTER PACK LENGTH (FT.): 25.0	
FILTER PACK WATER VOLUME (GALS.): 7.9	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 16.6		TOTAL PURGE VOLUME (X 3): 49.6	
FIELD PERSONNEL: J Cook		•						

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	Water Level	Discharge	Volume		Specific Conductivity		1		Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NTU)	(PPM)
	(i.e. iie)	(GFIVI)	ruigeu (gai)	remp. (c)	(may cm)	pii	ORF	100	(1410)	(17141)
3/23/16 14:00	41.00	Pump Not		18.15	14.48	6.20	-79.4	0.25	5.0	
14:05	Stop Pump	Holding Flow	40		lli					
44-35										
14:25	32.00	Re-start								
14:30	36.25	٠.		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	0.0B	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									
								`		
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TOTAL WATER PURGED (GALS): 57	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	s Submersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI readi	ngs collected from cup during surging and from flow-through cell after surging.	
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PAGE ____ of ___ 2

DATE: 3-21-16	WELL ID: BRPZ-9 STATIC WA			ATIC WATER LEVEL (FT. TIC): 9.88 WELL DE			T. TIC): 54.60
WATER COLUMN (FT.): 44.72 SLUDGE THICKN			THICKNESS (FT.): ~0.25 WELL CASING DIAMETER (IN):			IAMETER (IN):	6
WELL CASING/BOREHOLE VOL		FILTER PACK DI	AMETER (IN.): N	IONE	FILTER PACK LENGTH (FT.): NONE		
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PU				GE VOLUME (GA	LS.): 65.7		TOTAL PURGE VOLUME (X 3): 198
FIELD PERSONNEL: 1 Cook							**-

	Т				Specific					
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
10:54	Start							<u> </u>		
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	AL 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 reading	COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.									

PAGE <u>2</u> of <u>2</u>

DATE: 3-21-16		WELL ID: BRP	Z-9	STATIC WATER	R LEVEL (FT. TIC):	9.88	WELL DEPTH	(FT. TIC): 54.60		
WATER COLUM	IN (FT.): 44.72	•	SLUDGE THICK	NESS (FT.): ~0.2	25	WELL CASING	G DIAMETER (IN)	: 6		
WELL CASING/	BOREHOLE VOL	JME (GAL5.): 6	5.7		FILTER PACK D	IAMETER (IN.)	: NONE	FILTER PACK LENGTH (FT.): NONE		
FILTER PACK W	ATER VOLUME	(GALS.): NONE	CASING AND F	LTER PACK PUR	GE VOLUME (G/	ALS.): 65.7		TOTAL PURGE	VOLUME (X 3): 1	198
FIELD PERSON	IEL: J Cook							l		
	Water Level Discharge Volume				Specific Conductivity		1	Turbidity OVA/PID		
Time	(Ft. TIC)	Discharge (GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
14:50	27.75	0.8	205	14.33	11.46	6.24	-89.8	1.69	18.6	
14:50	Stop Pump									
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TOTAL WATER F	URGED (GALS):	205	WATER QUALIT	Y METER: YSI 69	920					
	IER EQUIPMENT									
			e Treatment Pla	nt	•					
			liected from cup		and from flow-t	hrough cell af	ter surging,			
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PAGE __1__ of ___1__

DATE: 6-21-16	WELL ID: PW-1	£5	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 VOL	FII	LTER PACK DI	METER (IN.): 8	ı	FILTER PACK LENGTH (FT.): 16.84			
FILTER PACK WATER VOLUME (GALS.): 8.59 CASING AND FILTER PACK P				VOLUME (GAI	S.): 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			20,70	1.525	7,25	<b>J </b>	0.05	0.5	110 110000
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									
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TOTAL WATER PURGED (GALS): S6.5	WATER QUALITY METER: YSI 6920							
PUMP AND OTHER EQUIPMENT: Grundfos Submersible								
DEVELOPMENT WATER DISPOSAL: MISS O	DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant							
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.							

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DATE: 7-5-16	WELL ID: OVPZ-17R STATIC WATER I			LÉVEL (FT. TIC):	8.46	WELL DEPTH (F	т. TIC): 20.31
WATER COLUMN (FT.): 11.85 SLUDGE THICKNESS (FT.): 0.0				WELL CASING DIAMETER (IN): 2			2
WELL CASING/BOREHOLE VOL		FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (FT.): 9.5			FILTER PACK LENGTH (FT.): 9.5		
FILTER PACK WATER VOLUME	LTER PACK PURC	SE VOLUME (GA	L5.): 7.7		WATER LOSS DURING INSTALL (GALS.): 20		
REQUIRED PURGE VOLUME (3)	3.1	FIELD PERSONN	IEL: K Gerdes				

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рH	ORP	DO	(NTU)	(PPM)
6/14/16			60							
	Initial driller de	velopment by s	urging/overpum	ping.						
	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
3.50	Stop Surging				3.550	0.70		3.33	934.0	777-111
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		16.63	3.344	6.65	-102.8	0.91	11.0	0.0
10:25	Stop Pump	0.3	28.5	10.03	3,344	0.03	-102.8	0.51	11.0	0.0

20:20 0top : 0:::p	
TOTAL WATER PURGED (GAL5): 88.5	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. LEL alarm on initial OVA/PID reading, dissipated quickly. LEL alarm again after surging.

PAGE	1	of	2

DATE: 6-28-16	WELL ID: MISS	-01AR	STATIC WATER LEVEL (FT. TIC): 7.85 WELL DEPTH (FI			-T. TIC): 15.32	
WATER COLUMN (FT.): 7.47 SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 2				2			
WELL CASING/BOREHOLE VOLUME (GALS.): 1.2				FILTER PACK DIAMETER (IN.): 8 FILTER PACK			FILTER PACK LENGTH (FT.): 10
FILTER PACK WATER VOLUME (GALS.): 6.12 CASING AND FILTER PACK PUR			GE VOLUME (GA	LS.): 7.32		WATER LOSS DURING INSTALL (GALS.): 10	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 51.96				FIELD PERSONN	IEL: K Gerdes		

			<del>                                     </del>		Specific			<u> </u>	]	}
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/15/16			50							
	Initial driller de	velopment by s	urging/overpum	ping,						
	No visible sedin	nent at complet	ion of developm	ent.						
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-Sit	e Treatment Plant						
COMMENTS: Surge with pump. YSI readings co	ollected from cup during surging and from flow-through cell after surging.						

PAGE	2	of	2	

DATE: 6-28-16	WELL ID: MISS	-01AR	STATIC WATER LEVEL (FT. TIC): 7.85 WELL DEPTH			WELL DEPTH (F	т. тіс): 15.32
WATER COLUMN (FT.): 7.4	DLUMN (FT.): 7.47 SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 2			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 PUR			GE VOLUME (GA	LS.): 7.32		WATER LOSS DURING INSTALL (GALS.): 10	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 51.96				FIELD PERSONNEL: K Gerdes			

			ĺ		Specific				ļ	
_	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH	ORP	DO	(NTU)	(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		4							
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									
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TOTAL WATER PURGED (GALS): 92	WATER QUALITY METER: Y5I 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI read	ings collected from cup during surging and from flow-through cell after surging.	
		:

PAGE <u>1</u> of <u>2</u>

DATE: 7-14-16	WELL ID: MISS	-01BR	STATIC WATER	LEVEL (FT. TIC): 7.75 WELL DEPTH (FT. TIC): 67.00			т. 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 PUR				GE VOLUME (GA	LS.): 87		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 261			FIELD PERSONNEL: K Gerdes					

		I	1		T					1
	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рĦ	ORP	DO	(NTU)	(PPM)
6/16/16	,		165		V,	F			(41-7)	
			urging/overpum				<del>                                     </del>	1		
		•								
	No visible sedin	nent at complet	ion of developm	ent.		•				-
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 (GAL5): 266.25	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos Su	ubmersible	
DEVELOPMENT WATER DISPOSAL: MISS On-S	Site Treatment Plant	
COMMENTS: 5urge with pump. Y5I readings	s collected from cup during surging and from flow-through cell after surging.	

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DATE: 7-14-16	WELL ID: MISS	-01BR	STATIC WATER	LEVEL (FT. TIC): 7.75 WE		WELL DEPTH (FT. TIC): 67.00		
WATER COLUMN (FT.): 59.25 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 6			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 PUR			LTER PACK PUR	GE VOLUME (GA	LS.): 87		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 261				FIELD PERSONN	EL: K Gerdes			

1			l		Specific					
Time	Water Level	Discharge	Volume	- (0)	Conductivity		222		Turbidity	OVA/PID
rime	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH	ORP	DO	(NTU)	(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
44.40	St									
11:10	Stop Pump			***						
									-	-
	**.				<del>,</del>					
							-			
	-									

TOTAL WATER PURGED (GALS): 266.25	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos	Submersible	
DEVELOPMENT WATER DISPOSAL: MISS OF	n-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-through cell after surging.	

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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	2.63	SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	PIAMETER (IN):	2	
WELL CASING/BOREHOLE VOLUME (GALS.): 2.1				FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (FT.			FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLU	FILTER PACK WATER VOLUME (GALS.): 6.0 CASING AND FILTER PACK PUR				LS.): 8.1		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 24.3			FIELD PERSONN	IEL: K Gerdes, J	Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DQ	Turbidity (NTU)	OVA/PID (PPM)
7/11/16			55							
3.0 hours	Initial driller de	velopment by st	urging/overpum	ping.						
	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	E,0	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	E.0	22.5	16.30	4.333	7.23	-113.2	2.49	1180.1	No Reading
			ct YSI readings in		'					
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: Y5I 6920	
PUMP AND OTHER EQUIPMENT: Grundfor	s Submersible	
DEVELOPMENT WATER DISPOSAL: MISS O	)n-Site Treatment Plant	•
COMMENTS: Surge with pump. Final purg	ge water is straw-colored.	

PAGE	2	of	2	

DATE: 7-13-16	WELL ID: MISS	-02AR	STATIC WATER	LEVEL (FT. TIC):	6.28	WELL DEPTH (F	T. TIC): 18.91	
WATER COLUMN (FT.): 12,63		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	NG 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 PUR				RGE VOLUME (GALS.): 8.1			WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3)	( VOLUME AND I	REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 24.3				Cook		

Ti	Water Level	Discharge	Volume	- (5)	Specific Conductivity					oidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(N)	ru)*	(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	<b>13.5</b> 5	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-throug	gh cell								_
13:00	6.38	0.2	51	18.29	4.603	7.42	- <del>6</del> 4.8	2.41	63.0	48.3	0.0
13:05	7.95	0.2	<b>S</b> 2	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										
		<u>'</u>									

TOTAL WATER PURGED (GALS): 110	WATER QUALITY METER: Y5I 6920									
PUMP AND OTHER EQUIPMENT: Grundfor	s Submersible									
DEVELOPMENT WATER DISPOSAL: MISS C	PEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant									
COMMENTS: Surge with pump. Final purg	ge water is straw-colored. * = Results in second turbidity column collected from LaMotte 2020 turbidity meter.									

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DATE: 7-13-16	WELL ID: MISS	-02BR	STATIC WATER	LEVEL (FT. TIC):	9.3	WELL DEPTH (F	T. TIC): 63.00
WATER COLUMN (FT.): 53.7	,	SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	IAMETER (IN):	6
WELL CASING/BOREHOLE VOLUME (GALS.): 78.9				FILTER PACK DIAMETER (IN.): NONE FIL			FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUM	/IE (GALS.): NONE	CASING AND FI	LTER PACK PURC	GE VOLUME (GA	LS.): 78.9		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME	(3X VOLUME AND	LOSS) (GALS.): 2	36.7	FIELD PERSONN	EL: K Gerdes, J	Cook	

Tìme	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	Hq	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/25/16	(1.1.110)	(2.11)	165	remp. (c)	(IIII)	Pii			(1110)	, , , , , , , , , , , , , , , , , , ,
	Initial driller de	velopment by s	urging/overpum	ping,						-
			ion of developm							
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	- <b>21</b> .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 Sul	bmersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Si	te Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	ollected from cup during surging and from flow-through cell after surging.	

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DATE: 9-8-16	WELL ID: MISS-04AR STATIC WATER L			LEVEL (FT. TIC):	11.15	WELL DEPTH (F	T. TIC): 17.10
WATER COLUMN (FT.): 5.95 SLUDGE THICKNESS (FT.): 0.0					WELL CASING D	NAMETER (IN):	2
WELL CASING/BOREHOLE VOL		FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (FT.): 5.95			FILTER PACK LENGTH (FT.): 5.95		
FILTER PACK WATER VOLUME (GALS.): 5.71 CASING AND FILTER PACK PU				GE VOLUME (GA	L5.): 6.68		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 20				FIELD PERSONN	IEL: J Cook		

	Water Level	Discharge	Volume		Specific Conductivity	·				idity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NT	U)*	(PPM)
9/7/16			180								
	Initial driller de	velopment by s	urging/overpum	ping.							
à .	No visible sedin	nent at complet	ion of developm	ent.							
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	549.5		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	0.0
9:45	12.00	0.26		20.17	2.047	6.55	-46.6	0.88	31.5	1.9	0.0
9:50	12.00	0.26	198	20.13	2.030	6.56	-47.1	0.87	27.1	2.1	0.0
9:50	Stop Pump										
6.7											

TOTAL WATER PURGED (GALS): 198	WATER QUALITY METER: Y5i 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.

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DATE: 6-20-16	WELL ID: MISSOSAR STATIC WATER L			LEVEL (FT. TIC):	10.25	WELL DEPTH (FT. TIC): 17.72		
WATER COLUMN (FT.): 7.47 SLUDGE THICKNESS (FT.):					WELL CASING D	DIAMETER (IN):	2	
WELL CASING/BOREHOLE VOL	UME (GAL5.): 1.	22		FILTER PACK DI	AMETER (IN.): 7	7	FILTER PACK LENGTH (FT.): 9.47	
FILTER PACK WATER VOLUME	(ĢALS.): 4.43	CASING AND F	LTER PACK PUR	GE VOLUME (GA	LS.): 5.4		TOTAL PURGE VOLUME (X 3): 16.2	
FIELD PERSONNEL: K Gerdes	<u></u>	•					. ,,	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pН	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	- <b>93</b> .9	2.87	1228,3	No Readir
14:00	13.40	0.4	4	15.80	2.440	7.23	-107.7	3.16	1199.9	No Readin
14:05	13.85	0.4	6	15.72	1.983	7.15	-107.0	2.80	1202.6	No Readii
14:10	13.55	0.4	8	15.87	2.558	7.50	-106.9	4.61	1190.6	No Readi
14:15	13.55	0.4	10	16.37	2.580	7.45	-107.1	4.81	1208.4	No Readii
14:20	13.80	0.4	12	15.17	2.530	7.11	-110.5	1.90	877.5	No Readi
	Stop Surging									
14:25	13.56	0.4	14	14.86	2.528	7.03	-113.9	1.26	137.1	No Readi
14:30	13.55	0.4	16	14.79	2.534	6.97	-118.0	0.93	83.5	No Readi
14:35	13.45	0.4	18	14.79	2.548	6.96	-119.4	0.85	25.7	No Readi
14:40	13.40	0.4	20	14.75	2.556	6.96	-120.3	0.82	9.3	No Readi
14:40	Stop Pump									
							!			
				-						
						-				
51/11										

TOTAL WATER PURGED (GALS): 20	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant
COMMENTS: Surge with pump. YSI readi	ings collected from cup during surging and from flow-through cell after surging.

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DATE: 3-24-16	WELL ID: MISS-058R ST		STATIC WATER	LEVEL (FT. TIC):	9.73	WELL DEPTH (F	T. 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 DI	AMETER (IN.): N	NONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PU			LTER PACK PUR	GE VOLUME (GA	LS.): 64		TOTAL PURGE VOLUME (X 3): 192
FIFI D PERSONNEL: 1 Cook	•						

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PIE (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	7	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	12.07	0.85	165	14.23	3.731	0.71	*141.4	0.60	5.0	
12:00	12,67	0.8	203	14.14	5.883	6.68	-141.2	0.39	8.0	•
12:10	12.69	0.8		14.08	5.117	6.74	-141.2	1.11	22.1	
12:20	12.69	0.8		14.08						
					5.311	6.79	-145.3	1.12	4.9	
12:30	12.69 12.69	0.8		14.25 14.29	5.319 5.309	6.76	-146.7 -150.4	1.13 0.68	4.3 4.2	

TOTAL WATER PURGED (GALS): 220	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible	
DEVELOPMENT WATER DISPOSAL: MISS C	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	ings collected from cup during surging and from flow-through cell after surging.	

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DATE: 3-24-16	WELL ID: MISS	-05BR	STATIC WATER	LEVEL (FT. TIC): 9.73 WELL DEPTH (FT. TIC): 53.25			T. TIC): 53.25	
WATER COLUMN (FT.): 43.52		SLUDGE THICK	NESS (FT.): ~0.2	WELL CASING DIAMETER (IN): 6				
WELL CASING/BOREHOLE VOLUME (GALS.): 64			FILTER PACK DI	AMETER (IN.): N	IONE	FILTER PACK LENGTH (FT.): NONE		
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PURG			LTER PACK PUR	GE VOLUME (GA	LS.): 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)	рН	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	ween the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second						
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	, ,									
						-				

TOTAL WATER PURGED (GALS): 220	WATER QUALITY METER: 131 0920
PUMP AND OTHER EQUIPMENT: Grundfos Sub	mersible
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant
COMMENTS: Surge with pump. YSI readings or	ollected from cup during surging and from flow-through cell after surging.

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DATE: 7-14-16, 7-18-16	WELL ID: MISS	-07AR	STATIC WATER	LEVEL (FT. TIC): 9.62 WELL DEPTH (FT. TIC): 15.30		т. TIC): 15.30	
WATER COLUMN (FT.): 5.68	-	SLUDGE THICK	NESS (FT.): 0.0	: 0.0 WELL CASING DIAMETER (IN): 2			
WELL CASING/BOREHOLE VO	DLUME (GALS.): 0.	9		FILTER PACK DI	AMETER (IN.): 8	3	FILTER PACK LENGTH (FT.): 9
FILTER PACK WATER VOLUM	E (GALS.): 5.6	CASING AND F	ILTER PACK PUR	GE VOLUME (GA	LS.): 6.5		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (	3X VOLUME AND	LO55) (GALS.): 1	19.5	FIELD PERSON	IEL: K Gerdes, J	Cook	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
7/12/16			70							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedir	nent at complet	ion of developm	ent.			_			
7/14/16 13:45	9.62	0.3	O	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 Sub	mersible					
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant					
COMMENTS: Surge with pump. YSI readings co	ollected from cup during surging and from flow-through cell after surging.					

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DATE: 7-14-16, 7-18-16	WELL ID: MIS	S-07AR	STATIC WATER	EVEL (FT. TIC): 9.62 WELL DEPTH (FT. TIC): 15.30			-Т. T(C): 15.30	
WATER COLUMN (FT.): 5.68		SLUDGE THICK	(NESS (FT.): 0.0	.0 WELL CASING DIAMETER (IN): 2				
WELL CASING/BOREHOLE VO	DLUME (GALS.): 0	.9		FILTER PACK DI	AMETER (IN.): 8	3	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 (GA					WATER LOSS DURING INSTALL (GALS.): 0			
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 19.5				FIELD PERSONN	IEL: K Gerdes, J	Cook	· · · · · · · · · · · · · · · · · · ·	

					Specific			]	I	<u> </u>
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NTU)	(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									
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TOTAL WATER PURGED (GALS): 121	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfo	s Submersible
DEVELOPMENT WATER DISPOSAL: MISS O	In-Site Treatment Plant
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.

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DATE: 3-16-16	WELL ID: MISS	07B	STATIC WATER	LEVEL (FT, TIC):	WELL DEPTH (FT. TIC): 48.86		T. TIC): 48.86
WATER COLUMN (FT.): 38.41		SLUDGE THICK	NESS (FT.): ~0.2		WELL CASING	DIAMETER (IN):	3
WELL CASING/BOREHOLE VOLL	JME (GALS.): 14	.1		FILTER PACK DI	AMETER (IN.): I	None	FILTER PACK LENGTH (FT.): None
FILTER PACK WATER VOLUME (GALS.): NA CASING AND FILTER PACK PU			LTER PACK PUR	GE VOLUME (GA	LS.): 14.1		TOTAL PURGE VOLUME (X 3): 42.3
FIELD PERSONNEL: J Cook		,					

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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	S.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					<del>-</del>				
10:31	10.44									
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			***************************************							
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TOTAL WATER PURGED (GALS): 85	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	* 11,
COMMENTS: Surge with pump. YSI readi	ings collected from cup during surging and from flow-through cell after surging.	
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DATE: 3-30-16	WELL ID: MW	- <b>2</b> S	STATIC WATER	LEVEL (FT. TIC):	4.75	WELL DEPTH (F	т. T(C): 12.30
WATER COLUMN (FT.): 7.55		SLUDGE THIC	KNESS (FT.): 0.1	,	WELL CASING D	NAMETER (IN):	2
WELL CASING/BOREHOLE VOI	.UME (GALS.): 1	.23		FILTER PACK DI	AMETER (IN.): 6		FILTER PACK LENGTH (FT.): 11.0
FILTER PACK WATER VOLUME	(GALS.): 2.25	CASING AND I	FILTER PACK PURG	SE VOLUME (GAI	S.): 3.48		TOTAL PURGE VOLUME (X 3): 10.5
FIELD PERSONNEL: J Cook, K (	Gerdes						1

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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								ļ	
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									
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				<u></u>						<del></del>
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	<del></del>			**				*-,42		

TOTAL WATER PORGED (GALS): 25	WATER FUNGED (GALS): 25 WATER QUALITY INICIDEN: 151 0920								
PUMP AND OTHER EQUIPMENT: Grundfos St	ubmersible								
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.								

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DATE: 3-30-16	WELL ID: MW-	2D	STATIC WATER	WATER LEVEL (FT. TIC): 3.55 WELL DEPTH (FT. TIC): 44.10			-T. TIC): 44.10
WATER COLUMN (FT.): 40.5	5	SLUDGE THICK	NESS (FT.): ~0.33	 B	WELL CASING D	IAMETER (IN):	4
WELL CASING/BOREHOLE VC	DLUME (GALS.): 26	.5		FILTER PACK DI	AMETER (IN.): 1	NONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUM	E (GALS.): NONE	CASING AND F	ILTER PACK PURC	SE VOLUME (GĄ	LS.): 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)	рН	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		1	55							
10:45	6.65	1.2		13.66	1.682	7.21	-76.8	4.56	241.1	
	Stop Surging. Y	SI Display Not C	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									
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TOTAL WATER PORGED (GALS): 105	WATER QUALITY METER: YSI 6920	•
PUMP AND OTHER EQUIPMENT: Grundfos 5ub	mersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant	
COMMENTS: Surge with pump. YSI readings co	ollected from cup during surging and from flow-through cell after surging	ng.

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DATE: 7-11-16 to 7-21-16	WELL ID: MW-3SR STATIC WAT		STATIC WATER	ER LEVEL (FT. TIC): 9.75		WELL DEPTH (F	T. TIC): 19.30
WATER COLUMN (FT.): 9.55	ER COLUMN (FT.): 9.55 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 2			2
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56				FILTER PACK DIAMETER (IN.): 8 FILT			FILTER PACK LENGTH (FT.): 8
FILTER PACK WATER VOLUME (GALS.): 4.9 CASING AND FILTER PACK PUR			GE VOLUME (GA	LS.): 6.46		WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4			FIELD PERSONN	IEL: K Gerdes, J	Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/20/16	(	(=:::)	60		(,,					
-,,	Initial driller de	velopment by si	urging/overpum	ning.						
		**************************************	ion of developm	_						
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
13.43		0.13	3	17.10	2.515	7.23	-01.8	7.02	220.0	0.0
47.50	Stop Surging	0.45	2.75	40.00	2.554	7.00	70.0	3.00	70.4	Ala Dandina
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 Pu	PUMP AND OTHER EQUIPMENT: Peristaltic Pump									
DEVELOPMENT WATER DISPOSAL: MISS On-S	DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant									
COMMENTS: Surge with pump. Y5! readings of	ollected from cup during surging and from flow-through cell after surging.									

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DATE: 7-11-16 to 7-21-16	WELL ID: MW-	MW-3SR STATIC WATER		LEVEL (FT. TIC): 9.75		WELL DEPTH (F	FT. TIC): 19.30
NATER COLUMN (FT.): 9.55 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 2				
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56			FILTER PACK DIA	AMETER (IN.): 8		FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9 CASING AND FILTER PACK PUR				GE VOLUME (GA	LS.): 6.46		WATER LOSS DURING INSTALL (GALS.): 20
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4				FIELD PERSONN	EL: K Gerdes, J	Cook	<del></del>

Time	Water Level	Discharge	Volume	Town (6)	Specific Conductivity	mld.	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН				
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 pum	p 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	<del></del>								
11:25	10.20	~2	18	14.78	2.860	6.53	295.7	7.02	165.9	No Reading
	Well Dry									
	Resume using p	eristaltic 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			40.00		,				
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	1.5	WATER QUALITY METER: Y5I 6920						
PUMP AND OTHER EQUIPMENT: P	Peristaltic Pu	mp						
DEVELOPMENT WATER DISPOSAL:	MISS On-Sit	e Treatment Plant						
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.								

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DATE: 7-11-16 to 7-21-16	WELL ID: MW	WELL ID: MW-3SR STATIC WATER			9.75	WELL DEPTH (F	T. TIC): 19.30
WATER COLUMN (FT.): 9.55		SLUDGE THICK	NESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2			2
WELL CASING/BOREHOLE VO	LUME (GALS.): 1.	56		FILTER PACK DI	AMETER (IN.): 8	}	FILTER PACK LENGTH (FT.): 8
FILTER PACK WATER VOLUME (GALS.): 4.9 CASING AND FILTER PACK PUI			ILTER PACK PUR	GE VOLUME (GA	LS.): 6.46		WATER LOSS DURING INSTALL (GALS.): 20
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4				FIELD PERSON	IEL: K Gerdes, J	Cook	

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH	ORP	DO	(NTU)	(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	2.66\$	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	2.9 <del>9</del> 1	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	31.7S	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

PUMP AND OTHER EQUIPMENT: Peristaltic Pump

DEVELOPMENT WATER DISPOSAL: MISS On-5ite Treatment Plant

COMMENTS: Surge with pump. Y5I readings collected from cup during surging and from flow-through cell after surging.

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DATE: 7-11-16 to 7-21-16	1-16 WELL ID: MW-3SR STATIC WATER			LEVEL (FT. TIC):	9.75	WELL DEPTH (F	T, TIC): 19.30
WATER COLUMN (FT.): 9.55 SLUDGE THICKNESS (FT.): 0.0				WELL CASING DIAMETER (IN): 2			2
WELL CASING/BOREHOLE VOLUME (GALS.): 1.56				FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (FT.): 8			FILTER PACK LENGTH (FT.): 8
FILTER PACK WATER VOLUME (GALS.): 4.9 CASING AND FILTER PACK PUR			LTER PACK PUR	GE VOLUME (GA	LS.): 6.46		WATER LOSS DURING INSTALL (GALS.): 20
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4				FIELD PERSONN	EL: K Gerdes, J	Cook	

					Specific	٠				
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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.

PAGE <u>5</u> of <u>6</u>

DATE: 7-11-16 to 7-21-16	WELL ID: MW	-3SR	STATIC WATER	R LEVEL (FT. TIC): 9.75 WELL DEPTH (FT. TIC): 19.30				
WATER COLUMN (FT.): 9.55	•	SLUDGE THICK	NESS (FT.): 0.0	.): 0.0 WELL CASING DIAMETER (IN): 2				
WELL CASING/BOREHOLE VO	LUME (GALS.): 1	56		FILTER PACK DI	AMETER (IN.): 8	}	FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME	FILTER PACK WATER VOLUME (GALS.): 4.9 CASING AND FILTER PACK PUR			GE VOLUME (GA	L5.): 6.46		WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 79.4				FIELD PERSONN	EL: K Gerdes, J	Cook	***************************************	

Time	Water Level (Ft. TJC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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 (GAL5): 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.

PAGE <u>6</u> of <u>6</u>

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 THICK			KNESS (FT.): 0.0 WELL CASING DIA			DIAMETER (IN):	AMETER (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 PURC				GE 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					

			<u> </u>		Specific			<u> </u>	1	· ·
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gai)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NTU)	(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. <b>2</b> 5	-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	5.68	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. Y5I readings collected from cup during surging and from flow-through cell after surging.

PAGE	1	of	3	

DATE: 7-12-16	E: 7-12-16 WELL ID: MW-3DR STATIC		STATIC WATER	ATIC WATER LEVEL (FT. TIC): 9.8			WELL DEPTH (FT. TIC): 65.50		
WATER COLUMN (FT.): 55.70 SLUDGE THICK			IESS (FT.): 0.0 WELL CASING DIAMETER (IN):			6			
WELL CASING/BOREHOLE VOLUME (GALS.): 81.8				FILTER PACK DIAMETER (IN.): NONE FILTER PACK LE			FILTER PACK LENGTH (FT.): NONE		
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PURG				GE VOLUME (GA	LS.): 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 de	velopment by s	urging/overpum	ping.						
1	No visible sedin	nent at complet	ion of developm	ent.						
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-Sit	DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant								
COMMENTS: Surge with pump. YSI readings of	ollected from cup during surging and from flow-through cell after surging.								

PAGE ____ of ____3___

DATE: 7-12-16	WELL ID: MW-	3DR STATIC	WATER LEVEL (FT	ATER LEVEL (FT. TIC): 9.8 WELL DEPTH (FT. TIC): 65.50			
WATER COLUMN (FT.): 55.70 SLUDGE THICKNESS (FT.): 0.0			): 0.0	WELL CASING DIAMETER (IN): 6			
WELL CASING/BOREHOLE VOLUME (GALS.): 81.8				CK DIAMETER	(IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PUR				IE (GAL5.): 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)	5pecific Conductivity (mS/cm)	Hq	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						
UMP AND OTHER EQUIPMENT: Grundfos Submersible							
DEVELOPMENT WATER DISPOSAL: MISS On-5ite Treatment Plant							
COMMENTS: Surge with nump. VSI readings collected from our during surging and from flows through coll offer surging							

PAGE	3	of	2	

DATE: 7-12-16	WELL ID: MW-3DR STATIC WATER			LEVEL (FT. TIC): 9.8 WELL DEPTH (F			T. TIC): 65.50	
WATER COLUMN (FT.): 55.70 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 6			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							WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 245.4 FIELD P					IEL: K Gerdes, J	Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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									
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	·-									
			,							
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	11									
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TOTAL WATER PURGED (GALS): 250	WATER QUALITY METER: 131 6920									
PUMP AND OTHER EQUIPMENT: Grundfos Subr	mersible									
EVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant										
COMMENTS: Surge with pump. YSI readings co	illected from cup during surging and from flow-through cell after surging.									

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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 THICK	NESS (FT.): ~0.1		WELL CASING D	DIAMETER (IN):	2	
WELL CASING/BOREHOLE VOLU	JME (GAL5.): 1.	53		FILTER PACK DE	AMETER (IN.): 6	;	FILTER PACK LENGTH (FT.): 15.0	
FILTER PACK WATER VOLUME (	GALS.): 3.06	CASING AND F	LTER PACK PUR	GE VOLUME (GA	L5.): 4.59		TOTAL PURGE VOLUME (X 3): 13.8	
FIELD PERSONNEL: J Cook, K G	erdes							

	147-411	D'arbana.			Specific				T	OVA (DID
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Conductivity (mS/cm)		ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
Time	(FE. HC)	(GPIVI)	Purged (gai)	remp. (C)	(ms/cm)	pH	ORP	1 50	(NIO)	(PPIVI)
12:54	Start							<u> </u>		
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									
	·									
		-						-		
					,					
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TOTAL WATER PURGED (GALS): 20	WATER QUALITY METER: YSI 6920										
PUMP AND OTHER EQUIPMENT: Grundfo	s 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.											
		•									

PAGE	1	of	1	

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	5.50	SLUDGE THICK	(NESS (FT.): 0.0		WELL CASING	SING DIAMETER (IN): 1		
WELL CASING/BOREHOLE VOLUME (GALS.): 1.9				FILTER PACK DIAMETER (IN.): 4 FILTER PACK LENGTH			FILTER PACK LENGTH (FT.): 16	
FILTER PACK WATER VOLU	JME (GALS.): 2.5	CASING AND F	ILTER PACK PURC	GE VOLUME (GA	LS.): 4.4		WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 13.2				FIELD PERSONN	IEL: K Gerdes, J	Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/2/16 11:00	Surge 1-inch die	ameter pre-pack	ed screen with (	0.75-inch diame	ter Sample Pro p	ump				
11:12	Start peristaltic	pump - water īs	s 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									
			***							
										L-1*
* .										

TOTAL WATER PURGED (GALS): 15.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Peristal	tic Pump
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant
COMMENTS: Surge with pump. YSI read	ings collected from flow-through cell after surging.

PAGE ___1__ of ___2___

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 THICK	NESS (FT.): 0.0		WELL CASING DIAMETER (IN): 2			
WELL CASING/BOREHOLE VOLUME (GALS.): 1.23				FILTER PACK DIAMETER (IN.): 6 FILT			FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME	(GALS.): 3.37	CASING AND FI	ILTER PACK PUR	GE VOLUME (GA	LS.): 4.6		WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3	X VOLUME AND	LOSS) (GALS.): 1	3.8	FIELD PERSONN	IEL: K Gerdes			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рH	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

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.

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DATE: 8-22-16	WELL ID: MW	/-8S	STATIC WATE	STATIC WATER LEVEL (FT. TIC): 7.21 WELL DEPTH (FT. TIC): 14.78			EPTH (FT. TIC): 14.78
WATER COLUMN (FT.): 7.57 SLUDGE THICKNESS (FT.): 0.0			0 WELL CASING DIAMETER (IN): 2				
WELL CASING/BOREHOLE VOLUME (GALS.): 1.23			FILTER PACK DIAMETER (IN.): 6 FILTER PACK LENGTH (FT.		FILTER PACK LENGTH (FT.): 10		
FILTER PACK WATER VOLUME (GALS.): 3.37 CASING AND FILTER PACK PUR			RGE VOLUME (GA	ALS.): 4.6		WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 13.8			FIELD PERSONNEL: K Gerdes				
		1		Specific		· /	

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
8/22/16 11:40	8.36	0.2	25	18.67	1.502	6.78	193.9	4.48	510.1	0.0
	Stop Surging			•						
11:45	8.30	0.2	26	18.57	1.502	6.S9	190.6	1.76	101.7	No Reading
11:50	8.22	0.2	27	18.47	1.494	6.33	166.0	0.84	21.3	0.0
11:55	8.20	0.2	28	18.46	1.491	6.27	154.5	0.73	15.6	No Reading
12:00	8.20	0.2	29	18.44	1.492	6.27	148.4	0.67	11.2	0.0
12:05	8.20	0.2	30	18.46	1.492	6.29	143.9	0.61	5.5	No Reading
12:05	Stop Pump									
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TOTAL WATER TOROLD (GALS): 50	WATER GOALTT WETER. 13 0320	
PUMP AND OTHER EQUIPMENT: Grundfos Sub	mersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant	
COMMENTE: Commenciate manner MCL and discussion	Harada and district and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the sta	$\overline{}$

COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging. * = Membrane came off DO probe, to be repaired

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DATE: 3-17-16 .	WELL ID: MW	23D STATIC WATER LEVEL		LEVEL (FT. TIC):	9.48	WELL DEPTH (FT. TIC): 71.40
WATER COLUMN (FT.): 61.92 SLUDGE THICKNESS		NESS (FT.): ~0.1	ESS (FT.): ~0.1 WELL CASING DIAM		DIAMETER (IN): 2	
WELL CASING/BOREHOLE VOLUME (GALS.): 10.1			FILTER PACK D	AMETER (IN.): 6	FILTER PACK LENGTH (FT.): 23.0	
FILTER PACK WATER VOLUME (GALS.): 7.6 CASING AND FILTER PACK PUR			GE VOLUME (GA	LS.): 17.7	TOTAL PURGE VOLUME (X 3): 53.1	
FIELD PERSONNEL: J Cook		<del></del>				· · · · · · · · · · · · · · · · · · ·

Water level (Ft. TIC)         Observation (GPM)         Volume (GPM)         Conductivity (mS/cm)         pH         ORP         DO         Turbidity (NTU)           8:22         Start         Start	OVA/PII (PPM)
8:22       Start <t< td=""><td></td></t<>	
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	
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 16.34 2.928 6.59 -34.5 0.59 21.6	
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 15.89 2.920 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	
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	
9:10 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	
Stop Surging         9:20         43.00         0.33         15.34         2.847         6.70         -23.8         1.07         386.0           9:22         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20	
9:20       43.00       0.33       15.34       2.847       6.70       -23.8       1.07       386.0         9:22       20	
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	
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	
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	
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	
10:00     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	
10:10     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	
10:20     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	
10:30     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 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: Y51 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.									
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DATE: 6-20-16, 7-21-16	WELL ID: MW-	·24S	STATIC WATER	LEVEL (FT. TIC): 12.01 WELL DEPTH (F			FT. TIC): 19.69
WATER COLUMN (FT.): 7.68 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 2			2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.25			FILTER PACK DIAMETER (IN.): 7 FILTER PACK LENGTH		FILTER PACK LENGTH (FT.): 8.68		
FILTER PACK WATER VOLUME (GALS.): 4.0 CASING AND FILTER PACK PUR				GE VOLUME (G	AL5.): 5.25		WATER LOSS DURING INSTALL (GALS.): NA
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75			FIELD PERSONNEL: K Gerdes				

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	Water Level	Discharge	Volume		Conductivity			ļ	Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gai)	Temp. (C)	(mS/cm)	рH	ORP	DO	(NTU)	(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
<b>10:2</b> 0	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.									

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DATE: 6-20-16, 7-21-16	20-16, 7-21-16 WELL ID: MW-24S STATIC WA		STATIC WATER	ATER LEVEL (FT. TIC): 12.01 WELI			ELL DEPTH (FT. TIC): 19.69		
WATER COLUMN (FT.): 7.68 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 2			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 PUR			GE VOLUME (GA	LS.): 5.25	•	WATER LOSS DURING INSTALL (GALS.): NA			
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75			FIELD PERSONN	EL: K Gerdes					

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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	****								
							-			
,										
							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
4.27										

TOTAL WATER PURGED (GALS): 25	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos Su	bmersible	
DEVELOPMENT WATER DISPOSAL: MI5S On-Si	ite Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	collected from cup during surging and from flow-through cell after surging.	
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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	NESS (FT.): ~0.1		WELL CASING	DIAMETER (IN): 2				
WELL CASING/BOREHOLE VOL	UME (GALS.): 9.	4		FILTER PACK DI	AMETER (IN.): 6	6 FILTER PACK LENGTH (FT.): 25.0		
FILTER PACK WATER VOLUME	(GALS.): 7.9	CASING AND F	LTER PACK PURC	GE VOLUME (GA	LS.): 17.3	TOTAL PURGE VOLUME (X 3): 51.9		
FIELD PERSONNEL: J Cook		-1						

	,		1		Specific			1	T	1
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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						ļ	0.0
11:45	38.85	0.5		14.50	4.189	6.47	-32.5	0.19	129.0	1
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: Y5I 6920	
PUMP AND OTHER EQUIPMENT: Grundfos Su	thmersible	
DEVELOPMENT WATER DISPOSAL: MISS On-S	ite Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	collected from cup during surging and from flow-through cell after surging.	

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DATE: 6-22-16 WELL ID: MW-25S		258	STATIC WATER	LEVEL (FT. TIC):	10.36	WELL DEPTH (F	т. TIC): 18.51	
WATER COLUMN (FT.): 8.15	IESS (FT.): 0.0 WELL CASING DIAMETER (IN):			2				
WELL CASING/BOREHOLE VOLUME (GALS.): 1.3				FILTER PACK DI	AMETER (IN.): 6	i	FILTER PACK LENGTH (FT.): 10.15	
FILTER PACK WATER VOLUME (GALS.): 3.4 CASING AND FILTER PACK			LTER PACK PUR	RGE VOLUME (GALS.): 4.7			TOTAL PURGE VOLUME (X 3): 14.1	
FIELD PERSONNEL: K Gerdes								

Water Level	Discharge	Volume	Tomp (C)	Specific Conductivity	nU	OPP	DO	Turbidity	OVA/PII (PPM)
<u> </u>	, ,							<u> </u>	<u> </u>
									No Read
13.40	0.25	1.25	17.32	0.570	6.75	143.6	4.42	408.0	No Read
13.90	0.25	2.5	18.20	1.147	6.66	171.3	4.27	1393.2	No Read
13.80	0.25	3.75	17.18	1.190	6.56	188.1	4.24	1183.7	No Read
13.90	0.25	5	17.67	0.655	6.55	200.8	4.75	1184.7	No Read
14.00	0.25	6.25	17.72	1.250	6.48	210.8	4.41	1189.0	No Read
14.05	0.25	7.5	17.25	0.687	6.44	219.9	4.64	810.8	No Read
14.00	0.25	8.75	17.75	1.298	6.37	227.7	4.81	1188.8	No Read
14.00	0.25	10	17.62	0.782	6.39	236.3	5.00	1188.1	No Read
14.00	0.25	11.25	17.83	0.682	6.38	242.6	4.87	1190.2	No Read
14.00	0.25	12.5	17.69	1.317	6.33	249.0	4.26	1189.2	No Read
Stop Surging									
14.00	0.25	13.75	17.37	1.316	6.30	248.9	3.03	92.5	No Read
14.00	0.25	15	17.73	1.317	6.11	240.9	1.81	29.9	No Read
14.00	0.25	16.25	17.23	1.313	6.08	237.5	1.92	12.0	No Read
14.00	0.25	17.5	17.56	1,316	6.01	240.7	1.81	1.1	No Read
14.00					5.98	244.1			No Read
otop i dilip									
									-
									<u></u>
	11.50 13.40 13.90 13.80 13.90 14.00 14.00 14.00 14.00 Stop Surging 14.00 14.00 14.00	(Ft. TIC) (GPM)  11.50 0.25  13.40 0.25  13.90 0.25  13.90 0.25  14.00 0.25  14.00 0.25  14.00 0.25  14.00 0.25  Stop Surging  14.00 0.25  14.00 0.25  14.00 0.25  14.00 0.25  14.00 0.25  14.00 0.25  14.00 0.25  14.00 0.25	(Ft. TIC)         (GPM)         Purged (gal)           11.50         0.25         0           13.40         0.25         1.25           13.90         0.25         2.5           13.80         0.25         3.75           13.90         0.25         5           14.00         0.25         6.25           14.05         0.25         7.5           14.00         0.25         10           14.00         0.25         10           14.00         0.25         12.5           Stop Surging         14.00         0.25         13.75           14.00         0.25         15           14.00         0.25         16.25           14.00         0.25         17.5           14.00         0.25         18.75	(Ft. TIC)         (GPM)         Purged (gal)         Temp. (C)           11.50         0.25         0         17.64           13.40         0.25         1.25         17.32           13.90         0.25         2.5         18.20           13.80         0.25         3.75         17.18           13.90         0.25         5         17.67           14.00         0.25         6.25         17.72           14.05         0.25         7.5         17.25           14.00         0.25         8.75         17.75           14.00         0.25         10         17.62           14.00         0.25         12.5         17.83           14.00         0.25         12.5         17.69           Stop Surging         14.00         0.25         15         17.37           14.00         0.25         16.25         17.23           14.00         0.25         16.25         17.23           14.00         0.25         17.5         17.56           14.00         0.25         18.75         17.25	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)           11.50         0.25         0         17.64         0.507           13.40         0.25         1.25         17.32         0.570           13.90         0.25         2.5         18.20         1.147           13.80         0.25         3.75         17.18         1.190           13.90         0.25         5         17.67         0.655           14.00         0.25         6.25         17.72         1.250           14.00         0.25         7.5         17.25         0.687           14.00         0.25         8.75         17.75         1.298           14.00         0.25         10         17.62         0.782           14.00         0.25         11.25         17.83         0.682           14.00         0.25         12.5         17.69         1.317           Stop Surging         14.00         0.25         15         17.37         1.316           14.00         0.25         16.25         17.23         1.313           14.00         0.25         16.25         17.56         1.3	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. {C}         Conductivity (mS/cm)         pH           11.50         0.25         0         17.64         0.507         6.56           13.40         0.25         1.25         17.32         0.570         6.75           13.90         0.25         2.5         18.20         1.147         6.66           13.80         0.25         3.75         17.18         1.190         6.56           13.90         0.25         5         17.67         0.655         6.55           14.00         0.25         6.25         17.72         1.250         6.48           14.05         0.25         7.5         17.25         0.687         6.44           14.00         0.25         8.75         17.75         1.298         6.37           14.00         0.25         10         17.62         0.782         6.39           14.00         0.25         11.25         17.83         0.682         6.38           14.00         0.25         12.5         17.69         1.317         6.33           Stop Surging         14.00         0.25         16.25         17.23         1.31	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (ms/cm)         pH         ORP           11.50         0.25         0         17.64         0.507         6.56         115.9           13.40         0.25         1.25         17.32         0.570         6.75         143.6           13.90         0.25         2.5         18.20         1.147         6.66         171.3           13.80         0.25         3.75         17.18         1.190         6.56         188.1           13.90         0.25         5         17.67         0.655         6.55         200.8           14.00         0.25         6.25         17.72         1.250         6.48         210.8           14.05         0.25         7.S         17.25         0.687         6.44         219.9           14.00         0.25         10         17.62         0.782         6.39         236.3           14.00         0.25         11.25         17.83         0.682         6.38         242.6           14.00         0.25         12.5         17.69         1.317         6.33         249.0           Stop Surging <t< td=""><td>Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (ms/cm)         pH         ORP         DO           11.50         0.25         0         17.64         0.507         6.56         115.9         5.71           13.40         0.25         1.25         17.32         0.570         6.75         143.6         4.42           13.90         0.25         2.5         18.20         1.147         6.66         171.3         4.27           13.80         0.25         3.75         17.18         1.190         6.56         188.1         4.24           13.90         0.25         5         17.67         0.655         6.55         200.8         4.75           14.00         0.25         6.25         17.72         1.250         6.48         210.8         4.41           14.05         0.25         7.5         17.25         0.687         6.44         219.9         4.64           14.00         0.25         10         17.62         0.782         6.39         236.3         5.00           14.00         0.25         11.25         17.83         0.682         6.38         242.6         4.87</td><td>Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)         pH         ORP         DO         Turbidity (NTU)           11.50         0.25         0         17.64         0.507         6.56         115.9         5.71         1190.1           13.40         0.25         1.25         17.32         0.570         6.75         143.6         4.42         408.0           13.90         0.25         2.5         18.20         1.147         6.66         171.3         4.27         1393.2           13.80         0.25         3.75         17.18         1.190         6.56         188.1         4.24         1183.7           13.90         0.25         5         17.67         0.655         6.55         200.8         4.75         1184.7           14.00         0.25         6.25         17.72         1.250         6.48         210.8         4.41         1189.0           14.05         0.25         7.5         17.25         0.687         6.44         219.9         4.64         810.8           14.00         0.25         10         17.62         0.782         6.39         236.3         5.00         1188.1&lt;</td></t<>	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (ms/cm)         pH         ORP         DO           11.50         0.25         0         17.64         0.507         6.56         115.9         5.71           13.40         0.25         1.25         17.32         0.570         6.75         143.6         4.42           13.90         0.25         2.5         18.20         1.147         6.66         171.3         4.27           13.80         0.25         3.75         17.18         1.190         6.56         188.1         4.24           13.90         0.25         5         17.67         0.655         6.55         200.8         4.75           14.00         0.25         6.25         17.72         1.250         6.48         210.8         4.41           14.05         0.25         7.5         17.25         0.687         6.44         219.9         4.64           14.00         0.25         10         17.62         0.782         6.39         236.3         5.00           14.00         0.25         11.25         17.83         0.682         6.38         242.6         4.87	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)         pH         ORP         DO         Turbidity (NTU)           11.50         0.25         0         17.64         0.507         6.56         115.9         5.71         1190.1           13.40         0.25         1.25         17.32         0.570         6.75         143.6         4.42         408.0           13.90         0.25         2.5         18.20         1.147         6.66         171.3         4.27         1393.2           13.80         0.25         3.75         17.18         1.190         6.56         188.1         4.24         1183.7           13.90         0.25         5         17.67         0.655         6.55         200.8         4.75         1184.7           14.00         0.25         6.25         17.72         1.250         6.48         210.8         4.41         1189.0           14.05         0.25         7.5         17.25         0.687         6.44         219.9         4.64         810.8           14.00         0.25         10         17.62         0.782         6.39         236.3         5.00         1188.1<

TOTAL WATER PURGED (GALS): 18.75	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos	Submersible	
DEVELOPMENT WATER DISPOSAL: MISS OF	n-Site Treatment Plant	7
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-through cell after surging.	
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DATE: 3-17-16, 3-21-16	WELL ID: MW-	25D	STATIC WATER	LEVEL (FT. TIC):	11.44	WELL DEPTH (FT. TIC	): <del>6</del> 4.35
WATER COLUMN (FT.): 52.91 SLUDGE THICKNESS			NESS (FT.): ~0.6	SS (FT.): ~0.6 WELL CASING DIAMETER (IN			
WELL CASING/BOREHOLE VO	LUME (GALS.): 77	.8		FILTER PACK DI	AMETER (IN.): NO	ONE FILTE	R PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUM	E (GALS.): NONE	CASING AND F	LTER PACK PUR	GE VOLUME (GA	LS.): 77.8	тота	AL PURGE VOLUME (X 3): 234
FIELD PERSONNEL   Cook		<del></del>				· · · · · · · · · · · · · · · · · · ·	

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	
<b>12</b> :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	os Submersible	
DEVELOPMENT WATER DISPOSAL: MISS O	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	ings collected from cup during surging and from flow-through cell after surging.	

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DATE: 3-17-16, 3-21-16 WELL ID: MW-		25D STATIC WATER LEVEL		LEVEL (FT. TIC):	'EL (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 VO		FILTER PACK DIAMETER (IN.): NONE			FILTER PACK LENGTH (FT.): NONE				
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FIL			FILTER PACK PURC	TER 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)	рН	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									
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N .										

OTAL WATER PURGED (GALS): 238 WATER QUALITY METER: Y5I 6920								
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible							
DEVELOPMENT WATER DISPOSAL: MISS C	On-Site Treatment Plant							
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.							

PAGE	1	of	1	

DATE: 6-22-16	WELL ID: MW-	28S STATIC WATER		LEVEL (FT. TIC):	11.96	WELL DEPTH (FT. TIC	c): 20.30
WATER COLUMN (FT.): 8.34 SLUDGE THICKNESS (FT			NESS (FT.): 0.0	0.0 WELL CASING DIAMETER (IN): 2			,
WELL CASING/BOREHOLE VOLUME (GALS.): 1.4				FILTER PACK DI	AMETER (IN.): 7	FILTO	ER PACK LENGTH (FT.): 8.85
FILTER PACK WATER VOLUME (GALS.): 4.1 CASING AND FILTER PACK PA			LTER PACK PUR	RGE VOLUME (GALS.): 5.5		тот	AL PURGE VOLUME (X 3): 16.5
FIELD PERSONNEL: K Gerdes		1					

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
14:15	12.05	0.3	0	19.24	3.176	6.19	-68.3	4.50	1204.7	No Reading
14:20	12.10	0.3	1.5	18.10	2.147	6.32	-76.1	4.18	1021.4	No Reading
14:25	12.10	0.3	3	18.11	1.869	6.37	-78.0	3.60	1191.3	No Reading
14:30	12.10	0.3	4.5	17.84	3.186	6.36	-76.4	6.27	1190.8	No Reading
14:35	12.10	0.3	6	17.94	1.660	6.34	-77.1	3,45	1190.8	No Reading
14:40	12.10	0.3	7.5	17.60	1.694	6.38	-74.7	3.77	1185.2	No Reading
14:45	12.10	0.3	9	17.80	1.685	6.35	-81.3	2.83	632.6	No Reading
14:50	Stop Surging									
14:50	12.10	. 0.3	10.5	16.47	3.179	6.30	-95.3	1.52	199.0	No Reading
14:55	12.10	0.3	12	16.46	3.176	6.29	-101.1	0.99	176.4	No Reading
15:00	12.10	0.3	13.5	16.49	3.175	6.30	-104.5	0.86	130.0	No Reading
15:05	12.10	0.3	15	16.55	3.178	6.30	-107.9	0.82	69.3	No Reading
15:10	12.10	0.3	16.5	16.09	3.176	6.30	-109.1	0.80	36.9	No Reading
15:15	12.10	0.3	18	16.14	3.171		-109.6	0.79	22.6	No Reading
	1	W. W				6.30				
15:20	12.10	0.3	19.5	15.96	3.175	6.31	-109.9	0.79	14.2	No Reading
15;20	Stop Pump									
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		1								
		1								
								<del></del>		
15										

TOTAL WATER PURGED (GALS): 19.5	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos	Submersible
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant
COMMENTS: Surge with pump. Y5I reading	gs collected from cup during surging and from flow-through cell after surging.

PAGE	1	of	1

DATE: 3-31-16	WELL ID: MW-	31D	STATIC WATER	LEVEL (FT. TIC): 5.90 WELL DEPTI			T. TIC): 45.40
WATER COLUMN (FT.): 39.50 SLUDGE THICKNESS			NESS (FT.): ~0.8	SS (FT.): ~0.8 WELL CASING DIAMETER (IN			6
WELL CASING/BOREHOLE VOLUME (GALS.): 58.1			,	FILTER PACK DIAMETER (IN.): NONE FILTER PACK LENGTH (FT.): I			FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME	(GALS.): NONE	CASING AND F	ILTER PACK PUR	GE VOLUME (GA	LS.): 58.1		TOTAL PURGE VOLUME (X 3): 174.3
FIELD PERSONNEL: J Cook. K G	erdes						

	Water Level	Discharge	Volume		Specific Conductivity			,	Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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							w		. ,,
W1.	•									
+1.7°.							**************************************	A		

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 reading	gs collected from cup during surging and from flow-through cell after surging.							

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DATE: 4-5-16	WELL ID: MW-	<b>32</b> D	STATIC WATER	LEVEL (FT. TIC):	4.50	WELL DEPTH (F	T. TIC): 57.00
WATER COLUMN (FT.): 52.50 SLUDGE THICKNESS (FT.): ~0.2					WELL CASING D	IAMETER (IN):	6
WELL CASING/BOREHOLE VOLUME (GALS.): 77.2				FILTER PACK DIAMETER (IN.): NONE FILTER PACK LENGTH (FT.):			FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PUR			GE VOLUME (GA	LS.): 77.2		TOTAL PURGE VOLUME (X 3): 232	
FIELD PERSONNEL: J Cook, M 5	leger	1			***		

	Ι				Specific					
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH *	ORP	DÓ	(NTU)	(PPM)
9:27	Start									
9:40	5.51	1.0		11.64	4.015	7.40	-69.3	3.13	> 1200	
9:50	\$.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	\$.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	Wet						
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	4 8 / 10 / 10
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 (GAL5): 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.

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DATE: 6-23-16 WELL ID: MW-33S STATIC W			ATER LEVEL (FT. TIC)	: 14.80	WELL DEPTH (FT. TIC): 21.30
WATER COLUMN (FT.): 6.5 SLUDGE THICKNES			T.): 0.0 WELL CASING DIAMETER (IN): 2		
WELL CASING/BOREHOLI	E VOLUME (GALS.): 1	1	FILTER PACK D	IAMETER (IN.):	7 FILTER PACK LENGTH (FT.): 7.5
FILTER PACK WATER VOL	UME (GALS.): 3.49	CASING AND FILTER PACK	PURGE VOLUME (GA	ALS.): 4.59	TOTAL PURGE VOLUME (X 3): 13.77
FIELD PERSONNEL: K Ger	doc	1	.		

	T		}		Specific		T			
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
10:25	16.20	0.08	o	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
10:58	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 al	low 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	80.0	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 S	ubmersible								
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant									
COMMENTS: Surge with pump. Y5I reading:	COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.								
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DATE: 6-23-16	WELL ID: MW	-335	STATIC WATER LEVEL (FT. TIC): 14.80 WELL DEPTH (FT. TIC): 21.30			T. TIC): 21.30	
WATER COLUMN (FT.): 6.5		SLUDGE THICK	(NESS (FT.): 0.0		WELL CASING D	HAMETER (IN):	2
WELL CASING/BOREHOLE VOI	LUME (GALS.): 1	1		FILTER PACK DI	AMETER (IN.): 7	,	FILTER PACK LENGTH (FT.): 7.5
FILTER PACK WATER VOLUME	(GALS.): 3.49	CASING AND F	ILTER PACK PURG	SE VOLUME (GA	L5.}: 4.59		TOTAL PURGE VOLUME (X 3): 13.77
FIELD PERSONNEL: K Gerdes							1

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	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
13:20	18.20	0.08	8.4	18.76	9.016	6.92	-89.9	3.74	120.4	No Reading
13:25	18.30	0.08	8.8	18.37	8.985	6.84	-91.4	2.75	29.2	0.0
13:30	18.40	0.08	9.2	18.45	8.992	6.84	-91.3	2.72	7.1	No Reading
13:35	18.50	0.08	9.6	18.56	8.990	6.85	-92.0	2.53	0.5	0.0
13:40	18.50	0.08	10	20.11	8.964	6.89	-92.8	2.10	0.1	No Reading
13:45	18.40	0.08	10.4	18.45	8.983	6.86	-96.0	2.40	1.6	0.0
13:50	18.50	0.08	10.8	18.33	8.980	6.8\$	-93.8	2.41	3.1	No Reading
13:55	18.60	0.08	11.2	19,07	8.957	6.88	-98.6	1.93	2.2	0.0
14:00	18.60	0.08	11,6	20.01	8.929	6.89	-100.0	1.68	2.1	No Reading
14:05	18.60	0.08	12	19.46	8.937	6.89	-101.2	1.51	1.5	0.0
14:10	18.60	0.08	12.4	19.79	8.876	6.82	-99.2	1.56	3.5	No Reading
14:15	18.60	0.08	12.8	19.26	8.989	6.89	-104.3	1.46	21.0	0.0
	Flow stopped -	turn up controll	er to restart							
14:20	18.80	0.08	13.2	20.25	8.922	6.84	-103.0	1.65	46.7	0.0
14:25	18.70	0.08	13.6	20.91	9.014	6.84	-98.0	1.60	38.3	No Reading
14:30	18.70	0.08	14	20.59	8.970	6.84	-99.1	1.59	20.2	No Reading
14:35	18.70	0.08	14.4	19.93	8.968	6.85	-97.8	1.52	15.6	No Reading
14:35	Stop Pump									
	,									
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TOTAL WATER PURGED (GALS): 14.4	WATER QUALITY METER: Y5I 6920	
PUMP AND OTHER EQUIPMENT: Grundfor	s Submersible	
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.	
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PAGE		01		

DATE: 3-30-16 to 4-7-16	WELL ID: MW-	34D	STATIC WATER	LEVEL (FT. TIC):	10.65	WELL DEPTH (I	FT. TIC): 48.85
WATER COLUMN (FT.): 38.25	,	SLUDGE THICK	NESS (FT.): ~0.6	7	WELL CASING D	IAMETER (IN):	6
WELL CASING/BOREHOLE VOI	UME (GALS.): 56	5,2		FILTER PACK DI	AMETER (IN.): N	IONE	FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME	(GALS.): NONE	CAŞING AND F	LTER PACK PUR	GE VOLUME (GA	LS.): 56.2		TOTAL PURGE VOLUME (X 3): 169
FIELD PERSONNEL: J Cook, K		CAÇING AND I	E LER PACR POR	DE VOEGIVIE (GA			TOTAL FORGE VOLUME (A 3). It

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(m\$/cm)	рH	ORP	DO	(NTU)	(PPM)
3/30/16 13:07	Start. YSi Inop	erable. Awaiting	YSI Replaceme	nt. Use LaMott	e Meter for Turb	idity.	ļ			
13:20	20.00		`						> 1000	
13:30	23.25								> 1000	
13:38	1 -	Alternate Surge covery.	19							
15:08	22.05	Re-start								
15:15	28.00								837.0	
15:20	31.50			÷						
15:22	33.00	Stop Pump	30						1	
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	6.6\$	-116.3	3.65	117.3	
8:01	27.60	Stop Pump	58		0.000			0.02		
14:52	17.93	Re-start							<del></del>	
15:00	24.15	770 544.1		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	20,20	7.230	0.07	104.7	5.51	20.3	
4/4/16 9:43	10.60	Re-start								
9:50	17.00	Restait		11.23	3.989	6.17	-59.5	5.20	76.7	
								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: Y5I 6920
PUMP AND OTHER EQUIPMENT: Grundfos	Submersible
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.
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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 THICK	(NESS (FT.): ~0.6	7 -	WELL CASING D	PIAMETER (IN):	6		
WELL CASING/BOREHOLE VOL	UME (GALS.): 56	5.2		FILTER PACK DI	AMETER (IN.): N	NONE	FILTER PACK LENGTH (FT.): NONE		
FILTER PACK WATER VOLUME	(GALS.): NONE	CASING AND F	ILTER PACK PURC	GE VOLUME (GA	LS.): 56.2		TOTAL PURGE VOLUME (X 3): 169	· .	
FIELD PERSONNEL: J Cook, K G	ierdes	•							

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
4/5/16 8:30	31.80			11.50	4.114	6.78	-119.6	2.98	11.4	
8:33	33.00	Stop Pump	145							
4/7/16 8:10	10.50	Re-start								
8:20	13.40	1.0		13.73	4.929	6.85	-145.3	0.31	28.1	
8:30	16.90	0.5		13.67	4.938	6.86	-157.0	0.24	6.9	ļ
8:40	19.20	0.25		13.69	4.945	6.87	-160.9	0.18	4.5	
8:50	20.70	0.25		13.79	4.953	6.87	-163.3	0.17	4.9	
9:00	21.60	0.1		13.84	4.958	6.87	-163.1	0.16	5.4	
9:10	22.00	0.1		13.89	4.961	6.87	-163.6	0.15	6.6	
9:20	22.20	0.1		13.97	4.963	6.87	-162.8	0.15	6.2	
9:30	22.30	0.1		13.99	4.966	6.87	-161.4	0.14	7.2	
9:40	22.30	325 ml/min		14.10	4.968	6.86	-160.4	0.14	7.3	
9:50	22.30	325 ml/min		14.04	4.972	6.86	-158.5	0.14	7.5	
10:00	22.35	325 ml/min		14.47	4.977	6.85	-161.7	0.14	7.6	
10:10	22.40	325 ml/min	170	14.46	4.985	6.84	-161.3	0.14	6.7	
10:10	Stop Pump									
		***************************************								
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TOTAL WATER PURGED (GALS): 170	WATER QUALITY METER: YSI 6920		
PUMP AND OTHER EQUIPMENT: Grundfos	Submersible		
DEVELOPMENT WATER DISPOSAL: MISS OF	n-Site Treatment Plant		
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-through cell after surging.	•	
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PAGE 1 of 5

DATE: 8-1-16 to 8-15-16	WELL ID: MW-395 STATIC WATER			LEVEL (FT. TIC): 4.32 WELL DEPTH (F			т. TIC): 14.00
WATER COLUMN (FT.): 9.68	NESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2			2		
WELL CASING/BOREHOLE VOL	UME (GALS.): 1.	5		FILTER PACK DI	AMETER (IN.): 7	,	FILTER PACK LENGTH (FT.): 8.1
FILTER PACK WATER VOLUME	(GALS.): 3.65	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 5.25		WATER LOSS DURING INSTALL (GALS.): NA
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75				FIELD PERSONN	IEL: K Gerdes, R	DeMott	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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-5ite Treatment Plant

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DATE: 8-1-16 to 8-15-16	WELL ID: MW-	395	STATIC WATER	LEVEL (FT. TIC):	4.32	WELL DEPTH (F	-T. TIC): 14.00
WATER COLUMN (FT.): 9.68		SLUDGE THICK	NESS (FT.): D.O	-	WELL CASING D	NAMETER (IN):	2
WELL CASING/BOREHOLE VOL	UME (GALS.): 1.	5		FILTER PACK DI	AMETER (IN.): 7	,	FILTER PACK LENGTH (FT.): 8.1
FILTER PACK WATER VOLUME	(GALS.): 3.65	CASING AND FI	LTER PACK PURG	SE VOLUME (GA	LS.): 5.25		WATER LOSS DURING INSTALL (GALS.): NA
REQUIRED PURGE VOLUME (3)	(VOLUME AND I	.OS5) (GALS.): 1	5.75	FIELD PERSONN	EL: K Gerdes, R	DeMott	

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(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	-2\$.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

PAGE <u>3</u> of <u>5</u>

DATE: 8-1-16 to 8-15-16	WELL ID: MW	- <b>3</b> 9\$	STATIC WATER	LEVEL (FT. TIC):	4.32	WELL DEPTH (F	FT. T(C): 14.00
WATER COLUMN (FT.): 9.68		SLUDGE THIC	(NESS (FT.): 0.0		WELL CASING	DIAMETER (IN):	2
WELL CASING/BOREHOLE VO	DLUME (GALS.): 1.	6		FILTER PACK DI	AMETER (IN.):	7	FILTER PACK LENGTH (FT.): 8.1
FILTER PACK WATER VOLUM	E (GALS.); 3.65	CASING AND	FILTER PACK PUR	GE VOLUME (GA	LS.): 5.25		WATER LOSS DURING INSTALL (GALS.): NA
REQUIRED PURGE VOLUME (	3X VOLUME AND	LOSS) (GALS.):	15.75	FIELD PERSON	IEL: K Gerdes, R	l De <b>M</b> ott	

<u> </u>	-		1	<u>.</u>	5pecific	Γ	1			<u> </u>
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	· (GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NTU)	(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 flo	w-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	- <b>12</b> .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: Y5I 6920

PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

PAGE <u>4</u> of <u>5</u>

DATE: 8-1-16 to 8-15-16	WELL ID: MW	-39S	STATIC WATER	LEVEL (FT. TIC):	4.32	WELL DEPTH (FT. TJC): 14.00		
WATER COLUMN (FT.): 9.68		SLUDGE THIC	CKNESS (FT.): 0.0		WELL CASING I	DIAMETER (IN):	2	
WELL CASING/BOREHOLE VO	LUME (GALS.): 1.	6		FILTER PACK DI	AMETER (IN.): 7	,	FILTER PACK LENGTH (FT.): 8.1	
FILTER PACK WATER VOLUM	(GALS.): 3.65	CASING AND	FILTER PACK PUR	GE VOLUME (GA	LS.): 5.25		WATER LOSS DURING INSTALL (GALS.): NA	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 15.75			: 15.75	FIELD PERSONNEL: K Gerdes, R DeMott				

		District Control			Specific						
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Conductivity (mS/cm)	рH	ORP	DO		idity 'U)*	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	<u> </u>	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-thro	ugh 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	0.0
15:10	8.77	0.15		17.91	1.587	6.48	-15.8	2.13	121.2	50.7	0.0
15:15	8.78	0.15		18.02	1.595	6.48	-16.0	2.13	120.3	57.0	0.0
15:20	8.79	0.15		17.94	1.609	6.49	-17.0	2.10	106.1	51.8	0.0
15:25	8.81	0.15		<b>17.9</b> 7	1.613	6.52	-17.3	2.28	142.1	68.5	0.0
15:30	8.80	0.15		17.78	1.598	6.53	-16.6	2.31	174.1	98.7	0.0
15:35	8.80	0.15		17.74	1.619	6.54	-17.7	2.07	145.3	73.5	0.0
15:40	8.81	0.15		17.78	1.614	6.55	-17.9	2.15	236.1	94.9	0.0
15:45	8.80	0.15		17.69	1.584	6.56	-18.5	2.21	187.2	83.7	0.0

TOTAL WATER PURGED (GALS): 79.5

WATER QUALITY METER: Y5I 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.

PAGE <u>5</u> of <u>5</u>

ATE: 8-1-16 to	8-15-16	WELL ID: MW	<u> </u>				WELL DEPTH (FT. TIC): 14.00					
VATER COLUM	N (FT.): 9.68		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING	DIAMETER (IN	1): 2				
VELL CASING/	OREHOLE VOLU	IME (GALS.): 1.	.6		FILTER PACK DIAMETER (IN.): 7  JRGE VOLUME (GALS.): 5.25			FILTER PACK LENGTH (FT.): 8.1 WATER LOSS DURING INSTALL (GALS.): N/				
ILTER PACK W	ATER VOLUME (	GALS.): 3.65	CASING AND FI	LTER PACK PUR								
EQUIRED PUR	GE VOLUME (3X	VOLUME AND	LOSS) (GALS.): 1	5.75	FIELD PERSON	IEL: K Gerdes,	R DeMott					
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity DO (NTU)*		OVA/PID (PPM)	
/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											
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TAL WATER P	URGED (GALS):	79.5	WATER QUALIT	Y METER: YSI 6	920							
IMP AND OTH	ER EQUIPMENT	Grundfos Sub	mersible									
VELOPMENT	WATER DISPOSA	L: MISS On-Sit	e Treatment Plar	nt								
	rge with pump. 20 turbidity me		lected from cup	during surging	and from flow-th	rough cell afte	r surging. *=	Results in secon	d turbidity o	olumn	collected	

PAGE __1__ of ___2__

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	R COLUMN (FT.): 45.20 SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 6						6		
WELL CASING/BOREHOLE VOLU	1.00	FILTER PACK DIAMETER (IN.): NONE FILTER PACK LENGTH (FT.): NON			FILTER PACK LENGTH (FT.): NONE				
FILTER PACK WATER VOLUME (	GALS.}: NONE	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 66.5		WATER LOSS DURING INSTALL (GALS.): NA		
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 200				FIELD PERSONN	EL: K Gerdes, J	Cook			

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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 5	Submersible	
DEVELOPMENT WATER DISPOSAL: MISS On	-Site Treatment Plant	
COMMENTS: Surge with pump. Y51 reading	s collected from cup during surging and from flow-through cell after surging.	

PAGE <u>2</u> of <u>2</u>

DATE: 8-2-16	WELL ID: MW-	EL ID: MW-39D STATIC WATE			4.80	WELL DEPTH (F	(FT. TIC): 50.00	
WATER COLUMN (FT.): 45.20		SLUDGE THICK	(NESS (FT.): 0.0 WELL CASING DIAMETER (IN): 6				6	
WELL CASING/BOREHOLE VOLUME (GALS.): 66.5				FILTER PACK DIAMETER (IN.): NONE FILTER			FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME	(GALS.): NONE	CASING AND F	ILTER PACK PUR	RGE 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				

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Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO		oidity 'U)*	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	<b>1</b> .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										
	,										
	,										
									·		
	-,										
1.42		1									

OTAL WATER PURGED (GALS): 255.75	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos	: Submersible	
DEVELOPMENT WATER DISPOSAL: MISS OF	n-Site Treatment Plant	
OMMENTS: Surge with pump, YSI reading rom LaMotte 2020 turbidity meter.	gs collected from cup during surging and from flow-through cell after surging. * = Results in second turbidity column collected	Ī

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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						2			
WELL CASING/BOREHOLE VO	LUME (GALS.): 0	.7		FILTER PACK DI	AMETER (IN.): 8	3 .	FILTER PACK LENGTH (FT.): 6.6		
FILTER PACK WATER VOLUME	(GALS.): 4.0	CASING AND	FILTER PACK PUR	SE VOLUME (GA	LS.): 4.7		WATER LOSS DURING INSTALL (GALS.): 20		
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 74.1				FIELD PERSONNEL: K Gerdes, J Cook			•		

	<u> </u>		1	1	Specific	1	1	[	1	1
	Water Level	Discharge	Volume		Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
6/15/16			60							-
	Initial driller de	velopment by s	urging/overpum	ping,			ļ			
	No visible sedin	nent at complet	ion of developm	ent.						
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 perist	altic 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): 7S	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundf	os Submersible/Peristaltic Pump	
DEVELOPMENT WATER DISPOSAL: MISS	On-Site Treatment Plant	
COMMENTS: Surge with pump. YSI read	lings collected from cup during surging and from flow-through cell after surging.	

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DATE: 7-18-16 to 7-20-16	WELL ID: MW-	435R	STATIC WATER LEVEL (FT. TIC): 6.10 WELL DEPTH (FT. TIC): 10.32			T. TIC): 10.32			
WATER COLUMN (FT.): 4,22		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	FELL 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 PACE				CK PURGE VOLUME (GALS.): 4.7			WATER LOSS DURING INSTALL (GALS.): 20		
REQUIRED PURGE VOLUME (3X	4.1	FIELD PERSONNEL: K Gerdes, J Cook							

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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	ATER QUALITY METER: YSI 6920								
PUMP AND OTHER EQUIPMENT: Grundfos Submersible/Peristaltic Pump									
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant								
COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.									

PAGE	1	of	2	

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 THICK	NESS (FT.): 0.0		WELL CASING D	IAMETER (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 FI	LTER PACK PURG	SE VOLUME (GA	LS.): 62.8		TOTAL PURGE VOLUME (X 3): 188.5		
FIELD PERSONNEL: K Gerdes									

	T				Specific					
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Conductivity (mS/cm)	рH	ORP	ро	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	15.1 <del>6</del>	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
11:5S	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 an	d 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: Y51 6920	
PUMP AND OTHER EQUIPMENT: Grundfos 5ub	omersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	te Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	collected from cup during surging and from flow-through cell after surging.	

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DATE: 6-27-16	WELL ID: MW-	-43D	STATIC WATER LEV	STATIC WATER LEVEL (FT. TIC): 7.98 WELL DEPTH (FT. TIC): 50.75			
WATER COLUMN (FT.):	SLUDGE THIC	SLUDGE THICKNESS (FT.): 0.0 WELL CA		WELL CASING DIAN	CASING DIAMETER (IN): 6		
WELL CASING/BOREHOLE VOLUME (GALS.): 62.8			FIL	ER PACK DI	AMETER (IN.): NON	NE FILTER PACK LENGTH (FT.): N	ONE
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PU			FILTER PACK PURGE V	OLUME (GA	LS.): 62.8	TOTAL PURGE VOLUME (X 3):	188.5

Time	Water Level	Discharge	Volume	T (C)	Specific Conductivity	_1.6		, no	Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH	ORP	ро	(NTU)	(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: Grundfo	s <b>Sub</b> mersible	 
DEVELOPMENT WATER DISPOSAL: MISS C	n-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.	
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PAGE	2	of	3	
PAGE		UI .		

DATE: 6-27-16	WELL ID: MW-	-43D STATIC V	VATER LEVEL (FT. TIC)	LEVEL (FT. TIC): 7.98 WELL DEPTH (FT. TIC): 50.75		
WATER COLUMN (FT.): 4	2,77	SLUDGE THICKNESS (FT.)	: 0.0	WELL CASING DIAMETER (IN): 6		
WELL CASING/BOREHOLE VOLUME (GALS.): 62.8			FILTER PACK D	DIAMETER (IN.): NONE	FILTER PACK LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PA			K PURGE VOLUME (G.	ALS.): 62.8	TOTAL PURGE VOLUME (X 3): 188.5	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	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									
									<u>.</u>	
					-					
									-	
	-									
· ·								* ******		

TOTAL WATER PURGED (GALS): 200	WATER QUALITY METER: 151 6920								
PUMP AND OTHER EQUIPMENT: Grundfo	os Submersible								
DEVELOPMENT WATER DISPOSAL: MISS	DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant								
COMMENTS: Surge with pump. YSI read	ings collected from cup during surging and from flow-through cell after surging.								

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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			т. TIC): 13.20		
WATER COLUMN (FT.): 6.16 SLUDGE THICKNESS (FT.): 0.0 WELL CA					WELL CASING D	ING DIAMETER (IN): 2		
WELL CASING/BOREHOLE VOLUME (GALS.): 1.0				FILTER PACK DIAMETER (IN.): 8 FILTER PACK LEN			FILTER PACK LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9 CASING AND FILTER PACK PUR			GE VOLUME (GA	LS.): 5.9		WATER LOSS DURING INSTALL (GALS.): 20		
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 77.7			FIELD PERSONN	IEL: K Gerdes, J	Cook			

	Water Level	Discharge	Volume	*	Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рH	ORP	DO	(NTU)	(PPM)
6/20/16			60							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.						
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

OTAL WATER PURGED (GALS): 80.25 WATER QUALITY METER: Y5I 6920							
PUMP AND OTHER EQUIPMENT: Peristaltic Pump							
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant							
COMMENTS: Surge with pump. YSI readings co	ollected from cup during surging and from flow-through celi after surging.						

PAGE 2 of 2

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			т. TIC): 13.20	
WATER COLUMN (FT.): 6.16		SLUDGE THICK	(NESS (FT.): 0.0	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 LENGTH (FT.): 8	
FILTER PACK WATER VOLUME (GALS.): 4.9 CASING AND FILTER PACK PUR				GE VOLUME (GA	LS.): 5.9		WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 77.7			FIELD PERSONN	IEL: K Gerdes, J	Cook	•		

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	Water Level	Discharge	Volume		Specific Conductivity	İ			Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH	ORP	DO	(NTU)	(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			25.02	2.100	0.00	27.0	. 5105		THO ROUSING
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
		0.13	20.23	10.04	2.249	0.65	-9.5	3.83	3.5	NO Reading
8:55	Stop Pump									
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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 reading	COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.										

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DATE: 7-20-16	WELL ID: MW-	<b>45</b> D	STATIC WATER	LEVEL (FT. TIC): 13.79 WELL DEPTH (			T. TIC): 68.00	
WATER COLUMN (FT.): 54.21	SLUDGE THICKNESS (FT.): 0.0		•	WELL CASING DIAMETER (IN): 6				
WELL CASING/BOREHOLE VOLU		FILTER PACK DIAMETER (IN.): NONE FILTER			FILTER PACK LENGTH (FT.): NONE			
FILTER PACK WATER VOLUME (GALS.): NONE CASING AND FILTER PACK PUR				GE VOLUME (GALS.): 79.6			WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 238.8				FIELD PERSONN	IEL: K Gerdes		<u> </u>	

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NTU)	(PPM)
6/21/16			165							
	initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.		·				
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
72002										
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							
PUMP AND OTHER EQUIPMENT: Grundfos Submersible								
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant								
COMMENTS: Surge with pump. Y5I readings collected from cup during surging and from flow-through cell after surging.								

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DATE: 6-30-16	WELL ID: MW-	46S STA	ATIC 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			2		
WELL CASING/BOREHOLE VOLU		FILTER PACK DIAMETER (IN.): 8 FILTE			FILTER PACK LENGTH (FT.): 9			
FILTER PACK WATER VOLUME (	R PACK PURG	GE VOLUME (GALS.): 6.9			WATER LOSS DURING INSTALL (GALS.): 30			
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 110.7				FIELD PERSONN	EL: K Gerdes		· · · · · · · · · · · · · · · · · · ·	

	Water Level	Discharge	Volume		Specific Conductivity			<u> </u>	Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO .	(NTU)	(PPM)
6/8/16			90							
	Initial driller development by surging/overpumping.									
	No visible sedin	nent at complet	ion of developm	ent.	•					
6/30/16 8:15	10.87	0.15	0	16.72	2.169	6.08	6.5	5.7\$	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

OTAL WATER PURGED (GALS): 114.75 WATER QUALITY METER: YSI 6920									
PUMP AND OTHER EQUIPMENT: Grundfos Submersible									
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	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.									

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DATE: 6-30-16	WELL ID: MW-46S STATIC WAT		STATIC WATER	ER LEVEL (FT. TIC): 10.87 WELL DEPT			T. TIC): 19.55	
WATER COLUMN (FT.): 8.68 SLUDGE THICKNESS (FT.): 0			NESS (FT.): 0.0	WELL CASING DIAMETER (IN): 2			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 PUR				GE VOLUME (GALS.): 6.9			WATER LOSS DURING INSTALL (GALS.): 30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 110.7				FIELD PERSONN	IEL: K Gerdes		· · · · · · · · · · · · · · · · · · ·	

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Town (C)	Specific Conductivity (mS/cm)		ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
Time	(Ft. IRC)	(GPIVI)	Purged (gai)	Temp. (C)	(ms/cm)	pН	URP	1 00	(NTO)	(PPIVI)
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				Ju					
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										<u></u>
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TOTAL WATER PURGED (GALS): 114.75	WATER QUALITY METER: YSI 6920										
PUMP AND OTHER EQUIPMENT: Grundfos 5	ubmersible										
DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant											
COMMENTS: Surge with pump. YSI readings	COMMENTS: Surge with pump. YSI readings collected from cup during surging and from flow-through cell after surging.										

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DATE: 7-5-16	WELL ID: MW-	46D	STATIC WATER	LEVEL (FT. TIC): 13.13 WELL DEF			TH (FT. TIC): 63.00		
WATER COLUMN (FT.): 49.87 SLUDGE THICKNESS (FT.): 0.0			NESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6			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 PUR				SE VOLUME (GA	LS.): 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)	pН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/16/16	(, u, , to)	(0, 1.1)	165	remp. (c)	(may cm)	Pi,	- OAT		(NIO)	(1111)
0/10/10			urging/overpum							
			= -,					1		
	No visible sedin	nent at complet	ion of developm	ent.						
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			25110	51255	0.70	34.0	3.40	03.7	, tro negating
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
			j							
12:20	14.60	0.6	54	15.12	3.286	6.65	-116,2	0.84	1.8	0.0
12:25 12:25	14.60 Stop Pump	0.6	57	15.03	3.285	6.65	-116.3	0.84	1.2	0.0

TOTAL WATER PURGED (GALS): 222	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos 5u	bmersible
DEVELOPMENT WATER DISPOSAL: MISS On-SI	ite Treatment Plant
COMMENTS: Surge with pump. YSI readings of	collected from cup during surging and from flow-through cell after surging.

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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 THICK	NESS (FT.): 0.0	-	WELL CASING I	DIAMETER (IN):		
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 (GAL				LS.): 6.75		WATER LOSS DURING INSTALL (GALS.):	30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 110.25				FIELD PERSONN	IEL: K Gerdes, J	Cook		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/14/16			95							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin									
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 \$	iubmersible	
DEVELOPMENT WATER DISPOSAL: MISS On	-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	s collected from cup during surging and from flow-through cell after surging.	
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PAGE 1 of 2

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 THICK	NESS (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 LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME	(GALS.): NONE	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 89.4		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 268.1				FIELD PERSONN	D PERSONNEL: K Gerdes			

Time	Water Level (Ft. T/C)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/20/16			165							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.					٠.	
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 R	ate								
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: Y5I 6920
PUMP AND OTHER EQUIPMENT: Grundfos Sub	mersible
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant
COMMENTS: Surge with pump. YSI readings co	llected from cup during surging and from flow-through cell after surging.

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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 THICK	NESS (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 LENGTH (FT.): NONE	
FILTER PACK WATER VOLUME (	GALS.): NONE	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 89.4		WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X	VOLUME AND I	.OSS) (GALS.): 2	68.1	FIELD PERSONN	EL: K Gerdes		· · · · · · · · · · · · · · · · · · ·	

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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	8.0	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			***************************************	• • • • • • • • • • • • • • • • • • • •					
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TOTAL WATER PURGED (GALS): 275	WATER QUALITY METER: YSI 6920							
PUMP AND OTHER EQUIPMENT: Grundfos Submersible								
DEVELOPMENT WATER DISPOSAL: MISS On-S	Site Treatment Plant							
COMMENTS: Surge with pump. YSI readings	collected from cup during surging and from flow-through cell after surging.							

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PAGE		Oī	- 4	

DATE: 6-29-16	WELL ID: MW-	W-48S STATIC WATER L		LEVEL (FT. TIC):	12.87	WELL DEPTH (F	т. TIC): 20.31
WATER COLUMN (FT.): 7.44 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 2			2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.2				FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (I			FILTER PACK LENGTH (FT.): 10
FILTER PACK WATER VOLUME (GALS.): 6.12 CASING AND FILTER PACK PUR			GE VOLUME (GA	L5.): 7.32		WATER LOSS DURING INSTALL (GALS.): 30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 112			FIELD PERSONN	IEL: K Gerdes			

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		<b>B</b> 11			Specific					0144 (045
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Conductivity (mS/cm)	pH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
	(Ft. 11C)	(GFWI)		Temp. (C)	(ma/cm)	ųп	- ORP		(110)	(FFIVI)
6/14/16			90				<u> </u>	-		
<del></del>	initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedir	nent at complet	ion of developm	ent.			·			
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: Y5I 6920						
PUMP AND OTHER EQUIPMENT: Grundfos Submersible							
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant						
COMMENTS: Surge with pump. Y5I readings co	llected from cup during surging and from flow-through cell after surging.						

PAGE <u>2</u> of <u>2</u>

DATE: 6-29-16	WELL ID: MW-485 STATIC WATER			LEVEL (FT. TIC):	12.87	WELL DEPTH (F	T. TIC): 20.31
WATER COLUMN (FT.): 7.44 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 2			2	
WELL CASING/BOREHOLE VOLUME (GALS.): 1.2			FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (FT.): 10			FILTER PACK LENGTH (FT.): 10	
FILTER PACK WATER VOLUME (GALS.): 6.12 CASING AND FILTER PACK PUR			GE VOLUME (GA	LS.): 7.32		WATER LOSS DURING INSTALL (GALS.): 30	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 112			FIELD PERSONN	EL: 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)
11:10	13.10	0.35	35	15.18	1.254	6.76	167.6	1.03	17.8	No Reading
11:15	13.10	0.35	36.75	15.26	1.254	6.75	168.8	1.01	6.6	0.0
11:15	Stop Pump									
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TOTAL WATER PURGED (GALS): 126.75	WATER QUALITY METER: YSI 6920
PUMP AND OTHER EQUIPMENT: Grundfos S	ubmersible
DEVELOPMENT WATER DISPOSAL: MISS On	-Site Treatment Plant
COMMENTS: Surge with pump. YSI reading	s collected from cup during surging and from flow-through cell after surging.

PAGE	1	of	1	

DATE: 6-29-16	WELL ID: MW-	48D	STATIC WATER	TER LEVEL (FT. TIC): 13.64 WELL DEPT			(FT. TIC): 40
WATER COLUMN (FT.): 26.36 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 6			: 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 PUR			LTER PACK PUR	GE VOLUME (GA	LS.): 38.7		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 116.1			FIELD PERSONN	EL: K Gerdes		<u> </u>	

Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	pН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
		165						_	
Initial driller de	velopment by s	urging/overpum	ping.						
No vîsible sedin	nent at complet	ion of developm	ent.						
13.85	0.6	0	16.79	3.994	7.61	-20.0	6.05	107.8	0.7
14.60	0.6	3	16.34	3.956	7,21	-51.3	4.04	91.8	0.2
14.70	0.6	6	15.65	3.896	7.07	-52,9	4.00	258.0	0.2
14.80	0.6	9	15.72	3.834	7.01	-58.6	3.69	181.3	0.1
14.90	0.6	12	15.58	3.746	6.99	-51.7	3.52	68.1	0.0
14.95	0.6	15	15.16	3.614	6.98	-41.4	3.90	58.5	0.0
Stop Surging									
15.00	0.6	18	15.11	3.592	6.91	-25.7	1.39	22.5	0.0
15.00	0.6	21	15.09	3.581	6.88	-20.4	1.13	10.6	0.0
15.00	0.6	24	15.05	3.572	6.84	-1 <b>S</b> .5	1.03	0.5	No Reading
Stop Pump									
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	(Ft. TIC) Initial driller de No visible sedin 13.85 14.60 14.70 14.80 14.90 14.95 Stop Surging 15.00 15.00	(Ft. TIC) (GPM)  Initial driller development by si  No visible sediment at complet  13.85 0.6  14.60 0.6  14.70 0.6  14.80 0.6  14.90 0.6  14.95 0.6  Stop Surging  15.00 0.6  15.00 0.6  15.00 0.6	(Ft. TIC)         (GPM)         Purged (gal)           165           Initial driller development by surging/overpum           No visible sediment at completion of development by surging/overpum           13.85         0.6         0           14.60         0.6         3           14.70         0.6         6           14.80         0.6         9           14.90         0.6         12           14.95         0.6         15           Stop Surging         15.00         0.6         18           15.00         0.6         21           15.00         0.6         24	(Ft. TIC)         (GPM)         Purged (gal)         Temp. (C)           165         165           Initial driller development by surging/overpumping.           No visible sediment at completion of development.           13.85         0.6         0         16.79           14.60         0.6         3         16.34           14.70         0.6         6         15.65           14.80         0.6         9         15.72           14.90         0.6         12         15.58           14.95         0.6         15         15.16           Stop Surging         15.00         0.6         18         15.11           15.00         0.6         21         15.09           15.00         0.6         24         15.05	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)           165         165         165         Initial driller development by surging/overpumping.         Initial driller development at completion of development.         3.994         3.994           14.60         0.6         3         16.34         3.956           14.70         0.6         6         15.65         3.896           14.80         0.6         9         15.72         3.834           14.90         0.6         12         15.58         3.746           14.95         0.6         15         15.16         3.614           Stop Surging         15.00         0.6         21         15.09         3.581           15.00         0.6         24         15.05         3.572	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (ms/cm)         pH           Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.           13.85         0.6         0         16.79         3.994         7.61           14.60         0.6         3         16.34         3.956         7.21           14.70         0.6         6         15.65         3.896         7.07           14.80         0.6         9         15.72         3.834         7.01           14.90         0.6         12         15.58         3.746         6.99           14.95         0.6         15         15.16         3.614         6.98           Stop Surging         15.00         0.6         21         15.09         3.581         6.88           15.00         0.6         24         15.05         3.572         6.84           Stop Pump         3         5         5         6.84         6.84	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (ms/cm)         pH         ORP           Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.           13.85         0.6         0         16.79         3.994         7.61         -20.0           14.60         0.6         3         16.79         3.994         7.61         -20.0           14.60         0.6         6         15.65         3.896         7.07         -52.9           14.80         0.6         9         15.72         3.834         7.01         -58.6           14.90         0.6         12         15.58         3.746         6.99         -51.7           14.95         0.6         15         15.16         3.614         6.98         -41.4           Stop Surging         15.00         0.6         18         15.11         3.592         6.91         -25.7           15.00         0.6         24         15.05         3.572         6.84         -15.5           Stop Pump         15.05         15.05         3.5	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (c)         Conductivity (ms/cm)         pH         ORP         DO           Initial driller development by surging/overpumping.           No visible sediment at completion of development.           13.85         0.6         0         16.79         3.994         7.61         -20.0         6.05           14.60         0.6         3         16.34         3.956         7.21         -51.3         4.04           14.70         0.6         6         15.65         3.896         7.07         -52.9         4.00           14.80         0.6         9         15.72         3.834         7.01         -58.6         3.69           14.90         0.6         12         15.58         3.746         6.99         -51.7         3.52           14.95         0.6         15         15.16         3.614         6.98         -41.4         3.90           Stop Surging         15.00         0.6         21         15.09         3.581         6.88         -20.4         1.13           15.00         0.6         24         15.05         3.572         6.84         -15.5         1.03 <td>  Water Level   Discharge (GPM)   Purged [gal)   Temp. (C)   Conductivity (m5/cm)   pH   ORP   DO   Turbidity (NTU)    </td>	Water Level   Discharge (GPM)   Purged [gal)   Temp. (C)   Conductivity (m5/cm)   pH   ORP   DO   Turbidity (NTU)

OTAL WATER PURGED (GALS): 189 WATER QUALITY METER: YST 6920										
PUMP AND OTHER EQUIPMENT: Grundfos	Submersible									
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant									
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-through cell after surgin	g.								

PAGE __1__ of ___1___

DATE: 7-11-16	WELL ID: MW-	515	STATIC WATER	LEVEL (FT. TIC):	13.62	WELL DEPTH (F	-T. TIC): 18.80	
WATER COLUMN (FT.): 5	ATER COLUMN (FT.): 5.18 SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 2				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 PL			LTER PACK PUR	RGE VOLUME (GALS.): 2.55			WATER LOSS DURING INSTALL (GALS.): 0	
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 7.65				FIELD PERSONN	IEL: K Gerdes			

	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
7/7/16			8.5							
	Initial driller de	velopment by si	urging/overpum	oing.			·			
	No visible sedin	nent at complet	ion of developm	ent.						
7/11/16 9:10	13.62	0.05	0	16.47	5.337	5.81	233.1	9.08	466.1	0.0
<u>9:</u> 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	S.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 OF	n-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-through cell after surging.	

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DATE: 6-30-16	WELL ID: MW-	51D	STATIC WATER LEVEL (FT. TIC): 14.1 WELL			WELL DEPTH (F	DEPTH (FT. TIC): 53.81		
WATER COLUMN (FT.): 39.71 SLUDGE THICKNESS (FT.):			NESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6			6		
WELL CASING/BOREHOLE VOLUME (GALS.): 58.3				FILTER PACK DIAMETER (IN.): NONE FILT			FILTER PACK LENGTH (FT.): NONE		
FILTER PACK WATER VOLUME (GALS.): SB.3 CASING AND FILTER PACK PUR				GE VOLUME (GA	LS.): NONE		WATER LOSS DURING INSTALL (GALS.): 0		
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 175				FIELD PERSON	IEL: K Gerdes, J	Cook	·		

Tìme	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
6/30/16	·		165							
	initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.						
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	-					į			

TOTAL WATER PURGED (GALS): 184.5	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos	Submersible	
DEVELOPMENT WATER DISPOSAL: MISS O	n-Site Treatment Plant	
COMMENTS: Surge with pump. YSI reading	gs collected from cup during surging and from flow-through cell after surging.	

PAGE	1	of	,	

DATE: 9-6-16	WELL ID: MW-	-5 <b>2</b> S	STATIC WATER	LEVEL (FT. TIC): 6.00 WELL DEPTH (F			FT. TIC): 11.00
WATER COLUMN (FT.): 5.00 SLUDGE THICKNESS (FT.): 0.0			WELL CASING DIAMETER (IN): 2			2	
WELL CASING/BOREHOLE VOLUME (GALS.): 0.8				FILTER PACK DIAMETER (IN.): 8 FILTER PACK			FILTER PACK LENGTH (FT.): 5
FILTER PACK WATER VOLUME (GALS.): 3.3 CASING AND FILTER PACK PUR				GE VOLUME (GA	LS.): 4.1		WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 12.3				FIELD PERSONN	IEL: M Sieger		

	1				Specific		]		1	
T:	Water Level	Discharge	Volume	T (6)	Conductivity		600		Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pH	ORP	DO	(NTU)	(PPM)
9/1/16			110							
	Initial driller de	velopment by s	urging/overpum	ping.					ļ	
<u> </u>	No visible sedin	nent at complet	ion of developm	ent.						
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	1\$17.0	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
12.33		0.14		23.22	2.32.3	0.03	127.0	2.00	1313.6	0.0
42.00	Stop Surging					c = c	4.5.		4470.6	
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	S.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

PUMP AND OTHER EQUIPMENT: Grundfos Submersible

DEVELOPMENT WATER DISPOSAL: MISS On-Site Treatment Plant

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ATE: 9-6-16		WELL ID: MW	-525	STATIC WATER	R LEVEL (FT. TIC):	6.00	WELL DEPTH	(FT. TIC): 11.00		
ATER COLUM	N (FT.): 5.00		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING	DIAMETER (IN)	: 2		
VELL CASING/E	OREHOLE VOLL	JME (GALS.): 0	.8		FILTER PACK DI	AMETER (IN.)	.): 8 FILTER PACK LENGTH (FT.): 5			
LTER PACK W	ATER VOLUME (	GALS.): 3.3	CASING AND FI	LTER PACK PUR	IGE VOLUME (GA	LS.): 4.1		WATER LOSS D	URING INSTALL	(GALS.): 0
EQUIRED PUR	GE VOLUME (3X	VOLUME AND	LOSS) (GALS.): 1	2.3	FIELD PERSON	IEL: M Sieger				
Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9/6/16 13:30	5.80	0.14		26.46	2.342	6.71	124.2	1.03	4.4	0.0
13:35	5.80	0.14		26.43	2.374	6.70	122.5	0.98	1.7	0.0
13:40	5.80	0.14	15	26.81	2.365	6.69	121.8	0.97	1.3	0.0
13:40	Stop Pump									
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TAL WATER P	URGED (GALS):	125	WATER QUALIT	Y METER: YSI 6	920					<u> </u>
	ER EQUIPMENT		l .		-					
	•		e Treatment Plai	nt						
			ollected from cup		and from flow-t	hrough cell aft	ter surging.			

PAGE	1	of	2

DATE: 9-6-16 WELL ID: MW-52D ST			STATIC WATER	LEVEL (FT. TIC):	6.00	WELL DEPTH (F	T. TIC): 62.00
WATER COLUMN (FT.): 56.00 SLUDGE THICKNESS (FT.):				WELL CASING DIAMETER (IN): 6			6
WELL CASING/BOREHOLE VOLUME (GALS.): 82.3				FILTER PACK DIAMETER (IN.): NONE FILTER PACK LENGTH			FILTER PACK LENGTH (FT.): NONE
FILTER PACK WATER VOLUME	LTER PACK PUR	GE VOĻUME (GA	LS.): 82.3		WATER LOSS DURING INSTALL (GALS.): 0		
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 246.9				FIELD PERSONN	EL; M Sieger		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
9/1/16			220	,						<u> </u>
	Initial driller development by surging/overpumping.									
٠	No visible sediment at completion of development.				į					
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	4.2S	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	( <b>7.18</b>	-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	4.2S	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

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DATE: 9-6-16		WELL ID: MW	-52D	STATIC WATER	R LEVEL (FT. TIC):	6.00	WELL DEPTH	WELL DEPTH (FT. TIC): 62.00				
WATER COLUM	IN (FT.): 56.00		SLUDGE THICK	NESS (FT.): 0.0		WELL CASIN	G DIAMETER (IN	): 6				
WELL CASING/E	3OREHOLE VOL	UME (GALS.): 82	2.3		FILTER PACK D	IAMETER (IN.)	): NONE	FILTER PACK LENGTH (FT.): NONE				
FILTER PACK W	ATER VOLUME	(GALS.): NONE	CASING AND F	ILTER PACK PUF	RGE VOLUME (GA	ALS.): 82.3		WATER LOSS I	DURING INSTALL	(GALS.): 0		
REQUIRED PUR	GE VOLUME (3)	K VOLUME AND	LOSS) (GALS.): 2	<u>46.9</u>	FIELD PERSONNEL: M Sieger							
Water Level Dischar			Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рН	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)		
9/6/16 11:30	4.25	0.27	27	17.91	1.086	1.086 7.21 5.4 0.51				0.0		
11:30	Stop Pump											
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TOTAL WATER P			WATER QUALIT	Y METER: Y5I 6	920					<u> </u>		
PUMP AND OTH	ER EQUIPMENT	: Grundfos Sub	mersible									
			te Treatment Pla									
COMMENTS: Su	irge with pump.	. YSI readings co	ollected from cup	during surging	g and from flow-t	through cell af	iter surging.					

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DATE: 8-1-16 WELL ID: MW-535 STATIC WAT			STATIC WATER	LEVEL (FT. TIC): 4.65 WELL DEPTH (FT. TIC): 17.0			T. TIC): 17.00	
WATER COLUMN (FT.): 12.35 SLUDGE THICKNESS (FT.): 0.0				WELL CASING DIAMETER (IN): 2			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 PUR				GE VOLUME (GALS.): 8.0			WATER LOSS DURING INSTALL (GALS.): 20	
REQUIRED PURGE VOLUME (3X	4	FIELD PERSONN	IEL: K Gerdes		<u> </u>			

_	Water Level	Discharge	Volume		Specific Conductivity	<u> </u>			Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	pН	ORP	DO	(NTU)	(PPM)
7/26/16			150						<del> </del>	
	initial driller de	velopment by s	urging/overpum	ping.					<u></u>	
	No visible sedin	nent at complet	ion of developm	ent.						
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	<b>1267</b> .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
20.25		0.13	3.75	20.04	1.335	0.46	-33.2	7.44	323.3	0.0
	Stop Surging									N 5 F
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				5.05.0					
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TOTAL WATER PURGED (GALS): 159.75	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos Sub	bmersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Si	te Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	collected from cup during surging and from flow-through cell after surging.	****

PAGE	1	of	1

DATE: 8-1-16	3-1-16 WELL ID: MW-53D S			STATIC WATER LEVEL (FT. TIC): 4.35			WELL DEPTH (FT. TIC): 62.00		
WATER COLUMN (FT.): 57.65 SLUDGE THICKNESS (FT.): 0.1			NESS (FT.): 0.0	WELL CASING DIAMETER (IN): 6			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 PUR				GE VOLUME (GA	LS.): 84.7		WATER LOSS DURING INSTALL (GALS.): 0		
REQUIRED PURGE VOLUME (3X	\$4.1	FIELD PERSONNEL: K Gerdes							

	1	ı			T	<del> </del>	Т	1		1
	Water Level	Discharge	Volume		Specific Conductivity				Turbidity	OVA/PID
Time	(Ft. TIC)	(GPM)	Purged (gal)	Temp. (C)	(mS/cm)	рН	ORP	DO	(NTU)	(PPM)
7/26/16			250							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.						
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 (GAL5): 263.5	WATER QUALITY METER: YSI 6920		
PUMP AND OTHER EQUIPMENT: Grundfor	s Submersible	·	
DEVELOPMENT WATER DISPOSAL: MISS O	On-Site Treatment Plant		
COMMENTS: Surge with pump. YSI reading	ngs collected from cup during surging and from flow-through cell after surging.	•	
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PAGE <u>1</u> of <u>2</u>

DATE: 8-4-16	WELL ID: MW-54S STATIC WATER			LEVEL (FT. TIC): 3.22 WELL DEPTH			т. TIC): 11.00
WATER COLUMN (FT.): 7.78 SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 2					2		
WELL CASING/BOREHOLE VOLUME (GALS.): 1.3				FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (FT.)			FILTER PACK LENGTH (FT.): 8.5
FILTER PACK WATER VOLUME (GALS.): 5.2 CASING AND FILTER PACK PUR				GE VOLUME (GALS.): 6.5			WATER LOSS DURING INSTALL (GALS.): 0
REQUIRED PURGE VOLUME (3X VOLUME AND LOSS) (GALS.): 19.5				FIELD PERSONN	IEL: K Gerdes		

Time	Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
8/1/16			110							
	Initial driller de	velopment by s	urging/overpum	ping.						
	No visible sedin	nent at complet	ion of developm	ent.						
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

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.

PAGE 2 of 2

DATE: 8-4-16	WELL ID: MW	-54S	STATIC WATER	LEVEL (FT. TIC): 3.22 WELL DEPT			H (FT. TIC): 11.00		
WATER COLUMN (FT.): 7.78	R COLUMN (FT.): 7.78 SLUDGE THICKNESS (FT.): 0.0 WELL CASING DIAMETER (IN): 2				2				
WELL CASING/BOREHOLE VOLUME (GALS.): 1.3				FILTER PACK DIAMETER (IN.): 8 FILTER PACK LENGTH (FT.): 8.			FILTER PACK LENGTH (FT.): 8.5		
FILTER PACK WATER VOLUME (GALS.): S.2 CASING AND FILTER PACK PUR				GE 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)	pН	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	177.5	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	U.Z	20	16.30	0.308	0.87	185.0	1.30	6.7	0.0
10.33	Stop Pump									
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TOTAL WATER PURGED (GALS): 136	WATER QUALITY METER: YSI 6920	
PUMP AND OTHER EQUIPMENT: Grundfos Sub	mersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	ollected from cup during surging and from flow-through cell after surging.	
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PAGE	1	of	1	
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DATE: 8-4-16	WELL ID: MW-	54D	STATIC WATER	LEVEL (FT. TIC):	0.00	WELL DEPTH (F	T.TIC): 79.00	<u>.</u>
WATER COLUMN (FT.): 79.00		SLUDGE THICK	NESS (FT.): 0.0		WELL CASING D	DIAMETER (IN):	2	
WELL CASING/BOREHOLE VOLU	JME (GALS.): 12	.9		FILTER PACK DI	AMETER (IN.): 6	5	FILTER PACK LENGTH (FT.	): 25
FILTER PACK WATER VOLUME (	GAL5.): 9.2	CASING AND FI	LTER PACK PUR	GE VOLUME (GA	LS.): 22.1	-	WATER LOSS DURING INS	TALL (GALS.): 0
REQUIRED PURGE VOLUME (3X	VOLUME AND I	OSS) (GALS.): 6	6.3	FIELD PERSON	IEL: K Gerdes			

Water Level (Ft. TIC)	Discharge (GPM)	Volume Purged (gal)	Temp. (C)	Specific Conductivity (mS/cm)	рH	ORP	DO	Turbidity (NTU)	OVA/PID (PPM)
		55							
Initial driller de	velopment by s	urging/overpum	ping.						
No visible sedin	nent at complet	ion of developm	ent.		·				
0.00	0.15	0	18.35	0.513	7.56	195.2	7.80	1194.0	0.0
4.15	0.15	0.75	17.70	0.512	7.56	209.6	7.44	966.8	No Reading
6.15	0.15	1.5	17.63	0.510	7.59	211.2	7.75	581.8	0.0
7.25	0.15	2.25	17.49	0.512	7.63	215,4	7.75	388.7	No Reading
8.40	0.15	3	17.35	0.513	7.66	219.0	7.92	341.7	0.0
Stop Surging									
	0.15	3.75	17.41	0.524	7.70	222.6	. 7.46	289.8	No Reading
10.55				·		224.0		121.5	0.0
									No Reading
11.70	0.15	6	16.94	0.510	7.80	222.8	6.51	54.1	0.0
12.50	0.15	6.75	16.69	0.509	7.76	224.0	6,42	44.0	No Reading
						223.9			0.0
13.90	0.15		16.92	0.511	7.77	223.2	6.33	32.2	No Reading
									0.0
									No Reading
									0.0
									No Reading
									0.0
				İ					No Reading
·	· ·		·		·		·		0.0
	0.13	ļ	27,00	0.344	7.02	*******	0.00	2.2	
	(Ft. TIC) Initial driller de No visible sedir 0.00 4.15 6.15 7.25 8.40 Stop Surging 9.80 10.55 11.30	(Ft. TIC)   (GPM)	(Ft. TIC)         {GPM}         Purged (gal)           55           Initial driller development by surging/overpum           No visible sediment at completion of developm           0.00         0.15         0           4.15         0.15         0.75           6.15         0.15         1.5           7.25         0.15         2.25           8.40         0.15         3           Stop Surging         3.75         4.5           10.55         0.15         4.5           11.30         0.15         5.25           11.70         0.15         6           12.50         0.15         6.75           13.30         0.15         7.5           13.90         0.15         9           15.75         0.15         9.75           16.00         0.15         10.5           16.10         0.15         12           16.10         0.15         12.75           16.10         0.15         13.5	(Ft. TIC)   (GPM)   Purged (gal)   Temp. (C)   55     Initial driller development by surging/overpumping.     No visible sediment at completion of development.     0.00	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)           Initial driller development by surging/overpumping.         No visible sediment at completion of development.         0.00         0.15         0         18.35         0.513           4.15         0.15         0.75         17.70         0.512           6.15         0.15         1.5         17.63         0.510           7.25         0.15         2.25         17.49         0.512           8.40         0.15         3         17.35         0.513           Stop Surging         9.80         0.15         3.75         17.41         0.524           10.55         0.15         4.5         16.89         0.512           11.30         0.15         5.25         17.27         0.513           11.70         0.15         6.75         16.69         0.509           13.30         0.15         7.5         16.69         0.509           13.30         0.15         9.75         16.92         0.511           14.80         0.15         9.75         16.62         0.512           16.00         0.15         10.5         16.75         0.512	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)         pH           Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development.         Initial driller development at completion of development at completion of development.	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)         pH         ORP           Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.           0.00         0.15         0         18.35         0.513         7.56         195.2           4.15         0.15         0.75         17.70         0.512         7.56         209.6           6.15         0.15         1.5         17.63         0.510         7.59         211.2           7.25         0.15         2.25         17.49         0.512         7.63         215.4           8.40         0.15         3         17.35         0.513         7.66         219.0           Stop Surging         9         9.80         0.15         3.75         17.41         0.524         7.70         222.6           10.55         0.15         4.5         16.89         0.512         7.70         224.0           11.30         0.15         6         16.94         0.510         7.80         222.8           12.50         0.15         6	Water Level (Ft. TIC)         Discharge (GPM)         Volume Purged (gal)         Temp. (C)         Conductivity (mS/cm)         pH         ORP         DO           Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.         Initial driller development by surging/overpumping.           No visible sediment at completion of development.         Initial driller development by Surging/overpumping.         Initial driller development by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging for the purple by Surging	Water Level   Discharge (FT. TIC)   Discharge (FT. TIC)   S5   Temp. (C)   Conductivity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   pH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH   ORP   DO   Turbidity (mS/cm)   PH

TOTAL WATER PURGED (GALS): 69.25	WATER QUALITY METER: Y5i 6920	
PUMP AND OTHER EQUIPMENT: Grundfos Sub	mersible	
DEVELOPMENT WATER DISPOSAL: MISS On-Sit	e Treatment Plant	
COMMENTS: Surge with pump. YSI readings of	ollected 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**

NEW JERSET DEPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18

# LOW FLOW SAMPLING DATA SHEET

SHEET / OF 2

SITE:		Maywoo	وحا	<u>.</u>				CONSULTIN	G FIRM: _	CB. I					•
DATE: WEATHE	 R:	8-8-1	790					FIELD PERS	ONNEL:	P. Hedma	<u> </u>	<u> </u>		<del></del>	
MONITO	WEL	L# <u>1338</u>	W255		LL DEPTH: DIAMETER:	13.0 2		p., 14.8			ED/OPEN II	·	7.28-	2.4,14	
PID/FID R	EADI	łGS (ppm):		OUND: OUTER CAI INNER CAP			PUMI DEP1	H TO WATE	EPTH: <u>12.</u> R BEFORE	Oft below PUMP INST	THE (10	: 6.21 ft h	elow TOC	, . · · ·	
	PURGING	р (р <b>Н</b> 1	H units)	SPEC CONDUC (mS	CTIVITY	REI POTEI (m		DISSID YXO (m)		TURB (N	IDITY (U)	TEMPER	RATURE *	PUMPING RATE	DEPTH TO WATER (ft below
TIME	DA V	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
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	K	6.59		3.278		-62.6		9.40		69.3		18.93		165	6.38
1010	1	6.59		3.287		-59.0		9.34		51.7		19.13		165	6.38
1015	X	6.58		3.265		-598		1.41		45. 1		19.26		165	6.38
1020	1 1	6.57		3.265		-64.5		1.28		32.0		(8.08)		165	638
1025	X	6.56		3.250	1	-65.6		1.19		25.3		17.85		165	6.38
1030	1	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
COMMEN	its:	128-09	0000						•		:				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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#### LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: DATE: WEATHER			Maywo 3-3	-16					CONSULTIN	· -				-		
MONITOR	WI	ELL T#	# <u>1338</u>	w255		LL DEPTH: DIAMETER:		inches	· · · · · · · · · · · · · · · · · · ·		SCREEN	ED/OPEN IN	ITERVAL:			
PID/FID R	EAI	DIN	GS (ppm):		UND: OUTER CAI					2	ft below PUMP INST		:	below TOC		
	PURGING	SAMPLING	(рН і	H units)	CONDU (mS	CIFIC CTIVITY /cm)	POTE (n	DOX NTIAL nv)	OXO m)	OLVED 'GEN Ig/l)	(N	BIDITY TU)	(degr	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	-	1	READING	CHANGE*	READING	CHANGE*	-67.9	CHANGE*	0.98	CHANGE*	P. 7	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1040	X	7	6.55	NA .	3.261	NA	-01.1	NA .	0.70	NA .	1 1	NA	17.01		165	6.38 (Since
7043		/												*,		6,50(4,6
	-														62 62	
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	_									,						
:							*			-		(				
													V			
COMMEN	TS	:		-	•		· ·									

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET ____OF ___

SITE: DATE: WEATHER	t <u> </u>	Maywo 8-8- Sunny	16		LL DEPTH:	5 <b>%</b> 'V	<del>-</del>  :	CONSULTIN	ONNEL:	CB+I P. Hedno	an, 3.		33-	SVLA	. Beb S
WELL PER			WZ 2 <b>9</b> F		DIAMETER:	6	inches	""'U	) 110.					- 54/8	
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI		· · · · · · · · · · · · · · · · · · ·		P INTAKE DI H TO WATE				52.0 1 9.86 m	45)- P2		
	TIME 2 2 5 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* REA														
TIME	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1118	X		NA		NA		· NA		NA		NA		NA		<u> </u>
1125	Х	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	Х	6,62		4,739		-53.4	*	0.85		-4.1	'	15.41	,	235	10.40
1140	×	6.62		4.734	5	-54.2	1	0.84		-3.9		15.34		235	10.51
1145	*	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	V	6.65		4.807		-57 (		0.64		1.3		17.60		165	10.59
1200	У	6.65		4.805		-57.6		0.63		0.9		18,38		165	10.59
1205	×	6,65		4.827		-56.3		0.60		0.9		18.53		165	10.59
1210		6.64		4.854	1	55.6		0.58		1.0		18.69	1	165	10.59
COMMEN	TS:	sampli	<b>'</b> 3		5	AMPLE	15. 12	B 709	0001			Þĩ	to final	; 10,67	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET OF 2

SITE:		Mayu	ood				<del></del>	CONSULTIN		CB, I		( )6			
DATE: WEATHE	R:	8-19 SUN	3-16 m. 85	· · · · ·				FIELD PERS	DNNEL:	P. Hedma	<u>~, ~,</u>	(ook	10.11		أحادا
MONITO	WELL	#: <u>MW</u>	<b>9</b> 7	WE	LL DEPTH:			19.036	<b>6</b> ).	SCREEN	ED/OPEN IN	ITERVAL:	-6.0	3-204	
WELL PE	i	. —	·	WELL	DIAMETER:	2	inches				/-		9.0.3	919.0	3,084
PID/FID F	EADIN	GS (ppm):	BACKGRO			<u> </u>	PUMI	P INTAKE DE	<del>РТН: <u>)</u> 7 (</del>	43ft below	He (2	0.701-2	M	FFO	
				OUTER CAP		<del>'</del>	DEPT	H TO WATE	K BEFORE	PUMP INSIA	ALLA I IUN :	11.95	ierow 10C		
	PURGING	P (pH t		SPEC CONDUC (mS		REI POTEI	NTIAL	DISSO OXY (m	GEN	TURB (N1		TEMPEI (degre	RATURE PUMPING		DEPTH TO WATER
TIME -	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	RATE (ml/min)	(ft below TOC).
1302			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	Х	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		31.7		19.27		175	11.95
1340	X	6.53		3.095		52.4		1.33		77.4		19.16		175	11.95
1345	1	6.53		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	11.951
1355	X	6,50		3,091		55.8		1.17		52.7		18.39		175	11.951
COMME	NTS:					• •				٠ ـ ـ					
					÷)	<u> </u>		5 A	MPZE	10:12	B-0	90002	<u> </u>		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSEY DEPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance
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#### LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: DATE: WEATHER		Maywor	2-16				·	CONSULTIN				:			
MONITOR WELL PER		# <u>MW</u>	285		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:		~	<u> </u>
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI				P INTAKE DI		ft below PUMP INST		:Rt	pelow TOC		
	TIME 2 GRADING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE* CHANGE*														
TIME )님OO	7 8	6.50	CHANGE*	3.091	CHANGE*	-55.7		READING	CHANGE*	READING	ļ	· · · · · · · · · · · · · · · · · · ·		(ml/min)	11.95
1405	χ -	6.49		3.093		-56.4		1.07		41.4		18.39		175	11, 95
1410	Х	6.48		3.090		-58.1		0.99		34.9		17.99		175	11.95
1415	<del>                                     </del>	6.48		3.092		-59.4		0.95		27.9		17.94		175	11.95
1420	<del>/  </del>	6.48		3.093	:	-59.4		0,93	<u>-</u>	26.7		17.82	<u> </u>	175	11-85
1425	X													(FINAL)	11.95
												-			<u> </u>
				1.				,			,				
									_						
COMMEN	TS:														

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET ( OF <u>4</u>

SITE:	· .	_	Mayo					_	CONSULTIN		CB					
DATE: WEATHE	R:			18/16 nny ~	- 70sr	-	/		FIELD PERS	SONNEL:	KG.	ms.		20 000	)-58.80	حطا
MONITO	R W		# BRP	. /	WE	LL DEPTH: DIAMETER:	51.ft: 2	8.80 inches	ا مهدا	0.93 TI	( SCREEN	ED/OPÉN II	NTERVAL:	42	200	TIC
PID/FID F	EAI	DIN	GS (ppm):		UND: OUTER CAI			PUMI DEPT	H TO WATE	EPTH: 5	ft below PUMP INST	TOCTIC. ALLATION	. <u>9.25</u> ft			
	PURGING	SÁMPLING	р (рН	oH units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL nv)	OXI	OLVED (GEN ng/l)		IDITY TU)		RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	SÁN	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1015	X		5.93	NA	16.84	NA	-28.0	NA	4.42	NA	912.1	ŅA	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		358		925.8	,	20.48		150	11.7
10 30	X	Γ	603		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	126
1040	K		6.01		16.75		7.1	1	3.47		214.4		19.60		150	12.9
1045	X		601		16.70		9.8		3.61		847.7		19,35		150	13.25
1050	K	T	6.02		16.67		12.4		2.94		742.0		1943		150	13.6
1055	X	T	6.02		1664		13.4		3.20		619.1		19.55		150	/38
1100	K		601		16.66		15:0		2.99		499.8		19.78		150	14.05
1/05	W		6.00		16.68		14.5		2.36	1	456.0		19.82		150	143
COMME	NTS	=	Pump so	et at	515+ bg	\$.								-	:	

^{*}INDICATOR PARAMETERS HAVE STABLIZED WNEN 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

SHEET 2 of 4

SITE:		Maywood	d				_	CONSULTIN		CB				:	
DATE: WEATHE	 R:	8/8 SVAN		70s	<del></del>	<del> </del>	_	FIELD PERS	ONNEL:	KG/	MS -				
MONITO		L# BRF		WE	LL DEPTH: DIAMETER:	51 ft	inches			SCREEN	ED/OPEN II	NTERVAL:	-		
PID/FID R	EADIR	IGS (ppm):		UND: OUTER CAI INNER CAP		· · · · · · · · · · · · · · · · · · ·		P INTAKE D		ft below PUMP INST		:ft:	below TOC		
TIME		READING										-			TOC)
11/0	K.	6-00	NA ·	16.73	NA	13.6	NA	2.38	NA	380.0	NA	20.33	NA NA	150	14.45
1115	K	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	6.60		14.73		7.6		2.07		223.2		21.21		100	14.75
1130	Y	6.00		16.71		4.3		1,81		216,2	,	21.20		150	14.80
1)35	χ	6.00		16.70		0.8	<u> </u>	2.03		196.2		21.08		150	41180
1140	x	6.00		16.74		-3.3		1.75		187.3		21.21		160	14.80
1145	x	6.00		16.68		-42		1,94		182.4		21.30		120	14.85
1180	χ	6.00		16.67	<u> </u>	-5.0		1.96		158.8		21.63		1820	14.85
1155	λ	6.00		478		-10.1	- '	2.34		132.0		21.62		180	14.85
1200	X	6.00		16,70	3	-7,0		1.83		122.3	175	22.34		150	15:00
	rrs: V	:53 Clea	ured out	flow a	ell of Sed	liment.									

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSITY DEPARTMENTAL OF ENVIRONMENTAL LAND LOW Flow Purging and Sampling Guidance
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#### LOW FLOW SAMPLING DATA SHEET

SHEET 3 of 4

SITE: DATE: WEATHER		Mayuxx 8/8 Swor	3d 3/16 14 80's					CONSULTIN							
MONITOR WELL PER		# 800	<u> </u>	<del></del>	LL DEPTH: NAMETER:		inches			SCREEN	ED/OPEN IN	TERVAL:			
PID/FID RI	ADIN	GS (ppm):		UND: OUTER CAI INNER CAP			//	P INTAKE DI H TO WATE	,	ft below PUMP INST/		ft t	elow TOC		
	SPECIFIC CONDUCTIVITY POTENTIAL OXYGEN (mg/l) TURBIDITY TEMPERATURE (ft below TIME 2 5 8 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (10 mg/l) TURBIDITY TEMPERATURE (degrees C) RATE (ft below TOC)  NA 10.64 NA -6.2 NA 1.43 NA 148.0 NA 22.48 NA /80 /800 /800 /800 /800 /800 /800 /800														
1205	05 x 6.03 NA 16.64 NA -6.2 NA 1.43 NA 148.0 NA 22.48 NA														
1210	05 18 6.05 10.64 -6.2 1.45 148.0 22.46														15,00
1215	χ	6.03		ال . حالم		-12.7		1.59		116.6		21.88		120	15.05
1220	7	6.03		16.57		-12.9		1.61		98.8		22.89		100	15.05
1225	x	6.03		16.56		-13.0		1.68		102.4		21.50		750	15.10
1230	X	6.62		16.47	ļ	-15.3		1.92		94.2		21.06		150	15.15
1235	X.	6.01		16.42		-12.0	- `	2.11		93.8		20.81		150	12.52
1240	X	4.00		16.39		-15.6		1.94		87.4		8004		150	15.35
1245		6.00		16.34		-16.0		\$2.27		84.2		20.58		150	15.45
1250	x	2.97		16.28	,	- 13.1		2.72		78.1		21.17		180	\$2.22
12.55	¥.	5,97		16.30		-14.1		2.70	;	75.3	40.3	21.01		150	15:55
COMMEN	TS: (	hecking	Turbic	lity wi	th the	e La Mot	te metr	er							. ,

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET 4 OF 4

MONITOR WELL PEI			52	· ·	LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN IN	NTERVAL:			
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI INNER CAF		·		H TO WATE		ft below PUMP INST		:ft l	elow TOC		
	PURGING	р ( <b>Н</b> q)	H inits)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL nv)	OX	OLVED 'GEN 19/1)		IDITY TU)(anole	ł	RATURE ses C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	PUF	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	علالمانية. ا	READING	CHANGE*	(ml/min)	TOC)
1300	x	596	NA	16.35	NA	-16.5	NA	3.14	NA	625	43.2	20.89	NA	150	215.60
1305	X	5.96		14.36		-17.0		2.94		67.7	43.9	20.84		120	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					10.0									
10-0											1				9.23
				:					-						
										1					
				1	·										
						1.									

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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#### LOW FLOW SAMPLING DATA SHEET

SHEET L OF

SITE: DATE: WEATHEI	-		19/16	603				CONSULTIN	_	CB KB,					
MONITOR		#: <i>BRP</i> #:	29		LL DEPTH: DIAMETER:		1C, 51-40 inches	2995		SCREEN	IED/OPEN I			- 51.40 - 52.9	
PID/FID R	EADIN	IGS (ppm):		OUND: OUTER CA INNER CAP		· · ·				1 ft below PUMP INST		. 8.00 m			<i>ν</i>
	SPECIFIC REDOX DISSOLVED OXYGEN TURBIDITY TEMPERATURE (MEDICAL CONDUCTIVITY (MS/cm) (MV) (Mg/I) (NTU) (degrees C) RATE (MI/min) TOC)  ME 2 5 7 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE*														
0840	ā s														
0845	X	6.45		11.87		-26.8		0.56		3.2		17.92		300	8,35
0850	x	6.48		11.87	. ,	-77.8		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	×	6.57		11.86		-28.2		0.45		2.7		17.81		300	8.69
0905	×	6.52		11.83		-28.0		0.40		2.4		18-55		225	<b>8.80</b>
0910	¥	6.53		11.84		-27.8	·	0.41		2.3		18.61		225	8.80
0915	Æ .	6.53	-	11.83		-27.6		0.40		2,4	- '	18.66		725	යි.හි
0920	Υ	6.54		11.83		-275		0.40		2.3		18.70		225	8.85
0925	x	6.53		11.84		-27.6		0.41		7.2		18.73		225	8.85
0930	X					<u>.</u>						1.	<u> </u>	Final	8.85
COMMEN	ITS:	Final L	150 BLM	o= <b>3.3</b> S											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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	7	- 1
	/ -	_ /
SHEET	0	<b>-</b> _

SITE:		Maywo	ro d				_	CONSULTIN		CBI		,			
DATE: WEATHE	R:	8-9-	4 80's				<del></del>	FIELD PERS	ONNEL:	KG/MS	) . ,			<del> </del>	
MONITOF	i	# <u>mw</u>	435		LL DEPTH: DIAMETER:	47.86	TIC, 4	5.40 %	/ ندو	SCREEN	ED/OPEN II			- 45.4c	
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI		· · · · · · · · · · · · · · · · · · ·				·8 ft below PUMP INST		: <i>7.95</i> ft l	pelow TOC		<b>7</b>
	PURGING	p (pH :	oH units)	-	CIFIC CTIVITY (cm)	POTE	DOX NTIAL IV)	ОХҮ	OLVED 'GEN g/l)		SIDITY TU)		RATURE *	PUMPING RATE	DEPTH TO WATER (ft below
TIME	P S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1030	×	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		222	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
1080	x	8.02		2.534		-32.0		0.60		45.5		21.02		225	8.00
1055	x	8.∞	<u> </u>	2.530		-32.3		0.87		45.2		20.95		225	8.00
1100	X	8.02		2.519		-40.2		0.61	٠.	49.8		20.84		725	8.00
1105	X	8.01		2.520		-41.6	,	0.63		44.8	<del>~</del> .	20.62		222	8.00
1110.	×	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	11													8.00
COMMEN	NTS: (	YSI tur	bdity fee	udings hig	her than	Lamott!	Reading	i- CAMOS	A head	ing 201				,	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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#### LOW FLOW SAMPLING DATA SHEET

SITE:		Daywoo						ONSULTIN							
DATE:		3-9-16		······································	~~			FIELD PERS		CG/MS					
WEATHE		0		**	<u> </u>	14.24		45.51						211 Ge 14	
MONITOR WELL PE		# <u>Mu</u>	7450		LL DEPTH: NAMETER:		)inches	, <del>Grass</del>	CHARGE 19	12)SCREEN	ED/OPEN II			44.90 KG	
					MANNET ERG				20	- 3 .			<del>/0.51-</del>	73/37	HAC
PID/FID R	EADIN	GS (ppm):	BACKGRO							20 ft below		11 21			: •
-				OUTER CAP			DEPT	H TO WATE	R BEFORE	PUMP INST	ALLATION	; <u>//. 2 (o</u> ft b	etow TUC		
	5	1		SPEC		RED	ox	DISSO	OLVED	1		1	· · · · · ·		DEPTH TO
	S Z		Н		CTIVITY	POTE			GEN		BIDITY		RATURE '	PUMPING	WATER
Time	SPECIFIC REDOX DISSOLVED DH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE 'PUMPING WAT (pH units) (mS/cm) (mv) (mg/l) (NTU) (degrees C) READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (ml/min)  2 2 3 4 5 5 5 6 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7														
				:		1			<del> </del>					<u> </u>	
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	<del>_</del>	ZOO	11.22
1330	X	7.72		1.293		-92.7		0.64		9.8		21.03	<u>.</u>	200	11.60
1335	X	7.68		1.281		-92.8		0.55		8.0		21.06		200	N.60
1340	x	7.67		1.283		-95.6	1	0.55		9.0		21.09		200	11.60
1345	x	7.65		1.272		-940	\	0.54		6.5		21.28		200	11,60
1350	x	7.66		1.269		-94.5		0.83		6.0		21.31		260	11.65
1355	×	7.65		1.267		-95.0		0.53		4.1		21.21		200	11.68
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	17.40
COMMEN	ITS:							<u>-</u>							
					Ŀ.	•						-			

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERS DEPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18



SHEET ____OF ___

SITE:		MAywe	Zoc					CONSULTIN	· —	CBI	<b>.</b>				
DATE: WEATHER	<u> </u>	4.50	-16 N 85	• • F			<del>-</del> .	FIELD PERS	ONNEL:	Jc / F	<del>2H</del> ·			2	·
	WELL	# B38		WE	LL DEPTH: DIAMETER:	28.80 2	e if TIC mches	21.05	Siber	SCREEN).	ED/OPEN II	TERVAL:	22.00	-270 -28.8	0 H, 600 1 19, Tic
PID/FID R	EADIN	GS (ppm):	and the second second	OUND: OUTER CAI INNER CAP		<del></del>				36 ft below PUMP INST		: <u>/0-19</u> ft 1	pelow TOC	.:	
	PURGING		H mits)	CONDU	CIFIC CTIVITY /cm)	REI POTE		YXO	LVED GEN g/l)	TURB (N	1.1		RATURE '	PUMPING RATE	DEPTH TO WATER (ft below
TIME	P S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1315	$\chi$		NA		NA		NA		NA.		NA		NA		10.19
1320	X	6.11		1.762		-2.0		1.75		50.0	å	22.00		165	10.27
1325	X	6.05		1.738	÷	-31.6		1.00		24.0		20.21		165	10.27
1330	Х	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	1	165	10.27
1340	X	6.07		1.758	-	47.4		0.59		16.4		18.99		165	16.27
1345	X	6.08		1.776		-50.5		0.57		11.4		18.75		165	10.27
1350	Х	6.09		1.789		-51.3		0.55	. J	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		(8.79		165	10.27
1405	ľΧ													FINAL	10.27
COMMEN	TS:	10 A-O	90012	 											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET OF 2

SITE: DATE: WEATHER MONITOR	l:	8-9-1 2000	16		LL DEPTH:	17.0	 	FIELD PERS	ONNEL:	CBI 3.Cook	ED/OPEN II	e DMOM	40.40		284.
WELL PER		<u> </u>	BACKGRO BENEATH			2	inches PUMF	INTAKE D	PTH: /S	ft below PUMP INST		10.85#1		17.0	titk.
TIME															
	139 X NA NA NA NA NA 190 10.5														
1145	X	6.24		3.932		-19.3		0.92		68.2		23.23		190	10.17
1150	X	6.19		3.903		-12.5		0.75		51.8		22.93	٠	190	11.01
1155	X	615		3.785		-7.8		0.69		44:0		22.91		190	11.01
1200	Х	6.11		3.674		-3.5		0.65		31.7		22.67		190	11.01
1205	X	607	<u> </u>	3.603		0.4		0.62		244		22.33		190	1).01
1210	X	6.06		3.578		2.6		0.60		21.0		22.63	1	190	11.01
1215	X	6.03	<u> </u>	3,563		4.9		0.57		13.2		22.54		190	11.01
1220	X	6.02	<u> </u>	3.517	<u> </u>	7.0		0.55		11.6		22.68		190	11.01
122:	7 1	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		8.0		2322		190	11.01
COMMEN	TS: /(	0A-090	110					:							

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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SHEET 2 OF 2

SITE: DATE: WEATHE	:R:		aywo	00  -9-10	0			_	CONSULTIN	_	CB+:	i ek, P	Hedno	<b>^</b>		
MONITO				w245		LL DEPTH: DIAMETER:		inches	:	· · ·	SCREEN	IED/OPEN II	NTERVAL:			
PID/FID	REA	DIN	GS (ppm):		OUND: OUTER CAI I INNER CAF			-			ft below PUMP INST		:	below TOC		
	DIIBGING	SAMPLING		oH units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX INTIAL IIV)	ОХУ	OLVED 'GEN g/I)		SIDITY TU)	1	RATURE C	PUMPING RATE	DEPTH TO WATER (ft below
TIME	1	1	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1235	-	V	5.99	NA	3.540	NA	9.4	NA	0.52	NA	7,7	NA	23,38	NA ·	190	11.01
124	1	1	<u> </u>								·			<u> </u>	FINAL	11.01
<u> </u>	+	+										ļ			ļ	
		_									ļ	<u> </u>		'		
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	+	+														
COMME	NTS	<b>*</b> ,				1					.1	<u></u>	1.	<u> </u>		<u> </u>

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET OF

ELL PE	RMI	T #:	# <u>B380</u> : GS (ppm):	BACKGRO BENEATH	OUND: OUTER CAF		6		H TO WATE				. <u>8.43</u> m i		- 71,00	
	PURGING	SAMPLING	p (pH a		SPEC CONDUC (mS/	CIFIC CTIVITY	REI POTE (m		DISSO YXO (m)	GEN	TURB (N1		TEMPEI	RATURE .	PUMPING RATE	DEPTH TO WATER (it below
11ME 3구	ر 1	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min) 235	тос) - <i>8</i> . 43
45	X		7.18		0.789	3	-83.2		1.50		13.1		15.76		235	8.59
50	X		7.36		0.803		-88.6		1.14		16.2		15.74		235	8.69
55	X		7.44		6.805	•	94.9	-	1.01		20.0		15.72		235	8.78
00	X		7.47		0.805		-100.4		0.96		20.3		15.69		235	8.82
05	X		7.48		0.805		103.8	. \	0.95		20.5		15.73		235	8.87
10	Х		7.49		0.806	-	104,7		0.88		17:1		15.67		235	8.90
15	X		7.50		0.805		105.5		0.79		16.0	,	16.02	,	235	8.91
20	X		7.50	, ,	6.807	•	106.0		0.78		16.3		16.14		235	3.91
25	X		7.50		0.808	-	107.6		0.77		15.(		16.20	:	235	8.92
20		X														8.80 F

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET OF 2

SITE:		V	laywoo	7					CONSULTIN	G FIRM:	CB+					
DATE:	-		8510-	(6 ~ ·					FIELD PERS	ONNEL: _	3.Co	ok P. I	<u>kednan</u>			
WEATHE	₹:		cloudy	, 75°			14.01	bas.				,		·		
MONITOR WELL PE				OIAR	_	LL DEPTH: DIAMETER:		inches	15,62	TIC	SCREEN	ED/OPEN II	NTERVAL:	9.0-	14.0	Des
PID/FID R	EAL	NIC	GS (ppm):	BACKGRO	UND:	Ø	1	PUMI	P INTAKE D	ЕРТН: <u>/3</u>	O ft below	TOC (12	.0'BGS)			
					OUTER CAP		<u>5</u>	DEPT	H TO WATE	R BEFORE	PUMP INST	ALLATION	: <u>7.81</u> #1	elow TOC		
TIME	2	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	<del>  `                                   </del>	· · · · · · · · · · · · · · · · · · ·
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	¥		7.33		2.523	:	-90.4		0.96		55.7		19.27		165	7.88
850	*		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
COMMEN	TS:	,	128-0	90016												

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Low Flow Purging and Sampling Guidance
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#### LOW FLOW SAMPLING DATA SHEET

SHEET 2 of 2

SITE:	<u> </u>	-1	Maywo	od					CONSULTIN		CB+I					
DATE:			8-10-	16			<del>- ·</del>	_	FIELD PERS	ONNEL: _	3 C00	k, P.	Hednow	<b></b>	<u> </u>	
WEATHE				5,75					<del>,</del>							
MONITOR WELL PE				SOIAR		LL DEPTH: DIAMETER:	<u> </u>	 inches			SCREEN	ED/OPEN II	NTERVAL:			<del></del>
1			GS (ppm):	BACKGRO				PUMI	P INTAKE D	EPTH:	ft below	TOG	<del> </del>	<del> </del>		*
	-			BENEATH	OUTER CAP						PUMP INST		:ft	below TOC		
	PURGING	SAMPLING	p (pH t	H inits)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	ОХУ	OLVED 'GEN g/l)		IDITY TU)		RATÚRE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
920	X	-	N	NA		NA.		NA.		NA .		NA		NA		
920	X		7.35		2.181	. ,	96.7		0.45		26.2		19.03		165	7.88
925	×		7.35		2.167		97.1		0.44		19.3		19.24		165	7.88
930	Х		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		14.46		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		94		19.51		165	7.88
950		X											<u>.</u>		FINAL	7.38
								ý.								
:			, .													
													,			
COMMEN	ITS:		28-09	0016								,				
						•										<b>.</b>

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



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	- [		
SHEET	١.	ΩE	_
ONEE		•	

SITE: DATE: WEATHER			May. 8-10- clad	16 5, 80°				_ _ _	CONSULTIN	ONNEL:	C8. I 3 Coo	<u> </u>	idman	2.0		
MONITOR WELL PER	1.5			SOIBR	_	LL DEPTH: NAMETER:	61.3	_ inches	03.31	TI L	SCREEN	ED/OPEN IN		<u> 38 -</u> 39 81	- 63.31	1810
PID/FID R	EAI	DIN	GS (ppm):		UND: OUTER CAI INNER CAP	·					.6 ft below PUMP INST		56.0' B	45)		
	1057 X NA NA NA NA NA NA 200 8.0															
	1105 4 7.36 0.882 -89.7 2.33 27.1 7.61 200 8.02															
1110																
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	802
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	8.62
1135	X		7.43		0.907	,	35.4		1.22		8,8		18,21		200	8.02
1146	X		7,44		0.988		50.6		1.20		7.2		18.09		200	8.02
1145	X		7,43		0.908		64.2	, ,	1.19		7.0		13.12		200	8.62
1150	X		7,43		0,909		78.6		1.17		6.4	,	13.21		250	8.02
COMMEN	TS:	:	128-0	F10017										·	•	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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#### LOW FLOW SAMPLING DATA SHEET

SHEET ___ OF ___

SITE: DATE:		y agus	رن 16-					ONSULTIN							
WEATHER	t:	9 & 10	-, -			· .	 -	LINER LEVE			· · · · · · · · · · · · · · · · · · ·				
MONITOR			50) BR		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	TERVAL:			· · ·
		GS (ppm):			);		PUMF		- · · · · · · · · · · · · · · · · · · ·	ft below PUMP INST		:ft l	below TOC		
	PURGING SAMPLING	p (pH u		SPEC CONDU (mS		POTE	OOX NTIAL N)	ОХҮ	OLVED GEN g/l)		SIDITY TU)	4.5	RATURE . ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME .	PU SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
. i			NA	-	NA		NA ·		NA		NA		· NA		
1155	X	7.43		0.916		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	A	7.43		0.912		109.3		1.14		5.0		18.59		200	8.02
1210	X	7.43	٠.	0.913		122.9		114		6.0		18.33	,	200	8.62
	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	4	5.4		18.34		200	8.02
1225	X	7.43		0.917		154.5		1.1)		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	743		0.925		160.4		1.10		4.5		18.71		200	8.02
1240	X										-			FINAL	8.02
COMMEN	TS:		128-0	2900(7											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET / OF 7

SITE: DATE: WEATHER MONITOR WELL PER	WELL	Mayus 8010 1200 # M1550	-16 , 85°	:-	LL DEPTH: DIAMETER:	53 K		CONSULTIN	ONNEL:	CB+ I I. Co.		Hedman	^ 38-	53 6	8.
PID/FID R	DIFID READINGS (ppm): BACKGROUND: PUMP INTAKE DEPTH: 51.0 ft below to grow Surface  BENEATH OUTER CAP: DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.54 ft below TOC  BENEATH INNER CAP: 0,5  SPECIFIC REDOX DISSOLVED DEPTH TO														
	PH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE (ft below reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading change* reading chang														
1347	347 X NA NA NA NA NA NA 210 9.54														
1355	355 x 7.01 3.441 -41.5 0.74 1.5 13.35 210 9.65														
1400	X	7,00		3487	-	-49.0		057		3,1		18.47		210	9.65
1 1 0	4	7.00		3.489		-53.5		0.48		2.5		18.62		210	9.65
1410	*	7.00		3.487		-55.4		0.46		3,2		13.77		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	<u> </u>	2.4		19.02	-	210	9.65
1430	7	7.00		3.470		-59.2		0.39		2.5		19.01		210	9.65
1435	X	7.00		3.168		-59.3		0.39		2.4		19.08		210	9.65
1440	X													FINAL	9.65
COMMEN	TS:	445	- pv1 1	128-0	90018										

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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### LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF Z

SITE:		May!	2000					ONSULTIN	_	CBI	MS				
WEATHER	<u> </u>		dy, hum	d -80	o F		_	11-51-10							
MONITOR			62AR	WELLI	LL DEPTH: DIAMETER:	201	inches	so affi	shwood	SCREEN	ED/OPEN IN	ITERVAL:	14-	-19/4	· pro
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI INNER CAP			PUMP	INTAKE D	PTH: 17 R BEFORE	ft below PUMP INST	TOC ALLATION :	6.75 m	elow TOC		
:															
TIME	P	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0825	<b>/</b>		NA		NA		NA		NA.		NA.		NA		
0830	x	No	readin	95 -	Adjus F	ng pu	mp for	pa 4	hes	h dur	bidit			200	7.00
0835	χ	7.48		4.016		-90.4		0.97		44.5		19.71		200	7,00
0840	X	7.18	-	4,049		-102.1		2005		43.8		19.78		200	7.00
0845	X	7,22	<u> </u>	8.054		-103.5		1-61		46.9		19.75		200	7.00
<i>0</i> 850	x	7.65		4.087		-121.9	\	1.31		35.5		19.46		200	7.00
0855	X	1.71		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	2,75		4,141	,	-137.6		1.16		24.3	· .	19.78		700	6.90
0915	X	7.75		4,162		-135.2		1.10		23.6		19.81		200	6.90
COMMEN	TS: U	sing the	e Lamot	n for T	iurbidi-	y. Stra	w Colo	r wade			1 _W			,	<b>,</b>

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSI EPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18



#### LOW FLOW SAMPLING DATA SHEET

SHEET Z OF Z

MONITOI WELL PE				85.02P	WELL:	LL DEPTH: DIAMETER:		inches		-	SCREEN	ED/OPEN II	VTERVAL:			
PID/FID R	EAD	IN	GS (ppm):		UND: OUTER CA INNER CAF	<del></del>					7 ft below PUMP INST		: <u>6.75</u> ft	below TOC		
	PURGING	SAMPLING	•	H inits)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL iv)	OX	OLVED /GEN ·g/l)	1	SIDITY TU)		RATURE ¹ ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	1	S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
<u>0920                                   </u>	1. 1		₹.76 -	NA	4.157	NA .	-138.1	NA .	1.06	NA.	24.4	NA	19.91	, RA	Z00	4.80
25PC	X	•	7.76		4.153		- 137.5		1.06		21.6		19.98		200	6.90
0890		X						·		1.					Final	7.00
								. \								
													-			
		_													,	
:																
		`									·		<u> </u>			
	$\Box$			<u> </u>		<u> </u>				1	1				***	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



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SHEET	_ OF _	L

SITE:		<u>ayusoo</u>	J.					CONSULTIN		CBT EG-MS					
WEATHE		in hun	ad 80	'S			<b>-</b>	FIELD PERS	CHNEL:	الما - حاسا	<u> </u>			·	
MONITOR WELL PE	WELL	# Mw	. /	_	LL DEPTH: DIAMETER:		D DOD .	,610	2'TIZ	SCREEN	IED/OPEN II	NTERVAL:		5.8-5°	90 B
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI INNER CAP		2				ft below	•	: <u>/2.//</u> ft:	below T#C		
	PURGING	р (рН г	H mits)	SPE( CONDU (mS		POTE	DOX NTIAL nv)	OX	OLVED 'GEN :g/I)		BIDITY TU)		RATURE [*]	PUMPING RATE	DEPTH TO WATER (ft below
TIME	E S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1250	X	Start	Purg	ins - N	o Mea	ding	SENAIN	s flo	w Kas	e	NA		NA	250	12.40
1255	X	7.88		2.776		-125.6		1.81		14.6		19.50		750	12.40
1300	x	7.59		7,76G		-128.9		1.54		12.9	1.	19.74		250	12.50
1305	K_	7.49		2 768		-131.7	·	1.49		15.4		20.53		250	12.50
1310	x	ገ,ዛር		2,758	:	-133.5	/ \ '	1.49		15.8		21.10		250	12.55
1315	X	7,43		2,767		-135.1		1.45		14.0		21.00		SSD	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		1.54		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
COMMEN	πs: τ,	sing La Water C	montte color Clea	zozow w/strau	e Turbid N	hmeter s	for Turb	oidity.				•	<del>.</del>		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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#### LOW FLOW SAMPLING DATA SHEET

SHEET L OF

SITE:			Mayou	000					CONSULTIN		CB+ I					
DATE:			3011		350			_	FIELD PERS	ONNEL: _	J.C00	4, P.S	6)mor	<u> </u>	1	
WEATH			p. cl									· .				
MONITO	:			475	<del></del>	LL DEPTH:	12.0	1990. j 13	1621		SCREEN	ED/OPEN II	NTERVAL:	4-0	<u>~ (2, E</u> -13.62	12 12 13 C
WELL P				1.7	WELL	IAMETER:									-13-62	14.211C
PID/FID	REAL	MIC	GS (ppm):	BACKGRO				PUMI	P INTAKE D	ÈРТН: <u>13.</u>	Oft below	TOC ( )	.O' B4'	>)		
					OUTER CAI	,	<u></u>	DEPT	H TO WATE	R BEFORE	PUMP INST	ALLATION	6.71 ft l	below TOC		
	SPECIFIC REDOX DISSOLVED															
	PH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE PUMPING WATER (pH units) (mS/cm) (mv) (mg/l) (NTU) (degrees C) RATE (ft below															
TIME	URG B	ARP		<del></del>	· · ·	<del></del>	· · · · ·		<u> </u>		(N'	CHANGE*	<del>                                     </del>	CHANGE*	RATE (ml/min)	(ft below TOC)
	+-	S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING		READING		-	
1207	4			NA		NA		NA		NA		NA.		NA		6.91
1210	X		7.14		2.444		76.6	. '	0.88		14.6		21.05	<u> </u>	200	7.01
1215	ſχ		7.14		2,432		85.8		0.55		3.4		20.95		200	7.00
122	> X		7.13		2.428		87.3		0.44		1.4		20,71		200	7.∞
122	íχ		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		20,00		200	7.00
123	<u> </u>		7.10		2.415	•	90.5		0.29		-2.7		21.14		200	7.00
1240	214		7.10		2.416		88.9		0.28		- 3.2		21.72		200	7.00
1245	X		7.10		2.49		90.4		0.28	· .	-2.9		21.43		200	7,00
1250	2	X													FINAL	7.00
COMMI	NTS:		128-	0 900	24	i.	•									

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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·	•		4
SHEET		OF	,

SITE: DATE: WEATHER	·	Maywood 8-11-1 2. cloud	0) 16 19, 85	0				CONSULTIN	_	2.Co	ok, P	tledmo	~		
MONITOR WELL PER		# Mw		WE	LL DEPTH: DIAMETER:	57.0	inches	58.88 t	TIC	SCREEN	ED/OPEN IN		<u>32-5</u> 33,88	-58.88	Thes.
PID/FID RI	ADIN	GS (ppm):		UND: OUTER CAI INNER CAP	-		PUMI DEPT	H TO WATE	EPTH: <u>5(</u> R BEFORE	ft below PUMP INST	TOC (49 ALLATION	1845) .[3.00#1	below TOC		
1636	36 X NA NA NA NA NA NA 225 13.00														
1045	3.089 -100.0 1.09 21.2 16.73 225 13.14														
1050	X	6.89		3.088		-104.5		0.37		21.7		16.42		225	13.17
1055		690		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	<b>X</b>	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	690		3.095	•	107.8		0.58		20.7		17.07		225	13.21
1120	<u> </u>	6.90		3.093	-	107.4		0.56		2ه.3		17.00		225	13.21
1125	X	6.90		3.087		107.7		0.52		13.9	,	17.14		225	13.21
1130	X							Ŀ						FINAL	13.22
COMMEN	TS: .	128-0	9002	3			.· -						1	٠.	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET OF 2

SITE:		laywo	2				CONSULTING FIRM: CB+ I-									
DATE:			11-10	2 00			FIELD PERSONNEL: 3. Cook, P. Hedman									
WEATHER		portly s					_					-			<i></i>	
WELL DEPTH: 1.5 Left Dags., 19.25 FTK SCREENED/OPEN INTERVAL: 12-17.5 PR. TIC.  WELL DIAMETER: 2 inches 13.75-19.75 PR. TIC.																
PID/FID READINGS (ppm): BACKGROUND: PUMP INTAKE DEPTH: 17.5 ft below TOC (15.5 1 8GS)  BENEATH OUTER CAP: DEPTH TO WATER BEFORE PUMP INSTALLATION: 0.58 ft below TOC  BENEATH INNER CAP: 0,4																
	PURGING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE	DEPTH TO WATER (ft below	
TIME	PU	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)	
823	<b>X</b>		NA.	<u></u>	NA		NA		NA		NA		NA .	185	10.58	
830	X	6.69		2.180		-18.8		2.31	-	380.9		17.89		185	11.05	
635	×	6.72		2.207		<b>-47.7</b>		3.13		171.4		17.49		185	16.16	
840	X	6.65		2.246		53.8		3.64		88.4		17.43		185	11.17	
845	X	658		2.275		55.4		4.03		68.6		17.36		185	11.20	
850	X	6.55	. ,	2.282		55.7		5.27		57. (		17.48		185	11.27	
355	X	6.53		2.271		-54.3		7.00		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		16.16		17.7		17.78		185	11.28	
910	X	6.50		2.238		61.1		10.91		16.2		12.02		185	11.28	
915	Х	6.49		2,225	-	63.8		10.22		7.7		18.11		185	11.28	
COMMEN	TS:	128 -	0900	22												

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET ZOF 2

SITE: DATE: WEATHER		Mazur	11-16 -11-16				_	CONSULTIN							
MONITOR		# <u>M</u> w	465		LL DEPTH: DIAMETER:		inches	· <u>_</u> · ,_		SCREEN	ED/OPEN II	NTERVAL:			
PID/FID R					?:		PUMI	P INTAKE D	\ · · ——	ft below PUMP INST		:ft	below TOC		
	PURGING		H units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL nv)	OXO	DLVED /GEN 19/1)		BIDITY TU)	1 .	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	S &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
920	X	6.49	NA	2.208	NA	-66.1	NA	8.90	NA	4.6	NA -	17,97	NA	185	11.28
_	X	6.49		2.193		-67.9		7.92		2.3		17.84		185	11.28
930	Х	6.49	·	2.181	# · # .	-68.9		7.99		1,1		17.91		125	11,28
935	X				ı			*						FINAL	11.28
1010	X	REPLA	ED DO	MEMB	RANE P	WD RE	ONNE	T 751	FLOW-T	HROUGH	CELL	AFTER	cour	CONG S	AMPLE.
1020	X						.`	0.88				<u>                                     </u>			
1025	X					·		0.54							
1030	X							0.40							
				es.											
COMMEN	TS:	1213-	<b>0900</b> 7	2	* Do	Membra	ne faile	D							

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET / OF 7

SITE:		aywoo	ત					CONSULTIN		CBAT					
DATE: WEATHEI		-11-16 unny 96	5'5 /Han	d		<del></del>	<u>-</u>	FIELD PER	SONNEL:	ns/jzo					
MONITOR WELL PE		# <b>MW</b>	47 D	_	LL DEPTH: DIAMETER:		inches	पर ना		SCREEN	ED/OPEN I	NTERVAL:	<u>38-</u>	63-64.47	1368 1'T'U
PID/FID R	EADIN	GS (ppm):	A	OUND: OUTER CAI					EPTH: 53 R BEFORE	ft below PUMP INST		. <u> 777</u> m	below TOC		
	PURGING	(pH	oH units)	CONDU (mS	CIFIC CTIVITY /cm)	POTE (n	DOX NTIAL IV)	XO in)	OLVED /GEN ig/i)	(N	BIDITY TU)	(degr	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME		READING	CHANGE*	READING	CHANGE*	reading -95%	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0830	X	7.08	<del></del>		1			23.3		3.31		18.45		220	7.85
0835	X	1.21		11.56		-108'4		17.68	<u> </u>	-9/	<u> </u>	18.03		250	8-00
0840	Y	7.29		11.57		-113.4		1.73		Back ig	·	18.07		520	8.00
0845	X	7.35		11.58		0.611		1.80		1, 27		17.92		250	8.00
0880	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	¥	7.38	•	11.58		-114.7		2.16		2.55		18.17		250	8.05
0905	4	7.39		11.53		-112.8		2.21		2.60		18.14		250	8.05
0910	4	7.38		11.59	·	-110:6		2,29		2.97		18.05		250	8.05
0915	Х	7.38		11.58		-108.7		2.31		3.30		18.01		250	8.05
0920	K											`			
COMMEN	ITS: U	sing Lal	nothe me	Her for	Purbidi	ty. Cali	raded to	o provide	d Standa	evel					

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSE EPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18

SHEET	1	OF	2
	····-		

VELL PE	R WELL		284	_	LL DEPTH: DIAMETER:	191	Nes.				ED/OPEN IN	ITERVAL:	nec	go beg	<u> </u>
ID/FID R	EADIN	GS (ppm):		UND: OUTER CA INNER CAP						ft below PUMP INST		12.86#1	below TOC		
	PURGING	(рН	H units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL nv)	ОХУ	OLVED GEN g/l)		SIDITY FU)	i	RATURE . ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	1 7 7	READING	CHANGE*	READING	CHANGE'	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1055	X	Stew	- " PC	inging		alting	FOR		A AN		derigs			150	12.98
100	X	7.07		1.723	1	<b>≛</b> 36,2		6.20		103.6		22.45	<u> </u>	150	12.98
105	X	7.00		1.618	<u> </u>	€26.9		6.21		28.2		27.73		150	12.97
110	×	6,99		1.589		i27.1		6.55		59.2		27-77		180	12.97
115	×	6.95		1.574	,	<b>€28</b> .2		6.77		39.9		22.42		150	12.97
120	×	4.99		1.560		€29.8		6.86		35.4		22.01		\$150	12,97
125	X	6.98		1.558		÷31.4		6.90		27.2		22.08		150	12.97
130	×	4.98°		1,553		32.0		4.88		7.9		22.12		150	12.97
135	×	6.98		1.519		33.5		6.90		,54		22.16		180	12.97
140	×	6.98		1.543		34.2		4.93	,	0		22.19		180	12,97
145	X	6.97		1.544		34.6		6.97		17.3		22.21		150	12,97

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSE PARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18

#### LOW FLOW SAMPLING DATA SHEET

SHEET Z OF

SITE: DATE:			May W0	ocl					CONSULTIN	_						• .
WEATHE	R:		Sunny 9	0's Hum	id			_								
WELL PE	RMI	ELL T#	.# <u>ო</u> დ՝		WE	LL DEPTH: DIAMÈTER:		inches	\$,08 <del>1,42</del> 1⊤		· · · · · · · · · · · · · · · · · · ·	·	NTERVAL:	15,08-	20.08	TIC
PID/FID R	EAI	DIN	GS (ppm):		OUND: OUTER CA INNER CAP		2		P INTAKE D				: <u>/2.8</u> 6ft	below TOC		
	PURGING	SAMPLING	(pH	oH units)	CONDU	CIFIC CTIVITY (/cm)	POTE	DOX INTIAL IIV)	OX	DLVED (GEN 1g/l)		SIDITY TU)		RATURE rees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1150	X	_	6.96	NA	1.500	NA	34.	NA	4.96 455-5m	NA	15.9	NA NA	22.54	NA	130	12.98
1155	X		4.96		1.498		35.7		6.97		13.3		23.01		150	12.28
1200	X		6.96		1.494		36.2		6.98		15.2		23.07		150	12.98
1205	X		6.96		1.49/	***	35.9		6.97		10.8		23.10		180	12.98
1210	×		6.96		1.488		35.8		6.94		7.9		23.14		150	12.98
1215	x		6.96	-	1.483		35.4		6.91		8.6		23.16		150	12.98
1220		X						`	1						final	12.58
															<u> </u>	
							<u> </u>									
COMMEN	ITS:	10	using La	Mothe 20	20W F	or Turbio	dity S				<u></u>					<u> </u>

*INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET / OF /

SITE: DATE:		1000 1000	d						G FIRM: (						
WEATHER		Loudy C	10'S Hu	mid			_			<u></u>					
MONITOR WELL PE		# <u>MW</u>	485	WELL C	LL DEPTH: NAMETER:	630	inches	164.64	Jack ,71	C SCREEN	ED/OPEN II	NTERVAL:	38-6 9.64-	3-18 6 64/04 to	4, TIC
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI INNER CAP						ft below		:/3.86#1	below TOC		
	PURGING		H units)	SPEC CONDU (mS	CTIVITY	POTE	DOX NTIAL nv)	OXO	OLVED (GEN 19/1)		BIDITY TU)	1	RATURE Des C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	E &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0950	χ	Star	NARW	sins	984-X	ing f	was a	ale	NAS	headir	S NA		NA	200	13.95
0955	χ	7.64		4.048		-16.5		3.5 <b>3</b>		18.2		19.12		200	13.55
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	×	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		3.853		-1.4		2.81		20.2		18.03		200	14.00
1030	X	7.12		3.850	· -	-2.3		277		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											<u>                                      </u>		final	14.00
COMMEN	its: (	using (	amotte	2020 W	Turbia	lmeder Co	alibrate	d to pr	ourded S	tandar	d,				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET | OF

SITE: DATE: WEATHEI	t:		5-16 1, 85°				- -	CONSULTIN	ONNEL:	C8+:	L ox, P.	Kednar			
MONITOR WELL PE			1240	WELL C	LL DEPTH: NAMETER:	67.70)	₹Bb>;6 inches	1,95/4,7	16	SCREEN	EÐ/OPEN IN	ITERVAL:	47.70	)-67,70 -69,95	HTIC
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI INNER CAP			PUMI DEPT	NTAKE DE	_{EPTH:} <u>53.</u> R <b>BEF</b> ORE	5 ft below PUMP INST	106	11.83m	-		
	PURGING	p (pH u		SPE( CONDU (mS	CTIVITY	REI POTE:	NTIAL	DISSO OXY (m)	GEN	TURB (N1	IDITY (U)		RATURE •	PUMPING RATE	DEPTH TO WATER (ft below
TIME	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1021	*		NA		NA		NA		NA		, NA		· NA	190	11.83
1030	X	6.57		3,575	- <u></u> .	71.7		0.36		67.1	,	20.34		196	12.35
1035	X	6.54		3.668		58.8		023		38.6		19.51		190	(2.35
1040	X	6.55		3.652		56.3		0.19		32.8		19.94		190	12.35
1045		6.55		3.665	·	550		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	χ	6.54		3.666		58.0	7	0.(3		14.6		20.99		190	1235
1105	X	6.54		3.674		58.9		0.(3		11.4		21.10		190	12.35
11(0	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
COMMEN	TS:		9002		Samp	le tim	L: 112				FIN			35 To	c

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSE PARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18



## LOW FLOW SAMPLING DATA SHEET

SHEET OF

SITE: DATE:	_		May was	1-15-10				_	ONSULTIN		3.C	nk f	2 Hedm	(W)		
WEATHE	<b>.</b>			, ציחחש	900			<del>-</del>					37 100 W/21			
MONITOR				W15		LL DEPTH: DIAMETER:	2(1	inches			SCREEN	ED/OPEN in	NTERVAL:			
PID/FID R						JAMETEK:				10		<u> </u>				
PID/FID K	<b></b>	2114	as (ppm):		UND: OUTER CAI INNER CAP						ft below PUMP INST		6.74#1	elow TOC		- 4
	PURGING	SAMPLING	pi (pH u		SPEC CONDU (mS	CTIVITY	REI POTE (n		OXY	OLVED GEN g/l)	TURE (N	IDITY (U)		RATURE ,	PUMPING RATE	DEPTH TO WATER (ft below
TIME	PUR	SAN	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1234	X			NA ·		NA		NA		NA .		NA		NA	200	674
1240	Χ		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	×		6,99		1.454		-47.9		0.09		2.5		18,49		200	6.74
1305	×		6.99		1,453		-50.5		0.09		1.2		1856		200	6.74
1310	X		699		1.456		-51.5		0.09		1.0		18.39		200	6.74
1315		X	-	·								·			FINAL	6.74
•																-
COMMEN	TS:	· ·	128-	0900	30							·.				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET OF

SITE: DATE: WEATHER	B	aywood 8-15- 54708,	78°	WE	LL DEPTH:	19.5	_	CONSULTIN			I ok, P. ed/open in	Hedno		- 15.60	) <del>X</del>
WELL PE				_	NAMETER:	2_	inches						14.38	-19.38 H	STIC
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI INNER CAP			PUMF DEPT	H TO WATE	PTH: 月.	5 ft below PUMP INST	TOC ALLATION	12.45 m			
	PURGING	p (pH t	H mits)	SPEC CONDU (mS	CTIVITY	REI POTEI (m		DISSO OXY (m	GEN	TURB (N1		1	RATURE .	PUMPING RATE	DEPTH TO WATER (ft below
TIME	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
233	X		NA		NA		NA		NA		NA		NA	180	12.45
840	<b>X</b>	6.51		1.209		-43,5		0.17		108.5		13.92		180	12.49
845	Х	6.57		1.220		-60.0		0.10		76.3		19.13	3	180	12.49
450	X	6.59		1.215		-65.5		0.08		55.1		19,30		180	12.49
855	X	6.59		1.216	:	-67.4		80.0		42.6		19.27		130	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	<i>i</i> .	10.0		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	i	(30	12.49
920	X	6.58		1.218		-69.5		0.00		24.6	,	20.4		180	12.49
925	X	6.59		1,219		-70.0		0,00		23.5		20.48	3	130	12.49
COMMEN	IT <b>S</b> ŧ	126	-09002	-	Son	ple tri				ſ	PINAL	DTW: 1		TOC	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET ____ OF _____

SITE: DATE: WEATHER	8	byw00 -15-1(, unny 79		lumidity				CONSULTIN						· · · · · · · · · · · · · · · · · · ·	
MONITOR WELL PEI		1	dre		LL DEPTH: DIAMETER:	51.90	_BUS55 inches	3,7818.	112	SCREEN	ED/OPEN II	NTERVAL:	26.90 28,78	-51.90 -53.7	HUS SHTIC
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI INNER CAP						t below		: <u>10.18</u> #1	pelow TOC	_	
• •	PURGING		H Inits)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL nv)	ОЖУ	OLVED GEN g/l)	1	DIDITY TU)	1 -	RATURE -	PUMPING RATE	DEPTH TO WATER (ft below
OS SO		Staut	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	10.37
0852 0852	X	6.54	rargi	ng - N	S Ke	adings		0.00	W Ka	5,7		19.66		175	10.43
0900		6.70		4.413		-153.7		0.00		5,4		19.85		175	10.53
2905		6.79		4.411		-156.9		0.00		4.9		19.83		175	10.66
2910	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	Х	<i>ሬ.</i> ፄጉ		4.406		-1600		0.00		4.5		19.98		175	10.97
0925	X	८. ଟିଚ		4.407		-162.5		0.00		4.4		# 20.0Z		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		000		4.4		21.02		110	11.17
COMMEN	T <b>S:</b> &c	xme Sort	of an obl	ect in we	104 101								.***		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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Low Flow Purging and Sampling Guidance
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# LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 5

SITE: DATE: WEATHER	2	00000000000000000000000000000000000000		o Humid	Tty.		_	CONSULTIN							
MONITOR		# <u>mw</u>	3YD		LL DEPTH: DIAMETER:		 inches			SCREEN	ED/OPEN II	NTERVAL:			
PID/FID R	EADIN	GS (ppm):			6. C	<u> </u>			4-	ft below PUMP INST		: <u>/0./8</u> ft।	below TOC	· · · · · · · · · · · · · · · · · · ·	
	PURGING		H units)	CONDU	CIFIC CTIVITY /cm)	REI POTE (m	ıv)	OXC (m	OLVED 'GEN g/I)	(N	BIDITY TU)	(degr	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME		READING	CHANGE:	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
<u> 2299</u>	Χ	6.91	NA .	4,412	NA	-128.7	NA	0.0	, NA	4.5	NA .	21.13	NA .	90	11.22
280	Х	4.92		4.412		-160.1		0.0	•	4.6		21.20		90	11.25
955	х	4.92		4,411		-160.9		0.0		4.7		21.29		90	11.30
0:00	x	6.92		4.410		-1613		0.0		\$4.5		21.32		90	11.32
005	×	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		00		4.6		21.44		90	11.43
025	V	6.90		4.414		-163.5		0.0		4.7		21.49		90	11.43
030	х	1.90		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
COMMEN	TS:									-					

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

	-		_	
SHEET	5	OF	3	

SITE: DATE: WEATHEI	<u>\frac{1}{2}</u>	Jaywoo -15-16 Sunny 80	),? ()					CONSULTIN	IG FIRM: SONNEL:	CBI KCo/ms					
MONITOR	WEL	# <u>w</u>			LL DEPTH: DIAMETER:		inches			SCREEN	IED/OPEN II	NTERVAL:			· · · · · · · · · · · · · · · · · · ·
PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 50 ft below TOC  BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 0.0 ft below TOC  BENEATH INNER CAP: 18															
	PURGING	l (pH	oH units)	CONDU	CIFIC  CTIVITY  i/cm)	POTE	DOX NTIAL nv)	OXO	OLVED /GEN ng/l)		BIDITY TU)		RATURE rees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	P	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1040	* X		NA		ŅĄ		NA		NA		NA		NA		
			·									1.			
· - · ·									<u> </u>						
			-				. :						<u> </u>		`
					1			<u> </u>		<del> </del>		ļ.,	· · · · · · · · · · · · · · · · · · ·		
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COMMEN	ITS:	Sample (	o lodo	).											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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DF

VEATHEI MONITOR VELL PEI PID/FID R	WELL RMIT#		OSBR BACKGRO	WELL I	DIAMETER:		inches PUMI	629 P	ертн: <u>43</u>	ft below		NTERVAL:	27.29	- 49.00 - 50.79	KH, TIC
	PURGING			SPECONDU		REI	DOX NTIAL	DISSO	DLVED GEN g/l}	TURI	SIDITY TU)	TEMPE	RATURE .	PUMPING RATE	DEPTH TO WATER (ft below
TIME		READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
205	X	6.23	NA	14.52	NA	~43.5	NA	0.99	NA	3.8	NA	20.16	NA	250	10.35
210	X	6.21		14.90		-\$2.2		0.84		7.2		19.83		250	10.36
215	×	6.20		14.97		-66.2		0.27		13.5		20.07		220	10.35
220	χ	6:19		14.96		-72.7		0.21		13.2		20.33		250	10:35
225	х	6.16		14.95		-76.0		0.23		12.9	·	20.14		250	10.35
230	X	6.13		14.94		-76.9		0.24		10.0		19.93		250	10.35
235	х	6.10		14.93		-76.8		0.34		9.0		20,09		250	10 35
240	X	6.08		14.93		-77.9		0.60		8.1		19.62		250	10.35
245	X	6.08		14.93		-79:1		0.74		7.1		19.54		250	10.35
250	X	6.07		14.93		-80.4		0.76		7.3		19.58		250	10.35
255	X	6.08		14.93		-82.6		6.74		7.5		19.26		250	10-35

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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SHEET	OF_	L

SITE: DATE: WEATHEI	1	8	03/6200 -  S -   MANY - C	10,2 Hr	mid			_	CONSULTIN	*****	CBT_ KG/MS					
MONITOR WELL PE			# <b>#</b> \ssc	XAR	WELL I	LL DEPTH: DIAMETER:	15.30	inches	17.81	TK	SCREEN	IED/OPEN I	NTERVAL:		5.60	
PID/FID R	EA	DIN	GS (ppm):		UND: OUTER CAI		2		P INTAKE D				: <u>/0.75</u> ft l	pelow TOC		<del>/</del>
TIME	E 2 5 READING CHANGE* READING CHANGE* READIN						POTE (n	DOX NTIAL nv) CHANGE*	OX	DLVED /GEN ng/I) CHANGE*		BIDITY TU) CHANGE*	TEMPEI (degree		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1400	X	en .	7.13	NA	1.903	NA	-34.7	NA	1.47	NA	39.2	NA	24.41	NA	200	11.00
1405	×		6.94		1.870		-121.9 -35=1		0.95		12.1		21.97		Z00	11.04
1410	X		7.01		1.877		-131.0	-	0.74		23.0		22.06		700	10.95
1412	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	L	7.08		1.683		-134.9		0.50		21.8		23.05		200	10.81
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	10.20
1440	X		7.08		1.883		-134.3		0.43		3.9		22.74		200	10.50
1445	X		2.08		1.883		-134.4		0.41	<u> </u>	3.2		22.74		200	10.80
1450		X			1.883		134.5		0.39		3.0		22.73		200	10.90
COMMEN	TS	: 8	ample@	CSPIC							•				-	•

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET \ OF 2

ITE: ATE: ÆATHER		8-16- 50002,	16 80°	-		:0 5	 :		ONNEL:			lednan			
IONITOR	MIT#	·	STAR		LL DEPTH: DIAMETER:	2		5.09 5			ED/OPEN II				KINK
D/FID READINGS (ppm): BACKGROUND: PUMP INTAKE DEPTH: 3.5 ft below TOC (11.0 845)  BENEATH OUTER CAP: DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.94 ft below TOC  BENEATH INNER CAP: DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.94 ft below TOC															
	PURGING	(pH t	H units)	CONDU (mS		POTE (n	DOX NTIAL IV)	OXY (m	g/l)	(N)	IDITY FU)	(degr		PUMPING RATE	DEPTH TO WATER (ft below
820	X 3	READING	CHANGE*	READING	CHANGE*	READING	NA NA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	13,5 ¹⁴
825	X	6.54		1.520		41.8		0.66		405.0		18.83		081	9.99
830	Χ_	6.72		1.772	٠.,	-35.0		0.25		159.3		18.25		180	10.00
335	У	6.79		1,32-8		-56.4		0.12		105.0		18.06		180	10.00
40	X	6.82		1.247		-60.9		0.13		105.2		18.11		180	9.98
45	X_	6.82		1.801		-62.9	\	0.15		100.2		18.31		200	10,00
50	$\lambda$	6.81		1.840		-66.2		0.06		69.8		17.37		200	10.00
155	X	6.83		1.858		-71.2		0.04		52.9		17.67		200	10.00
700	X	6.83		1,860		72.7		0.04		53.4		17.67		200	10,00
705	X	6.84		1.861		-72.9		0.04		48.2		17.53		200	10,00
710	X	6.84		1.358		73.4		003		47.4		17.78		200	10,00
COMMEN	F\$:	128	- 09 00	34				-							

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERS PARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18



#### LOW FLOW SAMPLING DATA SHEET

SHEET LOF 2

SITE: DATE: WEATHER		3-16-	)   <b>(</b>				_	CONSULTIN	_						
MONITOR			STAR		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN I	NTERVAL:			···
PID/FID R	EADIN	GS (ppm):	4.5	OUND: OUTER CAI				H TO WATE		ft below PUMP INST		:ft.l	below TOC		
	PURGING	_	iH units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	OXO	DLVED (GEN (g/l)		SIDITY TU)	,	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	PU	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
915	X	6.84	NA	1.857	NA	-74.0	NA	0.03	NA	47.7	NA .	17.83	NA	200	10.00
920	X	6.83		1.860		-47-7	1.6	0.04		47.1		17.79		200	10,00
925	X	See 10			P								·	FINAL	10.00
															, .
			1						-						
		·													
				200											
				À ^y											
				· -											
COMMEN	TS:	128-	09003	14			-				7				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET 1 of 2

SITE:		Mayu	600					CONSULTIN	G FIRM:	CB+I					
DATE:	. —	3-96	- 16					FIELD PERS	ONNEL:	J.Cool	<del>&lt; , P.\</del>	tedmar			
WEATHER		Sunn				49,0	Pro c		73.631				13.00	2-49.6	) .
MONITOR WELL PE			507B		LL DEPTH: DIAMETER:		nches	090, 50	18/51	CSCREEN	ED/OPEN II	NTERVAL: #	14.78	- 5017	新郑
PID/FID READINGS (ppm): BACKGROUND: BENEATH OUTER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER CAP: BENEATH INNER C													V		
	PURGING		H units)	SPE( CONDU (mS	CTIVITY	POTE	DOX NTIAL IV)	ОХҮ	OLVED GEN g/l)		IDITY TU)	1	RATURE °	PUMPING RATE	DEPTH TO WATER (ft below
TIME	P &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
000	X		NA		NA .		NA		NA NA		NA		NA.	225	10.80
100	X	7.05		5.836		66.0	ļ	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	7	6.99		5.937		24.0		0.61		48.8		19.05		225	11.04
1025	Х	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		18.38		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
055	X	6.98		5.874		10.9		1.45		42.3		19.34		225	11.04
COMMEN	TS:		09003	5											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 2 OF 2

SITE:	-	Mazue	000					CONSULTIN							
DATE: WEATH	ER:	3-16-	- 10					FIELD PERS	ONNEL: _		<u> </u>				
MONITO	R WEL		,507B		LL DEPTH:			<del></del>	<del></del>	SCREEN	ED/OPEN IN	ITERVAL:			<del> </del>
WELL P	:			WELL	NAMETER:		inches						····		
PID/FID	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:														
	PURGING	p (pH u		SPEC CONDUC (mS		POTE	DOX NTIAL IV)	DISSO OXY (m	GEN	TURB (N		TEMPEI	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	P S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE"	READING	CHANGE*	(ml/min)	TOC)
			NA		NA		NA		NA		2023	и	NA		·
1100	7	6.98	·	5.872		12.0		1.51		40.3	11.70	19.29		225	(1,04
1105	1x	6.98		5.867		12.(		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	11.64
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	6.90		5.670		5.0		0.99		22.2	6.7	18.87		225	11.04
1140	)										i			FINAL	11.04
. ~												`,			
COMMI	NTS:	128-00	30035	5							7				
				Ē			·				17				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET ( OF 2

ALTE.	:	1			·			CONSTITUTION	c sibu.	00.7	·				
SITE: DATE:		Mague	200-14				_ `	CONSULTIN	ONNEL:	I. Co.	K.P.	Hedma	^		
WEATHE	e		برکری	90°			<b>-</b> -								
MONITOR			WO7B		LL DEPTH: DIAMETER:	52.59	inches	54.98	FTYC,	SCREEN	ED/OPEN II		18.5- 20.89		TIE
PID/FID R	PID/FID READINGS (ppm): BACKGROUND: PUMP INTAKE DEPTH: 260 ft below TOC (23.0 865)  BENEATH OUTER CAP: DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.60 ft below TOC  BENEATH INNER CAP: DEPCH OF PUMP INSTALLATION: 9.60 ft below TOC														
SPECIFIC REDOX DISSOLVED  PH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE  (pH units) (mS/cm) (my) (mg/l) (NTU) (degrees C)  TIME 2 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE*												PUMPING RATE	DEPTH TO WATER (ft below		
TIME	PU	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1300	<u>}</u>		NA .		NA '		NA		NA		NA.		NA.	190	9.60
1305	X	b. bo		ماهافا ا		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	٠.	190	9.72
1315	X	662		1.666		245.		0.28		65.5		16.94		190	9,72
1320	X	6.64		1.667		262.5	. \	0.22		27.)		16.89		190	9.72
1325	X	6.64		1.667		272.4	. 1	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	9.72
1340	X	6.59		1.665		298.4		0.19		5.9		n.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
COMMEN	TS:	10/	1-090	036									*.		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERS EPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18



SHEET ZOF Z

SITE: DATE: WEATHER	<u> </u>	Mayur	100d -14-16					ONSULTIN							
MONITOR WELL PE		# <u>133</u> 8	wo78		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:			
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI INNER CAF						ft below PUMP INST		:ft I	below TOC		
	PURGING		H units)	CONDU	CIFIC CTIVITY i/cm)	POTE	DOX NT[AL nv)	OX1	OLVED GEN g/l)	1	BIDITY TU)	I .	RATURE `ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	P. S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1355	X	6.60	NA	1.661	NA	316.1	NA	0.14	NA	2.1	NA	16.48	NA .	190	9.72
	X	6.60		1.663		318.7		6.14		1.9		16.58		190	9.72
1405	X			-										FINAL	9.72
		<u> </u>				-									
															<u> </u>
	-									<u> </u>					
							,			<u> </u>					
		·													
					٠.							,			
COMMEN	TS:	101	4-09	0360							: -				

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 niv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

NEW JERSI DEPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18



	7		1
SHEET		OF	$\bot$

SITE: DATE:		8	nyw000 -16-16	d						IG FIRM: C						
WEATHER MONITOR WELL PER PID/FID R	WE	LL :	# Mw (	BACKGRO	WELL	LL DEPTH: DIAMETER:		_ inches _ PUMF	INTAKE D		ft below		NTERVAL:	7-12 7-14	H., bg	2
	PURGING	SAMPLING	p (pH u	BENEATH H	SPEC		REI POTE	DOX NTIAL nv)	DISS	OLVED (GEN	TURE	IDITY TU)	TEMPE	RATURE *	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	AS.	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0830	X	$\dashv$	Start	Ycirgi	19 - N	o "heo	0	take s	. 0	احتدا		NA .		,	125	7.36
<u> </u>	X	-	6.99	· · · · · · · · · · · · · · · · · · ·	1.800		-2.1	·-·	0.29		39.0		23.11		125	UZ.T
0840	X	_	7.60		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		53.45	,	155	7.43
0880	X		7.07		1.807		-30,4		0.15		4.9		23.96		100	7.60
0853	×		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		25.93		100	7.66
0910		χ											·		Finale	7.68
													<u></u>			·
COMMEN	TS:	30	imple@(	0110												

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSI PARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance. Page 15 of 18



**DATA SHEET** 

SHEET / OF Z

<del></del>	<u>:</u>		Λ		·					44.50		<del></del>			
SITE: DATE:		10-16	<u> </u>					CONSULTIN							-
WEATHER	<u>.</u> - }	Sunny	0'< LL.	unat ch				rield Pers	- NAMEL:	MSIEG					
:		# Mws			LL DEPTH:	630	- 1,590. 1	1)velous	(_)	SCREEN	IED/OPEN II	VTERVAL:	38 -	(23 de	- 1000
WELL PE			217x		NAMETER:	6	inches	Hushmo	ar).	JUNE-1				1	7 1-4
PID/FID R	EADIN	IGS (ppm):	BACKGRO		0.0	$\sim$		LUTANER	-n-u. <b>1</b> 55	↑ ft below	TOC				·
		,.		OND: OUTER CAI								: <u>/0./3</u> #1	nelow TOC		
				INNER CAP										÷.	
	5 0				CIFIC	1	юх		DLVED			Ţ			DEPTH TO
		F (pH	)H units)	CONDU (mS	CTIVITY (cm)	POTE:			rGEN g/l)		BIDITY TU)	1	RATURE ees C)	PUMPING	WATER (ft below
TIME	PURGING	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	RATE (mi/min)	(TOC)
10.00	Y .		. NA.c	. 190	a NA		\\ NA		\ NA		NA		NA	2	10.03
1005	^	3/2017	brigh	c - No	head	ngs se	Hing !	Flow P	2000					275	10.03
1020	X	7.64 3.294	<u> </u>	0.000	200	-164.6		0.00		12.1		18.69		225	10.03
1025	X	7.57		4.451		467.8		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	×	7.51		4.551		-174.4		0.02		0.0		17.71		225	10.76
1040	X	7.48		4.558		-174.3		0.00		0-0		17.98	·	728	10.93
1045	x	1.47		4.561		-177,4		0.00		0.0		18.19		180	11.03
1050	×	7,46		4.566		-180,7		0,00		6.0		18.96		180	11.10
१०६२	×	7.46		4.568		-181.6		0.00		0.0		19.02		180	11.12
1100	×	2,45	1	4.567		-182.4		0.00		0.0		19.12		180	11.15
-		· · ·								<u> </u>	1.				
1105	X	17.44	<u></u>	4.566		-182.8	·	0.00	<u> </u>	0.0		19.16		180	11,16
COMMEN	TS:											-			
						•					.:				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERS PEPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18

## LOW FLOW SAMPLING DATA SHEET

SHEET COF Z

SITE:			admoo						CONSULTIN	G FIRM:						
DATE:		9	1-16-16	)					FIELD PERS	ONNEL:			·			
WEATHE	R:	2	unny 90	s Hun	<del>wich</del>			<del>-</del>								
			# <u>Mw</u>	3DR		LL DEPTH:					SCREEN	ED/OPEN II	NTERVAL:		· · · · · · · ·	
WELL PE	RMI	T#:	·		WELL I	NAMETER:	_ 6	inches				1				
PID/FID R	EA	DIN	GS (ppm):	BACKGRO	UND:	0.0	<u> </u>				<u>}</u> ft below					
					OUTER CAL		-	DEPT	H TO WATE	R BEFORE	PUMP INST	ALLATION	: <u>/0//3</u> ft i	elow TOC		
	_	1	·	BENEATH	INNER CAP						<del>,</del>		T.			
	9	2		Н	SPEC			DOX NTIAL		OLVED 'GEN	TURE	IDITY	TEMPE	RATURE .	PUMPING	DEPTH TO WATER
	PURGING	SAMPLING		units)	(mS	(cm)	(n	nv)	(m	g/I)	(N	TU)	(degre	ees C)	RATE	(ft below
TIME	2	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1110	X	Ø	7.43	NA	4.567	NA ,	-183.1	NA	0,00	NA	0.0	NA	19.22	· NA	180	11/16
1115		X														
1117_	╁	_					<del>                                     </del>		<del> </del> .	<del>                                     </del>		<del> </del>			1.	
	-	$\vdash$		·					<u> </u>		<u></u>		<del> </del>			
					<u>-</u>  -	,										
	1															
	╀	-			· · · · · · · · · · · · · · · · · · ·	<u>.</u>	<del> </del>	``							<u> </u>	
	$\perp$							ļ. <u></u>	<u> </u>		ļ <u>.</u>					
										}						
	-	-								-	1					
	1	-		<i>i.</i>	<u> </u>					ļ		<u> </u>		:		
COMMEN	ITS	. 44	SPO 1119	Samo	le Rad	Sernol	es alse	-tute	~ 1 H28	clos.	· 2.	mu. 2 -	2.10.1.	٠ ا		e of Blue
				3.1.1.1					,	-	,	An war	JUHOU	CHANNECT	a Beroy	e of Blue
				·								· · · · · · · · · · · · · · · · · · ·				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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	Í		,
SHEET	$\bot$	OF	$\bot$

WELL PE	R W RMI	8 0 ELL IT#	= 16-16 -16-16 -16-16 -16-16 -16-16-16-16-16-16-16-16-16-16-16-16-16-	90's / 00's / 00's /s	WELL I	DIAMETER:	>	inches	INTAKE D	ONNEL: _{ (84,477) EPTH: <u>35</u>	CS/MS C SCREEN	тос			- 37- 40.84	11.5
der en en en en en en en en en en en en en	PURGING	SAMPLING			CONDU	CIFIC CTIVITY (cm)	<u> </u>	DOX NTIAL	DISSO	DLVED 'GEN g/l)	TURE (N	IDITY (U)		RATURE *	PUMPING RATE	DEPTH TO WATER (ft below
TIME	<u>Z</u>	S	READING	CHANGE.	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1340 1345	X	1	8.78	- rung	1.724	00 6	ecclings -82.3	Seatin	0.16	N Kat	29.5		19.57		230	10.45
13 <b>5</b> 0	X		8.73		1.634		-79.6		0.16		27.8		19.56		230	10.45
1355	K		7.51		1.391		-52.2		0.11		11.1		19.09			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		530	10.43
1410	X		46.2		1.619		-\$8.8		0.09		6.3		19.06		230	10.45
1415	X		6.70		1.620		-60.2	:	80.0		3.0		19.03		230	10.43
1420	X	1	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		Z30	10.43
1430		X												<u> </u>		
COMMEN	ITS	:S	ample fo	or had o	Paden											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET OF 2

SITE:	_ (	Maywo	٥٥				- `	CONSULTING		CB+I		11616			
DATE: WEATHER		81-17 0.000	-16 by, 75	6			* '	FIELD PERS	MNEL:	<u> </u>	SSK Y	Hedr			
MONITOR		# B38V		WE	LL DEPTH:	13.5	\$ 368	Flush	recort)	SCREEN	ED/OPEN IN	TERVAL:	85-	13.5	
WELL PER				WELL D	IAMETER:		inches				14			· · · · · · · · · · · · · · · · · · ·	
PID/FID R	EADIN	GS (ppm):	BACKGRO	UND: OUTER CAF	. – <b>D</b>	<u></u>		H TO WATE				11:7	elow TOC		
				INNER CAP	-~-										
	NG S	p	H	SPEC		RED POTE		DISSO		TURB	IDITY	TEMPE	RATURE	PUMPING	DEPTH TO WATER
	PURGING	(pH u	inits)	(mS	cm)	(m	<del>-:</del>	(mg	<u> </u>	(N1			es C)	RATE	(ft below
	TIME 2 % READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READI														
855	<u> </u>	7.07		1.646		178.7		6.10			<del></del>	17.85	·	<u>2∞</u>	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	:	1625		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	*	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	4	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
COMMEN	/ TS:		4-090	०५०										:	,

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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## LOW FLOW SAMPLING DATA SHEET

SHEET ZOF Z

SITE: DATE: WEATHER		Magu 8-13	2-16		,		_	ONSULTIN							
MONITOR WELL PER		# <u>1337</u>	که ۱۹۶		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:			
PID/FID R	EADIN	IGS (ppm):		OUND: OUTER CAI	P: 0 3.8	<u></u>	DEPT			ft below PUMP INST		:ft b	elow TOC		
	PURGING	p (pH s	H units)	CONDU	CIFIC CTIVITY /cm)	REI POTE (п		DISSO OXY (m	GEN g/l)	ſ	SIDITY (U)	TEMPER (degre		PUMPING RATE	DEPTH TO WATER (ft below
TIME	D &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
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	7						. \							FINAL	4.69
								`							
			,							. ,					
								:							
		`				-									
COMMEN	ITS:	196	4 - 09	6400	- 12. - 12.										

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 1 OF 3

SITE:		Maywoo						CONSULTIN			2 1		·		
DATE:	·		-10	6			_	FIELD PERS	DNNEL:	<u>Z. Cook</u>	<u>, (. X</u>	SOME			
WEATHER	<b>:</b>	SURVI	<del>, , , , , , , , , , , , , , , , , , , </del>				- ^								
MONITOR			NI4D		LL DEPTH:	51.3.		-690 CH	ush woo	CREEN	ED/OPEN II	TERVAL:	46.0	- 51.5	# 20°
WELL PER	WIT#	¹	·	WELL	DIAMETER:	2	inches	. 0	-						0
PID/FID R	EADIN	GS (ppm):	BACKGRO	UND:	Ø		PUMI	INTAKE DE	PTH: 48	6 ft below	TOC OC	r.\$			
1				OUTER CAI			DEPT	H TO WATE	R BEFORE	PUMP INSTA	ALLATION	: <u>3,47</u> #.	elow TOC		
			BENEATH	INNER CAP		<u> </u>									
	5 S			SPEC		REI		DISSO		TURB	·				DEPTH TO
	PE	pl (pH u		CONDU		POTE		OXY (m)		(NT		(degree	RATURE ees C)	PUMPING	WATER /
TIME	TIME 2 0 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (ml/min) TOC)														
1031	1031 X NA NA NA NA NA NA 3.47														
1035	031 X NA 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		(800		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		3 48.6		17.19		175	3.85
1055	X	7.38		1.322		117.5		0.04		386.1		7.03		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	×	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
1130	X	7.43		1,340		109.1		0.03		178.		17.19		17-5	3-85
COMMEN	TS:	19/	1-0	90041	 										

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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#### LOW FLOW SAMPLING DATA SHEET

SHEET 2-0F3

SITE:		MAYW		·				CONSULTIN							
DATE: WEATHER		3-1-	7-16				_	FIELD PERS	ONNEL:						
	WELL	# <u>83</u> 8	BWIHD		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:			
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI				P INTAKE DI		ft below		:ft1	elow TOC	<del></del>	
	PURGING	р (рН :	oH units)	CONDU	CIFIC CTIVITY /cm)	REI POTE (n		ОХҮ	OLVED GEN g/l)		IDITY TU)		RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	3 8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
			. NA		NA		NA		NA		NA		NA		
1125	X	743		1.344		107.7		0.02		1340		17.14		17-5	3.85
1130	χ	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	χ	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	1	84.2		17.10		175	3,85
1150		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
COMMEN	TS:	194-0	2900t	11											-

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET 3 of 3

SITE: DATE:		MAYW1 8-17-	00D					CONSULTIN	_						
WEATHER MONITOR WELL PEI	WELL	# <u>(338</u>	WIHD		LL DEPTH: DIAMETER:	<del></del>	inches			SCREEN	ED/OPEN IN	NTERVAL:			
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAP INNER CAP						ft below PUMP INST		:ft l	below TOC		
	PURGING	(рН с		CONDU (mS	/cm)	POTE (n	DOX NTIAL IV)	OXY (m	OLVED 'GEN g/l)	(N.	BIDITY TU)	(degr	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME 1215	P S	READING	CHANGE*	READING	CHANGE NA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
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	LAMOTTÉ	16.85		17-5	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	爹 X													FINAL	3.85
. (	D														
		<u> </u>													,
					•										
COMMEN	TS:	19A-	0900	41											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: DATE: WEATHER		2-12	2-16				_	CONSULTIN	_	CB+I	ook, P	Hedno	<u> </u>		
MONITOR WELL PEI	WELL	# BR	, 85° PZ-2	WE	LL DEPTH: DIAMETER:	62.0	inches	7,63.34	B,TIC	SCREEN	ED/OPEN IN		421	0-62.	
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI INNÉR CAP			PUMI DEPT	H TO WATE	EPTH: 53, R BEFORE	5 ft below PUMP INST	TOC (52 ALLATION :	9,50m	elow TOC		
	PURGING	(рН г	H inits)	(mS	CTIVITY (cm)	POTE (m	IV)	DISSO OXY (m	GEN g/l)	TURB (N	ru)	TEMPER (degre	ees C)	PUMPING RATE	DEPTH TO WATER (ft below
1336 X NA NA NA NA NA NA Z10 9.5														7.50	
1340 × 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	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	*	6.76		6.414	-	42.7		0.14		32.9	23.8	16.97			9.62
1425	X	6.77		6-428		43.1		0,13		30.1	16.3	17.25	<u> </u>	210	9.62
COMMEN	TS:	12	B-C	9006	12		. •		,						

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET 2,2

SITE: DATE: WEATHEI	3		1-16 ng, 86	4			_ `	CONSULTIN							
MONITOR			モーユ		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN IN	ITERVAL:			,
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI				P INTAKE D		ft below PUMP INST		;ft1	below TOC	•	
- 1	PURGING	F (pH	oH units)	CONDU	CIFIC CTIVITY 5/cm)	POTE	DOX NTIAL nv)	OXY	OLVED 'GEN g/l)		DIDITY TU)	1	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2 8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1430	X	6.77		6.436		-44.0	<u>, i</u>	0.12		32.5	19.6	17.45		210	9.63
1435	Х	6.77		6.428		-44.4		0.13		31.1		17.28		210	9.63
1440	X			-						,				FINAL	9.63
					1					<u> </u>					
															<u>.</u>
,															
-														-	
COMMEN	ITS:	\2	B-090	042		•	-								

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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SHEET	OF		ŀ

SITE:	1	May	عصوص	1						IG FIRM:						
DATE:			7-16						FIELD PERS	ONNEL: _	15/16					
WEATHER	t:	Sim	W.Y					_			_				>	
MONITOR	WE	LL #:		MWISS	WE	LL DEPTH:	16.00	14 bgp.	Chlush	mount)	SCREEN	ED/OPEN !!	NTERVAL:	10.5	- (2.5	14 po
WELL PE	RMIT	#:			_ WELL	HAMETER:	Z	inches	V				• •			0
PID/FID R	EAD	NGS (	ppm):	BACKGRO	UND:	0.0	>	PUMF	INTAKE D	ЕРТН: <u>13</u>	ft below	TOC				
		٠,			OUTER CAI	6.0		DEPT	ITAW OT H	R BEFORE	PUMP INST	ALLATION	: <u>5:4(</u> #1	oelow TOC		
				BENEATH	INNER CAP	-0.0	<u> </u>		· · · · · · · · · · · · · · · · · · ·						,	
	<u>o</u>	2	, pi	<b>.</b>	1	CIFIC CTIVITY	RÉI POTE	XOX NTIAL		OLVED 'GEN	THE	HDITY	TEMPE	RATURE		DEPTH TO
	PURGING	MPLING	(pH u			(cm)	(m			g/i)	1	TU)		ees C)	PUMPING RATE	DEPTH TO WATER (ft below TOC)  S.60  S.53  S.53  S.51  S.51
TIME	2	<b>3</b>	ADING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0840	χ	5	3 teur	NA	ins - 1	30 NR C	acling	@ Sct	tine 1	1000	Rade	NA		NA	200	
0842	X	7	.13		1.907		40.3	<i>\$</i>	0.58		0.0		18.78		200	5,60
0850	X		.79		1,912	-	-18.2		6.43		0.0		18.53		200	5.56
0955	×	1	.31		1.900		-32.5		0.35		0.0		18.28		200	5.53
0900	×	1	.32		1.895		-40.7	1	0.42		0.0		19.01		200	5-53
0905	×	1	.35		1.897		-41.3		0.42		0.0		19.06		200	5.51
0910	×	1	.34		1,896		-41.9	·	0.42		0.0		19.10		200	5-5-1
0915		<u>x</u>					`								Final	5,51
													·			
					ong wi	th M	S/MSD	. Dup	७ ०९२	Э .						
1-t20	) @	rola	والعم	~	<u> </u>		,		-			e e				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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SHEET OF

SITE:	ATE: 8-17-16 FIELD PERSONNEL: KG, MS														
WEATHER		unny 8					_							:	
	WELL DEPTH: 43-0 Flog. ([USh WOUNT] SCREENED/OPEN INTERVAL: 40.0 - 45.0 Flog.														
PID/FID RI	ID/FID READINGS (ppm): BACKGROUND: 0=0 PUMP INTAKE DEPTH: \(\frac{1}{2}\) ft below TOC  BENEATH OUTER CAP: 0 =0 DEPTH TO WATER BEFORE PUMP INSTALLATION: \(\frac{1}{400}\) ft below TOC														
	BENEATH OUTER CAP: O - O DEPTH TO WATER BEFORE PUMP INSTALLATION: The below TOC BENEATH INNER CAP: O - O Y - H														
1	SPECIFIC REDOX DISSOLVED  pH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE (ff be reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Readin														
TIME	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1030		Star	- Ber	eins.	108ª R	eediy	SNA S	etting	CHAO	J Rest	NA NA	-	NA	2850	5,02
1035	X	7.37		1.703		282.1	0	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		12.4		17.60		250	50.02
1050	χ	7.33		ا، لولون		358.5	1	0.24		66.6		16.57		SSO	2:03
1055	X	7.34		1.658		365, 2	`.	0.31		35.5	US.	16.88		250	2.03
1100	X	2.33		1. lole (	`	369.8		0.30		27.2		12.09		250	5.03
1105	X	1.35		1. lele Le		373.4		0.31		19.4		17.68		250	5.03
1110	X	7.35		1.663		374.8		0.32	-	12.2	`,	17.7/		250	503
1115	χ	7.35		1.666		375,3		0.31		14.3		12.75		250	2.03
1120	x l	7.36		1.667		376.1		0.30		15.3		17.78		250	5.03
COMMEN Los	T <b>S:</b> (	hecking ample	Turbid Lime	ity With 1125		Lamotte Sfinal			·Turb=	35.5e	1055.6	using La	ettam:	for u	•

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 my for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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# LOW FLOW SAMPLING DATA SHEET

SHEET / OF T

SITE:		1 241-11	od					CONSULTIN		CBI					:
DATE: WEATHE		Swng	90'5				<del></del> .	FIELD PEKS	ONNEL; _	Ms, KG	<u>.                                    </u>				
		L# BAP		<b>—</b> , **-	LL DEPTH:	530	77,12	54.6	9 4-710	SCREEN	ED/OPEN Î	NTERVAL:	33-	2 - 51.6 - 54.6	5 WCH
WELL PE	ļ			WELL	DIAMETER:	_ 2	Inches		U		<del></del>	<u></u>	34.69	- 54,6	10 Kt 1/6
PID/FID E	EADIN	IGS (ppm):	BACKGRO	OUND: OUTER CA	0.0		PUMI	H TO WATE	ЕРТН: <u>47</u>	ft below		9.33 4	halaw TOC		
				INNER CAP			VEFI	H IO WAIE	K BETVKE	PUMP INST	ALLA I IVIN	: <u>-7197</u> (K)	DEIOW 100		
	9 2		#H		CIFIC		DOX NTIAL	DISSO	LVED	TIPLE	HDITY	TEMPE	RATURE 1	<u> </u>	DEPTH TO
	PURGING	(pH	units)		/cm)		iv)	,	g/l)		TU)		ees C)	PUMPING RATE	WATER (ft below
TIME	2 8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE"	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1300	X	Star	- Bur	nping	NON B	eading	s Nage	Aing F	lo NA	Rate.	NA ·		NA	280	10.00
1305	X	6.84		2.115		14.9		0.54		12.3	·	17.38		zsv	10.00
1310	X	6.39		5.197		9.5		0.26		14.8		14.97		250	10.00
1315	x	6.39		5.188		8.0		0.43		17.3		16.94	<u> </u>	ZSV	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	×	6.34		5.069		1.6		1.66		36.4		16.33		220	10.00
1335	X	6.34	'	850.2		0.5		1.81		32.8		16.17		250	10,00
1340	×	6.34		5.038		0.3		1.82		24.2		16.10		280	10.00
1345	×	6.35		5,040		0.4		1.02		19.8		14.12		280	16,00
1350		6,36		5.046		0.6		1.06		13.5		tte.14		250	10.00
COMME	VTS: U	ising the	e Lamoth	e we 202	0 Woxer	for tw	bidity							-	
							. *					•			

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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## LOW FLOW SAMPLING DATA SHEET

SHEET POF Z

SITE:		naywo	od	: .		`			IG FIRM: _					<u> </u>	
DATE: WEATHER		8-17-10	0		<u>.</u>		<del>-</del>	FIELD PER	SONNEL:	ms/KG	·		<u>.                                    </u>		
	WEL	Sunny 9 L# BRP			LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:			
PID/FID R	EADIR	IGS (ppm):		OUND: OUTER CAI	<del></del>	2				2 ft below PUMP INST		: <u>9.77</u> nı	below TOC		
	PURGING SAMPI ING	I (pH	oH units)		CIFIC CTIVITY /cm)	POTE	REDOX DISSOLVED DTENTIAL OXYGEN TURBIDITY (mv) (mg/l) (NTU) G CHANGE* READING CHANGE* READING CHAN		1	RATURE ^ ees C)	PUMPING RATE	DEPTH TO WATER (ft below			
TIME	2 8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1355	×	6.37	NA	5,046	NA	0.5	NA	1.10	NA	12.8	ŅA	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	6.34		65.047		0.2		1.15	:	9.53		16.23		280	10.00
1410	X	4.36		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		14.30		280	10.00
1420	X	(					1						·.	Final	10,00
<del>*</del>															
		<u> </u>		· ·											
:												· · · · · · · · · · · · · · · · · · ·			
							<u> </u>	<del> </del>							
		· · · · · ·						<u> </u>							
			nottew									1	1		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET ___OF__

SITE: DATE: WEATHEI	<b>R</b> :		3-16 475°				CONSULTING FIRM: CB+I  FIELD PERSONNEL: JC/MS										
MONITOR WELL PE	1		33 S		LL DEPTH: DIAMETER:		inches	, 21.26 f	4., bgs.	SCREEN	ED/OPEN II	NTERVAL: į́(	1 <u>4.6 -</u> 0,26 -	21.26	thep		
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI			PUMI DEPT	P INTAKE D	EPTH: /], R BEFORE	6 ft below PUMP INST	TOC BE	5, 18,6 14,3] #1	677	12	<u></u>		
	PURGING	p (pH c	H units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	OXY	OLVED GEN g/I)		HDITY TU)	1	RATURE :	PUMPING RATE	DEPTH TO WATER (ft below		
0848	X	START	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)		
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	15.45		
0905	X	6.99		9.264		-93.2		1.40		9.8		17.97		120	15.10		
0910	X	7.02		9.342		-920	1	1.60		12.0		18.23		120	15.20		
0915	X	7.04		9.380		-90.1	\	1.71		11.3		1805		120	15.25		
0920	X	7.05		9.411		-879		1.88		10.3		18.03		120	15.30		
0925	X	7.06		9.43		- 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	i.	12.8		19.44	*	95	15.25		
0940	X											1.		FINAL	15.19		
COMMEN	ITS:	128-	09004	7										. '			

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SITE:			MAYU	000					CONSULTIN		CB+					
DATE:	_		8-18	-16	0/2	·····	• • • • • • • • • • • • • • • • • • • •				JC/M	5	`			
WEATH	i			04 80			63.C	- 17 Vag	0x 6503	+ TIC				<u> </u>	<del></del>	<u></u>
MONITO	1 1			45D		LL DEPTH: NAMETER:	-58.0	1000 A	20-62	HOLEY	SCREEN	ED/OPEN II	NTERVAL:	38-6		2.
					WELL L				•					40.05	-6510	STILL
PID/FID	REA	DIN	GS (ppm):	BACKGRO	-	<u>O. c</u>		PUMF	INTAKE DI	EPTH: <u>58</u>	Oft below	toe B65	12.74	3 6	حث ا	
					OUTER CAP		<u> </u>	DEPT	H TO WATE	R BEFORE	PUMP INST	ALLATION	: <u>/</u>	elow TOC		
	1	(5	1			IFIC	REI	DOX	DISSO	LVED	1		1		1	DERTH TO
	2	Ž	· p!		CONDU	CTIVITY	POTE	NTIAL,	OXY	GEN		IDITY		RATURE 1	PUMPING	DEPTH TO WATER
TIME	PURGING	SAMPLING	(pH u	nits) CHANGE*	(m\$	(cm)	READING	CHANGE*	READING	g/l) CHANGE*	READING	CHANGE	(degree	change*	RATE (ml/min)	(ft below TOC)
		S		NA	READING	NA	READING	NA	READING	NA	READING	NA	READING	NA	(1117-111-7)	
1010		1	START			· 	211	, NA		,,,,,	<u> </u>	NA .				
1015	X		6.62		7.957		-34-1		1.59		11.6	· · · · · · · · · · · · · · · · · · ·	18.93	<i></i>	200	12.74
1020	Y		6.42		8.185		-11.2		1.13		11.3		17.67		200	12.89
1025	5 X		4.38		8.179		-9.6		0.95		8.4		17.51		200	12.95
1030	Σĺχ		6.36		8.149		-10.8		10.64		9.3		17.45	<u> </u>	200	13.03
1035	X		6-35		8.129		~11.5	. \	0.55		8.1		17.41		200	13.08
1040	Y	!	6.35		8.128		-12.2		0.38		5.5		17.39		200	13.1/
1045	΄ χ		6.35		8.116		-12.9		0.35		8./	·	17.35		200	13.14
1050	X	(	6.35		8.099		-13.4		0.35		6.0		17.40		200	13.17
1059	5)	<b>d</b>	6.34		8.017		-14.3		0,31		4.9		17.50		200	13.19
1100	7	(	6.35		8.044		-14.5		0.32		5.1		17.71		200	13.20
COMME	ŅŢS	<b>5</b> :	123.	- 09 00	246										•	-
					076 (1	OUP) (	(5)								<u> </u>	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET 20F 2-

SITE: DATE: WEATHER		B-18-1	6					ONSULTIN							-
MONITOR	WEL	# MW	450	_ WELL	LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN ()	NTERVAL:			
PID/FID R	EADIN	IGS (ppm): 🤅	BENEATH	OUND: OUTER CA						ft below		:ft l	elow TOC		
	PURGING SAMPI ING	I Hq)	H units)	CONDU	CIFIC CTIVITY 5/cm)	POTE	DOX NTIAL IV)	OXY	DLVED /GEN g/l)		HDITY FU)	(degr	RATURE . ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	F 8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1105	Xe	•	NA		NA NA		- NA		/ NA		NA		NA		· · · · · · · · · · · · · · · · · · ·
1105	X	6.35		8.041		-14.8		0.33		5.2		17.71		200	13.20
1110	K					٠.								FINAL	13.18
			·			100			,						
		1	7		1										
			T .				,								
															<u> </u>
-	-					-						<u>                                     </u>			
COMMEN	TS:		;					<u> </u>		·		. 1			

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET / OF Z

SITE:		MAYU	JOOD					CONSULTIN		CB+					
DATE: WEATHER	_	8-18	000y	8-06			_	FIELD PERS	ONNEL:	JC/	<u>MS</u>				
						12-6-1	<u>-</u>	- 210-	1 hd_+(	/ COPEEN	EĎ/ODEN II	UTERVAL.	13 0-	الم ما	la- a
WELL PE		L# <u>Mis</u> #	3-04		LL DEPTH: DIAMETER:	-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	inches	901 400	20/2	C SUREER	ED/OPEN II	A I ERVAL:	18,58	47.014 -48.5	HATIC
		NGS (ppm):		· · · ,				P INTAKE D			-041	- 4	10.5		0
		(PP)-	BACKGRO BENEATH	OUTER CAI	0.0 0.0							: <u>// .08</u> ft 1	below TOC	·	
			BENEATH	INNER CAP											
	SPECIFIC REDOX DISSOLVED  PH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE PUMPING WATER  (pH units) (mS/cm) (mv) (mg/l) (NTU) (degrees C) RATE (ft below														
TIME	2 3		CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
/220	X	START	NA		NA -		NA		· NA		NA		NA		
1225	x	6.82		1.429		-32.2		2.04		54.4		19.26		250	11.08
1230	χ	6.71		1,419		-36.5		2.50		75.1		19,00		250	11.08
1235	x	4.67		1.415		-39.9	_	1.61		47.8		19.06		280	11.08
1240	x	4.64		1.406		-42.2	1	1.05		43.2		18.79		250	11.08
1245	X	6,62		1.397		-43.4		0.60		30.7		18.72		252	11.08
1250	X	Ce.lel		1.391		-44.1		0.53		27.3		18.46		250	11.08
1522	y	6.60		1.383		-44,3		0.45		Z0.5		18.23		250	11.08
1300	×	6.59		1.383		-44.7		0.44		19.3		18.22		2870	11.08
1305	X	6.59	1	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
COMMEN	TC.		~ Q D A	UP											

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 my for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Low Flow Purging and Sampling Guidance
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SHEET ZOF Z

SITE: DATE: WEATHER		Mayus 8-18-	الو	-			_	CONSULTIN	_						
الأريماني	WELL	# Mis			LL DEPTH: DIAMETER:		inches	· · · · · · · · · · · · · · · · · · ·		SCREEN	IED/OPEN II	NTERVAL:	<u></u>		
ID/FID R	ÉADIN	GS (ppm):		OUND: OUTER CAI INNER CAF		2				ft below PUMP INST		: <u># :08</u> # i	elow TOC		
	PURGING	-	oH units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	OXI	OLVED (GEN 1g/l)		BIDITY ITU)	TEMPEI (degre	RATURE .	PUMPING RATE	DEPTH TO WATER (ft below
TIME 1315	K PU	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1315	¥	6.57		1,372		-45.2		0.41		13.4		18.23		280	11.08
1320	X	6.58		1.371		- 45.3		0.36		10.3		18.25		San	11.08
1325	X	658		1.370		-45.5		0.36		9.4		18.30		250	11.08
330	۵	6.59		1.370	:	-45.5		0.35		8.5	,	18.32		250	11.08
1335	×										-			FINAL	11.08
		:			٠										
COMMEN	TS:							<del>.</del>	· ·		. :				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



	1		- 1	1
SHEET		OF	· \	Ĺ

BITE: DÄTE: WEATHER MONITOR WELL PER	WELL		A, 75° 2D BACKGRO BENEATH	WELL I		46.5 4	inches	INTAKE D	ONNEL:	SCREEN	DUS, FED/OPEN IN	S. Kodma NTERVAL: - S : <u>5.42</u> ft1	<u> \$1.5</u>	- 46.5	'TIC.
	SPECIFIC REDOX DISSOLVED pH CONDUCTIVITY POTENTIAL OXYGEN (mg/l) TURBIDITY (degrees C) WATER (fit below reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Reading Change* Readin														
TIME Qog	Z 8	READING		READING		READING	· · · · · · · · · · · · · · · · · · ·	READING		READING		READING			<del> </del>
839	X	1 00	-	1,783		-40,7	174	100	NA	497	, IVA	19 5/			
845	X	6.59			<u> </u>			1.42		1 1 1 1		19.06		195	5.50
8,50	<b>X</b> _	7.11		1.784		-86.2		0.72		49.8		19.12		195	5.50
8:55	<u> </u>	7.25	1 :	1.784		93.4		0.55		29.4		19,29		195	5.50
900	X	7.32		1,793	_	93.4	4,	0,60		14.1		19.36		195	550
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		1,200		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	1	195	550
925	X	7,43		1.805		93.5		0.50	-	5.1		19-54		195	5.50
930	X	1				10,0		0.50					<del>                                     </del>	FINAL	5.50
COMMEN	TS:	2	23B-	- 090	050				-	<u>- L</u>	•	·			1-2

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 1 OF 2

SITE:	<u>:</u>	May 400	- )(0		-			ONSULTIN	G FIRM:	CB+I	bes P	. Hedne	21		
WEATHER		Claud	$\gamma$ , $\mp$			10 -	_ ,				· · · · ·			12 0	STIL.
MONITOR WELL PER	~		-25	_	LL DEPTH: DIAMETER:	13.0	<b>Dinches</b>	Chush		)	1	<u> </u>	3,0	-13.0	110
PID/FID RI	ADIN	GS (ppm):		UND: OUTER CAI		7 7 3	PUMF DEPT	H TO WATE	EPTH: // R BEFORE	Oft bolow- PUMP INST	TOE BG	rs : <u>5.38</u> #1	elow TOC		
947	7 8 2	READING		READING		READING	-	READING		READING	<del></del> _	READING		(ml/min)	5.38
1000	X	7.38		1.933		-79.9		0.79		158.7		22.56	·	150	5.51
1005	<b>X</b>	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	Y	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		23.60		150	5.52
1030	X	7.24	<u>.</u>	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	<del></del> -	150	5.52
1040	X	7.25		1.833	-	72.0		0.46		58.1	·	22.47		150	5.52
10 45	X	7.25		1.816		71.0		0.45		30,1		22,20		150	552
COMMEN	TS:	Z3B	-096	049					•				•		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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## LOW FLOW SAMPLING DATA SHEET

SHEET ZOF Z

SITE: DATE: WEATHER	·	Maywo 8518-	<u>ده</u> ما(-				_	CONSULTIN	_						
MONITOR WELL PE	1 -		-25		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN il	NTERVAL: '			
PID/FID R	EADIN	GS (ppm):		UND: OUTER CA INNER CAI				,	.,	ft below PUMP INST		:ft1	below TOC		
	PURGING		H inits)	CONDU	CIFIC CTIVITY /cm)		OOX NTIAL IV)	OΧΉ	OLVED GEN g/l)		IDITY TU)		RATURE `	PUMPING RATE	DEPTH TO WATER (ft below
TIME	E &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1050	Х	7.25	NA .	1.794	NA	-68.0	NA.	0.46	NA ·	27.0	NA .	22.22	NA	150	5,52
1055	Х	7.26	,	1,791		-67.1		0.41		20.0		22.22		150	5.52
1100	メ	7.25		1.783		-65.8		037		14.2		22.28		150	5.52
1105	X	7.25		1.778		-64.8		0.46	_	11.2		22.39		150	5.42
1110	X	7.26		1.777		-64.0		0.39		11.6		22.51		120	5.52
1115	X					ļ. 								FINAL	552
	1_						٠.	.5		,					
					<u> </u>										
									,		,				
												314	, ,		
COMMEN	TS:	239	3-091	2049	*										

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET | OF Z

SITE: DATE: WEATHER		14azu 8-18 p. cl	-16	68		· · · · · · · · · · · · · · · · · · ·		CONSULTIN		CB+I K-Gen	des, P	Hedno	4		
MONITOR WELL PE	MIT	#:	1310		LL DEPTH: DIAMETER:	45.0 4	Dinches					NTERVAL: '	20-0	-45.0	TIC
PID/FID R	EAD	NGS (ppm):		OUND: OUTER CAI INNER CAP						ft below PUMP INST		75 : <u>6.25</u> ft1	below TOC		
	PURGING	(pH	pH units)	CONDU (mS	<del></del>	POTE (n	DOX NTIAL IV)	(m	OLVED 'GEN g/l)	(N	HDITY TU)	(degr	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
1221	X	READING	CHANGE*	READING	NA NA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	(6. 2 <i>5</i>
1230	X	7.87	-	2.633		ط.4		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		16.7		0.79		10.2		20.08		170	6.25
1245	X	747		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	٠.	0.42		27.0		20.36		170	6.25
1305	人	7.51		2.672	4	78.6		0.37		25.8		20.03		170	6.25
13/0	X	7.50	)	2.661		784		0.32		21.1		20.07	<u> </u>	170	6.25
1315	X	7.51		2662		78.1		0.39		20.4		20,15		170	6.25
COMMEN	TS:	20A	-090	०५।	• <b></b>	÷								• • •	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSE PARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance
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## LOW FLOW SAMPLING DATA SHEET

SITE: DATE: WEATHER		^	162-18	-10				<del>_</del> .	ONSULTIN						<b>\</b>	
MONITOR WELL PE			<del></del>	310		LL DEPTH: DIAMETER:	<del></del>	inches			SCREEN	ED/OPEN I	NTERVAL:			
PID/FID R	EAC	M	GS (ppm):		UND: OUTER CAI						ft below PUMP INST		;ft!	below TOC		
	PURGING	SAMPLING		H units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL nv)	OX	OLVED 'GEN eg/i)		HDITY TU)		RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	_ TOC)
				NA		NA		NA		NA		NA		NA .		
1320	X		7,52		2.659		-78.3		0.43		227		20.15		170	6,25
1325		X												·	FINAL	6.25
<del></del>															,	
<u>.</u>	-															
	_			<del> </del>												
									-	<del> </del>	1					
				-							<del> </del>		<u> </u>			
	T	<del> </del>	_,													
COMMEN	TS		20A.	-090	051		<u>. I</u>	. · . · · ·				·				5

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



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	- 1		1/_
SHEET	_ 1	_ OF	-

SITE: DATE: WEATHE	<u> </u>	Jean 8 3-55-16 Jeanne	z'O				<del></del>	CONSULTIN	ONNEL:	CBAR MS (TC					
MONITOI WELL PE		# <u>Mu</u>	231		LL DEPTH: DIAMETER:		Inches	Bus	n won	SCREEN	ed/open in	ITERVAL: '	51-3-	FI DAY	Op, TIC
PID/FID R	EADIN	IGS (ppm):		DUND: OUTER CAI		2				8 ft below PUMP INST		10.28	nelow TOC		
	PURGING	(pH :	oH units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX INTIAL IIV)	ОХУ	LVED GEN g/l)	TURE (N	IDITY (U)		RATURE . ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	T	1 .	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING .	CHANGE*	(ml/min)	TOC)
1340 <u> </u>	X	Stews	NA .	ļ · · · · · ·	NA		NA		- NA		NA		NA	150	10.6
1342	×	6.74		2.498		-15.4		2.51		106.0		22.14		120	10,61
1350	X	6.69		2.534	, .	-16.0	4	1.40		115.5		21.90		120	10,67
1355	X	6.66		2.576		-14.8		1.68		148.1		21.66		120	10,70
1400	X	4.64		2.496		-14.2		1,89		180.4	Camotte	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	×	6.63		2,474		-13.7		1.39		121.1	4/9.8	21.16		120	10.67
415	×	6.62		2,469		-/3,4		0.66		101.9	46.9	21.32	·	120	10.67
1420	X	6,62		2.450		-12.5		<b>90</b> .36		91.4	41.7	21.24		120	10/67
1425	×	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		21.21	,	120	10.67
COMMEN		also us	<del>-</del>	. LaMoH OOSY	Mesos	0 for t	whidity	- YSI	Tursid rblolity				titiecl	(emot)	

^{*}indicator parameters have stablized 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



SHEET ___OF ___

SITE:			Mayur	boo		· · · · · · · · · · · · · · · · · · ·			CONSULTIN	_	CRAD			·		
DATE		8	- 22-14	0.0%		<del></del>			FIELD PERS	ONNEL:	ms/50	<u>,</u>			<del> </del>	
WEATHE	-		lear	,												
MONITOR WELL PE			# <u>Mu</u>	2530		LL DEPTH: DIAMETER:	<del></del>	_ inches			SCREEN	ED/OPEN IN	ITERVAL:	•		
			<u> </u>			MAINE LEN:			· · · · · · · · · · · · · · · · · · ·		<u> </u>			·		
PID/FID R	EAD	ING	se (bbw):	BACKGRO	UND: OUTER GAI	_0.0					8 ft below PUMP INST		10.28 ms	helew TOO		
					INNER CAP			DEPT	H TO WATE	R BEFORE	PUMP INST	ALLATION:	70,20 R	selow TOC	,	
	PURGING	SAMPLING	p Hq)	H units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	OXO	OLVED 'GEN :g/l)		IDITY TU)(GNo∯e		RATURE ·	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE'	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/mm)	TOC)
1435	x		4.60	NA	2.424	NA	-11.3	NA	0.59	NA	77.7	40.4	21.43	NA	120	10.67
1440	x		6.60		2.409		-10.6		1.03		83.8	41.4	21.61		120	10.67
1445	X		6.60		2.407	•	-10.2		1.07		84.6	40.7	21.62		170	10.67
1450	×		6.60	. 1	2.409		- 9.8		1.04		82.1	41.3	21.64		120	10.67
1457	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	10.47
1505	X		6.60		2.411		-8.8		1.05		87.9	43.7	21.64		120	10.67
1510	Y		6.60		2.411		-8.2	, ,	1.04		82.8	44.1	21.63		120	10.67
1515		$\lambda$													Final	10.67
-																,
COMMEN	TS:			•									,			٠.

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHRET 1 OF 2

SITE:			Maywo	<b>200</b>					CONSULTIN							
DATE: WEATHEI	, D.		8-27. Clear			· ·			FIELD PERS	ONNEL: _/	115/5C			-	<del>:</del>	
	;	ELL	# B38		W	LL DEPTH:	420		12gp. 4	112-1	C SCREEN	ED/OPEN II	TERVAL:	27 1	-42-0	# bo
WELL PE					_ ,	DIAMETER:		nches		<i>"                                    </i>	ė oom		:	40:1-	45.1	f) ic
PID/FID R	ĒΑ	DIN	GS (ppm):	BACKGRO	UND:	0-1	0	PUMI	P INTAKE D	ЕРТН: <u> </u>	ft below	±08-β6-S	, 42.1			
. •					OUTER CA								: <u>/8.43</u> ft 1			
	48	9				CIFIC		рох	DISS	DLVED	T .					рерти то
»(	SIN	SAMPLING	р (р <b>Н</b> (	oH units)	1	CTIVITY /cm)		NTIAL IV)	1	rgen g/l)		SIDITY TU)		RATURE , ses C)	PUMPING RATE	WATER (ft below
TIME	2	SAN	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE:	(ml/min)	TOC)
1130	V		Stourt	NA		NA	. `.	NA		· NA		NA		NA	110	18.63
1138	V		6.82		0.498		81.6		1.81		77.8		14.85		110	19.52
1140	X	Ŀ	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
1120	X	<u> </u>	4.83		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		C.Z		14.60		110	20.73
1205	X	<u> </u>	6.86		0.568		61.4		0,25		.4.7		14.58	<u></u>	110	20.85
1210	Y	1	6.87		0,569		60.0		0.23		6.2		14.67		110	20,93
1215	y	4	6.88	,	0.569		59.6		0.25		6.0		14.57		110	20.97
1220	Χ		4.89		0.870		58,4		0,27		5.8		14.60		110	20.99
COMMEN	ITS	•						-		-						* -
						٠ ـ										

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 my for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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## LOW FLOW SAMPLING DATA SHEET

SHEET 20F 2

SITE: DATE: WEATHE	R:	8	ywoo -22-16 Lear 8						CONSULTIN							
MONITO			# 838C	SASOC		LL DEPTH: DIAMETER:		Inches			SCREEN	IED/OPEN II	NTERVAL:			
PID/FID I	RE/	ADIN	GS (ppm):		OUTER CAP		0				f thelow		: <u>/8.43</u> n i	pelow TOC		
	01410	PURGING	p (pH ı	H units)		CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	OX1	OLVED 'GEN Ig/I)	I	SIDITY TU)	1	RATURE Des C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	i	S &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1225	Y	6	6.90	NA	0.569	NA	54.7	NA	0.24	NA	6.0	NA	14.64	NA	110	20,59
1230	×	7	6.91		0.569		56.7		0.26		6.2		14.67		110	20.99
1235	T		i.							٠.					final	20.99
			-									-				
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	1	1						. \					1.			
		+	1.00													•
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· · · · · ·	1						<u> </u>									1
	1										-				- 1	
	1															
COMME	NT	S:														

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET 1 OF 2

SITE: DATE: WEATHEI	· -	Mayura 8-22-1 Clear	6				_	CONSULTIN	ONNEL:	CBAT					
MONITOR WELL PE		# 628	NGIZ M		LL DEPTH: NAMETER:	27.0	ex, per inches	× 24,65	BTIC	SCREEN	ED/OPEN II	NTERVAL:	19.65-	2.0 bg	1. TIC.
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAP		0				ft below					
	PURGING	р (рН с	H units)	SPEC CONDUC (mS	CTIVITY	POTE	DOX NTIAL IV)	ОХҮ	LVED GEN g/l)	TURB (N			RATURE [®]	PUMPING RATE	DEPTH TO WATER (ft below
TIME	E S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0850	¥	Start	NA		NA		NA		NA		NA		NA		
0828	8	6.38	<u> </u>	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	4.57
0905	K	6.50		2.133		-517		0.98		125.0		15.91		200	657
0910		6.54		2.109		-54,7		0.69		96.4		15.97		200	4-51
0915		6.57		2,092		~57.0	. \	0.84		87.6		16.18		200	6.51
0920		6.58		2.084		-56.6		0.32		85.3		16.33		200	6.51
0925		6.89		2.082		-57.7		0.11		72.8		14.28		200	6.57
0930		6.61		2.063		-58.3		0.0		65.0		15.72	,	200	4.51
0935		6.60		2.063		-58.5		0.0		42.9		15.77		200	6.57
0940	11	6.61		2.063		-58.3		6:65		41.9		15.90		200	6.57
COMMEN	ITS: (	USAC S	piit/Du	plicate 17	2R-090		005		-		· .				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET TOF

SITE: DATE: WEATHEI		1	Maywe 8-22-1	eod C					CONSULTII FIELD PER	NG FIRM:	CBat USKC					
MONITOR WELL PE			#: <del>138</del> 1	41-105°		LL DEPTH: DIAMETER:		inches			SCREEN	IED/OPEN II	NTERVAL:			
PID/FID R	EAL	OIN	GS (ppm):	ν.	OUND: OUTER CA		5				t below		: <u>6.35</u> ft	below TOC		
	PURGING	SAMPLING		iH units)	CONDU	CIFIC CTIVITY (cm)	POTE	DOX NTIAL IV)	ОХ	OLVED YGEN ng/l)		BIDITY TU)		RATURE *	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0845	X		6.62	NA	2.054	NA	-59.4	NA	0.88	NA	34.7	NA	15.90	NA	200	4.51
0880	X		6.62		2.052		-55.1		0.82		34.1		15.92		200	6.51
	x		6.62	· .	2.052	-	-58.8		0.81		33.7		15.96		200	6-51
1000		X				et .		,							Final	6.51
									-							
														1		
								1, 1						·		
							<u> </u>								· -	
					+		1						<u> </u>			
<del>`</del>	-								<del>                                     </del>		-					
COMMEN	1TS:	<u> </u>					<u> </u>	1				<u> </u>	_1*			<b>1</b>

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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## LOW FLOW SAMPLING DATA SHEET

SHEET / OF /

SITE: DATE: WEATHEI	•		A STATE OF THE STATE OF	-16 -16				<del>-</del>	CONSULTIN	SONNEL:	ms, JZ				(Salah	10.63
MONITOR WELL PE			# Mu	515	<del>-</del> .	LL DEPTH: DIAMETER:	20	2対文的分。 inches	, Chrisi	LUDENT	SCREEN	ED/OPEN II	NTERVAL:	14-	19-4	plo.
PID/FID R	EAI	DIN	GS (ppm):		OUND: OUTER CAI		)	PUMI	P INTAKE D	<b>ЕРТИ: _ 8</b> ,√	13 ft below PUMP INST	TOC				
	PURGING	SAMPLING	q Hq)	H µnits)	(mS	CTIVITY /cm)	(m	NTIAL IV)	r) m)	OLVED (GEN 19/1)	(N	SIDITY TU)	(degr	RATURE Bes C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	1	3		CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1885	X	ŀ	Start	. 172				142		1			· · · · · ·	<del></del>	70	14.60
<u> </u>	X	-	2.24		6. Olele		264.8		5.08		117.6		17.46	·	70	14.60
2090	X	L	5.26		6.097		263.2		5,48		113.1		16.90		70	14.75
0190	X		5.34		5.919		258.5		4.92		83.0	-	17.02		70	14.85
2915	X		5.41		5.761	. ,	255.0	,	4.96		1.2F		16.99		70	14.92
0920	X		5.48		5.551		250.6	1	4.91		61.4		17.04		70	15.01
2925	у		5.52		5,433		247.2		5.01		47.3		14.95		70	15.10
0930	X	1	8.53		5,432		246.8		4.98		41.0		17.04		70	15.18
O935	X		5.52		5,432		245.1		4.93		33.9		17.22		79	15.26
0940	X	1	C.52		5.422		244.3		4.91		37.6		17.19		70	15.39
0945	χ	1	5.87		5.432		243.6		4.89		32,1		17.15		70	15. 36
_	_	_		ا دد) او		ومكوراه	1295.6 vel 15.		17.67	1	10611	<u>.l</u>	114,13	<u> </u>	1 7	1101 20
		7	٠.				,	- 1					,			

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

	,		2
SHEET		OF	

SITE: DATE:	-	0	Maywoo					_	CONSULTIN		CBI NS,TC			-		
MEATHER MONITOR WELL PER	WI	ELL	3.700	. ,		LL DEPTH: DIAMETER:	54 16	inches	s. Alus	hmeow	SCREEN	IED/OPEN II	NTERVAL:	29-	54 Leo	ئى كى
PID/FID R	EAI	DIN	GS (ppm):		UND: OUTER CAI		)	PUMI DEPT	P INTAKE D	EPTH: <u>4</u> 9 ER BEFORE	ft below		: <u>/4.08</u> #1	below TOC		
	PURGING	SAMPLING	-	oH units)	CONDU	CIFIC CTIVITY (cm)	POTE (n	DOX NTIAL nv)	OX	OLVED (GEN 19/1)	1	BIDITY TU)		RATURE . ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME 1030	~	SA	Start	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(m/min)	<b>TOC</b> )
1035	X		6.83		0.800		1.5		3.36		44.6		12.52		170	14.18
1040	X		6.97		0.798		26.5		3.31		57.5	:	15.29		170	14.28
1045	Х		6.96		0.797		34.2		3.33		62.9	<u> </u>	15.30		17-0	14.35
1050	X		6.98		0.794		31.2		3.31		66.0		15.41		170	14.39
IOST	χ		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	ļ	74.6		15.90		170	14.42
1105	X	_	7.02		0.793		-8.9	, .	<i>3,</i> 35 °		81.6	<u>.</u>	16.02		170	14.43
1110	У	ļ.	J.05		0.790		-17.3		3,54		87.7		16.05		170	14.43
1115	X		7.02		0.789		-20.3		3.40		81.9		14.38		170	14.43
1120	<u> </u>	X	7.03	<u> </u>	0.787		-21.4		3,92	·	83.3		16.35		170	14:43
COMMEN	ITS:	•								•						

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET 2 OF Z

TIME   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Time   Ti															
MONITOR WELL #: MUSTO WELL DEPTH: WELL DEPTH: WELL DIAMETER: G inches  PID/FID READINGS (ppm): BACKGROUND: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O O O DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: O O O O O O O O O O O O O O O O O O O			<del> </del>	15,50	ONNEL:	FIELD PERS	<u> </u>	·	<u> </u>	·					
WELL PERMIT #:  WELL DIAMETER: 6 inches  PID/FID READINGS (ppm):  BACKGROUND: 0.0 PUMP INTAKE DEPTH: 49 ft below TOC  BENEATH OUTER CAP: 6.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below  BENEATH INNER CAP: 0.0  SPECIFIC CONDUCTIVITY POTENTIAL (mg/l) (mg/l) (NTU) (degrees)  TIME 2 8 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING	A	· .			·		·	· · · · · · · · · · · · · · · · · · ·			٥'٤	Clear 8	<u> </u>	WEATHER	
PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: 49 ft below TOC BENEATH OUTER CAP: 6.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below BENEATH INNER CAP: 0.0  PUMP INTAKE DEPTH: 49 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below TOC DEPTH TO WATER BEFORE PUMP INSTAL		IVAL:	ED/OPEN INTERVA	SCREENE	:	-				_	diza				
BENEATH OUTER CAP: 6.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 14.08 ft below beneath inner cap: 0.0  SPECIFIC CONDUCTIVITY POTENTIAL OXYGEN (NTU) (degrees (ms/cm))  TIME READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* RE							inches	6	LAMETER:	WELL	<u>-</u>		-		
BENEATH INNER CAP: 0.0    Description												GS (ppm):	EADIN	PID/FID R	
PH (pH units)	w TOC	<u>-08</u> ft below TOC	ALLATION : <u>19.08</u>	PUMP INSTA	R B <b>EFOR</b> E	H TO WATE	DEPT				4, 71 -				
1125 X 7.03 NA 0.786 NA -22.9 NA 4.03 NA 86.7 LAMONTE 16.35 1130 X 7.03 0.785 -24.3 3.86 82.8 44.1 16.37	SPECIFIC REDOX DISSOLVED  PH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY (MTU) (degrees C)  TIME 2 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (mi/min)  TOC)														
1125 X 7.03 0.786 722.7 7.03 86.7 LAMOSTE 16.55 13.86 82.8 44.1 16.37	IANGE" (ml/min) TOC	ADING CHANGE"	CHANGE* READIN	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	P	TIME	
	NA 170- 14.4	.35 NA	LAMONE 16.3	86.7	NA	4.03	NA	-22.9	NA	0,786	NA	7.03	У	1125	
	170 14.4	, 37	44.1 16.3	82.8		3.86		-24.3		0.785		7.03	У	1130	
1135 X 7:03 0.783 -23.2 3.88 82.2 44.7 16.40	170 14.4	6.40	44.7 16.4	82.2		3.88		-23.2		0.783		703	X	1135	
1140 X 7.03 0.782 -23.9 3.76 86.2 43.9 14.41	170 14.4	.41	43.9 14.4	86.2		3.76		-23.9		0.782	, ,	7,03	Х	1140	
1145 X 7.03 0.780 -24.3 3.73 89.1 46.5 16.39	120 14.4	,.39	46.5 16.3	89.1		3.73		- 24.3		0.780		7.03	X	1145	
1150 X 7.02 0.779 -24.2 3,71 86.6 44.4 16.32	120 14.4	.32	44.4 16.3	86.6		3,71		-24.2		0.779		7.02	X	1150	
1157 X 7.02 0.775 -23.6 3.68 84.7 44.3 16.29	170 14.4	, 29	44.3 16.2	84.7		3.68		-23.6		0.775		7.02	X	1153	
1200 X	Final 14.4						. ,		· ·				XX	1200	
						, , , , , , , , , , , , , , , , , , ,									
		,												<del></del>	
								-							
COMMENTS:					•					,.			TS:	COMMEN	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSE PARTMENTAL OF EN	VIRONMENTA	L PROTECTION
Low Flow Purging and Sampling Guidance		
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	1	0	
	- /		
CHEST	- 1	OF	-
SHEET	_ \	_ UF	

	8-23-1 Clear	2'08					FIELD PERS	BONNEL: _/				23 2		-A (66)
WIT#	-	BACKGRO BENEATH	WELL:	0 ( 0 - 0	<u> </u>	PUMI	P INTAKE D	ертн: <i>4</i> -	2_ft below	TOG			)	ov j vec
RGING			CONDU	CLIAILA	POTE	NTIAL	OXY	rgen .				4	PUMPING RATE	DEPTH TO WATER (ft below
	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
	7.11		4.317		-6.7		2.07		7.3		18.96	• .	225	4.85
×	7.03		4.885		-37.8		0.92		5,6		18.37		252	4.55
X	1.05		4.919		-44.6		0.67		8.0		18.06		222	4.55
X	7.06		4.943		-456		60.67		8.4		18.10		225	4.95
κ	7.00		4.974		-44.8	. \	0.70	-	11.3		18.74		225	4.55
<b>1</b> /20	7.07	<u> </u>	4.949		-47.2		0.66		14.4		17.95		552	4.55
×	7.07		4.980		-42.2		0.67		14.6		17.95		225	4.55
<b>x</b>	7.07		4,953		-47.8		0.65		15.8		17.97		225	4.95
8	208		4.951		-48.3		0.63		16.1		17.99		225	4.95
	7.08		4,954	. `	-48.4		v.lel		14.8		12.92		225	4.95
	FADIN BURGING SAMPLING SAMPLING	### 1.05  ###################################	WELL # MW 37 D  MIT #:  EADINGS (ppm): BACKGRO BENEATH BENEATH BENEATH  (pH units)  READING CHANGE*  NA  7.11  X 7.03  X 7.04  X 7.04  X 7.04  X 7.07  X 7.07  X 7.07	### CLEAN 80'S  WELL # MW 37 D WELL  WELL # MW 37 D WELL  MATH: BACKGROUND: BENEATH OUTER CAR BENEATH INNER CAR  SPE CONDU (pH units) (mS READING CHANGE* READING  ** F.11	B-23-10  III CLEAN 80'S  WELL # May 37 D WELL DEPTH:  WELL DIAMETER:  WELL DIAMETER:  WELL DIAMETER:  WELL DIAMETER:  WELL DIAMETER:  WELL DIAMETER:  O CO O CO O CO O CO O CO O CO O CO O	## 23-16  ### Clear 80's    Well # Ma	## 23-16  ## Clear 80's    Well #	## 1.06	Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   Second   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BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO WATER BEFORE PUMP INSTERNAL   MS/5C   DEPTH TO	S	S-23-16   CLOCK 80'S   WELL DEPTH:   S1.0   200   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100  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^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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# LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF

SITE: DATE: WEATHER	<b>E</b>	23-16 Clear E	0					CONSULTIN	, · —	CBIZ NS/JC				· · · · · · · · · · · · · · · · · · ·	
MONITOR WELL PER		# <u>Mu</u>	32.0	_	LL DEPTH: DIAMETER:	~-··	inches			SCREEN	ED/OPEN II	NTERVAL:			· .
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI		2	PUMF	P INTAKE D H TO WATE	EPTH: <u>47</u> R BEFORE	ft below	TOC ALLATION	: <u>4.9/</u> ft1	below TOC		
	PURGING		ti units)	SPE CONDU (mS	CTIVITY	POTE	DOX NTIAL IV)	OX	OLVED /GEN ig/l)		SIDITY TU)		RATURE . ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	<del>-   -   -   -   -   -   -   -   -   -  </del>	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1335	N	7.08	NA .	4.950	NA	-48.4	NA	0.40	NA	12.4	NA	17.85	NA	225	4.95
1340	X	7.09		4.945		-48.5		0.60		17.3		17.79	· ·	222	4.95
1345	A												, .	final	4.95
٠ , .					-										
				1		<del> </del>							: <b></b>		
									· <del> </del>						
· · · · · · · · · · · · · · · · · · ·	+		<u> </u>			<del> </del>	<u> </u>			<u> </u>	<del> </del>	<u> </u>			
			<del> </del>					-	1						
······································	.		· .	<del> </del>			-								:
			}	,							<u> </u>				
COMMEN	TS:				( <b>.</b>		. '								

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

	/	,
SHEET	OF	

SITE: DATE: WEATHER	- -		244000 B-74-1	6				_	CONSULTIN		CBI CBI					
MONITOR WELL PEI			# <u>Mu</u>	3 <b>53</b> 5		LL DEPTH: DIAMETER:	16.D	eet, D	p. Yus	h moon	SCREEN	ED/OPEN II	NTERVAL:	11.0	- 16.0	Bry
PID/FID R	EAI	MIC	GS (ppm):		OUND: OUTER CAI		2				ft below PUMP INST		: <u>5.30</u> #1	pelow TOC		
·	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s															
0840	<del>  -</del>	-	START	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
08.45	×		-6.58		1.699		-72.5	<u> </u>	175	· .	126.0		20.34		180	5,30
08 50	欽		6.73		1.694		-103.2		0.76		86.8		20.15		180	5.30
٥కరక	X		6.76		1:690		-106.1		0.63		71.1		20.18		180	5.30
0900	X	L	677		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	<u></u>	1.647	1	-90.6	<u> </u>	0.47		15.0		21.88		180	5.30
0915	X	-	6.78	<u> </u>	1.635	/	-94.4		0.44		- 12.1	ļ	22.42		180	5,30
0920		-	6.78		1.616	·	-101.7		0.43	-	8.4		.22.73		180	5,30
0925	-	1	6.78		1.597	••	-163.0		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
<b>COMMEN</b>		7	23B (SAMP	•	00 <b>58</b>	<b>?</b>			•					ſ	FINAL	5.30

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JEKSE PARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance
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## LOW FLOW SAMPLING DATA SHEET

WELL PEI	RMI	ELL T#	Mayerson 8-24-1 Clear # Mus : GS (ppm):	BO'S  BACKGRO BENEATH	WELL I		<i>6</i>	H. 199 Inches	P INTAKE D	KWOOK	SCREEN  of the below	TOC	NTERVAL: : <u>5.05</u> 作!		- 62.6	ft-bg?
	SPECIFIC REDOX DISSOLVED pH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE (pH units) (mS/cm) (mv) (mg/l) (NTU) (degrees C) TIME 2															
0950	×	3		CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0955	×		START 7.26		0.744		-59.2		2.27		74.5		2175	,	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	<u> </u>	0.38		56.0		21.47		245	5.05
1025	X	L	732		0.754	ļ. 	-59.6		0.34	ļ	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		031		360		21.80	·	245	5,05
1040	X	1	7.32		0.754		-56.0		0.30		33.6		.21.80		245	5.05
COMMEN	ITS:	=	238-	0900	59					•						٠.

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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 Purging and Sampling Guidance
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SHEET 2 OF 2

HTE: DATE: NEATHER	<b>.</b>		MAYW 8-24-1	60D					CONSULTIN							
MONITOR	WI RMI	ELL T#	# <u>m</u> u	53D		LL DEPTH: DIAMETER:		inches			SCREEN	IED/OPEN I	NTERVAL: '			:
PID/FID R	EAI	DIN	GS (ppm):		OUND: OUTER CAI INNER CAF		·		,	-	ft below PUMP INST		:ft	below TOC		
	PURGING	SAMPLING		eH units)	CONDU	CIFIC CTIVITY (cm)	POTE	DOX NTIAL nv)	OX (n	OLVED YGEN 19/1)		BIDITY (TU)	(degr	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1045	Y	H	720	'\-	0.753		-55.2		0.30	,,,,	27.7		2177		245	5.05
1050	X		7.32 7.32		0.754		-50.9	<u> </u>	0.29		26.7		21.67	<del>                                     </del>	245	5.05
1055	_		7.32	1 .	0.752		-48.6		028		25.2		21.83		245	5.05
1100		X											7.1.0		FINAL	5.05
<i>y</i>								1							, , ,	
•	-					.,		· · · · · · · · · · · · · · · · · · ·								
	T								r							
									·							
COMMEN	ITS	8.				( a -										

*INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET OF 2

SITE: DATE:		MAYW 8-24	-16.				· ·	CONSULTIN		CB+I JC/M	5				
WEATHER MONITOR WELL PER	WELL	#: MW	_85°F -435R	WE	LL DEPTH: DIAMETER:		_ inches	. 0	, 		ED/OPEN II		3.3 - 4.7 -	8.3.1 9.7 <b>(4</b> )	bap. Ties
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI INNER CAP			PUMI DEPT	P INTAKE DI TH TO WATE	EPTH: ~ 9 R BEFORE	ft below PUMP INST	TOC (7.3 ALLATION	845) , <u>5.18                                    </u>	elow TOC		
	PURGING		H units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	ОХТ	OLVED 'GEN g/i)		IDITY (U)	(degr	RATURE :	PUMPING RATE	DEPTH TO WATER (ft below
TIME	X 8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1217	X	START 6.97		1.409		168.8		2.83		21-6		25.65		55	6-05
1225	X	PK7.03		1.359		174.6		2-63		22.2		24.31		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		240		26.0		28.15		90	6.01
1245	X	710		1.346		209.2		2.39		45.1		28.22		90	6.09
1250	X	7.10	<u> </u>	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	3	7,13	, .	1.341		238.5		2.98		21.2		27.12	<u> </u>	60	6.33
COMMEN	ITS:	12B	-090	066					•						

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET ZOFZ

SITE: DATE: WEATHE		MAYU 8-24			:		_	CONSULTIN	· · · —						
MONITO	WELL		1-4356	T	LL DEPTH: DIAMETER:		inches			SCREEN	IED/OPEN II	NTERVAL:		· · · · · · · · · · · · · · · · · · ·	
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAP INNER CAP						ft below PUMP INST		:ft	nelow TOC		
TIME	P &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE ¹	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1310	X	7.14	- NA	1.342	NA	217.6	NA .	3.18	NA	17.0	, KA	27.62		60	6.33
1315	Х	715		1.342		2040		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
				ľ											
		,													
COMMEN	ITS:								· ·						

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERSE PARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18



## LOW FLOW SAMPLING DATA SHEET

SHEET OF 2

SITE: DATE:	•	-	Mayu		-/			_	CONSULTIN		CBI MS, JC					
WEATHE MONITOR WELL PE	R W		# Mu	242 242	WE	LL DEPTH: DIAMETER:	10.5.	inches	or Gu	sh neenf	SCREEN	ED/OPEN IN	ITERVAL:	5.5.	10.5	t.bg
			GS (ppm):			0,0	<del>e</del>	PUMI			ft below		3.60 m	pelow TOC		<u> </u>
	SPECIFIC REDOX DISSOLVED  DH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE (ft below (ms/cm) (mv) (mg/l) (NTU) (degrees C)  RATE (ft below (ft below (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms/cm) (ms															
810	X	8	READING Start	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	3.64
815	×	,	6:44		0.576		183.9		1.43		651.7	Lamotte	19.90		190	3.46
820	N	$\top$	6.72		0.524		185.6		1.24		461.4		19.82		190	3.66
825	Ø	_	4.78	· .	0.522		/88.3		1.12		341.6		19.65		190	3.66
830	0		4.81		0.521		190.7		2.78		249,7		19,49		190	3.66
835	K	-	4.85		0.522		193.0	. \	2.67		134,5		19.41	;	190	3.66
840	V	-	4.83		0.522		194.4		2.42	·	121.6		19.43		190	3.46
845	X	-	4.84		0.524		196.8		2.30		<i>96.7</i>		19,45		190	3.00
850	X	_	4.85	<u> </u>	0.525		199.2		2.21		82.3		19.48		190	3.66
855	×	!	6.85		0.526		201.4	·	2.16		74.7	<u> </u>	19.57		190	3.66
900	X		6.80		0.524		203.4		2.05		71.0	41.0	19.54		190	3.66
COMME	ITS		23B-	09806	21											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET Z OF Z

SITE: DATE:		Mayu						CONSULTIN		CBI ms/5C	· · · · · · · · · · · · · · · · · · ·				
WEATHE	R:	Cleu	v 80's	Lunto			<u> </u>	, , , , , , , , , , , , , , , , , , , ,	·						
MONITO			S <b>45</b>	<del></del> .	LL DEPTH:		<u> </u>			SCREEN	ED/OPEN II	TERVAL:			•
WELL PE	RMIT #	<u> </u>		WELL I	DIAMETER:		_ inches								
	RÉADIN	GS (ppm):		OUND: OUTER CAP INNER CAP						ft below PUMP INST		. <u>3. 60</u> ft I	below TOC		
	SPECIFIC REDOX DISSOLVED  pH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY (MTU) (degrees C)  (pH units) (mS/cm) (mv) (mg/l) (NTU) (degrees C)  READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (mt/min)  TOC)														
TIME	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	1 .	
0905	x	6.86	NA	0.527	NA	205.1	NA	1.87	NA	54.5	3 G. G	19.48	NA	190	3.66
09/0	χ	4.84		0.527		206.6		1.84		43.7	24.2	19.48		190	3.46
0915	×	4.86		0,527		207.4		1.81		32.0	23.8	19.53		190	3.66
0920	b	6.86		0,527		210.6		1.70		30.1	18.2	19.40		190	3.66
0925	y	4.85		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	Ø	6.85		0.577		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	1	190	3,66
0945	X	4.88		0.528		227.6		1.1(		22.4	164	19.78		190	3.66
0950	X	6.85		0.528		228.9		1.09		23.0	16.6	19.82		190	3.66
0955	B X	Sampl	<u>.                                    </u>						,					FINAL.	3.66
COMME	NTS:	238	>-0900	<b>(6)</b>			·	. •						·	·
,						·					7				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERS EPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance Page 15 of 18

#### LOW FLOW SAMPLING DATA SHEET

SHEET J OF 2

SITE: DATE:		MAY 8-25	W00D			······································	<del>-</del>	CONSULTIN	<del></del>	CBI					.,,
WEATHER	<b>.</b>		n 800	F				FIELD FERG	ONNEL		<i>H</i> (3				- \
MONITOR			54D		LL DEPTH: DIAMETER:	78.5	inches	098. A	lush war	SCREEN	ED/OPEN II	NTERVAL:	58.5	- 78.5	feel by
YD/FID R	EADIN	GS (ppm):		OUND: OUTER CAI						O ft below PUMP INST		: <u>0.0</u> ft l	pelow TOC		
	SPECIFIC REDOX DISSOLVED  PH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE PUMPING WATER (ft below)  (pH units) (mS/cm) (my) (mg/l) (NTU) (degrees C) RATE (ft below)														
TIME			CHANGE*	READING		READING		READING		READING	<del>                                     </del>	READING		(ml/min)	TOC)
1020	X	START	NA		NA .	· ·	NA		NA	<u> </u>	NA .	-	NA		
1072	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	<u>.</u>	20.33		75	1.41
1035	X	7.72		0.504		230.2		5.73		7.0		20.78		75	L35
1040	χ	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	χ	7.76		0.506		260.1		5.16		23.5		22.19		95	1.07
1100	χ	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.		4.96		31.9		22.21		95	1.10
COMMEN	TS:	238.	-09000	02											

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

NEW JERS DEPARTMENTAL OF ENVIRONMENTAL PROTECTION Low Flow Purging and Sampling Guidance
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### LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: DATE:		MAYN 8-	25-11	Ø			_	CONSULTIN							
WEATHEI MONITOR WELL PE	WELL	# Mu	1-54£	) WE	LL DEPTH:		inches		•	SCREEN	ED/OPEN II	NTERVAL:	-		
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI		·		INTAKE D	-	ft below PUMP INST		:ft (	pelow TOC		
	SPECIFIC REDOX DISSOLVED  pH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE (pH units) (mS/cm) (mv) (mg/l) (NTU) (degrees C)  READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (ml/min) TOC)														
TIME	P. SAN	READING		READING		READING		READING		READING	<del></del>	READING		1 .	
			NA		NA		NA		NA		NA NA		NA -		
1115	X.	7.76		0.506	<u> </u>	296.3		4.87		26.2		22.51		95	1:10
اعدال	χ_	7.76		0.506		302.1		4.82	<u>.</u>	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	χ	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	1-1-1						,				1		FINAL	1.10
COMMEN	TS:	238-0	900G:	2_					-						

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET & OF 1

SITE:		Mayuro					_	CONSULTIN	_		-				
DATE:		8-29-		, , , ,				FIELD PERS		ns,KG		·····	<del></del>	<del></del>	
WEATHE		Cloudy	,					0.64			·		7.61		60 + f ba
MONITOR WELL PE		# <u>538</u>	WITA	<del></del>	LL DEPTH: DIAMETER:		inches	विक्धा	tC Pro	SCREEN	ED/OPEN II	NTERVAL:	12.0	15.14	P, TIC
PID/FID R	EADIN	GS (ppm):	BACKGRO	DUND:	٥.	0	PUMI	P INTAKE D	<b>ЕР</b> ТН: <i>Ь</i> У	7-ft below	TOC				<del>                                      </del>
		*		OUTER CAP	P: <u>0</u> -	0	DEPT	H TO WATE	R BEFORE	PUMP INST	ALLATION	: <u>9.57</u> #1	below TOC		
	SPECIFIC REDOX DISSOLVED  PH (pH units) (mS/cm) (mv) (mg/l) (NTU) (degrees C)  READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (ml/min)  SPECIFIC REDOX DISSOLVED  OXYGEN TURBIDITY (MTU) (degrees C)  (my) (mg/l) (NTU) (horizontal)  OXYGEN TURBIDITY (degrees C)  RATE (fft below TOC)														
TIME	P S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0900	X	Stur	NA NA		NA		NA		NA		NA		NA		·
0905	x	6.45		1.656		30.5		2.47		375.2		19.34		700	9.57
0910	X	7.06		1.573	,	60.5		356		101.0		19.55		200	9.69
0915	X	7.05		1,800		58.6		2.51		92.4		19.98		200	9.84
0920	X	7.00		1.486		61.6		1.47		57.7		20.31		200	2-92
0925	X	699		1.499		71.4	. \	1,77		29.6		20.81		200	9.95
0930	X	7.00		1.510		76.2	-	2.40		17.6		21.15		200	8-86
0935	x _	6.99		1.512		82.3		1.97		12.2		21-32	,	200	925
0940	X	6.99		1.540		87.L		1,78		5,3		21.36		200	10-00
0945	x	6.99		1.540		89.3		1.80		3.4		21.40		SOE	10:02
0950	X	699		1.539		90.6	·	1.79		0.1		21.51		200	10.03
COMMEN	TS: 7	20A-09	0064	Sample	<b>୭୦</b> ୦୭	22 1	ms/msD	taken	•						

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET 1 OF 1

SITE:		Mayura						CONSULTI							
DATE: WEATHE	<b>t</b> :	8-29-1 Clear 9		u d			<del>_</del> · · · · ·	FIELD PER	SONNEL! <u>\</u>	15/KG	·	<del></del>	10 20	10 5	alher
MONITOR		# B38			LL DEPTH:	301	_ -44.46\4	the 47	0 KL 716	SCREEN	IED/OPEN I	NTERVAL: '	2519	-29.0	1
WELL PE				WELL	DIAMETER:	7	inches	20	<i>D</i>		-		21.3-	31.6	工门
PID/FID R	EADIN	GS (ppm):	BACKGRO	DUND:	٥.	0				₹ ft below		<b>9</b>			
				OUTER CAI INNER CAF			DEPT	TAW OT H	er before	PUMP INST	ALLATION	: <u>943</u> m	elow TOC		
	5 9			SPE	CIFIC	RE	DOX		OLVED		· · ·				DEPTH TO
	PURGING	R -	units)		CTIVITY /cm)		NTIAL IV)		rgen 1g/l)	1	BIDITY TU)		RATURE ees C)	PUMPING RATE	WATER (ft below
TIME	2 8	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1340	X	Start	> NA		NA		NA	· .	NA	ļ	NA	<u>                                     </u>	ŅA	250	9,43
1345	x	7.14		5.405		-95.8		1.54		3.1		16.68		250	9-43
1350	X	6.79		5,425		-83.4		0.54		2.8		16.01		280	9.43
1355	x	6.76		5.430		-80.0		0.60		0.1	<u> </u>	\$ 18.97		280	9.43
1400	X	674		5.432		-79.4		0.49		0.0		15,93		250	9.43
1405	X	6.75		5.435		-78.3	./	0.37		0.0		18.84		280	9.43
1410	X	6.74		5.437		-77.4		0.33		0.0		15,87		280	9.43
1415	X	6.74		8.440		-75.9	, ,	0.30		6.0		15.85		250	9.43
1420	X	6.74		5442		-74.3		0.28		0-0		15.85		250	943
1435	X	6.74		8.441		-73.8		0.26		0.0		15.83		250	943
1430	Y														
COMMEN	TS; S	scorreile i	204-0	10065	Dupt	aten G	M32	ZÓA-	09007	3					
					٠										

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET / OF /

SITE: DATE: WEATHER MONITOR WELL PEI PID/FID R	WELL		16 80's 1 36D Backgro	WELL	LL DEPTH: DIAMETER:	, (	inches	INTAKE D	EPTH: 48	). SCREEN	тос	NTERVAL:		- 52 a	214 007.
TIME	PURGING	p (pH t	BENEATH  oH  units)  CHANGE*	CONDU	CIFIC REDOX CTIVITY POTENTIAL (cm) (mv)			DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)			RATURE '	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
088	ζ	Start	NA	, C.J.	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	NA		4.32
0900	Y		Readi	nss. f	low ce	11 84:11	Filling							SOME	6.32
0905	x		Flou	0		oml/m	1 (							some	6.32
0910	X	7.51		1.006		157.6		0.55		00		24.34		Some	6.32
0915	x	7.54		1.000	,	145.4		051		0.0		24.01		Some	6.32
0920	X	7.5C		0.992		137.0		0.40		0.0		23.63		SOME	6.32
0925	X	7.58		0.988		129.6		0.33		0.0	<u> </u>	23,53		SOML	6.32
0930	X_	7.60		0.984		123.2		0.30		0.0		53'2.5		Some	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	Same										s .		Final	4.32
COMMEN	TS:	236-0	8200PC	<b>@</b> 094	2 E	inal H	20 leve	۱ (ه.څې							

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET <u>/</u> OF <u>Z</u>

SITE: MG/WOOD CONSULTING FIRM: CBT DATE: 8-26-16 FIELD PERSONNEL: MS/KG															· ]
DATE: WEATHER		8-30 Clear					<del>_</del>	FIELD PERS	ONNEL:	ms /KG					
:	MONITOR WELL# MWGS WELL DEPTH: 17.0 17 hep. (Hush views), screened/open interval: 5.0 -15.0 17 hep.														
1 .	WELL PERMIT #: WELL DIAMETER: 2 Dinches SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.0 -13.0   SCREENED/OPEN INTERVAL: 5.														
PID/FID R	PID/FID READINGS (ppm): BACKGROUND: 0.0 PUMP INTAKE DEPTH: /3_ft below TOC  BENEATH OUTER CAP: 0.0 DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.0 ft below TOC  BENEATH INNER CAP: 0.0														
	PURGING	p (pH s	H units)	SPE( CONDU (mS		POTE	DOX NTIAŁ IV)	OXY	OLVED 'GEN g/I)	TURB (N1	IDITY		RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	P. SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1020	X	Start	NA		NA		NA.		NA		NA		NA	200	-6.80
1025	X	6.93		5.261		-60.3		6.08		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	·	-Col. 1		0.12		120.9		21.12		200	7.50
1045	X	6.91		5.083		-62.0		0.14		95.1		21.14		Son	750
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	750
1100	x	6.92		4.873		-60.6		0.09		44.7		21,22		200	750
1105	X	6.92		4.806		-60.1		0.09		36.2		81.78		200	7.50
1110	X	4.93		4.720		-58.5		0.08		26.0		21.30		SOO	2.50
COMMEN	TS:	236-	- 09 oc	(F)	final I	teo leve	1 2.20	,						·	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET ZOF Z

DATE: WEATHER	<u> </u>	9-30 Cleer	-16	Humoe				FIELD PERS	G FIRM: CONNEL:	KG, MS					
MONITOR			<u>رم)</u> د	_	LL DEPTH: NAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:			
PID/FID R	ID/FID READINGS (ppm): BACKGROUND: O.O PUMP INTAKE DEPTH: /3 R below TOC BENEATH OUTER CAP: O.O DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.01 ft below TOC BENEATH INNER CAP: O.O														
	PURGING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		POTE	DOX NTIAL IV)	DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE . (degrees C)		PUMPING RATE	DEPTH TO WATER (ft below
TIME	PU	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	7 57)
1115 1120	χ	4.93		4.694		-57.6		0.08		19.8	, , , ,	21.36		200	7.50
1125	У	6.93		4.618		-57.8		0.05		17.0		21.34		200	7.00
1130	<u>&gt;</u>	694		4.569		-56.5		0.06		14.4	·	21.82		200	7.50
138	۲ _	4.94		4.523		-53.5		0.02		17.0		21,62		200	7.50
1140	1 1	6.94		4.500		-54.7		0.06		11.0		21.62		200	750
1148		6.34		4.499		-55.1		0.06		10.6		21.62		200	3.20
1/80	X	6.94	<u> </u>	4,491		-54.2		0.07		11.0		21.63		200	750
1157	¥Χ										· · ·			final	2.50
								-							,
COMMEN	TS:	238-0	09000	i7 @1	22	final 1	120 her	02.F ls					·		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 1 OF 2

SITE:		Mayo	rood				_	ONSULTIN	G FIRM:	CBIE					
DATE:		8-30-	-( <b>Ú</b>				_	FIELD PERS	ONNEL:	CG, MS					
WEATHE	R:	Clear	80's H	unid			_			Â					
	WELL DIAMETER: 6 inches SCREENED/OPEN INTERVAL: 25.0-50.0 bg.														
PID/FID R	PID/FID READINGS (ppm): BACKGROUND: O.O PUMP INTAKE DEPTH: 15 ft below TOC  BENEATH OUTER CAP: O.O  BENEATH INNER CAP: O.O														
	SPECIFIC REDOX DISSOLVED  PH CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE PUMPIN													PUMPING RATE	DEPTH TO WATER (ft below
TIME	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1230	X	Start	NA		NA		NA .		NA		NA:		NA	230	5.83
1235	X	100	> Recu	lings.	settin	ns flow	> Bate	andl	vaitin	for fi	owcel	tofill		730	8.83
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	2.83
1285	X	7.66	,	0,974		-38.4		6.07		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	Х	7.65		0.979		-37.5		0.05		124.3	·	19.67		230	5,83
1310	×	7.64		0.980	· .	-36.1		0.02		120.5	Camolle	20,08		230	5.83
1316	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	5183
COMMEN	lTS;			•		al HzO l bidity A		83			.·				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

SHEET ZOF Z

SITE: DATE: WEATHE	<b>.</b>	8-30 Cloar		Lomid			FIELD PERSONNEL: KS MS										
MONITOR WELL PE		# <u>Mu</u>	539D		LL DEPTH: DIAMETER:		inches	·		SCREEN	IED/OPEN IN	ITERVAL:			· · ·		
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAI		0				ft below	TOC ALLATION	<u>5,80</u> #1	elow TOC				
	PURGING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)(4Mo		TEMPERATURE (degrees C)		PUMPING RATE	DEPTH TO WATER (ft below		
TIME	D &	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)		
1325	X.	7.62	NA	0.981	NA	-31.6	, NA	0.01	NA	93.4	3-2.49	21.40	NA	Z30 -	5.83		
1330	X	763		0.981		-31.6		0.02		92.6	33.2	21.18		230	5.83		
335	X	7.43		1890		-31.6		0.01		81.6	32.0	21.07	* .	730	2.83		
340	×	7.63		0.981		4:08-	,	0,01				21.10		230	5-83		
13 45	X				,								r	Final	2.83		
				1													
										* .							
										-							
	,		·								5						
				2.184		<u> </u>			1	<u> </u>				<u> </u>			
COMMEN	ITS: 7			2 1345 afte We		nal Hzo <u>Turbidit</u>			iurbidity	probe a	<del>cting</del> up	٥.					

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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#### LOW FLOW SAMPLING DATA SHEET

SHEET 1 of 3

SITE:																
DATE: WEATHER	>-		8-31-	90's Hu	C			<del></del> '	FIELD PERS	ONNEL: <u>N</u>	ns, KG					
MONITOR		== #				LL DEPTH:	14 10	<u> </u>	vonde	14	SCREEN	ED/OPEN II	JTEPVAL:	144 19	3 1 a a ( )	
WELL PE			# <u>Mu</u> ):	55K	<del></del>	HAMETER:	7	inches	N KONOO	~\ ]	JUNEER	ED/OF EN II	41 EUAV	11-1	1	7
PID/FID READINGS (ppm):  BACKGROUND:  BENEATH OUTER CAP:  BENEATH INNER CAP:  OOD  PUMP INTAKE DEPTH: 18 ft below TOC  DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.35 ft below TOC																
	RGING	SAMPLING	p (pH u		SPE( CONDUC (mS	CTIVITY	POTE	DOX NTIAL IV)	DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE • (degrees C)		PUMPING RATE	DEPTH TO WATER
TIME	PUR	SAIV	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE* (ml/min)		(ft below TOC)
0900	X		Start	<b>11</b> 58	ine fl	e NA P	ate	NA		NA		NA		NA	50	10.80
0905	X		s ( )	11	11	11	ι (	lγ	i,	N	U	ιι	R	Ŋ	80	11.00
0910	γ		N	head	ings P	1000 Ce	II fills	ns at	soul/	uin					80	11.00
0915	χ		//	61	0 (1	- (1	ir	"		. (1	( /	( )	10	17	80	11.00
0920	٤		746		2107		-6.0		2:31		198.4		24.19	·	80	11.00
0925	۴		7,49		2.084		-2.5		5.28		203.5		23.94		50	11.60
0930	Y		7.49		2.086		-5.1		8,30		201.6	· · · · · · · · · · · · · · · · · · ·	23.83		ಉ	1/.20
0935	۲		7.50		2.068		-2.7		8.21		191.7		23.90		50	11,25
0940	×		751		2.074	-	-1.8		8,14		180.4		23.67		50	11.32
0945	V		7.51		2.072		-2.4		5.02		176.3		23,44		80	11138
0950	X		781		2.071		-3.1		4.85		174.1		23.50		20	WI
COMMEN	ITS:	1	ZB-0"	90108	<u> </u>	Final	1120 lev	el 11.78	3					-		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 2 OF 3

ATE: EATHER:		Mayw 8-31- Clear	16	umid			- -	FIELD PERS	ONNEL:	· '-					
ONITOR V			35N		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:			
ID/FID RE/	ADIN	GS (ppm):		OUND: OUTER CAP		>				3_ft below PUMP INST		: <u>/0.35</u> #1	nelow TOC		
- +-	.			-				1							
2985 1	7-7-	7.49	NA	2.084	NA .	-8.3	NA	4.57	, RA	156.5		23.70	NA.	50	11.41
000 X	(	1778		2.092		-13.6		4.36		152.4		23.88		50	11.45
005 X	<u>C</u>	J.48		2.115		-19.7		4.18		137. 2		23.45		50	16.48
010	4	7,47		2.126		-2510		\$3.97		123.6		23.31		20	11.57
015	P	7.46		2.129		-28.3		3.72		114.5		23.41		50	11.54
020	q	7.46		2,146		-34.1		3.55		104.1		73.10		50	11.57
025 X	c	7,45		2.154		-38.7		3.36	,	97.0		72-73		50	11.62
030	P	2,45		2.165		-41.4		3.28		84.7		22.61		50	11.68
_ [	79	7,44		2.184		-45.1		3.13		97.2		22.45		50	11.70
	7	7.44		2.204		1,44-		3,04		69.1		22.13	1	570	11,75
	0	7.44		2.203		-47,7		2.98		64.8		21,60	1	60	11.78

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### LOW FLOW SAMPLING DATA SHEET

SHEET <u>3</u> OF <u>3</u>

SITE: DATE: WEATHER		Maywo 8-31-16		unid				CONSULTIN		CBI MS KG					
MONITOR WELL PE		#: <u>സ</u> ധ		WE	LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN II	NTERVAL:	140	- 19,0	
PID/FID R	EADIN	GS (ppm):		UND: OUTER CAI INNER CAP						tt below		: <u>/035</u> ft1	elow TOC		
TIME	A S	READING 7.43		2.228		READING		2.81		S8.3		READING 21.25		(ml/min)	11.82
1030	<b>V</b>	7.43 2,43		2.265		-54,3		2.70		47.9		20.88		200	11.85
1100	k	7.42		2.791		-58.1		2.49		41.1		21.40		50	11.83
1105	х	1115		2.301		-60.4		2.24		35.1		21.49	, <u></u>	८७	11.80
1110	χ	7,40		2.309	· .	-61.6		2.22		34.2		21.53		కర	11.78
1115	X	7.40	·	2.314		-63.1		2.16	,	32.6		21.61		50	11.78
1120	x	7.40		2.318		-64.6		2.10		30.7		2669		50	11.78
1125	X	Samp	le						-			-		Final	11.78
COMMEN	ITS:	28-09	0108	1125	Final !	AzO leve	11.78	. 1					4		4

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



	í	
SHEET		OF!

SITE: DATE:		-87	e He mis	9-1-/(	0		_	CONSULTIN	_		58 1 7MS				
WEATHE	R: _		nay Rain	overcust											
MONITOR	:		PZ17R		LL DEPTH: HAMETER:	19.5	) inches	18.06	t. bed.	SCREEN	ED/OPEN II	NTERVAL:	14.3-	18.0	ex, ILC
		MGS (ppn								3		8 4/3	13:0-	13.0	1,081.
	,EAD	iides (ppii	BENEAT	OUND: H OUTER CAI H INNER CAP						3 ft below PUMP INST		9.47 135 n	elow TOC		
	PURGING	SAMPLING READIN	pH oH units)	SPE( CONDU		REC POTEI (m	NTIAL	OXY	OLVED /GEN ig/l)	TURE (N	IDITY (U)		RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	READIN	G CHANGE	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0835	χ	Star	F NA		NA	,	NA .		NA		NA		NA	150	9.85
0830	K	6.2	3	3.551		-87.G		6.34		119.0		19-21		150	9.85
0835	X	6.20	,	3.602	ž.	-89.3		6.12		110.9		19.01		150	9.80
0840	X	4.3		3.599		-93. Z		5.35		94.1		18.04		150	9.65
0845	×	4.38	5	3.548		-94.9		4.83		-95.30		18.33		150	9.60
0850	K	4.30		3.580	, .	-93.7		4.53		34.2		18.54		150	9.60
0855	χ	6.3	-0	3.623		-90.4		3.85	,	38.4		20.70		150	9.53-
0900	X	4.3	3	3.581		-92.4		3.34		28.7		18.75		150	9.55
0905	×	4.39	<b>)</b> .	3.572		-93.6		3.26		12,9		18.65		150	9.60
0910	X	4.3	}	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
COMME	NTS:	128-0	30008	9 0920	,										
		Final	HzO level:	9.60		·		_							

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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### LOW FLOW SAMPLING DATA SHEET

			•									4,			SHEE	TOF
SITE:	_		Mayo	ood	•				CONSULTI	NG FIRM:		3 <u>8</u> 1				
DATE:	_		(8)	100d	9-1-1	<u>(</u>			FIELD PER	SONNEL:	KG /	MS				
WEATHE	R:	<u>.</u>	SUI	nny			58.3	o'ben'	· .		20	••		37.7	0-58	20' bar
MONITO				24		LL DEPTH:		खान्य	60-81	KTIC	SCREEN	(ED/OPEN I	NTERVAL:	40-	tot to	<b>42 0</b> %
WELL PE	RMI	T#	·	<del></del>	WELL	DIAMETER:	<u></u>	inches		U	•	•		39.8	- 601	BI 'TIC
PID/FID T	REAL	N	GS (ppm):	BACKGRO	UND:	0		PUMI	P INTAKE D	EPTH: 5	ft below	7 <del>00 66</del> 5	, 53 · ll	<b>TIC.</b>		
					OUTER CA		<del></del>	DEPT	TAW OT H	ER BEFORE	PUMP INST	<b>FALLATION</b>	: 10.45 ft	below TOC		
	•			BENEATH	INNER CAF		<del></del>		<del></del>		<b>.</b>					
	16	2		Н .		CIFIC CTIVITY	1	DOX :NTIAL		OLVED YGEN	пю	BIDITY	TEMPE	RATURE		DEPTH TO
	PURGING	SAMPLING		units)	1	/cm)	1	nv).		1g/l)		ITU)	4	ees C)	PUMPING RATE	WATER (ft below
TIME	E	S	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
०१८इ	X		Start	NA		NA		NA		NA		NĄ		NA	ZSO	10.45
1000	X		6.03		9.365		-36.2		1.81		16.0		18.02		ZSO	10.48
1005	Y		5.97		10.09		-48.7		1.52		39.6		1785		25U	10.35
1010	x		5,97		10.12		-49.5		1.52		27.5		17.82		250	10-55
1015	×		5,96		10.22		-50.4		1.41	:	10.2		17.75		2570	10-60
1020	X		5.96		10.26		-51.1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1.13		10.0	<u> </u>	17.74		280	10.60
1025	×		5.96		10.32		-51.1		1,36		17.1		17.90		250	10.60
1030	X		5.96		10.33		-81.0		1.42		11.9		18.02		zsv	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							<u> </u>				N 13		Final	10.60
COMME	NTS:				2 1045											
1		1	inal H	120 leve	1016	. ن		• •	-			A				

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 1 OF 2

SITE: DATE:	6	9-1-16					_	CONSULTIN	_	CBP_					
WEATHER	& <u>.</u>	averces		~			<b>-</b>	FIELD PERG		SCIMS					
MONITOR WELL PE	,		5525	<del></del>	LL DEPTH: NAMETER:	16.0	inches	18,74	TIL	SCREEN	ED/OPEN IN		<u>6'-</u> 8,74-	18,74	つ. 「TK
PID/FID R	EADIN	IGS (ppm):		OUND: OUTER CAP			-			<u>(∙)</u> ft below PUMP INST		<i>10.8</i> 3#1	below TOC		
	PURGING	p (pH t	H units)	SPEC CONDUC (mS		POTE	DOX NT <del>IAL</del> nv)	ОХУ	OLVED 'GEN g/l)	1	IDITY (U)		RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	PAS	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1145	X_	Start	NA		NA		NA		NA		NA		NA	125	11.20
1150	X	7.02		1.576		60.8		4.94		297.8		77.80		125	11.20
1122	x	6.88		1.468		65.3		4.52		293.8		22.82	-	125-	11.20
1200	χ	6.52		1.346		€ 74.3		3.95		303.1		22.49		125	11.30
1205	χ	4.40		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		9017		2.68			Camotte	22.84		125	11.30
1220	×	4.22		1. 308		93.6		2.71		217.7	100.3	23.51		125	11.30
1225	X	4.21		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		1	T	23.89		125	11.30
	TS: (	ising Lai	nothe w	40204	or Turbi	dity									
		•		00200			aal Ha	o level	= 11.30		-				
			<u> </u>					- (~V~							

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 2 OF 2

SITE: DATE: WEATHER	_	: (	0ercas)	-/Somes	in Hu	nid		_	CONSULTIN		CBI TC/MS					
MONITOR	- 1		# Mu	> <b>2</b> 55 s		LL DEPTH: DIAMETER:		inches			SCREEN	ED/OPEN IN	ITERVAL:			
PID/FID R	EAD	INC	S (ppm):		UND: OUTER CAI INNER CAP						73 ft below PUMP INST		: <u>/0.83</u> #1	below TOC		
1	PURGING	SAMPLING	p (pH t		SPE( CONDU (mS	,	POTE	DOX NTIAL IV)	ОХУ	OLVED 'GEN g/l)		BIDITY TU) <i>Cq[</i> No#(	1	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	2	SA	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(m/min)	TOC)
1240	X		6.09	NA	1.336	NA NA	99.9	NA.	2.13	NA	114.9	5NA.5	24.23	NA	125	11.30
1248	Y		6.07		1.354		99.5		2.08		102.4	47.8	24.20		125	11.30
1250	X		6.05		1,363		100.1		1.99		93.6	4511	24.69		128	11.30
1255	X		6.04		1.369		100.5		1.93		82.3	34.3	24.72	<u>.</u>	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		189		67.1	28,4	24.61		125	11.30
1310	X		6.01		1.375		100.7		1.81		59.5	Z7, 3	24.63		-125-	11.30
_	x		6.00		1.371		100.6		1.77		61.4	2610	24.60		125	11.30
1320			Samo													
COMMEN			-	motters 20@17	20201 320	iubidi t	> meter		1 420	  eue\=1	1.30					

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



		1			4
SHEET	$\Box$	_	0	F	1

SITE: DATE:		MAYW0					_	CONSULTIN		CB+I	-				
WEATHE	R:	M 50	UN 80	08			'	FIELD PERS	ONNEL:						
MONITOR	factor and		1-85		LL DEPTH: DIAMETER:	15.0	inches	· Africa	Luevo	SCREEN	ED/OPEN IN	TERVAL:	5.0	-15.0	A pop.
PID/FID R	EADIN	GS (ppm):		OUND: OUTER CAP		>				5 ft below PUMP INST			elow TOC		
	NA NA NA NA NA NA														
1035	X		CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
1040	Y.	5TART 6.83		1,433		158.8		5-49		198.0		20.95		200	7.95
1048	X	660		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		19.24		200	8.00
1055	X	656		1.438		165.2		1.04		73.6		18.92		200	8.03
1100	X	656		1.437		145.5		0.96		56.9		19.17		200	805
1105	X	6.56		1.44/	· .	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	<u> </u>	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	Х	SAMPL	E											RNAL	8.05
COMMEN	rrs:	23B-	09000	.0										•	

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SHEET ___OF __

WELL PE	R: C	` . <del> </del>	820£ 5016		LL DEPTH: DIAMETER:	11.0	bez, inches	U.	ONNEL:	SCREEN	ED/OPEN 19	Q SONI		-11-6	
PID/FID R	D READINGS (ppm): BACKGROUND: PUMP INTAKE DEPTH: 9.5 It below TOC  BENEATH OUTER CAP: DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.10 It below TOC  BENEATH INNER CAP: 0.1 PPM  SPECIFIC REDOX DISSOLVED														
	TIME 2 5 READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (I														DEPTH TO WATER (ft below
IDIS	X	7.04	CHANGE*	READING	CHANGE*	READING	CHANGE*	2-05	CHANGE*	READING 696.5	CHANGE*	READING 23.65	CHANGE*	(ml/min)	5.70
1020	Υ	7.14		1.960		32.1		1.79		599.5	· · · · · · · · · · · · · · · · · · ·	23-77		210	5.75
1025	Χ	7,14		2.019		34.0		1.44		326.4		23.90		210	28.2
1030	X	7.09	. 1	2.136	77.11.1	36.9		1.08		115.1		23,89		210	24.2
1035	X_	7.10		2.159		39.1		88.0		86.7		23,96		210	75.2
(040)	X	7.05		2.180		42.2	. /	D-88		29.13	•	24.03		210	5.75
1045	X	7.06		2-196		44.7		0.81		18.0		24.07		210	76,2
1050	K	7.03		2,209		47.5	٠.	0.77		13.9		24.09		200	16,2
1055	X	700 F		2.221		50.1		0.73		132		24.5		200	SAI
1100	X	701		2.729		53.1		15.0		8.8		24.10		210	5.75
1105	X	697		2.03		55.0		0.68		4.12		2407		210	3.70
COMMEN	X	6.99		2231	٠	70.1		છ.ઇને		602	Final	24.05 wete	June	210 -	5.75

* Laluble 2020 E Toriade Webe.

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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SHEET ___OF__

SITE: DATE: WEATHER	<b>.</b>	MAYWO 9-21-1 PC 75	6				<u></u> . :	CONSULTIN	ONNEL:	JC/					
MONITOR WELL PER		# MW	52D	_	LL DEPTH: NAMETER:	62.0	lop () inches	tush ne	5020).	SCREEN	ED/OPEN II	NTERVAL:	37.0	-62,0	
PID/FID R	EADIN	GS (ppm):	BACKGRO BENEATH BENEATH	UND: OUTER CAI INNER CAP	, <u>0</u> ,0	PPM				t below		396	elow TOC		• . • • • •
	PURGING SAMPLING	pi (pH u		SPE( CONDU (m/S		POTE	DOX NTIAL IV)	ОХҮ	OLVED GEN g/l)	TURB (N		TEMPEI	RATURE`	PUMPING RATE	DEPTH TO WATER (ft below
TIME	PUR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(ml/min)	TOC)
0905	X	START	NA	. • • • •	NA		NA	·	NA		NA		NA		,
0910	X	6.83		6.983		4.8		2.37		43.1		50:31		160	3,97
0915	X	7.08		1.027	: : :	9.0		1.51		19.3		19.38		225	23,97
0928	χ	728		1.030		2.6	-	0.75		18.0	-	19.15	-	225	3.97
0925	X	7.33		1.031		1.6		6.65		20.7		19.20		225	3.97
0930	X	7.35		1.031		06		0.61		25.1		19.19		725	3.97
0935	X	7.33		1.03		-5.6		0.57		11.33		19.20		225	3.97
0940	X	139		1031		41.5		0.54		13.00		F1.P1		225	397
045	X	7.36		1.031		-14-6		0.52		2.40		19.23		225	3.97
	8	7.39		1.031		-18.3		0.21		1.46		19.19		225	397
	X	741		1.032		79.2		0.49		5001		19.11	:	225	397
COMMEN	TS:	uple.	204		71				×	Firel			3,9	<b>7</b> .	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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



SHEET 1 OF 2

SITE: DATE: WEATHER		9-2	74W001 22-16 IN 75°				_ <del>_</del>	CONSULTIN	_	CB+ JC	T			·	
MONITOR WELL PER	_	7	55-\$41	— <b>\</b>	LL DEPTH: DIAMETER:	15.0	inches	6.98	TITIC	SCREEN	ED/OPEN II	TERVAL:	11.98	- 15.0	317
PID/FID RI	EADIN	GS (ppm):		UND: OUTER CAP		2				The fit below PUMP INSTA			below TOC		
	SPECIFIC REDOX DISSOLVED  ph CONDUCTIVITY POTENTIAL OXYGEN TURBIDITY TEMPERATURE (ph units) (ms/cm) (mw) (mg/l) (NTU) (degrees C) RATE (ft below TIME READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* READING CHANGE* (ml/min) TOC)														
O855	X 8	START	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	NA NA	READING	CHANGE*	(ml/min)	TOC)
0900	<b>X</b>	6.77		2.392		-642		1.84		469.4	1,	19.45		200	11.70
०१०५	X	6,79		2.364	•	-77.2		1.81		257.6		19.56		200	11.70
OPIO	X	6.78	, .	2.384		-82.9		1.67		184.8	٠.	19.57		200	11.70
0915	X	6.77	·	2402		-86.3		1.58		151.2		P.61		200	11.70
0920	X	6.78		2.420		-89.4	. \	1.42		125.1		19.59		200	1).70
0925	X	6.77		2.422		-90.6		1.53		.97.9		19.69		200	11.70
0930	X	678		2.426		-91.3	٠.	1.57		89.7		19.70		200	11.70
0935	Х	6.76		2.425		-91.1		1.65		70.7		19.70		200	11.70
0940	χ	6.76		2.423		-911		1.60		63.6	·.	19.74	. ,	200	11.70
0945	X	6.76		2.437		-91.5	***************************************	1.42		56.)		19.71		200	11.70
COMMEN	TS:		-09000											•	

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

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### LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF Z

VELL PE	WELL	# MIS	75°F S Ø4 A I	WELL	ELL DEPTH:	<u>Z</u>	inches	INTAKE	EDTU.	SCREEN	IED/OPEN II	NTERVAL:		* ************************************	
		÷	BENEATH	OUTER CA	P: 0.0	>	DEPT	TAW OT H	R BEFORE	PUMP INST	ALLATION	: <u>11.52</u> m	below TOC		
	PURGING SAMPLING		oH units)	CONDU	CIFIC CTIVITY /cm)	POTE	DOX NTIAL IV)	rxo	OLVED 'GEN' g/i)		SIDITY TU)	(degr	RATURE ees C)	PUMPING RATE	DEPTH TO WATER (ft below
TIME	Z &	READING	CHANGE'	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(mł/min)	TOC)
0950	X	6.75	NA	2.437	NA	-93.5 -95.1		1.17	NA .	15.7	1	19.76	NA .	200	11.70
1000	Ý	6.75		2.426		-95,9		1.07		14.0 7	•	19.89		200	11.70
1005	′χ								·					FINAL	11.70
				-											
		•													
			,												71 1 1
							1.5	r		r					
			,												
										-	·.			· .	
													* .		

^{*}INDICATOR PARAMETERS HAVE STABLIZED 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

l'emperature	: 75°1	<b>c</b>		r Conditions nd Speed / Dir	ection: 5-	10	
Sunny	Cloudy		Foggy	Rainy	H	ımıid	Snowing
Other:		····					<del></del>
		. 8	urface Water	Sample Inform			
Surface Wat	ter ID#: <u>23</u>	4-020	057		Collect	ion Date:	-716
		Specific	.			· · · .	<u></u>
Sample Time	Temp °C	Cond. (mS/cm)	рН	Eh (mv)	DO (ml/L)	Turbidity (NTU)	Hardnes (mg/L)
1100	<del>- ,</del>	0.738	7.68	178.4	6.05	0	
Muddy Remarks:	Clear		Sediment	Odors	Oily	Sta	gnant
					<del></del>		
· · · · · · · · · · · · · · · · · · ·				<u> </u>	-		
	<b>.</b>			nple Informati			
Sediment ID	#: <u>22A-</u>	0 2400	3		Time (M	(ilitary): ///	<u></u>
Fine	Course	) (s	Sandy	Muddy	Odors	Oil	<b>y</b>
							. •
Remarks:						<del></del>	
							<del></del>

### FUSRAP MAYWOOD SUPERFUND SITE ENVIRONMENTAL REMEDIATION SURFACE WATER AND SEDIMENT SAMPLING COLLECTION RECORD

Sampling L	ocation: <u>S</u>	WDD4	<u></u>				
Temperatur	e: 7-5°	F		Conditions  d Speed / Dir	ection: <u>S</u>	-10	
Sunny Other:	Cloud	<b>)</b>	Foggy	Rainy	Hu	mid	Snowing
Surface Wa	ater ID#: <u>2</u>	_		Sample Inform		on Date: 9	-7-16
Sample Time	Temp °C	Specific Cond. (mS/cm)	рН	Eh (mv)	DO (ml/L)	Turbidity (NTU)	Hardness (mg/L)
1000	20.11	1940	7.19	133.1	7.4	1.7	
Muddy	Clear	Se	diment	Odors	Oily	Sta	gnant
Remarks: _	ALSO COL	LECT U	SACE SI	211 MS ≥ 1005	S/MSD	AND	
	0010101	(- (	00 00 00	/	<i></i>		
· ·							
			Sediment San	ple Informat	ion		
Sediment II	o#: <u>N A</u>				Time (Mi	litary):	·
Fine	Course	Sa	ndy	Muddy	Odors	Oily	, .
Remarks:_	No son	uple col	lected.				
Samplers: M	ust Sign and Da	ate	n (	: 4-	_ Date	-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

	B38W019 12A-09009 08/22/16	52					W01S Dupl 12A-09007 08/22/16	7					B38W14 19A-0900 08/17/2	040			
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, unle	ess otherwis	e not	ed)			Geochemical Parameters (mg/L, unles	ss otherwis	e note	d)			Geochemical Parameters (mg/L, un	less otherwis	e note	d)		
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, unl	ess otherwis	se not	ed)			Radiological Constituents (pCi/L, unle	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less otherwis	e note	d)		
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.

	B38W1 20A-090 08/17/	044					3W15S Du 20A-0900 08/17/1	75	2				B38W17 20A-0900 08/29/2	064			
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, unl	ess otherwi	ise not	ted)			Geochemical Parameters (mg/L, unles	s otherwi	se not	ed)			Geochemical Parameters (mg/L, ur	less otherv	vise no	oted)		
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, unl	ess otherw	ise no	ted)			Radiological Constituents (pCi/L, unles	ss otherwi	se not	ed)			Radiological Constituents (pCi/L, u	nless other	wise n	oted)		
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**

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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.

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

	B38W249 10A-09001 08/09/16	.1					B38W25SF 12B-09000 08/08/16	0					MISS0 12B-09 08/10	0016			
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	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, unle	ss otherwise	note	ed)			Geochemical Parameters (mg/L, unles	s otherwise	note	d)			Geochemical Parameters (mg/L, ui	less othe	rwise	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	-	-	1	-	Ammonia (as N)	NS	•	-	•	-	Ammonia (as N)	5.3		0.600	-	-
Sulfate	NS	-	-	1	-	Sulfate	NS	ı	-	ı	-	Sulfate	781		40	-	-
Sulfide	NS	-	-	-	-	Sulfide	NS	•	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	-	-	1	-	Methane (ug/L)	NS	ı	-	ı	-	Methane (ug/L)	0.29		0.110	-	-
Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	•	-	-	-	Phosphorus, Total	NS	-	=	-	-
Total Organic Carbon (TOC)	NS	-	-	1	-	Total Organic Carbon (TOC)	NS	ı	-	ı	-	Total Organic Carbon (TOC)	NS	-	-	-	-
Chemical Oxygen Demand (COD)	NS	-	-	1	-	Chemical Oxygen Demand (COD)	NS	•	-	•	-	Chemical Oxygen Demand (COD)	14.5	J	20	-	-
Radiological Constituents (pCi/L, unle	ess otherwis	e note	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	d)			Radiological Constituents (pCi/L, u	nless oth	erwise	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	-	-

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 ${\tt MDC/MDA-Minimum\ Detectable\ Concentration/Minimum\ Detectable\ Activity}.$ 

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

#### **Qualifiers**

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	MISS02AF 12B-09001 08/10/16	L9					S02AR Dupl 12B-090072 08/10/16						MISS 10A-09 09/22	0069			
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, unle	ss otherwise	e note	ed)			Geochemical Parameters (mg/L, unles	s otherwise	noted	1)			Geochemical Parameters (mg/L, ui	nless other	wise no	ted)		
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, unle	ess otherwis	e note	ed)			Radiological Constituents (pCi/L, unles	s otherwise	noted	d)			Radiological Constituents (pCi/L, u	nless other	wise no	ted)		
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	-	-	-	-

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	MISS05A 12B-09003 08/15/10	32				<u> </u>	MISS07AF 12B-09003 08/16/16	4					OVPZ1 12B-090 09/01	0005			
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, unle	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unless	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise no	oted)		
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	J	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, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	se note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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	ı	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	-	-	-	-

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	OVPW19 12B-09003 08/15/16	30					MW2S 23B-09004 08/18/16						MW3 12B-090 08/31,	0108			
Analyte	Result	ď	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, unles	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
Manganese, Total (ug/L)	NS	•	-	-	ı	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, unle	ss otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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**

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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.

	MW6S 23B-09006 08/30/16						MW8S 23B-09006 09/08/16						MW2 12B-090 08/15,	0028			
Analyte	Result	ď	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)						GW COCs (ug/L)						GW COCs (ug/L)					
Benzene	0.5	J	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, unle	ess otherwis	se not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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	1	-	-	-	Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	1	-	-	-
Nitrate and Nitrite (as N)	NS	•	-	-	-	Nitrate and Nitrite (as N)	NS	-	-	-	-	Nitrate and Nitrite (as N)	NS	•	-	-	-
Ammonia (as N)	NS	1	-	-	-	Ammonia (as N)	NS	-	-	-	-	Ammonia (as N)	NS	1	-	-	-
Sulfate	NS	•	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	NS	•	-	-	-
Sulfide	NS	1	-	-	-	Sulfide	NS	-	-	-	-	Sulfide	NS	1	-	-	-
Methane (ug/L)	NS	•	-	-	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	•	-	-	-
Phosphorus, Total	NS	1	-	-	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	1	-	-	-
Total Organic Carbon (TOC)	NS	•	-	-	-	Total Organic Carbon (TOC)	NS	-	-	-	-	Total Organic Carbon (TOC)	NS	•	-	-	-
Chemical Oxygen Demand (COD)	NS	1	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	1	-	-	-
Radiological Constituents (pCi/L, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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	ט	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	כ	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	-	-

#### <u>Notes</u>

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 $\label{lem:bolded} \textbf{Bolded text indicates Groundwater Cleanup exceedance}.$ 

Please see Table 1 for description of Groundwater Cleanup Levels.

- 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.

	MW259 12B-0900 09/01/1	20					MW2 12B-090 08/08	0002					MW3 12B-090 08/18	0047			
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, unle	ess otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, ur	less other	wise n	oted)		
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, unl	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	ss otherwis	e note	d)			Radiological Constituents (pCi/L, un	nless other	wise n	oted)		
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	-	-	-	-

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Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

- 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.

	MW43SF 12B-09006 08/24/16	66					MW44S 12B-09003 08/16/16						MW4 12B-090 08/11,	0022			
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	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, unle	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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	J	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, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	nless other	wise n	oted)		
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	ı	-	-	-	Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	=	=	Total Radium	NS	•	-	-	-	Total Radium	NS	•	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	ı	-	-	-	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	-	-	-	-

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- - Not Applicable.

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MDC/MDA - Minimum Detectable Concentration/Minimum Detectable Activity.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

- 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.

	MW47S 12B-09002 08/11/16	24					MW48S 12B-09002 08/11/16						MW48S Du 12B-090 08/11,	073	e		
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	1	3	Arsenic	1.6	J	3	-	3	Arsenic	1.6	J	3	-	3
Lithium	1,960		500	ı	730	Lithium	241	J	500	-	730	Lithium	221	J	500	-	730
Geochemical Parameters (mg/L, unles	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less otherv	wise no	oted)		
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	-	-	-	- 1
Ammonia (as N)	7.19		1	-	-	Ammonia (as N)	0.10	J	0.20	-	-	Ammonia (as N)	NS	-	-	-	- 1
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	-	-	-	- 1
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	-	-	-	- 1
Radiological Constituents (pCi/L, unle	ss otherwis	se not	ed)			Radiological Constituents (pCi/L, unles	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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	-	-	-	- 1
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	-	-	-	-

#### <u>Notes</u>

NS - Not Sampled.

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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.

	MW51S 20A-09005 08/23/16	55					MW52S 20A-09007 09/21/16						MW5 23B-090 08/24	0058			
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, unle	ss otherwis	e not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, ur	less other	wise n	oted)		
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	ı	-	-	-	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, unle	ess otherwis	se not	ed)			Radiological Constituents (pCi/L, unles	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, u	nless other	wise n	oted)		
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	-	-	-	-

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Please see Table 1 for description of Groundwater Cleanup Levels.

#### **Qualifiers**

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	MW549	<u> </u>			
	23B-0900				
	08/25/1	6			
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, unles	s otherwi	se note	ed)		
Manganese, Total (ug/L)	NS	-	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	ı	-
Iron, Total (ug/L)	NS	-	-	•	-
Iron, Filtered (ug/L)	NS	-	-	•	-
Nitrate (as N)	NS	-	-	-	-
Nitrite (as N)	NS	-	-	ı	-
Nitrate and Nitrite (as N)	NS	-	-	-	-
Ammonia (as N)	NS	-	-	-	-
Sulfate	NS	-	-	ı	-
Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	ı	-
Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unle	ss otherwi	se not	ed)		
Gross Alpha	NS	-	-	ı	-
Gross Beta	NS	-	-	•	-
Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-
Total Radium	NS	-	-	ı	-
Thorium-228	NS	-	-	•	-
Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-
Total Thorium U-234	NS	-	-	-	-
U-234	NS	-	-	-	-
U-235	NS	-	-	-	-
U-238	NS	-	-	ı	-
Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	ı	_
Radon-222	NS	-	-	-	-
Potassium (ug/L)	NS	-	-	-	-

#### <u>Notes</u>

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Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

#### **Qualifiers**

U - Non-detect.

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J - Estimated concentration.

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

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	B38W02 12A-0900 08/22/1	53				1	B38W03B 10A-09003 08/16/16	7					B38W0 10A-090 08/16	036			
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, unle	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise no	oted)		
Manganese, Total (ug/L)	NS	•	-	-	•	Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	•	-	-	-
Manganese, Filtered (ug/L)	NS	ı	-	-	•	Manganese, Filtered (ug/L)	NS	-	-	-	-	Manganese, Filtered (ug/L)	NS	1	-	-	-
Iron, Total (ug/L)	NS	•	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-	Iron, Total (ug/L)	NS	-	-	-	-
Iron, Filtered (ug/L)	NS	ı	-	-	•	Iron, Filtered (ug/L)	NS	-	-	-	-	Iron, Filtered (ug/L)	NS	1	-	-	-
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, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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	-	-	-	-

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#### **Qualifiers**

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UJ - Estimated non-detect.

J - Estimated concentration.

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

	B38W14 19A-0900 08/17/1	041					B38W15D 20A-09004 08/17/16	15					B38W2 20A-090 08/29/	065			
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, unle	ss otherwis	se not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, ur	less other	vise no	oted)		
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, unle	ss otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	se note	ed)			Radiological Constituents (pCi/L, un	nless other	wise n	oted)		
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.

	8W17B Dup 20A-09007 08/29/16	78					B38W18D 12B-09000 08/09/16	8				B:	38W18DR   12B-090 08/09	0010	ate		
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, unle	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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	-	-	1	•	Sulfide	NS	-	-	-	-	Sulfide	NS	-	-	-	-
Methane (ug/L)	NS	-	-	1	-	Methane (ug/L)	NS	-	-	-	-	Methane (ug/L)	NS	-	-	-	-
Phosphorus, Total	NS	-	-	1	•	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	NS	-	-	-	-
Total Organic Carbon (TOC)	NS	-	-	1	-	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, unle	ss otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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	ı	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.

	B38W24I 10A-0900: 08/09/10	12					B38W25DI 12B-09002 08/08/16	1					MISSO: 12B-090 08/10,	017			
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, unle	ss otherwis	se not	:ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	ed)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unle	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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		-	-		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	-	-

#### <u>Notes</u>

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Please see Table 1 for description of Groundwater Cleanup Levels.

- U Non-detect.
- UJ Estimated non-detect.
- J Estimated concentration.
- J+ Result is estimated and may be biased high.
- $\mbox{\ensuremath{\mathsf{J}}}\mbox{\ensuremath{\mathsf{-}}}$  Result is estimated and may be biased low.
- R Rejected result.

	MISS02B 12B-09003 08/10/10	18				:	MISS04B 10A-09004 08/18/16	ŧВ					MISS05 12B-090 08/15/	033			
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, unle	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less otherwi	ise not	ed)		
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	J	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, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	se note	ed)			Radiological Constituents (pCi/L, ur	nless otherw	ise no	ted)		
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	ı	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	ı	Thorium-228	NS	-	-	-	-	Thorium-228	0.032	J	0.088	0.068	-
Thorium-230	0.152	J	0.094	0.164	-	Thorium-230	NS	-	-	-	-	Thorium-230	-0.04	J	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		-

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Please see Table 1 for description of Groundwater Cleanup Levels.

#### Qualifiers

U - Non-detect.

UJ - Estimated non-detect.

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MI	SS05BR Duj 12B-0900 08/15/1	74					MISS07 12B-0900 08/16/1	035					BRP2 12B-090 08/17	0042			
Analyte	Result	ď	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, unle	ess otherwis	e note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	se note	d)			Radiological Constituents (pCi/L, ur	nless other	wise n	oted)		
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	J	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		ı	-	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**

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Please see Table 1 for description of Groundwater Cleanup Levels.

- 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.

	BRPZ3 12B-09004 08/17/10						BRPZ4 12B-09000 09/01/16						BRPZ 12B-090 08/08/	0004			
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,unles	ss otherwis	e note	ed)			Geochemical Parameters (mg/L,unless	otherwise	note	d)			Geochemical Parameters (mg/L,un	less otherw	vise no	ted)		
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	-	-	lron, 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	•	-	1	-	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	•	-	1	-	Sulfide	2	J	2	-	-	Sulfide	0.31	J	2	-	-
Methane (ug/L)	NS	ı	-	•	-	Methane (ug/L)	56.8		0.11	-	-	Methane (ug/L)	1,030		2.2	-	-
Phosphorus, Total	NS	•	-	1	-	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, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, u	nless other	wise n	oted)		
Gross Alpha	NS	•	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	•	-	1	-	Ra-226	NS	•	-	-	-	Ra-226	NS	•	-	-	-
Ra-228	NS	1	-	1	-	Ra-228	NS	ı	-	-	-	Ra-228	NS	1	-	-	-
Total Radium	NS	•	-	-	-	Total Radium	NS	-	-	-	-	Total Radium	NS	-	-	-	-
Thorium-228	NS	1	-	ı	-	Thorium-228	NS	ı	-	-	-	Thorium-228	NS	ı	-	-	-
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	•	-	ı	-	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	-	-	-	-

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	BRPZ9 12B-0900 08/09/1	13					MW2D 23B-09005 08/18/16						MW3 12B-090 08/16	038			
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, unle	ss otherwi	se not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	ed)			Geochemical Parameters (mg/L, ur	less other	wise n	oted)		
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	-	-	1	-	Nitrite (as N)	0.01	J	0.01	-	-
Nitrate and Nitrite (as N)	0.093	J	0.10	-	-	Nitrate and Nitrite (as N)	NS	-	-	1	-	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	-	-	1	-	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	-	-	1	-	Methane (ug/L)	539		1.1	-	-
Phosphorus, Total	0.014	J	0.05	-	-	Phosphorus, Total	NS	-	-	1	-	Phosphorus, Total	0.019	J	0.05	-	-
Total Organic Carbon (TOC)	15.6		1	-	-	Total Organic Carbon (TOC)	NS	-	-	1	-	Total Organic Carbon (TOC)	46.2		1	-	-
Chemical Oxygen Demand (COD)	51		20	-	-	Chemical Oxygen Demand (COD)	NS	-	-	1	-	Chemical Oxygen Demand (COD)	40		20	-	-
Radiological Constituents (pCi/L, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, u	nless other	wise n	oted)		
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	1	-	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	-	-	1	-	Ra-226	-0.043	J	0.28	0.10	-
Ra-228	NS	-	-	-	-	Ra-228	NS	-	-	ı	-	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	-	-	ı	-	Thorium-228	-0.013	J	0.261	0.088	-
Thorium-230	NS	-	-	-	-	Thorium-230	NS	-	-	1	-	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	-	-	ı	-	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	-	-	<b>—</b>	_	Potassium (ug/L)	NS	-	-	ı	-	Potassium (ug/L)	13,400		10,000		_

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#### Qualifiers

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J - Estimated concentration.

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

	MW6D 23B-09006 08/30/16						MW23D 12B-09005 08/22/16						MW2 12B-090 08/15	0029			
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, unle	ss otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, ur	less other	wise n	oted)		
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	-	-	1	-	Nitrite (as N)	NS	-	-	-	1	Nitrite (as N)	0.01	J	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	-	-	ı	-	Sulfate	NS	-	-	-	ı	Sulfate	1,270		50	-	-
Sulfide	NS	-	-	1	-	Sulfide	NS	-	-	-	-	Sulfide	2	J	2	-	-
Methane (ug/L)	NS	-	-	ı	-	Methane (ug/L)	NS	-	-	-	ı	Methane (ug/L)	476		1.1	-	-
Phosphorus, Total	NS	-	-	1	-	Phosphorus, Total	NS	-	-	-	-	Phosphorus, Total	0.014	J	0.05	-	-
Total Organic Carbon (TOC)	NS	-	-	ı	-	Total Organic Carbon (TOC)	NS	-	-	-	ı	Total Organic Carbon (TOC)	7.1		1	-	-
Chemical Oxygen Demand (COD)	NS	-	-	1	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	23.4		20	-	-
Radiological Constituents (pCi/L, unle	ss otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	ss otherwis	e note	ed)			Radiological Constituents (pCi/L, u	nless other	wise n	oted)		
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	-	-	-	-	Gross Alpha	14.2		1.79	1.74	15
Gross Beta	NS	-	-	ı	-	Gross Beta	NS	-	-	-	•	Gross Beta	4.56		2.24	1.49	50
Ra-226	NS	-	-	1	-	Ra-226	NS	-	-	-	-	Ra-226	0.065	J	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	-	-	ı	-	Potassium (ug/L)	NS	-	-	-	-	Potassium (ug/L)	7,370	J	10,000		-

#### **Notes**

NS - Not Sampled.

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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.

	MW25D 12B-0900 08/10/1	21				;	MW31D 20A-09005 08/18/16						MW3 20A-090 08/23	0057			
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	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, unle	ess otherwis	se note	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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, unl	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
Gross Alpha	NS	-	- 1	-	-	Gross Alpha	NS	-	- 1	-		Gross Alpha	NS	-	- 1	-	-
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	-	_	_	<del>  </del>
Total Uranium	NS	-	_	_	_	Total Uranium	NS	-	_	_		Total Uranium	NS	-	_	_	<del>  </del>
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	_	_	-	_
1 Occassiani (46/ L)	143					1 0 tu 3 1 u 11   u 6/ L/	113			-	-	i otassiairi (ug/ L/	143			-	

#### **Notes**

NS - Not Sampled.

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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.

	MW34D 12B-09003 08/15/16	31					MW39D 23B-09006 08/30/16						MW4: 12B-090 08/09,	0014			
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	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, unle	ss otherwis	e not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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	•	-	1	•	Ammonia (as N)	NS	•	-	-	-	Ammonia (as N)	0.12	J	0.20	-	-
Sulfate	NS	-	-	-	-	Sulfate	NS	-	-	-	-	Sulfate	339		10	-	-
Sulfide	NS	•	-	1	•	Sulfide	NS	•	-	-	-	Sulfide	2	U	2	-	-
Methane (ug/L)	NS	ı	-	1	-	Methane (ug/L)	NS	•	-	-	-	Methane (ug/L)	23.4		0.11	-	-
Phosphorus, Total	NS	•	-	1	•	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	•	-	1	•	Chemical Oxygen Demand (COD)	NS	•	-	-	-	Chemical Oxygen Demand (COD)	20	U	20	-	-
Radiological Constituents (pCi/L, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	nless other	wise n	oted)		
Gross Alpha	NS	•	-	1	•	Gross Alpha	NS	•	-	-	-	Gross Alpha	NS	-	-	-	-
Gross Beta	NS	1	-	ı	•	Gross Beta	NS	ı	-	-	-	Gross Beta	NS	-	-	-	-
Ra-226	NS	•	-	-	-	Ra-226	NS	-	-	-	-	Ra-226	NS	-	-	-	-
Ra-228	NS	1	-	ı	•	Ra-228	NS	ı	-	-	-	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	1	-	-	-	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	-	-	-	-

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MDC - Minimum Detectable Concentration.

Bolded text indicates Groundwater Cleanup exceedance.

Please see Table 1 for description of Groundwater Cleanup Levels.

- U Non-detect.
- UJ Estimated non-detect.
- J Estimated concentration.
- J+ Result is estimated and may be biased high.
- $\mbox{\ensuremath{\mathsf{J}}}\mbox{\ensuremath{\mathsf{-}}}$  Result is estimated and may be biased low.
- R Rejected result.

	MW430 12B-0900 08/09/1	15					MW45D 12B-0900 08/18/1	46					MW45D D 12B-09 08/18	0076	е		
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	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, unlo	ess otherwis	se not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	d)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
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, unl	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	nless other	wise n	oted)		
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.

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MDC - Minimum Detectable Concentration.

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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.

	MW46E 12B-0900 08/11/1	23					MW47D 12B-09002 08/11/16						MW4 12B-09 08/11	0027			
Analyte	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level	Analyte	Result	ď	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, unle	ess otherwis	se not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	ed)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	ı	-	-	-	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	1	-	-	-	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, unlo	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
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.

	MW510 20A-0900 08/23/1	56				:	MW52D 20A-09007 09/21/16						MW5: 23B-090 08/24	0059			
	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	ı	1	Benzene	0.5	U	0.5	-	1	Benzene	0.5	U	0.5	-	1
Arsenic	1.2	J	3	ı	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, unle	ess otherwi	se not	ed)			Geochemical Parameters (mg/L, unles	s otherwis	e note	ed)			Geochemical Parameters (mg/L, un	less other	wise n	oted)		
Manganese, Total (ug/L)	NS	-	-	-	-	Manganese, Total (ug/L)	NS	•	-	-	-	Manganese, Total (ug/L)	NS	•	-	-	-
Manganese, Filtered (ug/L)	NS	-	-	1	-	Manganese, Filtered (ug/L)	NS	•	-	-	-	Manganese, Filtered (ug/L)	NS	•	-	-	-
Iron, Total (ug/L)	NS	-	-	1	-	Iron, Total (ug/L)	NS	•	•	-	-	Iron, Total (ug/L)	NS	•	-	-	-
Iron, Filtered (ug/L)	NS	-	-	ı	-	Iron, Filtered (ug/L)	NS	ı	-	-	-	Iron, Filtered (ug/L)	NS	ı	-	-	-
Nitrate (as N)	NS	-	-	ı	-	Nitrate (as N)	NS	•	-	-	-	Nitrate (as N)	NS	•	-	-	-
Nitrite (as N)	NS	-	-	-	-	Nitrite (as N)	NS	ı	-	-	-	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	-	-	ı	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-	Chemical Oxygen Demand (COD)	NS	-	-	-	-
Radiological Constituents (pCi/L, unle	ess otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwi	se note	ed)			Radiological Constituents (pCi/L, ur	less other	wise n	oted)		
Gross Alpha	NS	-	-	-	-	Gross Alpha	NS	•	-	-	-	Gross Alpha	NS	•	-	-	-
Gross Beta	NS	-	-	ı	-	Gross Beta	NS	ı	-	-	-	Gross Beta	NS	ı	-	-	-
Ra-226	NS	-	-	-	-	Ra-226	NS	•	-	-	-	Ra-226	NS	•	-	-	-
Ra-228	NS	-	-	ı	-	Ra-228	NS	ı	-	-	-	Ra-228	NS	ı	-	-	-
Total Radium	NS	-	-	-	-	Total Radium	NS	ı	-	-	-	Total Radium	NS	•	-	-	-
Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-	Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	ı	-	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	-	-	-	-

#### <u>Notes</u>

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.

	MW540 23B-0900 08/25/1	62			
	Result	Q	MDC/MDA	Error (Rads)	Cleanup Level
GW COCs (ug/L)					
Benzene	0.5	U	0.5	ı	1
Arsenic	4.4		3	-	3
Lithium	6.2	J+	500	-	730
Geochemical Parameters (mg/L, un	ess otherwi	se note	ed)		
Manganese, Total (ug/L)	NS	-	-	ı	-
Manganese, Filtered (ug/L)	NS	-	-	ı	-
Iron, Total (ug/L)	NS	-	-	i	-
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, un	less otherwi	se not	ed)		
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	-	-	-	-

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

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TABLE E-3
SURFACE WATER SAMPLING RESULTS
FUSRAP MAYWOOD SUPERFUND SITE

	SW-003 23A-0260 09/07/1	57					SW-004 23A-02605 09/07/16	_					SW-004 Du 23A-026 09/07/	5068	e		
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	J	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, unle	ss otherwis	se not	ed)			Radiological Constituents (pCi/L, unles	Radiological Constituents (pCi/L, un	less other	wise n	oted)							
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	J	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	1	Ra-228	NS	ı	-	•	-
Total Radium	0.83		-	-	5	Total Radium	1.973		-	-	5	Total Radium	NS	-	-	-	-
Thorium-228	0.02	J	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	J	0.076	0.059	-	Thorium-232	0	U	0.082	0.064	1	Thorium-232	NS	ı	-	•	-
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.

- 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	U-234	U-235 Activity	U-235	U-238 Activity	U-238	Total U	Gross Alpha	Validation	Adjusted Gross Alpha
			(pCi/L)	Qualifier	(pCi/L)	Qualifier	(pCi/L)	Qualifier	(pCi/L)	(pCi/L)	Qualifier	(Gross Alpha - Total U)
12A-090052	B38W01S	GW	0.144	J	0.019	U	0.029	U	0.192	4.960	J	4.77
	B38W01S											
12A-090077	(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
	B38W15S											
20A-090075	(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
	B38W17B											
20A-090078	(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
120 000010	B38W18DR	CVA	2.420		0.050	l	2 200		4.270	2.520		4.04
12B-090010	(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 MISS02AR	GW	0.172		0.057	U	0.076	U	0.305	4.290		3.98
12B-090072	(field duplicate)	GW	0.030		0.03	U	-0.010	U	0.050	5.250		5.20
12B-090072 12B-090018	MISS02BR	GW	0.807	U	-0.02	U	0.363	U	1.150	6.610		5.46
12B-090018	MISS05AR	GW	0.302		0.068	U	0.363	U	0.506	2.600		2.09
12B-090032	MISS05BR	GW	0.104	U	0.008	U	0.136	U	0.300	9.800		9.67
126-090033	MISS05BR	GW	0.104	U	0.028	U	U	U	0.132	9.800		9.07
12B-090074	(field duplicate)	GW	0.020	U	0.000	U	0.037	U	0.057	11.650		11.59
12B-090034	MISS07AR	GW	0.330	<u> </u>	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 exlcudes 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
	B38W15S	·					
20A-090075	(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
	B38W17B	(1)					
20A-090078	(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
	B38W18DR	(1)					
12B-090010	(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	MISSO2BR	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
125 030033	MISS05BR	1,300,000	1,300	0.731	1170	1,033	01.21
12B-090074	(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

#### <u>Notes</u>

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 adusted 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 modfied to account fo 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.

	12B-090006	<b>j</b>			12B-090079 08/09/16						12B-090080					12B-090081			
	08/08/16					08/09/16					08/10/16					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					12B-090083	3				12B-090084	4				12B-090085	;		
	08/15/16					08/16/16					08/17/16					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
			0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW	Benzene	0.5	U	0.5	GW
Benzene	0.5 12B-090086	U	0.5			12B-090087	7				12B-090088	3			1	12B-090089	,		
Benzene	0.5 12B-090086 08/22/16		0.5			12B-090087 08/23/16					12B-090088 08/24/16					12B-090089 08/25/16			
Benzene Analyte	12B-090086		MDC	GW/SW	Analyte			MDC	GW/SW	Analyte			MDC	GW/SW	Analyte			MDC	GW/SW
	12B-090086 08/22/16	)				08/23/16	ı	MDC 0.5		<b>Analyte</b> Benzene	08/24/16	1	<b>MDC</b> 0.5		<b>Analyte</b> Benzene	08/25/16		<b>MDC</b> 0.5	<b>GW/SW</b>
Analyte	12B-090086 08/22/16 Result	Q	MDC	GW/SW	Analyte	08/23/16 Result	ı				08/24/16 Result	Q			<u> </u>	08/25/16 Result			
Analyte	12B-090086 08/22/16 Result	Q U	MDC	GW/SW	Analyte	08/23/16 Result	<b>Q</b> U				08/24/16 Result	<b>Q</b> U			<u> </u>	08/25/16 Result	Q U		
Analyte	12B-090086 08/22/16 Result 0.5	Q U	MDC	GW/SW	Analyte	08/23/16  Result  0.5	Q U				08/24/16  Result  0.5	Q U			<u> </u>	08/25/16  Result  0.5	Q U		
Analyte	12B-090086 08/22/16 Result 0.5	Q U	MDC	GW/SW	Analyte	08/23/16  Result  0.5  12B-090104	Q U				08/24/16  Result  0.5  12B-090105	Q U			<u> </u>	08/25/16  Result  0.5  12B-090106	Q U		

1	2B-026071				1	2B-090107	,				12B-090110				:	12B-090109	)		
	09/07/16 09/08/16								09/21/16					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** 

Qualifiers

Q - Qualifier.

U - Non-detect.

MDC - Minimum Detectable Concentration.

GW- Associated Groundwater Sample.

SW - Associated Surface Water Sample.

	GROUN	3-0900 IDWA1 3/08/1	TER FB				SURFA	3-0260 CE WA 9/07/1	TER FB		
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	J	3	-	3
Lithium	21	J	500	-	730	Lithium	5.7	J	500	-	730
Radiological Constituents	s (pCi/L, un	less ot	herwise note	d)		Radiological Constituents	(pCi/L, un	less ot	herwise noted	d)	
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	1	-	-	-
Ra-228	0.247	J-	0.163	0.22	-	Ra-228	NS	1	-	-	-
Total Radium	0.281		-	-	5	Total Radium	NS	1	-	-	-
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	1	-	-	-
Total Thorium	0.452		-	-	-	Total Thorium	NS	-	-	-	-
U-234	0.038	U	0.165	0.085	-	U-234	NS	ı	-	-	-
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.

- U Non-detect.
- UJ Estimated non-detect.
- J Estimated concentration.
- J- Result is estimated and may be biased low.

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, un	nless otherwi	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e not	ed)			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		-	-	1
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	1
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.

- U Non-detect.
- UJ Estimated non-detect.
- J Estimated concentration.
- J- Result is estimated and may be biased low.

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	J	3	-	3
Lithium	9.5	J	500	-	730	Lithium	34.3	J	500	-	730	Lithium	6.6	J	500	-	730
Radiological Constituents (pCi/L, un	less otherwi	ise not	ed)			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	J	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	J	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	J	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	J	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**

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- - 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.

- 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.

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)		<u> </u>				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	1	3	Arsenic	3	J	3	-	3
Lithium	500	U	500	-	730	Lithium	14.6	J	500	•	730	Lithium	6.4	J	500	-	730
Radiological Constituents (pCi/L, un	less otherwi	ise not	ed)			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	-	-	1	-	Total Thorium	NS	1	-	-	-
U-234	0.009	U	0.162	0.062	-	U-234	NS	-	-	ı	-	U-234	NS	1	-	-	-
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.

- 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.

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	כ	0.5	ı	1	Benzene	0.5	J	0.5	-	1	Benzene	0.5	U	0.5		1
Arsenic	3	U	3	1	3	Arsenic	3	U	3	-	3	Arsenic	3	U	3	-	3
Lithium	4.2	J	500	1	730	Lithium	10.4	J	500	-	730	Lithium	6	J	500	-	730
Radiological Constituents (pCi/L, unle	ss otherwis	se not	ed)			Radiological Constituents (pCi/L, unles	s otherwis	e note	d)			Radiological Constituents (pCi/L, un	less other	wise n	oted)		
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		-	1	-	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	-	-	-	-

#### <u>Notes</u>

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.

- 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.

	12B-0901	<b>03</b>			
	09/21/1				
Analyte	Result	Q	MDC/MDA	Error	Cleanup
Analyte	Nesuit	_ ~	WIDC/ WIDA	(Rads)	Level
GW COCs (ug/L)					
Benzene	0.5	U	0.5	-	1
Arsenic	3	כ	3	•	3
Lithium	8.7	J	500	1	730
Radiological Constituents (pCi/L, unle	ss otherwi	se note	ed)		
Gross Alpha	NS	ı	-	•	-
Gross Beta	NS	-	-	-	-
Ra-226	NS	-	-	-	-
Ra-228	NS	-	-	-	-
Total Radium	NS	•	-	1	-
Thorium-228	NS	-	-	-	-
Thorium-230	NS	-	-	-	-
Thorium-232	NS	-	-	-	-
Total Thorium	NS	•	-	1	-
U-234	NS	-	-	-	-
U-235	NS	-	-	-	-
U-238	NS	-	-	-	-
Total Uranium	NS	-	-	-	-
Total Uranium (ug/L)	NS	-	-	-	-

#### <u>Notes</u>

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.

- 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



Department of the Army U.S. Army Engineer New York District 26 Federal Plaza New York, New York 10278

Department of the Army U.S. Army Engineer Kansas City District 700 Federal Building Kansas City, Missouri 64106

Prepared by



100 West Hunter Avenue Maywood, New Jersey 07607

> 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



Department of the Army U.S. Army Engineer New York District 26 Federal Plaza New York, New York 10278

Department of the Army U.S. Army Engineer Kansas City District 700 Federal Building Kansas City, Missouri 64106

Prepared by



100 West Hunter Avenue Maywood, New Jersey 07607

> April 2017 Revision B

Prepared by: Dr. Brian Tucker	Date	:

Chemical Quality Control Coordinator

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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 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 identificationJ estimated valuekeV 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

Long Term Groundwater Monitoring Report, 2016

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

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 OCSR.

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 bioremedial 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
Accutes	t - 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-	Th-230
	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-	

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-	Ra-228
	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,	
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-	Arsenic
	090070, 20A-090071, 10A-090069	
1	12B-090009, 12B-090007, 12B-090091, 12B-090028, 10A-	Lithium
	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	
2	12B-090000, 12B-090001, 12B-090002, 12B-090009 and 12B-	Ra-228
	090007	
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-	Th-230
	090044	
4	12B-090001, 12B-090001 LREP, 12B-090002, 10A-090012 and	Gross Beta
	12B-090010, 12B-090016, 12B-090017, 12B-090033, 12B-	
	090033 LREP, 10A-090037, 19A-090040, 19A-090041, 20A-	
	090045 and 20A-090075	
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-	Gross Alpha
	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	
6	12B-090009, 12B-090007, 12B-090008, 10A-090011, 10A-	Lithium
	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-	

Reason	Sample Numbers	Analyte(s)
	090060, 12B-090103, and 10A-090069	
6	12B-090001, 12B-090004, 12B-090008, 10A-090011, 10A-	ARSENIC
	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	
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  $\mu$  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 ( $\sigma$ ) 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	2 sigma	MDA
		pCi/L	uncertainty pCi/L	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	2 sigma	MDA
		pCi/L	uncertainty pCi/L	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	2 sigma	MDA
		pCi/L	uncertainty pCi/L	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	2 sigma	MDA
		pCi/L	uncertainty pCi/L	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	2 sigma	MDA
		pCi/L	uncertainty pCi/L	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:

4	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
	(	- 10 110		

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	% Deviation
			Range	
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  $4.24\mu$ , where  $\mu$  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-0	90001 LREP	
	Result pCi/L	ult pCi/L Uncertainty MDA			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	1	12B-090033			90033 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

## <u>Data Package 16G-0325 and -0332.</u>

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

ASTM International (ASTM) 2009, Standard for High-Resolution Gamma-Ray Spectrometry for Soil Samples, ASTM C1402-04.

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USACE 2015, *Uniform Federal Projects – Quality Assurance Project Plan, Revision 3;* Prepared by Cabrera Services for USACE, November 2015

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- U.S. Environmental Protection Agency (EPA) 1980, Prescribed Procedures for Measurement of Radioactivity in Drinking Water. EPA/600/4-80/032, August.
- 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)