FINAL

AUGUST 2013 BASELINE GROUNDWATER SAMPLING REPORT

FORT MONMOUTH, OCEANPORT, MONMOUTH COUNTY, NEW JERSEY

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FINAL
AUGUST 2013 BASELINE GROUNDWATER SAMPLING REPORT

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LIST OF ACRONYMS

ACRONYM	DEFINITION
BRAC	Defense Base Closure and Realignment
CWA	Charles Wood Area
FTMM	Fort Monmouth
FS	Feasibility Study
FSPM	Field Sampling Procedures Manual
GWQS	Groundwater Quality Standards
HASP	Health and Safety Plan
LFPS	Low-Flow Purging and Sampling
MCL	Maximum Contaminant Level
MP	Main Post
NJDEP	New Jersey Department of Environmental Protection
PDB	Passive Diffusion Bag
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RI	Remedial Investigation
SAP	Sampling Analysis Plan
TO	Task Order
TRSR	Technical Requirements for Site Remediation
USAESC	United States Army Engineering & Support Center
USEPA	United States Environmental Protection Agency
WERS	Worldwide Environmental Restoration Services

1.0 INTRODUCTION

This report presents the results for the 2013 August Baseline Groundwater Sampling Event performed at 21 sites within Fort Monmouth (FTMM) by Parsons Government Services Inc. (Parsons) to support the Remedial Investigation (RI), Feasibility Study (FS), and Decision Documents project at FTMM, Oceanport, Monmouth County, New Jersey conducted under the Worldwide Environmental Restoration Services (WERS) contract number W912DY-09-D-0062 by the United States Army Engineering & Support Center (USAESC).

The activities discussed within this report were conducted in accordance with:

- New Jersey Department of Environmental Protection (NJDEP) Technical Requirements for Site Remediation (TRSR) (N.J.A.C. 7:26E); and
- New Jersey Field Sampling Procedures Manual (FSPM) (February 2006).

1.1 PURPOSE AND SCOPE

Groundwater sampling was conducted in August 2013 to re-establish baseline Site groundwater conditions following temporary suspension of groundwater sampling in late 2011. Analytical results were also used to evaluate the Site's long-term groundwater sampling program and the potential for removal of monitoring wells or analytes in comparison to historical groundwater samples.

1.2 REPORT ORGANIZATION

This 2013 August Baseline Groundwater Sampling Report includes the following sections:

- Section 1 provides an introduction and organization to the report;
- Section 2 presents general information on the August 2013 Baseline Groundwater Sampling Event, the reliability of laboratory analytical data, and a description of any significant deviations or events that may have impacted results;
- Section 3 provides the applicable remedial standards and discusses background groundwater concentrations for FTMM;
- Section 4 summarizes the approach to findings and recommendations for the FTMM Groundwater Sampling Program Sites;
- Section 5 presents the references used in preparation of this report;
- Appendices A through U provide historical groundwater analytical results, August 2013 baseline groundwater analytical results, and the findings and recommendations for each Site;
- Appendix V provides a memorandum regarding data validation for the August 2013 sampling event; and
- Appendix W provides the laboratory analytical packaged which is appended on CD.

2.0 GROUNDWATER SAMPLING PROGRAM

2.1 INTRODUCTION

Work performed as part of the Groundwater Sampling Program was performed as outlined in the project's Sampling and Analysis Plan (SAP), dated March 2013, and Health and Safety Plan (HASP), dated February 2013. The groundwater sampling event involved depth-to-water level measurements and groundwater samples collected from 179 monitoring wells. The monitoring wells are located at 21 sites within two areas of FTMM, the Main Post (MP) area and Charles Wood Area (CWA). **Table 1** presents the site location, area, and number of wells. Prior to groundwater sampling activities, a site reconnaissance was performed to locate each monitoring well and assess its condition and accessibility. The location of FTMM and the 21 sites discussed within this report can be referenced in **Figure 1.1**, **Figure 1.2**, and **Figure 1.3**.

Further details regarding groundwater sampling activities and results for each individual site can be found in **Appendices A through U**.

2.1.1 Water Level Measurements

Between August 6 and 9 of 2013, depth to water measurements were collected from site monitoring wells that were slated for groundwater sampling prior to initiating sampling activities. Levels were obtained with a depth-to-water meter from the top of the inner casing of the well. The depth to water meter was decontaminated in accordance with the SAP. Water level measurements were used to calculate the groundwater elevations, and confirm the previously determined groundwater flow direction.

2.1.2 Monitoring Well Assessment

Prior to and during monitoring well gauging, the condition of FTMM monitoring was assessed. Wells were visually inspected for physical damage, obstructions, or the presence of pump tubing in the well casing. The depth to the bottom of each monitoring well was also gauged and compared to the installed depth, in order to determine the presence of sediment build up in the well. The condition of the monitoring wells at each of the 21 FTMM sites is presented in the individual site appendices. Individual assessment results for each site can be referenced in Section 2.0 of each Appendix.

2.1.3 Groundwater Sampling

Groundwater samples were collected from 179 monitoring wells between August 15th and August 29th 2013 using either low-flow purging and sampling (LFPS) or passive diffusion bag (PDB) sampling methodology. NJDEP approved the use of PDB sampling in a letter dated July, 29th, 2013 at FTMM-05, FTMM-14, FTMM-18, FTMM-22, FTMM-58, FTMM-59, and FTMM-68. Groundwater sampling by PDB was conducted in accordance with the FSPM and the SAP. PDBs were filled with laboratory grade de-ionized water, deployed in monitoring wells and allowed to equilibrate for a minimum of two weeks prior to retrieving and collecting groundwater samples. Six monitoring wells were sampled from three Sites (FTMMM-05, FTMM-22, and FTMM-58) with both LFPS and PDBs in order to determine the representativeness of groundwater samples collected via PDBs. Results of this comparison are discussed in the respective Site Appendix. Groundwater sampling activities were performed in accordance with the NJDEP FSPM (NJDEP 2009), the USEPA Low-Stress Purging and

Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (USEPA 2010), and the SAP.

Details including the Site name, well ID, laboratory analysis, sampling method, and the sample date are presented in **Table 2**.

ALS Environmental of Rochester, NY served as the primary analytical laboratory for the August 2013 Baseline Groundwater Sampling Event. Samples were shipped to ALS via FedEx. Accutest Laboratories of Dayton, NJ served as the quality assurance (QA) laboratory. Five percent of groundwater samples collected were "split" and submitted to both ALS Environmental and Accutest as per the SAP. Both ALS and Accutest are DOD certified laboratories.

Purge water generated during the groundwater sampling was passed through portable granular activated carbon buckets and discharged to the adjacent ground surface. Groundwater sampling pump tubing was left in its respective monitoring well for re-use in future sample events.

2.1.4 QA/QC Sampling

Quality Assurance/Quality Control (QA/QC) samples were collected in accordance with the NJDEP FSPM and the Quality Assurance Project Plan (QAPP), which is included as part of the SAP.

2.1.5 Evaluation of PDB and LFPS Methods

The 2013 groundwater sampling program at FTMM used both LFPS and PDB methods to collect groundwater samples from wells at selected sites. The use of PDBs at seven sites (FTMM-05, FTMM-14, FTMM-18, FTMM-22, FTMM-58, FTMM-59, and FTMM-68) was approved by NJDEP in a letter dated July 29, 2013. At a subset of the wells from three sites (FTMM-05, FTMM-22, and FTMM-58), groundwater samples were collected from the same intervals in the wells using both LFPS methods and PDBs. The results from the LFPS and PDB sampling were used to evaluate the ability of the PDBs to characterize the concentrations of VOCs in groundwater at FTMM.

The VOCs results for samples collected using both LFPS and PBD methods were compared and the comparison indicates that the two sampling methods produced similar results (**Table 3**). The VOCs concentrations in the groundwater samples analyzed were generally low (less than 10 µg/L) or non-detect, with the exception of one sample where the concentration of cis-1,2-dichloroethene was 46 µg/L for LFPS and 42 µg/L for the PDB. Although the PDB results were consistently biased a little low compared to the LFPS results, they were still similar to the LFPS results and are considered to be representative of groundwater conditions at the sites. Acetone was detected in most samples, however, it is a common laboratory contaminant and its presence is attributed to laboratory contamination and not groundwater chemistry from the site.

Based on this evaluation, PDBs produced representative groundwater chemistry results for the subset of wells tested at the three FTMM sites. Therefore, FTMM intends to use PDBs at sites where VOCs are the only contaminants of concern, with the exception of those sites where the use of PDBs is not recommended for selected VOCs as documented in the NJDEP Field Sampling Procedures Manual. As the transition from LFPS to PDBs continues for other qualified sites at FTMM, the characteristics of each site (geology, hydrogeology, types and concentrations of chemicals, etc.) will be evaluated internally relative to the use and appropriateness of PDBs.

2.1.6 Vertical Profiling of Monitoring Wells

In monitoring wells that were vertically profiled, one groundwater sample was collected for every five feet of saturated well screen. For the majority of the wells (26) two samples were collected along a 10-foot saturated well screen, however, there were two wells were three profile samples were collected and three wells where four profile samples were collected. This vertical profiling was used to determine the extent of chemical stratification within the water column. Groundwater analytical results from these samples were evaluated to determine the sampling interval that would continue to be targeted during future sampling events at each monitoring well. **Table 4** depicts the analytical results for wells that were vertically profiled.

The results of the vertical profiling show that VOC concentrations were generally low (up to 50 µg/L), and for the majority of the wells there was no significant difference in the concentrations measured vertically along the saturated well screen. However, there were selected instances where there was a difference (i.e., FTMM-5 M5MW20 and FTMM-18 M18MW22). Based on these results, the target sampling intervals will be the depths that exhibiting the highest concentrations. For wells in which no analytes were detected in any interval sampled, groundwater samples will be collected from the mid-point of the full saturated screen in future sampling events. Acetone was detected in most samples, however, it is a common laboratory contaminant and its presence is attributed to laboratory contamination.

2.2 DEVIATIONS FROM QAPP AND SAP

Deviations from the SAP are summarized in **Table 5**. In general, there were no significant deviations that could have adversely affected the sampling procedures or the results of the groundwater sampling presented in this report.

2.3 USABILITY OF LABORATORY ANALYTICAL DATA

A Level IV validation was performed on analytical data collected during the August 2013 Baseline Groundwater Sampling Event. Per the project Quality Assurance Project Plan (QAPP), the validation for Long Term Monitoring Data includes a minimum of 1 report per sampling event or 33% of the data throughout the project, whichever is less. The data submitted by the laboratory has been reviewed and validated as per the SAP and was found to be usable for the purposes of this project. A Data Validation Memorandum is provided in **Appendix V** and complete laboratory analytical results for groundwater samples collected are provided as **Appendix W** (on CD).

3.0 APPLICABLE REMEDIAL STANDARDS

For this Site, the applicable remediation standards for groundwater are the NJDEP Ground Water Quality Standards (GWQS) for Class IIA waters and the USEPA Maximum Contaminant Levels (MCLs) for Chemical Contaminants at Superfund Sites for Tap Water. For each site within FTMM that shows a risk to human health or the environment, the applicable standard will be used upon completion of the risk assessment.

Both the GWQS and the USEPA MCL are provided in historical and baseline groundwater data tables for reference purposes, as the GWQS is applicable, while the USEPA MCLs are applicable for those compounds where a GWQS is not established.

3.1 BACKGROUND CONCENTRATIONS

In 1995, Weston performed a naturally occurring background concentration study for TAL metals at several areas of FTMM not impacted by historical operations. The report concluded elevated metal concentrations detected in groundwater were likely caused by native metal concentrations in the glauconitic soils underlying the Site. Based on the background evaluation of TAL metals, FTMM requested no further action with regard to TAL metals in groundwater and sampling and analysis for TAL metals was proposed to be discontinued at FTMM-22. For example, in a letter dated May 7, 2012, NJDEP concurred that detected concentrations of several TAL metals at FTMM-22 reflect naturally occurring background conditions, and no further action for these analytes in groundwater at FTMM-22 was warranted (NJDEP, 2012b). The applicability of the background concentrations is being evaluated on a site by site basis. Details will be presented in Site Specific Remedial Investigation Reports. Background groundwater concentrations determined as part of the Weston report can be referenced in **Table 6**.

3.2 ANOMALOUS RESULTS

An anomaly is an exceedance of the applicable criteria that is not attributable to background concentrations and/or Site contamination. It typically succeeds and precedes non-exceedance sample results and is not representative of historical data for that location. Anomalies can be caused by sample equipment, laboratory equipment, seasonality changes, etc. For the purposes of this report, analytes noted as anomalies will not be considered part of the long term monitoring plan for that site.

4.0 FINDINGS AND RECOMMENDATIONS

Each of the 21 Sites will be discussed as individual Appendices to this report. As part of each Appendix, Findings and Recommendations will be presented for that location. The recommendations are for sampling in 2014 to allow for the continued monitoring of groundwater conditions. Remedial investigations are ongoing at many of the sites and these recommendations may be modified based on analysis of new information and evaluation of risk.

For each of the 21 sites, historical data from the last four previous sampling events, along with data collected during the August 2013 sampling event, was evaluated to determine if further sampling is warranted. Analytical detections above the NJDEP GWQS will be compared to background groundwater concentrations for the Site. Analytical results were also evaluated to determine if the detection was an anomaly, potentially part of an overall trend, or affected by seasonal changes. Analyte evaluation for each of the 21 sites will be discussed as an individual Appendix to this report. A summary of long term groundwater monitoring recommendations is presented in **Table 7.**

As a result of the correlation study performed between PDB sampling and LFPS for VOCs, it was determined PDBs are a reasonable alternative to the conventional LFPS methodology. As part of future sample events within FTMM, sites which warrant further groundwater sampling to assess only VOC impacts will be sampled via PDB sampling methodology.

5.0 REFERENCES

New Jersey Department of Environmental Protection. *Field Sampling Procedures Manual*, August 2005, Revised April 2009.

New Jersey Department of Environmental Protection. *Letter from Ms. Linda Range, Bureau of Case Management, to Ms. Wanda Green, BRAC Environmental Coordinator at Fort Monmouth.* May 2012.

New Jersey Department of Environmental Protection. *Technical Requirements for Site Remediation*, July 2013.

Parsons. *Sampling and Analysis Plan for Remedial Investigation/Feasibility Study/Decision Documents*. March 2013.

Roy F. Weston. *Final Site Investigation, Fort Monmouth, New Jersey, Main Post and Charles Wood Area.* December 1995.

TABLES

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Table 1
Monitoring Well Locations
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Area	Number of Wells
FTMM -02: Closed Solid Waste Landfill	MP	16
FTMM-03: Closed Solid Waste Landfill	MP	13
FTMM-04: Closed Solid Waste Landfill	MP	6
FTMM-05: Closed Solid Waste Landfill	MP	10
FTMM-08: Closed Solid Waste Landfill	MP	14
FTMM-12: Closed Solid Waste Landfill	MP	16
FTMM-14: Closed Solid Waste Landfill	MP	6
FTMM-18: Closed Solid Waste Landfill/Former Training Area	MP	4
FTMM-22: (CWA-1) Waste Water Treat Lime Pit	CW	17
FTMM-25: (CWA-3A) Landfill	CW	4
FTMM-53: Building 699 Gasoline Storage	MP	14
FTMM-54: Building 296 Gasoline Storage	MP	7
FTMM-55: Building 290 UST Gasoline	MP	1
FTMM-56: Building 80 Petroleum Release	MP	6
FTMM-57: Building 108 UST Gasoline Release	MP	4
FTMM-58: Building 2567 UST Gasoline	CW	7
FTMM-59: Building 1122 Unknown Discharge	MP	7
FTMM-61: B37 Building 283 Gasoline Storage	MP	4
FTMM-64: Building 812 UST Gasoline	MP	8
FTMM-66: Building 886 Former AST	MP	13
FTMM-M68: Building 700 Former UST	MP	2

Notes:

MP - Main Post Area

CW - Charles Wood Area

Table 2
Groundwater Sampling Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Analytical Analysis	Sampling Method	LFPS Sample Date
M-2 Landfill			
M2MW02	VOCs & TICs-EPA Method 8260C Pesticides-EPA Method 8081B	LFPS	8/22/2013
M2MW03			8/21/2013
M2MW04			8/22/2013
M2MW05			8/22/2013
M2MW06			8/21/2013
M2MW07			8/21/2013
M2MW08			8/21/2013
M2MW09			8/21/2013
M2MW10			8/22/2013
M2MW11			8/20/2013
M2MW12			8/21/2013
M2MW13			8/22/2013
M2MW21			8/22/2013
M2MW22			8/23/2013
M2MW23			8/22/2013
M2MW24			8/23/2013
M-3 Landfill			
M3MW04	VOCs & TICs-EPA Method 8260C Metals-EPA Method 6010C/7470A	LFPS	8/23/2013
M3MW05			8/23/2013
M3MW06			8/23/2013
M3MW07			8/23/2013
M3MW07A			8/23/2013
M3MW08			8/23/2013
M3MW09			8/23/2013
M3MW10			8/23/2013
M3MW11			8/23/2013
M3MW12			8/23/2013
M3MW13			8/23/2013
M3MW14			8/23/2013
M-4 Landfill			
M4MW05	VOCs & TICs-EPA Method 8260C Metals-EPA Method 6010C/7470A	LFPS	8/20/2013
M4MW06			8/20/2013
M4MW07			8/20/2013
M4MW08			8/20/2013
M4MW09			8/20/2013
M4MW10			8/20/2013

Table 2
Groundwater Sampling Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Analytical Analysis	Sampling Method	LFPS Sample Date
M-5 Landfill			
M5MW10	VOCs & TICs-EPA Method 8260C	PDB	8/27/2013
M5MW11			8/27/2013
M5MW12			8/27/2013
M5MW13			8/27/2013
M5MW14			8/27/2013
M5MW16			8/27/2013
M5MW18			8/27/2013
M5MW19			8/27/2013
M5MW20			8/27/2013
M5MW23			8/27/2013
M-8 Landfill			
M8MW12	VOCs & TICS-EPA Method 8260C Pesticides-EPA Method 8081B Lead-EPA Method 6010C	LFPS	8/16/2013
M8MW13			8/15/2013
M8MW14			8/16/2013
M8MW15			8/19/2013
M8MW16			8/20/2013
M8MW17			8/16/2013
M8MW18			8/19/2013
M8MW19			8/15/2013
M8MW20			8/15/2013
M8MW21			8/15/2013
M8MW22			8/16/2013
M8MW23			8/19/2013
RM8MW24			8/19/2013
M-12 Landfill			
M12MW11	Lead-EPA Method 6010C	LFPS	8/20/2013
M12MW12			8/21/2013
M12MW13			8/21/2013
M12MW14			8/21/2013
M12MW15			8/21/2013
M12MW16			8/23/2013
M12MW17			8/21/2013
M12MW18			8/21/2013
M12MW19			8/20/2013
M12MW20			8/20/2013
M12MW21			8/20/2013
M12MW22			8/22/2013
M12MW23			8/21/2013
M12MW24			8/21/2013

Table 2
Groundwater Sampling Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Analytical Analysis	Sampling Method	LFPS Sample Date
M12MW25			8/20/2013
M12MW26			8/20/2013
M-14 Landfill			
M14MW19	VOCs & TICs-EPA Method 8260C	PDB	8/27/2013
M14MW20			8/27/2013
M14MW21			8/27/2013
M14MW22			8/27/2013
M14MW23			8/27/2013
M14MW24			8/27/2013
M-18 Landfill			
M18MW22	VOCs & TICs-EPA Method 8260C	PDB	8/30/2013
MP18MW24			8/30/2013
MP18MW25			8/30/2013
M-22, CW-1 (Former Neutralization Pit)			
CW1MW26	VOCs & TICs-EPA Method 8260C	PDB	8/28/2013
CW1MW27			8/28/2013
CW1MW29			8/28/2013
CW1MW30			8/28/2013
CW1MW31			8/28/2013
CW1MW32			8/28/2013
CW1MW33			8/28/2013
CW1MW34			8/28/2013
CW1MW35			8/28/2013
CW1MW36			8/28/2013
CW1MW37			8/28/2013
CW1MW38			8/28/2013
CW1MW39			8/28/2013
CW1MW40			8/28/2013
CW1MW282			8/28/2013
CW1MW291			8/28/2013
M-25, CW-3A (Landfill)			
CW3AMW01	VOCs & TICs-EPA Method 8260C Pesticides-EPA Method 8081B; Metals-EPA Method 6010C/7470A	LFPS	8/21/2013
CW3AMW02			8/21/2013
CW3AMW03			8/21/2013
CW3AMW04			8/21/2013

Table 2
Groundwater Sampling Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Analytical Analysis	Sampling Method	LFPS Sample Date
M-53, B699			
616MW01	VOCs & TICs-EPA Method 8260C	LFPS	8/19/2013
699MW01			8/21/2013
699MW02			8/19/2013
699MW04			8/21/2013
699MW05			8/20/2013
699MW06			8/20/2013
699MW08			8/20/2013
699MW09			8/20/2013
699MW12			8/20/2013
699MW15			8/20/2013
699MW16			8/20/2013
699RW03			8/20/2013
699RW05			8/20/2013
699RW11			8/20/2013
M-54, B296			
296MW01	VOCs & TICs-EPA Method 8260C Lead-EPA Method 6010C/7470A	LFPS	8/16/2013
296MW02			8/19/2013
296MW03			8/19/2013
296MW04			8/20/2013
296MW06			8/19/2013
296MW07			8/19/2013
296MW08			8/19/2013
M-55, B290			
290MW01	Lead-EPA Method 6010C/7470A	LFPS	8/16/2013
M-56, B80/166			
80MW01	Lead-EPA Method 6010C/7470A	LFPS	8/16/2013
80MW02			8/16/2013
80MW03			8/16/2013
80MW04			8/16/2013
80MW05			8/16/2013
166MW01			8/16/2013
M-57, B108			
108MW01	VOCs & TICs-EPA Method 8260C Pesticides-EPA Method 8081B; Metals-EPA Method 6010C/7470A	LFPS	8/19/2013
108MW02			8/19/2013
108MW03			8/19/2013
108MW04			8/19/2013

Table 2
Groundwater Sampling Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Analytical Analysis	Sampling Method	LFPS Sample Date
M-58, B2567			
2567MW01	VOCs & TICs-EPA Method 8260C	PDB	8/29/2013
2567MW02			8/29/2013
2567MW03			8/29/2013
2567MW04			8/29/2013
2567MW05			8/29/2013
2567MW06			8/29/2013
2567MW07			8/29/2013
M-59, B1122			
1122MW01	VOCs & TICs-EPA Method 8260C	PDB	8/29/2013
1122MW02			8/29/2013
1122MW03			8/29/2013
1122MW04			8/29/2013
1122MW05			8/29/2013
1122MW06			8/29/2013
1122MW07			8/29/2013
M-61, B283			
283MW01	VOCs & TICs-EPA Method 8260C Lead-EPA Method 6010C	LFPS	8/15/2013
283MW02			8/16/2013
283MW03			8/15/2013
283MW04			8/16/2013
M-64, B812			
812MW01	VOCs & TICs-EPA Method 8260C Lead-EPA Method 6010C/7470A	LFPS	8/16/2013
812MW02			8/15/2013
812MW04			8/16/2013
812MW05			8/15/2013
812MW06			8/15/2013
812MW07			8/15/2013
812MW08			8/15/2013
812MW14			8/15/2013

Table 2
Groundwater Sampling Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Analytical Analysis	Sampling Method	LFPS Sample Date
M-66, B886			
886MW01	VOCs & TICs-EPA Method 8260C SVOCs-EPA Method 8270D Lead-EPA Method 6010C/7470A	LFPS	8/23/2013
886MW02			8/22/2013
886MW03			8/22/2013
886MW04			8/22/2013
886MW05			8/22/2013
886RW01			8/23/2013
886RW02			8/22/2013
886RW03			8/22/2013
886RW04			8/22/2013
886RW05			8/22/2013
886RW06			8/22/2013
886RW07			8/22/2013
886RW08			8/22/2013
M-68, B700			
565MW01	VOCs & TICs-EPA Method 8260C	PDB	8/29/2013
565MW01D			8/29/2013

Notes:
1.) LFPS = Low flow purging and sampling
2.) PDB = Passive Diffusion Bags
Highlighting indicates well was sampled via LFPS and PDBs to determine representativeness of PDBs

Table 3
Groundwater Sampling Methodology Comparison
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

FTMM SITE:			STANDARDS VALUES		FTMM-5						FTMM-22		
GROUNDWATER SAMPLING METHOD:					PDB	LF	PDB	LF	PDB	LF	PDB	PDB	LF
SAMPLE ID:					FTMM-5-GW-M5MW11-14.4	FTMM-5-GW-M5MW11-14.4LF	FTMM-5-GW-M5MW16-14.57	FTMM-5-GW-M5MW16-14.5LF	FTMM-5-GW-M5MW20-13.65	FTMM-5-GW-M5MW20-13.65LF	FTMM-22-GW-CW1MW27-12.63	FTMM-22-GW-CW1MW27-12.63*	FTMM-22-GW-CW1MW27-12.63LF
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013	27-Aug-2013	27-Aug-2013	28-Aug-2013	27-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013
LAB SAMPLE ID:					R1306281-004	R1306281-007	R1306281-035	R1306302-015	R1306281-024	R1306302-039	R1306302-024	R1306302-025	R1306302-040
SAMPLE DEPTH (ft bgs):					14.4	14.4	14.57	14.5	13.65	13.65	12.63	12.63	12.63
	CAS No.	Unit											
Volatile Organics - SW8260C													
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	µg/L	6,000	NLE	**1.6** BJ	**1.4** BJ	**2.2** BJ	**1.5** BJ	**1.9** BJ	5.0 U	**1.7** BJ	**2.1** BJ	5.0 U
Benzene	71-43-2	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	µg/L	4	NLE	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	µg/L	10	NLE	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	µg/L	50	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0 U	1.0 U	**0.54** J	**0.50** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0 U	**0.33** J	**8.0**	**8.7**	**42**	**46**	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	µg/L	700	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	**1.0** J	**3.5** J	**0.30** J	**0.86** J	**0.45** J	**0.57** J	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.72** J	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	**0.45** J	**0.47** J	**5.4**	**8.0**	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	**2.2** J	**2.6** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
PDB - Sample collected using passive diffusion bag methodology
LF - Sample collected using low flow methodology
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
Groundwater Sampling Methodology Comparison
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

FTMM SITE:			STANDARDS VALUES		FTMM-22			FTMM-58		
GROUNDWATER SAMPLING METHOD:					PDB		LF	PDB		LF
SAMPLE ID:					FTMM-22-GW-CW1MW39-38.35		FTMM-22-GW-CW1MW39-38.35LF	FTMM-58-GW-2567MW03-10.5		FTMM-58-GW-2567MW03-10.5LF
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	28-Aug-2013		29-Aug-2013	29-Aug-2013		29-Aug-2013
LAB SAMPLE ID:					R1306302-011		R1306348-010	R1306348-004		R1306348-013
SAMPLE DEPTH (ft bgs):					38.35		38.35	10.5		10.5
	CAS No.	Unit								
Volatile Organics - SW8260C										
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.9**	BJ	5.0	U	**2.8**	BJ	5.0	U
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	**0.30**	J
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

PDB - Sample collected using passive diffusion bag methodology
LF - Sample collected using low flow methodology
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Vertical Delineation Analytical Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

FTMM SITE:			STANDARDS		FTMM-5													
SAMPLE ID:			NJDEP GWQS[1]	USEPA MCL[2]	FTMM-5-GW-M5MW10-9.9	FTMM-5-GW-M5MW10-14.9	FTMM-5-GW-M5MW11-9.46	FTMM-5-GW-M5MW11-14.4	FTMM-5-GW-M5MW12-10.4	FTMM-5-GW-M5MW12-15.4	FTMM-5-GW-M5MW13-7.87	FTMM-5-GW-M5MW13-12.87	FTMM-5-GW-M5MW14-8.63	FTMM-5-GW-M5MW14-13.65	FTMM-5-GW-M5MW14-18.63	FTMM-5-GW-M5MW16-8.8	FTMM-5-GW-M5MW16-14.57	FTMM-5-GW-M5MW18-8.6	FTMM-5-GW-M5MW18-16.98
DATE SAMPLED:					27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013
LAB SAMPLE ID:					R1306281-030	R1306281-031	R1306281-003	R1306281-004	R1306281-028	R1306281-029	R1306281-032	R1306281-033	R1306281-025	R1306281-026	R1306281-027	R1306281-034	R1306281-035	R1306281-008	R1306281-009
SAMPLE DEPTH (ft bgs):					9.9	14.9	9.46	14.4	10.4	15.4	7.87	12.87	8.63	13.65	18.63	8.8	14.57	8.6	16.98
	CAS No.	Unit																	
Volatile Organics - SW8260C																			
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	µg/L	6,000	NLE	**2.0** BJ	**2.1** BJ	**2.0** BJ	**1.6** BJ	**1.7** BJ	**1.6** BJ	**1.5** BJ	**1.8** BJ	**2.8** BJ	**2.2** BJ	**2.0** BJ	**2.3** BJ	**2.2** BJ	**1.4** BJ	**2.5** BJ
Benzene	71-43-2	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	µg/L	4	NLE	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U
Bromomethane	74-83-9	µg/L	10	NLE	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	µg/L	50	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.37** J	**0.54** J	1.0 U	1.0 U
Chloroform	67-66-3	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.0**	**8.0**	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	µg/L	700	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	**1.1** J	**1.0** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.67** J	**0.30** J	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.43** J	**0.45** J	**0.22** J	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.2** J	**2.2** J	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

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J - Analyte detected, estimated concentration.
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BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
PDB - Sample collected using passive diffusion bag methodology
LF - Sample collected using low flow methodology
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Vertical Delineation Analytical Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

FTMM SITE:			STANDARDS		FTMM-5						FTMM-14									
SAMPLE ID:			NJDEP GWQS[1]	USEPA MCL[2]	FTMM-5-GW-M5MW19-10.34	FTMM-5-GW-M5MW19-16.35	FTMM-5-GW-M5MW20-8.65	FTMM-5-GW-M5MW20-13.65	FTMM-5-GW-M5MW23-10.82	FTMM-5-GW-M5MW23-17.02	FTMM-14-GW-M14MW19-10.5	FTMM-14-GW-M14MW19-15.5	FTMM-14-GW-M14MW21-10.3	FTMM-14-GW-M14MW21-13.5	FTMM-14-GW-M14MW22-12.18	FTMM-14-GW-M14MW22-19.13	FTMM-14-GW-M14MW23-9.59	FTMM-14-GW-M14MW23-17.31	FTMM-14-GW-M14MW24-10.74	FTMM-14-GW-M14MW124-10.74*
DATE SAMPLED:					27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013
LAB SAMPLE ID:					R1306281-021	R1306281-022	R1306281-023	R1306281-024	R1306281-005	R1306281-006	R1306281-010	R1306281-011	R1306281-013	R1306281-014	R1306281-015	R1306281-016	R1306281-017	R1306281-018	R1306281-019	R1306281-001
SAMPLE DEPTH (ft bgs):					10.34	16.35	8.65	13.65	10.82	17.02	10.5	15.5	10.3	13.5	12.18	19.13	9.59	17.31	10.74	10.74
	CAS No.	Unit																		
Volatile Organics - SW8260C																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	µg/L	6,000	NLE	**2.2** BJ	**2.7** BJ	**1.7** BJ	**1.9** BJ	**1.8** BJ	**1.4** BJ	**1.8** BJ	**7.3**	**2.2** BJ	5.0 U	**2.2** BJ	**1.5** BJ	**2.5** BJ	**2.2** BJ	**1.9** BJ	**2.3** BJ
Benzene	71-43-2	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	µg/L	4	NLE	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	µg/L	10	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	µg/L	50	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	**1.2** J	1.0 U	**15**	**42**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	µg/L	700	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	**0.45** J	**50**	**47**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	**0.69** J	1.0 U	**2.8** J	**5.4**	**1.3** J	**2.1** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

PDB - Sample collected using passive diffusion bag methodology
LF - Sample collected using low flow methodology
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Table 4
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August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

FTMM SITE:			STANDARDS		FTMM-18					FTMM-22									
SAMPLE ID:			NJDEP GWQS[1]	USEPA MCL[2]	FTMM-14-GW-M14MW24-14.24	FTMM-18-GW-M18MW22-12.33	FTMM-18-GW-M18MW22-18.98	FTMM-18-GW-M18MW25-8.81	FTMM-18-GW-M18MW25-13.81	FTMM-22-GW-CW1MW31-8.86	FTMM-22-GW-CW1MW31-18.36	FTMM-22-GW-CW1MW32-14.72	FTMM-22-GW-CW1MW32-21.55	FTMM-22-GW-CW1MW33-14.0	FTMM-22-GW-CW1MW33-19.6	FTMM-22-GW-CW1MW34-11.43	FTMM-22-GW-CW1MW34-17.17	FTMM-22-GW-CW1MW35-11.26	FTMM-22-GW-CW1MW35-17.09
DATE SAMPLED:					27-Aug-2013	30-Aug-2013	30-Aug-2013	30-Aug-2013	30-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013
LAB SAMPLE ID:					R1306281-020	R1306380-004	R1306380-005	R1306380-002	R1306380-003	R1306302-021	R1306302-022	R1306302-032	R1306302-033	R1306302-034	R1306302-035	R1306302-001	R1306302-002	R1306302-006	R1306302-007
SAMPLE DEPTH (ft bgs):					14.24	12.33	18.98	8.81	13.81	8.86	18.36	14.72	21.55	14	19.6	11.43	17.17	11.26	17.09
	CAS No.	Unit																	
Volatile Organics - SW8260C																			
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0 U	**13**	**26**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	µg/L	6,000	NLE	**1.9** BJ	**2.4** BJ	**3.5** BJ	**2.3** BJ	**2.1** BJ	**1.8** BJ	**1.3** BJ	**2.2** BJ	**2.0** BJ	**2.5** BJ	**2.4** BJ	**2.9** BJ	**3.0** BJ	**1.9** BJ	**1.7** BJ
Benzene	71-43-2	µg/L	1	5	1.0 U	1.0 U	**0.37** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	µg/L	4	NLE	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	µg/L	10	NLE	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	µg/L	50	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	µg/L	700	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.49** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

PDB - Sample collected using passive diffusion bag methodology
LF - Sample collected using low flow methodology
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Vertical Delineation Analytical Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

FTMM SITE:			STANDARDS		FTMM-22															
SAMPLE ID:			NJDEP GWQS[1]	USEPA MCL[2]	FTMM-22-GW-CW1MW36-11.86	FTMM-22-GW-CW1MW136-11.86*	FTMM-22-GW-CW1MW36-17.29	FTMM-22-GW-CW1MW37-11.66	FTMM-22-GW-CW1MW37-17.15	FTMM-22-GW-CW1MW38-35.18	FTMM-22-GW-CW1MW38-40.18	FTMM-22-GW-CW1MW38-45.18	FTMM-22-GW-CW1MW38-50.18	FTMM-22-GW-CW1MW39-33.35	FTMM-22-GW-CW1MW39-38.35	FTMM-22-GW-CW1MW39-43.35	FTMM-22-GW-CW1MW39-48.35	FTMM-22-GW-CW1MW40-35.17	FTMM-22-GW-CW1MW40-40.17	FTMM-22-GW-CW1MW40-45.17
DATE SAMPLED:					28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013	28-Aug-2013
LAB SAMPLE ID:					R1306302-003	R1306302-004	R1306302-005	R1306302-008	R1306302-009	R1306302-026	R1306302-027	R1306302-028	R1306302-029	R1306302-010	R1306302-011	R1306302-012	R1306302-013	R1306302-017	R1306302-018	R1306302-019
SAMPLE DEPTH (ft bgs):					11.86	11.86	17.29	11.66	17.15	35.18	40.18	45.18	50.18	33.35	38.35	43.35	48.35	35.17	40.17	45.17
	CAS No.	Unit																		
Volatile Organics - SW8260C																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	µg/L	6,000	NLE	**2.6** BJ	**1.5** BJ	**2.3** BJ	**1.6** BJ	**2.3** BJ	**2.7** BJ	**2.9** BJ	**2.1** BJ	**2.1** BJ	**3.0** BJ	**2.9** BJ	**2.3** BJ	**3.0** BJ	**2.0** BJ	**2.0** BJ	**2.0** BJ
Benzene	71-43-2	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	µg/L	4	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	µg/L	10	NLE	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	µg/L	50	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	µg/L	700	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	**0.28** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

PDB - Sample collected using passive diffusion bag methodology
LF - Sample collected using low flow methodology
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Vertical Delineation Analytical Summary
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

FTMM SITE:			STANDARDS		FTMM-58			FTMM-59								
SAMPLE ID:			NJDEP GWQS[1]	USEPA MCL[2]	FTMM-22-GW-CW1MW40-50.17	FTMM-58-GW-2567MW03-5.11	FTMM-58-GW-2567MW03-10.5	FTMM-59-GW-1122MW01-8.25	FTMM-59-GW-1122MW01-14.75	FTMM-59-GW-1122MW02-8.6	FTMM-59-GW-1122MW02-14.6	FTMM-59-GW-1122MW05-7.5	FTMM-59-GW-1122MW05-12.5	FTMM-59-GW-1122MW105-12*	FTMM-59-GW-1122MW06-10.67	FTMM-59-GW-1122MW06-18.11
DATE SAMPLED:			28-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013
LAB SAMPLE ID:			R1306302-020	R1306348-003	R1306348-004	R1306348-022	R1306348-023	R1306348-014	R1306348-015	R1306348-016	R1306348-018	R1306348-017	R1306348-019	R1306348-020		
SAMPLE DEPTH (ft bgs):			50.17	5.11	10.5	8.25	14.75	8.6	14.6	7.5	12.5	12.5	10.67	18.11		
	CAS No.	Unit														
Volatile Organics - SW8260C																
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	µg/L	6,000	NLE	**2.6** BJ	**3.5** BJ	**2.8** BJ	**2.4** BJ	**2.7** BJ	**2.2** BJ	**2.2** BJ	**2.4** BJ	**2.6** BJ	**2.5** BJ	**3.3** BJ	**4.0** BJ
Benzene	71-43-2	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	µg/L	4	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	74-83-9	µg/L	10	NLE	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	µg/L	50	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	µg/L	700	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
PDB - Sample collected using passive diffusion bag methodology
LF - Sample collected using low flow methodology
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 5
Groundwater Sampling Deviations
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Well	Site	Sampling Method	Deviation/Comments
M3MW02	M-3 Landfill	LFPS	Minimal water colum, groundwater sample could not be collected.
697MW01	M-8 Landfill	LFPS	Well could not be located.
M5MW13	M-5 Landfill	PDB	3rd sampling depth interval could not be sampled, PDB end cap dislodged during retrieval.
M18MW23	M-18 Landfill	PDB	Well could not be located.
CW1MW281	M-22, CW-1	PDB	Tubing and pump obstructing well, could not be sampled.
N/A			Purged groundwater was passed through granular activated carbon tanks prior to being discharged to the ground surface, instead of being staged in 55-gallon drums for offsite disposal.

Notes:
1. LFPS = Low flow purging and sampling
2. PDB = Passive Diffusion Bags
3. NA = not applicable

Table 6
Background Groundwater Concentrations
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

ANALYTE	NJDEP Class IIA GWQS	USEPA MCL	Weston 1995 Background Concentration
Aluminum	200		121000
Antimony	6	6	21
Arsenic	3	10	89
Barium	6000	2000	699
Beryllium	1	4	2
Cadmium	4	5	10
Calcium			45400
Chromium	70	100	191
Copper	1300	1300	66
Iron	300		431000
Lead	5	15	23
Magnesium			62700
Manganese	50		331
Mercury	2	2	0.26
Nickel	100		187
Potassium			137000
Selenium	40	50	30
Silver	40		
Sodium	50000		21500
Thallium	2	2	6

Notes:

All concentrations are expressed in micrograms per liter (µg/L)

NJDEP GWQS = NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

NJDEP GWQS for chloroethane, cyclohexane, and xylene isomers (m, p, o) are Interim Generic Ground Water Quality Criteria for synthetic organic chemicals

Table 7
Summary of Long Term Monitoring Recommendations
August 2013 Baseline Groundwater Sampling Report
Fort Monmouth, New Jersey

Site	Historical Exceedances		August 2013 Exceedances[1]		August 2013 Sampling				Recommended Sampling in 2014[2]				Frequency		Comments
	Monitoring Wells (MWs) Exhibiting Exceedances	Analytes	MWs Exhibiting Exceedances	Analytes	Number of MWs sampled	Monitoring wells sampled	Analysis	Sampling methodology	Number of MWs to be sampled	MWs to be sampled	Analysis	Sampling Methodology	Performance Work Statement (PWS)	August 2013 recommendation	
M2	M2MW02 to M2MW13, M2MW21 to M2MW24	Metals, benzene, chlorobenzene, TBA	M2MW03	Benzene, chlorobenzene	16	M2MW02 to M2MW13, M2MW21 to M2MW24	VOCs & TICs-EPA Method 8260C Pesticides-EPA Method 8081B	LFPS	6	M2MW03, M2MW10, M2MW11, M2MW21, M2MW22, M2MW24	VOCs-EPA Method 8260C	PDB	Two rounds	Two additional rounds of sampling - PDB	Metals sampling discontinued due to background sources. Pesticides sampling is not recommended due to no detection in August 2013. Well to be retained for downgradient monitoring of benzene.
M3	M3MW02, M3MW04 to M3MW14, M3MW07A,	Metals, VC	M3MW07	VC	12	M3MW04 to M3MW14, M3MW07A,	VOCs & TICs-EPA Method 8260C Metals-EPA Method 6010C/7470A	LFPS	1	M3MW02	VOCs-EPA Method 8260C Metals-EPA Method 6010C/7470A (M3MW02)	LFPS	Annual	One additional round - LFPS	Metals sampling discontinued due to background sources. M3MW02 not sampled due to low water column and silt. Sample for VOCs and metals in next round.
M4	M4MW07 to M4MW10	Metals	None	N/A	6	M4MW05 to M4MW10	VOCs & TICs-EPA Method 8260C Metals-EPA Method 6010C/7470A	LFPS	0	N/A	N/A	N/A	Two rounds	Discontinued	Metals sampling discontinued due to background sources. No exceedances, discontinue sampling.
M5	M5MW11, M5MW16, M5MW20, M5MW23	PCE, TCE, VC	M5MW11, M5MW16, M5MW20, M5MW23	PCE, TCE, VC	10	M5MW10 to M5MW16, M5WM18 to M5MW20, M5MW23	VOCs & TICs-EPA Method 8260C	PDB	4	M5MW11, M5MW16, M5MW20, M5MW23	VOCs-EPA Method 8260C	PDB	Annual	Annual - PDB	
M8	M8MW11 to M8MW23, RM8MW24, 697MW01	Metals, benzene	M8MW12, M8MW14	Pb, PCE	13	M8MW12 to M8MW23, RM8MW24	VOCs & TICs-EPA Method 8260C Pesticides-EPA Method 8081B Lead-EPA Method 6010C	LFPS	8	M8MW11, M8MW12, M8MW15, M8MW16, M8MW17, M8MW21, M8MW24, 697MW01	Pb-EPA Method 6010C (M8MW11, M8MW17, M8MW21, and 697MW01), VOCs-EPA Method 8260C (M8MW11, M8MW12, M8MW15, and 697MW01) Pesticides-EPA Method 8081B (697MW01)	LFPS	Annual	Annual - LFPS	Metals sampling discontinued due to background sources at the exception of Pb (M8MW11, M8MW17, and M8MW21) and Mn (M8MW14). PCE was the only VOCs exceedance in August 2013. M8MW11 was not part of the Aug 2013 baseline sampling. Due to historical exceedances for Pb, reintroduced in long term monitoring sampling program. 697MW01 not sampled in August 2013. Must locate and sample for VOC, Pb, and pesticides.
M12	M12MW11 to M12MW26	Metals	None	N/A	16	M12MW11 to M12MW26	Lead-EPA Method 6010C	LFPS	0	N/A	N/A	N/A	Two rounds	Discontinued	Metals sampling discontinued due to background sources. No Pb exceedance in August 2013, discontinue sampling
M14	M14MW19 to M14MW24	Metals	None	N/A	6	M14MW19 to M14MW24	VOCs & TICs-EPA Method 8260C	PDB	0	N/A	N/A	N/A	Annual	Discontinued	Metals sampling discontinued due to background sources. No VOCs exceedance in August 2013, discontinue sampling.
M18	M18MW22, M18MW23, MP18MW24, MP18MW25	Benzene, 1,2-DCA, carbon tetrachloride, metals	M18MW22	1,2-DCA	3	M18MW22, MP18MW24, MP18MW25	VOCs & TICs-EPA Method 8260C	PDB	2	M18MW22 M18MW23	VOCs-EPA Method 8260C	PDB	Annual	Annual - PDB	Metals sampling discontinued due to background sources. M18MW23 not sampled in August 2013. Must locate M18MW23 and sample for VOCs.
M22	CW1MW25 to CW1MW33, CW1MW35 to CW1MW40, CW1MW281, CW1MW282, CW1MW291	Metals, TCE	CW1MW29	TCE	16	CW1MW26 to CW1MW40, CW1MW282, CW1MW291	VOCs & TICs-EPA Method 8260C	PDB	4	CW1MW27, CW1MW31, CW1MW29 CW1MW281	VOCs-EPA Method 8260C	PDB	Quarterly	Quarterly - PDB	Metals sampling discontinued due to background sources. CW1MW281 not sampled in August 2013 due to obstruction in the well. Obstruction removed in January 2014.
M25	CW3AMW01 to CW3AMW04	Metals	None	N/A	4	CW3AMW01 to CW3AMW04	VOCs & TICs-EPA Method 8260C Pesticides-EPA Method 8081B Metals-EPA Method 6010C/7470A	LFPS	0	N/A	N/A	N/A	Not on PWS List	Discontinued	Metals sampling discontinued due to background sources.
M53	616MW01, 699MW01 , 699MW02, 699MW04 to 699MW06, 699MW08, 699MW09, 699MW12, 699MW15, 699MW16, 699RW03, 699RW05, 699RW11	Metals, benzene, PCE, 1,2,4-TMB, 1,3,5-TMB, xylenes,TBA, TCE, TICs	699MW06, 699MW16, 699RW03, 699RW05, 699RW11	Benzene, PCE, 1,2,4 TMB, 1,3,5-TMB, xylenes	14	616MW01, 699MW01 , 699MW02, 699MW04 to 699MW06, 699MW08, 699MW09, 699MW12, 699MW15, 699MW16, 699RW03, 699RW05, 699RW11	VOCs & TICs-EPA Method 8260C	LFPS	8	699MW01, 699MW04, 699MW06, 699MW09, 699MW16, 699RW03, 699RW05, 699RW11	VOCs-EPA Method 8260C	PDB	Quarterly	Quarterly - PDB	Metals sampling discontinued due to background sources. List of MWs based on historical and August 2013 analytical results.
M54	296MW01 to 296MW04, 296MW06 to 296MW08	Metals, benzene	296MW06	Benzene	7	296MW01 to 296MW04, 296MW06 to 296MW08	VOCs & TICs-EPA Method 8260C Lead-EPA Method 6010C/7470A	LFPS	2	296MW04, 296MW06	VOC-EPA Method 8260C (296MW06)	PDB	Annual	Annual - PDB	Metals sampling discontinued due to background sources. 296MW04 used as delineation point for 296MW06
M55	290MW01	As, Pb	None	N/A	1	290MW01	Lead-EPA Method 6010C/7470A	LFPS	0	N/A	N/A	N/A	Annual	Discontinued	Metals sampling discontinued due to background sources.
M56	80MW01 to 80MW05, 166MW01	Metals, chlordane	None	N/A	6	80MW01 to 80MW05, 166MW01	Lead-EPA Method 6010C/7470A	LFPS	2	80MW05, 80MW02	Pb-EPA Method 6010C/7470A (80MW05), Pesticides-EPA Method 8081B (80MW02)	LFPS	Annual	one additional round - LFPS	Continue Pb sampling at 80MW05. Other metals considered background concentrations. 80MW02 will be analyzed for pesticides. Monitoring wells will be sampled for one additional round.
M57	108MW01 to 108MW04	Metals	108MW01, 108MW02, 108MW03	Metals	4	108MW01 to 108MW04	VOCs & TICs-EPA Method 8260C Pesticides-EPA Method 8081B Metals-EPA Method 6010C/7470A	LFPS	1	108MW04	Pb-EPA Method 6010C/7470A	LFPS	Not on PWS List	two additional rounds - LFPS	Pb will be analyzed at 108MW04 for two more rounds.
M58	2567MW01, 2567MW03	TBA	None	N/A	7	2567MW01 to 2567MW07	VOCs & TICs-EPA Method 8260C	PDB	2	2567MW01, 2567MW03	VOC-EPA Method 8260C - TBA Only	LFPS	Annual	Two additional rounds of sampling - LFPS	Wells will be analyzed for TBA only for two rounds to confirm presence or lack of contaminant.
M59	1122MW01 to 1122MW06 1122MW07 - not available	Metals	None	N/A	7	1122MW01 to 1122MW07	VOCs & TICs-EPA Method 8260C	PDB	1	1122MW07	VOC-EPA Method 8260C	N/A	Quarterly	Discontinued	No exceedances, discontinue sampling
M61	283MW01 to 283MW04	Metals, benzene, TICs	None	N/A	4	283MW01 to 283MW04	VOCs & TICs-EPA Method 8260C Lead-EPA Method 6010C/7470A	LFPS	1	283MW02	VOCs-EPA Method 8260C	PDB	Annual	one additional round - PDB	Continue sampling at 283MW03 because of historical benzene exceedances
M64	812MW01, 812MW02, 812MW04 to 812MW08, 812MW14	Metals, benzene, VC	None	N/A	8	812MW01, 812MW02, 812MW04 to 812MW08, 812MW14	VOCs & TICs-EPA Method 8260C Lead-EPA Method 6010C/7470A	LFPS	1	812MW04	VOC-EPA Method 8260C	PDB	Annual	Annual - PDB	Metals analysis discontinued due to background. VOCs analyzed an annually in 812MW04.
M66	886MW01 , 886MW03, 886MW05, 886RW01 to 886RW08	Metals, bis(2-ethylhexyl)phthalate	None	N/A	13	886MW01 to 886MW05, 886RW01 to 886RW08	VOCs & TICs-EPA Method 8260C SVOCs-EPA Method 8270D Lead-EPA Method 6010C/7470A	LFPS	0	N/A	N/A	N/A	Quarterly	Discontinued	Bis(2-ethylhexyl)phthalate result is anomalous. Metals sampling discontinued due to background sources.
M68	N/A	N/A	565MW01, 565MW01D	PCE, TCE, cis-1,2-DCE, VC	2	565MW01, 565MW01D	VOCs & TICs-EPA Method 8260C	PDB	2	565MW01, 565MW01D	VOC-EPA Method 8260C	PDB	Quarterly	Quarterly - PDB	No historical data available, continue sampling.

Notes:

MWs - monitoring wells
N/A - not applicable
VOCs - volatile organics compounds
SVOCs - semivolatiles organic compounds
TMB - trimethhylbenzene
VC - vinyl chloride
TCE - tetrachloroethene
PCE - tetrachloroethene
1,1-DCA - 1,1-dichloroethane
1,2-DCA - 1,2-dichloroethane
1.1.1-TCA - 1.1.1-trichloroethane
1,2,4-TMB - 1,2,4-trimethylbenzene
1,3,5-TMB - 1,3,5-trimethylbenzene
TICs - tentatively identified compounds
TBA - tert-butyl-alcohol
LFPS - low flow purging and sampling
PDB - passive diffusion bags

1. Exceedance is defined as a parameter that was greater than NJDEP GWQS.
2. The recommendations are for sampling in 2014 to allow for the continued monitoring of groundwater conditions. Remedial investigations are ongoing at many of the sites and these recommendations may be modified based on analysis of new information and evaluation of risk.

FIGURES

Figure 1.1 Fort Monmouth Location
Figure 1.2 Main Post Layout
Figure 1.3 Charles Wood Area Layout



Legend

Installation Boundary

Site Description:
Fort Monmouth
Main Post & Charles Wood Area
Monmouth County, NJ
Longitude: 74˚ 2' 33.39" W
Latitude: 40˚ 18' 49.33" N
Longitude and Latitude represent the center point of Main Post.

N

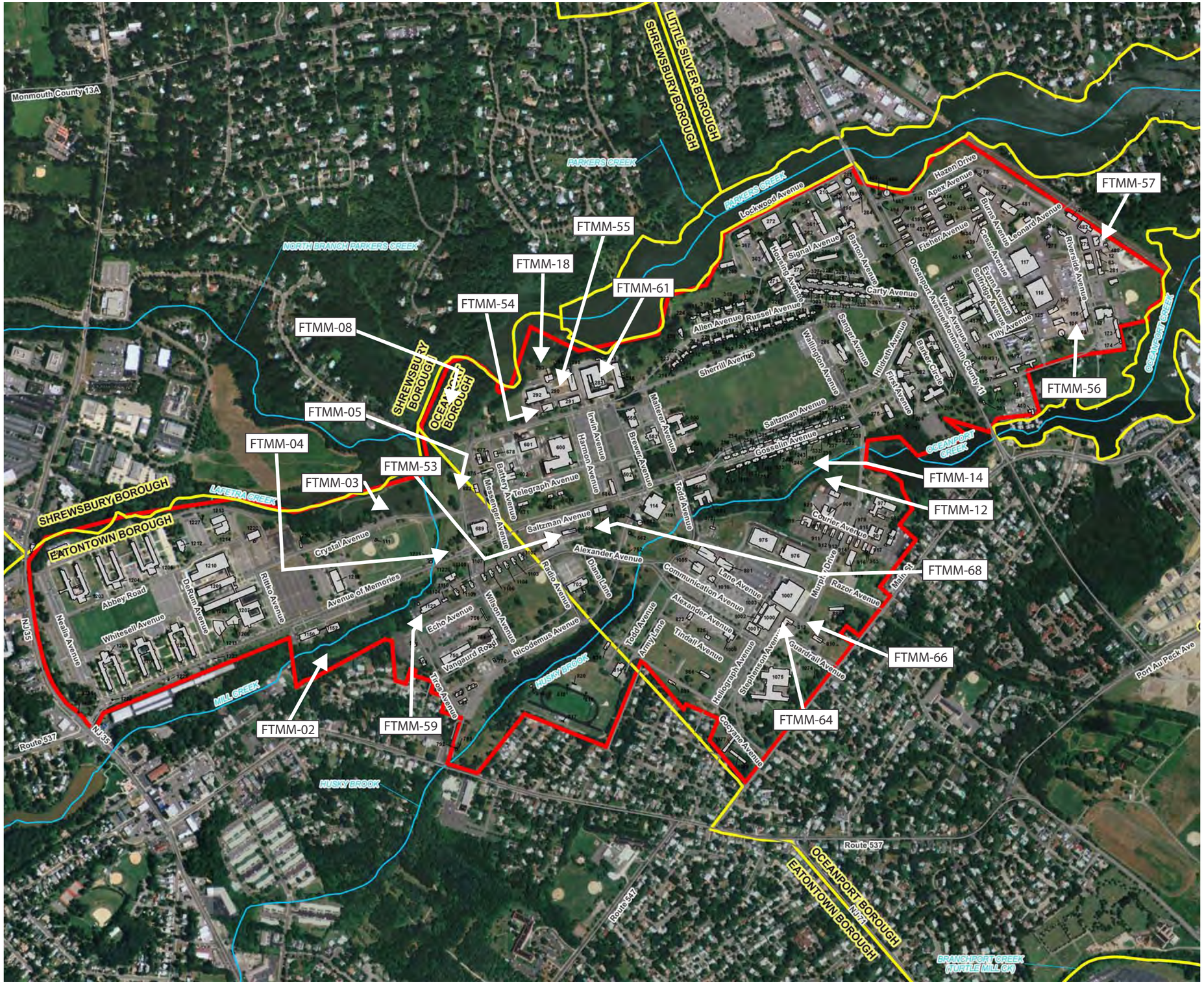
1 inch = 2,500 feet

0 0.5 1 Miles

Source: Bing Maps online imagery; ESRI Data and Maps 2011.

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
Fort Monmouth Location	
CREATED BY: TS	REVIEWED BY: IG
DATE: March 2013	FIGURE NUMBER: Figure 1.1
PROJECT NUMBER: 748810.01000	FILE: Figure1-1_GW_Location.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW\Figure1-1_GW_Location.mxd



LEGEND

- Water Feature
- Road Centerline
- Building
- Municipal Boundary
- Installation Boundary

Note: Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.

N

Scale:

0 450 900 1,800 Feet

PARSONS 401 Diamond NW Huntsville AL, 35806	Fort Monmouth New Jersey
Main Post Layout	
DATE: November 7, 2012	FIGURE NUMBER: Figure 1.2
PROJECT NUMBER: 748810.01000	CREATED BY: MA

Source: Shaw Environmental, Inc., 2011.



LEGEND

- Road Centerline
- Water Feature
- Building
- Municipal Boundary
- Installation Boundary

Note: Aerial photography (0.5-meter resolution) was obtained from ESRI ArcOnline USA Imagery Map Services.

N

Scale:
0 290 580 1,160
Feet

PARSONS 401 Diamond NW Huntsville AL, 35806	Fort Monmouth New Jersey
Charles Wood Area Layout	
DATE: November 7, 2012	FIGURE NUMBER: Figure 1.3
PROJECT NUMBER: 748810.01000	CREATED BY: MA

Source: Shaw Environmental Inc., 2011.

APPENDICES

Appendix A FTMM-02: Closed Solid Waste Landfill
Appendix B FTMM-03: Closed Solid Waste Landfill
Appendix C FTMM-04: Closed Solid Waste Landfill
Appendix D FTMM-05: Closed Solid Waste Landfill
Appendix E FTMM-08: Closed Solid Waste Landfill
Appendix F FTMM-12: Closed Solid Waste Landfill
Appendix G FTMM-14: Closed Solid Waste Landfill
Appendix H FTMM-18: Closed Solid Waste Landfill/Former Training Area
Appendix I FTMM-22: (CWA-1) Waste Water Treat Lime Pit
Appendix J FTMM-25: (CWA-3A) Landfill
Appendix K FTMM-53: Building 699 Gasoline Storage
Appendix L FTMM-54: Building 296 Gasoline Storage
Appendix M FTMM-55: Building 290 UST Gasoline
Appendix N FTMM-56: Building 80 Petroleum Release
Appendix O FTMM-57: Building 108 UST Gasoline Release
Appendix P FTMM-58: Building 2567 UST Gasoline
Appendix Q FTMM-59: Building 1122 Unknown Discharge
Appendix R FTMM-61: B37 Building 283 Gasoline Storage
Appendix S FTMM-64: Building 812 UST Gasoline
Appendix T FTMM-66: Building 886 Former AST
Appendix U FTMM-68: Building 700 Former UST
Appendix V Data Validation Memorandum
Appendix W Laboratory Analytical Results (CD)

APPENDIX A: FTMM-02 Landfill

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2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT A-1
3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS A-1
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Table No.	Title
1	Groundwater Gauging and Sample Summary
2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

LIST OF FIGURES

Figure No.	Title
1	Layout of FTMM-02

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-2 GROUNDWATER MONITORING

Groundwater samples were collected from 16 monitoring wells located at FTMM-02 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology. Sampling was conducted between August 20 and August 23, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B and pesticides via USEPA method SW8081B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the March 2013 SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-02 were gauged on August 8, 2013. Groundwater elevations in monitoring wells ranged from 2.72 (M2MW091) to 7.26 (M2MW24) feet above mean sea level (AMSL), and interpreted groundwater flow direction is to the northwest towards Mill Creek (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging, the physical condition of FTMM-02 monitoring wells was also assessed. An obstruction was found 5.95 feet from the top of the PVC casing of site monitoring well M2MW05. This obstruction was able to be removed and M2MW05 was able to be sampled. The remaining monitoring wells at FTMM-02 were found to be in good condition.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

Groundwater monitoring has been conducted at FTMM-02 since May 1997. From May 1997 to March 2004 groundwater sampling consisted of VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. From June 2004 to December 2009, FTMM-02 monitoring wells were sampled primarily for VOCs. From March 2010 to September 2010, monitoring wells were sampled for VOCs and metals.

The last four rounds of sampling conducted at FTMM-02, carried out on a quarterly basis from December 2010 to August 2011, consisted of VOC and metals analysis. Historical groundwater analytical results are presented in **Table 2.** Within the last four rounds of groundwater sampling, benzene, chlorobenzene, aluminum, arsenic, beryllium, chromium, iron, lead, manganese, sodium and vanadium were detected above their respective New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standard (GWQS).

Beryllium, manganese and sodium were detected in exceedance of their individual background concentrations established in the 1995 Weston Report, however are not indicative of historical site use, and therefore considered solely background concentrations.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**. Groundwater samples were analyzed for VOCs and pesticides. Benzene and chlorobenzene were detected in M2MW03 exceedance of their NJDEP GWQS.

5.0 FINDINGS AND RECOMMENDATIONS

Historically, beryllium, manganese, and sodium were detected in exceedance of both their NJDEP GWQS and background concentrations (Weston 1995) in FTMM-02 monitoring wells. These exceedances are due to natural sources from glauconitic soils beneath the site and are not indicative of site groundwater contamination from historical site uses. As such, it is recommended metals analysis be discontinued for the site.

Historically, benzene (M2MW03, M2MW11, M2MW21, and M2MW24), chlorobenzene (M2MW03), and *tert*-butyl alcohol (M2MW22) were detected in exceedance of their NJDEP GWQS. During the August 2013 Baseline Sampling Event, benzene and chlorobenzene were detected as exceedances in M2MW03. Monitoring wells M2MW11, M2MW21, and M2MW24 did not exhibit VOC exceedances.

It is recommended that groundwater monitoring for VOCs be continued for an additional two rounds for site monitoring wells M2MW03, M2MW11, M2MW21, M2MW22, and M2MW24 for VOCs. As per the results of the correlation study, VOCs will be collected via PDB sampling methodology. In addition, down-gradient monitoring well M2MW10 will be retained as part of FTMM-02 groundwater monitoring to serve as a clean well on the eastern perimeter of the landfill.

Pesticides were not detected in FTMM-02 monitoring wells during the August 2013 Baseline Groundwater Sampling Event, therefore it is recommended groundwater monitoring for pesticides be discontinued.

Table 4 presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-02
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
FTMM-02															
M2MW02	29-32585	537763.107	616268.137	17.00	10.00	7-17	12.67	8-8-13	0926	0.0	9.93	19.54	2.74	8/22/2013	1205
M2MW03	29-32586	538141.520	617064.120	15.00	10.00	5-15	11.16	8-8-13	0851	0.0	7.66	17.24	3.50	8/21/2013	1047
M2MW04	E201008215	537932.074	616545.588	19.00	15.00	4-19	13.07	8-8-13	1028	0.0	8.66	22.29	4.41	8/22/2013	1033
M2MW05	29-39185	537559.131	616129.656	13.00	10.00	3-13	9.61	8-8-13	0922	0.0	5.95	-	3.66	8/22/2013	1359
M2MW06	29-39184	537821.577	616300.991	15.00	10.00	5-15	11.84	8-8-13	0933	0.0	8.34	18.30	3.50	8/21/2013	1418
M2MW07	29-39183	537834.055	616291.020	15.00	10.00	5-15	11.37	8-8-13	0942	0.0	6.65	16.95	4.72	8/21/2013	1500
M2MW08	29-39182	537955.563	616583.487	15.00	10.00	5-15	10.62	8-8-13	0950	0.0	6.47	21.0	4.15	8/21/2013	1600
M2MW09	29-39181	538091.590	616838.679	15.00	10.00	5-15	13.00	8-8-13	1008	0.0	10.28	21.76	2.72	8/21/2013	1232
M2MW10	29-39180	538218.275	617129.435	20.00	15.00	5-20	10.99	8-8-13	0902	0.0	7.44	22.40	3.55	8/22/2013	1110
M2MW11	29-42769	538087.706	616845.626	49.00	20.00	29-49	12.74	8-8-13	1003	0.0	9.15	52.05	3.59	8/20/2013	1218
M2MW12	29-42770	538147.879	617071.684	50.00	20.00	30-50	13.28	8-8-13	0856	0.0	8.85	52.18	4.43	8/21/2013	1047
M2MW13	29-42771	538121.151	617127.234	20.00	15.00	5-20	14.99	8-8-13	0904	0.0	9.51	22.51	5.48	8/22/2013	1230
M2MW21	29-42779	537814.209	616510.973	20.00	15.00	5-20	15.50	8-8-13	1033	0.0	10.15	22.58	5.35	8/22/2013	1525
M2MW22	29-42780	537777.226	616178.461	20.00	15.00	5-20	11.62	8-8-13	0918	0.0	8.14	22.70	3.48	8/23/2013	940
M2MW23	29-42781	538060.520	616894.502	20.00	15.00	5-20	14.77	8-8-13	1013	0.0	10.48	23.19	4.29	8/22/2013	1510
M2MW24	29-42772	537805.303	616599.277	20.00	15.00	5-20	15.69	8-9-13	0835	0.0	8.43	22.28	7.26	8/23/2013	1055

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW01			M2MW02																											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**			Dup	44	44 Dup	45	45 Dup	46	46 Dup	47	47 Dup	LF1	LF1 Dup	49	50	51	LF2	LF3	LF4	LF4 Dup	LF5	LF6	LF6 Dup	LF7	LF8	44	45	46	47	
Date Collected				12/16/2010	3/14/2011	3/14/2011	3/17/2008	3/17/2008	5/22/2008	5/22/2008	8/26/2008	8/26/2008	12/23/2008	12/23/2008	3/31/2009	3/31/2009	6/19/2009	9/22/2009	12/4/2009	3/9/2010	6/14/2010	9/24/2010	9/24/2010	12/16/2010	3/9/2011	3/9/2011	6/15/2011	8/23/2011	3/17/2008	5/22/2008	8/26/2008	12/23/2008	
ANALYTE/Lab ID				10555.08	11107.04	11085.03	80087.04	80087.03	80176.04	80176.03	80308.04	80308.03	80472.04	80472.03	90137.05	90137.03	90249.04	90394.04	90470.04	10077.07	10264.06	10410.04	10410.03	10558.07	11097.04	11088.03	11254.06	11354.06	80087.05	80176.05	80308.05	80472.05	
Volatile Organic Compounds (µg/L)																																		
Benzene	1	5	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.53	5.48	ND	6.61	
Chlorobenzene	50	100	--	NA	ND	ND	23.95	NA	1.56 J	12.74	4.31	6.09	11.4	11.41	31.71	32.12	31.98	13.81	23.12	22.08	30.05	11.88	10.56	32.7	16.27	ND	27.78	2.1	157.16	157.28	6.05	134.62	E
Chloroethane	NLE	NLE	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Ethylbenzene	700	700	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Styrene	100	100	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,2-Dichlorobenzene	600	600	--	NA	ND	ND	0.47	NA	ND	ND	ND	ND	ND	ND	0.5 J	0.54 J	0.56 J	ND	ND	0.4 J	0.57	ND	ND	0.61	0.28 J	ND	0.44 J	ND	2.4	2.76	ND	2.51		
1,3-Dichlorobenzene	600	NLE	--	NA	ND	ND	0.82	NA	ND	0.45 J	ND	0.31 J	0.47 J	0.42 J	0.97 J	1.02 J	1.09 J	0.44 J	0.78	0.78	1.04	0.53	0.45 J	1.12	0.55	ND	0.9	ND	2.59	3.19	0.4 J	2.33		
1,4-Dichlorobenzene	75	75	--	NA	ND	ND	3.32	NA	ND	1.61 J	0.6 J	0.76 J	1.08 J	1.05 J	3.56	3.71	4.09	1.57	2.44	2.78	3.52	1.81	1.56	4.15	1.89	ND	2.81	0.46 J	6.55	7.77	0.39 J	6.74		
1,1-Dichloroethane	50	7	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Methylene chloride	3	NLE	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
cis -1,2-Dichloroethene	70	70	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Methyl *tert* -butyl ether	70	NLE	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.43 J	ND		
tert -Butyl alcohol	100	NLE	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		
Toluene	600	1000	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
1,1,2-Trichloroethane	3	5	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Total Xylenes	1000	10,000	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
TICs*	500	NLE	--	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	3	4	4	4	8	ND	ND	4	ND	3	ND	ND	3		
Semi-Volatile Organic Compounds (µg/L)																																		
Acenaphthene	400	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Benzyl alcohol	2000	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 J	1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
1,3-Dichlorobenzene	600	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.6 J	0.6 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
1,4-Dichlorobenzene	75	75	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 J	2 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
TICs*	500	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Pesticides/PCBs (µg/L)																																		
Aldrin	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
alpha-BHC	0.02	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.038	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.037	0.048	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
delta-BHC	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039	0.059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
alpha-Chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
gamma-Chlordane	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.038	0.046	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
4,4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.051	0.056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
4,4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.055	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.038	0.041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Endosulfan I	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Endosulfan II	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.038	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Endosulfan sulfate	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Endrin	2	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.043	0.045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.146	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Heptachlor	0.05	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.046	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Heptachlor epoxide	0.2	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Methoxychlor	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.047	0.054	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Metals (µg/L)																																		
Aluminum	200	NLE	121000	<200	238	229	NA	NA	NA	NA	NA	NA	NA	NA	12.2	15.9	NA	NA	NA	25.7	ND	ND	ND	<200	<200	<200	<200	<200	NA	NA	NA	NA		
Antimony	6	6	20.70	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	20.3	15.3	NA	NA	NA	5.19 ER	9.56 ER	14.4	11	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA		
Arsenic	3	10	89.30	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	65.3	65.7	NA	NA	NA	1.05 ER	1.37 ER	0.72 ER	0.78 ER	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA		
Barium	6000	2000	699.00	533	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	285	297	NA	NA	NA	266	289	156	160	484	273	<200	246	224	NA	NA	NA	NA		
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	0.049 ER	ND	ND	<1.0	<1.0	4.1	<1.0	<1.0	NA	NA	NA	NA		
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	1.62 ER	0.865 ER	1.08 ER	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA		
Calcium	NLE	NLE	45400.00	89200	7860	7690	NA	NA	NA	NA	NA	NA	NA	NA	87700	91500	NA	NA	NA	13200	87700	60300	61500	118000	174000	49700	110000	122000	NA	NA	NA	NA		
Chromium	70	100	191.00	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	0.353 ER	1.29 ER	NA	NA	NA	ND	ND	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA		
Cobalt	NLE	NLE	18.30	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.143	NA	NA	NA	ND	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA		
Copper	1300	1300	65.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	ND	1.52 ER	1.47 ER	<10	<10	<10	<10	<10	NA	NA	NA	NA		
Iron	300	NLE	431000	67400	<100	<100	NA	NA	NA	NA	NA	NA	NA	NA	41200	42700	NA	NA	NA	30100	54100	23800	24500	55200	14500	10000	32200	11100	NA	NA	NA	NA		
Lead	5	15	22.70	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	7.16	ND	NA	NA	NA	ND	3.96 ER	3.32 ER	ND	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA		
Magnesium	NLE	NLE	62700	5720	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	32300	33700	NA	NA	NA	37100	22100	13600	14000	43400	49200	<5000	39000	24400	NA	NA	NA	NA		
Manganese	50	NLE	331	614	38.6	38.5	NA	NA	NA	NA	NA	NA	NA	NA	318	329	NA	NA	NA	296	312	230	236	368	255	74.7	296	1250	NA	NA	NA	NA		
Mercury	2	2	0.26	NA	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	0.06 ER	ND	ND	<0.5	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA		
Nickel	100	NLE	187	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	5.64	1.55 ER	ND	ND	<10	<10	<10	<10	10.3	NA	NA	NA	NA		
Potassium	NLE	NLE	137000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	8580	8920	NA	NA	NA	11200	7520	6870	6990	12800	14000	<10000	<10000	11200	NA	NA	NA	NA		
Selenium	40	50	29.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	41.2	51.9	NA	NA	NA	ND	NR	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA		
Silver	40	NLE	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	8.57	1.98	2.27	<10	<10	<10	<10	<10	NA	NA	NA	NA		
Sodium	50000	NLE	21500	21500	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	8450	8840	NA	NA	NA	7070	8230	9230	9660	11200	10200	<10000	<10000	<10000	NA	NA	NA	NA		
Thallium	2	2	5.50	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	ND	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA		
Vanadium	60	NLE	108	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	5.27	6	NA	NA	NA	5.14	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA		
Zinc	2000	NLE	233	<20	725	721	NA	NA	NA	NA	NA	NA	NA	NA	9.95	10.6	NA	NA	NA	80.2	ND	ND	1.25	<20	76.1	<20	<20	117	NA	NA	NA	NA		

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW03												M2MW04																	
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	49	50	51	LF2	LF3	LF4	LF5	LF6	LF7	LF8	41	42	43	44	LF1	46	47	48	LF2	LF2 Dup	LF3	LF4	LF5	LF6	LF7	LF8	39	40	41
Date Collected				3/30/2009	6/19/2009	9/22/2009	12/4/2009	3/9/2010	6/11/2010	9/23/2010	12/16/2010	3/8/2011	6/14/2011	8/22/2011	3/17/2008	5/22/2008	8/26/2008	12/23/2008	3/30/2009	6/19/2009	9/22/2009	12/4/2009	3/10/2010	3/10/2010	6/14/2010	9/23/2010	12/16/2010	3/8/2011	6/15/2011	8/23/2011	3/17/2008	5/23/2008	8/26/2008
ANALYTE/Lab ID				90133.07	90249.05	90394.05	90470.05	10077.08	10261.07	10409.08	10558.05	11092.06	11248.09	11352.05	80087.06	80176.06	80308.06	80472.06	90133.10	90249.06	90394.06	90470.06	10082.04	10082.03	10264.08	10409.09	10558.05	11092.07	11254.05	11354.07	80087.07	80178.04	80308.07
Volatile Organic Compounds (µg/L)																																	
Benzene	1	5	--	ND	5.55	ND	0.26 J	4.99	ND	0.36 J	ND	4.74	ND	3.1	ND	ND	0.34 J	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	6.96	151.72	14.19	8.14	133.27	7.81	8.4	3.7	127.08 D	4.85	94.6	1.49 J	ND	7.29	1.49 J	0.61 J	ND	1.61	0.5 J	0.62	ND	0.32 J	0.71	0.45 J	ND	0.29	0.46 J	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	2.39	ND	ND	2.49	ND	ND	ND	2.77	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND	2.61	ND	ND	2.59	ND	0.87	ND	3.21	ND	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	0.36 J	6.55	0.64	0.52	6.39	0.49 J	0.85	ND	7.56	0.5 J	7	ND	ND	0.62 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	--	ND	ND	0.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	0.25 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	6.23 J	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
1,1,2-Trichloroethane	3	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.2	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/L)																																	
Acenaphthene	400	NLE	--	0.5 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl alcohol	2000	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	600	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	75	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TICs*	500	NLE	--	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (µg/L)																																	
Aldrin	0.04	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	0.02	NLE	--	0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	0.04	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	0.5	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	0.1	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.1	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	40	NLE	--	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	40	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	40	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	NLE	--	0.037	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	0.2	NLE	--	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	NLE	--	0.043	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																	
Aluminum	200	NLE	121000	ND	NA	NA	NA	36.4	ND	18.5	<200	<200	1050	248	NA	NA	NA	NA	ND	NA	NA	NA	22.7	ND	17.2	40.7	<200	<200	<200	<200	NA	NA	NA
Antimony	6	6	20.70	28	NA	NA	NA	6.21 ER	13	20.4	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	18	NA	NA	NA	ND	ND	8.09 ER	11	<6.0	<6.0	<6.0	<6.0	NA	NA	NA
Arsenic	3	10	89.30	101	NA	NA	NA	0.75 ER	0.71 ER	2.91 ER	<3.0	<3.0	4.4	<3.0	NA	NA	NA	NA	56.9	NA	NA	NA	ND	ND	1.27 ER	0.77 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA
Barium	6000	2000	699.00	96.1	NA	NA	NA	270	74.7	137	<200	334	<200	229	NA	NA	NA	NA	74.7	NA	NA	NA	51.8	30.6	81	116	<200	<200	<200	<200	NA	NA	NA
Beryllium	1	4	2.10	ND	NA	NA	NA	ND	ND	ND	<1.0	1.5	<1.0	<1.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	NA	NA	NA
Cadmium	4	5	9.50	ND	NA	NA	NA	0.6 ER	ND	0.529 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	0.938 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA
Calcium	NLE	NLE	45400.00	87300	NA	NA	NA	186000	69600	133000	77800	163000	62400	112000	NA	NA	NA	NA	28800	NA	NA	NA	24100	14100	25300	30200	28100	26200	39200	37000	NA	NA	NA
Chromium	70	100	191.00	0.395 ER	NA	NA	NA	ND	ND	ND	<10	<10	12.7	<10	NA	NA	NA	NA	0.538 ER	NA	NA	NA	ND	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA
Cobalt	NLE	NLE	18.30	ND	NA	NA	NA	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA
Copper	1300	1300	65.60	ND	NA	NA	NA	ND	ND	4.02 ER	<10	<10	18	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	1.82 ER	<10	<10	<10	<10	NA	NA	NA
Iron	300	NLE	431000	15900	NA	NA	NA	42200	14200	3990	16200	41000	29100	35400	NA	NA	NA	NA	13400	NA	NA	NA	9610	5641	15200	23400	23200	14700	23400	22900	NA	NA	NA
Lead	5	15	22.70	4.59 ER	NA	NA	NA	ND	ND	ND	<3.0	<3.0	12.4	20.4	NA	NA	NA	NA	6.55	NA	NA	NA	ND	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA
Magnesium	NLE	NLE	62700	7070	NA	NA	NA	16000	5980	11500	5950	12300	6910	13700	NA	NA	NA	NA	4650	NA	NA	NA	4200	2410	4500	4730	<5000	<5000	5790	5380	NA	NA	NA
Manganese	50	NLE	331	501	NA	NA	NA	624	426	373	606	490	232	393	NA	NA	NA	NA	111	NA	NA	NA	83.9	47.2	70.6	98	93.8	67.4	163	265	NA	NA	NA
Mercury	2	2	0.26	ND	NA	NA	NA	0.07 ER	ND	ND	<0.5	<0.20	<0.20	0.37	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	0.06 ER	ND	<0.5	<0.20	<0.20	<0.20	NA	NA	NA
Nickel	100	NLE	187	ND	NA	NA	NA	ND	ND	5	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	0.786 ER	ND	ND	0.555 ER	<10	<10	<10	<10	NA	NA	NA
Potassium	NLE	NLE	137000	10100	NA	NA	NA	12900	8960	13000	11700	10500	<10000	14900	NA	NA	NA	NA	5920	NA	NA	NA	5820	3280	5890	6750	<10000	<10000	<10000	<10000	NA	NA	NA
Selenium	40	50	29.60	102	NA	NA	NA	ND	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	85.6	NA	NA	NA	35.8	23.6	NR	ND	<10	<10	<10	<10	NA	NA	NA
Silver	40	NLE	ND	ND	NA	NA	NA	ND	2.07	ND	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	4.29	2.72	<10	<10	<10	<10	NA	NA	NA
Sodium	50000	NLE	21500	18000	NA	NA	NA	34900	16200	65200	19800	30800	<10000	275000	NA	NA	NA	NA	8320	NA	NA	NA	6140	4510	7610	8050	<10000	<10000	<10000	<10000	NA	NA	NA
Thallium	2	2	5.50	ND	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Vanadium	60	NLE	108	2.39	NA	NA	NA	5.43	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	1.4	NA	NA	NA	1.59	0.974	ND	ND	<50	<50	<50	<50	NA	NA	NA
Zinc	2000	NLE	233	5.31	NA	NA	NA	2.19	2.19	21.3	<20	<20	111	32.3	NA	NA	NA	NA	ND	NA	NA	NA	4.53	2.08	1.88	2.83	<20	<20	<20	<20	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW05																								M2MW06							
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	42	42 Dup	LF1	44	44 Dup	45	45 Dup	46	46 Dup	LF2	LF2 Dup	LF3	LF3 Dup	LF4	LF4 Dup	LF5	LF5 Dup	LF6	LF6 Dup	LF7	LF7 Dup	LF8	LF8 Dup	41	42	43	44	LF1	46	47	48
Date Collected				12/27/2008	12/27/2008	3/31/2009	6/22/2009	6/22/2009	9/22/2009	9/22/2009	12/3/2009	12/3/2009	3/8/2010	3/8/2010	6/14/2010	6/14/2010	9/22/2010	9/22/2010	12/17/2010	12/17/2010	3/8/2011	3/8/2011	6/13/2011	6/13/2011	8/23/2011	8/23/2011	3/17/2008	5/23/2008	8/26/2008	12/27/2008	3/28/2009	6/22/2009	9/22/2009	12/3/2009
ANALYTE/Lab ID				80473.04	80473.03	90137.04	90252.04	90252.03	90394.07	90394.03	90469.04	90469.03	10075.04	10075.03	10264.04	10264.03	10404.04	10404.03	10560.04	10560.03	11092.04	11092.03	11247.04	11247.03	11354.04	11354.03	80087.08	80178.05	80308.08	80473.05	90131.06	90252.05	90394.08	90469.05
Volatile Organic Compounds (µg/L)																																			
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19 J	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.83	9.47	0.89 J	20.52	3.65	3.19	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38 J	0.42 J	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.41 J	0.4 J	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.94 J	2.2	ND	0.56 J	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	3	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/L)																																			
Acenaphthene	400	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Benzyl alcohol	2000	NLE	--	NA	NA	0.9 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
1,3-Dichlorobenzene	600	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
1,4-Dichlorobenzene	75	75	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
TICs*	500	NLE	--	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	NA	NA	NA	NA
Pesticides/PCBs (µg/L)																																			
Aldrin	0.04	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
alpha-BHC	0.02	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.027	NA	NA	NA	NA
beta-BHC	0.04	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
delta-BHC	NLE	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.043	NA	NA	NA	NA
alpha-Chlordane	0.5	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
gamma-Chlordane	NLE	NLE	--	NA	NA	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
4,4'-DDD	0.1	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
4,4'-DDE	0.1	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Endosulfan I	40	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Endosulfan II	40	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Endosulfan sulfate	40	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Endrin	2	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Heptachlor	0.05	NLE	--	NA	NA	0.038	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Heptachlor epoxide	0.2	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Methoxychlor	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.045	NA	NA	NA	NA
Metals (µg/L)																																			
Aluminum	200	NLE	121000	NA	NA	ND	NA	NA	NA	NA	NA	NA	16.2	13.8	ND	ND	48	42.8	<200	<200	<200	<200	3330	8410	9730	13700	NA	NA	NA	NA	ND	NA	NA	NA
Antimony	6	6	20.70	NA	NA	12.8	NA	NA	NA	NA	NA	NA	ND	ND	7.58 ER	10.4	12	10.9	<6.0	<6.0	<6.0	<6.0	<6.0	<30	<6.0	<6.0	NA	NA	NA	NA	23.5	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	52	NA	NA	NA	NA	NA	NA	1.44 ER	1.26 ER	1.94 ER	1.59 ER	1.35 ER	1.26 ER	<3.0	<3.0	<3.0	<3.0	18	134	17.9	20.9	NA	NA	NA	NA	74.1	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	93.9	NA	NA	NA	NA	NA	NA	149	147	115	113	88.2	86	<200	<200	<200	<200	662	3930	573	507	NA	NA	NA	NA	95.4	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.3	1.3	<1.0	<5.0	1	1.3	NA	NA	NA	NA	ND	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	ND	NA	NA	NA	NA	NA	NA	0.677 ER	0.665 ER	0.991 ER	0.897 ER	0.981 ER	0.822 ER	<3.0	<3.0	<3.0	<3.0	<3.0	<15	<3.0	<3.0	NA	NA	NA	NA	ND	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	28700	NA	NA	NA	NA	NA	NA	61800	60500	43000	43300	31700	31800	33900	33500	29400	29200	45800	73299	44500	51000	NA	NA	NA	NA	56500	NA	NA	NA
Chromium	70	100	191.00	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<10	<10	<10	<10	41.8	108	118	153	NA	NA	NA	NA	ND	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<50	<50	<50	<50	<50	<250	<50	<50	NA	NA	NA	NA	ND	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	1.58 ER	1.56 ER	<10	<10	<10	<10	<10	<50	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA
Iron	300	NLE	431000	NA	NA	22800	NA	NA	NA	NA	NA	NA	43800	43100	31300	31300	22500	22000	26200	27800	45600	32700	165000	1630000	121000	148000	NA	NA	NA	NA	12700	NA	NA	NA
Lead	5	15	22.70	NA	NA	2.68 ER	NA	NA	NA	NA	NA	NA	ND	ND	2.74 ER	ND	ND	3.19 ER	<3.0	<3.0	<3.0	<3.0	6.8	<15	19.1	20.6	NA	NA	NA	NA	3.11 ER	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	4770	NA	NA	NA	NA	NA	NA	10400	10200	7390	7440	5380	5340	5220	5160	<5000	<5000	8080	<25000	9400	11000	NA	NA	NA	NA	5420	NA	NA	NA
Manganese	50	NLE	331	NA	NA	53.2	NA	NA	NA	NA	NA	NA	113	113	80.6	80.8	56.3	55.6	67.4	66.1	58.5	58.2	108	231	124	147	NA	NA	NA	NA	83	NA	NA	NA
Mercury	2	2	0.26	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.19	<0.20	<0.20	<1.6	0.35	0.47	NA	NA	NA	NA	ND	NA	NA	NA
Nickel	100	NLE	187	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	0.515 ER	ND	0.711 ER	0.953 ER	ND	<10	<10	<10	<10	<10	<50	16.3	16	NA	NA	NA	NA	ND	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	6110	NA	NA	NA	NA	NA	NA	10600	10400	8330	8250	8350	8310	<10000	<10000	<10000	<10000	10400	<50000	14900	17300	NA	NA	NA	NA	6960	NA	NA	NA
Selenium	40	50	29.60	NA	NA	58.8	NA	NA	NA	NA	NA	NA	ND	ND	NR	NR	ND	ND	<10	<10	<10	<10	<10	<50	<10	11.7	NA	NA	NA	NA	117	NA	NA	NA
Silver	40	NLE	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	6.15	6.13	3.14	2.8	<10	<10	<10	<10	<10	<50	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	8430	NA	NA	NA	NA	NA	NA	21900	20800	17900	18400	16900	17900	22000	22100	22200	22000	28000	<50000	34000	35600	NA	NA	NA	NA	9830	NA	NA	NA
Thallium	2	2	5.50	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	0.53 ER	ND	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	NA	NA	NA	NA	ND	NA	NA	NA
Vanadium	60	NLE	108	NA	NA	1.58	NA	NA	NA	NA	NA	NA	4.98	4.87	ND	ND	ND	ND	<50	<50	<50	<50	<50	<250	63.9	88.4	NA	NA	NA	NA	1.73	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	ND	NA	NA	NA	NA	NA	NA	1.43	1.45	ND	ND	1.35	ND	<20	<20	<20	<20	26	<100	111	147	NA	NA	NA	NA	3.13	NA	NA	NA

Notes:

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J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW06							M2MW07																		M2MW08							
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF2	LF3	LF4	LF5	LF6	LF7	LF8	39	40	40 Dup	41	42	LF1	44	45	46	LF2	LF3	LF4	LF3	LF4	LF5	LF6	LF6 Dup	39	40	41	42	LF1	44	45	46
Date Collected				3/9/2010	6/11/2010	9/23/2010	12/17/2010	3/8/2011	6/14/2011	8/24/2011	3/17/2008	5/23/2008	5/23/2008	8/26/2008	12/27/2008	3/28/2009	6/22/2009	9/22/2009	12/3/2009	3/8/2010	6/10/2010	9/22/2010	12/17/2010	3/7/2011	6/13/2011	8/24/2011	8/24/2011	3/17/2008	5/23/2008	8/26/2008	12/27/2008	3/30/2009	6/22/2009	9/22/2009	12/3/2009
ANALYTE/Lab ID				10077.06	10261.06	10409.07	10560.08	11092.05	11248.08	11355.07	80087.09	80178.06	80178.03	80308.09	80473.06	90131.07	90252.06	90394.09	90469.06	10075.05	10259.07	10404.05	10560.05	11088.06	11247.05	11355.04	11355.03	80087.10	80178.07	80308.10	80473.07	90133.09	90252.07	90394.10	90469.06
Volatile Organic Compounds (µg/L)																																			
Benzene	1	5	--	ND	ND	ND	ND	ND	0.17 J	0.38 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.03	ND	ND	ND	ND
Chlorobenzene	50	100	--	12.58	8.11	1.37	1.7	9.62	11.45	23.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	0.17 J	0.27 J	0.28 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	0.28 J	ND	ND	ND	ND	0.26 J	0.47 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	1.35	0.86	ND	ND	0.68	0.71	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	0.19 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	3	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/L)																																			
Acenaphthene	400	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Benzyl alcohol	2000	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
1,3-Dichlorobenzene	600	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
1,4-Dichlorobenzene	75	75	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
TICs*	500	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	NA	NA	NA
Pesticides/PCBs (µg/L)																																			
Aldrin	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
alpha-BHC	0.02	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
delta-BHC	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
alpha-Chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
gamma-Chlordane	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
4,4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
4,4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Endosulfan I	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.027	NA	NA	NA
Endosulfan II	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Endosulfan sulfate	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Endrin	2	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Heptachlor	0.05	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.038	NA	NA	NA
Heptachlor epoxide	0.2	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Methoxychlor	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Metals (µg/L)																																			
Aluminum	200	NLE	121000	19.6	ND	26.5	<200	<200	<200	715	NA	NA	NA	NA	NA	ND	NA	NA	NA	10.9	ND	ND	<200	<200	<200	362	231	NA	NA	NA	NA	ND	NA	NA	NA
Antimony	6	6	20.70	ND	10.2	10.3	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	18.5	NA	NA	NA	6.06 ER	10.1	12.6	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	21.9	NA	NA	NA
Arsenic	3	10	89.30	0.66 ER	1.01 ER	0.67 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	84.3	NA	NA	NA	ND	0.9 ER	ND	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	62.7	NA	NA	NA
Barium	6000	2000	699.00	205	125	72.9	<200	304	<200	391	NA	NA	NA	NA	NA	85.7	NA	NA	NA	82.9	131	67.4	<200	<200	480	432	291	NA	NA	NA	NA	121	NA	NA	NA
Beryllium	1	4	2.10	ND	ND	ND	<1.0	3.5	<1.0	<1.0	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<1.0	5.1	<1.0	<1.0	<1.0	NA	NA	NA	NA	ND	NA	NA	NA
Cadmium	4	5	9.50	0.614 ER	ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	0.569 ER	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	ND	NA	NA	NA
Calcium	NLE	NLE	45400.00	85200	67200	47500	43900	119000	74500	77000	NA	NA	NA	NA	NA	47300	NA	NA	NA	48900	41800	49400	48100	51300	52000	72000	66400	NA	NA	NA	NA	39200	NA	NA	NA
Chromium	70	100	191.00	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA
Cobalt	NLE	NLE	18.30	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	ND	NA	NA	NA
Copper	1300	1300	65.60	ND	ND	1.21 ER	<10	<10	<10	14.2	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	1.51 ER	<10	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA
Iron	300	NLE	431000	32300	18600	9190	11600	38700	16500	61000	NA	NA	NA	NA	NA	20100	NA	NA	NA	13700	14200	8310	16000	40300	116000	83700	54600	NA	NA	NA	NA	24100	NA	NA	NA
Lead	5	15	22.70	ND	ND	ND	<3.0	<3.0	<3.0	11	NA	NA	NA	NA	NA	5.47	NA	NA	NA	ND	ND	2.66 ER	<3.0	<3.0	<3.0	4.1	3.3	NA	NA	NA	NA	7.38	NA	NA	NA
Magnesium	NLE	NLE	62700	10700	7070	5000	<5000	10200	5870	11700	NA	NA	NA	NA	NA	6500	NA	NA	NA	7020	6160	6050	5660	5450	<5000	7830	7380	NA	NA	NA	NA	4890	NA	NA	NA
Manganese	50	NLE	331	453	173	70.5	84.2	318	513	731	NA	NA	NA	NA	NA	77.4	NA	NA	NA	75.1	64.8	56.9	63.6	113	107	197	137	NA	NA	NA	NA	39.4	NA	NA	NA
Mercury	2	2	0.26	0.08 ER	ND	0.31 ER	<0.5	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	ND	NA	NA	NA	0.052 ER	ND	ND	<0.5	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	ND	NA	NA	NA
Nickel	100	NLE	187	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	0.407	<10	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA
Potassium	NLE	NLE	137000	8460	6900	6760	<10000	12000	<10000	<10000	NA	NA	NA	NA	NA	5010	NA	NA	NA	6360	4590	5070	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	6730	NA	NA	NA
Selenium	40	50	29.60	ND	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	85.6	NA	NA	NA	22	NR	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	96.3	NA	NA	NA
Silver	40	NLE	ND	ND	3.71	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	3.08	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA
Sodium	50000	NLE	21500	9910	11300	8110	<10000	13200	18500	29700	NA	NA	NA	NA	NA	9230	NA	NA	NA	10800	7800	8130	<10000	<10000	<10000	12900	11600	NA	NA	NA	NA	8710	NA	NA	NA
Thallium	2	2	5.50	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	ND	NA	NA	NA
Vanadium	60	NLE	108	4.05	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	2.15	NA	NA	NA	1.87	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	2.39	NA	NA	NA
Zinc	2000	NLE	233	14	ND	ND	<20	<20	<20	79.7	NA	NA	NA	NA	NA	3.22	NA	NA	NA	ND	ND	ND	<20	<20	<20	<20	<20	NA	NA	NA	NA	ND	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW08								M2MW09																				M2MW10								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF2	LF3	LF4	LF5	LF6	LF7	LF7 Dup	LF8	41	42	43	44	LF1	46	47	48	LF2	LF3	LF4	LF5	LF6	LF7	LF8	39	40	41	42	LF1	44	45	46	LF2
Date Collected				3/8/2010	6/10/2010	9/22/2010	12/17/2010	3/4/2011	6/14/2011	6/14/2011	8/24/2011	3/17/2008	5/23/2008	8/26/2008	12/27/2008	3/28/2009	6/22/2009	9/22/2009	12/3/2009	3/8/2010	6/10/2010	9/22/2010	12/17/2010	3/7/2011	6/14/2011	8/24/2011	3/17/2008	5/23/2008	8/26/2008	12/27/2008	3/30/2009	6/22/2009	9/22/2009	12/3/2009	3/8/2010
ANALYTE/Lab ID				10075.06	10259.06	10404.06	10560.06	11085.06	11248.04	11248.03	11355.05	80087.11	80178.08	80308.11	80473.08	90131.04	90252.08	90394.11	90469.08	10075.07	10259.05	10404.07	10555.01	11088.05	11248.05	11355.06	80087.12	80178.09	80308.12	80473.09	90133.05	90252.09	90394.12	90469.09	10075.08
Volatile Organic Compounds (µg/L)																																							
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24 J	ND	ND	ND	ND	ND	ND	0.28 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	3	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/L)																																							
Acenaphthene	400	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl alcohol	2000	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	600	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	75	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
TICs*	500	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (µg/L)																																							
Aldrin	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	0.02	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.031	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	0.2	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																							
Aluminum	200	NLE	121000	ND	ND	ND	<200	<200	1040	418	295	NA	NA	NA	NA	ND	NA	NA	NA	75.5	ND	17.2	<200	285	568	854	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND
Antimony	6	6	20.70	ND	9.29	ER 13.1	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	13.5	NA	NA	NA	5.73	ER 6.82	ER 12.2	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	19.8	NA	NA	NA	NA	NA	NA	NA	ND
Arsenic	3	10	89.30	ND	ND	ND	<3.0	<3.0	8.2	4	<3.0	NA	NA	NA	NA	90.1	NA	NA	NA	1.04	ER ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	70.4	NA	NA	NA	NA	NA	NA	NA	ND
Barium	6000	2000	699.00	99.8	67.4	55.3	<200	<200	1910	905	257	NA	NA	NA	NA	42.2	NA	NA	NA	56.9	30.5	41.6	<200	<200	<200	<200	NA	NA	NA	NA	56.8	NA	NA	NA	NA	NA	NA	NA	27.1
Beryllium	1	4	2.10	ND	ND	ND	<1.0	1.8	<1.0	<1.0	<1.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<1.0	3.1	<1.0	<1.0	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Cadmium	4	5	9.50	ND	ND	0.863 ER	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	0.966 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Calcium	NLE	NLE	45400.00	38800	33400	43600	39700	37000	47400	39200	30400	NA	NA	NA	NA	50600	NA	NA	NA	56400	43100	54800	53200	54700	51500	48900	NA	NA	NA	NA	47100	NA	NA	NA	NA	NA	NA	NA	50000
Chromium	70	100	191.00	ND	ND	ND	<10	<10	13.9	<10	<10	NA	NA	NA	NA	0.442	ER NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Cobalt	NLE	NLE	18.30	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Copper	1300	1300	65.60	ND	ND	1.49 ER	<10	<10	<10	<10	<10	NA	NA	NA	NA	1.05	ER NA	NA	NA	ND	ND	1.32 ER	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Iron	300	NLE	431000	26700	12400	14500	26200	39300	310000	173000	67100	NA	NA	NA	NA	3240	NA	NA	NA	6010	ND	5590	6470	14700	25700	15500	NA	NA	NA	NA	3960	NA	NA	NA	NA	NA	NA	NA	1300
Lead	5	15	22.70	ND	ND	ND	<3.0	<3.0	6.4	<3.0	3.2	NA	NA	NA	NA	2.01	ER NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	4.3	NA	NA	NA	NA	4.78	ER	NA	NA	NA	NA	NA	NA	ND
Magnesium	NLE	NLE	62700	5130	4450	5680	<5000	<5000	<5000	<5000	<5000	NA	NA	NA	NA	4380	NA	NA	NA	5150	3910	5040	<5000	<5000	<5000	<5000	NA	NA	NA	NA	3420	NA	NA	NA	NA	NA	NA	NA	3760
Manganese	50	NLE	331	36.8	31.8	40	50.6	39.6	121	82.8	52.7	NA	NA	NA	NA	291	NA	NA	NA	439	286	273	282	442	577	362	NA	NA	NA	NA	48.9	NA	NA	NA	NA	NA	NA	NA	45.5
Mercury	2	2	0.26	ND	ND	ND	<0.5	<0.20	<0.40	<0.20	<0.20	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<0.5	<0.20	<0.20	<0.20	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Nickel	100	NLE	187	ND	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND	0.597 ER	ND	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Potassium	NLE	NLE	137000	7820	5890	7540	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	5260	NA	NA	NA	7070	4800	6080	<10000	<10000	<10000	<10000	NA	NA	NA	NA	5660	NA	NA	NA	NA	NA	NA	NA	7040
Selenium	40	50	29.60	ND	NR	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	117	NA	NA	NA	35.5	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	102	NA	NA	NA	NA	NA	NA	NA	49.5
Silver	40	NLE	ND	ND	2.43	1.51	<10	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	1.39	0.818	ND	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	2.5
Sodium	50000	NLE	21500	8830	7960	9070	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	8140	NA	NA	NA	10900	7280	11100	10100	11400	<10000	<10000	NA	NA	NA	NA	8840	NA	NA	NA	NA	NA	NA	NA	9830
Thallium	2	2	5.50	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
Vanadium	60	NLE	108	3.4	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	1.01	NA	NA	NA	1.78	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	0.874	NA	NA	NA	NA	NA	NA	NA	1.38
Zinc	2000	NLE	233	ND	ND	ND	<20	<20	<20	<20	<20	NA	NA	NA	NA	21.1	NA	NA	NA	36.9	15.1	17.4	<20	104	112	118	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW10										M2MW11																				M2MW12			
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF3	LF3 Dup	LF4	LF4 Dup	LF5	LF6	LF6 Dup	LF7	LF8	LF8 Dup	33	33 Dup	34	35	36	LF1	LF1 Dup	38	39	40	LF2	LF3	LF4	LF5	LF6	LF7	LF8	33	34	35	36
Date Collected				6/10/2010	6/10/2010	9/23/2010	9/23/2010	12/17/2010	3/7/2011	3/7/2011	6/14/2011	8/22/2011	8/22/2011	3/18/2008	3/18/2008	5/22/2008	8/26/2008	12/23/2008	3/28/2009	3/28/2009	6/22/2009	9/23/2009	12/3/2009	3/10/2010	6/14/2010	9/24/2010	12/18/2010	3/9/2011	6/15/2011	8/24/2011	3/18/2008	5/22/2008	8/26/2008	12/23/2008
ANALYTE/Lab ID				10259.04	10259.03	10409.04	10409.03	10560.07	11088.04	11088.03	11248.06	11352.04	11352.03	80088.04	80088.03	80176.07	80308.13	80472.07	90131.05	90131.03	90252.10	90396.04	90469.1	10082.08	10264.09	10410.08	10562.05	11097.07	11254.09	11355.09	80088.05	80176.08	80308.14	80472.08
Volatile Organic Compounds (µg/L)																																					
Benzene	1	5	--	ND		ND		ND		ND	ND	ND	ND	ND	ND	68.23	NA	54.5	48.43	100.78	E ND		ND		12.45	0.2	J 13.39	ND		ND		ND	ND	38.18	42.9	ND	ND	ND	ND
Chlorobenzene	50	100	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	NLE	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND		ND		ND		ND	ND	NA	NA	11.96	NA	10.85	8.21	ND	ND		ND	ND	ND	ND	ND	ND	ND	11.2	NA	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	9	70	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	3	5	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND		ND		ND		ND	ND	ND	ND	ND	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/L)																																					
Acenaphthene	400	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl alcohol	2000	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	600	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	75	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TICs*	500	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	22		28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (µg/L)																																					
Aldrin	0.04	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	0.02	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	0.04	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NLE	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	0.5	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NLE	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	0.1	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.1	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	40	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.027		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	40	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	40	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.025		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.033		0.033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	0.2	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	NLE	--	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	0.048		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																					
Aluminum	200	NLE	121000	ND		ND		ND		ND	<200	<200	<200	949	1610	1610	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	ND		ND		27.4		<200	<200	<200	<200	NA	NA	NA	NA
Antimony	6	6	20.70	7.21	ER 12.7		15.6		17.9		<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	27		15.8		NA	NA	NA	7.22	ER 9.12	ER 15.4		<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA
Arsenic	3	10	89.30	0.94	ER 0.66	ER 0.87	ER	ND		<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	56.7		66.1		NA	NA	NA	ND		0.93	ER 0.97	ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA
Barium	6000	2000	699.00	22.8		28		29.1		29.9	<200	<200	<200	675	447	670	NA	NA	NA	NA	NA	28.1		28.1		NA	NA	NA	20.5		26.1		32.9	<200	<200	<200	<200	NA	NA	NA	NA
Beryllium	1	4	2.10	ND		ND		ND		ND	<1.0	3.9	4.1	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	ND		ND		ND	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
Cadmium	4	5	9.50	ND		ND		0.503	ER	ND	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	ND		0.344	ER	NA	NA	NA	ND		ND		ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	37100		42200		56500		56400	48900	47400	49700	56200	53800	57000	NA	NA	NA	NA	NA	34200		34100		NA	NA	NA	25600		29200		41600	34000	34000	37700	41800	NA	NA	NA	NA
Chromium	70	100	191.00	ND		ND		ND		ND	<10	<10	<10	17	26.7	28	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	ND		ND		ND	<10	<10	<10	<10	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	ND		ND		ND		ND	<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	ND		ND		ND	<50	<50	<50	<50	NA	NA	NA	NA
Copper	1300	1300	65.60	ND		ND		ND		ND	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	0.916	ER	0.899		NA	NA	NA	ND		ND		ND	<10	<10	<10	<10	NA	NA	NA	NA
Iron	300	NLE	431000	1170		1390		1490		1530	3730	9250	10000	70000	47100	69500	NA	NA	NA	NA	NA	86.5		63.6		NA	NA	NA	130		294		431	294	103	<100	237	NA	NA	NA	NA
Lead	5	15	22.70	ND		ND		ND		ND	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	2.24	ER	14.4		NA	NA	NA	ND		ND		ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	2960		3310		4240		4270	<5000	<5000	<5000	<5000	<5000	<5000	NA	NA	NA	NA	NA	3740		3730		NA	NA	NA	2940		3410		4700	<5000	<5000	<5000	<5000	NA	NA	NA	NA
Manganese	50	NLE	331	40.4		45.8		58.5		58.9	84.8	69.2	74.7	163	196	241	NA	NA	NA	NA	NA	1.54		1.81		NA	NA	NA	0.763		35.5		19.2	17.3	<15	20.2	24	NA	NA	NA	NA
Mercury	2	2	0.26	ND		ND		0.29		0.31	ER <0.5	<0.20	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	0.11	ER	ND		ND	<0.5	<0.20	<0.20	<0.20	NA	NA	NA	NA
Nickel	100	NLE	187	ND		ND		ND		ND	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	0.701	ER	ND		ND	<10	<10	<10	<10	NA	NA	NA	NA
Potassium	NLE	NLE	137000	4550		5190		6830		6790	<10000	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	5370		5300		NA	NA	NA	4000		4430		6390	<10000	<10000	<10000	<10000	NA	NA	NA	NA
Selenium	40	50	29.60	NR		NR		ND		ND	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	111		84.9		NA	NA	NA	42		NR		ND	<10	<10	<10	<10	NA	NA	NA	NA
Silver	40	NLE	ND	0.788		ND		ND		ND	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	1.08		1.18		ND	<10	<10	<10	<10	NA	NA	NA	NA
Sodium	50000	NLE	21500	6580		8010		8870		8940	<10000	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	3890		3980		NA	NA	NA	3510		3660		4170	<10000	<10000	<10000	<10000	NA	NA	NA	NA
Thallium	2	2	5.50	ND		1.83	ER	ND		ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	0.86	ER	ND		ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
Vanadium	60	NLE	108	ND		ND		ND		ND	<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	0.226		0.324		NA	NA	NA	ND		ND		ND	<50	<50	<50	<50	NA	NA	NA	NA
Zinc	2000	NLE	233	ND		ND		ND		ND	<20	<20	<20	<20	23.1	28.7	NA	NA	NA	NA	NA	ND		ND		NA	NA	NA	ND		4.68		ND	<20	<20	<20	<20	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW12														M2MW13																				M2MW15
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	38	39	40	LF2	LF2 Dup	LF3	LF3 Dup	LF4	LF5	LF6	LF7	LF8	33	34	35	36	LF1	38	39	40	LF2	LF3	LF4	LF5	LF5 Dup	LF6	LF6 Dup	LF7	LF7 Dup	LF8	1
Date Collected				3/30/2009	6/22/2009	9/23/2009	12/3/2009	3/9/2010	3/9/2010	6/11/2010	6/11/2010	9/23/2010	12/15/2010	3/4/2011	6/14/2011	8/24/2011	3/17/2008	5/22/2008	8/27/2008	12/23/2008	3/30/2009	6/19/2009	9/22/2009	12/4/2009	3/9/2010	6/11/2010	9/23/2010	12/16/2010	12/16/2010	3/4/2011	3/4/2011	6/15/2011	6/15/2011	8/22/2011	3/14/2011
ANALYTE/Lab ID				90133.06	90252.11	90396.05	90469.11	10077.04	10077.03	10261.04	10261.03	10409.05	10555.02	11085.05	11248.07	11355.08	80087.13	80176.09	80308.15	80472.09	90133.04	90249.07	90394.13	90470.07	10077.05	10261.05	10409.06	10558.04	10558.03	11085.04	11085.03	11254.04	11254.03	11352.06	11107.05
Volatile Organic Compounds (µg/L)																																						
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
1,1,2-Trichloroethane	3	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds (µg/L)																																						
Acenaphthene	400	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl alcohol	2000	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	600	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	75	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TICs*	500	NLE	--	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (µg/L)																																						
Aldrin	0.04	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	0.02	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	0.04	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	0.5	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	0.1	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.1	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.042	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	40	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	40	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	40	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.031	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	NLE	--	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	0.2	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	NLE	--	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																						
Aluminum	200	NLE	121000	ND	NA	NA	NA	ND	ND	ND	ND	11.1		<200	<200	<200	<200	NA	NA	NA	NA	ND	NA	NA	NA	8.52	ND	11.4		<200	<200	<200	<200	<200	216	459	<200
Antimony	6	6	20.70	22	NA	NA	NA	ND	ND	6.79	ER 7.79 ER	11.1		<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	19.4	NA	NA	NA	ND	8.58	ER 13.8		<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	66	NA	NA	NA	0.69	ND	1.5	ER 0.7 ER	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	74.1	NA	NA	NA	2.53	ER 1.96	ER 1.57	ER 3.8	<3.0	3.5	<3.0	4.6	5.2	3.4	<3.0
Barium	6000	2000	699.00	30.1	NA	NA	NA	30	29.4	27.2	26.6	32.8		<200	<200	<200	<200	NA	NA	NA	NA	153	NA	NA	NA	138	108	111		<200	<200	<200	<200	<200	<200	<200	<200
Beryllium	1	4	2.10	ND	NA	NA	NA	ND	ND	ND	ND	ND		<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND		<1.0	<1.0	<1.0	2.6	<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	ND	NA	NA	NA	ND	ND	ND	ND	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	1.04	ER <3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	34800	NA	NA	NA	35100	34600	30000	29500	40200		35800	34200	43200	43500	NA	NA	NA	NA	52300	NA	NA	NA	43400	37600	48400		46800	48600	49800	48400	45100	45500	45500	49200
Chromium	70	100	191.00	ND	NA	NA	NA	ND	ND	ND	ND	ND		<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND		<10	<10	<10	<10	<10	<10	19.5	<10
Cobalt	NLE	NLE	18.30	ND	NA	NA	NA	ND	ND	ND	ND	ND		<50	<50	<50	<50	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND		<50	<50	<50	<50	<50	<50	<50	<50
Copper	1300	1300	65.60	1.14	ER NA	NA	NA	ND	ND	ND	ND	ND		<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	1.45	ER <10	<10	<10	<10	<10	<10	24.4	<10
Iron	300	NLE	431000	201	NA	NA	NA	ND	76.9	468	430	464		288	197	249	266	NA	NA	NA	NA	27300	NA	NA	NA	23600	20900	31000		35700	37000	26400	25500	30400	32400	34000	990
Lead	5	15	22.70	2.44	ER NA	NA	NA	ND	ND	ND	ND	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	5.49	NA	NA	NA	ND	ND	3.84	ER <3.0	<3.0	<3.0	<3.0	<3.0	3.5	11.1	<3.0
Magnesium	NLE	NLE	62700	3580	NA	NA	NA	4040	4020	3510	3450	4530		<5000	<5000	<5000	<5000	NA	NA	NA	NA	5420	NA	NA	NA	4600	4340	6390		7280	7540	<5000	<5000	5070	5100	6140	<5000
Manganese	50	NLE	331	11.9	NA	NA	NA	7.54	7.59	57.7	53.4	18.5		17.2	<15	20.6	28	NA	NA	NA	NA	218	NA	NA	NA	178	159	198		246	253	212	205	226	223	217	<15
Mercury	2	2	0.26	ND	NA	NA	NA	ND	ND	ND	ND	0.29	ER	<0.5	<0.20	<0.20	<0.20	NA	NA	NA	NA	ND	NA	NA	NA	0.08	ER ND	0.32	ER <0.5	<0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	100	NLE	187	ND	NA	NA	NA	ND	ND	ND	ND	ND		<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	0.452	ER 12.8	13.4	<10	<10	<10	<10	<10	<10	<10
Potassium	NLE	NLE	137000	5570	NA	NA	NA	5980	5910	4650	4540	6130		<10000	<10000	<10000	<10000	NA	NA	NA	NA	9720	NA	NA	NA	9930	7660	8890		<10000	<10000	10100	<10000	<10000	<10000	<10000	<10000
Selenium	40	50	29.60	101	NA	NA	NA	41	38.6	NR	NR	ND		<10	<10	<10	<10	NA	NA	NA	NA	108	NA	NA	NA	ND	NR	ND		<10	<10	<10	<10	<10	<10	<10	<10
Silver	40	NLE	ND	ND	NA	NA	NA	1.76	2.01	1.02	1.01	ND		<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND	4.62	3.17		<10	<10	<10	<10	<10	<10	<10	<10
Sodium	50000	NLE	21500	3560	NA	NA	NA	3170	3210	2730	2360	3410		<10000	<10000	<10000	<10000	NA	NA	NA	NA	20900	NA	NA	NA	16500	17200	34200		61500	63600	19900	19500	36000	36800	274000	13000
Thallium	2	2	5.50	ND	NA	NA	NA	ND	ND	ND	ND	ND		<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	ND	NA	NA	NA	ND	ND	ND		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vanadium	60	NLE	108	0.629	NA	NA	NA	0.732	0.856	ND	ND	ND		<50	<50	<50	<50	NA	NA	NA	NA	2.57	NA	NA	NA	2.79	ND	ND		<50	<50	<50	<50	<50	<50	<50	<50
Zinc	2000	NLE	233	ND	NA	NA	NA	ND	ND	ND	ND	ND		<20	<20	<20	<20	NA	NA	NA	NA	5.13	NA	NA	NA	ND	ND	ND		241	248	<20	<20	24	28.7	38.8	354

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW16	M2MW17	M2MW21																				M2MW22								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	1	1	33	34	35	35 Dup	36	LF1	38	38 Dup	39	40	40 Dup	LF2	LF3	LF4	LF5	LF6	LF7	LF8	33	34	35	36	LF1	38	39	40	LF2
Date Collected				3/14/2011	3/14/2011	3/17/2008	5/22/2008	8/27/2008	8/27/2008	12/23/2008	3/30/2009	6/19/2009	6/19/2009	9/23/2009	12/4/2009	12/4/2009	3/10/2010	6/11/2010	9/24/2010	12/16/2010	3/8/2011	6/15/2011	8/22/2011	3/17/2008	5/22/2008	8/27/2008	12/23/2008	3/31/2009	6/19/2009	9/23/2009	12/4/2009	3/10/2010
ANALYTE/Lab ID				11107.06	11107.07	80087.14	80176.10	80309.04	80309.03	80472.10	90133.11	90249.08	90249.03	90396.06	90470.08	90470.03	10082.05	10261.08	10410.05	10558.08	11092.08	11254.07	11352.08	80087.15	80176.11	80309.05	80472.11	90137.06	90249.09	90396.07	90470.09	10082.09
Volatile Organic Compounds (µg/L)																																		
Benzene	1	5	--	ND	ND	1.42 J	1.07 J	2.03	1.98 J	1.63 J	1.16 J	0.73 J	0.59 J	1.22	0.89	0.88	0.47 J	0.99	1.14	0.82	1.09	1.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	ND	ND	39.37	31.25	46.85	46.84	34.12	34.61	15.75	10.66	42.93	24.56	24.52	12.37	28.84	50.63	28.79	27.19	37.96	7.5	0.33 J	ND	ND	0.33 J	0.32 J	0.2 J	ND	0.28 J	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	ND	1.62 J	1.39 J	0.65 J	0.66 J	1.38 J	1.36 J	0.9 J	0.89 J	1.08	0.57	0.62	0.6	1.54	1.04	1.1	1.07	1.49	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND	ND	2.78	2.61	2.89	2.7	1.85 J	2.84	1.33 J	1.16 J	3.05	1.45	1.5	0.99	2.91	3.25	2.41	1.9	3.06	0.66 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	5.43	4.71	4.04	3.93	3.96	5.19	2.46	2.01	4.65	2.28	2.39	1.88	5.41	5.07	3.63	3.59	5.47	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	0.38 J	0.34 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9 J	ND	ND	0.31 J	0.9 J	ND	0.64 J	0.95 J	3.07	3.26	3.95
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	251.4	228.05	416.66	ND	173.74	264.54	544.33	252.98	277.36
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	3	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	0.18 J	0.18 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	5.8	ND	4	3	ND	ND	ND	ND	4	ND	ND	ND	14	105	16	4	16	ND	53	53	343	491	47	82	141	54	196
Semi-Volatile Organic Compounds (µg/L)																																		
Acenaphthene	400	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Benzyl alcohol	2000	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.9 J	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	600	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.7 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	75	--	NA	NA	NA	NA	NA	NA	NA	1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
TICs*	500	NLE	--	NA	NA	NA	NA	NA	NA	NA	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	450	NA	NA	NA	NA	NA
Pesticides/PCBs (µg/L)																																		
Aldrin	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
alpha-BHC	0.02	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.031	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.028	NA	NA	NA	NA	NA
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
delta-BHC	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.057	NA	NA	NA	NA	NA
alpha-Chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
gamma-Chlordane	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
4,4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.093	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
4,4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.069	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.031	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Endosulfan I	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Endosulfan II	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Endosulfan sulfate	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Endrin	2	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.136	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Heptachlor	0.05	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.039	NA	NA	NA	NA	NA
Heptachlor epoxide	0.2	NLE	--	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
Methoxychlor	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	0.048	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.059	NA	NA	NA	NA	NA
Metals (µg/L)																																		
Aluminum	200	NLE	121000	<200	238	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	154	ND	32.6	<200	<200	204	<200	NA	NA	NA	NA	ND	NA	NA	NA	ND
Antimony	6	6	20.70	<6.0	<6.0	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	ND	10.3	22.6	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	8.77 ER	NA	NA	NA	ND
Arsenic	3	10	89.30	13	<3.0	NA	NA	NA	NA	NA	81.5	NA	NA	NA	NA	NA	ND	1.3 ER	1.21 ER	<3.0	<3.0	<3.0	9	NA	NA	NA	NA	38.4	NA	NA	NA	ND
Barium	6000	2000	699.00	298	<200	NA	NA	NA	NA	NA	324	NA	NA	NA	NA	NA	75.5	267	467	533	279	385	<200	NA	NA	NA	NA	68.4	NA	NA	NA	58.4
Beryllium	1	4	2.10	<1.0	<1.0	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	ND	NA	NA	NA	ND
Cadmium	4	5	9.50	<3.0	<3.0	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	1.95 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	ND	NA	NA	NA	ND
Calcium	NLE	NLE	45400.00	173000	12300	NA	NA	NA	NA	NA	81500	NA	NA	NA	NA	NA	36700	67900	86300	89200	81200	88300	54100	NA	NA	NA	NA	32200	NA	NA	NA	29300
Chromium	70	100	191.00	<10	<10	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND
Cobalt	NLE	NLE	18.30	<50	<50	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	0.803	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	ND	NA	NA	NA	ND
Copper	1300	1300	65.60	<10	<10	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	1.75 ER	ND	3.91 ER	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND
Iron	300	NLE	431000	80500	<100	NA	NA	NA	NA	NA	49100	NA	NA	NA	NA	NA	12100	37200	57000	67400	42500	49500	37000	NA	NA	NA	NA	21800	NA	NA	NA	15900
Lead	5	15	22.70	<3.0	<3.0	NA	NA	NA	NA	NA	13.1	NA	NA	NA	NA	NA	ND	ND	8.96	<3.0	<3.0	3.5	4.7	NA	NA	NA	NA	4.63 ER	NA	NA	NA	ND
Magnesium	NLE	NLE	62700	24500	<5000	NA	NA	NA	NA	NA	4990	NA	NA	NA	NA	NA	2370	4390	5790	5720	<5000	5310	<5000	NA	NA	NA	NA	5070	NA	NA	NA	4670
Manganese	50	NLE	331	953	44.1	NA	NA	NA	NA	NA	513	NA	NA	NA	NA	NA	148	430	513	614	451	496	298	NA	NA	NA	NA	72.7	NA	NA	NA	69.8
Mercury	2	2	0.26	<0.20	<0.20	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	0.07 ER	0.07 ER	ND	<0.5	<0.20	<0.20	<0.20	NA	NA	NA	NA	ND	NA	NA	NA	ND
Nickel	100	NLE	187	<10	<10	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	6.56	ND	1.79 ER	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	0.634 ER
Potassium	NLE	NLE	137000	14700	<10000	NA	NA	NA	NA	NA	2620	NA	NA	NA	NA	NA	2860	2530	4090	<10000	<10000	<10000	<10000	NA	NA	NA	NA	6340	NA	NA	NA	6090
Selenium	40	50	29.60	<10	<10	NA	NA	NA	NA	NA	78.2	NA	NA	NA	NA	NA	30.9	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	46.9	NA	NA	NA	31.1
Silver	40	NLE	ND	<10	<10	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	6.64	6.32	<10	<10	<10	<10	NA	NA	NA	NA	ND	NA	NA	NA	ND
Sodium	50000	NLE	21500	1330000	<10000	NA	NA	NA	NA	NA	17600	NA	NA	NA	NA	NA	8680	17600	20700	21500	21000	62600	56900	NA	NA	NA	NA	8660	NA	NA	NA	6900
Thallium	2	2	5.50	<2.0	<2.0	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	ND	NA	NA	NA	ND
Vanadium	60	NLE	108	<50	<50	NA	NA	NA	NA	NA	4.2	NA	NA	NA	NA	NA	1.87	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	1.27	NA	NA	NA	2.07
Zinc	2000	NLE	233	<20	315	NA	NA	NA	NA	NA	18.6	NA	NA	NA	NA	NA	50.2	19.7	50.3	<20	<20	34.7	42.9	NA	NA	NA	NA	ND	NA	NA	NA	2.45

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW22							M2MW23																									
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF3	LF4	LF5	LF6	LF7	LF8		33	34	35	36	LF1	LF1 Dup	38	39	39 Dup	40	LF2	LF3	LF4	LF5	LF6	LF7	LF8		33	34	35	36	LF1	
Date Collected				6/14/2010	9/24/2010	12/18/2010	3/9/2011	6/16/2011	8/23/2011		3/17/2008	5/22/2008	8/27/2008	12/23/2008	3/30/2009	3/30/2009	6/19/2009	9/23/2009	9/23/2009	12/4/2009	3/10/2010	6/11/2010	9/24/2010	12/17/2010	3/9/2011	6/15/2011	8/23/2011		3/17/2008	5/22/2008	8/27/2008	12/23/2008	3/30/2009	
ANALYTE/Lab ID				10264.05	10410.09	10562.06	11097.08	11257.05	11354.05		80087.16	80176.12	80309.06	80472.12	90133.08	90133.03	90249.10	90396.08	90396.03	90470.10	10082.06	10261.09	10410.06	10560.09	11097.05	11254.08	11354.08		80087.17	80176.13	80309.07	80472.13	90133.12	
Volatile Organic Compounds (µg/L)																																			
Benzene	1	5	--	0.23	J ND	ND	ND	ND	ND		ND	0.21	J 0.61	J 0.71	J 0.5	J 0.53	J ND	0.44	J 0.48	J ND	0.22	J 0.88	ND	ND	ND	ND	ND		2.24	1.82	J 1.59	J 2.65	1.68	J
Chlorobenzene	50	100	--	8.82	0.68	0.56	0.35	J 0.37	J 0.46	J	2.76	3.89	28.37	18.25	18.2	18.49	ND	34.17	39.33	3.59	6.12	28.38	19.03	12.16	0.45	J 10.72	0.4	J	7.46	7.36	4.7	7.38	7.35	
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
Styrene	100	100	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.54	J 0.54	J 0.52	J 0.45	J 0.5	J
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	ND	ND	ND		ND	ND	0.85	J 0.38	J 0.34	J 0.35	J ND	0.78	0.88	ND	ND	0.75	0.54	0.29	J ND	0.3	J ND		0.58	J 0.6	J 0.59	J 0.62	J 0.59	J
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND		ND	ND	2.68	1.24	J 1.09	J 1.07	J ND	2.5	2.86	ND	0.57	2.45	1.73	0.83	ND	0.97	ND		3.82	3.82	3.63	3.74	3.62	
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
Methylene chloride	3	NLE	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
Methyl *tert* -butyl ether	70	NLE	--	5.44	12.1	13.08	7.43	12.48	15.6		ND	ND	0.34	J ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
tert -Butyl alcohol	100	NLE	--	455.06	332.94	304.32	164.35	201.24	NA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA		ND	ND	ND	ND	ND	
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
1,2,4-Trichlorobenzene	9	70	--	NA	NA	NA	NA	NA	ND		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		NA	NA	NA	NA	NA	
1,1,2-Trichloroethane	3	5	--	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND		ND	ND	0.18	J ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	
TICs*	500	NLE	--	229	458	171	168	204	75		ND	ND	35	ND	ND	ND	ND	8	12	ND	ND	3	4	ND	ND	ND	ND		187	169	264	171	136	
Semi-Volatile Organic Compounds (µg/L)																																			
Acenaphthene	400	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.7	J NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Benzyl alcohol	2000	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.9	J
1,3-Dichlorobenzene	600	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
1,4-Dichlorobenzene	75	75	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.7	J NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
TICs*	500	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	24	35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	29	
Pesticides/PCBs (µg/L)																																			
Aldrin	0.04	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
alpha-BHC	0.02	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.028	0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.031	
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
delta-BHC	NLE	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
alpha-Chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.027	
gamma-Chlordane	NLE	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
4,4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.034	0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.036	
4,4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.033	
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.046	0.051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.029	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Endosulfan I	40	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Endosulfan II	40	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Endosulfan sulfate	40	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Endrin	2	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.028	0.032	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.069	0.073	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.075	
Heptachlor	0.05	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.036	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Heptachlor epoxide	0.2	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	ND	
Methoxychlor	40	NLE	--	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.048	0.042	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	0.059	
Metals (µg/L)																																			
Aluminum	200	NLE	121000	ND	ND	<200	<200	<200	<200		NA	NA	NA	NA	15.8	43.4	NA	NA	NA	NA	24.5	ND	14.3	<200	249	515	2790		NA	NA	NA	NA	18.8	
Antimony	6	6	20.70	11.3	10.8	<6.0	<6.0	<6.0	<6.0		NA	NA	NA	NA	26.3	22.1	NA	NA	NA	NA	ND	10.4	13.2	<6.0	<6.0	<6.0	<6.0		NA	NA	NA	NA	26.8	
Arsenic	3	10	89.30	0.94	ER ND	<3.0	<3.0	<3.0	<3.0		NA	NA	NA	NA	93.9	74	NA	NA	NA	NA	ND	1.78	ER 1.18	ER <3.0	<3.0	<3.0	5.3		NA	NA	NA	NA	71.9	
Barium	6000	2000	699.00	71.2	77	<200	<200	<200	<200		NA	NA	NA	NA	227	235	NA	NA	NA	NA	41.9	251	252	219	<200	243	<200		NA	NA	NA	NA	279	
Beryllium	1	4	2.10	ND	ND	<1.0	<1.0	<1.0	<1.0		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	ND	ND	<1.0	<1.0	<1.0	<1.0		NA	NA	NA	NA	ND	
Cadmium	4	5	9.50	0.802	ER 1.32	ER <3.0	<3.0	<3.0	<3.0		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	1.7	ER 1.28	ER <3.0	<3.0	<3.0	<3.0		NA	NA	NA	NA	ND	
Calcium	NLE	NLE	45400.00	39000	38300	36600	35200	32400	53300		NA	NA	NA	NA	67400	66800	NA	NA	NA	NA	34400	56600	44500	60400	31900	49800	43300		NA	NA	NA	NA	60500	
Chromium	70	100	191.00	ND	ND	<10	<10	<10	<10		NA	NA	NA	NA	0.365	ER 0.598	ER NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	31		NA	NA	NA	NA	0.346	ER
Cobalt	NLE	NLE	18.30	ND	ND	<50	<50	<50	<50		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	<50		NA	NA	NA	NA	ND	
Copper	1300	1300	65.60	ND	1.54	ER <10	<10	<10	106		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	ND	1.78	<10	<10	12.5	18.8		NA	NA	NA	NA	ND	
Iron	300	NLE	431000	27400	31400	26700	29700	29500	11700		NA	NA	NA	NA	27400	28200	NA	NA	NA	NA	6230	58200	37200	19500	2760	37500	11500		NA	NA	NA	NA	64300	
Lead	5	15	22.70	ND	2.56	ER <3.0	<3.0	<3.0	<3.0		NA	NA	NA	NA	10.7	6.39	NA	NA	NA	NA	ND	ND	3.75	ER <3.0	<3.0	<3.0	10.8		NA	NA	NA	NA	11.9	
Magnesium	NLE	NLE	62700	6560	5910	5220	5070	<5000	7060		NA	NA	NA	NA	13100	13100	NA	NA	NA	NA	7090	10600	8320	12400	5940	8800	7680		NA	NA	NA	NA	5050	
Manganese	50	NLE	331	176	85.1	92.6	113	84.4	323		NA	NA	NA	NA	157	161	NA	NA	NA	NA	35.7	231	185	121	<15	188	41.2		NA	NA	NA	NA	647	
Mercury	2	2	0.26	0.06	ER ND	<0.5	<0.20	<0.20	1.2		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	0.09	ER 0.06	ER ND	<0.5	<0.20	<0.20	<0.20		NA	NA	NA	NA	ND	
Nickel	100	NLE	187	1.55	ER ND	<10	<10	<10	22.4		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	0.975	ER 1.46	ER 0.622	ER <10	<10	<10	<10		NA	NA	NA	NA	ND	
Potassium	NLE	NLE	137000	7100	7560	<10000	<10000	<10000	<10000		NA	NA	NA	NA	4860	4780	NA	NA	NA	NA	3380	3640	3700	<10000	<10000	<10000	<10000		NA	NA	NA	NA	2830	
Selenium	40	50	29.60	NR	ND	<10	<10	<10	<10		NA	NA	NA	NA	84.2	96.7	NA	NA	NA	NA	31.2	NR	ND	<10	<10	<10	<10		NA	NA	NA	NA	76	
Silver	40	NLE	ND	5.78	3.65	<10	<10	<10	<10		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	ND	10.5	4.25	<10	<10	<10	<10		NA	NA	NA	NA	ND	
Sodium	50000	NLE	21500	9360	8970	<10000	<10000	<10000	55700		NA	NA	NA	NA	9660	9760	NA	NA	NA	NA	3770	10800	10200	<10000	<10000	38900	92300		NA	NA	NA	NA	14500	
Thallium	2	2	5.50	ND	ND	<2.0	<2.0	<2.0	<2.0		NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	2.34	ER ND	ND	<2.0	<2.0	<2.0	<2.0		NA	NA	NA	NA	ND	
Vanadium	60	NLE	108	ND	ND	<50	<50	<50	<50		NA	NA	NA	NA	6.06	6.17	NA	NA	NA	NA	1.49	ND	ND	<50	<50	<50	<50		NA	NA	NA	NA	4.63	
Zinc	2000	NLE	233	2.3	ND	<20	<20	<20	58.3		NA	NA	NA	NA	7.31	7.57	NA	NA	NA	NA	10.6	ND	ND	<20	<20	<20	40.2		NA	NA	NA	NA	13.7	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

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NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

				M2MW24																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	38		39		40		LF2		LF3		LF4		LF5		LF5 Dup		LF6		LF7		LF7 Dup		LF8	
Date Collected				6/19/2009		9/23/2009		12/4/2009		3/10/2010		6/14/2010		9/24/2010		12/18/2010		12/18/2010		3/9/2011		6/16/2011		6/16/2011		8/22/2011	
ANALYTE/Lab ID				90249.11		90396.09		90470.11		10082.07		10264.07		10410.07		10562.04		10562.03		11097.06		11257.04		11257.03		11352.07	
Volatile Organic Compounds (µg/L)																											
Benzene	1	5	--	1.36	J	1.27		1.92		1.9		1.82		1.62		1.49		1.52		1.49		0.86		0.87		1.3	
Chlorobenzene	50	100	--	5.53		4.3		6.03		7.82		6.48		8.07		8.73		8.86		6.58		4.14		4.21		4.5	
Chloroethane	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Ethylbenzene	700	700	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Styrene	100	100	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichlorobenzene	600	600	--	0.5	J	0.47	J	0.45	J	0.45	J	0.54		0.51		0.42	J	0.46	J	0.49	J	0.47	J	0.45	J	0.43	J
1,3-Dichlorobenzene	600	NLE	--	0.53	J	0.5		0.56		0.65		0.62		0.68		0.7		0.69		0.55		0.47	J	0.46	J	0.53	J
1,4-Dichlorobenzene	75	75	--	3.5		3.46		3.49		3.75		3.63		4.03		3.91		3.77		3.46		3.65		3.6		4.1	
1,1-Dichloroethane	50	7	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methylene chloride	3	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Isopropylbenzene	700	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		4.5	
cis -1,2-Dichloroethene	70	70	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methyl *tert* -butyl ether	70	NLE	--	ND		ND		ND		0.25	J	ND		ND		ND		ND		ND		ND		ND		ND	
tert -Butyl alcohol	100	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		NA	
Toluene	600	1000	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2,4-Trichlorobenzene	9	70	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		ND	
1,1,2-Trichloroethane	3	5	--	ND		ND		ND		0.58		ND		ND		ND		ND		ND		ND		ND		ND	
Total Xylenes	1000	10,000	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
TICs*	500	NLE	--	179		127		141		131		182		179		256		270		150		114		113		55.5	
Semi-Volatile Organic Compounds (µg/L)																											
Acenaphthene	400	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Benzyl alcohol	2000	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	600	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	75	75	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
TICs*	500	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Pesticides/PCBs (µg/L)																											
Aldrin	0.04	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
alpha-BHC	0.02	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
beta-BHC	0.04	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
delta-BHC	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
alpha-Chlordane	0.5	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
gamma-Chlordane	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDD	0.1	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDE	0.1	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDT	0.1	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Dieldrin	0.03	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Endosulfan I	40	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Endosulfan II	40	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Endosulfan sulfate	40	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Endrin	2	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Endrin aldehyde	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Endrin ketone	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Heptachlor	0.05	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Heptachlor epoxide	0.2	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methoxychlor	40	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Metals (µg/L)																											
Aluminum	200	NLE	121000	NA		NA		NA		36.7		ND		ND		<200		<200		<200		<200		<200		<200	
Antimony	6	6	20.70	NA		NA		NA		ND		11.5		16.7		<6.0		<6.0		<6.0		<6.0		<6.0		<6.0	
Arsenic	3	10	89.30	NA		NA		NA		ND		0.83	ER	0.92	ER	<3.0		<3.0		<3.0		<3.0		<3.0		<3.0	
Barium	6000	2000	699.00	NA		NA		NA		198		202		297		351		365		386		243		223		312	
Beryllium	1	4	2.10	NA		NA		NA		ND		ND		ND		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Cadmium	4	5	9.50	NA		NA		NA		ND		1.11	ER	2.44	ER	<3.0		<3.0		<3.0		<3.0		<3.0		<3.0	
Calcium	NLE	NLE	45400.00	NA		NA		NA		39900		44300		62400		62400		64600		75400		54400		50300		60200	
Chromium	70	100	191.00	NA		NA		NA		ND		ND		ND		<10		<10		<10		<10		<10		<10	
Cobalt	NLE	NLE	18.30	NA		NA		NA		ND		ND		ND		<50		<50		<50		<50		<50		<50	
Copper	1300	1300	65.60	NA		NA		NA		ND		ND		2.44	ER	<10		<10		<10		<10		<10		<10	
Iron	300	NLE	431000	NA		NA		NA		44200		47800		66300		70500		72900		79200		56100		51900		69200	
Lead	5	15	22.70	NA		NA		NA		ND		2.85	ER	6.24		<3.0		<3.0		<3.0		<3.0		<3.0		<3.0	
Magnesium	NLE	NLE	62700	NA		NA		NA		3380		3720		4860		<5000		<5000		6210		<5000		<5000		<5000	
Manganese	50	NLE	331	NA		NA		NA		427		480		642		686		713		901		700		645		788	
Mercury	2	2	0.26	NA		NA		NA		0.11	ER	ND		ND		<0.5		<0.5		<0.20		<0.20		<0.20		<0.20	
Nickel	100	NLE	187	NA		NA		NA		1.15	ER	0.471	ER	0.629	ER	<10		<10		<10		<10		<10		<10	
Potassium	NLE	NLE	137000	NA		NA		NA		2680		2450		3120		<10000		<10000		<10000		<10000		<10000		<10000	
Selenium	40	50	29.60	NA		NA		NA		15.3		NR		ND		<10		<10		<10		<10		<10		<10	
Silver	40	NLE	ND	NA		NA		NA		ND		8.83		7.63		<10		<10		<10		<10		<10		<10	
Sodium	50000	NLE	21500	NA		NA		NA		9480		11000		14200		14800		15300		15400		15200		14200		21100	
Thallium	2	2	5.50	NA		NA		NA		1.17	ER	ND		ND		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0	
Vanadium	60	NLE	108	NA		NA		NA		4.71		ND		ND		<50		<50		<50		<50		<50		<50	
Zinc	2000	NLE	233	NA		NA		NA		7.64		2.41		ND		<20		<20		21		<20		<20		<20	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Sample M2MW01 (4th Quarter 2010) has metals results but not VOCs. Values left blank for missing data.

Sample M2MW05 Duplicate (2nd Quarter 2011) had an elevated sample detection limit due to difficult sample matrix.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-02
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-2-GW-M2MW02		FTMM-2-GW-M2MW03		FTMM-2-GW-M2MW04		FTMM-2-GW-M2MW05		FTMM-2-GW-M2MW06		FTMM-2-GW-M2MW07		FTMM-2-GW-M2MW08		FTMM-2-GW-M2MW09		FTMM-2-GW-M2MW10	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	22-Aug-2013		21-Aug-2013		22-Aug-2013		22-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013		22-Aug-2013	
LAB SAMPLE ID:					R1306152-007		R1306112-010		R1306152-003		R1306152-015		R1306112-019		R1306112-020		R1306112-026		R1306112-014		R1306152-006	
SAMPLE INTERVAL (ft bgs):					7-17		5-15		4-19		3-13		5-15		5-15		5-15		5-15		5-20	
	CAS No.	Unit																				
Volatile Organics - SW8260C																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	**0.64**	J	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	**1.4**	J	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	**4.1**	J	**5.8**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	10	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	50	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**3.1**	BJ	50	U	5.0	U	5.0	U	**1.7**	BJ	5.0	U	5.0	U	**1.7**	BJ	**1.3**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	**3.7**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	**38**		**79**		**0.85**	J	1.0	U	**0.97**	J	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	**0.23**	J	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	**0.48**	J	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	**0.72**	J	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	**0.44**	J	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	30	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
VOC - TICs																						
1,2,3,5-Tetramethylbenzene	527-53-7	µg/L	500 [3]	NLE																		
1-Propenylbenzene	637-50-3	µg/L	500 [3]	NLE	**6.2**	JN																
2,3-Dihydro-1,2-dimethyl-1H-indene	17057-82-8	µg/L	500 [3]	NLE																		
2,3-Dihydro-1-methyl-indene	27133-93-3	µg/L	500 [3]	NLE																		
2,3-Dihydro-4-methyl-1H-indene	824-22-6	µg/L	500 [3]	NLE																		

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-02
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-2-GW-M2MW02		FTMM-2-GW-M2MW03		FTMM-2-GW-M2MW04		FTMM-2-GW-M2MW05		FTMM-2-GW-M2MW06		FTMM-2-GW-M2MW07		FTMM-2-GW-M2MW08		FTMM-2-GW-M2MW09		FTMM-2-GW-M2MW10
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	22-Aug-2013		21-Aug-2013		22-Aug-2013		22-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013		22-Aug-2013
LAB SAMPLE ID:					R1306152-007		R1306112-010		R1306152-003		R1306152-015		R1306112-019		R1306112-020		R1306112-026		R1306112-014		R1306152-006
SAMPLE INTERVAL (ft bgs):					7-17		5-15		4-19		3-13		5-15		5-15		5-15		5-15		5-20
	CAS No.	Unit																			
Volatile Organics - SW8260C																					
2-Methylnaphthalene	91-57-6	µg/L	500 [5]	NLE																	
Amylene hydrate	75-85-4	µg/L	500 [5]	NLE																	
Indane	496-11-7	µg/L	500 [5]	NLE																	
TIC-01 - Unknown Oxygenated Hydro	NA	µg/L	500 [5]	NLE																	
TIC-02 - Unknown Oxygenated Hydro	NA	µg/L	500 [5]	NLE																	
Pesticides - SW8081B																					
4,4'-DDD	72-54-8	µg/L	0.1	NLE	0.040	U	0.039	U	0.039	UJ	0.039	U	0.039	U	0.039	U	0.039	U	0.039	U	
4,4'-DDT	50-29-3	µg/L	0.1	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
4,4'-DDE	72-55-9	µg/L	0.1	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Aldrin	309-00-2	µg/L	0.04	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
alpha-BHC	319-84-6	µg/L	0.02	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
alpha-Chlordane	5103-71-9	µg/L	5 [3]	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
beta-BHC	319-85-7	µg/L	0.04	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
delta-BHC	319-86-8	µg/L	100 [3]	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Dieldrin	60-57-1	µg/L	0.03	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Endosulfan I	959-98-8	µg/L	40	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Endosulfan II	33213-65-9	µg/L	40	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Endosulfan sulfate	1031-07-8	µg/L	40	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Endrin	72-20-8	µg/L	2	2	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Endrin aldehyde	7421-93-4	µg/L	5 [3]	NLE	0.026	UJ	0.025	U	0.025	UJ	0.025	UJ	0.025	U	0.025	U	0.025	UJ	0.025	U	
Endrin ketone	53494-70-5	µg/L	100 [3]	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
gamma-BHC (Lindane)	58-89-9	µg/L	0.03	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
gamma-Chlordane	5566-34-7	µg/L	5 [3]	NLE	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Heptachlor	76-44-8	µg/L	0.05	0.4	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Heptachlor Epoxide	1024-57-3	µg/L	0.2	0.2	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Methoxychlor	72-43-5	µg/L	40	40	0.026	U	0.025	U	0.025	UJ	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	
Toxaphene	8001-35-2	µg/L	2	3	0.51	U	0.50	U	0.50	UJ	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.

Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.
(http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.

[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-02
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-2-GW-M2MW10	FTMM-2-GW-M2MW11	FTMM-2-GW-M2MW12	FTMM-2-GW-M2MW13	FTMM-2-GW-M2MW21	FTMM-2-GW-M2MW22	FTMM-2-GW-M2MW23	FTMM-2-GW-M2MW24
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013	21-Aug-2013	21-Aug-2013	22-Aug-2013	22-Aug-2013	23-Aug-2013	22-Aug-2013	23-Aug-2013
LAB SAMPLE ID:					R1306281-002	R1306112-013	R1306112-008	R1306152-009	R1306152-018	R1306198-008	R1306152-021	R1306198-010
SAMPLE INTERVAL (ft bgs):					5-20	29-49	30-50	5-20	5-20	5-20	5-20	5-20
	CAS No.	Unit										
Volatile Organics - SW8260C												
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,1-Trichloroethane	71-55-6	µg/L	30	200		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1,2-Trichloroethane	79-00-5	µg/L	3	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1-Dichloroethane	75-34-3	µg/L	50	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1-Dichloroethene	75-35-4	µg/L	1	7		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE		1.0 U	1.0 U	1.0 U	**1.1** J	1.0 UJ	1.0 U	**0.56** J
1,2-Dichloroethane	107-06-2	µg/L	2	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,2-Dichloropropane	78-87-5	µg/L	1	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE		1.0 U	1.0 U	1.0 U	**2.2** J	1.0 UJ	1.0 U	**0.55** J
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE		1.0 U	1.0 U	**0.92** J	**4.6** J	1.0 UJ	**0.59** J	**3.3** J
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE		1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE		1.0 U	1.0 U	1.0 U	1.0 U	**1.0** J	1.0 U	1.0 UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
2-Hexanone	591-78-6	µg/L	300 [4]	NLE		5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 UJ
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Acetone	67-64-1	µg/L	6,000	NLE		5.0 U	**1.3** BJ	**1.7** BJ	**2.8** BJ	**2.9** BJ	**3.5** BJ	**2.0** BJ
Benzene	71-43-2	µg/L	1	5		1.0 U	1.0 U	1.0 U	**0.32** J	1.0 UJ	1.0 U	**0.70** J
Bromobenzene	108-86-1	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromodichloromethane	75-27-4	µg/L	1	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromoform	75-25-2	µg/L	4	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Bromomethane	74-83-9	µg/L	10	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Chlorobenzene	108-90-7	µg/L	50	100		1.0 U	1.0 U	**0.63** J	**25**	**3.4** J	**4.9** J	**4.4** J
Chloroethane	75-00-3	µg/L	5 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Chloroform	67-66-3	µg/L	70	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Chloromethane	74-87-3	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Dibromochloromethane	124-48-1	µg/L	1	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Ethylbenzene	100-41-4	µg/L	700	700		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Hexachlorobutadiene	87-68-3	µg/L	1	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Isopropylbenzene	98-82-8	µg/L	700	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	**4.2** J
Methylene chloride	75-09-2	µg/L	3	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE		1.0 U	1.0 U	1.0 U	1.0 U	**26** J	1.0 U	1.0 UJ
Naphthalene	91-20-3	µg/L	300	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	**0.24** BJ
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	**1.8** J
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	**3.1** J
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	**3.6** J
Styrene	100-42-5	µg/L	100	100		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE		1.0 U	1.0 U	1.0 U	**0.24** J	1.0 UJ	1.0 U	**0.90** J
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Toluene	108-88-3	µg/L	600	1,000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Trichloroethene (TCE)	79-01-6	µg/L	1	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Vinyl chloride	75-01-4	µg/L	1	2		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Xylene (Total)	1330-20-7	µg/L	1,000	10,000		3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 UJ
VOC - TICs												
1,2,3,5-Tetramethylbenzene	527-53-7	µg/L	500 [3]	NLE								**8.3** JN
1-Propenylbenzene	637-50-3	µg/L	500 [3]	NLE								
2,3-Dihydro-1,2-dimethyl-1H-indene	17057-82-8	µg/L	500 [3]	NLE								**6.1** JN
2,3-Dihydro-1-methyl-indene	27133-93-3	µg/L	500 [3]	NLE								**10.2** JN
2,3-Dihydro-4-methyl-1H-indene	824-22-6	µg/L	500 [3]	NLE								**12.5** JN

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-02
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-2-GW-M2MW10		FTMM-2-GW-M2MW11		FTMM-2-GW-M2MW12		FTMM-2-GW-M2MW13		FTMM-2-GW-M2MW21		FTMM-2-GW-M2MW22		FTMM-2-GW-M2MW23		FTMM-2-GW-M2MW24	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013		21-Aug-2013		21-Aug-2013		22-Aug-2013		22-Aug-2013		23-Aug-2013		22-Aug-2013		23-Aug-2013	
LAB SAMPLE ID:					R1306281-002		R1306112-013		R1306112-008		R1306152-009		R1306152-018		R1306198-008		R1306152-021		R1306198-010	
SAMPLE INTERVAL (ft bgs):					5-20		29-49		30-50		5-20		5-20		5-20		5-20		5-20	
	CAS No.	Unit																		
Volatile Organics - SW8260C																				
2-Methylnaphthalene	91-57-6	µg/L	500 [5]	NLE															**5.7**	JN
Amylene hydrate	75-85-4	µg/L	500 [5]	NLE											**31.1**	JN				
Indane	496-11-7	µg/L	500 [5]	NLE															**12.4**	JN
TIC-01 - Unknown Oxygenated Hydro	NA	µg/L	500 [5]	NLE											**9.4**	J				
TIC-02 - Unknown Oxygenated Hydro	NA	µg/L	500 [5]	NLE											**7.8**	J				
Pesticides - SW8081B																				
4,4'-DDD	72-54-8	µg/L	0.1	NLE	0.039	U	0.039	U	0.039	U	0.039	U	0.039	U	0.039	UJ	0.039	U	0.039	UJ
4,4'-DDT	50-29-3	µg/L	0.1	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
4,4'-DDE	72-55-9	µg/L	0.1	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Aldrin	309-00-2	µg/L	0.04	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
alpha-BHC	319-84-6	µg/L	0.02	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
alpha-Chlordane	5103-71-9	µg/L	5 [5]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
beta-BHC	319-85-7	µg/L	0.04	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
delta-BHC	319-86-8	µg/L	100 [5]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Dieldrin	60-57-1	µg/L	0.03	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Endosulfan I	959-98-8	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Endosulfan II	33213-65-9	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Endosulfan sulfate	1031-07-8	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Endrin	72-20-8	µg/L	2	2	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Endrin aldehyde	7421-93-4	µg/L	5 [5]	NLE	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	UJ	0.025	UJ	0.025	UJ	0.025	UJ
Endrin ketone	53494-70-5	µg/L	100 [5]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
gamma-BHC (Lindane)	58-89-9	µg/L	0.03	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
gamma-Chlordane	5566-34-7	µg/L	5 [5]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Heptachlor	76-44-8	µg/L	0.05	0.4	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Heptachlor Epoxide	1024-57-3	µg/L	0.2	0.2	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Methoxychlor	72-43-5	µg/L	40	40	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	UJ	0.025	U	0.025	UJ
Toxaphene	8001-35-2	µg/L	2	3	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	UJ	0.50	U	0.50	UJ

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.

D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.
(http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.

[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Results
Site FTMM-02
Fort Monmouth, New Jersey

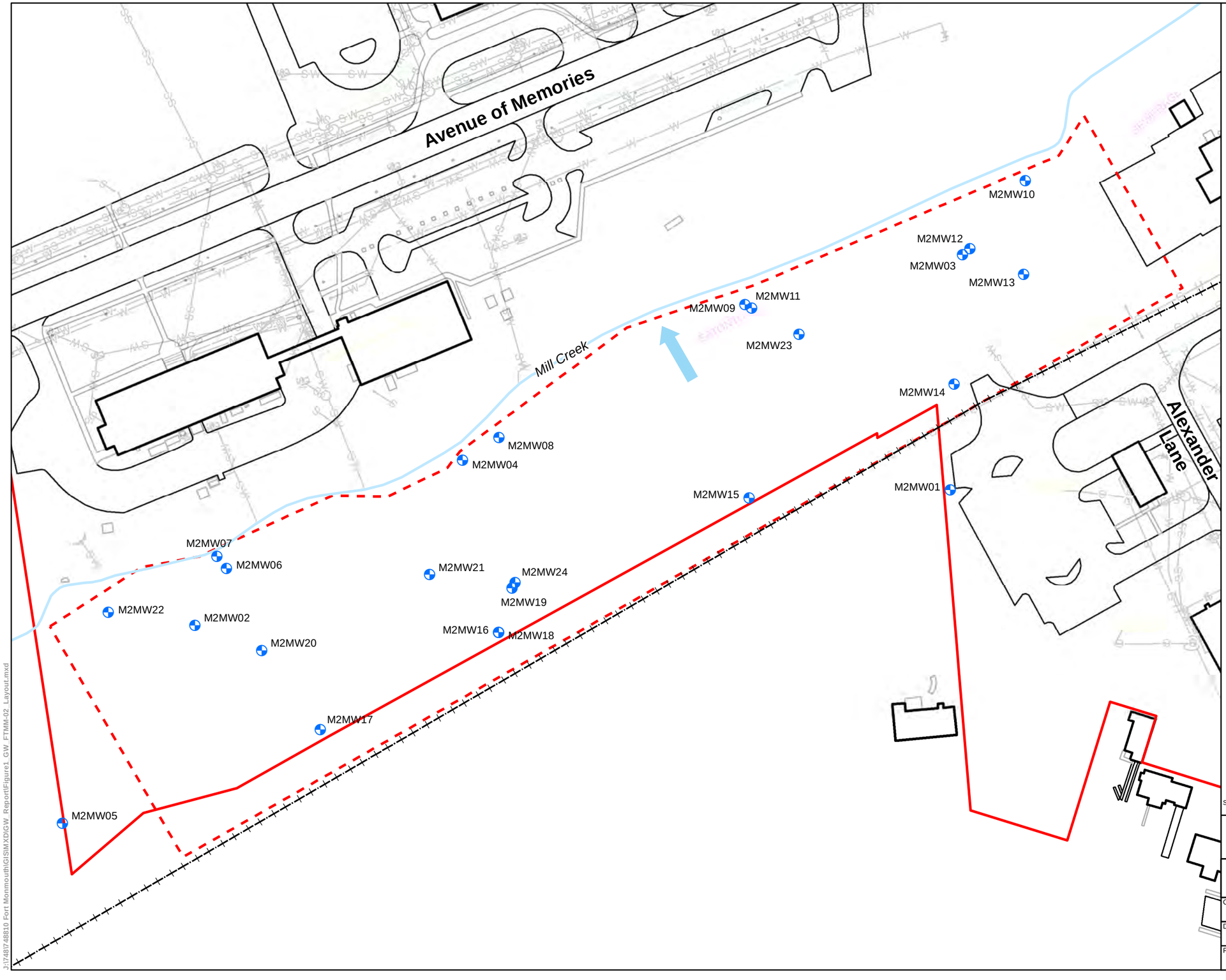
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect?[2] (Y/N)	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-2 Landfill									
M2MW02		Be, Fe, Mn	Be, Mn	NO	NO	Yes	NO	NO	Be and Mn are background exceedances and not indicative of historical site use.
M2MW03		Benzene, chlorobenzene, Al, As, Be, Fe, Pb, Mn, Na	Mn, Na	NO	NO	Yes	NO	Yes	Continue monitoring for VOCs. Metals due to background sources.
M2MW04		Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
M2MW05		Al, As, Be, Cr, Fe, Pb, Mn, Vn	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
M2MW06		Al, Be, Fe, Pb, Mn	Be, Mn	NO	NO	NO	NO	NO	Be and Mn are background exceedances and not indicatives of historical site use.
M2MW07		Al, Be, Fe, Mn	Be	NO	NO	NO	NO	NO	Be is a background exceedance and not indicative of historical site use.
M2MW08		Al, As, Be, Fe, Pb, Mn	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
M2MW09	VOC/Pesticides	Al, Be, Fe, Mn	Be, Mn	NO	NO	NO	NO	NO	Be and Mn are background exceedances and not indicatives of historical site use.
M2MW10		Al, Be, Fe, Mn	Be	NO	NO	NO	NO	Yes	Be is a background exceedance and not indicative of historical site use. Well to be retained for downgradient monitoring of benzene.
M2MW11		Benzene	NO	NO	NO	Yes	NO	Yes	Continued monitoring for VOCs.
M2MW12		NO	N/A	N/A	N/A	N/A	NO	NO	No exceedances exhibited
M2MW13		Al, As, Be, Fe, Pb, Mn, Na	Be, Na	NO	NO	NO	NO	NO	Be and Na are background exceedances and not indicatives of historical site use.
M2MW21		Benzene, Al, As, Fe, Mn, Na	Mn, Na	NO	NO	Yes	N/A	Yes	Continue monitoring for VOCs. Metals due to background sources.
M2MW22		tert-butyl alcohol, Fe, Mn, Na	Na	NO	NO	Yes	N/A	Yes	Continue monitoring for VOCs. Metals due to background sources.
M2MW23		Al, As, Fe, Pb, Mn, Na	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
M2MW24		Benzene, Fe, Mn	Mn	NO	NO	Yes	N/A	Yes	Continue monitoring for VOCs. Metals due to background sources.

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list?
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-02



Legend

- Shallow Monitoring Well
- M-2 Landfill Boundary
- Installation Boundary
- Railroad Centerline
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 100 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS
401 Diamond Drive NW,
Huntsville AL

Fort Monmouth
New Jersey

Layout of FTMM-02

CREATED BY: TS	REVIEWED BY: IG
DATE: November 2013	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-02_Layout.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-02_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2 MW02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): ~~M-2~~ FTMM-2 (JC)
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: N/A

DATE: 8/22/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex D'Ionno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~~—~~ 0.0 (JC)
WELL DEPTH (TOC): 19.54
FEET OF WATER IN WELL: 9.37

SCREENED INTERVAL (TOC): 6'-19.54' (2' stick up)
PUMP INTAKE DEPTH (ft below TOC): 14.86'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 10.17

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1130	X		6.24	NA	1.057	NA	2.6	NA	5.41	NA	2.8	NA	18.33	NA	200	10.2
1135	X		6.14	0.08	1.160	0.003	-38.0	40.6	1.30	4.11	0.0	2.8	17.60	1.73	200	10.2
1140	X		6.16	0.0	1.166	0.006	-57.1	19.1	0.89	0.41	1.3	1.3	17.63	0.03	100	10.2
1145	X		6.17	0.01	1.164	0.002	-63.2	6.1	0.82	0.07	0.0	1.3	17.56	0.07	100	10.2
1150	X		6.16	0.01	1.163	0.001	-67.6	4.4	0.78	0.04	0.0	0.0	17.56	0.0	100	10.2
1155	X		6.16	0.0	1.162	0.001	-69.0	1.4	0.85	0.07	0.0	0.0	17.51	0.05	100	10.2
1200	X		6.17	0.01	1.160	0.002	-70.8	1.8	0.81	0.04	0.0	0.0	17.72	0.21	100	10.2
1205		X	6.17	0.0	1.156	0.004	-72.2		0.80	0.01	0.0	0.0	17.73	0.01	100	10.2

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW02

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-2-GW-M2MW02

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's + TIC's	1205	3) VOA's w/HCL		0.0	
Pesticides	↓	2) 1000mL GA unpreserved		↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-2
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/21/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 17.24
FEET OF WATER IN WELL: 5.29
SCREENED INTERVAL (TOC): 10.00
PUMP INTAKE DEPTH (ft below TOC): 11.95
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.51

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:14	X		6.56	NA	1.483	NA	-86.2	NA	1.85	NA	3.7	NA	19.01	NA	100	7.69
10:19	X		6.59	0.03	1.471	0.012	-98.9	12.6	0.91	0.94	4.0	0.3	18.45	0.56	100	7.71
10:24	X		6.60	0.01	1.473	0.002	-103.4	4.6	0.64	0.27	5.0	1.0	17.21	0.24	100	7.71
10:29	X		6.60	0.00	1.467	0.006	-99.3	4.1	0.55	0.09	4.1	0.9	18.20	0.01	100	7.71
10:34	X		6.60	0.00	1.465	0.002	-105.3	6.0	0.49	0.06	6.4	2.3	18.07	0.13	100	7.71
10:39	X		6.62	0.02	1.466	0.001	-107.1	1.8	0.46	0.03	6.7	0.3	18.13	0.06	100	7.71
10:44	X		6.60	0.02	1.465	0.001	-106.4	0.7	0.45	0.01	6.5	0.2	18.20	0.08	100	7.71
10:47		X	6.60	0.00	1.466	0.001	-105.3	1.1	0.45	0.00	6.6	0.1	18.18	0.02	100	7.71

COMMENTS: Stickup 1.66' above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M2MW03

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-M2 - GW - M2MW03

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs & TICs	10:47	3	CLR	6.6	
Pesticides	10:47	2	CLR	6.6	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/21/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MZMW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-2 FTMM-2 (JC)
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: N/A

DATE: 8/22/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex DIenno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
WELL DEPTH (TOC): 22.29
FEET OF WATER IN WELL: 13.65'

SCREENED INTERVAL (TOC): 6.54 - 22.29 (2.54' stickup)
PUMP INTAKE DEPTH (ft below TOC): 15.47'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.64'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0958	X		6.46	NA	0.245	NA	-51.4	NA	3.65	NA	1.8	NA	16.44	NA	200	8.72
1003	X		5.94	0.52	0.240	0.005	-57.3	5.9	0.80	2.85	0.0	1.8	15.47	0.97	200	8.72
1008	X		5.92	0.02	0.239	0.001	-68.6	11.3	0.56	0.24	0.0	0.0	15.22	0.25	200	8.72
1013	X		5.98	0.06	0.238	0.001	-79.0	11.4	0.42	0.14	0.0	0.0	15.27	0.05	200	8.72
1018	X		6.05	0.07	0.238	0.0	-82.9	3.9	0.43	0.01	0.0	0.0	15.21	0.06	200	8.72
1023	X		6.09	0.04	0.240	0.002	-87.3	4.4	0.46	0.03	0.0	0.0	15.25	0.04	200	8.72
1028	X		6.15	0.06	0.244	0.004	-89.0	1.7	0.46	0.0	0.0	0.0	15.35	0.10	200	8.72
1033		X	6.17	0.02	0.247	0.003	-90.9	1.9	0.42	0.04	0.0	0.0	15.33	0.02	200	8.72

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW04

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech Bladder Pump

SAMPLE NUMBER: FTMM-2-GW-M2MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs+TICs	1033	3) VOA's w/ HCL	clear	0.0	
Pesticides	↓	2) 1000mL GA unpreserved	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): ~~M-2~~ FTMM-2
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: N/A

DATE: 8/22/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex D:Ionno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
WELL DEPTH (TOC): 14.10
FEET OF WATER IN WELL: 7.84

SCREENED INTERVAL (TOC): 4.53' - 14.10'
PUMP INTAKE DEPTH (ft below TOC): 10.18'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.26'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1249	X		6.89	NA	0.298	NA	5.8	NA	3.44	NA	2141.4	NA	20.87	NA	100	6.65
1254	X		6.23	0.66	0.253	0.045	19.2	13.4	1.14	2.30	2142.3	0.9	20.92	0.05	100	6.65
1259	X		6.11	0.12	0.247	0.006	25.0	5.8	0.82	0.32	2136.0	6.3	20.57	0.35	100	6.65
1304	X		6.07	0.04	0.248	0.001	27.1	2.1	0.62	0.20	1936.0	200.0	21.25	0.32	100	6.65
1309	X		6.04	0.03	0.252	0.004	23.3	3.8	0.56	0.06	232.9	1,703.1	20.82	1.57	100	6.65
1314	X		5.91	0.13	0.258	0.006	10.2	7.1	0.43	0.13	155.5	77.4	18.68	2.14	100	6.65
1319	X		5.90	0.01	0.258	0.0	9.0	7.2	0.42	0.01	201.1	45.6	18.92	0.24	100	6.65
1324			5.87	0.03	0.257	0.001	7.0	2.0	0.40	0.02	210.4	9.3	18.58	0.34	100	6.65
1329			5.87	0.0	0.257	0.0	6.2	0.8	0.39	0.01	190.7	19.7	18.66	0.08	100	6.65
1334			5.85	0.02	0.257	0.0	4.6	1.6	0.39	0.0	174.3	16.4	18.53	0.13	100	6.65
1339			5.85	0.0	0.257	0.0	3.4	1.2	0.38	0.01	130.6	43.7	18.77	0.24	100	6.65
1344			5.88	0.03	0.257	0.0	0.9	2.5	0.38	0.0	121.2	9.4	18.59	0.18	100	6.65

COMMENTS: Sample time: 1359, Turbidity @ 109.3 NTU, approaching 10 NTU very slowly

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW05

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-2-GW-M2MW05

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's + TICs		3) VOA's w/ HCL			
Pesticides		2) 1000 ml GA unpreserved			

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985 | **DATE:** 8/22/13

AOC # (AREA): ~~A-2~~ FTMM-2 (JC) | **LABORATORY:**

SAMPLIG INSTRUMENTS:

PID DETECTOR: See Page 1

SAMPLING PERSONNEL

NAME: Alex D'Ianno

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):

WELL DEPTH (TOC):

FEET OF WATER IN WELL:

SCREENED INTERVAL (TOC):

PUMP INTAKE DEPTH (ft below TOC):

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1344			Page 1	NA		NA		NA		NA		NA		NA		→
1349	X		5.94	0.06	0.257	0.0	0.3	6.6	0.37	0.01	115.7	5.5	18.13	0.46	100	6.65
1354	X		5.96	0.02	0.257	0.0	-5.9	6.2	0.37	0.0	112.3	3.4	17.99	0.14	100	6.65
1359		X	5.96	0.0	0.257	0.0	-7.2	1.3	0.36	0.01	109.3	3.0	17.90	0.09	100	6.65

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW05

SAMPLING INFORMATION

SAMPLING DEVICE:

See Page 2

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW06

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): [redacted]-02 FTMM-2

SAMPLIG INSTRUMENTS: [redacted] Pump Bladder Pump (JC)

PID DETECTOR: PID Mini[redacted] PID MiniRAE

DATE: 8/21/13

LABORATORY:

SAMPLING PERSONNEL

NAME: Owen Zulma

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0

WELL DEPTH (TOC): 18.30

FEET OF WATER IN WELL: 9.98

SCREENED INTERVAL (TOC): 10.00

PUMP INTAKE DEPTH (ft below TOC): 12.93

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.32

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
13:45	X		6.64	NA	0.497	NA	-104.6	NA	1.73	NA	5.9	NA	23.49	NA	[redacted]00	8.48
13:50	X		6.61	0.03	0.479	0.018	-111.6	7.0	1.17	0.56	3.7	2.2	21.80	1.69	100	8.48
13:55	X		6.62	0.01	0.473	0.006	-118.7	7.1	0.87	0.3	2.9	0.8	20.41	1.39	100	8.48
14:00	X		6.63	0.01	0.465	0.008	-122.2	3.5	0.69	0.18	2.8	0.1	20.15	0.26	100	8.48
14:05	X		6.63	0.00	0.461	0.004	-123.4	1.2	0.58	0.11	1.0	1.8	19.85	0.30	100	8.48
14:10	X		6.63	0.00	0.462	0.001	-123.7	0.3	0.55	0.03	0.9	0.1	19.98	0.13	100	8.48
14:15	X		6.63	0.00	[redacted]462	0.000	-124.0	0.3	0.55	0.00	0.9	0.0	19.84	0.04	100	8.48
14:18		X	6.63	0.00	[redacted]463	0.001	-124.6	0.6	0.53	0.02	0.8	0.1	19.83	0.01	100	8.48

COMMENTS: stickup 2.36' above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M2MW06

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-02-GW-M2MW06

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	14:18	3	CLR	0.8	
Pesticides	14:18	2	CLR	0.8	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): D [illegible] 4/12/13 6 carbon bucket used - no [illegible] generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MMW07

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-02
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID minirae

DATE: 8/21
LABORATORY: TLCC

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 16.95
FEET OF WATER IN WELL: 11.13
SCREENED INTERVAL (TOC): 5 - 16.95
PUMP INTAKE DEPTH (ft below TOC): 11
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.82

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1355	X		6.92	NA	0.457	NA	-81.9	NA	2.40	NA	323.5	NA	21.50	NA	100	5.90
1400	X		6.62	-0.30	0.441	-0.010	-85.9	-4.0	1.05	-1.35	126.4	-197.1	19.60	-1.90	100	"
1405	X		6.61	-0.01	0.441	—	-86.2	-0.3	0.67	-0.38	328.6	+202	19.21	-0.39	100	"
1410	X		6.62	+0.01	0.438	-0.003	-85.6	+0.6	0.50	-0.17	299.0	-29.6	19.06	-0.15	100	"
1415	X		6.62	—	0.434	-0.004	-84.6	+1.0	0.42	-0.08	274.1	-24.9	18.73	-0.33	100	"
1420	X		6.63	+0.01	0.431	-0.003	-82.3	+2.3	0.40	-0.02	264.1	-10.0	18.74	+0.01	100	"
1425	X		6.63	—	0.428	-0.003	-84.4	-2.1	0.41	+0.01	223.0	-41.1	18.57	-0.27	100	"
1430	X		6.67	+0.04	0.426	-0.002	-86.7	-2.3	0.33	-0.08	132.5	-90.5	18.53	-0.04	100	"
1435	X		6.67	—	0.426	—	-87.3	-0.6	0.32	-0.01	133.3	+0.8	18.69	+0.16	100	"
1440	X		6.68	+0.01	0.424	-0.002	-86.8	+0.5	0.31	-0.01	116.4	-12.9	18.62	-0.07	100	"
1445	X		6.68	—	0.423	-0.001	-87.1	-0.3	0.30	-0.01	120.4	+4.0	18.62	—	100	"
1450			6.68	—	0.423	—	-87.2	-0.1	0.31	+0.01	120.0	-0.4	18.69	+0.07	100	"
~~1455~~ COMMENTS: 1450 Sample time	X		6.68	—	0.422	-0.001	-87.9	-0.7	0.31	—	119.8	-0.2	18.49	-0.20	100	"

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW07

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-02-GW-M2MW07

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1509	40mL	brown		
Pest	1500	1L	brown		

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2 MW 08

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 02
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/21/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 21.00
FEET OF WATER IN WELL: 14.4
SCREENED INTERVAL (TOC): 10.00
PUMP INTAKE DEPTH (ft below TOC): 13.9
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.60

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
15:00	X		6.84	NA	0.382	NA	-106.7	NA	0.89	NA	1615.8	NA	18.16	NA	100	6.63
15:05	X		6.84	0.0	0.379	0.003	-107.1	0.4	0.83	0.06	1614.6	1.2	18.09	0.07	100	6.68
15:10	X		6.83	0.01	0.373	0.006	-78.8	28.3	0.75	0.08	1604.5	10.1	17.18	0.91	100	6.73
15:15	X		6.83	0.00	0.366	0.007	-78.6	0.2	0.47	0.28	1609.1	4.6	17.56	0.38	100	6.73
15:20	X		6.84	0.01	0.365	0.001	-76.4	2.2	0.37	0.10	1608.8	0.3	17.54	0.02	100	6.73
15:25	X		6.85	0.01	0.364	0.001	-79.2	2.8	0.35	0.02	1607.7	1.1	17.45	0.09	100	6.73
15:30	X		6.84	0.01	0.363	0.001	-82.9	3.7	0.33	0.02	1606.5	1.2	17.63	0.18	100	6.73
15:35	X		6.84	0.00	0.362	0.001	-81.8	1.1	0.28	0.05	1604.5	2.0	17.20	0.43	100	6.73
15:40	X		6.84	0.00	0.362	0.000	-80.2	1.6	0.27	0.01	1603.1	1.4	17.28	0.08	100	6.73
15:45	X		6.84	0.00	0.362	0.000	-80.7	0.5	0.27	0.00	1603.0	0.1	17.43	0.15	100	6.73
15:50	X		6.84	0.00	0.362	0.000	-78.4	2.3	0.25	0.02	1602.9	0.1	17.40	0.03	100	6.73
15:55	X		6.84	0.00	0.361	0.001	-78.0	0.4	0.25	0.00	1602.1	0.8	17.37	0.03	100	6.73
COMMENTS: 16:00			6.84	0.00	0.361	0.001	-77.6	0.4	0.24	0.01	1601.9	0.2	17.30	0.07	100	6.73

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

Form LFPS -GW.xls

1.95 stickup above grade parameters stabalized and turbidity stayed high - stop purge

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT: USAESCH** | **WELL #: M2 MW 08**

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-02-GW-M2MW08

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	16:00	3	TAN	1601.9	
Pesticides	16:00	2	TAN	1601.9	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/21/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW09

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): FTMM-M2 Landfill
LABORATORY: HCV
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID minirae
SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 21.76
FEET OF WATER IN WELL:
SCREENED INTERVAL (TOC): 5 – 21.76
PUMP INTAKE DEPTH (ft below TOC): 13.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.20

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1145	X		7.17	NA	0.454	NA	-123	NA	2.91	NA	15.8	NA	21.72	NA	100	9.80
1150	X		6.90	-0.27	0.444	+0.01	-118.6	+4.4	0.70	-2.21	29.4	+13.6	19.68	-2.04	100	10.45
1155	X		6.85	-0.05	0.444	—	-115.3	+3.3	0.46	-2.4	28.1	-1.3	19.41	-0.27	100	10.90
1200	X		6.81	-0.04	0.444	—	-110.6	+4.6	0.44	-0.02	33.6	+5.5	19.62	+0.21	100	11.40
1205	X		6.73	-0.08	0.447	+0.003	-97.2	+13.4	0.43	-0.01	32.3	-1.3	19.61	-0.01	100	11.90
1210	X		6.63	-0.10	0.453	+0.06	-85.2	+12.0	0.44	+0.01	20.1	-12.2	19.87	+0.26	100	12.40
1215	X		6.57	-0.06	0.457	+0.004	-79.2	+6.0	0.44	—	12.6	-7.5	20.05	+0.18	100	12.90
1220	X		6.50	-0.07	0.460	+0.003	-75.0	+4.2	0.44	—	9.6	-3.6	19.97	-0.08	100	13.40
1225	X		6.47	-0.03	0.461	+0.001	-74.0	+1.0	0.44	—	9.6	—	19.83	-0.14	100	13.90
1230		X	6.47	—	0.461	—	-72	+2.0	0.44	—	9.5	-0.1	19.89	-0.06	100	14.40

COMMENTS: 2.40 PVC above ground 1230 Sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW09

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-02-GW-M2MW09

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1232	40mL	clr	9.5	
Pest	1232	1L	clr	9.5	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MZMW10

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/22/13
AOC # (AREA): ~~AA-2~~ FTMM-2 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder pump
SAMPLING PERSONNEL
PID DETECTOR: Mini Rae
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
SCREENED INTERVAL (TOC): 7.50-22.40
WELL DEPTH (TOC): 22.4
PUMP INTAKE DEPTH (ft below TOC): 15
FEET OF WATER IN WELL: 14.90
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.50

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0955	X		7.03	NA	0.365	NA	-61.7	NA	0.58	NA	119.7	NA	18.79	NA	150	7.24
1000	X		6.89	0.14	0.365	"	-67.3	5.5	0.52	0.06	120.5	0.8	18.69	0.10	150	7.74
1005	X		6.99	0.10	0.362	0.003	-74.7	7.4	0.32	0.20	111.3	9.2	18.30	0.39	150	7.74
1010	X		6.99	"	0.363	0.001	-75	0.7	0.31	0.01	113.3	2.0	18.38	0.08	150	7.74
1015	X		6.99	"	0.363	"	-75.3	1.3	0.32	0.01	118.3	5.0	18.45	0.07	150	7.74
1020	X		6.99	"	0.361	0.002	-79	3.7	0.30	0.02	88.0	20.3	18.60	0.15	150	7.74
1025	X		6.99	"	0.361	"	-79.5	0.5	0.31	"	90.1	2.1	18.85	0.25	150	7.74
1030	X		7.00	0.01	0.361	"	-80.1	0.6	0.31	"	86.5	0.6	18.86	0.01	150	7.74
1035	X		7.00	"	0.362	0.002	-80.3	0.2	0.32	0.01	78.9	7.6	18.90	0.04	150	7.74
1040	X		7.00	"	0.362	"	-78.2	2.1	0.32	"	78.1	0.8	18.91	0.01	150	7.74
1045	X		7.00	"	0.362	"	-77.9	0.3	0.32	"	79.9	0.2	18.91	"	150	7.74
1050	X		7.00	"	0.361	0.001	-80.5	2.6	0.32	"	72.4	7.5	19.05	0.14	150	7.74

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW10

SAMPLING INFORMATION

SAMPLING DEVICE: M2MW10 (JC)

SAMPLE NUMBER: FTMM-2-GM-M2MW10

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	1110	(3) 40ml (HCl)	Stained	50.4	
pest	1110	(2) Amber	1	1	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

CARBON BUCKET

Date:	8/22/13								
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW MW 10

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): FTMM-2 (JC)

SAMPLIG INSTRUMENTS: Bladder

PID DETECTOR: MiniRae

DATE: 8/22/13

LABORATORY:

SAMPLING PERSONNEL

NAME: C. Watson

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)

WELL DEPTH (TOC): 22.4

FEET OF WATER IN WELL: 14.9

SCREENED INTERVAL (TOC): 7.5 - 22.40

PUMP INTAKE DEPTH (ft below TOC): ~15

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.50

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1055	X		7.00	NA	0.362	NA	-78.1	NA	0.32	NA	61.1	NA	19.10	NA	150	7.74
1100	X		7.00		0.361	0.001	-78.6	0.5	0.31	0.01	50.2	1.9	19.13	0.03	150	7.74
1105	X		7.00		0.361		-79.2	0.6	0.32	0.01	49.4	0.8	19.12	0.01	150	7.74
1110	X		7.00		0.361		-80.1	0.9	0.32		50.4	1.0	19.15	0.03	150	7.74

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: M2MW10

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: FTMM-2-GW-M2MW10

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1110	(3) Clear (HCL)	Slightly	50.4	
PEST	"	(2) Amber	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/22/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2mw10

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/27/13
AOC # (AREA): M-2 FTMM-2 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: MiniRae
SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
SCREENED INTERVAL (TOC): 7.50-22.4'
WELL DEPTH (TOC): 22.4'
PUMP INTAKE DEPTH (ft below TOC): 15
FEET OF WATER IN WELL: 14.9
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.50

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0945	X		7.06	NA	0.406	NA	-71.7	NA	2.78	NA	132.4	NA	19.32	NA	150	7.52
0950	X		7.05	0.01	0.412	0.006	-72.6	0.9	2.81	0.03	127.3	1.1	19.24	0.08	200	7.52
0955	X		7.06	0.01	0.406	0.006	-76.4	2.2	2.62	0.19	202.0	72.5	18.85	0.39	200	7.52
1000	X		7.07	0.01	0.402	0.004	-76.3	0.1	2.50	0.12	199.5	2.5	18.86	0.01	200	7.52
1005	X		7.04	0.03	0.406	0.004	-80.3	4.0	2.47	0.03	202.8	3.3	18.84	0.02	200	7.52
1010	X		7.04	0	0.406	0	-84	3.5	2.35	0.12	189.2	13.6	18.40	0.44	200	7.52
1015	X		7.04	0	0.405	0.001	-82.4	1.6	2.36	0.01	152.1	37.1	18.33	0.07	200	7.52
1020	X		7.04	0	0.405	0	-82.6	0.2	2.40	0.04	110.2	41.9	18.32	0.01	200	7.52
1025	X		7.04	0	0.405	0	-82.2	0.4	2.49	0.09	76.6	33.6	18.31	0.01	200	7.52
1030	X		7.05	0.01	0.404	0.01	-82.0	0.2	2.46	0.03	59.9	16.7	18.31	0	200	7.52
1035	X		7.04	0	0.404	0	-82.1	0.1	2.46	0	59.3	0.6	18.33	0.02	200	7.52
1040	X		7.04	0	0.405	0.01	-82.0	0.1	2.47	0.01	58.7	0.6	18.32	0.01	200	7.52

COMMENTS: Re collecting for ~~PCB~~/pest

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2WWK

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: [redacted] Ftm M-2-GW-M2MW10

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
[redacted] Test	1040	(2) Amber	Clear Y	58.7	Re-collection [redacted] Test only

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): CARBOY Bucket

Date: 8/27/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2mw10

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/27/13
AOC # (AREA): ~~M-2~~ FTMM-2 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder
SAMPLING PERSONNEL
PID DETECTOR: MiniRae
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
SCREENED INTERVAL (TOC): 7.50-22.40
WELL DEPTH (TOC): 22.4
PUMP INTAKE DEPTH (ft below TOC): 15
FEET OF WATER IN WELL: 14.9
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.50

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0945	X		7.06	NA	0.406	NA	-76.7	NA	2.78	NA	132.4	NA	19.32	NA	150	7.52
0950	X		7.05	0.01	0.412	0.006	-78.6	0.9	2.81	0.03	127.3	1.1	19.24	0.08	200	7.52
0955	X		7.06	0.01	0.406	0.006	-76.4	2.2	2.62	0.19	202.0	72.5	18.85	0.39	200	7.52
1000	X		7.07	0.01	0.402	0.004	-76.3	0.1	2.50	0.12	199.5	2.5	18.86	0.01	200	7.52
1005	X		7.04	0.03	0.406	0.004	-80.3	4.0	2.47	0.03	202.8	3.3	18.84	0.02	200	7.52
1010	X		7.04	0	0.406	0	-84	3.5	2.35	0.12	189.2	13.6	18.40	0.44	200	7.52
1015	X		7.04	0	0.405	0.001	-82.4	1.6	2.36	0.01	152.1	37.1	18.33	0.07	200	7.52
1020	X		7.04	0	0.405	0	-82.6	0.2	2.40	0.04	110.2	41.9	18.32	0.01	200	7.52
1025	X		7.04	0	0.405	0	-82.2	0.4	2.49	0.09	76.6	33.6	18.31	0.01	200	7.52
1030	X		7.05	0.01	0.404	0.01	-82.0	0.2	2.46	0.03	59.9	16.7	18.31	0	200	7.52
1035	X		7.04	0	0.404	0	-82.1	0.1	2.46	0	59.3	0.6	18.33	0.02	200	7.52
1040	X		7.04	0	0.405	0.01	-82.0	0.1	2.47	0.01	58.7	0.6	18.32	0.01	200	7.52

COMMENTS: Re collecting for ~~pest~~ post

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M2WWK

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: [redacted] Ftm/m-2-GW-M2MW1D

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
[redacted] Rest	1040	(3) Amber	Cloudy	58.7	re-collection [redacted] test only

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): CARBOY Bucket

Date: 8/27/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MZ MW 11

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): FTMM - MZ
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: PID Mini RAE
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 20.00
WELL DEPTH (TOC): 52.05
PUMP INTAKE DEPTH (ft below TOC): 41.60
FEET OF WATER IN WELL: 43.39
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.66

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:45	X		7.95	NA	0.269	NA	-102.7	NA	1.40	NA	0.8	NA	17.89	NA	100	8.81
11:50	X		7.97	0.02	0.268	0.001	-116.7	14.0	1.00	0.40	0.7	0.1	17.41	0.48	100	8.82
11:55	X		7.96	0.01	0.265	0.003	-130.4	13.7	1.12	0.12	0.9	0.2	17.00	0.41	100	8.82
12:00	X		7.96	0.00	0.264	0.001	-136.1	5.7	0.75	0.37	0.8	0.1	16.93	0.07	100	8.82
12:05	X		7.96	0.00	0.263	0.001	-141.2	5.1	0.65	0.10	0.8	0.0	16.82	0.11	100	8.82
12:10	X		7.96	0.00	0.263	0.000	-144.8	3.6	0.62	0.03	0.8	0.0	16.77	0.05	100	8.82
12:15	X		7.96	0.00	0.263	0.000	-145.0	0.2	0.60	0.02	0.8	0.0	16.79	0.02	100	8.82
12:18		X	7.96	0.00	0.263	0.000	-145.3	0.3	0.58	0.02	0.7	0.1	16.73	0.06	100	8.82

COMMENTS: Stickup 2.15 above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M2 MW11

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-M2-GW-M2MW11

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	12:18	3	CLR	0.7	
Pesticides	12:18	2	CLR	0.7	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/21/13 Carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MaMW12

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): FTMM-Ma Landfill
LABORATORY: HCL
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID Minirae
SAMPLING PERSONNEL
NAME: Michael T. Hon
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 52.18
FEET OF WATER IN WELL: 44.41
SCREENED INTERVAL (TOC): 30 - 52.18
PUMP INTAKE DEPTH (ft below TOC): 41
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.77

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1010	X		7.01	NA	0.274	NA	-10.9	NA	3.74	NA	42	NA	18.49	NA	100	7.8
1015	X		7.31	+0.30	0.268	-0.006	-95.1	-84.2	2.33	-1.41	2.8	-1.4	17.49	-1.00	100	7.8
1020	X		7.50	+0.19	0.266	-0.002	-130.3	-35.2	1.07	-1.26	5.9	+3.1	17.08	-0.41	100	7.8
1025	X		7.62	+0.12	0.266	—	-141.0	-10.7	0.61	-0.46	6.8	+0.9	16.92	-0.16	100	7.8
1030	X		7.69	+0.07	0.265	-0.001	-149.3	-8.3	0.49	-0.11	6.3	-0.5	17.04	+0.12	100	7.8
1035	X		7.75	+0.06	0.265	—	-154.3	-5.0	0.44	-0.05	6.8	+0.5	17.32	+0.28	100	7.8
1040	X		7.77	+0.02	0.266	+0.001	-156.6	-2.3	0.42	-0.02	6.6	-0.2	17.29	-0.03	100	7.8
1045		X	7.78	+0.01	0.265	-0.001	-155.0	+1.6	0.42	—	6.6	—	17.43	+0.14	100	7.8

COMMENTS: Stick up 1.40' above grade 1047 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** M2MW12

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-M2 Landfill-GW-M2MW12

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1047	40mL	clr	6.6	
Pesticide	1047	1L	clr	6.6	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW13

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-2 FTMM-2 (JC)
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: mini Rae

DATE: 8/22/13
LABORATORY:

SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
WELL DEPTH (TOC): 22.51
FEET OF WATER IN WELL: 13

SCREENED INTERVAL (TOC): 9.5-22.51
PUMP INTAKE DEPTH (ft below TOC): 17
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.50

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1205	A		6.28	NA	0.743	NA	-71.4	NA	2.41	NA	0.8	NA	16.30	NA	200	9.52
1210	B		6.29	0.01	0.741	0.002	-85.1	13.7	2.28	0.15	0.3	0.5	16.05	0.25	200	9.52
1215	C		6.30	0.01	0.741	0	-90.1	5	2.22	0.06	0.5	0.2	15.94	0.11	200	9.52
1220	D		6.30	0	0.740	0.001	-90.8	0.7	2.28	0.06	0.2	0.3	15.94	0	200	9.52
1225	E		6.30	0	0.740	0	-94.3	3.5	2.27	0.01	0.2	0	16.00	0.06	200	9.52
1230	F	X	6.29	0.01	0.741	0.001	-94.3	0	2.27	0	0.2	0	16.01	0.01	200	9.52

COMMENTS:

*Indicator readings 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 SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW13

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-L-GW-M2MW13

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1230	(3) 40ml (HCL)	Clear	0.2	
PEST	"	(1) Amber	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Carbon Bucket

Date: 8/22/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW21

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): ~~M-2~~ FTMM-2 (JC)

SAMPLIG INSTRUMENTS: Geotech bladder pump

PID DETECTOR: N/A

DATE: 8/22/13

LABORATORY: ALS

SAMPLING PERSONNEL

NAME: Alex DiTonno

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)

WELL DEPTH (TOC): 22.58

FEET OF WATER IN WELL: 12.47

SCREENED INTERVAL (TOC): 8.13-22.58 (3.13' stickup)

PUMP INTAKE DEPTH (ft below TOC): 16.35

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 10.11

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1450	X		6.35	NA	0.734	NA	41.7	NA	2.16	NA	0.3	NA	18.36	NA	225	10.25
1455	X		6.36	0.01	0.734	0.0	-33.3	21.6	1.02	1.14	0.6	0.3	17.92	0.38	225	10.25
1500	X		6.37	0.01	0.737	0.003	-54.0	20.7	0.68	0.34	0.0	0.0	17.97	0.05	225	10.25
1505	X		6.37	0.0	0.737	0.0	-61.4	7.4	0.62	0.06	0.0	0.0	17.88	0.09	225	10.25
1510	X		6.35	0.02	0.737	0.0	-65.9	4.5	0.58	0.04	0.0	0.0	17.91	0.03	225	10.25
1515	X		6.34	0.01	0.737	0.0	-68.5	2.6	0.57	0.01	0.0	0.0	17.96	0.05	225	10.25
1520	X		6.34	0.0	0.737	0.0	-70.3	1.8	0.56	0.01	0.0	0.0	18.00	0.04	225	10.25
1525		X	6.33	0.01	0.736	0.001	-70.8	0.5	0.57	0.01	0.0	0.0	18.23	0.23	225	10.25

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW21

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-2-GW-M2MW21

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's + TICs	1525	3) VOA's w/ HCL			
Pesticides	↓	2) 1000 mL GA unpreserved			

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW22

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): ~~M-2~~ FTMM-2 (JC)
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: N/A

DATE: 8/23/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex DiIanni
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
WELL DEPTH (TOC): 22.70
FEET OF WATER IN WELL: 14.34

SCREENED INTERVAL (TOC): 7.65-22.70 (2.65' Stick up)
PUMP INTAKE DEPTH (ft below TOC): 15.53'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.36'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0905	X		5.92	NA	0.732	NA	284.2	NA	5.52	NA	5.5	NA	18.52	NA	250	8.42
0910	X		5.90	0.02	0.725	0.007	110.0	174.2	3.75	1.77	0.0	5.5	16.84	1.68	250	8.42
0915	X		5.97	0.07	0.717	0.008	13.7	96.3	3.31	0.44	0.0	0.0	16.70	0.14	250	8.42
0920	X		5.99	0.02	0.736	0.019	-5.5	19.2	3.20	0.11	0.0	0.0	16.55	0.15	250	8.42
0925	X		6.03	0.04	0.757	0.021	-13.7	8.2	3.09	0.11	0.0	0.0	16.41	0.14	250	8.42
0930	X		6.05	0.02	0.752	0.005	-21.2	7.5	3.00	0.09	0.0	0.0	16.35	0.06	250	8.42
0935	X		6.05	0.0	0.748	0.004	-30.1	8.9	2.89	0.11	0.0	0.0	16.26	0.09	250	8.42
0940		X	6.06	0.01	0.738	0.010	-37.0	6.9	2.71	0.18	0.0	0.0	16.25	0.01	250	8.42

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW22

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-2-GW-M2MW22

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	0940	3) VOA's w/HCL	clear	0.0	
Pesticides	↓	2) 1000 ml GA unpreserved	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2mw23

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/22/13
AOC # (AREA): ~~M-2~~ FTMM-2 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: Mini Rae
SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): - 0.0 (JC)
SCREENED INTERVAL (TOC): [illegible] 8.4-23.19
WELL DEPTH (TOC): 23.19
PUMP INTAKE DEPTH (ft below TOC): 17
FEET OF WATER IN WELL: 12.84
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 10.35

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1345	X		6.34	NA	0.389	NA	-67.2	NA	2.94	NA	35.9	NA	21.31	NA	200	10.35
1350	X		6.34	0	0.388	0.001	-78	10.8	2.26	0.68	24.0	11.9	21.30	0.01	200	10.35
1355	X		6.34	0	0.388	0.005	-78.5	0.5	2.34	0.08	22.1	1.9	21.52	0.22	200	10.35
1400	X		6.33	0.01	0.382	0.001	-75.9	4.6	2.62	0.28	22.2	0.1	21.34	0.18	200	10.35
1405	X		6.34	0.01	0.382	0	-71.9	4	2.94	0.32	20.8	1.4	21.90	0.56	200	10.35
1410	X		6.33	0.01	0.383	0.001	-66.7	5.2	2.98	0.04	19.2	1.6	21.93	0.03	200	10.35
1415	X		6.33	0	0.384	0.001	-68.2	1.5	3.02	0.04	18.1	1.1	22.01	0.08	200	10.35
1420	X		6.33	0	0.382	0.002	-65.4	2.8	3.24	0.22	19.0	0.9	22.14	0.13	200	10.35
1425	X		6.33	0	0.382	0.002	-65.6	0.2	3.23	0.01	18.4	0.6	22.15	0.01	200	10.35
1430	X		6.33	0	0.382	0	-62.0	3.6	3.53	0.30	18.5	0.1	22.25	0.10	200	10.35
1435	X		6.33	0	0.383	0.001	-57.8	4.2	3.84	0.31	19.2	0.7	22.09	0.16	200	10.35
1440	X		6.33	0	0.383	0	-54.0	3.8	4.01	0.48	19.7	0.5	22.07	0.02	200	10.35

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M2MW23

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-2-GW-M2MW23

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1510	(3) 40ML (HCl)	clear	18.3	
PEST	1510	(2) Amber	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/22/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW23

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M2 FTMM-2 (JC)
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: Minirae

DATE: 2/22/13
LABORATORY:

SAMPLING PERSONNEL
NAME: C Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): - 0.0 (JC)
WELL DEPTH (TOC): 23.19
FEET OF WATER IN WELL: 12.84

SCREENED INTERVAL (TOC): 8.4–23.9
PUMP INTAKE DEPTH (ft below TOC): 17
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 10.35

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1445	X		6.34	NA	0.382	NA	-55.7	NA	4.84	NA	14.9	NA	22.13	NA	200	10.35
1450	X		6.34	0	0.381	0.001	-54.6	1.1	4.16	0.12	20.1	0.2	22.51	0.38	200	10.35
1455	X		6.34	0	0.382	0	-54.9	0.3	4.63	0.47	19.7	0.4	22.63	0.12	200	10.55
1500	X		6.34	0	0.382	0	-55.1	0.2	4.54	0.11	19.6	0.1	22.81	0.18	200	10.35
1505	X		6.34	0	0.382	0	-57.2	2.1	4.72	0.18	19.1	0.5	23.00	0.81	200	10.35
1510	X	X	6.34	0	0.382	0	-58.8	1.6	4.80	0.08	18.3	0.8	23.41	0.41	200	10.35

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** M2MW23

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: [redacted] Ftmm-2-GW-M2MW23

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1510	(3) 40ml (HCl)	clear	18.7	
Rest	1510	(2) Amber	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Cuttings Bucket

Date: 8/21/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW24

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): ~~M-2~~ FTMM-2 (JC)

SAMPLIG INSTRUMENTS: Geotech bladder pump

PID DETECTOR: N/A

DATE: 8/23/13

LABORATORY: ALS

SAMPLING PERSONNEL

NAME: Alex DiIanni

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~~—~~ 0.0 (JC)

WELL DEPTH (TOC): 22.28

FEET OF WATER IN WELL: 13.77

SCREENED INTERVAL (TOC): 7.47-22.28 (2.47' Stickup)

PUMP INTAKE DEPTH (ft below TOC): 15.39

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE	TURBIDITY (NTU) READING	TURBIDITY CHANGE	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1020	X		6.11	NA	0.525	NA	26.1	NA	3.54	NA	0.0	NA	17.27	NA	250	8.61
1025	X		6.02	0.09	0.519	0.006	46.6	20.5	1.03	2.51	0.0	0.0	16.61	0.66	250	8.62
1030	X		6.01	0.01	0.519	0.0	47.4	0.8	0.83	0.20	0.0	0.0	16.45	0.16	250	8.62
1035	X		5.99	0.02	0.521	0.002	-21.4	26.0	0.69	0.14	0.0	0.0	16.36	0.09	250	8.62
1040	X		5.99	0.0	0.521	0.0	-25.3	3.9	0.64	0.05	0.0	0.0	16.28	0.08	250	8.62
1045	X		5.99	0.0	0.521	0.0	-27.6	2.3	0.62	0.02	0.0	0.0	16.20	0.08	250	8.62
1050	X		5.98	0.01	0.522	0.001	-29.7	2.1	0.59	0.03	0.0	0.0	16.06	0.14	250	8.62
1055		X	6.00	0.02	0.522	0.0	-30.4	0.7	0.59	0.0	0.0	0.0	16.12	0.06	250	8.62

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M2MW24

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-2-GW-M2MW24

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TIC's	1055	3) VOA's w/ HCl	clear	0.0	
Pesticides	↓	2) 1000mL GA unpreserved	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX B: FTMM-03 Landfill

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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

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Figure No.	Title
1	Layout of FTMM-03

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-03 GROUNDWATER SAMPLING

Groundwater samples were collected from 12 monitoring wells located at FTMM-03 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Monitoring well M3MW02 had a water column of only 0.44 feet and was silty, and therefore could not be sampled. Samples were collected on August 23, 2013 and submitted for Target Compound List (TCL) volatile organic compounds (VOCs) via the United States Environmental Protection Agency (USEPA) Method SW8260C and Target Analyte List (TAL) metals via USEPA Method SW6010C/SW7470A. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-03 were gauged for groundwater measurements on August 8, 2013. Groundwater elevations in monitoring wells ranged from 2.11 (M3MW07A) to 5.74 (M3MW04) feet above mean sea level (amsl), and interpreted groundwater flow direction is generally to the north towards Lafetra Creek (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging, the physical condition of FTMM-03 monitoring wells was evaluated. The remaining FTMM-3 wells were found to be in good condition and had tubing staged inside their casing at the time of gauging.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

Groundwater sampling has been conducted at monitoring wells associated with the FTMM-03 Landfill site since May 1999. Between May 1999 and September 2004, monitoring wells were sampled for VOCs, semi-volatile organic compounds (SVOCS), pesticides, polychlorinated biphenyls (PCBs), and metals. From December 2004 to December 2009, wells were only sampled for VOCs. Between March 2010 and October 2010, FTMM-03 monitoring wells were sampled for VOCs and metals.

Since December 2010, the last four rounds of groundwater sampling have been carried out on a quarterly basis and were comprised of VOC and metals analysis. In these last four rounds of groundwater sampling at FTMM-03, metals including aluminum, arsenic, antimony, beryllium, cadmium, iron, manganese, lead, and sodium were detected above their respective New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standards (GWQS). However, only cadmium was detected in exceedance of its background

concentration established in the 1995 Weston Report (9.50 µg/L) in monitoring wells M3MW04 (12 µg/L and 13.6 µg/L) and M3MW07 (11.2 µg/L). The cadmium exceedances were only slightly greater than the background concentration (Weston 1995), and based on further review of the historical data, to be solely background concentrations not related to historical site use.

Vinyl chloride (VC) was detected in exceedance of its NJDEP GWQS in FTMM-03 monitoring well M3MW07 for three out of the last four historical sampling events. Analytical data for the last four sampling events can be reference in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical data from samples collected during the August 2013 event are presented in **Table 3**. Aluminum, iron, lead, manganese, and sodium were detected in exceedance of their respective NJDEP GWQS in at least one FTMM-03 monitoring well during the August 2013 Baseline Groundwater Sampling Event. Aluminum, iron manganese and sodium are abundant constituents of the glauconitic soils that underlie the site. However, none of these metals exceeded background concentration (Weston 1995).

The only VOC found to be above its NJDEP GWQS was vinyl chloride, detected at a concentration of 2.9 µg/L in M3MW07.

5.0 FINDINGS AND RECOMMENDATIONS

Cadmium, which was historically detected within the previous four rounds of groundwater sampling, was not detected during this sampling event. Cadmium is believed to be a background analyte as a product of glauconitic soils underlying the site, and not indicative of historical site usage. M3MW02 will be sampled via LFPS and will be analyzed for metals and VOCs as it was not sampled during the 2013 event due to a low water column and silty conditions. Groundwater monitoring for metals is recommended to be discontinued from future sampling events from the remaining wells in FTMM-03.

The trend of historical VC exceedances in M3MW07 continued during the August 2013 Baseline Sampling Event, where VC was detected above its NJDEP GWQS. Since October 23, 1998, vinyl chloride has only been detected in ground water samples collected from M3MW07. This monitoring well is proximate to Lafetra Creek and was sampled on a quarterly basis. Vinyl chloride was detected in 13 of the first 29 ground water sampling events at concentrations ranging to a maximum of 33.27 µg/L. On November 7, 2005, vinyl chloride became a COC when the NJDEP decreased the NJDEP GWQS to 1 µg/L. Since March 2006, vinyl chloride has been detected at M-3MW07 in every quarterly ground water sampling event through the September 2010 event at concentrations exceeding NJDEP GWQS.

In November 2009, the Army conducted a groundwater investigation in an effort to determine the source of the vinyl chloride detected in monitoring well M3MW07, as well as to delineate it. Groundwater samples were collected from five temporary well point locations installed around the perimeter of M3MW07. Analytical results indicated that vinyl chloride was not detected in any of the samples collected.

Given that vinyl chloride was not detected in the ground water samples collected from the temporary monitoring points, nor from any of the surface water samples (the monitoring well is adjacent to the stream), the Army believed the source of the vinyl chloride may be from leaching from the poly vinyl chloride (PVC) pipe used to construct monitoring well M3MW07. To determine if the monitoring well was the source of the vinyl chloride, a new monitoring well, M3MW07A, was installed adjacent to the existing M3MW07. On August 21, 2010, monitoring well M3MW07A was sampled for VOCs, with a 15-peak library search (VO+15). Analytical results indicated vinyl chloride was non-detect in M3MW07A. Thus, as a result of the groundwater investigation, vinyl chloride is not considered a landfill COC at FTMM-03."

Based on the above, sampling of M3MW07 is recommended to be discontinued at this location and the well properly abandoned.. **Table 4** presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-03
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
FTMM-03															
M3MW02	E201007326	538840.000	616240.000	20.00	15.00	5-20	28.23	Minimal water column, could not be sampled.							
M3MW04	29-32568	539122.755	617004.933	23.00	15.00	8-23	18.01	8-8-13	1139	0.0	12.27	25.40	5.74	8/23/2013	1338
M3MW05	29-32569	539181.394	616594.092	16.00	10.00	6-16	11.99	8-8-13	1157	0.0	8.20	18.35	3.79	8/23/2013	1453
M3MW06	29-32570	539447.492	617189.197	15.00	10.00	5-15	11.18	8-8-13	1345	0.0	8.34	18.40	2.84	8/23/2013	907
M3MW07	29-39173	539504.797	617278.339	15.00	10.00	5-15	11.10	8-8-13	1340	0.0	8.85	18.70	2.25	8/23/2013	1433
M3MW07A	E201007325	539498.399	617250.91	20.00	15.00	5-20	10.18	8-8-13	1342	0.0	8.07	21.73	2.11	8/23/2013	915
M3MW08	29-39174	539447.101	617065.894	15.00	10.00	5-15	7.97	8-8-13	1350	0.0	5.42	15.57	2.55	8/23/2013	1037
M3MW09	29-39175	539329.450	616876.567	15.00	10.00	5-15	12.74	8-8-13	1353	0.0	10.55	17.05	2.19	8/23/2013	1051
M3MW10	29-39176	539247.405	616555.866	15.00	10.00	5-15	8.10	8-8-13	1403	0.0	4.62	15.14	3.48	8/23/2013	1200
M3MW11	29-39145	539208.575	616424.329	15.00	13.00	2-15	10.93	8-8-13	1409	0.0	6.87	17.21	4.06	8/23/2013	1202
M3MW12	E201010536	539117.994	616059.926	20.00	15.00	5-20	12.91	8-8-13	1412	0.0	8.07	22.23	4.84	8/23/2013	1327
M3MW13	E201010537	539170.377	616415.985	20.00	15.00	5-20	11.28	8-8-13	1201	0.0	7.32	22.20	3.96	8/23/2013	1326
M3MW14	E201010538	539283.987	616872.43	20.00	15.00	5-20	12.66	8-8-13	1151	2.2	9.69	22.20	2.97	8/23/2013	1433

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-03
Fort Monmouth, New Jersey

				M3MW02						M3MW04															
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	1	1 Dup	LF2	LF3	LF4	LF5	44	44 Dup	45	46	46 Dup	47	47 Dup	48	48 Dup	49	49 Dup	50	50 Dup	51	51 Dup	LF52	LF52 Dup
Date Collected				8/20/2010	8/20/2010	12/18/2010	3/10/2011	5/19/2011	8/4/2011	3/26/2008	3/26/2008	6/24/2008	9/9/2008	9/9/2008	12/31/2008	12/31/2008	2/27/2009	2/27/2009	6/13/2009	6/13/2009	9/9/2009	9/9/2009	12/2/2009	12/2/2009	3/11/2010	3/11/2010
ANALYTE/Lab ID				10355.04	10355.03	10563.02	11099.10	1121512	1132508	80097.04	80097.03	80209.04	80325.04	80325.03	80485.04	80485.03	90080.04	90080.03	90236.04	90236.03	90372.04	90372.03	90466.04	90466.03	10086.04	10086.03
Volatile Organic Compounds (µg/L)																										
1,2-Dichlorobenzene	600	600	-	ND	ND	<0.13	<0.13	<0.13	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	-	ND	ND	<0.16	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	-	ND	ND	<0.15	<0.15	<0.15	<0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	-	ND	ND	<0.22	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6000	NLE	-	7.39	8.23	<0.32	<0.32	<0.32	<7.6	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	-	3.49	3.31	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	-	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	NLE	-	ND	ND	<0.32	<0.32	<0.32	<0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	100	NLE	-	NA	NA	NA	NA	NA	<0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	-	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	-	NA	NA	NA	NA	NA	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m +p -xylenes	100	NLE	-	ND	ND	<0.3	<0.3	<0.3	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	NLE	NLE	-	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o- xylene	100	NLE	-	ND	ND	<0.14	<0.14	<0.14	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	-	ND	ND	<1.64	<1.64	<1.64	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	ND	ND	<0.12	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans -1,2-Dichloroethene	100	100	-	ND	ND	<0.14	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1	2	-	ND	ND	<0.22	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	-	ND	ND	ND	ND	ND	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	**3**	ND	ND	ND	0	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	ND	ND	<200	1,350	487	644	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Antimony	6	6	20.70	ND	ND	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Arsenic	3	10	89.30	0.78 ER	1.31 ER	3.7	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Barium	6000	2000	699.00	37.8	36.9	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.2	64.8
Beryllium	1	4	2.10	0.054 ER	ND	<1.0	1.80	<1.0	1.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.181 ER	0.197 ER
Cadmium	4	5	9.50	ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.781 ER	ND
Calcium	NLE	NLE	45400.00	ND	ND	29,300	9,740	5,090	11,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Chromium	70	100	191.00	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Copper	1300	1300	65.60	24.7	21.7	23.0	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Iron	300	NLE	431000	ND	ND	2,290	<100	120.00	490.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Lead	5	15	22.70	ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Magnesium	NLE	NLE	62700	ND	ND	10,600	12,500	7,310	11,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Manganese	50	NLE	331	ND	ND	84.9	52.80	22.70	66.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Mercury	2	2	0.26	ND	ND	NA	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Nickel	100	NLE	187	25.7	26.4	32.3	77.5	40.6	103.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.1	21.6
Potassium	NLE	NLE	137000	ND	ND	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Selenium	40	50	29.60	NR	NR	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR
Silver	40	NLE	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Sodium	50000	NLE	21500	ND	ND	12,100	11,400	<10000	11,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Thallium	2	2	5.50	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
J - Estimated concentration exceeds the MDL and is less than the practical quantitation limit (PQL)
DUP = field duplicate sample
TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

Table 2
Historical Groundwater Analytical Results
Site FTMM-03
Fort Monmouth, New Jersey

				M3MW04										M3MW05											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF53	LF53 Dup	LF54	LF54 Dup	LF55	LF56	LF56 Dup	LF57	LF57 Dup	LF58	44	45	45 Dup	46	47	48	49	50	51	LF52	LF53	LF54	LF55
Date Collected				6/18/2010	6/18/2010	9/7/2010	9/7/2010	12/18/2010	3/10/2011	3/10/2011	5/16/2011	5/16/2011	8/4/2011	3/26/2008	6/24/2008	6/24/2008	9/9/2008	12/31/2008	2/27/2009	6/13/2009	9/9/2009	12/2/2009	3/16/2010	6/24/2010	9/7/2010	12/20/2010
ANALYTE/Lab ID				10273.04	10273.03	10377.04	10377.03	10563.01	11099.04	11099.03	1121104	1121103	1132506	80097.05	80209.05	80209.03	80325.05	80485.05	90080.05	90236.05	90372.05	90466.05	10091.06	10285.06	10377.09	10565.08
Volatile Organic Compounds (µg/L)																										
1,2-Dichlorobenzene	600	600	-	ND	ND	ND	ND	<0.13	<0.13	<0.13	<0.13	<0.13	<0.18	ND	0.47 J	0.45 J	ND	ND	ND	ND	0.56	0.39 J	ND	ND	ND	<0.13
1,3-Dichlorobenzene	600	NLE	-	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16
1,4-Dichlorobenzene	75	75	-	ND	ND	ND	ND	<0.15	<0.15	<0.15	<0.15	<0.15	<0.26	ND	0.88 J	0.93 J	0.41 J	ND	0.63 J	0.4 J	0.97	0.77	ND	0.35 J	0.49 J	<0.15
2-Butanone	300	NLE	-	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22
Acetone	6000	NLE	-	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.32	<0.32	<7.6	2.29	ND	ND	2.86	ND	ND	ND	ND	ND	ND	ND	ND	<0.32
Benzene	1	5	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.22	ND	0.35 J	0.35 J	ND	ND	0.21 J	0.2 J	0.34 J	0.31 J	ND	0.21 J	0.17 J	<0.12
Carbon Disulfide	700	NLE	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12
Chlorobenzene	50	100	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.22	0.95 J	6.97	7.29	2.29	1.88 J	6.01	3.79	8.1	5.39	0.37 J	3.41	3.85	0.48 J
Chloroethane	5	NLE	-	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.32	<0.32	<0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32
Cyclohexane	100	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12
Isopropylbenzene	700	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m+p -xylenes	100	NLE	-	ND	ND	ND	ND	<0.3	<0.3	<0.3	<0.3	<0.3	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.3
Methylcyclohexane	NLE	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o- xylene	100	NLE	-	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.14	<0.14	<0.17	ND	0.16 J	0.18 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14
tert -Butyl alcohol	100	NLE	-	ND	ND	ND	ND	<1.64	<1.64	<1.64	<1.64	<1.64	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.64
Toluene	600	1000	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	0.52	<0.12
trans -1,2-Dichloroethene	100	100	-	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14
Vinyl chloride	1	2	-	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22
Xylenes (Total)	1000	10,000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND	27	27	25	ND	29	15	31	22	ND	8	16	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	ND		ND		251	270	281	302	245	323	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<200
Antimony	6	6	20.70	10		10.6		18.8		12.7		<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.8 ER	9.81 ER	20.4	<6.0
Arsenic	3	10	89.30	1.53 ER	0.96 ER	0.68 ER	1.09 ER	<3.0	<3.0	<3.0	3.3	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.37 ER	ND	1.44 ER	<3.0
Barium	6000	2000	699.00	224		243		301		302		388	216	221	<200	<200	287	NA	NA	NA	NA	NA	NA	NA	NA	NA	64	237	352	<200
Beryllium	1	4	2.10	0.171 ER	0.159 ER	0.116 ER	0.1 ER	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.119 ER	ND	<1.0
Cadmium	4	5	9.50	7.07		7.75		12		12		13.6	6.0	6.1	<3.0	<3.0	9.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	2.69	1.89 ER	<3.0
Calcium	NLE	NLE	45400.00	ND		ND		ND		ND		140,000	61,200	63,000	23,400	21,900	109,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	21,100	70,200	ND	49,200
Chromium	70	100	191.00	ND		ND		ND		ND		<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.25	ND	ND	<10
Copper	1300	1300	65.60	ND		ND		1.16 ER		ND		<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.07 ER	4.42 ER	2.1 ER	<10
Iron	300	NLE	431000	ND		ND		ND		ND		151	188	180	3,240	1,320	1,860	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	40,700	ND	8,650
Lead	5	15	22.70	ND		3.68 ER		ND		3.37 ER		<3.0	<3.0	<3.0	3	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.59 ER	4.53 ER	6.21	<3.0
Magnesium	NLE	NLE	62700	ND		ND		ND		ND		20,600	12,000	12,300	7,240	6,850	18,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,830	8,550	ND	<5000
Manganese	50	NLE	331	ND		ND		ND		ND		143	66.1	65.1	20.6	18.7	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	96.4	330	ND	265
Mercury	2	2	0.26	0.14 ER	0.15 ER	ND	ND	NA	<0.20	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA
Nickel	100	NLE	187	77.8		83.3		82.2		82.3		117	66.6	68.7	40.1	37.5	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.86 ER	0.503 ER	1.1 ER	<10
Potassium	NLE	NLE	137000	ND		ND		ND		ND		15,100	<10000	<10000	<10000	<10000	12,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	5,430	ND	<10000
Selenium	40	50	29.60	NR		NR		ND		ND		<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	ND	<10
Silver	40	NLE	ND	ND		ND		ND		ND		<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	6,016	ND	<10
Sodium	50000	NLE	21500	ND		ND		ND		ND		51,900	32,800	33,800	21,900	20,800	48,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,510 ER	15,400	ND	<10000
Thallium	2	2	5.50	ND		ND		ND		ND		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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reporting limit (RL)

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Table 2
Historical Groundwater Analytical Results
Site FTMM-03
Fort Monmouth, New Jersey

	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	M3MW05			M3MW06													M3MW07				
Round No.				LF56	LF57	LF58	44	45	46	47	48	49	50	51	LF52	LF53	LF54	LF55	LF56	LF57	LF58	40	41	42	43	44
Date Collected				3/10/2011	5/16/2011	8/4/2011	3/26/2008	6/24/2008	9/9/2008	12/31/2008	2/27/2009	6/13/2009	9/9/2009	12/2/2009	3/11/2010	6/18/2010	9/7/2010	12/20/2010	3/10/2011	5/19/2011	8/5/2011	3/26/2008	6/24/2008	9/9/2008	12/31/2008	2/27/2009
ANALYTE/Lab ID				11099.09	1121105	1132507	80097.06	80209.06	80325.06	80485.06	90080.06	90236.06	90372.06	90466.06	10086.06	10273.06	10377.06	10565.05	11099.07	1121506	1132605	80097.07	80209.07	80325.07	80485.07	90080.07
Volatile Organic Compounds (µg/L)																										
1,2-Dichlorobenzene	600	600	-	<0.13	<0.13	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.13	<0.13	<0.13	<0.18	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	-	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	-	<0.15	<0.15	0.97 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.15	<0.15	<0.15	<0.26	ND	ND	ND	ND	ND
2-Butanone	300	NLE	-	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND
Acetone	6000	NLE	-	<0.32	<0.32	<7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<7.6	ND	ND	ND	ND	ND
Benzene	1	5	-	<0.12	<0.12	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	0.19 J	0.22 J	ND	0.35 J
Carbon Disulfide	700	NLE	-	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND
Chlorobenzene	50	100	-	0.75	0.46 J	6.4	0.29 J	0.59 J	0.9 J	ND	0.8 J	ND	1.12	0.63	ND	ND	ND	<0.12	<0.12	<0.12	0.33 J	ND	ND	ND	ND	ND
Chloroethane	5	NLE	-	<0.32	<0.32	<0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.37	ND	ND	ND	ND	ND
Cyclohexane	100	NLE	-	NA	NA	<0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.29	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	-	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	33.77	21.9 3	28.31	47.87	72.51
Isopropylbenzene	700	NLE	-	NA	NA	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.19	NA	NA	NA	NA	NA
m +p -xylenes	100	NLE	-	<0.3	<0.3	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.3	<0.3	<0.3	<0.32	ND	ND	ND	ND	ND
Methylcyclohexane	NLE	NLE	-	NA	NA	<0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA
o- xylene	100	NLE	-	<0.14	<0.14	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.17	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	-	<1.64	<1.64	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.64	<1.64	<1.64	NA	ND	6.16 J	14.19	ND	ND
Toluene	600	1000	-	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND
trans -1,2-Dichloroethene	100	100	-	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.31	0.34 J	0.32 J	0.53 J	ND	0.7 J
Vinyl chloride	1	2	-	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.27	10.69	6.45	10.92	29.6	35.77
Xylenes (Total)	1000	10,000	-	ND	ND	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.17	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	29.1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	ND	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	567	568	<200	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<200	<200	472	1,150	NA	NA	NA	NA	NA
Antimony	6	6	20.70	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	10.9	<6.0	<6.0	8.6	<6.0	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.17 ER	<3.0	<3.0	<3.0	4	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	<200	<200	440	NA	NA	NA	NA	NA	NA	NA	NA	11.8	11.9	10.6	<200	<200	<200	<200	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.575 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	30,200	36,500	92,800	NA	NA	NA	NA	NA	NA	NA	NA	ND	8,670	ND	86,900	19,800	63,100	32,500	NA	NA	NA	NA	NA
Chromium	70	100	191.00	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	2.71 ER	1.5 ER	ND	<10	<10	<10	17.8	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	1 ER	1.88 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA
Iron	300	NLE	431000	15,900	31,700	62,300	NA	NA	NA	NA	NA	NA	NA	NA	639 ER	130 ER	ND	369	792	4,290	28,800	NA	NA	NA	NA	NA
Lead	5	15	22.70	<3.0	6.3	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	3.66 ER	<3.0	<3.0	4	6.5	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	<5000	<5000	11,900	NA	NA	NA	NA	NA	NA	NA	NA	2,620	2,440	ND	7,930	<5000	8,430	7,110	NA	NA	NA	NA	NA
Manganese	50	NLE	331	127	183	432	NA	NA	NA	NA	NA	NA	NA	NA	36.2	36.6	ND	42.8	68.9	222	259	NA	NA	NA	NA	NA
Mercury	2	2	0.26	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.14 ER	ND	NA	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA
Nickel	100	NLE	187	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	2.44 ER	2.22 ER	4.58 ER	15.8	<10	15.1	<10	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	4,970	4,400	ND	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA
Selenium	40	50	29.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA
Silver	40	NLE	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	1.08 ER	0.558 ER	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	<10000	<10000	21,900	NA	NA	NA	NA	NA	NA	NA	NA	11,000	11,900	ND	64,700	24,900	39,100	31,300	NA	NA	NA	NA	NA
Thallium	2	2	5.50	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	M3MW07										M3MW07A						M3MW08						
Round No.				45	46	47	LF48	LF49	LF50	LF51	LF52	LF53	LF54	1	LF2	LF2	LF3	LF4	LF5	39	40	41	42	43	44	45
Date Collected				6/13/2009	9/9/2009	12/2/2009	3/16/2010	6/18/2010	9/7/2010	12/21/2010	3/10/2011	5/19/2011	8/5/2011	8/20/2010	12/21/2010	12/21/2010	3/10/2011	5/19/2011	8/5/2011	3/26/2008	6/24/2008	9/9/2008	12/31/2008	2/27/2009	6/13/2009	9/9/2009
ANALYTE/Lab ID				90236.07	90372.07	90466.07	10091.08	10273.07	10377.11	10571.06	11099.05	1121511	1132611	10355.05	10571.04	10571.03	11099.06	1121510	1132608	80097.08	80209.08	80325.08	80485.08	90080.08	90236.08	90372.08
Volatile Organic Compounds (µg/L)																										
1,2-Dichlorobenzene	600	600	-	ND	ND	ND	ND	ND	ND	<0.13	<0.13	<0.13	<0.18	ND	<0.13	<0.13	<0.13	<0.13	<0.18	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	-	ND	ND	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.29	ND	<0.16	<0.16	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	-	ND	ND	ND	ND	ND	ND	<0.15	<0.15	<0.15	<0.26	ND	<0.15	<0.15	0.2 J	0.27 J	<0.26	ND	ND	ND	0.63 J	0.38 J	0.54 J	0.26 J
2-Butanone	300	NLE	-	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<2.9	ND	<0.22	<0.22	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND	ND	ND
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<7.6	ND	<0.32	<0.32	<0.32	<0.32	<7.6	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	0.21 J	0.19 J	ND	ND	ND	ND	<0.12	<0.12	<0.12	0.35 J	ND	<0.12	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	-	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.18	ND	<0.12	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	-	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	0.5 J	0.52	0.62	0.72	0.31 J	0.25 J	0.22 J	0.4 J	0.97 J	1.08 J	1.06 J	0.5 J
Chloroethane	5	NLE	-	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.37	ND	<0.32	<0.32	<0.32	<0.32	<0.37	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	100	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.29	NA	NA	NA	NA	NA	<0.29	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	-	36.09	22.28	5.98	15.35	11.18	8.82	5.10	<0.12	2.12	45.1	ND	<0.12	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.19	NA	NA	NA	NA	NA	<0.19	NA	NA	NA	NA	NA	NA	NA
m +p -xylenes	100	NLE	-	ND	ND	ND	ND	ND	ND	<0.3	<0.3	<0.3	<0.32	ND	<0.3	<0.3	<0.3	<0.3	<0.32	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	NLE	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA	NA	NA
o- xylene	100	NLE	-	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.17	ND	<0.14	<0.14	<0.14	<0.14	<0.17	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	-	ND	ND	ND	ND	ND	ND	<1.64	<1.64	<1.64	NA	ND	<1.64	<1.64	<1.64	<1.64	NA	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.15	ND	<0.12	<0.12	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND	ND	ND
trans -1,2-Dichloroethene	100	100	-	0.34 J	0.34 J	ND	0.23 J	ND	ND	<0.14	<0.14	<0.14	0.64 J	ND	<0.14	<0.14	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1	2	-	15.04	11.57	1.98	11.52	10.21	7.98	2.19	<0.22	1.45	24.3	ND	<0.22	<0.22	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.17	ND	ND	ND	ND	ND	<0.17	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND	4	3	ND	ND	0	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	NA	NA	NA	ND	ND	ND	<200	<200	<200	<200	ND	<200	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	10.5 ER	15.8 ER	17.8	<6.0	<6.0	<6.0	<6.0	12.9	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	ND	ND	0.72 ER	<3.0	<3.0	<3.0	<3.0	1.82 ER	<3.0	3.1	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	116	145	150	441	<200	<200	<200	96.3	555	564	310	231	<200	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	ND	0.616 ER	ND	3.9	<3.0	<3.0	11.2	0.595 ER	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	ND	ND	ND	346,000	172,000	142,000	106,000	ND	354,000	358,000	207,000	160,000	121,000	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	ND	2.38 ER	1.19 ER	<10	10.7	<10	35.8	1.89 ER	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	ND	ND	ND	10,200	4,820	8,250	12,900	ND	45,000	48,900	42,300	32,200	35,200	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	ND	3.34 ER	ND	<3.0	<3.0	<3.0	<3.0	ND	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	ND	ND	ND	122,000	50,100	47,100	37,600	ND	66,400	70,700	36,100	24,100	22,100	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	NA	NA	NA	ND	ND	ND	2,290	1,740	1,300	950	ND	1,900	1,880	1,400	1,120	826	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	ND	0.13 ER	0.07 ER	NA	<0.20	<0.20	0.78	ND	NA	NA	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	1.24 ER	2.26 ER	1.52 ER	<10	26.6	<10	16.3	1.26 ER	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	ND	ND	ND	34,600	16,800	19,900	19,900	ND	19,900	20,600	13,600	10,400	11,500	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NR	NR	ND	<10	<10	<10	<10	NR	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	ND	ND	ND	900,000	278,000	298,000	235,000	ND	426,000	42,900	160,000	9,100	86,600	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	ND	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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Table 2
Historical Groundwater Analytical Results
Site FTMM-03
Fort Monmouth, New Jersey

				M3MW08											M3MW09										
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	46	LF47	LF48	LF49	LF50	LF50 Dup	LF51	LF52	LF52 Dup	LF53	LF53 Dup	39	40	41	42	43	44	45	46	LF47	LF48	LF49	LF50	LF51
Date Collected				12/2/2009	3/11/2010	6/18/2010	9/7/2010	12/20/2010	12/20/2010	3/14/2011	5/19/2011	5/19/2011	8/5/2011	8/5/2011	3/26/2008	6/24/2008	9/9/2008	12/31/2008	2/27/2009	6/13/2009	9/9/2009	12/2/2009	3/16/2010	6/24/2010	9/7/2010	12/20/2010	3/14/2011
ANALYTE/Lab ID				90466.08	10086.05	10273.05	10377.05	10565.04	10565.03	11105.04	1121504	1121503	1132604		80097.09	80209.09	80325.09	80485.09	90080.09	90236.09	90372.09	90466.09	10091.07	10285.07	10377.1	10565.09	11105.05
Volatile Organic Compounds (µg/L)																											
1,2-Dichlorobenzene	600	600	-	ND	ND	ND	ND	<0.13	<0.13	<0.13	<0.13	<0.13	<0.18	<0.18	0.64 J	0.72 J	0.46 J	0.45 J	0.47 J	0.59 J	0.71	0.71	0.54	0.7	0.51	0.61	0.4 J
1,3-Dichlorobenzene	600	NLE	-	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.16	<0.16	<0.29	<0.29	ND	0.26 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	0.16 J
1,4-Dichlorobenzene	75	75	-	0.65	0.66	0.57	ND	0.47 J	<0.15	0.49 J	0.54	0.55	<0.26	<0.26	ND	0.26 J	ND	ND	ND	ND	0.2 J	ND	ND	ND	ND	1.42	1.2
2-Butanone	300	NLE	-	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.22	<0.22	<2.9	<2.9	1.47 J	1.83 J	1.28 J	1.02 J	0.74 J	1.23 J	1.53	1.86	1.59	1.9	1.24	<0.22	<0.22
Acetone	6000	NLE	-	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.32	<0.32	<7.6	<7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32
Benzene	1	5	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.22	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12
Carbon Disulfide	700	NLE	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.18	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12
Chlorobenzene	50	100	-	0.82	1.4	1.31	ND	0.82	<0.12	0.92	0.96	0.97	0.51 J	0.49 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.79	7.89
Chloroethane	5	NLE	-	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.32	<0.32	<0.37	<0.37	11.88	11.81	11.25	10.82	10.05	10.01	12.38	10.78	9.08	11.62	8.04	<0.32	<0.32
Cyclohexane	100	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.29	<0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.22	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12
Isopropylbenzene	700	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.19	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m+p -xylenes	100	NLE	-	ND	ND	ND	ND	<0.3	<0.3	<0.3	<0.3	<0.3	<0.32	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.3	<0.3
Methylcyclohexane	NLE	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.18	<0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o- xylene	100	NLE	-	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.14	<0.14	<0.17	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14
tert -Butyl alcohol	100	NLE	-	ND	ND	ND	ND	<1.64	<1.64	<1.64	<1.64	<1.64	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.64	<1.64
Toluene	600	1000	-	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.15	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38 J	ND	<0.12	<0.12
trans -1,2-Dichloroethene	100	100	-	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.14	<0.14	<0.31	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14
Vinyl chloride	1	2	-	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.22	<0.22	<0.27	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22
Xylenes (Total)	1000	10,000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.17	<0.17	ND	ND	0.18 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0	4	4	69	ND	ND	4	4	4	4	6	4	6	3
Metals (µg/L)																											
Aluminum	200	NLE	121000	NA	ND	ND	ND	<200	<200	<200	301	205	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	324	864
Antimony	6	6	20.70	NA	ND	13.8	16.9	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	9.34	10.6	<6.0	<6.0
Arsenic	3	10	89.30	NA	ND	ND	4.31 ER	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.67 ER	<3.0	<3.0
Barium	6000	2000	699.00	NA	185	210	485	608	592	210	310	286	252	252	NA	NA	NA	NA	NA	NA	NA	NA	281	280	307	317	236
Beryllium	1	4	2.10	NA	ND	0.042 ER	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.134 ER	ND	<1.0	<1.0
Cadmium	4	5	9.50	NA	0.588 ER	1.51 ER	3.68	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	1.54 ER	4.28	1.9 ER	<3.0	<3.0
Calcium	NLE	NLE	45400.00	NA	ND	ND	ND	155,000	151,000	63,600	61,500	62,100	64,200	63,400	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	51,700	37,200
Chromium	70	100	191.00	NA	ND	ND	ND	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10
Copper	1300	1300	65.60	NA	ND	2.69 ER	2.64 ER	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	11	9.77	3.25 ER	27.0	21.4
Iron	300	NLE	431000	NA	ND	ND	ND	83,400	81,200	40,400	73,600	64,100	60,300	62,800	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	61,500	51,300
Lead	5	15	22.70	NA	ND	4.43 ER	8.37	<3.0	<3.0	<3.0	4.5	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	2.56 ER	4.08 ER	3.29 ER	<3.0	4.4
Magnesium	NLE	NLE	62700	NA	ND	ND	ND	73,900	72,200	19,800	19,400	20,100	17,600	17,800	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	8,920	7,000
Manganese	50	NLE	331	NA	ND	ND	ND	1,650	1,600	682	763	758	813	825	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	700	464
Mercury	2	2	0.26	NA	ND	0.14 ER	ND	NA	NA	<0.20	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	<0.20
Nickel	100	NLE	187	NA	1.55 ER	ND	3.08 ER	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	4.66 ER	0.889 ER	1.42 ER	10.7	<10
Potassium	NLE	NLE	137000	NA	ND	ND	ND	19,100	19,000	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10000	<10000
Selenium	40	50	29.60	NA	NR	NR	ND	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	ND	<10	<10
Silver	40	NLE	ND	NA	ND	ND	ND	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10
Sodium	50000	NLE	21500	NA	ND	ND	ND	530,000	526,000	84500	78,600	82,900	44800	45,200	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	17,300	19,800
Thallium	2	2	5.50	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
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Table 2
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Site FTMM-03
Fort Monmouth, New Jersey

				M3MW09			M3MW10														M3MW11				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF51 Dup	LF52	LF53	39	40	41	42	43	44	45	46	LF47	LF48	LF49	LF50	LF51	LF52	LF53	39	40	41	42	43
Date Collected				3/14/2011	5/19/2011	8/5/2011	3/26/2008	6/24/2008	9/9/2008	12/31/2008	2/27/2009	6/13/2009	9/9/2009	12/2/2009	3/16/2010	6/24/2010	9/7/2010	12/20/2010	3/14/2011	5/19/2011	8/5/2011	3/26/2008	6/24/2008	9/9/2008	12/31/2008	2/27/2009
ANALYTE/Lab ID				11105.03	1121507	1132610	80097.10	80209.10	80325.10	80485.10	90080.10	90236.10	90372.10	90466.10	10091.05	10285.05	10377.08	10565.07	11105.06	1121507.00	1132609	80097.11	80209.11	80325.11	80485.11	90080.11
Volatile Organic Compounds (µg/L)																										
1,2-Dichlorobenzene	600	600	-	0.36 J	<0.13	0.65 J	0.4 J	ND	0.45 J	0.42 J	0.42 J	ND	0.35 J	0.43 J	0.43 J	0.46 J	0.41 J	0.48 J	0.41 J	0.32 J	0.38 J	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	-	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	-	1.07	<0.15	1.7	1.14 J	0.88 J	1.08 J	1.29 J	1 J	0.72 J	0.98	1.29	1.25	1.28	1.23	1.15	1.06	0.88	1.1	0.61 J	1.17 J	1.34 J	0.67 J	0.72 J
2-Butanone	300	NLE	-	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND
Acetone	6000	NLE	-	<0.32	<0.32	<7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<7.6	ND	ND	ND	ND	ND
Benzene	1	5	-	<0.12	<0.12	<0.22	0.19 J	ND	ND	ND	ND	ND	ND	ND	0.21 J	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	-	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND
Chlorobenzene	50	100	-	7.27	0.89	10.7	10.62	7.98	6.7	12	10.98	6.11	9.25	11.03	10.62	11.1	10.37	11.66	10.34	8.2	9.8	2.03	3.09	3.73	1.34 J	2.24
Chloroethane	5	NLE	-	<0.32	<0.32	<0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.37	ND	ND	ND	ND	ND
Cyclohexane	100	NLE	-	NA	NA	<0.29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.61 J	NA	NA	NA	NA	NA
cis -1,2-Dichloroethene	70	70	-	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	-	NA	NA	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.19	NA	NA	NA	NA	NA
m +p -xylenes	100	NLE	-	<0.3	<0.3	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.3	<0.3	<0.3	<0.32	ND	ND	ND	ND	ND
Methylcyclohexane	NLE	NLE	-	NA	NA	<0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA
o- xylene	100	NLE	-	<0.14	<0.14	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.17	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	-	<1.64	<1.64	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.64	<1.64	<1.64	NA	ND	ND	ND	ND	ND
Toluene	600	1000	-	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND
trans -1,2-Dichloroethene	100	100	-	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND
Vinyl chloride	1	2	-	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	-	ND	ND	<0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16 J	0.2 J	ND	ND	ND	<0.17	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	5.1 J	38	14	6	18	24	15	22	23	24	42	ND	44	26	14	22.4	4	4	40	ND	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	742	940	<200	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<200	<200	2,080	1,050	NA	NA	NA	NA	NA
Antimony	6	6	20.70	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	13.7	16.9	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.04 ER	<3.0	<3.0	6.5	3.3	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	237	305	336	NA	NA	NA	NA	NA	NA	NA	NA	242	527	626	769	660	736	681	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.125 ER	ND	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	3.56	2.01	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	37,800	41,700	50,600	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	126,000	103,000	104,000	99,600	NA	NA	NA	NA	NA
Chromium	70	100	191.00	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	13.9	10.9	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	17.4	53.4	12.3	NA	NA	NA	NA	NA	NA	NA	NA	ND	4.49 ER	2.18 ER	<10	<10	19.1	<10	NA	NA	NA	NA	NA
Iron	300	NLE	431000	51,400	59,300	62,300	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	85,200	93,300	105,000	82,000	NA	NA	NA	NA	NA
Lead	5	15	22.70	3.6	8.4	3.4	NA	NA	NA	NA	NA	NA	NA	NA	ND	6.17	6.2	<3.0	<3.0	10.5	5.4	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	7,050	8,580	9,040	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	15,700	15,000	15,400	14,200	NA	NA	NA	NA	NA
Manganese	50	NLE	331	469	865	666	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	819	884	873	706	NA	NA	NA	NA	NA
Mercury	2	2	0.26	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	0.07 ER	ND	ND	NA	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA
Nickel	100	NLE	187	<10	20.2	14.3	NA	NA	NA	NA	NA	NA	NA	NA	1.35 ER	ND	0.952 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	11,200	<10000	10,500	10,800	NA	NA	NA	NA	NA
Selenium	40	50	29.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA
Silver	40	NLE	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	17,900	25,700	14,200	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	26,400	22,000	20,300	20,100	NA	NA	NA	NA	NA
Thallium	2	2	5.50	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

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< = Analyte does not exceed the detection limit shown
reporting limit (RL)
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J - Estimated concentration exceeds the MDL and is less than the practical quantitation limit (PQL)
DUP = field duplicate sample
TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

Table 2
Historical Groundwater Analytical Results
Site FTMM-03
Fort Monmouth, New Jersey

				M3MW11												M3MW12								M3MW13		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	44	45	46	LF47	LF47 Dup	LF48	LF48 Dup	LF49	LF50	LF51	LF52	LF53	LF1	LF1 Dup	LF2	LF 2 Dup	LF3	LF4	LF5	LF6	LF1	LF2	LF3
Date Collected				6/13/2009	9/9/2009	12/2/2009	3/16/2010	3/16/2010	6/24/2010	6/24/2010	9/7/2010	12/20/2010	3/14/2011	5/19/2011	8/5/2011	10/7/2010	10/7/2010	10/21/2010	10/21/2010	12/21/2010	3/14/2011	5/19/2011	8/5/2011	10/7/2010	10/21/2010	12/21/2010
ANALYTE/Lab ID				90236.11	90372.11	90466.11	10091.04	10091.03	10285.04	10285.03	10377.07	10565.06	11105.07	1121505	1132606	10432.04	10432.03	10452.04	10452.03	10571.05	11105.08	1121509	1132607	10432.06	10452.06	10571.08
Volatile Organic Compounds (µg/L)																										
1,2-Dichlorobenzene	600	600	-	ND	0.27 J	ND	ND	ND	ND	ND	ND	<0.13	0.22 J	0.18 J	0.33 J	ND	ND	ND	ND	<0.13	<0.13	<0.13	<0.18	ND	0.41 J	0.48 J
1,3-Dichlorobenzene	600	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.29	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.29	ND	ND	<0.16
1,4-Dichlorobenzene	75	75	-	0.39 J	0.86	1.31	0.54	0.54	0.67	0.6	0.78	0.70	0.65	0.5 J	1.5	ND	ND	ND	ND	<0.15	<0.15	<0.15	<0.26	1.73	1.82	2.06
2-Butanone	300	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<2.9	ND	ND	ND	ND	<0.22	<0.22	<0.22	<2.9	ND	ND	<0.22
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<7.6	ND	ND	ND	ND	<0.32	<0.32	<0.32	<7.6	ND	ND	<0.32
Benzene	1	5	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	<0.12
Carbon Disulfide	700	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.18	ND	ND	<0.12
Chlorobenzene	50	100	-	1.18 J	3.99	3.38	1.76	1.79	3.19	2.96	4.11	2.32	2.26	1.75	3.7	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	3.97	3.93	3.57
Chloroethane	5	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.37	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.37	ND	ND	<0.32
Cyclohexane	100	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.29	NA	NA	NA	NA	NA	NA	NA	<0.29	NA	NA	NA
cis -1,2-Dichloroethene	70	70	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.22	ND	ND	<0.12
Isopropylbenzene	700	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.25 J	NA	NA	NA	NA	NA	NA	NA	<0.19	NA	NA	NA
m +p -xylenes	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.3	<0.3	<0.3	<0.32	ND	ND	ND	ND	<0.3	<0.3	<0.3	<0.32	ND	ND	<0.3
Methylcyclohexane	NLE	NLE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.18	NA	NA	NA	NA	NA	NA	NA	<0.18	NA	NA	NA
o- xylene	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.17	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.17	ND	ND	<0.14
tert -Butyl alcohol	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	<1.64	<1.64	<1.64	NA	ND	ND	ND	ND	<1.64	<1.64	<1.64	NA	ND	ND	<1.64
Toluene	600	1000	-	ND	0.21 J	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.15	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.15	ND	ND	<0.12
trans -1,2-Dichloroethene	100	100	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.31	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.31	ND	ND	<0.14
Vinyl chloride	1	2	-	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.27	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.27	ND	ND	<0.22
Xylenes (Total)	1000	10,000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.17	ND	ND	ND	ND	ND	ND	ND	<0.17	ND	ND	ND
TICs*	500	NLE	-	ND	19	13	3	3	14	10	30	4	5	ND	6.7 J	ND	ND	ND	ND	ND	ND	ND	0	9	7	13
Metals (µg/L)																										
Aluminum	200	NLE	121000	NA	NA	NA	ND	ND	ND	ND	ND	<200	<200	435	460	ND	ND	ND	ND	<200	<200	332	<200	ND	ND	<200
Antimony	6	6	20.70	NA	NA	NA	ND	ND	9.9 ER	11.3	16.4	<6.0	<6.0	<6.0	<6.0	ND	13.7	ND	ND	<6.0	<6.0	<6.0	<6.0	ND	7.23	<6.0
Arsenic	3	10	89.30	NA	NA	NA	ND	ND	ND	0.72 ER	0.87 ER	<3.0	<3.0	<3.0	<3.0	3.4	2.35 ER	2.25 ER	2.37 ER	<3.0	<3.0	<3.0	3.9	3.4	0.73 ER	<3.0
Barium	6000	2000	699.00	NA	NA	NA	169	141	189	184	201	338	312	276	352	75.6	73.2	74.7	74.4	<200	<200	<200	<200	620	593	673
Beryllium	1	4	2.10	NA	NA	NA	ND	ND	0.143 ER	0.119 ER	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0
Cadmium	4	5	9.50	NA	NA	NA	ND	ND	2.32	2.78	0.752 ER	<3.0	<3.0	<3.0	5.3	0.797 ER	0.506 ER	1.35 ER	1.53 ER	<3.0	<3.0	<3.0	<3.0	1.37 ER	3.24	<3.0
Calcium	NLE	NLE	45400.00	NA	NA	NA	ND	ND	ND	ND	ND	162,000	123,000	112,000	114,000	ND	ND	ND	ND	25,100	23,900	23,600	23,100	ND	ND	93,300
Chromium	70	100	191.00	NA	NA	NA	ND	ND	ND	ND	ND	<10	<10	<10	<10	ND	ND	ND	ND	<10	<10	<10	<10	ND	1.91 ER	<10
Copper	1300	1300	65.60	NA	NA	NA	6.73	8.25	4.58 ER	4.31 ER	1.3 ER	11.8	12.5	37.8	29.3	ND	ND	1.86 ER	1.65 ER	<10	<10	<10	<10	ND	5.16	<10
Iron	300	NLE	431000	NA	NA	NA	ND	ND	ND	ND	ND	51,200	60,200	69,300	67,500	ND	ND	ND	ND	34,300	42,300	43,600	31,800	ND	ND	67,100
Lead	5	15	22.70	NA	NA	NA	ND	ND	3.41 ER	3.08 ER	ND	<3.0	<3.0	4.2	3	ND	ND	ND	ND	<3.0	<3.0	3.5	<3.0	4.43 ER	ND	<3.0
Magnesium	NLE	NLE	62700	NA	NA	NA	ND	ND	ND	ND	ND	12,300	10,600	10,000	10,900	ND	ND	ND	ND	<5000	<5000	<5000	<5000	ND	ND	10,500
Manganese	50	NLE	331	NA	NA	NA	ND	ND	ND	ND	ND	1,340	1,010	1,010	802	ND	ND	ND	ND	145	138	141	218	ND	ND	665
Mercury	2	2	0.26	NA	NA	NA	0.07 ER	ND	ND	ND	ND	NA	<0.20	0.36	0.33	ND	ND	ND	ND	NA	<0.20	0.29	<0.20	ND	ND	NA
Nickel	100	NLE	187	NA	NA	NA	79.5	64.1	4.1 ER	4.61 ER	2.23 ER	64.2	17.3	65.4	82.3	1.25 ER	1.17 ER	ND	ND	<10	<10	<10	<10	3.23 ER	ND	<10
Potassium	NLE	NLE	137000	NA	NA	NA	ND	ND	ND	ND	ND	<10000	<10000	<10000	<10000	ND	ND	ND	ND	<10000	10,100	<10000	<10000	ND	ND	<10000
Selenium	40	50	29.60	NA	NA	NA	NR	NR	NR	NR	ND	<10	<10	<10	<10	ND	ND	ND	ND	<10	<10	<10	<10	ND	ND	<10
Silver	40	NLE	ND	NA	NA	NA	ND	ND	ND	ND	ND	<10	<10	<10	<10	ND	ND	ND	ND	<10	<10	<10	<10	ND	ND	<10
Sodium	50000	NLE	21500	NA	NA	NA	ND	ND	ND	ND	ND	27,800	16,800	14,200	15,300	ND	ND	ND	ND	<10000	<10000	<10000	<10000	ND	ND	12,700
Thallium	2	2	5.50	NA	NA	NA	ND	ND	ND	0.79 ER	ND	<2.0	<2.0	<2.0	<2.0	ND	0.73 ER	0.72 ER	1.04 ER	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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reporting limit (RL)

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Table 2
Historical Groundwater Analytical Results
Site FTMM-03
Fort Monmouth, New Jersey

	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	M3MW13				M3MW14					
Round No.				LF4	LF5	LF6	LF6 Dup	LF1	LF2	LF3	LF4	LF5	LF6
Date Collected				3/14/2011	5/19/2011	8/4/2011	8/4/2011	10/7/2010	10/21/2010	12/21/2010	3/10/2011	5/16/2011	8/4/2011
ANALYTE/Lab ID				11105.09	1121513	1132504	1132503	10432.05	10452.05	10571.07	11099.08	1121106	1132505
Volatile Organic Compounds (µg/L)													
1,2-Dichlorobenzene	600	600	-	0.46 J	0.54	0.5 J	0.53 J	0.44 J	0.58	0.6	0.7	0.54	0.56 J
1,3-Dichlorobenzene	600	NLE	-	0.2 J	0.17 J	<0.29	<0.29	ND	0.32 J	0.44 J	0.4 J	0.35 J	0.42 J
1,4-Dichlorobenzene	75	75	-	1.86	2.33	3	2.9	1.47	2.09	1.82	2.03	2.03	2.2
2-Butanone	300	NLE	-	<0.22	<0.22	<2.9	<2.9	ND	ND	<0.22	<0.22	<0.22	<2.9
Acetone	6000	NLE	-	<0.32	<0.32	<7.6	<7.6	ND	ND	<0.32	<0.32	<0.32	<7.6
Benzene	1	5	-	<0.12	<0.12	<0.22	<0.22	0.23 J	0.3 J	0.28 J	0.32 J	0.3 J	0.29 J
Carbon Disulfide	700	NLE	-	<0.12	<0.12	<0.18	<0.18	ND	ND	<0.12	<0.12	<0.12	<0.18
Chlorobenzene	50	100	-	3	2.97	3.8	3.80	8.63	10.54	9.78	10.22	13.31	12.30
Chloroethane	5	NLE	-	<0.32	<0.32	<0.37	<0.37	ND	ND	<0.32	<0.32	<0.32	<0.37
Cyclohexane	100	NLE	-	NA	NA	<0.29	<0.29	NA	NA	NA	NA	NA	<0.29
cis -1,2-Dichloroethene	70	70	-	<0.12	<0.12	<0.22	<0.22	ND	ND	<0.12	<0.12	<0.12	<0.22
Isopropylbenzene	700	NLE	-	NA	NA	<0.19	<0.19	NA	NA	NA	NA	NA	<0.19
m +p -xylenes	100	NLE	-	<0.3	<0.3	<0.32	<0.32	ND	ND	<0.3	<0.3	<0.3	<0.32
Methylcyclohexane	NLE	NLE	-	NA	NA	<0.18	<0.18	NA	NA	NA	NA	NA	0.47 J
o- xylene	100	NLE	-	<0.14	<0.14	<0.17	<0.17	ND	ND	<0.14	<0.14	<0.14	<0.17
tert -Butyl alcohol	100	NLE	-	<1.64	<1.64	NA	NA	ND	ND	<1.64	<1.64	<1.64	NA
Toluene	600	1000	-	<0.12	<0.12	<0.15	<0.15	ND	ND	<0.12	<0.12	<0.12	<0.15
trans -1,2-Dichloroethene	100	100	-	<0.14	<0.14	<0.31	<0.31	ND	ND	<0.14	<0.14	<0.14	<0.31
Vinyl chloride	1	2	-	<0.22	<0.22	<0.27	<0.27	ND	ND	<0.22	<0.22	<0.22	<0.27
Xylenes (Total)	1000	10,000	-	ND	ND	<0.17	<0.17	ND	ND	ND	ND	ND	<0.17
TICs*	500	NLE	-	5	4	5.5 J	5.9 J	18	50	54	46	51	13 J
Metals (µg/L)													
Aluminum	200	NLE	121000	<200	370	790	1,820	ND	ND	<200	<200	254	<200
Antimony	6	6	20.70	<6.0	<6.0	<6.0	<6.0	ND	6.84	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	<3.0	<3.0	<3.0	3.2	2.38 ER	1.35 ER	<3.0	<3.0	<3.0	<3.0
Barium	6000	2000	699.00	656	535	599	652	191	226	255	243	223	<200
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	<3.0	1.01 ER	3.39	<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	121,000	75,900	77,300	81,100	ND	ND	64,400	59,100	52,700	54,400
Chromium	70	100	191.00	<10	<10	<10	13.4	ND	1.32 ER	<10	<10	<10	<10
Copper	1300	1300	65.60	<10	<10	<10	<10	ND	5.1	<10	<10	<10	<10
Iron	300	NLE	431000	88,300	76,100	74,900	82,300	ND	ND	75,000	77,800	73,300	54,900
Lead	5	15	22.70	<3.0	5	8.7	18.2	ND	2.99 ER	<3.0	<3.0	4.6	<3.0
Magnesium	NLE	NLE	62700	14,900	11,700	11,300	12,200	ND	ND	12,000	12,700	11,200	11,000
Manganese	50	NLE	331	1,120	827	705	745	ND	ND	603	602	578	505
Mercury	2	2	0.26	<0.20	<0.20	<0.20	0.21	0.60	ND	NA	<0.20	<0.20	0.51
Nickel	100	NLE	187	<10	<10	<10	<10	4.15 ER	ND	<10	<10	<10	<10
Potassium	NLE	NLE	137000	<10000	<10000	<10000	<10000	ND	ND	<10000	<10000	<10000	<10000
Selenium	40	50	29.60	<10	<10	<10	<10	ND	ND	<10	<10	<10	<10
Silver	40	NLE	ND	<10	<10	<10	<10	ND	ND	<10	<10	<10	<10
Sodium	50000	NLE	21500	14,700	13,900	12,600	12,900	ND	ND	10,700	10,200	<10000	<10000
Thallium	2	2	5.50	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	<2.0	<2.0	<2.0

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
J - Estimated concentration exceeds the MDL and is less than the practical quantitation limit (PQL)
DUP = field duplicate sample
TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-03
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-3-GW-M3MW04		FTMM-3-GW-M3MW05		FTMM-3-GW-M3MW06		FTMM-3-GW-M3MW07		FTMM-3-GW-M3MW07A		FTMM-3-GW-M3MW17A*		FTMM-3-GW-M3MW08		FTMM-3-GW-M3MW09	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013	
LAB SAMPLE ID:						R1306198-014		R1306198-020		R1306198-001		R1306198-018		R1306198-004		R1306198-005		R1306198-007		R1306198-009	
SAMPLE INTERVAL (ft bgs):						8-23		6-16		5-15		5-15		5-20		5-20		5-15		5-15	
	CAS No.	Unit																			
Volatile Organics - SW8260C																					
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1-Dichloroethene	75-35-4	µg/L	1	7	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	**0.46**	J
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	**0.38**	J	**0.39**	J	**0.96**	J	**1.5**	J
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	--	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Acetone	67-64-1	µg/L	6,000	NLE	--	5.0	UJ	**6.7**	BJ	5.0	UJ	**3.0**	BJ	**2.9**	BJ	**2.2**	BJ	**2.8**	BJ	**2.3**	BJ
Benzene	71-43-2	µg/L	1	5	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromodichloromethane	75-27-4	µg/L	1	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromoform	75-25-2	µg/L	4	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromomethane	74-83-9	µg/L	10	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	**0.33**	BJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Chlorobenzene	108-90-7	µg/L	50	100	--	1.0	UJ	**0.59**	J	1.0	UJ	1.0	UJ	**0.84**	J	**0.83**	J	**1.7**	J	**8.9**	J
Chloroethane	75-00-3	µg/L	5 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Chloroform	67-66-3	µg/L	70	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Chloromethane	74-87-3	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	--	1.0	UJ	1.0	UJ	1.0	UJ	**0.81**	J	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Dibromochloromethane	124-48-1	µg/L	1	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Ethylbenzene	100-41-4	µg/L	700	700	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Isopropylbenzene	98-82-8	µg/L	700	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Methylene chloride	75-09-2	µg/L	3	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Naphthalene	91-20-3	µg/L	300	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	**0.30**	J
Styrene	100-42-5	µg/L	100	100	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	**0.31**	J	**0.35**	J	**0.32**	J	**0.47**	J
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Toluene	108-88-3	µg/L	600	1,000	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Trichloroethene (TCE)	79-01-6	µg/L	1	5	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Vinyl chloride	75-01-4	µg/L	1	2	--	1.0	UJ	1.0	UJ	1.0	UJ	**2.9**	J	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	--	3.0	UJ	3.0	UJ	3.0	UJ	3.0	UJ	3.0	UJ	3.0	UJ	3.0	UJ	3.0	UJ
VOC - TICs					--																
1-Ethenyl-2-methylbenzene	611-15-4	µg/L	500 [3]	NLE	--																
2,3-Dihydro-1-methyl-indene	27133-93-3	µg/L	500 [3]	NLE	--																
Indane	496-11-7	µg/L	500 [3]	NLE	--																
TIC - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [3]	NLE	--																

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-03
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-3-GW-M3MW04		FTMM-3-GW-M3MW05		FTMM-3-GW-M3MW06		FTMM-3-GW-M3MW07		FTMM-3-GW-M3MW07A		FTMM-3-GW-M3MW17A*		FTMM-3-GW-M3MW08		FTMM-3-GW-M3MW09	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013	
LAB SAMPLE ID:						R1306198-014		R1306198-020		R1306198-001		R1306198-018		R1306198-004		R1306198-005		R1306198-007		R1306198-009	
SAMPLE INTERVAL (ft bgs):						8-23		6-16		5-15		5-15		5-20		5-20		5-15		5-15	
	CAS No.	Unit																			
Metals - SW6010C/SW7470A																					
Aluminum	7429-90-5	µg/L	200	NLE	121000	**288**	J	**258**	J	**63.1**	J	25	UJ	25	UJ	25	UJ	**40.4**	J	**224**	J
Antimony	7440-36-0	µg/L	6	6	20.70	4.0	UJ	**2.7**	BJ	**3.3**	BJ	4.0	UJ	4.0	UJ	4.0	UJ	4.0	UJ	4.0	UJ
Arsenic	7440-38-2	µg/L	3	10	89.30	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ
Barium	7440-39-3	µg/L	6,000	2,000	699.00	**104**	J	**151**	J	**15.9**	J	**455**	J	**369**	J	**358**	J	**383**	J	**377**	J
Beryllium	7440-41-7	µg/L	1	4	2.10	**0.256**	J	0.30	UJ	0.30	UJ	0.30	UJ	0.30	UJ	0.30	UJ	0.30	UJ	0.30	UJ
Cadmium	7440-43-9	µg/L	4	5	9.50	**2.6**	J	0.40	UJ	**0.278**	J	0.40	UJ	0.40	UJ	0.40	UJ	0.40	UJ	0.40	UJ
Calcium	7440-70-2	µg/L	NLE	NLE	45400.00	**35,300**	J	**43,100**	J	**12,600**	J	**532,000**	J	**247,000**	J	**237,000**	J	**76,400**	J	**49,900**	J
Chromium	7440-47-3	µg/L	70	100	191.00	**1.7**	J	**2.4**	J	**1.5**	J	**1.0**	J	**0.561**	J	**0.613**	J	**0.47**	J	**1.2**	J
Cobalt	7440-48-4	µg/L	NLE	NLE	18.30	**15.7**	J	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Copper	7440-50-8	µg/L	1,300	1,300 [6]	65.60	4.0	UJ	**4.1**	BJ	**3.2**	BJ	**4.7**	BJ	**1.6**	BJ	**1.1**	BJ	**1.7**	BJ	**25**	BJ
Iron	7439-89-6	µg/L	300	NLE	431000	**1,110**	J	**28,700**	J	**897**	J	**43,900**	J	**58,600**	J	**57,300**	J	**45,100**	J	**64,700**	J
Lead	7439-92-1	µg/L	5	15 [6]	22.70	2.0	UJ	**0.952**	J	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	**7.8**	J
Magnesium	7439-95-4	µg/L	NLE	NLE	62700	**8,300**	J	**5,360**	J	**4,100**	J	**68,200**	J	**46,000**	J	**45,000**	J	**16,600**	J	**12,400**	J
Manganese	7439-96-5	µg/L	50	NLE	331	**32.9**	J	**180**	J	**57.2**	J	**2,600**	J	**1,810**	J	**1,770**	J	**664**	J	**769**	J
Mercury	7439-97-6	µg/L	2	2	0.26	0.080	UJ	0.080	UJ	0.080	UJ	0.080	UJ	0.080	UJ	0.080	UJ	0.080	UJ	0.080	UJ
Nickel	7440-02-0	µg/L	100	NLE	187	**61.2**	J	5.0	UJ	**2.3**	J	**0.86**	J	5.0	UJ	5.0	UJ	5.0	UJ	**3.5**	J
Potassium	9/7/7440	µg/L	NLE	NLE	137000	**8,170**	J	**4,390**	J	**4,830**	J	**24,100**	J	**14,800**	J	**14,700**	J	**7,290**	J	**8,350**	J
Selenium	7782-49-2	µg/L	40	50	29.60	5.0	UJ	**3.2**	J	**2.8**	J	**4.5**	J	**4.1**	J	**2.0**	J	**3.8**	J	**4.2**	J
Silver	7440-22-4	µg/L	40	NLE	ND	**0.785**	BJ	**0.664**	BJ	**0.464**	BJ	**1.0**	BJ	**0.875**	BJ	**0.408**	BJ	**0.556**	BJ	2.0	UJ
Sodium	7440-23-5	µg/L	50,000	NLE	21500	**32,600**	J	**16,300**	J	**31,800**	J	**1,020,000**	J	**338,000**	J	**331,000**	J	**157,000**	J	**53,200**	J
Thallium	7440-28-0	µg/L	2	2	5.50	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Vanadium	7440-62-2	µg/L	NLE	NLE	108	**0.711**	J	**2.5**	J	**0.60**	J	0.60	UJ	0.60	UJ	0.60	UJ	0.60	UJ	0.60	UJ
Zinc	7440-66-6	µg/L	2,000	NLE	233	**117**	BJ	**16.5**	BJ	**76.7**	BJ	**135**	BJ	**0.575**	BJ	**0.915**	BJ	**4.5**	BJ	**72.2**	BJ

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
[6] Value is the USEPA Action Level.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-03
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VAL		FTMM-3-GW-M3MW10		FTMM-3-GW-M3MW11		FTMM-3-GW-M3MW12		FTMM-3-GW-M3MW13		FTMM-3-GW-M3MW14	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013	
LAB SAMPLE ID:					R1306198-013		R1306198-016		R1306198-015		R1306198-017		R1306198-019	
SAMPLE INTERVAL (ft bgs):					5-15		2-15		5-20		5-20		5-20	
	CAS No.	Unit												
Volatile Organics - SW8260C														
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	**0.40**	J	**0.24**	J	1.0	UJ	**0.47**	J	**0.61**	J
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	UJ	1.0	UJ	1.0	UJ	**0.26**	J	**0.39**	J
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	**1.4**	J	**0.76**	J	1.0	UJ	**2.5**	J	**2.3**	J
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Acetone	67-64-1	µg/L	6,000	NLE	**4.6**	BJ	**2.2**	BJ	5.0	UJ	**2.2**	BJ	**2.0**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	**0.24**	J
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromoform	75-25-2	µg/L	4	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Chlorobenzene	108-90-7	µg/L	50	100	**11**	J	**2.4**	J	1.0	UJ	**3.4**	J	**9.9**	J
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Chloroform	67-66-3	µg/L	70	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Ethylbenzene	100-41-4	µg/L	700	700	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Isopropylbenzene	98-82-8	µg/L	700	NLE	**0.31**	J	**0.52**	J	1.0	UJ	1.0	UJ	1.0	UJ
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Naphthalene	91-20-3	µg/L	300	NLE	**1.2**	BJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	**0.38**	J	1.0	UJ	1.0	UJ	1.0	UJ	**0.39**	J
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	**0.26**	J	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	**0.66**	J	1.0	UJ	1.0	UJ	**0.30**	J	**1.2**	J
Styrene	100-42-5	µg/L	100	100	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	**0.49**	J	1.0	UJ	1.0	UJ	**0.50**	J	**0.81**	J
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Toluene	108-88-3	µg/L	600	1,000	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Vinyl chloride	75-01-4	µg/L	1	2	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	**0.21**	J	3.0	UJ	3.0	UJ	3.0	UJ	3.0	UJ
VOC - TICs														
1-Ethenyl-2-methylbenzene	611-15-4	µg/L	500 [3]	NLE									**7.3**	JN
2,3-Dihydro-1-methyl-indene	27133-93-3	µg/L	500 [3]	NLE									**7.6**	JN
Indane	496-11-7	µg/L	500 [3]	NLE	**8.7**	JN								
TIC - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [3]	NLE									**5.7**	J

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-03
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VAL		FTMM-3-GW-M3MW10		FTMM-3-GW-M3MW11		FTMM-3-GW-M3MW12		FTMM-3-GW-M3MW13		FTMM-3-GW-M3MW14	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013		23-Aug-2013	
LAB SAMPLE ID:					R1306198-013		R1306198-016		R1306198-015		R1306198-017		R1306198-019	
SAMPLE INTERVAL (ft bgs):					5-15		2-15		5-20		5-20		5-20	
	CAS No.	Unit												
Metals - SW6010C/SW7470A														
Aluminum	7429-90-5	µg/L	200	NLE	25	UJ	25	UJ	25	UJ	**70.3**	J	25	UJ
Antimony	7440-36-0	µg/L	6	6	4.0	UJ	4.0	UJ	4.0	UJ	4.0	UJ	**2.1**	BJ
Arsenic	7440-38-2	µg/L	3	10	5.0	UJ	5.0	UJ	**2.3**	J	5.0	UJ	**2.1**	J
Barium	7440-39-3	µg/L	6,000	2,000	**862**	J	**429**	J	**96.6**	J	**575**	J	**241**	J
Beryllium	7440-41-7	µg/L	1	4	0.30	UJ	0.30	UJ	0.30	UJ	0.30	UJ	0.30	UJ
Cadmium	7440-43-9	µg/L	4	5	0.40	UJ	0.40	UJ	0.40	UJ	0.40	UJ	0.40	UJ
Calcium	7440-70-2	µg/L	NLE	NLE	**128,000**	J	**161,000**	J	**23,300**	J	**79,300**	J	**50,600**	J
Chromium	7440-47-3	µg/L	70	100	**0.532**	J	**0.605**	J	1.0	UJ	**0.223**	J	**0.399**	J
Cobalt	7440-48-4	µg/L	NLE	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Copper	7440-50-8	µg/L	1,300	1,300 [6]	4.0	UJ	**3.3**	BJ	4.0	UJ	4.0	UJ	4.0	UJ
Iron	7439-89-6	µg/L	300	NLE	**86,000**	J	**76,400**	J	**43,000**	J	**43,600**	J	**71,400**	J
Lead	7439-92-1	µg/L	5	15 [6]	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ	2.0	UJ
Magnesium	7439-95-4	µg/L	NLE	NLE	**23,000**	J	**23,400**	J	**4,640**	J	**21,100**	J	**11,400**	J
Manganese	7439-96-5	µg/L	50	NLE	**669**	J	**1,140**	J	**114**	J	**401**	J	**628**	J
Mercury	7439-97-6	µg/L	2	2	0.080	UJ	0.080	UJ	0.080	UJ	0.080	UJ	0.080	UJ
Nickel	7440-02-0	µg/L	100	NLE	5.0	UJ	**35.5**	J	5.0	UJ	5.0	UJ	5.0	UJ
Potassium	9/7/7440	µg/L	NLE	NLE	**11,900**	J	**10,400**	J	**9,960**	J	**12,100**	J	**7,400**	J
Selenium	7782-49-2	µg/L	40	50	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ	5.0	UJ
Silver	7440-22-4	µg/L	40	NLE	2.0	UJ	2.0	UJ	**0.277**	BJ	2.0	UJ	2.0	UJ
Sodium	7440-23-5	µg/L	50,000	NLE	**129,000**	J	**278,000**	J	**7,900**	J	**212,000**	J	**13,100**	J
Thallium	7440-28-0	µg/L	2	2	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Vanadium	7440-62-2	µg/L	NLE	NLE	0.60	UJ	**0.368**	J	0.60	UJ	0.60	UJ	0.60	UJ
Zinc	7440-66-6	µg/L	2,000	NLE	**0.92**	BJ	**40.7**	BJ	**3.8**	BJ	**5.8**	BJ	4.0	UJ

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
[6] Value is the USEPA Action Level.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-03
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect?[2] (Y/N)	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
FTMM-03									
M3MW02		As, Be, Ni, Fe	NO	N/A	N/A	N/A	NO	YES (VOC/Metals)	Minimal water column. Not sampled. Continue with previous analysis.
M3MW04		Al, As, Cd, Ni, Fe, Mn	Cd	NO	NO	YES	N/A	NO	Cd is considered a background analyte and not from historical site use.
M3MW05		Al, Pb, Fe	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW06		Sb, As, Pb, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW07	VOC/Metals	VC, Cd, Fe, Mn, Na	Cd	NO	YES	NO	NO	NO	Cd is considered a background analyte and not from historical site use. VC is believed to be caused by the PVC well pipe leaching and has been delineated to this well only.
M3MW07A		As, Fe, Mn, Na	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW08		Fe, Mn, Na	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW09		Al, Fe, Mn, Na, Pb	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW10		As, Pb, Fe	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW11		Cd, Fe	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW12		As, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW13		As, Pb, Fe, Mn, Na	NO	N/A	N/A	N/A	NO	NO	No exceedances above background
M3MW14		Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No exceedances above background

Notes

1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyate form LTM list

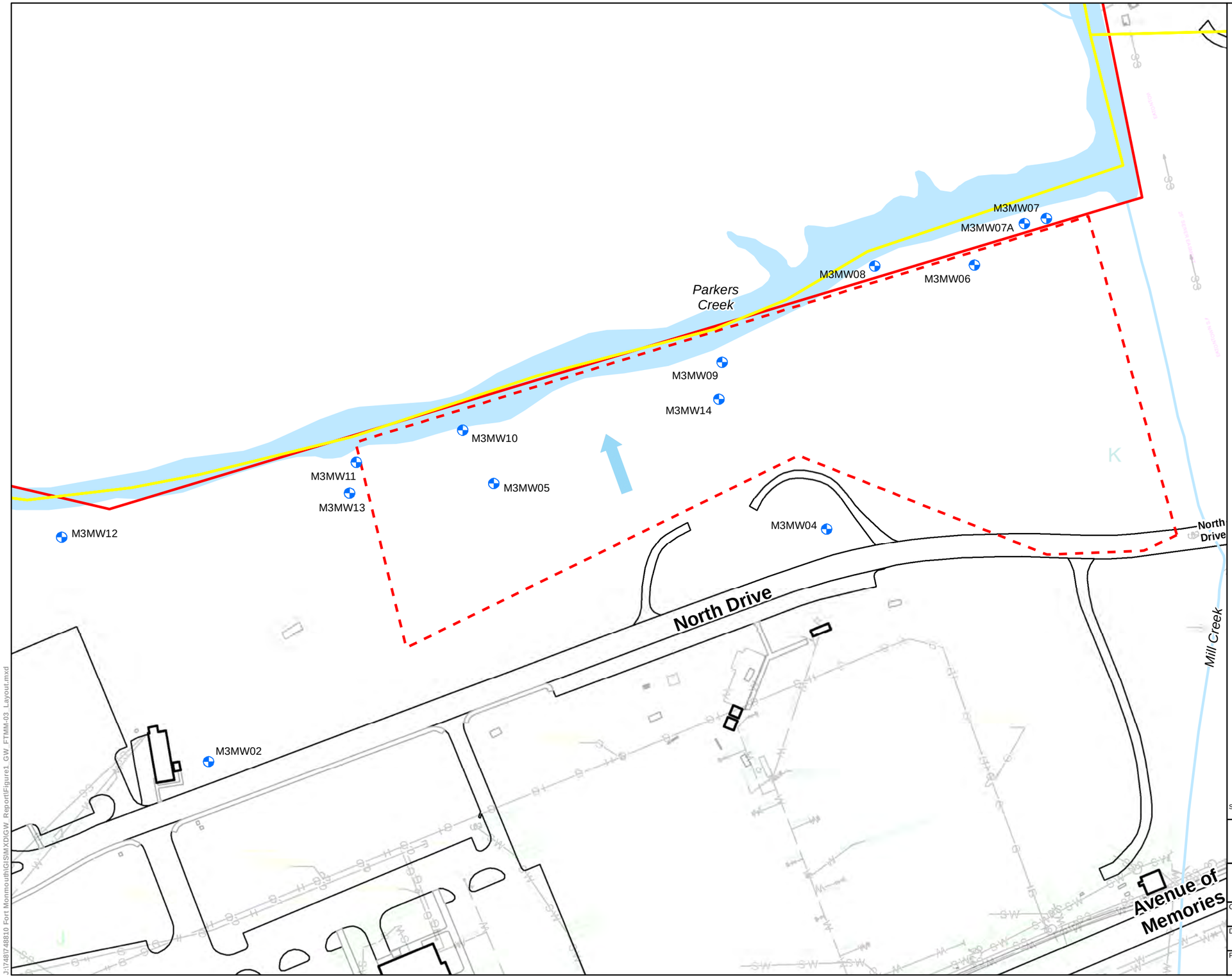
2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds ?
If yes then keep analyte in LTM list
If no then remove this analyate form LTM list

3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

4 VC - vinyl chloride

FIGURES

Figure 1 Layout of FTMM-03



Legend

- Shallow Monitoring Well
- M-3 Landfill Boundary
- Municipal Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 120 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
Layout of FTMM-03	
CREATED BY: TS	REVIEWED BY: IG
DATE: November 2013	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-03_Layout.mxd

J:\748\7748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-03_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 03
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/23/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 19.54
FEET OF WATER IN WELL: 0.44

SCREENED INTERVAL (TOC): 10.00
PUMP INTAKE DEPTH (ft below TOC): 14.90
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 19.10

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
				NA		NA		NA		NA		NA		NA		

COMMENTS: 1.90' stickup Height above grade — Due to length of water column do NOT sample as per Parsons

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

M3MW02 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~M3MW04~~

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-03-GW-M3M02

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	—	3	—	—	Sample not collected due to length of water column
~~Lead~~ Metals	—	1	—	—	Sample not collected due to length of water column

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 03
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE

DATE: 8/23/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm) 0.0
WELL DEPTH (TOC): 25.40
FEET OF WATER IN WELL: 12.88

SCREENED INTERVAL (TOC): 15.00
PUMP INTAKE DEPTH (ft below TOC): 19.00
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 12.52

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:53	X		5.42	NA	0.722	NA	141.4	NA	4.93	NA	15.7	NA	18.99	NA	100	12.59
12:58	X		4.61	0.81	0.651	0.71	230.9	89.5	3.43	1.5	14.0	1.7	16.25	2.74	100	12.62
13:03	X		4.34	0.27	0.640	0.011	286.2	55.3	2.84	0.59	9.6	4.4	15.73	0.52	100	12.62
13:08	X		4.28	0.06	0.638	0.002	307.2	21.0	2.58	0.26	9.7	0.1	15.68	0.05	100	12.62
13:13	X		4.27	0.01	0.641	0.003	315.4	8.2	2.43	0.15	9.4	0.3	15.73	0.05	100	12.62
13:18	X		4.25	0.02	0.643	0.002	324.6	9.2	2.34	0.09	9.5	0.1	15.56	0.17	100	12.62
13:23	X		4.24	0.01	0.643	0.000	330.0	5.4	2.24	0.10	9.5	0.0	15.63	0.07	100	12.62
13:28	X		4.24	0.00	0.646	0.003	332.7	2.7	2.21	0.03	9.5	0.0	15.67	0.04	100	12.62
13:33	X		4.24	0.00	0.646	0.000	333.9	1.2	2.20	0.01	9.3	0.2	15.64	0.03	100	12.62
13:38		X	4.24	0.00	0.647	0.001	334.1	0.2	2.17	0.03	9.4	0.1	15.69	0.05	100	12.62

COMMENTS: 1.88' stickup above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: M3MW04

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-03-GW-M3MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	13:38	3	CLR	9.4	
~~Lead~~ Metals	13:38	1	CLR	9.4	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/23/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transferred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M3 FTMM-3 (JC)
SAMPLIG INSTRUMENTS: Geotech Bladder pump
PID DETECTOR:

DATE: 8-23
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 18.35
FEET OF WATER IN WELL: 10.27

SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): 13.21
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.08

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
14:15	X		6.44	NA	0.519	NA	-69.1	NA	1.86	NA	10.0	NA	18.63	NA	100	8.00
14:20	X		6.10	-0.34	0.514	-0.005	-65.1	+4	1.11	-0.75	10.2	+0.2	18.16	-0.47	100	8.13
14:25	X		6.02	-0.08	0.510	-0.004	-64.5	+0.6	0.67	-0.44	10.8	+0.6	17.71	-0.45	100	8.26
14:30	X		5.99	-0.03	0.502	-0.008	-71.2	-6.7	0.42	-0.25	10.7	-0.1	17.50	-0.21	100	8.55
14:35	X		6.02	+0.03	0.497	-0.005	-78.4	-7.2	0.37	-0.05	9.9	-0.8	17.25	-0.25	100	8.55
14:40	X		6.03	+0.01	0.496	-0.001	-81.4	-3.0	0.37	0.0	9.9	0.0	17.20	-0.05	100	8.55
14:45	X		6.06	+0.03	0.495	-0.001	-88.7	-7.3	0.34	-0.3	9.7	-0.2	17.15	-0.05	100	8.55
14:50	X		6.06	0.0	0.497	+0.002	-90.8	-2.1	0.34	0.0	9.9	+0.2	17.15	0.0	100	8.55
14:53		X	6.07	+0.01	0.499	+0.002	-92.8	-2.0	0.34	0.0	9.8	-0.1	17.14	-0.01	100	8.55

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW05

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-M3-GW-M3MW05

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCTICS	14:53	40mL vials	clr	clr	
Metals	14:53	~~500 mL~~ plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW06

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 03
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID

DATE: 8/23/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 18.40
FEET OF WATER IN WELL: 10.15
SCREENED INTERVAL (TOC): 10.00
PUMP INTAKE DEPTH (ft below TOC):
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.25

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
840	X		5.69	NA	0.278	NA	216.6	NA	1.98	NA	25.5	NA	18.01	NA	100	8.35
845	X		5.57	-0.12	0.273	-0.005	221.8	+ 5.2	0.95	-1.03	26.7	+ 1.2	17.52	+0.49	100	"
850	X		5.58	-0.07	0.270	-0.003	215.0	-6.8	0.60	-0.35	9.0	-17.7	17.35	-0.17	100	"
855	X		5.53	+0.03	0.269	-0.001	205.3	-9.7	0.40	-0.20	0.9	-8.1	17.50	+0.15	100	"
900	X		5.55	+0.02	0.269	—	197.2	- 8.1	0.42	+0.02	0.0	-0.9	1749	-0.01	100	"
905		X	5.58	+0.03	0.269	—	198.7	+1.5	0.42	—	0.0	—	1758	+0.09	100	"

COMMENTS: stickup 2.20' above grade 907 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** M3MW06 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	907	40 mL	clr	00	
~~Lead~~ Metals	907	1L	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME: FTMM-03-GW-M3MW06 QA

MATRIX SPIKE SAMPLE COLLECTED: (YES) or NO

FTMM-03-GW-M3MW06-MS & " -MSD

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MRMW07

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): ETMM-03
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR:

DATE: 8/23/13
LABORATORY: HCV

SAMPLING PERSONNEL
NAME: Michael T. Ten
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 18.70
FEET OF WATER IN WELL:
SCREENED INTERVAL (TOC): 5-18.70
PUMP INTAKE DEPTH (ft below TOC): 12'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.35

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1405	X		6.24	NA	5.268	NA	-75.2	NA	2.26	NA	68.3	NA	18.89	NA	100	8.40
1410	X		6.26	+0.02	5.315	+0.047	-79.4	-4.2	1.01	-1.25	36.4	-31.9	18.12	-0.77	100	9.40
1415	X		6.29	+0.03	5.344	+0.029	-78.7	+0.7	0.51	-0.50	34.5	-1.9	17.83	-0.29	100	10.15
1420	X		6.30	+0.01	5.352	+0.008	-78.2	+0.5	0.38	-0.13	41.4	+6.9	17.66	-0.17	100	10.50
1425	X		6.30	—	5.347	-0.005	-78.0	+0.2	0.37	-0.01	40.3	-1.1	17.63	-0.03	100	11.00
1430		X	6.30	—	5.350	+0.003	-78.7	-0.7	0.37	—	42.1	+1.8	17.71	+0.08	100	11.40

COMMENTS: 1433

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW07

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: FTMM-03-GW-M3MW07

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1435	40mL	clr	42.1	
Metals	1433	1L	clr	42.1	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon buried

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW7A

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/23/13
AOC # (AREA): FTMM-003
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: PID MiniRAE
NAME: Ben Owen Zulma
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 15.00
WELL DEPTH (TOC): 21.73
PUMP INTAKE DEPTH (ft below TOC): 14.00
FEET OF WATER IN WELL:
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.95

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:35	X		6.38	NA	4.531	NA	-68.5	NA	4.08	NA	11.7	NA	18.62	NA	100	7.06
8:40	X		6.37	0.01	4.453	0.078	-71.2	2.7	3.14	0.94	39.4	27.7	17.77	0.85	100	7.06
8:45	X		6.36	0.01	4.328	0.125	-74.0	2.8	2.30	0.84	7.0	32.4	17.24	0.53	100	7.07
8:50	X		6.37	0.01	4.275	0.053	-73.7	0.30	2.15	0.15	2.0	5.0	17.32	0.08	100	7.07
8:55	X		6.39	0.02	4.234	0.041	-77.9	4.0	1.96	0.19	0.0	2.0	17.34	0.02	100	7.07
9:00	X		6.40	0.01	4.206	0.028	-81.0	3.1	1.42	0.54	0.0	0.0	17.47	0.13	100	7.07
9:05	X		6.40	0.00	4.208	0.002	-78.2	2.8	1.40	0.02	0.0	0.0	17.33	0.14	100	7.07
9:10	X		6.41	0.01	4.215	0.007	-79.4	1.2	1.38	0.02	0.0	0.0	17.35	0.02	100	7.07
9:15		X	6.41	0.00	4.217	0.002	-80.1	0.7	1.37	0.01	0.0	0.0	17.40	0.05	100	7.07

COMMENTS: 1.70 ft above grade - stickup

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3 MW7A

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-03-GW-M3MW7A

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	9:15	3	CLR	0.0	
~~Lead~~ Metals	9:15	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

FTMM-03-GWM3MW17A @ 9:29

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/23/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3NW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-03
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID MiniRAE

DATE: 8/23/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 15.57
FEET OF WATER IN WELL: 10.06
SCREENED INTERVAL (TOC): 10-00
PUMP INTAKE DEPTH (ft below TOC): ~~15.57~~ 10.57
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.51

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:00	X		6.50	NA	1.940	NA	-71.8	NA	2.48	NA	22.9	NA	18.04	NA	100	5.63
10:05	X		6.45	0.05	1.842	0.058	-72.6	0.8	1.61	0.87	16.9	6.0	18.25	0.21	100	5.66
10:10	X		6.44	0.01	1.884	0.006	-76.8	4.2	1.08	0.53	15.1	1.8	18.38	0.13	100	5.66
10:15	X		6.44	0.00	1.916	0.028	-79.5	2.7	0.85	0.23	9.9	5.2	18.59	0.21	100	5.66
10:20	X		6.44	0.00	1.882	0.034	-81.0	1.5	0.74	0.11	0.5	9.4	19.14	0.55	100	5.66
10:25	X		6.44	0.00	1.883	0.001	-81.5	0.5	0.72	0.02	0.0	0.5	19.05	0.09	100	5.66
10:30	X		6.44	0.00	1.885	0.002	-82.0	0.5	0.69	0.03	0.0	0.0	19.00	0.05	100	5.66
10:35	X		6.43	0.01	1.883	0.002	-82.0	0.0	0.69	0.00	0.0	0.0	18.80	0.10	100	5.66
10:37		X	6.43	0.01	1.888	0.005	-82.5	0.5	0.68	0.01	0.0	0.0	18.83	0.03	100	5.66

COMMENTS:
3.02 stickup above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW08

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-03GW-M3MW08

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + Tics	10:37	3	CLR	0.0	
~~lead~~ Metals	10:37	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/23/13 Carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MBMW09

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/23/13
AOC # (AREA): FTMM-03
LABORATORY: HCV
SAMPLIG INSTRUMENTS: Bladder pump
SAMPLING PERSONNEL
PID DETECTOR: PID Minirae
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 5-17.09
WELL DEPTH (TOC): 17.05
PUMP INTAKE DEPTH (ft below TOC): 10
FEET OF WATER IN WELL:
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.45

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1010	X		6.01	NA	0.540	NA	-36.6	NA	2.38	NA	109.3	NA	18.66	NA	100	10.00
1015	X		5.92	-0.09	0.557	+0.017	-34.7	+1.9	0.91	-1.47	87.2	-22.1	18.29	-0.37	100	10.15
1020	X		5.94	+0.02	0.652	+0.095	-39.1	-4.4	0.53	-0.38	57.4	-29.8	18.17	-0.12	100	10.20
1025	X		6.07	+0.13	0.769	+0.117	-54.0	-14.9	0.36	-0.17	39.5	-17.9	18.08	-0.09	100	10.20
1030	X		6.13	+0.06	0.836	+0.67	-56.8	-2.8	0.34	-0.02	24.6	-14.9	17.97	-0.11	100	"
1035	X		6.18	+0.05	0.900	+0.066	-62.2	-5.4	0.32	-0.02	15.2	-9.2	17.92	-0.05	100	"
1040	X		6.19	+0.01	0.931	+0.029	-64.2	-2.0	0.30	-0.02	5.6	-9.6	17.96	+0.04	100	"
1045	X		6.20	+0.01	0.939	+0.008	-63.0	+1.2	0.30	—	5.6	—	17.91	-0.05	100	"
1050		X	6.21	+0.01	0.942	+0.003	-64.4	-1.4	0.30	—	5.2	-0.4	17.89	-0.02	100	"

COMMENTS: 1051

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW09

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-03-GW-M3MW09

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1051	40mL	clr	5.2	
~~lead~~ Metals	1051	1L	clr	5.2	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3 MW10

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/23/13
AOC # (AREA): FTMM - 03
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE
SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)
SCREENED INTERVAL (TOC): 10.00
WELL DEPTH (TOC): 15.14
PUMP INTAKE DEPTH (ft below TOC): 11.87
FEET OF WATER IN WELL:
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.45

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:15	X		6.31	NA	2.161	NA	-64.7	NA	3.54	NA	102.7	NA	19.04	NA	100	4.53
11:20	X		6.30	0.01	2.153	0.008	-65.7	1.0	2.77	0.77	106.6	*3.9	18.72	0.32	100	4.55
11:25	X		6.80	0.00	2.153	0.000	-68.7	3.0	1.58	1.19	66.2	40.4	17.96	0.76	100	4.55
11:30	X		6.30	0.00	2.174	0.021	-71.7	3.0	1.21	0.37	44.5	21.7	17.85	0.11	100	4.55
11:35	X		6.30	0.00	2.154	0.020	-73.3	1.6	1.03	0.18	27.4	17.1	17.85	0.00	100	4.55
11:40	X		6.30	0.00	2.145	0.009	-74.3	1.0	0.93	0.10	18.7	8.7	17.85	0.00	100	4.55
11:45	X		6.31	0.01	2.161	0.016	-71.6	2.7	0.84	0.09	11.9	6.8	17.94	0.09	100	4.55
11:50	X		6.31	0.00	2.154	0.007	-71.7	0.1	0.79	0.05	4.1	7.8	17.85	0.09	100	4.55
11:55	X		6.31	0.00	2.154	0.000	-71.8	0.1	0.79	0.00	4.0	0.1	17.81	0.04	100	4.55
12:00		X	6.31	0.00	2.153	0.001	-71.9	0.1	0.78	0.01	4.2	0.2	17.84	0.03	100	4.55

COMMENTS: 3.60 stickup above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~#~~M3 MW10

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-03-GW-M3MW10

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	12:00	3	CLR	4.2	
~~Total~~ Metals	12:00	1	CLR	4.2	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/23/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW11

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-03
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID Minirae

DATE: 8/23/13
LABORATORY: HGL

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)
WELL DEPTH (TOC): 17.21
FEET OF WATER IN WELL:

SCREENED INTERVAL (TOC): 2 - 17.21
PUMP INTAKE DEPTH (ft below TOC): 11
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.68

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1125	X		6.36	NA	2.821	NA	-82.8	NA	2.10	NA	38.8	NA	18.26	NA	100	5.80
1130	X		6.39	+0.03	2.968	+0.147	-83.8	-1.0	0.76	-1.34	20.8	-18.0	17.31	-0.95	100	11
1135	X		6.40	+0.01	3.018	+0.050	-86.3	-2.5	0.44	-0.32	16.0	-4.8	17.04	-0.27	100	11
1140	X		6.44	+0.04	3.034	+0.016	-87.1	-0.8	0.34	-0.10	12.1	-3.9	16.89	-0.15	100	11
1145	X		6.45	+0.01	3.017	-0.017	-88.3	-1.2	0.31	-0.03	10.0	-2.1	16.74	-0.15	100	11
1150	X		6.46	+0.01	3.000	-0.017	-87.7	+0.6	0.31	—	9.1	-0.9	16.79	+0.05	100	11
1155	X		6.47	+0.01	2.989	-0.011	-88.6	-0.9	0.31	—	8.9	-0.2	16.71	-0.08	100	11
1200		X	6.47	—	2.984	-0.005	-84.6	+4.0	0.31	—	9.1	+0.2	16.64	-0.07	100	11

COMMENTS: 1202 sampling stick up 1.9' above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW11

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-03-GW-M3MW11

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1433	40mL	clr	9.1	
Metals	1433	1L	clr	9.1	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW12

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/23/13
AOC # (AREA): FTMM-03
LABORATORY: HCV
SAMPLIG INSTRUMENTS: Bladder pump
SAMPLING PERSONNEL
PID DETECTOR: PID minirae
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0 0
SCREENED INTERVAL (TOC): 5 – 22.23
WELL DEPTH (TOC): 2223
PUMP INTAKE DEPTH (ft below TOC): 13
FEET OF WATER IN WELL:
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.78

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1255	X		6.03	NA	0.502	NA	-47.6	NA	2.57	NA	3.0	NA	19.52	NA	100	6.80
1300	X		5.89	-0.14	0.473	-0.29	-48.4	-0.8	1.36	-1.21	1.9	-1.1	18.91	-0.61	100	"
1305	X		5.84	-0.05	0.459	-0.014	-48.3	+0.1	0.65	-0.29	0.0	-1.9	18.39	-0.52	100	"
1310	X		5.82	-0.02	0.457	-0.002	-48.6	-0.3	0.43	-0.22	0.0	—	18.09	-0.30	100	"
1315	X		5.82	—	0.457	—	-48.4	+0.2	0.35	-0.08	0.0	—	18.30	+0.21	100	"
1320	X		5.81	-0.01	0.457	—	-48.5	-0.1	0.34	-0.01	0.0	—	18.09	-0.21	100	"
1325		X	5.81	—	0.456	-0.001	-49.1	-0.6	0.34	—	0.0	—	18.26	+0.17	100	"

COMMENTS: 1327 Stick up 2.6' above ground

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW12

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-03-GW-M3MW12

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1327	40mL	clr	0.0	
Metals	1327	1L	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW13

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M3 FTMM-3 (JC)
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR:

DATE: 8-27
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bowins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)
WELL DEPTH (TOC): 17.21
FEET OF WATER IN WELL: 10.16

SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): 12.13
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.05

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:25	X		6.34	NA	1.937	NA	-79.5	NA	3.12	NA	21.5	NA	18.37	NA	100	7.05
12:30	X		6.58	+0.24	1.944	+0.007	-100.7	-21.2	0.73	-2.39	18.0	-3.5	17.49	-0.88	100	7.17
12:35	X		6.64	+0.06	1.950	+0.006	-105.3	-4.6	0.50	-0.23	17.9	-0.1	17.25	-0.24	100	7.20
12:40	X		6.67	+0.03	1.952	+0.002	-108.2	-2.9	0.44	-0.06	17.8	-0.1	17.23	-0.02	100	7.20
12:45	X		6.69	+0.02	1.956	+0.004	-109.6	-1.4	0.44	0.0	20.6	+2.8	17.15	-0.08	100	7.20
12:50	X		6.70	+0.01	1.962	+0.006	-109.2	+0.4	0.41	-0.03	23.0	+2.4	17.22	+0.07	100	7.20
12:55	X		6.71	+0.01	1.966	+0.004	-108.6	+0.6	0.37	-0.04	23.8	+0.8	17.24	+0.02	100	7.20
13:00	X		6.71	0.0	1.963	-0.003	-108.3	+0.3	-0.35	-0.02	23.7	-0.1	17.24	0.0	100	7.20
13:05	X		6.71	0.0	1.966	+0.003	-108.1	+0.2	-0.34	-0.01	23.7	0.0	17.24	0.0	100	7.20
13:10	X		6.71	0.0	1.969	+0.003	-108.3	-0.2	-0.34	0.0	22.0	-1.7	17.26	+0.02	100	7.20
13:15	X		6.71	0.0	1.970	+0.001	-108.3	0.0	-0.34	0.0	20.9	-1.1	17.27	+0.01	100	7.20
13:20	X		6.71	0.0	1.971	+0.001	-108.0	+0.3	-0.33	-0.01	19.6	-1.3	17.28	+0.01	100	7.20
13:25	X		6.72	+0.01	1.972	+0.001	-108.8	-0.8	-0.32	-0.01	18.9	-0.7	17.38	+0.10	100	7.20
COMMENTS: 13:26		X	6.72	0.0	1.972	0.0	-109.2	+0.4	-0.32	0.0	18.2	-0.7	17.40	+0.02	100	7.20

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3 MW13

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-M3-GW-M3MW13

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOA Tics	13:26	40 mL vials	clr	clr	
Metals	13:26	500 mL plastic	clr	clr	Sampled after 1hr of purge and being stable even through above 10 ntu

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW14

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): ~~M-3~~ FTMM-03 (JC)
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: N/A

DATE: 8/23/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex DiIonno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~~—~~ 0.0 (JC)
WELL DEPTH (TOC): 22.20
FEET OF WATER IN WELL: 12.54

SCREENED INTERVAL (TOC): 7.28 - 22.20 (2.28' Stickup)
PUMP INTAKE DEPTH (ft below TOC): 15.93
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.66

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1358	X		5.64	NA	0.787	NA	84.0	NA	3.29	NA	0.0	NA	17.93	NA	150	9.69
1403	X		5.46	0.18	0.774	0.013	~~90~~ -14.9	69.1	1.36	1.93	0.0	0.0	16.62	1.31	150	9.69
1408	X		5.47	0.01	0.772	0.0	-53.0	38.1	0.91	0.45	0.0	0.0	16.22	0.40	150	9.69
1413	X		5.50	0.03	0.770	0.002	-66.2	13.2	0.83	0.08	0.0	0.0	16.14	0.08	150	9.69
1418	X		5.51	0.01	0.769	0.001	-74.3	8.1	0.84	0.01	0.0	0.0	16.05	0.09	150	9.69
1423	X		5.55	0.04	0.767	0.002	-77.0	2.7	0.77	0.07	0.0	0.0	15.95	0.10	150	9.69
1428	X		5.58	0.03	0.767	0.0	-79.0	2.0	0.78	0.01	0.0	0.0	15.93	0.02	150	9.69
1433		X	5.61	0.03	0.767	0.0	-80.9	1.9	0.74	0.04	0.0	0.0	15.90	0.03	150	9.69

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M3MW14

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-J-GW-M3MW14

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's + TIC's	1433	3) VOA's w/ HCl	clear	0.0	
Metals	↓	1) 500 mL Poly w/ HNO3	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX C: FTMM-04 Landfill

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3	2013 Baseline Groundwater Analytical Detections
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1	Layout of FTMM-04

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-04 GROUNDWATER SAMPLING

Groundwater samples were collected from six monitoring wells located at FTMM-04 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Samples were collected on August 20, 2013 and submitted for Target Compound List (TCL) volatile organic compounds (VOCs) via the United States Environmental Protection Agency (USEPA) Method SW260C and Target Analyte List (TAL) metals via USEPA Method SW6010C/SW7470A. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-04 were gauged for groundwater measurements on August 8, 2013. Groundwater elevations in monitoring wells ranged from 0.93 (M4MW09) to 7.09 (M4MW07) feet above mean sea level (amsl), and interpreted groundwater flow direction is towards the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Additionally, during the groundwater gauging, the physical condition of site monitoring wells was assessed. FTMM-04 monitoring wells were found to be in good condition, and contained tubing within the casings at the time of initial water level measurement.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From May 1997 to October 2004, groundwater sampling was conducted at monitoring wells for VOCs, semi-volatile organic compounds (SVOCS), pesticides, polychlorinated biphenyls (PCBs), and metals at FTMM-04. From January 2005 to August 2010, wells have primarily been sampled for metals.

Since October 2010, the last four rounds of groundwater sampling were conducted quarterly and were comprised solely of metals analysis. In these last four rounds, only antimony was detected above its NJDEP GWQS of 6 µg/L in M4MW08 in April 2011, however below the background concentration established in the 1995 Weston Report of 20.70 µg/L. No other constituents were either detected, or were detected below their respective NJDEP GWQS. Analytical data for the last four sampling events can be reference in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical data from samples collected during the August 2013 event are presented in **Table 3**. No VOCs were detected above their respective NJDEP GWQS. Iron, manganese, and sodium were detected in exceedance of their respective NJDEP GWQS in select monitoring wells. Iron and manganese do not exceed their respective background concentrations (Weston 1995) in any of these locations. Sodium has a background concentration (21,500 µg/L) (Weston 1995) which is lower than the NJDEP GWQS (50,000 µg/L). Therefore sodium detections in monitoring wells M4MW07 and M4MW10 also exceed the background concentrations (Weston 1995).

5.0 FINDINGS AND RECOMMENDATIONS

Antimony, which was historically detected as a background concentration in April 2011 was not detected during this sampling event.

Sodium exceedances detected during the August 2013 event in monitoring wells M4MW07 and M4MW10 are believed to be attributable to the abundance of sodium in glauconitic sediments underlying the site, as well as the application of road salt to nearby roads, and tidal influence from the adjacent salt marsh. These exceedances are therefore likely background concentrations and not representative of the overall groundwater quality at FTMM-04. No other analytes were detected above their respective NJDEP GWQS or background concentrations (Weston 1995) in the previous four rounds of sampling or during the August 2013 groundwater sampling event. It is recommended that groundwater monitoring be discontinued at FTMM-04. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-04
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC	Gauged DTB (ft) TOC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-4 Closed Solid Waste Landfill															
M4MW05	E201010539	539053.807	617377.099	20.00	15.00	5-20	13.29	8-8-13	1215	0.0	8.15	22.24	5.14	8/20/2013	1450
M4MW06	E201007328	539043.295	617299.69	20.00	15.00	5-20	14.31	8-8-13	1213	0.0	8.58	21.71	5.73	8/20/2013	1345
M4MW07	29-32571	538781.862	617626.356	15.50	10.00	5.5-15.5	15.44	8-8-13	1233	0.0	8.35	17.90	7.09	8/20/2013	1405
M4MW08	29-32572	538882.419	617501.908	19.00	15.00	4-19	9.38	8-8-13	1224	0.0	7.41	19.00	1.97	8/20/2013	1105
M4MW09	P201009618	539074.791	617524.170	24.00	15.00	9-24	8.36	8-8-13	1220	0.0	7.43	26.70	0.93	8/20/2013	930
M4MW10	29-41644	538791.272	617486.878	18.00	15.00	3-18	11.15	8-8-13	1227	0.0	7.48	19.70	3.67	8/20/2013	1239

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-04
Fort Monmouth, New Jersey

				M4MW05					M4MW06							
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF3	LF4	LF5	LF1	LF2	LF3	LF4	LF5	LF5 Dup	LF6	LF6 Dup
Date Collected				10/6/2010	10/21/2010	2/7/2011	4/6/2011	7/5/2011	8/6/2010	8/20/2010	10/6/2010	2/7/2011	4/6/2011	4/6/2011	7/5/2011	7/5/2011
ANALYTE/Lab ID				1043101	1045301	1103702	1113304	1127804	1033301	1035601	1043006	1103701	1113303	1113302	1127803	1127802
Metals (µg/L)																
Antimony	6	6	20.70	<6.0	<6.0	<6.0	<6.0	<6.0	ND	<4.8	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	<3.0	<3.0	<3.0	<3.0	<3.0	ND	0.83 ER	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Barium	6000	2000	699.00	<200	<200	<200	<200	<200	23.2	22.3	<200	<200	<200	<200	<200	<200
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	<1.0	<1.0	0.198 ER	0.17 ER	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	<3.0	<3.0	ND	<0.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Chromium	70	100	191	<10	<10	<10	<10	11.8	1.19 ER	<1.0	<10	<10	<10	<10	<10	<10
Copper	1300	1300	65.6	<10	<10	<10	<10	<10	ND	<1.0	<10	<10	<10	<10	<10	<10
Lead	5	15	22.7	<3.0	<3.0	<3.0	<3.0	<3.0	ND	<2.4	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Mercury	2	2	0.26	NA	NA	<0.20	<0.20	<0.20	ND	<0.05	NA	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	100	NLE	187	10	10.4	11.3	15.2	14.8	7.51	8.67	<10	<10	10.5	12.3	11.8	11.2
Selenium	40	50	29.6	<10	<10	<10	<10	<10	NR	20.1	<10	<10	<10	<10	<10	<10
Thallium	0.5	2	5.5	<2.0	<2.0	<2.0	<2.0	<2.0	ND	<0.53	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

U.S.Environmental Protection

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown exceeds the method detection

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

J - Estimated concentration exceeds the MDL and is less than the practical quantitation limit (PQL)

DUP = field duplicate sample

MCL = maximum contaminant level

Table 2
Historical Groundwater Analytical Results
Site FTMM-04
Fort Monmouth, New Jersey

				M4MW07																																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	46		46 Dup		47		47 Dup		48		49		50		51		51 Dup		52		52 Dup		53		53 Dup		54		54 Dup		LF1		LF2	
Date Collected				1/8/2008		1/8/2008		4/3/2008		4/3/2008		7/10/2008		10/10/2008		3/12/2009		5/20/2009		5/20/2009		7/20/2009		7/20/2009		11/4/2009		11/4/2009		1/6/2010		1/6/2010		4/6/2010		7/21/2010	
ANALYTE/Lab ID				8001003		8001002		8011003		8011002		8022803		8036103		9010503		9020703		9020702		9030303		9030302		9043603		9043602		1000503		1000502		1012404		1031606	
Metals (µg/L)																																									
Antimony	6	6	20.70	<0.7		<0.7		<0.7		<0.7		<1.2		<1.2		5.24	ER	2.88	ER	1.3	ER	5.21	ER	<4.8		<4.8		<4.8		<4.8		7.58	ER	8.16		10.3	ER
Arsenic	3	10	89.30	<2.7		<2.7		<2.7		<2.7		<2.4		<2.4		9.05		7.36		5.37		5.28		14.8		0.68	ER	<0.62		<0.62		<0.62		<0.62		<0.62	
Barium	6000	2000	699.00	19.5		20.9		12.4		11.4		79.9		68.5		15.7		27.2		29.1		48.4		50.9		54.8		54.1		23.4		24.1		34.2		199	
Beryllium	1	4	2.10	0.326	ER	0.329	ER	0.134	ER	0.122	ER	0.604		0.597		<0.1		0.15	ER	0.154	ER	0.377	ER	0.35	ER	0.29	ER	0.285	ER	0.117	ER	0.108	ER	<0.04		1.28	
Cadmium	4	5	9.50	0.471	ER	0.678	ER	<0.2		<0.2		1.3	ER	0.278	ER	<0.2		<0.2		<0.2		0.906	ER	0.519	ER	<0.5		<0.5		<0.5		<0.5		<0.5		1.51	ER
Chromium	70	100	191	<0.2		<0.2		<0.2		<0.2		0.521	ER	2.56	ER	0.495	ER	1.79	ER	1.26	ER	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Copper	1300	1300	65.6	<0.5		<0.5		<0.5		<0.5		<0.7		<0.7		<0.7		<0.7		<0.7		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Lead	5	15	22.7	<0.7		<0.7		<0.7		<0.7		<1.3		<1.3		4.46	ER	2.5	ER	2.39	ER	<2.4		<2.4		<2.4		<2.4		<2.4		<2.4		<2.4		<2.4	
Mercury	2	2	0.26	<0.13		<0.13		<0.13		<0.13		<0.073		<0.073		<0.073		<0.073		<0.073		0.06	ER	0.08	ER	<0.05		<0.05		<0.05		<0.05		<0.05		0.13	ER
Nickel	100	NLE	187	3.91	ER	3.76	ER	1.8	ER	1.79	ER	9.15		7.35		1.28	ER	3.96	ER	4.29	ER	7.86		7.5		8.44		8.44		5.17		5.45		0.672	ER	19.2	
Selenium	40	50	29.6	<2.7		5.43	ER	<2.7		<2.7		8.64	ER	3.68	ER	32.1		<3.1		4.35	ER	21.1		28.8		8.37	ER	<7.0		<7.0		<7.0		NR		83.4	
Thallium	0.5	2	5.5	<1.36		<1.36		<1.36		<1.36		<1.3		<1.3		<1.3		<1.3		<1.3		<1.3		<1.3		<0.53		<0.53		<0.53		<0.53		<0.53		<0.53	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-04
Fort Monmouth, New Jersey

| | | |

Table 2
Historical Groundwater Analytical Results
Site FTMM-04
Fort Monmouth, New Jersey

																															M4MW09	
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF3		LF4		LF4 Dup		LF5		LF6		LF6 Dup		46		47		48		49		50		50 Dup		51		52		53		54		LF1	
Date Collected				10/6/2010		2/8/2011		2/8/2011		4/6/2011		7/6/2011		7/6/2011		1/8/2008		4/3/2008		7/10/2008		10/10/2008		3/12/2009		3/12/2009		5/20/2009		7/20/2009		11/4/2009		1/6/2010		4/6/2010	
ANALYTE/Lab ID				1043003		1104103		1104102		1113306		1128003		1128002		8001005		8011005		8022805		8036105		9010505		9010502		9020705		9030305		9043605		1000505		1012403	
Metals (µg/L)																																			
Antimony	6	6	20.70	<6.0		<6.0		<6.0		11.3		<6.0		<6.0		<0.7		<0.7		<1.2		<1.2		15		12		3.71	ER	<4.8		<4.8		<4.8		11.6	
Arsenic	3	10	89.30	<3.0		<3.0		<3.0		<3.0		<3.0		<3.0		<2.7		<2.7		<2.4		<2.4		96		92		18.9		20.8		<0.62		<0.62		<0.62	
Barium	6000	2000	699.00	<200		<200		<200		<200		<200		<200		62.4		50.7		37.2		65.9		63.5		67.3		44.4		63		44		60.2		32	
Beryllium	1	4	2.10	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		0.196	ER	<0.1		<0.1		0.188	ER	<0.1		<0.1		<0.1		<0.04		<0.04		<0.04		<0.04	
Cadmium	4	5	9.50	<3.0		<3.0		<3.0		<3.0		<3.0		<3.0		0.343	ER	<0.2		0.27	ER	<0.2		<0.2		<0.2		<0.2		<0.5		<0.5		<0.5		<0.5	
Chromium	70	100	191	<10		<10		<10		<10		<10		<10		<0.2		<0.2		<0.3		0.561	ER	0.9	ER	<0.3		<0.3		<1.0		<1.0		<1.0		<1.0	
Copper	1300	1300	65.6	<10		<10		<10		<10		<10		<10		<0.5		<0.5		<0.7		<0.7		<0.7		<0.7		<0.7		<1.0		<1.0		<1.0		<1.0	
Lead	5	15	22.7	<3.0		<3.0		<3.0		<3.0		<3.0		<3.0		<0.7		<0.7		<1.3		1.3		5	ER	6.81		2.02	ER	<2.4		<2.4		<2.4		<2.4	
Mercury	2	2	0.26	NA		<0.20		<0.20		<0.20		<0.20		<0.20		<0.13		<0.13		<0.073		<0.073		<0.073		<0.073		<0.073		<0.05		<0.05		<0.05		<0.05	
Nickel	100	NLE	187	<10		<10		<10		<10		<10		<10		<0.3		<0.3		<0.5		<0.5		<0.5		<0.5		0.993	ER	2.75	ER	0.524	ER	1.21	ER	<0.4	
Selenium	40	50	29.6	<10		<10		<10		<10		<10		<10		<2.7		<2.7		7.62	ER	<3.1		87		73.3		4.73	ER	26.2		17.7	ER	<7.0		NR	
Thallium	0.5	2	5.5	<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		<1.36		<1.36		<1.3		<1.3		<1.3		<1.3		2.02	ER	<1.3		<0.53		<0.53		<0.53	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-04
Fort Monmouth, New Jersey

																															M4MW10									
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1 Dup		LF2		LF2 Dup		LF3	LF3 Dup	LF4	LF5	LF6	46		47		48		49		50		51		52		53		54									
Date Collected				4/6/2010		7/21/2010		7/21/2010		10/6/2010	10/6/2010	2/7/2011	4/6/2011	7/5/2011	1/8/2008		4/3/2008		7/10/2008		10/10/2008		3/12/2009		5/20/2009		7/21/2009		11/4/2009		1/6/2010									
ANALYTE/Lab ID				1012402		1031603		1031602		1043002	1043001	1103703	1113305	1127805	8001006		8011006		8022806		8036106		9010506		9020706		9030306		9043606		1000506									
Metals (µg/L)																																								
Antimony	6	6	20.70	8.16	ER	7.78	ER	9.64	ER	<6.0	<6.0	<6.0	<6.0	<6.0	<0.7		<0.7		<1.2		2.52	ER	15.4		2	ER	<4.8		<4.8		<4.8									
Arsenic	3	10	89.30	<0.62		<0.62		0.98	ER	<3.0	<3.0	<3.0	<3.0	<3.0	<2.7		5.11		<2.4		<2.4		61.5		17.6		17.7		<0.62		1.4	ER								
Barium	6000	2000	699.00	34.2		44.2		44.1		<200	<200	<200	<200	<200	1330		346		129		88.7		410		190		112		109		114									
Beryllium	1	4	2.10	<0.04		<0.04		<0.04		<1.0	<1.0	<1.0	<1.0	<1.0	2.65		0.472	ER	0.398	ER	0.342	ER	0.433	ER	0.32	ER	0.096	ER	<0.04		<0.04									
Cadmium	4	5	9.50	<0.5		<0.5		<0.5		<3.0	<3.0	<3.0	<3.0	<3.0	5.74		5.9		2.9		<0.2		<0.2		<0.2		1.22	ER	<0.5		<0.5									
Chromium	70	100	191	<1.0		<1.0		<1.0		<10	<10	<10	<10	<10	0.529	ER	<0.2		<0.3		<0.3		0.833	ER	<0.3		<1.0		<1.0		<1.0									
Copper	1300	1300	65.6	<1.0		<1.0		<1.0		<10	<10	<10	<10	<10	<0.5		<0.5		<0.7		<0.7		<0.7		<0.7		<1.0		<1.0		<1.0									
Lead	5	15	22.7	<2.4		<2.4		<2.4		<3.0	<3.0	<3.0	<3.0	<3.0	<0.7		4.53	ER	2.13	ER	<1.3		11.6		1.78	ER	<2.4		<2.4		<2.4									
Mercury	2	2	0.26	<0.05		0.22	ER	0.47	ER	NA	NA	<0.20	<0.20	<0.20	<0.13		<0.13		<0.073		<0.073		<0.073		<0.073		<0.05		<0.05		<0.05									
Nickel	100	NLE	187	0.672	ER	<0.4		<0.4		<10	<10	<10	<10	<10	<0.3		0.309	ER	<0.5		<0.5		<0.5		<0.5		1.27	ER	<0.4		4.32	ER								
Selenium	40	50	29.6	<7.0		62		72.7		<10	<10	<10	<10	<10	<2.7		<2.7		<3.1		<3.1		52.7		4.61	ER	<7.0		<7.0		<7.0									
Thallium	0.5	2	5.5	<0.53		<0.53		<0.53		<2.0	<2.0	<2.0	<2.0	<2.0	<1.36		<1.36		<1.3		<1.3		<1.3		<1.3		<1.3		<0.53		<0.53									

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-04
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	LF1		LF2		LF3	LF4	LF5	LF6
Date Collected				4/6/2010		7/21/2010		10/6/2010	2/8/2011	4/6/2011	7/6/2011
ANALYTE/Lab ID				1012406		1031605		1043004	1104104	1113307	1128004
Metals (µg/L)											
Antimony	6	6	20.70	7.3	ER	9.23	ER	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	0.83	ER	1.12	ER	<3.0	<3.0	<3.0	<3.0
Barium	6000	2000	699.00	41.8		53.6		<200	<200	202	<200
Beryllium	1	4	2.10	<0.04		<0.04		<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	<0.5		1.26	ER	<3.0	<3.0	<3.0	<3.0
Chromium	70	100	191	<1.0		<1.0		<10	<10	<10	<10
Copper	1300	1300	65.6	1.34	ER	<1.0		<10	<10	<10	<10
Lead	5	15	22.7	<2.40		<2.40		<3.0	<3.0	<3.0	<3.0
Mercury	2	2	0.26	<0.05		0.4	ER	NA	<0.20	<0.20	<0.20
Nickel	100	NLE	187	3.54	ER	0.959	ER	<10	<10	<10	<10
Selenium	40	50	29.6	NR		59.8		<10	<10	<10	<10
Thallium	0.5	2	5.5	<0.53		<0.53		<2.0	<2.0	<2.0	<2.0

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-04
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-4-GW-M4MW05		FTMM-4-GW-M4MW06		FTMM-4-GW-M4MW07		FTMM-4-GW-M4MW08		FTMM-4-GW-M4MW09		FTMM-4-GW-M4MW10	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013	
LAB SAMPLE ID:						R1306058-016		R1306058-014		R1306058-015		R1306058-004		R1306058-017		R1306058-013	
SAMPLE INTERVAL (ft bgs):						5-20		5-20		6-16		4-19		7-22		3-18	
	CAS No.	Unit															
Volatile Organics - SW8260C																	
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	--	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	--	5.0	UJ	5.0	UJ	**1.4**	J	5.0	UJ	5.0	UJ	5.0	UJ
Benzene	71-43-2	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromomethane	74-83-9	µg/L	10	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.28**	BJ
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-04
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-4-GW-M4MW05		FTMM-4-GW-M4MW06		FTMM-4-GW-M4MW07		FTMM-4-GW-M4MW08		FTMM-4-GW-M4MW09		FTMM-4-GW-M4MW10	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013	
LAB SAMPLE ID:						R1306058-016		R1306058-014		R1306058-015		R1306058-004		R1306058-017		R1306058-013	
SAMPLE INTERVAL (ft bgs):						5-20		5-20		6-16		4-19		7-22		3-18	
	CAS No.	Unit															
Toluene	108-88-3	µg/L	600	1,000	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [5]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	--	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Metals - SW6010C/SW7470A																	
Aluminum	7429-90-5	µg/L	200	NLE	121000	**90.5**	J	**31.3**	J	**125**		25	U	25	U	25	U
Antimony	7440-36-0	µg/L	6	6	20.70	4.0	U	**2.9**	BJ	**2.5**	BJ	**4.4**	BJ	**4.1**	BJ	4.0	U
Arsenic	7440-38-2	µg/L	3	10	89.30	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Barium	7440-39-3	µg/L	6,000	2,000	699.00	**22.2**		**18.4**	J	**16.9**	J	**27.7**		**48.9**		**60.7**	
Beryllium	7440-41-7	µg/L	1	4	2.10	**0.399**	BJ	**0.29**	BJ	0.30	U	0.30	U	0.30	U	0.30	U
Cadmium	7440-43-9	µg/L	4	5	9.50	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Calcium	7440-70-2	µg/L	NLE	NLE	45400.00	**3,010**		**2,760**		**7,040**		**52,200**		**43,900**		**45,500**	
Chromium	7440-47-3	µg/L	70	100	191.00	**1.4**		**1.1**		**0.348**	J	**0.195**	J	1.0	U	1.0	U
Cobalt	7440-48-4	µg/L	NLE	NLE	18.30	**3.9**		**3.5**		**2.0**	J	1.0	U	1.0	U	**0.866**	J
Copper	7440-50-8	µg/L	1,300	1,300 [5]	65.60	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
Iron	7439-89-6	µg/L	300	NLE	431000	**201**		**18.1**	J	**3,260**		**19,800**		**5,600**		**9,160**	
Lead	7439-92-1	µg/L	5	15 [5]	22.70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Magnesium	7439-95-4	µg/L	NLE	NLE	62700	**3,380**		**2,880**		**2,340**		**7,180**		**6,720**		**8,950**	
Manganese	7439-96-5	µg/L	50	NLE	331	**12.3**		**7.8**	J	**32.5**		**272**		**50.6**		**163**	
Mercury	7439-97-6	µg/L	2	2	0.26	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U
Nickel	7440-02-0	µg/L	100	NLE	187	**8.0**		**7.2**		5.0	U	5.0	U	5.0	U	5.0	U
Potassium	9/7/7440	µg/L	NLE	NLE	137000	**2,400**		**2,580**		**1,480**	J	**7,510**		**7,520**		**4,220**	
Selenium	7782-49-2	µg/L	40	50	29.60	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	**2.1**	J
Silver	7440-22-4	µg/L	40	NLE	ND	**0.408**	BJ	**0.373**	BJ	**0.363**	BJ	**0.766**	BJ	**0.53**	BJ	**0.734**	BJ
Sodium	7440-23-5	µg/L	50,000	NLE	21500	**4,720**		**3,630**		**78,100**		**22,000**		**5,860**		**58,500**	
Thallium	7440-28-0	µg/L	2	2	5.50	10	U	10	U	10	U	10	U	10	U	10	U
Vanadium	7440-62-2	µg/L	NLE	NLE	108	**0.564**	J	0.60	U	**0.518**	J	**0.822**	J	**0.425**	J	**0.665**	J
Zinc	7440-66-6	µg/L	2,000	NLE	233	**33.7**	B	**40.5**	B	**46.6**	B	4.0	U	4.0	U	**3.7**	BJ

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).

J - Analyte detected, estimated concentration.

UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.

B - The analyte was found in an associated blank at concentration above one half the LOQ, as well as in the sample.

BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.

D**etections are bolded.**

Detections above the NJDEP GWQS are highlighted.

For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.

[4] Interim specific groundwater quality criteria.

[5] Value is the USEPA Action Level.

NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Site FTMM-04
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect?[2] (Y/N)	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-4 Landfill	VOC/Metals								
M4MW05		NO	N/A	N/A	N/A	N/A	N/A	NO	
M4MW06		NO	N/A	N/A	N/A	N/A	N/A	NO	
M4MW07		Fe, Na	Na	NO	NO	NO	NO	NO	Na is considered a background concentration and not from historical site use.
M4MW08		Fe, Mn, Sb	NO	N/A	N/A	N/A	N/A	NO	
M4MW09		Fe, Mn	NO	N/A	N/A	N/A	N/A	NO	
M4MW10		Fe, Mn, Na	Na	NO	NO	NO	NO	NO	Na is considered a background concentration and not from historical site use.

Notes

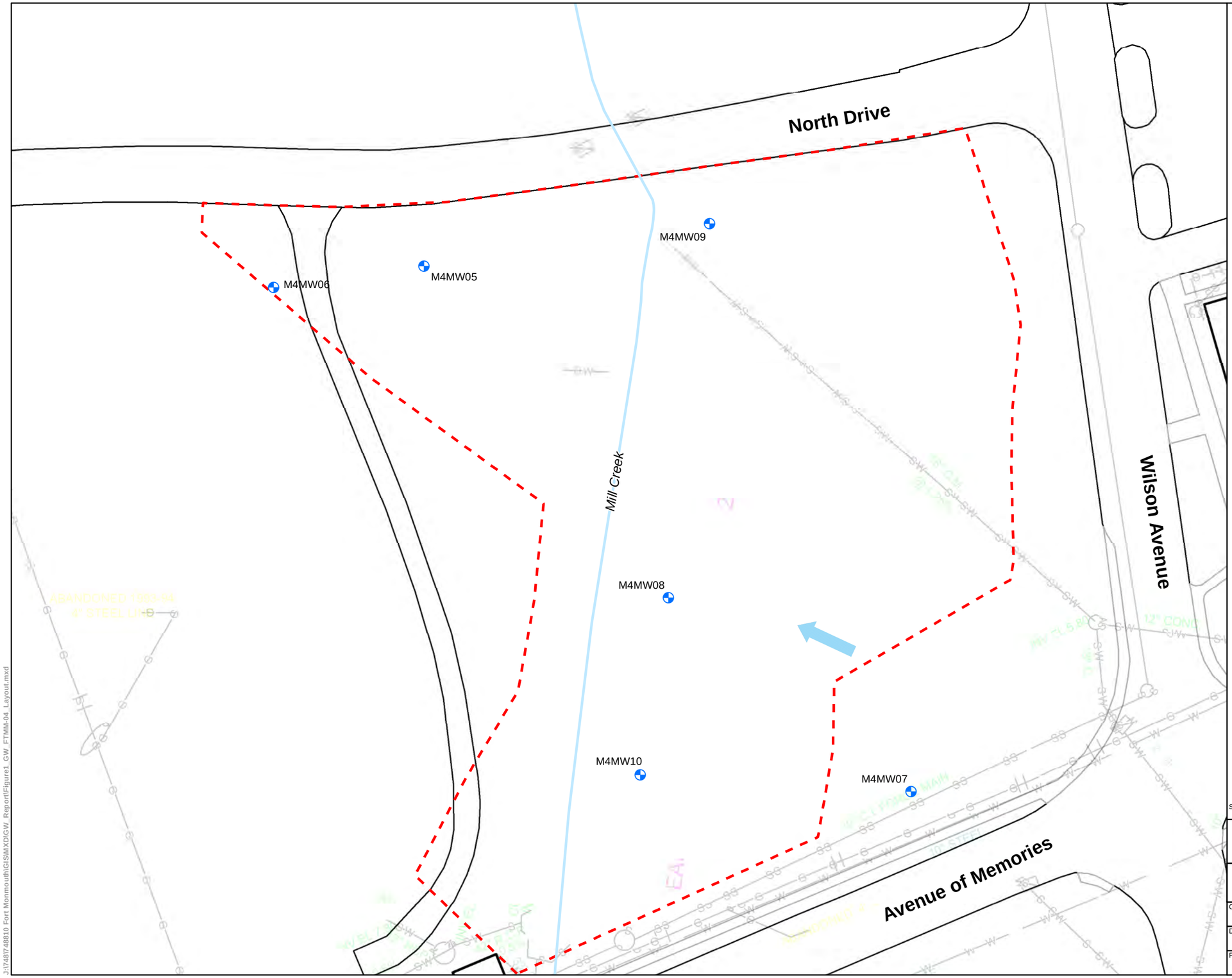
1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyte from LTM list

2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds?
If yes then keep analyte in LTM list
If no then remove this analyte from LTM list

3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-04



Legend

- Shallow Monitoring Well
- M-4 Landfill Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 50 feet

0 50 100 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-04	
CREATED BY: **TS**	REVIEWED BY: **IG**
DATE: **November 2013**	FIGURE NUMBER: **Figure 1**
PROJECT NUMBER: **748810.01000**	FILE: **Figure1_GW_FTMM-04_Layout.mxd**

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-04_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MMW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): ~~M-4~~ FTMM-4 (JC)

SAMPLIG INSTRUMENTS: Blower pump

PID DETECTOR: MiniRAE (JC)

DATE: 8/20/13

LABORATORY:

SAMPLING PERSONNEL

NAME: C. Watson

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~~—~~ 0.0 (JC)

WELL DEPTH (TOC): 22.29

FEET OF WATER IN WELL: 13.85

SCREENED INTERVAL (TOC): 7.55-22.55 (8.39-22.24)

PUMP INTAKE DEPTH (ft below TOC): 15.

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.39

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:25	X		4.49	NA	0.112	NA	243.1	NA	6.23	NA	0.7	NA	23.60	NA	200	8.40
13:30	X		4.46	0.03	0.111	0.001	251.8	8.7	5.58	0.65	1.2	0.5	23.47	0.13	200	8.40
14:35	X		4.44	0.02	0.111	0	255.0	3.2	5.42	0.16	1.0	0.2	23.43	0.04	200	8.40
14:40	X		4.35	0.09	0.110	0.001	276.6	23.6	5.47	0.05	1.2	0.2	23.13	0.30	200	8.40
14:45	X		4.28	0.07	0.110	0	300.6	22.0	5.78	0.31	0.7	0.5	23.00	0.15	200	8.40
14:50	X		4.21	0.07	0.110	0	306	6.0	5.87	0.11	0.7	0	22.95	0.05	200	8.40
14:50	X	X	4.18	0.03	0.110	0	308.2	2.2	5.92	0.05	0.5	0.2	21.80	1.15	200	8.40

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

APPENDIX D: FTMM-05 Landfill

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1.0 FTMM-05 GROUNDWATER SAMPLING D-1
2.0 WATER LEVEL MEASUREMENTS AND ASSESMENT D-1
3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS D-1
4.0 AUGUST 2013 GROUNDWATER RESULTS D-2
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Table No.	Title
1	Groundwater Gauging Data and Sample Summary
2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

LIST OF FIGURES

Figure No.	Title
1	Layout of FTMM-05

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets & NJDEP PDB Checklists

1.0 FTMM-05 GROUNDWATER SAMPLING

Groundwater samples were collected from ten monitoring wells located at FTMM-05 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using passive diffusion bag (PDB) samplers as per the March 2013 Sampling and Analysis Plan (SAP). PDBs were deployed in monitoring wells on August 13, 2013, allowed to equilibrate for a minimum of two weeks, and retrieved on August 27, 2013. Three monitoring wells (M5MW11, M5MW16, M5MW20) within the M-5 site were also sampled via low flow purging and sampling (LFPS) methodology to evaluate the representativeness of the groundwater samples collected via PDBs. Groundwater samples collected via PDBs and LFPS were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via Unites States Environmental Protection Agency (USEPA) Method 8260B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records and NJDEP PDB Checklists for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-05 were gauged on August 7, 2013. Groundwater elevations in monitoring wells ranged from 1.79 (M5MW13) to 7.08 (M5MW16) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the west (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the monitoring well gauging, the physical condition of site monitoring wells was assessed. FTMM-05 monitoring wells were found to be in good condition and had tubing staged in the wells at the time of groundwater gauging.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From May 1997 to July 2003, groundwater monitoring wells were sampled for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals at FTMM-05. From July 2003 to December 2009 monitoring wells were sampled solely for VOCs and from December 2009 to June 2011 monitoring wells were sampled for VOCs and metals.

Since July 2011, the last four rounds of groundwater sampling were conducted on a bi-monthly basis have been comprised of VOC and metals analysis. Several metals were detected in exceedance of their respective NJDEP GWQS including aluminum, arsenic, iron, lead, manganese, and sodium. However, these metals did not exceed their background concentration established in the 1995 Weston Report.

FTMM-05 monitoring wells M5MW11, M5MW16, M5MW19, M5MW20, and M5MW23 exhibited exceedances of either tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride (VC) or a combination of these compounds within the last four historical groundwater monitoring events. Historical groundwater analytical results are presented in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical data from samples collected during the August 2013 event are presented in **Table 3**. Tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride (VC) and/or cis-1,2 dichloroethene (cis-1,2 DCE) were detected, in ten of the 24 samples collected, from monitoring wells above their respective NJDEP GWQS.

Additionally, wells that were sampled via PDBs and LFPS showed similar VOC detections, indicating that PDBs are a representative sampling method.

5.0 FINDINGS AND RECOMMENDATIONS

In the August 2013 Baseline Sampling Event, FTMM-05 monitoring wells M5MW11, M5MW16, M5MW20, and M5MW23 exhibited exceedances in either PCE (M5MW11, M5MW23), TCE (M5MW20, M5MW23), or VC (M5MW16). Through review of current and historical groundwater data for the FTMM-05 site, these exceedances from August 2013 do not appear to be anomalous but rather part of a trend of low-level VOC exceedances. Remaining monitoring wells did not exhibit exceedances of the NJDEP GWQS in August 2013, or in the most recent four quarters of groundwater sampling.

Based on these results, it is recommended that groundwater sampling be continued at M5MW11, M5MW16, M5MW20, and M5MW23 for VOCs. These wells will continue to be sampled via PDBs due to the positive correlation analysis during the August 2013 Sampling Event.

Groundwater sampling can be discontinued at the remaining wells within the FTMM-05 monitoring well network due to the absence of VOC exceedances and no metals exceeding their background concentrations (Weston 1995) in historical and August 2013 sampling data. **Table 4** presents the matrix table used to determine which analytes and/or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-05
Fort Monmouth, New Jersey

														Every 5' of saturated screen requires PDB & its deployed in mid-point of saturated screen interval								
Site	**Well Permit #**	**Y Coord. (North)**	**X Coord. (East)**	**Depth**	**Screen Length**	**Screen Interval**	**TOC Elev.**	**Gauge Date**	**Gauge Time**	**PID Reading (ppm)**	**Gauged DTW (ft) TOC**	**Gauged DTB (ft) TOC**	**Groundwater Elevation (ft.AMSL)**	**Saturated Screen Length**	**PDB Interval 1 (ft. below TOC)**	**PDB Interval 2 (ft. below TOC)**	**PDB Interval 3 (ft. below TOC)**	**PDB Interval 4 (ft. below TOC)**	**PDB Deploy Date**	**PDB Deploy Time**	**PDB Sample Date**	**PDB Sample Time**	**LFPS Confirmatory Sample Date and Time**
				feet																			
M-5 Landfill																							
M5MW10	29-32574	539469.986	617436.961	15.00	10.00	5-15	6.05	8-7-13	1055	0	4.23	17.46	1.82	10	9.96	14.96	N/A	N/A	8/13/2013	1506	8/27/2013	1510	N/A
M5MW11	29-32575	539702.462	617582.950	15.00	10.00	5-15	10.61	8-7-13	1112	0	7.02	17.09	3.59	10	9.46	14.4	N/A	N/A	8/13/2013	1226	8/27/2013	1310	8-27-13; 1435
M5MW12	29-39179	539502.575	617410.722	15.00	10.00	5-15	8.58	8-7-13	1100	0	5.79	16.29	2.79	10	10.4	15.4	N/A	N/A	8/13/2013	1453	8/27/2013	1530	N/A
M5MW13	29-39178	539367.025	617437.994	20.00	15.00	5-20	4.33	8-7-13	1106	0	2.54	19.05	1.79	15	7.87	12.87	NS	N/A	8/13/2013	1440	8/27/2013	1445	N/A
M5MW14	29-39177	539178.158	617477.326	20.00	15.00	5-20	4.66	8-7-13	1048	0	2.70	20.43	1.96	15	8.63	13.65	18.63	N/A	8/13/2013	1417	8/27/2013	1430	N/A
M5MW16	29-40121	539431.444	618031.862	16.00	13.00	3-16	14.08	8-7-13	1136	0	7.0	18.90	7.08	11.53	8.8	14.57	N/A	N/A	8/13/2013	1520	8/27/2013	1555	8-28-13; 1025
M5MW18	29-40123	539430.125	617754.747	18.00	15.00	3-18	13.35	8-7-13	1130	0	7.35	20.43	6.00	13.25	8.6	16.98	N/A	N/A	8/13/2013	1203	8/27/2013	1410	N/A
M5MW19	29-40124	539558.480	617759.521	18.00	15.00	3-18	12.93	8-7-13	1123	0	7.46	20.63	5.47	12.01	10.34	16.35	N/A	N/A	8/13/2013	1153	8/27/2013	1400	N/A
M5MW20	29-40122	539591.512	617684.122	14.00	10.00	4-14	11.55	8-7-13	1115	0	6.12	16.35	5.43	10	8.65	13.65	N/A	N/A	8/13/2013	1210	8/27/2013	1355	8-28-13; 1150
M5MW23	29-40125	539824.395	617693.490	18.00	15.00	3-18	11.91	8-7-13	1120	0	7.93	18.16	3.98	12.4	10.82	17.02	N/A	N/A	8/13/2013	1236	8/27/2013	1330	N/A

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS = low flow purging and sampling
PDB = Passive Diffusion Bag
N/A = not applicable
NS = Third sampling depth interval could not be sampled, PDB end cap dislodged during retrieval.

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW09			M5MW10																				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF3	46	46 Dup	47	47 Dup	48	48 Dup	49	49 Dup	50	51		52	53	LF54		LF55		LF56		LF57	LF58	LF59	LF60
Date Collected				3/9/2011	6/8/2011	8/13/2011	3/11/2008	3/11/2008	6/3/2008	6/3/2008	8/25/2008	8/25/2008	11/10/2008	11/10/2008	2/26/2009	6/12/2009		9/18/2009	12/28/2009	3/31/2010		6/30/2010		9/26/2010		1/11/2011	2/23/2011	6/8/2011	8/13/2011
ANALYTE/Lab ID				1109501	1124305	1134008	80077.04	80077.03	80185.04	80185.03	80306.04	80306.03	80404.04	80404.03	90077.04	90235.04		90390.04	90490.04	10115.04		10298.08		10411.05		1101905	1106512	1124306	1134007
Volatile Organic Compounds (µg/L)																											
Acetone	6000	NLE	-	<0.32	<0.32	<7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.32	<0.32	<0.32	<7.6
Bromodichloromethane	1	80	-	<0.12	<0.12	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.23
2-Butanone	300	NLE	-	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.22	<0.22	<0.22	<2.9
Carbon disulfide	700	NLE	-	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.18
Chloroform	70	80	-	<0.35	<0.35	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.35	<0.35	<0.35	<0.21
1,3-Dichlorobenzene	600	NLE	-	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.16	<0.16	<0.16	<0.29
1,1-Dichloroethene	1	7	-	<0.15	<0.15	<0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.15	<0.15	<0.15	<0.28
cis-l,2-Dichloroethene	70	70	-	<0.12	<0.12	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.22
trans -1,2-Dichloroethene	100	100	-	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.14	<0.14	<0.14	<0.31
Methylene chloride	3	5	-	<0.26	<0.26	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.26	<0.26	<0.26	<0.2
Tetrachloroethene	1	5	-	<0.14	<0.14	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.14	<0.14	<0.14	<0.32
Toluene	600	1000	-	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65	J	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.15
Trichloroethene	1	5	-	<0.11	<0.11	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.11	<0.11	<0.11	<0.21
Vinyl chloride	1	2	-	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		<0.22	<0.22	<0.22	<0.27
TICs*	500	NLE	-	0	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND		ND		0	0	0	0
Metals (µg/L)																											
Aluminum	200	NLE	121000	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	20.7		ND		13.8		<200	<200	<200	<200
Antimony	6	6	20.70	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	5.45	ER	ND		7.59	ER	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	<3.0	5.9	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		<3.0	<3.0	<3.0	<3.0
Barium	6000	2000	699.00	473	817	416	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	24.6		24		36.2		<200	<200	<200	<200
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	94300	91600	54600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	14100		12600		14000		38800	33900	16600	13500
Chromium	70	100	191.00	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		1.17	ER	1.15	ER	<10	<10	<10	<10
Cobalt	NLE	NLE	18.30	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		<50	<50	<50	<50
Copper	1300	1300	65.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		3.14	ER	ND		<10	<10	<10	<10
Iron	300	NLE	431000	17000	65600	29100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	4230		3660		3880		4990	4810	5190	4200
Lead	5	15	22.70	<3.0	10.4	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		<3.0	<3.0	<3.0	<3.0
Magnesium	NLE	NLE	62700	11500	11100	8030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	15500		17000		18800		44100	33200	20200	17800
Manganese	50	NLE	331	483	723	402	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	185		40.1		41.3		286	557	77.3	46.2
Mercury	2	2	0.26	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		NA	<0.2	<0.2	<0.2
Nickel	100	NLE	187	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		0.42	ER	<10	<10	<10	<10
Potassium	NLE	NLE	137000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	12700		17800		18800		27400	16000	17100	18600
Selenium	40	50	29.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	13.7		NR		ND		<10	<10	<10	<10
Silver	40	NLE	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		0.81	ER	0.531		<10	<10	<10	<10
Sodium	50000	NLE	21500	39800	40100	46800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	59900		19800		25900		292000	267000	67400	37600
Thallium	2	2	5.50	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		<2.0	<2.0	<2.0	<2.0
Vanadium	NLE	NLE	108	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	ND		ND		ND		<50	<50	<50	<50
Zinc	2000	NLE	233	589	831	175	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	3.3	ER	ND		ND		<20	<20	<20	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP = NJDEP Ground Water Quality Standards as per N.J.A.C. 7:9-6 (July 22, 2010)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW 11																				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	45	46	47	48	49	49 Dup	50	51	52	LF53	LF54	LF54 Dup	LF55	LF56	LF56 Dup	LF57	LF58	LF59	LF60	LF61
Date Collected				3/11/2008	6/3/2008	8/25/2008	11/10/2008	2/26/2009	2/26/2009	6/12/2009	9/18/2009	12/28/2009	3/30/2010	6/30/2010	6/30/2010	9/26/2010	1/5/2011	1/5/2011	2/23/2011	4/12/2011	4/15/2011	4/22/2011	4/29/2011
ANALYTE/Lab ID				80077.05	80185.05	80306.05	80404.05	90077.05	90077.03	90235.05	90390.05	90490.05	10113.01	10298.04	10298.03	10411.11	1100904	1100903	1106509	1114205	1114905	1116504	1118204
Volatile Organic Compounds (µg/L)																							
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32
Bromodichloromethane	1	80	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
2-Butanone	300	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22
Carbon disulfide	700	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Chloroform	70	80	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35
1,3-Dichlorobenzene	600	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31 J	ND	ND	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
1,1-Dichloroethene	1	7	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
cis-l,2-Dichloroethene	70	70	-	0.4 J	0.53 J	8.4	6.93	1.55	1.28 J	2.6	11.56	1.62	ND	2.22	2.18	17.06	5.89	6.02	5.05	11.31	7.14	3.58	0.63
trans -1,2-Dichloroethene	100	100	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Methylene chloride	3	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Tetrachloroethene	1	5	-	2.02	2.93	ND	2.47	0.94	1.16 J	2.74	1	1.73	0.69	2.51	2.61	0.85	2.28	2.33	2.23	1.16	2.04	2.63	3.08
Toluene	600	1000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Trichloroethene	1	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
Vinyl chloride	1	2	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0	0	0	0	0	0
Metals (µg/L)																							
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	NA	NA	NA	292	29.5	45.3	23.8	<200	<200	<200	NA	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	6.9 ER	9.99 ER	<6.0	<6.0	<6.0	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.04 ER	0.95 ER	1.07 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.74	9.71	9.96	10.9	<200	<200	<200	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.555 ER	0.672 ER	1.71 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	13000	38000	38900	22700	20400	21000	16500	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.7 ER	ND	ND	1.27 ER	<10	<10	<10	<0.01[1]	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	1.27	<50	<50	<50	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.42 ER	3.72 ER	3.86 ER	2.17 ER	<10	<10	<10	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	NA	NA	1670	3040	3780	38000	1500	1640	782	12600	3950	4690	2670
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.77 ER	4.45 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	NA	NA	NA	1610	15300	15600	8810	5330	5510	<5000	NA	NA	NA	NA
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.98 ER	26.4	29.8	70.5	<15	<15	<15	26.7	<15	<15	<15
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.12 ER	ND	ND	ND	NA	NA	<0.2	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.47 ER	1.83 ER	2.05 ER	2.97 ER	<10	<10	<10	NA	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	NA	NA	NA	2700	2760	2820	1580	<10000	<10000	<10000	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.4	NR	NR	ND	<10	<10	<10	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.11 ER	ND	ND	5	<10	<10	<10	NA	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	NA	NA	NA	NA	NA	NA	3720	40400	41800	58400	22200	22800	18400	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA
Vanadium	NLE	NLE	108	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.15 ER	ND	0.735 ER	ND	<50	<50	<50	NA	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.7 ER	133	139	147	86.2	89.5	82.7	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP = NJDEP Ground Water Quality Standards as per N.J.A.C. 7:9-6 (July 22, 2010)
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
MCL = U.S.Environmental Protection Agency Maximum Contaminant Level
b - Elevated sample detection limit due to difficult sample matrix
MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW 11						M5MW12																
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF62	LF63	LF64	LF65	LF66	LF66 Dup	38	39	40	41	42	43	43 Dup	44	45	LF46		LF47		LF48		LF48 Dup		LF49
Date Collected				6/6/2011	7/5/2011	7/29/2011	8/13/2011	8/19/2011	8/19/2011	3/11/2008	6/3/2008	8/25/2008	11/10/2008	2/26/2009	6/12/2009	6/12/2009	9/18/2009	12/28/2009	3/31/2010		6/30/2010		9/26/2010		9/26/2010		1/11/2011
ANALYTE/Lab ID				1123709	1127604	1131504	1134012	1134804		80077.06	80185.06	80306.06	80404.06	90077.06	90235.06	90235.03	90390.06	90490.06	10115.03		10298.07		10411.04		10411.03		1101904
Volatile Organic Compounds (µg/L)																										
Acetone	6000	NLE	-	<0.32	<7.6	<7.6	<7.6	<7.6	<7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.32
Bromodichloromethane	1	80	-	<0.12	<0.23	<0.23	<0.23	<0.23	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.12
2-Butanone	300	NLE	-	<0.22	<2.9	<2.9	<2.9	<2.9	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.22
Carbon disulfide	700	NLE	-	<0.12	<0.18	<0.18	<0.18	<0.18	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.12
Chloroform	70	80	-	<0.35	<0.21	<0.21	<0.21	<0.21	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.35
1,3-Dichlorobenzene	600	NLE	-	<0.16	<0.29	<0.29	<0.29	<0.29	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.16
1,1-Dichloroethene	1	7	-	<0.15	<0.28	<0.28	<0.28	<0.28	<0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.15
cis-l,2-Dichloroethene	70	70	-	7.47	3	4.7	10.4	2.2	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.12
trans -1,2-Dichloroethene	100	100	-	<0.14	<0.31	<0.31	<0.31	<0.31	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.14
Methylene chloride	3	5	-	<0.26	<0.2	<0.2	<0.2	<0.2	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.26
Tetrachloroethene	1	5	-	1.35	3.6	1.1	<0.32	4.9	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.14
Toluene	600	1000	-	<0.12	<0.15	<0.15	<0.15	<0.15	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.12
Trichloroethene	1	5	-	<0.11	<0.21	<0.21	<0.21	<0.21	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.11
Vinyl chloride	1	2	-	<0.22	<0.27	<0.27	<0.27	<0.27	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		<0.22
TICs*	500	NLE	-	0	0	0	0	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		0
Metals (µg/L)																										
Aluminum	200	NLE	121000	<200	NA	NA	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46.6		24.2		14.6		8.4		<200
Antimony	6	6	20.70	<6.0	NA	NA	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.31	ER	5.26	ER	27.5		24.1		<6.0
Arsenic	3	10	89.30	5.2	NA	NA	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		1.03	ER	6.08		5.98		<3.0
Barium	6000	2000	699.00	<200	NA	NA	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64.3		21.5		214		203		415
Beryllium	1	4	2.10	<1.0	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<1.0
Cadmium	4	5	9.50	<3.0	NA	NA	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		0.692	ER	1.57	ER	1.44	ER	<3.0
Calcium	NLE	NLE	45400.00	18000	NA	NA	19900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26500		24700		131000		120000		99900
Chromium	70	100	191.00	<10	<0.01[a]	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		1.79	ER	ND		ND		<10
Cobalt	NLE	NLE	18.30	<50	NA	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<50
Copper	1300	1300	65.60	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		4.17	ER	2.5	ER	2.57	ER	<10
Iron	300	NLE	431000	38600	7110	31100	38500	6340	5720	NA	NA	NA	NA	NA	NA	NA	NA	NA	11600		9260		38800		35900		35700
Lead	5	15	22.70	<3.0	NA	NA	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		4.43	ER	4.66	ER	<3.0
Magnesium	NLE	NLE	62700	6770	NA	NA	7450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32400		39000		143000		129000		76900
Manganese	50	NLE	331	63.2	25.3	62.9	67.6	20.5	17.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	176		64.9		1230		1170		1320
Mercury	2	2	0.26	<0.2	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		NA
Nickel	100	NLE	187	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<10
Potassium	NLE	NLE	137000	<10000	NA	NA	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21000		25500		53600		47400		32200
Selenium	40	50	29.60	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42.9		NR		ND		ND		<10
Silver	40	NLE	ND	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		1.38	ER	3.88		3.42		<10
Sodium	50000	NLE	21500	53600	NA	NA	64500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	109000		89100		744000		683000		544000
Thallium	2	2	5.50	<2.0	NA	NA	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<2.0
Vanadium	NLE	NLE	108	<50	NA	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.38	ER	ND		ND		ND		<50
Zinc	2000	NLE	233	88.9	NA	NA	109	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.37	ER	ND		ND		ND		<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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LF = Low flow sampling method used to collect sample

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NA = Not analyzed

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MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW12						M5MW13														
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF49 Dup	LF50	LF51	LF51 Dup	LF52	LF52 Dup	42	43	44	45	46	47	48	49	LF50		LF51		LF52		LF53	LF54	LF55
Date Collected				1/11/2011	2/23/2011	6/8/2011	6/8/2011	8/13/2011	8/13/2011	3/11/2008	6/3/2008	8/25/2008	11/10/2008	2/26/2009	6/12/2009	9/18/2009	12/28/2009	3/31/2010		6/30/2010		9/26/2010		1/11/2011	2/23/2011	6/8/2011
ANALYTE/Lab ID				1101903	1106511	1124304	1124303	1134004	11340	80077.07	80185.07	80306.07	80404.07	90077.07	90235.07	90390.07	90490.07	10115.05		10298.09		10411.06		1101906	1106513	1124307
Volatile Organic Compounds (µg/L)																										
Acetone	6000	NLE	-	<0.32	<0.32	<0.32	<0.32	<7.6	<7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.32	<0.32	<0.32
Bromodichloromethane	1	80	-	<0.12	<0.12	<0.12	<0.12	<0.23	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12
2-Butanone	300	NLE	-	<0.22	<0.22	<0.22	<0.22	<2.9	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22
Carbon disulfide	700	NLE	-	<0.12	<0.12	<0.12	<0.12	<0.18	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12
Chloroform	70	80	-	<0.35	<0.35	<0.35	<0.35	<0.21	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.35	<0.35	<0.35
1,3-Dichlorobenzene	600	NLE	-	<0.16	<0.16	<0.16	<0.16	<0.29	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.16	<0.16	<0.16
1,1-Dichloroethene	1	7	-	<0.15	<0.15	<0.15	<0.15	<0.28	<0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.15	<0.15	<0.15
cis-l,2-Dichloroethene	70	70	-	<0.12	<0.12	<0.12	<0.12	<0.22	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12
trans-1,2-Dichloroethene	100	100	-	<0.14	<0.14	<0.14	<0.14	<0.31	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.14	<0.14	<0.14
Methylene chloride	3	5	-	<0.26	<0.26	<0.26	<0.26	<0.2	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.26	<0.26	<0.26
Tetrachloroethene	1	5	-	<0.14	<0.14	<0.14	<0.14	<0.32	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.14	<0.14	<0.14
Toluene	600	1000	-	<0.12	<0.12	<0.12	<0.12	<0.15	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12
Trichloroethene	1	5	-	<0.11	<0.11	<0.11	<0.11	<0.21	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.11	<0.11	<0.11
Vinyl chloride	1	2	-	<0.22	<0.22	<0.22	<0.22	<0.27	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22
TICs*	500	NLE	-	0	0	0	0	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		0	0	0
Metals (µg/L)																										
Aluminum	200	NLE	121000	<200	<200	<200	350	725	791	NA	NA	NA	NA	NA	NA	NA	NA	19.5		22.4		ND		<200	<200	<200
Antimony	6	6	20.70	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	6.28	ER	6.32	ER	30.1		<6.0	<6.0	<6.0
Arsenic	3	10	89.30	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		6.4		<3.0	<3.0	<3.0
Barium	6000	2000	699.00	426	313	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	114		91.7		359		436	238	<200
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<1.0	<1.0	<1.0
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	0.514	ER	ND		1.25	ER	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	105000	68100	36200	37700	33800	31900	NA	NA	NA	NA	NA	NA	NA	NA	28400		23900		154000		79500	49700	33400
Chromium	70	100	191.00	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<10	<10	<10
Cobalt	NLE	NLE	18.30	<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<50	<50	<50
Copper	1300	1300	65.60	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND		3.12	ER	1.94	ER	<10	<10	<10
Iron	300	NLE	431000	37600	25400	21500	30800	28300	19700	NA	NA	NA	NA	NA	NA	NA	NA	8990		8550		24400		7830	7190	8040
Lead	5	15	22.70	<3.0	<3.0	<3.0	<3.0	5	5.1	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		3.4	ER	<3.0	<3.0	<3.0
Magnesium	NLE	NLE	62700	82200	47700	42000	43200	41600	40100	NA	NA	NA	NA	NA	NA	NA	NA	19200		20600		245000		82000	43700	27000
Manganese	50	NLE	331	1350	978	251	271	192	160	NA	NA	NA	NA	NA	NA	NA	NA	320		195		1170		885	600	391
Mercury	2	2	0.26	NA	<0.2	<0.2	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		NA	<0.2	<0.2
Nickel	100	NLE	187	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<10	<10	<10
Potassium	NLE	NLE	137000	34200	17700	23000	23800	25800	24400	NA	NA	NA	NA	NA	NA	NA	NA	9190		12600		68300		33300	15100	11300
Selenium	40	50	29.60	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	40.2		NR		ND		<10	<10	<10
Silver	40	NLE	ND	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND		1.7	ER	0.529		<10	<10	<10
Sodium	50000	NLE	21500	625000	400000	173000	188000	177000	171000	NA	NA	NA	NA	NA	NA	NA	NA	143000		106000		1870000		587000	378000	217000
Thallium	2	2	5.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<2.0	<2.0	<2.0
Vanadium	NLE	NLE	108	<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	0.817	ER	ND		ND		<50	<50	<50
Zinc	2000	NLE	233	<20	<20	<20	<20	32.9	40.3	NA	NA	NA	NA	NA	NA	NA	NA	1.26		ND		ND		<20	<20	<20

Notes:

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MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW13	M5MW14																
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF56	41	42	43	44	45	46	47	47 Dup	LF48	LF49		LF50		LF51		LF52	LF53	LF54	LF55
Date Collected				8/13/2011	3/11/2008	6/3/2008	8/25/2008	11/10/2008	2/26/2009	6/12/2009	9/18/2009	9/18/2009	12/28/2009	3/31/2010		6/30/2010		9/26/2010		1/11/2011	2/23/2011	6/8/2011	8/13/2011
ANALYTE/Lab ID				1134005	80077.08	80185.08	80306.08	80404.08	90077.08	90235.08	90390.08	90390.03	90490.08	10115.06		10298.1		10411.07		1101907	1106510	1124308	1134006
Volatile Organic Compounds (µg/L)																							
Acetone	6000	NLE	-	<7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.32	<0.32	<0.32	<7.6
Bromodichloromethane	1	80	-	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.23
2-Butanone	300	NLE	-	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22	<2.9
Carbon disulfide	700	NLE	-	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.18
Chloroform	70	80	-	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.35	<0.35	<0.35	<0.21
1,3-Dichlorobenzene	600	NLE	-	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.16	<0.16	<0.16	<0.29
1,1-Dichloroethene	1	7	-	<0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.15	<0.15	<0.15	<0.28
cis-l,2-Dichloroethene	70	70	-	<0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.22
trans -1,2-Dichloroethene	100	100	-	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.14	<0.14	<0.14	<0.31
Methylene chloride	3	5	-	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.26	<0.26	<0.26	<0.2
Tetrachloroethene	1	5	-	<0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.14	<0.14	<0.14	<0.32
Toluene	600	1000	-	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.15
Trichloroethene	1	5	-	<0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.11	<0.11	<0.11	<0.21
Vinyl chloride	1	2	-	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22	<0.27
TICs*	500	NLE	-	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		0	0	0	0
Metals (µg/L)																							
Aluminum	200	NLE	121000	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.2		ND		ND		<200	<200	<200	<200
Antimony	6	6	20.70	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.4		6.04	ER	15.4		<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		1.24	ER	ND		<3.0	<3.0	<3.0	<3.0
Barium	6000	2000	699.00	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.9		25.6		30.7		<200	<200	<200	<200
Beryllium	1	4	2.10	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	29800	NA	NA	NA	NA	NA	NA	NA	NA	NA	43800		49600		63300		45600	51000	59700	54300
Chromium	70	100	191.00	14.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<10	<10	<10	<10
Cobalt	NLE	NLE	18.30	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<50	<50	<50	<50
Copper	1300	1300	65.60	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		2.22	ER	1.02	ER	<10	<10	<10	<10
Iron	300	NLE	431000	8180	NA	NA	NA	NA	NA	NA	NA	NA	NA	1080		563		701		5010	1550	13900	11500
Lead	5	15	22.70	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<3.0	<3.0	<3.0	<3.0
Magnesium	NLE	NLE	62700	27100	NA	NA	NA	NA	NA	NA	NA	NA	NA	16000		16300		20600		20200	17800	18900	19800
Manganese	50	NLE	331	313	NA	NA	NA	NA	NA	NA	NA	NA	NA	16.5		14.7		17.4		73	27.6	112	79.3
Mercury	2	2	0.26	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		NA	<0.2	0.28	0.46
Nickel	100	NLE	187	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<10	<10	<10	<10
Potassium	NLE	NLE	137000	14000	NA	NA	NA	NA	NA	NA	NA	NA	NA	12900		12200		15700		13200	13200	12000	12700
Selenium	40	50	29.60	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	60.8		NR		ND		<10	<10	<10	<10
Silver	40	NLE	ND	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.04		ND		ND		<10	<10	<10	<10
Sodium	50000	NLE	21500	233000	NA	NA	NA	NA	NA	NA	NA	NA	NA	8060		8900		11100		42400	10200	64600	89400
Thallium	2	2	5.50	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<2.0	<2.0	<2.0	<2.0
Vanadium	NLE	NLE	108	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<50	<50	<50	<50
Zinc	2000	NLE	233	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.44	ER	ND		ND		<20	<20	71.8	35.8

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP = NJDEP Ground Water Quality Standards as per N.J.A.C. 7:9-6 (July 22, 2010)

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NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW16																											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	38		39		40		41		42		43		44	45	LF46		LF47		LF48		LF48 Dup		LF49		LF49 Dup		LF50		LF51		LF51 Dup		LF52		LF52 Dup	
Date Collected				3/11/2008		6/3/2008		8/25/2008		11/10/2008		2/26/2009		6/12/2009		9/18/2009	12/28/2009	3/30/2010		6/30/2010		9/27/2010		9/27/2010		1/4/2011		1/4/2011		2/23/2011		4/12/2011		4/12/2011		4/15/2011		4/15/2011	
ANALYTE/Lab ID				80077.09		80185.09		80306.09		80404.09		90077.09		90235.09		90390.09	90490.09	10113.03		10298.05		10412.04		10412.03		1100704		1100703		1106505		1114204		1114203		1114904		1114903	
Volatile Organic Compounds (µg/L)																																					
Acetone	6000	NLE	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.32		<0.32		<0.32		<0.32		<0.32		<0.32	
Bromodichloromethane	1	80	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.12		<0.12		<0.12		<0.12		<0.12		<0.12	
2-Butanone	300	NLE	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.22		<0.22		<0.22		<0.22		<0.22		<0.22	
Carbon disulfide	700	NLE	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.12		<0.12		<0.12		<0.12		<0.12		<0.12	
Chloroform	70	80	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.35		<0.35		<0.35		<0.35		<0.35		<0.35	
1,3-Dichlorobenzene	600	NLE	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.16		<0.16		<0.16		<0.16		<0.16		<0.16	
1,1-Dichloroethene	1	7	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.15		<0.15		<0.15		<0.15		<0.15		<0.15	
cis-l,2-Dichloroethene	70	70	-	8.48		3.23		13.2		4.23		14.93		5.14		1.87	2.52	10.26		10.27		1.71		1.84		4.64		4.37		33.47		8.45		9.11		4.13		3.57	
trans -1,2-Dichloroethene	100	100	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.14		<0.14		<0.14		<0.14		<0.14		<0.14	
Methylene chloride	3	5	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.26		<0.26		<0.26		<0.26		<0.26		<0.26	
Tetrachloroethene	1	5	-	6.93		4.42		5.92		4.43		1.75	J	2.99		1.95	4.9	1.36		1.56		3.39		3.86		3.72		3.6		<0.14		0.86		0.88		1.57		<0.14	
Toluene	600	1000	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		<0.12		<0.12		<0.12		<0.12		<0.12		<0.12	
Trichloroethene	1	5	-	0.74	J	0.75	J	1.99	J	1.36	J	1.58	J	0.5	J	ND	ND	1.84		1.13		0.73		0.81		0.45	J	0.41	J	0.97		0.88		0.94		0.44	J	0.42	J
Vinyl chloride	1	2	-	ND		ND		1.2	J	ND		1.28	J	ND		ND	ND	ND		1.15		ND		ND		<0.22		<0.22		1.65		0.34	J	0.36	J	<0.22		<0.22	
TICs*	500	NLE	-	ND		ND		ND		ND		ND		ND		ND	ND	ND		ND		ND		ND		0		0		0		0		0		0		0	
Metals (µg/L)																																					
Aluminum	200	NLE	121000	NA		NA		NA		NA		NA		NA		NA	NA	334		155		203		210		208		225		297		NA		NA		NA		NA	
Antimony	6	6	20.70	NA		NA		NA		NA		NA		NA		NA	NA	6.25	ER	ND		ND		ND		<6.0		<6.0		<6.0		NA		NA		NA		NA	
Arsenic	3	10	89.30	NA		NA		NA		NA		NA		NA		NA	NA	1.26	ER	4.51	ER	4.68	ER	4.52	ER	<3.0		<3.0		<3.0		NA		NA		NA		NA	
Barium	6000	2000	699.00	NA		NA		NA		NA		NA		NA		NA	NA	66.7		128		91.2		91.7		<200		<200		<200		NA		NA		NA		NA	
Beryllium	1	4	2.10	NA		NA		NA		NA		NA		NA		NA	NA	0.079	ER	0.124	ER	0.171		0.213	ER	<1.0		<1.0		<1.0		NA		NA		NA		NA	
Cadmium	4	5	9.50	NA		NA		NA		NA		NA		NA		NA	NA	0.667	ER	0.785	ER	ND		ND		<3.0		<3.0		<3.0		NA		NA		NA		NA	
Calcium	NLE	NLE	45400.00	NA		NA		NA		NA		NA		NA		NA	NA	11500		14600		8510		8610		<5000		<5000		7180		NA		NA		NA		NA	
Chromium	70	100	191.00	NA		NA		NA		NA		NA		NA		NA	NA	ND		ND		ND		ND		<10		<10		<10		<0.01	a	<0.01	a	NA		NA	
Cobalt	NLE	NLE	18.30	NA		NA		NA		NA		NA		NA		NA	NA	0.746		2.24		0.84		0.742		<50		<50		<50		NA		NA		NA		NA	
Copper	1300	1300	65.60	NA		NA		NA		NA		NA		NA		NA	NA	ND		3.15	ER	1.09	ER	1.05	ER	<10		<10		<10		NA		NA		NA		NA	
Iron	300	NLE	431000	NA		NA		NA		NA		NA		NA		NA	NA	12700		15500		5640		5400		563		586		8110		17500		15200		8210		8740	
Lead	5	15	22.70	NA		NA		NA		NA		NA		NA		NA	NA	ND		ND		ND		ND		<3.0		<3.0		<3.0		NA		NA		NA		NA	
Magnesium	NLE	NLE	62700	NA		NA		NA		NA		NA		NA		NA	NA	4400		6260		3670		3710		<5000		<5000		<5000		NA		NA		NA		NA	
Manganese	50	NLE	331	NA		NA		NA		NA		NA		NA		NA	NA	57.4		87.8		65.2		65.4		35.4		35.8		33.3		106		107		132		134	
Mercury	2	2	0.26	NA		NA		NA		NA		NA		NA		NA	NA	0.12	ER	ND		ND		ND		NA		NA		<0.2		NA		NA		NA		NA	
Nickel	100	NLE	187	NA		NA		NA		NA		NA		NA		NA	NA	2.27	ER	5.05		3.12	ER	3.07	ER	<10		<10		<10		NA		NA		NA		NA	
Potassium	NLE	NLE	137000	NA		NA		NA		NA		NA		NA		NA	NA	5510		5410		4350		4290		<10000		<10000		<10000		NA		NA		NA		NA	
Selenium	40	50	29.60	NA		NA		NA		NA		NA		NA		NA	NA	7.16		NR		1.56	ER	ND		<10		<10		<10		NA		NA		NA		NA	
Silver	40	NLE	ND	NA		NA		NA		NA		NA		NA		NA	NA	ND		2.81		1.05	ER	0.606		<10		<10		<10		NA		NA		NA		NA	
Sodium	50000	NLE	21500	NA		NA		NA		NA		NA		NA		NA	NA	50600		93500		109000		109000		52600		52900		37400		NA		NA		NA		NA	
Thallium	2	2	5.50	NA		NA		NA		NA		NA		NA		NA	NA	ND		ND		ND		ND		<2.0		<2.0		<2.0		NA		NA		NA		NA	
Vanadium	NLE	NLE	108	NA		NA		NA		NA		NA		NA		NA	NA	1.04	ER	ND		ND		ND		<50		<50		<50		NA		NA		NA		NA	
Zinc	2000	NLE	233	NA		NA		NA		NA		NA		NA		NA	NA	19.9	ER	46.7		43.5		44.1		50.9		61		50.8		NA		NA		NA		NA	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW16														M5MW18						
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF53	LF53 Dup	LF54	LF54 Dup	LF55	LF55 Dup	LF56	LF56 Dup	LF57	LF57 Dup	LF58	LF59	38	39	40	41	42	43	44
Date Collected				4/22/2011	4/22/2011	4/29/2011	4/29/2011	6/6/2011	6/6/2011	7/5/2011	7/5/2011	7/29/2011	7/29/2011	8/13/2011	8/19/2011	3/11/2008	6/3/2008	8/25/2008	11/10/2008	2/26/2009	6/12/2009	9/18/2009
ANALYTE/Lab ID				1116505	1116503	1118205	1118203	1123704	1123703	1127605	1127603	1131505	1131503	1134013	1134805	80077.10	80185.10	80306.10	80404.10	90077.10	90235.10	90390.10
Volatile Organic Compounds (µg/L)																						
Acetone	6000	NLE	-	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<7.6	<7.6	15.3	15.8	11.6	<7.6	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	-	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	-	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<2.9	<2.9	<2.9	<2.9	7.4	<2.9	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	-	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.18	<0.18	0.4 J	0.42 J	<0.18	<0.18	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	-	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.21	<0.21	2.9	2.9	1.7	0.86	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	-	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	1	7	-	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	ND	ND	ND	ND	ND	ND	ND
cis-l,2-Dichloroethene	70	70	-	16.63	15.21	8.57	8.94	5.17	4.97	2.1	2.1	22	23.2	50	29.2	ND	ND	ND	ND	ND	ND	ND
trans -1,2-Dichloroethene	100	100	-	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	5	-	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	1.2	<0.2	<0.2	<0.2	0.5 J	<0.2	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1	5	-	1.12	0.94	0.88	1.06	0.96	0.88	1.8	1.8	3.2	3.2	3.2	3	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	-	1.54	1.36	0.89	1.02	0.38 J	0.35 J	<0.21	<0.21	1.9	2.1	3.2	2	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1	2	-	0.46 J	0.41 J	0.28 J	0.27 J	0.33 J	0.28 J	<0.27	<0.27	1.9	2	7.1	3.9	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	0	0	0	0	0	0	0	0	0	0	0	0	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																						
Aluminum	200	NLE	121000	NA	NA	NA	NA	398	788	NA	NA	NA	NA	7510	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	NA	<6.0	<6.0	NA	NA	NA	NA	<6.0	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	6.8	6.5	NA	NA	NA	NA	24.5	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	<200	<200	NA	NA	NA	NA	242	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	<1.0	<1.0	NA	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	<3.0	<3.0	NA	NA	NA	NA	<3.0	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	6320	5660	NA	NA	NA	NA	30300	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	<10	<10	<0.01 a	<0.01 a	NA	NA	90.4	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	<50	<50	NA	NA	NA	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	10500	12400	8390	7740	9280	10400	5440	7110	74300	160000 b	49800	12700	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	NA	<3.0	<3.0	NA	NA	NA	NA	12.2	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	<5000	<5000	NA	NA	NA	NA	13700	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	34.9	33.1	73.6	70.6	45.3	43.2	27.3	27.9	79.8	108 b	112	73.1	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	<0.2	<0.2	NA	NA	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	39.7	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	NA	<10000	<10000	NA	NA	NA	NA	11800	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	14.4	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	NA	106000	101000	NA	NA	NA	NA	615000	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	<2.0	<2.0	NA	NA	NA	NA	<2.0	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NLE	NLE	108	NA	NA	NA	NA	<50	<50	NA	NA	NA	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	NA	NA	56.9	56.7	NA	NA	NA	NA	144	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP = NJDEP Ground Water Quality Standards as per N.J.A.C. 7:9-6 (July 22, 2010)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW18										M5MW19										
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	45	45 Dup	LF46		LF47		LF48		LF49	LF50	LF51	LF52	38		39		40		41	42	43		44	45		LF46		LF47		LF48		LF49
Date Collected				12/28/2009	12/28/2009	3/31/2010		6/29/2010		9/26/2010		1/4/2011	2/23/2011	6/6/2011	8/13/2011	3/11/2008		6/3/2008		8/25/2008		11/10/2008	2/26/2009	6/12/2009		9/18/2009	12/28/2009		3/31/2010		6/30/2010		9/27/2010		1/4/2011
ANALYTE/Lab ID				90490.10	90490.03	10115.02		10294.01		10411.08		1100707	1106504	1123705	1134009	80077.11		80185.11		80306.11		80404.11	90077.11	90235.11		90390.11	90490.11		10115.01		10298.06		10412.05		1100706
Volatile Organic Compounds (µg/L)																																		
Acetone	6000	NLE	-	ND	ND	ND		ND		ND		<0.32	<0.32	<0.32	<7.6	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.32
Bromodichloromethane	1	80	-	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.23	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.12
2-Butanone	300	NLE	-	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22	<2.9	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.22
Carbon disulfide	700	NLE	-	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.18	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.12
Chloroform	70	80	-	ND	ND	ND		ND		ND		<0.35	<0.35	<0.35	<0.21	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.35
1,3-Dichlorobenzene	600	NLE	-	ND	ND	ND		ND		ND		<0.16	<0.16	<0.16	<0.29	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.16
1,1-Dichloroethene	1	7	-	ND	ND	ND		ND		ND		<0.15	<0.15	<0.15	<0.28	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.15
cis-l,2-Dichloroethene	70	70	-	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.22	1.25	J	1.11	J	0.57	J	8.5	2.96	5.05		1.75	1.4		0.48	J	3.35		2.12		6.91
trans -1,2-Dichloroethene	100	100	-	ND	ND	ND		ND		ND		<0.14	<0.14	<0.14	<0.31	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.14
Methylene chloride	3	5	-	ND	ND	ND		ND		ND		<0.26	<0.26	<0.26	<0.2	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.26
Tetrachloroethene	1	5	-	ND	ND	ND		ND		ND		<0.14	<0.14	<0.14	<0.32	0.58	J	ND		0.75	J	2.01	3.03	3.17		ND	0.44	J	0.66		ND		ND		<0.14
Toluene	600	1000	-	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12	<0.15	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.12
Trichloroethene	1	5	-	ND	ND	0.28	J	ND		ND		<0.11	0.16	J	<0.11	<0.21	1.34	J	ND		0.33	J	3.68	2.9	0.51	J	ND	0.88		0.86		0.53		ND		0.84
Vinyl chloride	1	2	-	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22	<0.27	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		<0.22
TICs*	500	NLE	-	ND	ND	ND		ND		ND		0	0	0	0	ND		ND		ND		ND	ND	ND		ND	ND		ND		ND		ND		0
Metals (µg/L)																																		
Aluminum	200	NLE	121000	NA	NA	30.6		ND		44.2		<200	<200	<200	<200	NA		NA		NA		NA	NA	NA		NA	NA		ND		16.2		57.4		<200
Antimony	6	6	20.70	NA	NA	ND		ND		9.81	ER	<6.0	<6.0	<6.0	<6.0	NA		NA		NA		NA	NA	NA		NA	NA		6.48	ER	ND		ND		<6.0
Arsenic	3	10	89.30	NA	NA	3.77	ER	3.26	ER	1.38	ER	<3.0	<3.0	9.4	3.3	NA		NA		NA		NA	NA	NA		NA	NA		1.98	ER	2.01	ER	4	ER	<3.0
Barium	6000	2000	699.00	NA	NA	131		112		259		<200	<200	416	229	NA		NA		NA		NA	NA	NA		NA	NA		45.2		48.5		29.7		<200
Beryllium	1	4	2.10	NA	NA	ND		ND		ND		<1.0	<1.0	<1.0	<1.0	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		ND		<1.0
Cadmium	4	5	9.50	NA	NA	1.23	ER	1.07	ER	0.661	ER	<3.0	<3.0	<3.0	<3.0	NA		NA		NA		NA	NA	NA		NA	NA		0.724	ER	0.754	ER	ND		<3.0
Calcium	NLE	NLE	45400.00	NA	NA	27200		27200		23400		19500	27500	28300	34000	NA		NA		NA		NA	NA	NA		NA	NA		20400		21600		8860		6790
Chromium	70	100	191.00	NA	NA	ND		ND		ND		<10	<10	<10	<10	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		ND		<10
Cobalt	NLE	NLE	18.30	NA	NA	ND		ND		ND		<50	<50	<50	<50	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		ND		<50
Copper	1300	1300	65.60	NA	NA	ND		4.85	ER	ND		<10	<10	<10	<10	NA		NA		NA		NA	NA	NA		NA	NA		ND		2.75	ER	ND		<10
Iron	300	NLE	431000	NA	NA	32400		21700		19100		4270	22800	76400	33200	NA		NA		NA		NA	NA	NA		NA	NA		11400		12000		3040		1590
Lead	5	15	22.70	NA	NA	ND		2.99	ER	ND		<3.0	<3.0	<3.0	<3.0	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		ND		<3.0
Magnesium	NLE	NLE	62700	NA	NA	4830		4770		4030		<5000	<5000	<5000	5880	NA		NA		NA		NA	NA	NA		NA	NA		3700		4040		2270		<5000
Manganese	50	NLE	331	NA	NA	61.4		63.2		42.6		41.9	69.7	74.1	81.6	NA		NA		NA		NA	NA	NA		NA	NA		45.3		48.2		22		23.9
Mercury	2	2	0.26	NA	NA	ND		ND		ND		NA	<0.2	<0.2	<0.2	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		ND		NA
Nickel	100	NLE	187	NA	NA	ND		0.446	ER	1.1	ER	<10	<10	<10	<10	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		ND		<10
Potassium	NLE	NLE	137000	NA	NA	9040		8550		9820		<10000	<10000	<10000	<10000	NA		NA		NA		NA	NA	NA		NA	NA		8800		8480		4660		<10000
Selenium	40	50	29.60	NA	NA	21.9		NR		ND		<10	<10	<10	<10	NA		NA		NA		NA	NA	NA		NA	NA		32.3		NR		ND		<10
Silver	40	NLE	ND	NA	NA	ND		4.35	ER	2.09		<10	<10	<10	<10	NA		NA		NA		NA	NA	NA		NA	NA		ND		1.95	ER	ND		<10
Sodium	50000	NLE	21500	NA	NA	9240		8930		19700		16700	10600	10700	17000	NA		NA		NA		NA	NA	NA		NA	NA		7460		8590		22500		25100
Thallium	2	2	5.50	NA	NA	ND		ND		ND		<2.0	<2.0	<2.0	<2.0	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		ND		<2.0
Vanadium	NLE	NLE	108	NA	NA	1.17	ER	ND		ND		<50	<50	<50	<50	NA		NA		NA		NA	NA	NA		NA	NA		ND		ND		1.49	ER	<50
Zinc	2000	NLE	233	NA	NA	4.9	ER	3.32	ER	5.55		<20	<20	<20	<20	NA		NA		NA		NA	NA	NA		NA	NA		2.59	ER	7.44	ER	4.87	ER	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW19				M5MW20																M5MW23	
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF50	LF50 Dup	LF51	LF52	38	39	40	41	42	43	44	45	LF46	LF47	LF48	LF49	LF50	LF51	LF52	38
Date Collected				2/23/2011	2/23/2011	6/6/2011	8/13/2011	3/11/2008	6/3/2008	8/25/2008	########	2/26/2009	6/12/2009	9/18/2009	12/28/2009	3/30/2010	6/29/2010	9/26/2010	1/4/2011	2/23/2011	6/6/2011	8/13/2011	3/11/2008
ANALYTE/Lab ID				1106507	1106503	1123706	1134014	80077.12	80185.12	80306.12	80404.12	90077.12	90235.12	90390.12	90490.12	10113.04	10294.03	10411.1	1100705.00	1106508	1123707	1134011	80077.13
Volatile Organic Compounds (µg/L)																							
Acetone	6000	NLE	-	<0.32	<0.32	<0.32	<7.6	2.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<7.6	ND
Bromodichloromethane	1	80	-	<0.12	<0.12	2.13	<0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.23	ND
2-Butanone	300	NLE	-	<0.22	<0.22	<0.22	<2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<2.9	ND
Carbon disulfide	700	NLE	-	<0.12	<0.12	<0.12	<0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.18	ND
Chloroform	70	80	-	<0.35	<0.35	18.2	10.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.35	<0.35	0.91	1.4	ND
1,3-Dichlorobenzene	600	NLE	-	<0.16	<0.16	<0.16	<0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	<0.16	<0.16	<0.29	ND
1,1-Dichloroethene	1	7	-	<0.15	<0.15	<0.15	<0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36 J	ND	<0.15	<0.15	<0.15	<0.28	ND
cis-l,2-Dichloroethene	70	70	-	1.82	1.91	0.48 J	<0.22	ND	3.71	21.55	6.61	20.33	2.91	13.16	1.44	2.4	111.95	35.5	8.79	4.65	1.23	4	ND
trans -1,2-Dichloroethene	100	100	-	<0.14	<0.14	<0.14	<0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29 J	ND	<0.14	<0.14	<0.14	<0.31	ND
Methylene chloride	3	5	-	<0.26	<0.26	<0.26	<0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.26	<0.26	<0.26	<0.2	ND
Tetrachloroethene	1	5	-	1.1	1.2	0.38 J	<0.32	0.95 J	1.28 J	2.41	2.19	2.13	1.86 J	1.73	0.96	6.79	11.13	2.21	0.67	0.99	1.5	1.7	1.86 J
Toluene	600	1000	-	<0.12	<0.12	<0.12	<0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.15	ND
Trichloroethene	1	5	-	0.9	0.97	0.25 J	<0.21	ND	0.55 J	1.65 J	0.7 J	3.59	0.7 J	1.7	0.3 J	2.47	51.25	6.57	1.3	0.78	0.43	J 0.99	ND
Vinyl chloride	1	2	-	<0.22	<0.22	<0.22	<0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.27	ND
TICs*	500	NLE	-	0	0	0	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	0	0	0	0	ND
Metals (µg/L)																							
Aluminum	200	NLE	121000	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	574	245	412	472	252	2630	1140	NA
Antimony	6	6	20.70	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	14.1	5.07 ER	6.68 ER	<6.0	<6.0	<6.0	<6.0	NA
Arsenic	3	10	89.30	<3.0	<3.0	3.4	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.78 ER	0.65 ER	<3.0	<3.0	<3.0	<3.0	NA
Barium	6000	2000	699.00	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	13.7	28.7	13.7	<200	<200	<200	<200	NA
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.108 ER	0.068 ER	<1.0	<1.0	<1.0	<1.0	NA
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.719 ER	ND	<3.0	<3.0	<3.0	<3.0	NA
Calcium	NLE	NLE	45400.00	18400	17700	14000	12700	NA	NA	NA	NA	NA	NA	NA	NA	33000	27200	22800	11900	28800	11300	10400	NA
Chromium	70	100	191.00	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	3.22 ER	1.46 ER	3.19 ER	<10	<10	23.7	10.3	NA
Cobalt	NLE	NLE	18.30	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	ND	3.09	0.989	<50	<50	<50	<50	NA
Copper	1300	1300	65.60	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	3.83 ER	1.73 ER	<10	<10	<10	<10	NA
Iron	300	NLE	431000	10700	10900	10100	5300	NA	NA	NA	NA	NA	NA	NA	NA	2140	7860	2090	3790	1250	7090	3950	NA
Lead	5	15	22.70	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.52	<3.0	<3.0	<3.0	<3.0	NA
Magnesium	NLE	NLE	62700	<5000	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	8890	9310	7110	<5000	7100	<5000	<5000	NA
Manganese	50	NLE	331	46.2	47.5	36.1	32.1	NA	NA	NA	NA	NA	NA	NA	NA	29.2	71.4	38.2	27.8	24.5	<15	18	NA
Mercury	2	2	0.26	<0.2	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	0.12 ER	ND	ND	NA	<0.2	<0.2	<0.2	NA
Nickel	100	NLE	187	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	2.12 ER	8.27	4.09 ER	<10	<10	<10	<10	NA
Potassium	NLE	NLE	137000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	4420	4230	4150	<10000	<10000	<10000	<10000	NA
Selenium	40	50	29.60	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	45.6	NR	ND	<10	<10	<10	<10	NA
Silver	40	NLE	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	1.87 ER	1.63 ER	ND	<10	<10	<10	<10	NA
Sodium	50000	NLE	21500	15000	15400	26500	23000	NA	NA	NA	NA	NA	NA	NA	NA	134000	43600	77600	62300	128000	83600	79000	NA
Thallium	2	2	5.50	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.3 ER	ND	<2.0	<2.0	<2.0	<2.0	NA
Vanadium	NLE	NLE	108	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	3.35 ER	ND	1.85 ER	<50	<50	<50	<50	NA
Zinc	2000	NLE	233	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA	9.67 ER	55.2	24 ER	<20	<20	<20	<20	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 2
Historical Groundwater Analytical Results
Site FTMM-05
Fort Monmouth, New Jersey

				M5MW23																												
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	39	40		41	42	43	44	45	LF46		LF47		LF48		LF49	LF50	LF51		LF52	LF53	LF54	LF55		LF56		LF57	LF58	LF59
Date Collected				6/3/2008	8/25/2008		11/10/2008	2/26/2009	6/12/2009	9/18/2009	12/28/2009	3/30/2010		6/29/2010		9/26/2010		1/4/2011	2/23/2011	4/12/2011		4/15/2011	4/22/2011	4/29/2011	6/6/2011		7/5/2011		7/29/2011	8/13/2011	8/19/2011
ANALYTE/Lab ID				80185.13	80306.13		80404.13	90077.13	90235.13	90390.13	90490.13	10113.02		10294.02		10411.09		1100708	1106506	1114206		1114906	1116506	1118206	1123708		1127606		1131506	1134010	1134806
Volatile Organic Compounds (µg/L)																																
Acetone	6000	NLE	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.32	<0.32	<0.32		<0.32	<0.32	<0.32	<0.32		<7.6		<7.6	<7.6	<7.6
Bromodichloromethane	1	80	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12		<0.12	<0.12	<0.12	<0.12		<0.23		<0.23	<0.23	<0.23
2-Butanone	300	NLE	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22		<0.22	<0.22	<0.22	<0.22		<2.9		<2.9	<2.9	<2.9
Carbon disulfide	700	NLE	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12		<0.12	<0.12	<0.12	<0.12		<0.18		<0.18	<0.18	<0.18
Chloroform	70	80	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.35	<0.35	<0.35		<0.35	<0.35	<0.35	<0.35		<0.21		<0.21	<0.21	<0.21
1,3-Dichlorobenzene	600	NLE	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.16	<0.16	<0.16		<0.16	<0.16	<0.16	<0.16		<0.29		<0.29	<0.29	<0.29
1,1-Dichloroethene	1	7	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.15	<0.15	<0.15		<0.15	<0.15	<0.15	<0.15		<0.28		<0.28	<0.28	<0.28
cis-l,2-Dichloroethene	70	70	-	ND	0.29	J	ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12		<0.12	<0.12	<0.12	<0.12		<0.22		<0.22	<0.22	<0.22
trans -1,2-Dichloroethene	100	100	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.14	<0.14	<0.14		<0.14	<0.14	<0.14	<0.14		<0.31		<0.31	<0.31	<0.31
Methylene chloride	3	5	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.26	<0.26	<0.26		<0.26	<0.26	<0.26	<0.26		1.2	J	<0.2	<0.2	<0.2
Tetrachloroethene	1	5	-	4.5	2.74		3.34	29.15	8.26	3.94	1.76	36.3		39.94		46.64		29.04	2.56	30.03		21.14	18.94	22.07	47.83		12.5		7.5	5.2	3.3
Toluene	600	1000	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.12	<0.12	<0.12		<0.12	<0.12	<0.12	<0.12		<0.15		<0.15	<0.15	<0.15
Trichloroethene	1	5	-	ND	ND		ND	ND	ND	ND	ND	1.77		2.15		2.62		1.82	<0.11	<0.11		<0.11	<0.11	<0.11	<0.11		<0.21		<0.21	<0.21	<0.21
Vinyl chloride	1	2	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		<0.22	<0.22	<0.22		<0.22	<0.22	<0.22	<0.22		<0.27		<0.27	<0.27	<0.27
TICs*	500	NLE	-	ND	ND		ND	ND	ND	ND	ND	ND		ND		ND		0	0	0		0	0	0	0		0		0	0	0
Metals (µg/L)																																
Aluminum	200	NLE	121000	NA	NA		NA	NA	NA	NA	NA	479		51.1		54.9		<200	<200	NA		NA	NA	NA	<2000	b	NA		NA	<200	NA
Antimony	6	6	20.70	NA	NA		NA	NA	NA	NA	NA	7.41	ER	ND		11.5		<6.0	<6.0	NA		NA	NA	NA	<60	b	NA		NA	<6.0	NA
Arsenic	3	10	89.30	NA	NA		NA	NA	NA	NA	NA	2.46	ER	3.76	ER	2.85	ER	<3.0	<3.0	NA		NA	NA	NA	<30	b	NA		NA	<3.0	NA
Barium	6000	2000	699.00	NA	NA		NA	NA	NA	NA	NA	15.1		19.1		37.4		<200	<200	NA		NA	NA	NA	<2000	b	NA		NA	<200	NA
Beryllium	1	4	2.10	NA	NA		NA	NA	NA	NA	NA	ND		ND		ND		<1.0	<1.0	NA		NA	NA	NA	<10	b	NA		NA	<1.0	NA
Cadmium	4	5	9.50	NA	NA		NA	NA	NA	NA	NA	ND		0.764	ER	0.766	ER	<3.0	<3.0	NA		NA	NA	NA	<30	b	NA		NA	<3.0	NA
Calcium	NLE	NLE	45400.00	NA	NA		NA	NA	NA	NA	NA	16000		15600		17700		14900	11100	NA		NA	NA	NA	135000	b	NA		NA	9070	NA
Chromium	70	100	191.00	NA	NA		NA	NA	NA	NA	NA	1.97	ER	ND		ND		<10	<10	<0.01	a	NA	NA	NA	<100	b	<0.01	a	NA	<10	NA
Cobalt	NLE	NLE	18.30	NA	NA		NA	NA	NA	NA	NA	ND		ND		ND		<50	<50	NA		NA	NA	NA	<500	b	NA		NA	<50	NA
Copper	1300	1300	65.60	NA	NA		NA	NA	NA	NA	NA	ND		4.45	ER	1.47	ER	<10	<10	NA		NA	NA	NA	<100	b	NA		NA	<10	NA
Iron	300	NLE	431000	NA	NA		NA	NA	NA	NA	NA	9070		16600		20100		10300	1150	1260		1760	1210	428	88400	b	2250		2210	1630	6670
Lead	5	15	22.70	NA	NA		NA	NA	NA	NA	NA	ND		ND		3.1	ER	<3.0	<3.0	NA		NA	NA	NA	<302		NA		NA	<3.0	NA
Magnesium	NLE	NLE	62700	NA	NA		NA	NA	NA	NA	NA	2570		2570		3920		<5000	<5000	NA		NA	NA	NA	<50000	b	NA		NA	<5000	NA
Manganese	50	NLE	331	NA	NA		NA	NA	NA	NA	NA	38.4		49.9		54.4		41.8	<15	24.3		<15	<15	<15	245	b	<15		<15	<15	<15
Mercury	2	2	0.26	NA	NA		NA	NA	NA	NA	NA	0.13	ER	ND		ND		NA	<0.2	NA		NA	NA	NA	<0.2	b	NA		NA	<0.2	NA
Nickel	100	NLE	187	NA	NA		NA	NA	NA	NA	NA	0.514	ER	ND		ND		<10	<10	NA		NA	NA	NA	<100	b	NA		NA	<10	NA
Potassium	NLE	NLE	137000	NA	NA		NA	NA	NA	NA	NA	8500		7140		8430		<10000	<10000	NA		NA	NA	NA	<100000	b	NA		NA	<10000	NA
Selenium	40	50	29.60	NA	NA		NA	NA	NA	NA	NA	18.7		NR		ND		<10	<10	NA		NA	NA	NA	<100	b	NA		NA	<10	NA
Silver	40	NLE	ND	NA	NA		NA	NA	NA	NA	NA	ND		3.25	ER	3.02		<10	<10	NA		NA	NA	NA	<100	b	NA		NA	<10	NA
Sodium	50000	NLE	21500	NA	NA		NA	NA	NA	NA	NA	9990		7520		7880		<10000	59600	NA		NA	NA	NA	474000	b	NA		NA	31000	NA
Thallium	2	2	5.50	NA	NA		NA	NA	NA	NA	NA	ND		ND		ND		<2.0	<2.0	NA		NA	NA	NA	<20	b	NA		NA	<2.0	NA
Vanadium	NLE	NLE	108	NA	NA		NA	NA	NA	NA	NA	1.92	ER	ND		ND		<50	<50	NA		NA	NA	NA	<500	b	NA		NA	<50	NA
Zinc	2000	NLE	233	NA	NA		NA	NA	NA	NA	NA	4.63	ER	2.76	ER	2.76	ER	<20	<20	NA		NA	NA	NA	<200	b	NA		NA	<20	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP = NJDEP Ground Water Quality Standards as per N.J.A.C. 7:9-6 (July 22, 2010)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

b - Elevated sample detection limit due to difficult sample matrix

MCLs for bromodichlormethane and chloroform are for total trihalomethanes

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-05
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-5-GW-M5MW10-9.9		FTMM-5-GW-M5MW10-14.9		FTMM-5-GW-M5MW11-9.46		FTMM-5-GW-M5MW11-14.4		FTMM-5-GW-M5MW11-14.4LF		FTMM-5-GW-M5MW12-10.4		FTMM-5-GW-M5MW12-15.4		FTMM-5-GW-M5MW13-7.87		FTMM-5-GW-M5MW13-12.87	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013	
LAB SAMPLE ID:					R1306281-030		R1306281-031		R1306281-003		R1306281-004		R1306281-007		R1306281-028		R1306281-029		R1306281-032		R1306281-033	
SAMPLE DEPTH (ft bgs):					9.9		14.9		9.46		14.4		14.4		10.4		15.4		7.87		12.87	
	CAS No.	**Unit**																				
Volatile Organics - SW8260C																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.0**	BJ	**2.1**	BJ	**2.0**	BJ	**1.6**	BJ	**1.4**	BJ	**1.7**	BJ	**1.6**	BJ	**1.5**	BJ	**1.8**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	**0.33**	J	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	**1.1**	J	**1.0**	J	**3.5**	J	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.
(http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
(http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-05
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-5-GW-M5MW14-8.63	FTMM-5-GW-M5MW14-13.65	FTMM-5-GW-M5MW14-18.63	FTMM-5-GW-M5MW16-8.8	FTMM-5-GW-M5MW16-14.57	FTMM-5-GW-M5MW16-14.5LF	FTMM-5-GW-M5MW18-8.6	FTMM-5-GW-M5MW18-16.98	FTMM-5-GW-M5MW19-10.34
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	28-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013
LAB SAMPLE ID:					R1306281-025	R1306281-026	R1306281-027	R1306281-034	R1306281-035	R1306302-015	R1306281-008	R1306281-009	R1306281-021
SAMPLE DEPTH (ft bgs):					8.63	13.65	18.63	8.8	14.57	14.5	8.6	16.98	10.34
	CAS No.	Unit											
Volatile Organics - SW8260C													
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	67-64-1	µg/L	6,000	NLE	**2.8** BJ	**2.2** BJ	**2.0** BJ	**2.3** BJ	**2.2** BJ	**1.5** BJ	**1.4** BJ	**2.5** BJ	**2.2** BJ
Benzene	71-43-2	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	75-25-2	µg/L	4	NLE	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromomethane	74-83-9	µg/L	10	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	108-90-7	µg/L	50	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	**0.37** J	**0.54** J	**0.50** J	1.0 U	1.0 U	1.0 U
Chloroform	67-66-3	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0 U	1.0 U	1.0 U	**6.0**	**8.0**	**8.7**	1.0 U	1.0 U	**1.2** J
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	100-41-4	µg/L	700	700	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	**0.67** J	**0.30** J	**0.86** J	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	**0.43** J	**0.45** J	**0.47** J	**0.22** J	1.0 U	**0.69** J
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	**1.2** J	**2.2** J	**2.6** J	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-05
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-5-GW-M5MW19-16.35		FTMM-5-GW-M5MW20-8.65		FTMM-5-GW-M5MW20-13.65		FTMM-5-GW-M5MW20-13.65LF		FTMM-5-GW-M5MW23-10.82		FTMM-5-GW-M5MW23-17.02	
DATE SAMPLED:			**NJDEP GWQS[1]**	**USEPA MCL[2]**	**27-Aug-2013**		**27-Aug-2013**		**27-Aug-2013**		**28-Aug-2013**		**27-Aug-2013**		**27-Aug-2013**	
LAB SAMPLE ID:					**R1306281-022**		**R1306281-023**		**R1306281-024**		**R1306302-039**		**R1306281-005**		**R1306281-006**	
SAMPLE DEPTH (ft bgs):					**16.35**		**8.65**		**13.65**		**13.65**		**10.82**		**17.02**	
	CAS No.	**Unit**														
Volatile Organics - SW8260C																
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.7**	BJ	**1.7**	BJ	**1.9**	BJ	5.0	U	**1.8**	BJ	**1.4**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	**15**		**42**		**46**		1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	**0.45**	J	**0.57**	J	**50**		**47**	
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	**0.72**	J	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	**2.8**	J	**5.4**		**8.0**		**1.3**	J	**2.1**	J
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-05
Fort Monmouth, New Jersey

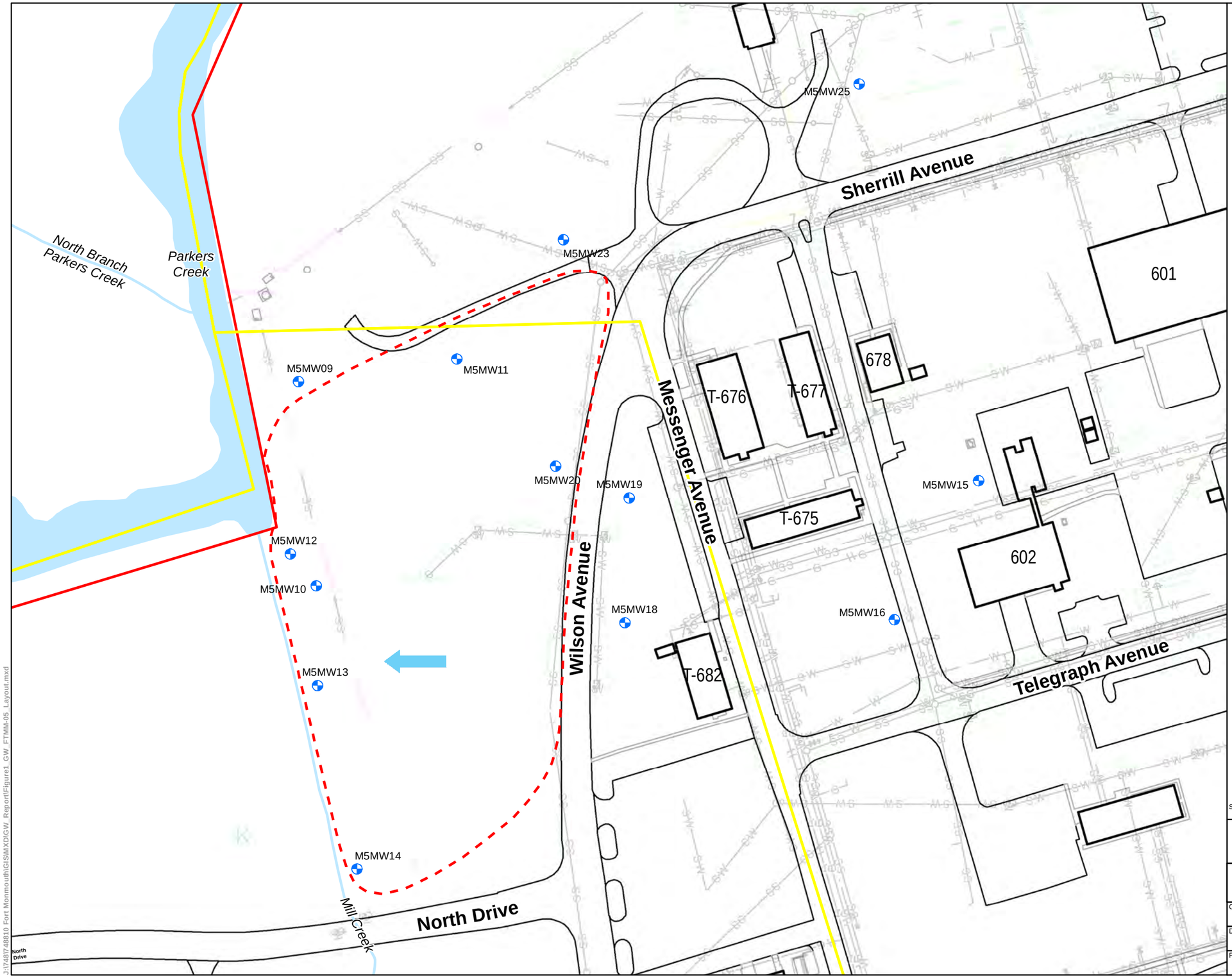
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-5 Landfill									
M5MW10		NO	N/A	N/A	N/A	N/A	N/A	N/A	
M5MW11		PCE	N/A	NO	NO	YES	N/A	YES	PCE exceedance part of low-level trend
M5MW12		NO	N/A	N/A	N/A	N/A	N/A	N/A	
M5MW13		NO	N/A	N/A	N/A	N/A	N/A	N/A	
M5MW14		NO	N/A	N/A	N/A	N/A	N/A	N/A	
M5MW16	VOC	VC	N/A	NO	NO	YES	N/A	YES	VC exceedance part of low-level trend
M5MW18		NO	N/A	N/A	N/A	N/A	N/A	N/A	
M5MW19		NO	N/A	N/A	N/A	N/A	N/A	N/A	
M5MW20		TCE	N/A	NO	NO	YES	N/A	YES	TCE exceedance part of trend, also PCE exceeds historically
M5MW23		PCE, TCE	N/A	NO	NO	YES (PCE and TCE)	N/A	YES	TCE and PCE part of overall exceedance trend.

Notes

1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyte from LTM list
2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds?
If yes then keep analyte in LTM list
If no then remove this analyte from LTM list
3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.
4 PCE - tetrachloroethene
5 TCE - trichloroethene
6 VC - vinyl chloride

FIGURES

Figure 1 Layout of FTMM-05



Legend

- Shallow Monitoring Well
- M-5 Landfill Boundary
- Municipal Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 100 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-05	
CREATED BY: TS	REVIEWED BY: IG
DATE: November 2013	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-05_Layout.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-05_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets & NJDEP PDB Checklists

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5
3. Well Designation: M5MW10
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify): _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.): 2.4
9. Total Well Depth (fbgs): 17.4
10. Screened interval/open hole (fbgs): 7.4-17.4
11. Well Casing: Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter: 4 Material: ☐ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size: 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 1506
15. Depth to Ground Water: Depth to ground water at time of deployment: 3.35
16. Date and Time of Retrieval: Date: 8/27/13 Time: 1510
17. Depth to Ground Water: Depth to ground water at time of retrieval: 2.5'
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.): 18 Diameter (in.): 1.5 Filled: _____
22. Position of PDBS Weight:
    ☐ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
9.9	14.9		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 85F Wind 0-5 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Tonnis	
Chris Watson	Parsons
Zohair Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5
3. Well Designation: M5MW11
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.73
9. Total Well Depth (fbgs): 16.93
10. Screened interval/open hole (fbgs): 6.93
11. Well Casing: Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/13/13 Time: 1226
15. Depth to Ground Water: Depth to ground water at time of deployment 6.83
16. Date and Time of Retrieval: Date: 8/21/13 Time: 1310
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.89
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☐ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
9.46	14.4		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 85°F Wind 0-2 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician: Name(s) and Company (please print clearly)

Name	Company
Alex DiIoano	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5
3. Well Designation: M5MW12
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.7
9. Total Well Depth (fbgs): 17.9
10. Screened interval/open hole (fbgs): 7.9-17.9
11. Well Casing: Diameter 2 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 2 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 1453
15. Depth to Ground Water: Depth to ground water at time of deployment 4.89
16. Date and Time of Retrieval: Date: 8-27-13 Time: 1530
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.55
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used: ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment) ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: ☒ Attached to bottom of PDBS and suspended in well ☒ Attached to bottom of deployment line and suspended in well ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.4	15.4		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 85°F Wind 0-5 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiLeone	
Chris Watson	Parsons
Zoher Levy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: MSMW13
3. Well Designation: M-5
4. Well Permit Number:

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify)
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.37
9. Total Well Depth (fbgs) 20.37
10. Screened interval/open hole (fbgs) 5.37 - 20.37
11. Well Casing — Diameter 4 — Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4 — Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01
14. Date and Time of Deployment — Date: 8/13/13 Time: 1440
15. Depth to Ground Water — Depth to ground water at time of deployment 1.42
16. Date and Time of Retrieval — Date: 8/27/13 Time: 1445
17. Depth to Ground Water — Depth to ground water at time of retrieval 2.25
18. Type of Deployment Line Used — Diameter: 3/16" Material: Poly
19. Material and Mass (oz.) of PDBS Weight — Stainless Steel 200 (stainless steel recommended)
20. Type of PDBS Used
    [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 Diameter (in.) 1.5 Filled
22. Position of PDBS Weight
    [X] Attached to bottom of PDBS and suspended in well
    [X] Attached to bottom of deployment line and suspended in well
    [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
7.87	12.87	17.87	
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

3rd PDB Sample not recovered. End cap came off.

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    [ ] **No**, this well is being profiled during this sampling round
    [ ] **Yes**, this well was profiled already. Date when well was profiled:
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    [ ] **No**, flow testing has not been conducted in this well
    [ ] **Yes**, flow testing of this well was conducted. Date of testing:
    Type of flow meter used:
    Measurements taken every feet **[Please Attach Results]**
26. Weather Conditions During Deployment — Temp. Wind [ ] Sunny [ ] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval — Temp. 80° F Wind 0-5 mph [X] Sunny [ ] Overcast [ ] Raining [ ] Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Tonno	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: MW-5
3. Well Designation: MSMW14
4. Well Permit Number:

5. Type of Well: [X] Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: [X] Stick Up ☐ Flush Mount
7. Location of Measuring Point: [X] Top of Casing ☐ Other (specify)
8. NOTE: PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.63
9. Total Well Depth (fbgs): 21.13
10. Screened interval/open hole (fbgs): 6.13-21.13
11. Well Casing: Diameter 2 Material [X] PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 2 Material [X] PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 1417
15. Depth to Ground Water: Depth to ground water at time of deployment 1.85
16. Date and Time of Retrieval: Date: 8/27/13 Time: 1430
17. Depth to Ground Water: Depth to ground water at time of retrieval 2.82
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled
22. Position of PDBS Weight:
    [X] Attached to bottom of PDBS and suspended in well
    [X] Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.63	13.65	18.63	

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled:

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing:
    Type of flow meter used:
    Measurements taken every feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. Wind ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. Wind ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Amato	
Chris Watson	Parsons
Zahar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5
3. Well Designation: M5MW16
4. Well Permit Number: _____

5. Type of Well: ☐ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☒ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.45
9. Total Well Depth (fbgs): 17.45
10. Screened interval/open hole (fbgs): 4.45-17.45
11. Well Casing: Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/13/13 Time: 1520
15. Depth to Ground Water: Depth to ground water at time of deployment 5.92
16. Date and Time of Retrieval: Date: 8/27/13 Time: 1555
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.96
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 200z (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.8	14.57		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 85°F Wind 0-5 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Iorio	Parsons
Chris Watson	
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5
3. Well Designation: M5MW18
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.29
9. Total Well Depth (fbgs): 20.29
10. Screened interval/open hole (fbgs): 5.29-20.29
11. Well Casing: Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 1203
15. Depth to Ground Water: Depth to ground water at time of deployment 7.04
16. Date and Time of Retrieval: Date: 8/27/13 Time: 1430
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.00
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used: ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment) ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: ☐ Attached to bottom of PDBS and suspended in well ☐ Attached to bottom of deployment line and suspended in well ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.6	16.98		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 85°F Wind 0.5 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Lenno	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5
3. Well Designation: M5MW19
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.35
9. Total Well Depth (fbgs) 19.35
10. Screened interval/open hole (fbgs) 4.35 - 19.35
11. Well Casing — Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01

14. Date and Time of Deployment — Date: 8/13/13 Time: 1153
15. Depth to Ground Water — Depth to ground water at time of deployment: 8.27
16. Date and Time of Retrieval — Date: 8/27/13 Time: 1400
17. Depth to Ground Water — Depth to ground water at time of retrieval: 7.38
18. Type of Deployment Line Used — Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20oz (stainless steel recommended)
20. Type of PDBS Used
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.34	16.35		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment — Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 86°F Wind 0-5 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiTomo	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5 (JC)
3. Well Designation: MSMW20
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.): 2.15
9. Total Well Depth (fbgs): 16.15
10. Screened interval/open hole (fbgs): 6.15-16.15
11. Well Casing — Diameter: _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size: 0.01

14. Date and Time of Deployment — Date: 8/13/13 Time: 1210
15. Depth to Ground Water — Depth to ground water at time of deployment: 5.80
16. Date and Time of Retrieval — Date: 8/27/13 Time: 1355
17. Depth to Ground Water — Depth to ground water at time of retrieval: 6.03
18. Type of Deployment Line Used — Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: Stainless steel 20 oz (stainless steel recommended)
20. Type of PDBS Used
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.): 18 Diameter (in.): 1.5 Filled: _____
22. Position of PDBS Weight
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.65	13.65		
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 85°F Wind 0-5mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Tom	
Chris Watson	Parsons
Zohar Levy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-5
3. Well Designation: M5MW23
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS as deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.12
9. Total Well Depth (fbgs): 20.12
10. Screened interval/open hole (fbgs): 5.12 - 20.12
11. Well Casing: Diameter _____ Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter): Diameter _____ Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 1236
15. Depth to Ground Water: Depth to ground water at time of deployment 7.72
16. Date and Time of Retrieval: Date: 8/27/13 Time: 1330
17. Depth to Ground Water: Depth to ground water at time of retrieval 7.90
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    [X] Attached to bottom of PDBS and suspended in well
    [X] Attached to bottom of deployment line and suspended in well
    [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.82	17.02		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    [ ] **No**, this well is being profiled during this sampling round
    [ ] **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    [ ] **No**, flow testing has not been conducted in this well
    [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. _____ Wind _____ [ ] Sunny [ ] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval: Temp. 85°F Wind 0-1 mph [X] Sunny [ ] Overcast [ ] Raining [ ] Snowing

28. Field Sampling Technician: Name(s) and Company (please print clearly)

Name	Company
Alex D. Jones	Parsons
Chris Watson	
Zohar Lavy	

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 OF 2

SITE: Ftmm-5 (JC)
DATE: 8/28/13
WEATHER:
CONSULTING FIRM: Parsons
FIELD PERSONNEL: C. Watson

MONITOR WELL #: MSMW20 WELL DEPTH:
WELL PERMIT #: WELL DIAMETER: 4 Inches SCREENED/OPEN INTERVAL:

PID/FID READINGS (ppm): BACKGROUND: ~ 0.0 (JC)
BENEATH OUTER CAP: ~ 0.0 (JC)
BENEATH INNER CAP: ~ 0.0 (JC)

PUMP INTAKE DEPTH: 13.65 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.07 ft below TOC
MAKE/MODEL OF PUMP:

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:05	X		5.41	NA	0.423	NA	115.8	NA	0.46	NA	30.1	NA	21.53	NA	200	6.08
11:10	X		5.41	0	0.426	0.003	113.3	2.5	0.32	0.14	29.0	1.1	21.43	0.10	200	6.08
11:15	X		5.41	0	0.430	0.004	112.5	0.8	0.29	0.03	25.6	3.4	21.42	0.01	200	6.08
11:20	X		5.41	0	0.434	0.004	111.6	0.9	0.28	0.01	24.4	1.2	21.57	0.15	200	6.08
11:25	X		5.41	0	0.439	0.005	110.6	1.0	0.27	0.01	20.9	3.5	21.68	0.11	200	6.08
11:30	X		5.41	0	0.444	0.005	110.4	0.2	0.26	0.01	17.6	3.3	21.70	0.02	200	6.08
11:35	X		5.41	0	0.445	0.001	109.9	0.5	0.26	0	13.5	4.1	21.72	0.02	200	6.08
11:40	X		5.41	0	0.446	0.001	110	0.1	0.25	0.01	10.9	2.6	21.78	0.06	200	6.08
11:45	X		5.41	0	0.446	0	109.8	0.2	0.25	0	9.7	1.2	21.75	0.03	200	6.08
11:50	X		5.41	0	0.447	0.01	109.4	0.4	0.24	0.01	8.9	0.8	21.74	0.01	200	6.08

COMMENTS:

Ftmm-5-GW-MSMW20-13.65LF @ 11:50

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M5MW20

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: ftmm-5-GW-M5MW20-13.65Lf

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1150	(3) 40mL (HCl)	Clear	8.9	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Carbon Buckets

Date: 8/28/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MSMW11

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/27/13
AOC # (AREA): MS landfill
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: MiniRae
SAMPLING PERSONNEL
NAME: C.Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): -
WELL DEPTH (TOC): 16.93
FEET OF WATER IN WELL: 10
SCREENED INTERVAL (TOC): 6.93-16.93
PUMP INTAKE DEPTH (ft below TOC): 14.4
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.91

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1340	X		6.01	NA	0.528	NA	108.6	NA	3.04	NA	71.8	NA	25.35	NA	200	6.91
1345	X		6.07	0.06	0.525	0.003	108.9	0.3	3.60	0.56	68.5	3.3	24.84	0.49	200	7.05
1350	X		6.10	0.03	0.526	0.001	101.9	7	3.73	0.13	64.9	5.6	24.13	0.71	200	7.06
1355	X		6.01	0.09	0.526	0	96.4	5.5	3.54	0.19	62.4	2.5	24.57	0.44	200	7.06
1400	X		6.07	0.06	0.533	0.007	91.4	5	3.51	0.03	56.0	6.4	24.89	0.32	200	7.06
1405	X		6.07	0	0.533	0	91.8	0.4	3.45	0.06	50.8	5.2	24.81	0.08	200	7.06
1410	X		6.08	0.01	0.532	0.001	91.2	0.6	3.35	0.10	48.9	1.9	24.62	0.19	200	7.06
1415	X		6.08	0	0.532	0	89.3	1.9	3.26	0.09	47.6	1.3	24.73	0.09	200	7.06
1420	X		6.08	0	0.532	0	88.9	0.4	3.36	0.10	46.9	0.7	24.70	0.03	200	7.06
1425	X		6.09	0.01	0.530	0.002	90.8	1.9	3.38	0.02	43.5	3.4	24.74	0.04	200	7.06
1430	X		6.09	0	0.529	0.001	88.6	2.2	3.37	0.01	41.2	2.3	24.75	0.01	200	7.06
1435	X		6.09	0	0.528	0.001	88.4	0.2	3.37	0	40.9	0.3	24.73	0.02	200	7.06

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-~~ 45MW11

SAMPLING INFORMATION

SAMPLING DEVICE: ~~Bailer~~

SAMPLE NUMBER: FTMM-5-GW-M5MW11-14.4LF

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	1435	3 40mL HCL	Slight Cloudy	40.9	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Beads

Date: 8/27/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW FLOW SAMPLING
DATA SHEET

SHEET 1 OF 4

SITE: Fort Monmouth M-5 (JC)
DATE: 8/28/13
WEATHER:
CONSULTING FIRM: Parsons
FIELD PERSONNEL: C. Watson

MONITOR WELL #: ~~5~~ MSMW16
WELL PERMIT #:
WELL DEPTH:
WELL DIAMETER: 4 inches
SCREENED/OPEN INTERVAL:

PID/FID READINGS (ppm):
BACKGROUND: ~ 0.0 (JC)
BENEATH OUTER CAP: ~ 0.0 (JC)
BENEATH INNER CAP: ~ 0.0 (JC)
PUMP INTAKE DEPTH: 14.57 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.05 ft below TOC
MAKE/MODEL OF PUMP:

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0925	X		6.54	NA	0.700	NA	-55.6	NA	1.56	NA	252.1	NA	21.87	NA	200	7.10
0930	X		6.53	0.01	0.667	0.033	-52.9	2.7	1.04	0.52	229.5	22.6	21.30	0.49	200	7.18
0935	X		6.52	0.01	0.644	0.023	-56.6	3.7	0.89	0.15	223.6	5.9	21.63	0.33	200	7.34
0940	X		6.51	0.01	0.619	0.025	-43.0	13.6	0.85	0.04	217.1	6.5	22.70	1.07	150	7.40
0945	X		6.51	Ø	0.619	Ø	-42.1	0.9	0.73	0.12	210.8	6.3	22.92	0.22	150	7.46
0950	X		6.51	Ø	0.619	Ø	-44.5	2.4	0.68	0.05	204.0	6.8	23.01	0.09	150	7.49
0955	X		6.51	Ø	0.619	Ø	-44.1	0.4	0.65	0.03	198.0	6	23.08	0.07	150	7.51
1000	X		6.51	Ø	0.615	0.004	-49.0	4.9	0.53	0.12	190.5	7.5	24.02	0.94	150	7.53
1005	X		6.51	Ø	0.615	Ø	-50.5	1.5	0.52	0.01	189.6	0.9	24.17	0.15	150	7.54
1010	X		6.51	Ø	0.615	Ø	-50.5	Ø	0.50	0.02	186.4	3.2	24.20	0.03	150	7.56
1015	X		6.51	Ø	0.613	0.002	-50.2	0.3	0.46	0.04	184.1	2.3	24.11	0.09	150	7.57

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

LOW FLOW SAMPLING
DATA SHEET

SHEET 2 OF 3

SITE: Fort Monmouth M-5 (JC)
DATE: 8/28/13
WEATHER:
CONSULTING FIRM: Parsons
FIELD PERSONNEL: C. Watson

MONITOR WELL #: M5MW16 (JC)
WELL PERMIT #:
WELL DEPTH:
WELL DIAMETER: inches
SCREENED/OPEN INTERVAL:

PID/FID READINGS (ppm):
BACKGROUND:
BENEATH OUTER CAP:
BENEATH INNER CAP:
PUMP INTAKE DEPTH: 14.57 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.05 ft below TOC
MAKE/MODEL OF PUMP:

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1020	✓		6.51	NA	0.613	NA	-50.7	NA	0.44	NA	183.1	NA	24.08	NA	150	7.59
1025	✓	✓	6.51	0	0.613	0	-48.9	1.8	0.43	0.01	182.0	1.1	24.12	0.05	150	7.60

COMMENTS:

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: M5MW16

SAMPLING INFORMATION

SAMPLING DEVICE: B

SAMPLE NUMBER: FTMM-5-GW-M5MW16-14.57LF

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	10:25	Navy (3) 40 mL (HCL)	Cloudy	182	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/28/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX E: FTMM-08 Landfill

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2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT E-1
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1	Groundwater Gauging Data and Sample Summary
2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

LIST OF FIGURES

Figure No.	Title
1	Layout of FTMM-08

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-08 GROUNDWATER MONITORING

Groundwater samples were collected from 13 monitoring wells located at FTMM-08 as part of the August 2013 Baseline Event. The groundwater sampling program consisted of measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Monitoring well 697MW01 could not be visually located and therefore was not able to be sampled. Samples were collected between August 15 and August 20, 2013 and submitted for Target Compound List (TCL) volatile organic compounds (VOCs) via the United States Environmental Protection Agency (USEPA) Method SW8260B, pesticides via USEPA method SW8081B, and lead via USEPA method SW6010C. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate, and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-08 were gauged on August 8, 2013. Groundwater elevations in monitoring wells ranged from 1.37 (M8MW22) to 4.69 (M8MW12) feet above mean sea level (amsl), and interpreted groundwater flow direction is towards the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Also, during the groundwater gauging, the condition of site monitoring wells was assessed. FTMM-08 monitoring well 697MW01 was unable to be visually located at the time of well gauging or sampling. The remaining FTMM-08 wells were found to be in good condition with several containing tubing within their casings.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From June 1997 to March 2004 groundwater samples were collected for VOCs, semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs) and pesticides from FTMM-08 monitoring wells. From June 2004 to December 2009, monitoring wells were primarily sampled for VOCs. From March 2010 to September 2010 groundwater samples were collected for VOC and metals.

From December 2010 to August 2011, the last four rounds of groundwater sampling conducted at the FTMM-08 site have consisted of VOC and metals analysis and were conducted on a quarterly basis. During this period, several metals including aluminum, arsenic, barium, calcium, iron, lead, manganese, magnesium and sodium were detected in exceedance of their respective NJDEP GWQS in the majority of the Site monitoring wells. Beryllium, cadmium, chromium, calcium, magnesium, manganese, lead and sodium were

detected in FTMM-08 monitoring wells above their background concentration established in the 1995 Weston Report.

Benzene was the only VOC detected (M8MW11,M8MW15, M8MW16, and M8MW24) in exceedance of its NJDEP GWQS of 1 µg/L. Historical groundwater analytical results are presented in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical data from samples collected during the August 2013 event are presented in **Table 3**. Groundwater samples were analyzed for VOCs, pesticides, and lead. Tetrachloroethene (PCE) was detected at a concentration of 1.3 µg/L in M8MW12, which is in exceedance of the NJDEP GWQS of 1 µg/L for PCE. There were no pesticides or lead exceedances detected during the August 2013 Baseline Groundwater Sampling.

5.0 FINDINGS AND RECOMMENDATIONS

Several metals have historically been detected above their respective NJDEP GWQS, however only manganese exceeded its background concentration (Weston 1995) in M8MW14 and lead in M8MW11, M8MW17, and M8MW21. Manganese is considered a background analyte and not indicative from historical site uses. It is recommended that M8MW11, M8MW17, and M8MW21 will be analyzed for lead via LFPS methodology on an annual basis.

Benzene was detected in exceedance of the NJDEP GWQS in monitoring wells M8MW11, M8MW15, M8MW16, and M8MW24 inconsistently during the last four sample events. However, benzene was not detected in the August 2013 Baseline Sampling Event and has not been detected since. PCE was the only VOC detected in exceedance of its NJDEP GWQS during the August 2013 Baseline Sampling Event, in M8MW12. Based on these results, monitoring wells M8MW11, M8MW12, M8MW15, M8MW16, and M8MW24 warrant additional monitoring for VOCs via LFPS methodology on an annual basis.

Table 4 presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-08
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC	Gauged DTB (ft) TOC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-8 Landfill															
697MW01	29-31776	540045.281	617862.736	17.50	15.00		16.85	Well could not be located							
M8MW12	29-32560	539906.214	617853.002	15.00	10.00	5-15	13.95	8-8-13	1420	0.0	9.26	17.51	4.69	8/16/2013	1445
M8MW13	29-32561	540014.961	617348.986	15.00	10.00	5-15	7.11	8-8-13	1442	0.0	5.52	12.22	1.59	8/15/2013	1330
M8MW14	29-32562	540451.085	617548.164	15.00	10.00	5-15	9.06	8-8-13	1457	0.0	7.13	16.94	1.93	8/16/2013	1345
M8MW15	29-32563	540412.778	617974.375	14.50	10.00	4.5-14.5	6.96	8-8-13	1504	0.0	4.99	16.81	1.97	8/19/2013	1315
M8MW16	29-39146	540315.408	618083.299	13.00	10.00	3-13	9.62	8-8-13	1507	0.0	8.10	15.49	1.52	8/20/2013	935
M8MW17	29-39147	540500.099	617872.407	13.00	10.00	3-13	8.15	8-8-13	1500	0.0	5.71	15.66	2.44	8/16/2013	1139
M8MW18	29-39148	540556.900	617597.857	18.00	15.00	3-18	7.75	8-8-13	1528	0.0	5.94	16.72	1.81	8/19/2013	1100
M8MW19	29-39149	540404.262	617517.429	18.00	15.00	3-18	8.62	8-8-13	1453	0.0	7.15	17.70	1.47	8/15/2013	1447
M8MW20	29-39150	540195.124	617424.235	15.00	10.00	5-15	8.01	8-8-13	1448	0.0	6.38	17.61	1.63	8/15/2013	1322
M8MW21	29-39151	540021.383	617350.274	20.00	15.00	5-20	6.95	8-8-13	1444	0.0	5.22	15.87	1.73	8/15/2013	1445
M8MW22	29-39152	539816.005	617344.315	20.00	15.00	5-20	7.23	8-8-13	1438	0.0	5.86	18.30	1.37	8/16/2013	1155
M8MW23	29-40128	539990.859	617686.599	15.00	12.00	3-15	10.73	8-8-13	1426	0.0	8.31	16.94	2.42	8/19/2013	1256
RM8MW24	29-41724	540219.813	617835.934	38.00	25.00	13-38	20.39	8-8-13	1514	0.0	18.86	40.98	1.53	8/19/2013	1059

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW11		M8MW12																				M8MW13								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**		LF	44	44 Dup	45	46	46 Dup	47	47 Dup	48	49	50	51	52	LF1	LF2	LF3	LF4	LF5	LF6	LF7	44	45	45 Dup	46	47	48	49	50	51
Date Collected				3/9/2011	8/11/2011	3/13/2008	3/13/2008	6/5/2008	9/4/2008	9/4/2008	11/21/2008	11/21/2008	2/9/2009	2/23/2009	6/27/2009	9/21/2009	12/10/2009	3/19/2010	6/29/2010	9/29/2010	12/23/2010	3/9/2011	5/26/2011	8/11/2011	3/13/2008	6/5/2008	6/5/2008	9/4/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/8/2009
Volatile Organic Compounds (µg/L)																																		
Tert-butyl alcohol	100	NLE	--	56.38	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<5	<5	<5	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6000	NLE	--	18.68	<10	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	0.43 J	<2	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	2.1	<10	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	0.52	1.3	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	4.23	10.9	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	<0.5	<5	ND	NA	ND	ND	ND	ND	ND	NA	ND	2.06	ND	ND	ND	3.72	0.81	<0.5	<0.5	<0.5	0.55 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	<0.5	<1	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	9.47	ND	<0.5	<0.5	<0.5	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	<0.5	<1	ND	NA	ND	ND	ND	ND	ND	NA	ND	0.28 J	ND	ND	ND	0.76	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	70	--	<0.5	<1	ND	NA	ND	2.79	2.63	5	4.88	NA	0.85 J	ND	0.38 J	ND	ND	ND	ND	<0.5	<0.5	<0.5	0.33 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	0.26 J	0.53 J	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	2.79	7.4	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	0.44 J	0.88 J	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	<0.5	0.43 J	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	<0.5	1.3 J	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	5	--	<0.5	<2	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert butyl ether	70	NLE	--	<0.5	<1	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1	5	--	<0.5	<1	ND	NA	0.71 J	2.34	2.67	9.83	9.75	NA	4.3	0.49 J	1.55	0.58	1.31	1.92	3.19	2.19	1.62	1.79	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	0.23 J	1.7	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	<0.5	<1	ND	NA	ND	0.52 J	0.59 J	5.12	5.06	NA	2.13	ND	0.57	ND	ND	ND	ND	<0.5	<0.5	<0.5	0.34 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	1	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	1	2	--	<0.5	<1	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs	500	ND	--	ND	55.7	ND	NA	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides/PCBs (µg/L)																																		
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan 1	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																		
Aluminum	200	NLE	121000	735	5540 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1480	215	179	<200	1490	<200	315	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	<6	<12 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	11.5	21.6 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.59 ER	1 ER	2.11 ER	<3	<3	<3	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	299	727 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.3	12.5	2.93 ER	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	<1	<2 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.049 ER	ND	ND	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	<3	<6 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	384000	377000 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8170	8270	3930	10200	5070	25500	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	19	48.8 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.6	2.14 ER	ND	<10	11.8	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	<50	<100 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	11.7	<20 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	4.64 ER	1.32 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	33900	163000 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4640	1350	900	372	4950	7750	3270	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	8.9	49.8 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	53800	55900 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1950	1650	1130	<5000	<5000	5220	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	1620	948 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.33	3.73	6	<15	<15	54.7	<15	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND		<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	<10	26.8 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.14 ER	1.1 ER	1.9 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	56900	70600 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4590	3800	2000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	<10	<20 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.5	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	<10	<20 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.919	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	5000	NLE	21500	212000	269000 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	58700	68100	160000	226000	50800	269000	128000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	<2	<4 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	<50	<100 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.56	1.45	1.66	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	<20	111 /a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.6	3.39	2.17	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
/a = Elevated sample detection limit due to difficult sample matrix

Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW13										M8MW14																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF2 Dup	LF3	LF3 Dup	LF4	LF5	LF6	LF7	LF7 Dup	44	44	45	46	47	48	49	50	50 Dup	LF1	LF1 Dup	LF2	LF3	LF4	LF5	LF6	LF7	44	44 Dup
Date Collected				3/17/2010	6/25/2010	6/25/2010	9/28/2010	9/28/2010	12/23/2010	3/7/2011	5/20/2011	8/10/2011	8/10/2011	3/13/2008	6/5/2008	9/4/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/10/2009	12/10/2009	3/18/2010	3/18/2010	6/28/2010	9/28/2010	12/23/2010	3/7/2011	5/25/2011	8/11/2011	3/14/2008	3/14/2008
Volatile Organic Compounds (µg/L)																																			
Tert-butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	<5	<5	<5	NA	NA	5.68	10.79	13.87	ND	ND	7.04 J	ND	ND	ND	ND	ND	ND	ND	<5	<5	<5	NA	ND	NA
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	NA
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	NA
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	NA
Benzene	1	5	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	0.31 J	NA
Chlorobenzene	50	100	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	9.58	9.68	6.3	3.84	5.89	8.04	6.16	6.49	6.73	5.87	5.8	1.67	1.64	<0.5	2.07	6.34	6.2	13.2	NA
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
Chloroform	70	80	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	1.5 J	NA
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	2.34	2.64	1.77 J	1.14 J	1.51 J	2.2	1.76	2	2.11	1.55	1.53	0.55	0.51	<0.5	0.65	1.87	2.2	2.95	NA
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	1.02 J	NA
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
Isopropylbenzene	700	NLE	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	NA
Methylene chloride	3	5	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	1.5 J	ND	NA
Methyl tert butyl ether	70	NLE	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<5	ND	NA
Tetrachloroethene	1	5	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
Toluene	600	1000	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	<1	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1	ND	NA
Vinyl Chloride	1	2	--	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	NA
TICs	500	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	7	21	ND	3	6	4	4	4	3	3	ND	ND	ND	ND	7	ND	23	NA
Pesticides/PCBs (µg/L)																																			
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan 1	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																			
Aluminum	200	NLE	121000	57.7	ND	24	255	209	<200	<200	964	544	488	NA	NA	NA	NA	NA	NA	NA	NA	NA	103	76.7	53.8	96.6	<200	<200	<200	486	NA	NA
Antimony	6	6	20.70	10.2	11	11.9	15.6	15.2	<6	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.6	10.8	12.7	21	<6	<6	<6	<6	NA	NA
Arsenic	3	10	89.30	0.73 ER	ND	ND	1.9 ER	ND	<3	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.85	ND	ND	2.2 ER	<3	<3	<3	5.2	NA	NA
Barium	6000	2000	699.00	52.3	78.2	84.3	58.5	56.8	<200	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	547	575	167	196	<200	460	494	427	NA	NA
Beryllium	1	4	2.10	ND	0.094 ER	0.101 ER	ND	ND	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.105 ER	ND	<1	<1	<1	<1	NA	NA
Cadmium	4	5	9.50	0.991 ER	1.24 ER	1.36 ER	0.761 ER	0.596 ER	<3	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.609	ND	1.59 ER	1.09 ER	<3	<3	<3	3.1	NA	NA
Calcium	NLE	NLE	45400.00	138000	193000	204000	89000	85000	230000	131000	206000	169000	165000	NA	NA	NA	NA	NA	NA	NA	NA	NA	191000	200000	93300	129000	111000	160000	186000	160000	NA	NA
Chromium	70	100	191.00	ND	ND	ND	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<10	<10	<10	<10	NA	NA
Cobalt	NLE	NLE	18.30	1.21	ND	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.55	ND	<50	<50	<50	<50	NA	NA
Copper	1300	1300	65.60	6.21	6.71	6.9	17.6	16.8	<10	12.8	21.3	17.6	17.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.26 ER	3.66 ER	<10	<10	<10	26.8	NA	NA
Iron	300	NLE	431000	2980	2670	3270	585	430	272	370	9400	6440	6530	NA	NA	NA	NA	NA	NA	NA	NA	NA	35400	37600	20900	24700	39100	43000	48800	49200	NA	NA
Lead	5	15	22.70	ND	ND	ND	3.52 ER	2.67 ER	<3	<3	16.8	8.7	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	3.98 ER	3.68 ER	<3	<3	3.7	<3	NA	NA
Magnesium	NLE	NLE	62700	28200	29500	3200	21400	20500	83500	28800	42400	27200	26800	NA	NA	NA	NA	NA	NA	NA	NA	NA	38200	41300	14700	18200	15100	33200	57300	61600	NA	NA
Manganese	50	NLE	331	182	239	253	48.4	47.4	39	<15	146	184	181	NA	NA	NA	NA	NA	NA	NA	NA	NA	607	640	641	1030	1610	740	546	434	NA	NA
Mercury	2	2	0.26	ND	ND	ND	0.29 ER	0.23 ER		<0.2	0.23	<0.2	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.26 ER		<0.2	<0.2	<0.2	NA	NA
Nickel	100	NLE	187	6.94	6.02	6.28	6.92	6.19	<10	<10	13.6	13.8	13.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.74 ER	2.1 ER	2.58 ER	3.37 ER	<10	<10	<10	10.4	NA	NA
Potassium	NLE	NLE	137000	12500	14000	15100	18400	17400	34600	12600	20700	17000	16900	NA	NA	NA	NA	NA	NA	NA	NA	NA	31800	32900	15400	18000	14300	29500	42100	39500	NA	NA
Selenium	40	50	29.60	85.4	NR	NR	1.5	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	67.1	63.9	NR	ND	<10	<10	<10	<10	NA	NA
Silver	40	NLE	ND	6.13	ND	ND	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.8	1.53	<10	<10	<10	<10	NA	NA
Sodium	5000	NLE	21500	127000	109000	116000	211000	202000	711000	153000	291000	126000	129000	NA	NA	NA	NA	NA	NA	NA	NA	NA	73900	75700	43100	47400	56400	71300	211000	255000	NA	NA
Thallium	2	2	5.50	ND	ND	ND	ND	ND	<2	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<2	<2	<2	<2	NA	NA
Vanadium	60	NLE	108	1.91	ND	ND	1.08	0.949	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.22	6.85	ND	ND	<50	<50	<50	<50	NA	NA
Zinc	2000	NLE	233	574	325	352	259	246	432	424	628	400	399	NA	NA	NA	NA	NA	NA	NA	NA	NA	61	40.8	14.1	132	26.1	28.4	182	820	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
/a = Elevated sample detection limit due to difficult sample matrix

Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW15																M8MW16											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	45	45 Dup	46	46 Dup	47	48	49	50	51	LF1	LF2	LF3	LF4	LF5	LF6	LF7	40	41	42	43	44	45	46	47	LF1	LF2	LF3	LF4
Date Collected				6/11/2008	6/11/2008	9/5/2008	9/5/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/10/2009	3/18/2010	6/28/2010	9/28/2010	12/23/2010	3/8/2011	5/25/2011	8/11/2011	3/14/2008	6/11/2008	9/5/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/10/2009	3/19/2010	6/28/2010	9/29/2010	12/23/2010
Volatile Organic Compounds (µg/L)																															
Tert-butyl alcohol	100	NLE	--	12.36	13.59	13.53	15.41	ND	ND	9.57 J	ND	ND	ND	ND	ND	<5	<5	<5	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5
Acetone	6000	NLE	--	ND	1.32 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Benzene	1	5	--	0.61 J	0.61 J	0.19 J	0.19 J	ND	ND	0.87 J	0.62	0.87	0.32 J	0.19 J	ND	0.3 J	0.82	1.19	<1	0.7 J	1.13 J	0.68 J	0.54 J	1.27 J	1.32 J	0.47 J	ND	1.41	0.68	0.28 J	0.31
Chlorobenzene	50	100	--	23.73	23.54	26.76	26.33	12.04	9.02	30.46	35.16	32.09	7.45	28.76	25.6	17.47	17.21	35.91	37.1	9.83	20.32	24.78	18.26	25.26	25.42	20.03	0.39 J	20.86	14	30.96	28.6
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
cis-1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
1,3-Dichlorobenzene	600	NLE	--	2.33	2.16	2.69	2.63	1.02 J	1.05 J	1.98 J	2.67	2.22	0.66	2.47	2.18	1.38	1.38	2.66	3.1	ND	0.58 J	0.99 J	0.57 J	0.43 J	0.54 J	0.53	ND	0.55	0.41 J	1.19	0.91
1,4-Dichlorobenzene	75	75	--	4.59	4.6	5.44	5.29	2.1	2.02	4.43	5.93	4.76	1.35	5.3	4.53	2.78	3.04	6.05	6.6	0.82 J	2.18	3.42	2.15	1.74 J	2.46	2.33	ND	3.47	1.83	4.66	4.05
1,2-Dichlorobenzene	600	600	--	1.48 J	1.46 J	1.94 J	1.86 J	0.68 J	0.77 J	1.12 J	1.67	1.42	0.47 J	1.64	1.31	0.92	0.93	1.81	2	ND	ND	0.51 J	ND	ND	ND	ND	ND	0.44 J	ND	0.76	0.56
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Isopropylbenzene	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Methylene chloride	3	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	0.83 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Methyl tert butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Tetrachloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32 J	0.47 J	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
Total Xylenes	1000	10,000	--	0.19 J	0.19 J	0.57 J	0.56 J	ND	ND	0.21	0.66 J	0.67 J	ND	ND	0.63 J	<1	<1	<1	0.32 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1
Vinyl Chloride	1	2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5
TICs	500	ND	--	25	25	74	76	13	9	43	51	62	9	45	30	ND	ND	53	31	ND	3	16	ND	ND	4	3	ND	8	ND	3	ND
Pesticides/PCBs (µg/L)																															
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan 1	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																															
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	NA	NA	NA	96.4	48.9	55.9	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	71.4	ND	ND	<200
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.54	14.8	22.4	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	9.81	ND	7.08	<6
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.79	1.47 ER	2.52 ER	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.66 ER	<3
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	144	227	221	<200	<200	270	257	NA	NA	NA	NA	NA	NA	NA	NA	87.1	ND	309	<200
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.094 ER	ND	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<1
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.5 ER	0.542 ER	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	5.98	0.516 ER	0.816 ER	<3
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	357000	290000	273000	257000	289000	264000	270000	NA	NA	NA	NA	NA	NA	NA	NA	165000	ND	284000	193000
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	11.4	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.2 ER	<10
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.6	1.96	1.65	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	0.608	ND	ND	<50
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	3.83 ER	2.87 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	5.08	<10
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	NA	NA	40300	15000	19400	27000	20000	16400	15400	NA	NA	NA	NA	NA	NA	NA	NA	19000	ND	9290	12900
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	3 ER	3.6 ER	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	NA	NA	NA	54800	70000	74200	57600	55400	60400	59700	NA	NA	NA	NA	NA	NA	NA	NA	41000	ND	3000000	78300
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	NA	NA	NA	3390	675	744	1650	1100	563	672	NA	NA	NA	NA	NA	NA	NA	NA	477	ND	570	561
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.26 ER		<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.1	12.5	6.24	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	15.9	ND	2.35 ER	<10
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	NA	NA	NA	17300	40400	38300	30300	26800	37800	39600	NA	NA	NA	NA	NA	NA	NA	NA	18900	38.6	93600	35900
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	67.8	NR	ND	<10	<10	<10	11.7	NA	NA	NA	NA	NA	NA	NA	NA	71.9	NR	1.95	<10
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.44	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	1.87	ND	ND	<10
Sodium	5000	NLE	21500	NA	NA	NA	NA	NA	NA	NA	NA	NA	104000	199000	210000	182000	124000	155000	169000	NA	NA	NA	NA	NA	NA	NA	NA	92800	ND	2140000	405000
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2
Vanadium	60	NLE	108	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.45	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	3.46	ND	ND	<50
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.71	2.35	ND	<20	<20	<20	26.6	NA	NA	NA	NA	NA	NA	NA	NA	274	2.09	9.27	80

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW17																								M8MW18							
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF5	LF6	LF7	40	41	42	43	44	45	45 Dup	46	46 Dup	47	47 Dup	LF1	LF2	LF3	LF4	LF5	LF6	LF6 Dup	LF7	39	40	41	42	43	44	45	46
Date Collected				3/8/2011	5/25/2011	8/11/2011	3/14/2008	6/11/2008	9/5/2008	11/21/2008	2/23/2009	6/27/2009	6/27/2009	9/21/2009	9/21/2009	12/8/2009	12/8/2009	3/17/2010	6/25/2010	9/28/2010	12/23/2010	3/8/2011	5/20/2011	5/20/2011	8/10/2011	3/13/2008	6/5/2008	9/4/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/10/2009
Volatile Organic Compounds (µg/L)																																			
Tert-butyl alcohol	100	NLE	--	<5	<5	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5	<5	<5	<5	NA	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6000	NLE	--	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	J <0.5	0.63	0.57 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	22.07	12.82	28.4	ND	0.3 J	2.62	ND	ND	0.4 J	0.3 J	0.17 J	ND	ND	ND	0.8	ND	ND	0.5	0.7	<0.5	<0.5	0.41 J	11.39	6.95	13.34	8.59	13.26	7.85	11.99	0.37 J
Bromodichloromethane	1	80	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	70	70	--	J 0.17 J	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	0.58	0.27 J	0.67 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	3.17	3.41	3.1	ND	ND	0.67 J	ND	ND	ND	ND	ND	ND	ND	ND	0.41 J	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	2.42	1.87 J	4.73	2.02	3.39	1.07 J	3.15	ND
1,2-Dichlorobenzene	600	600	--	J 0.45	0.21 J	0.39 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	5	--	<0.5	<0.5	0.97 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert butyl ether	70	NLE	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1	5	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	0.27 J	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	1	2	--	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
TICs	500	ND	--	ND	ND	ND	ND	12	42	4	ND	ND	ND	ND	ND	ND	ND	14	14	ND	ND	ND	ND	ND	ND	9.5	ND	24	4	4	13	7	ND
Pesticides/PCBs (µg/L)																																			
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan 1	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																			
Aluminum	200	NLE	121000	1050	3410	693	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64.6	ND	ND	3990	<200	<200	300	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.88 ER	12.5	25.2	<6	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.73 ER	11.6	<3	3.1	9.6	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	135	138	287	<200	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.072 ER	ND	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	<3	8.5	11.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.521 ER	ND	<3	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	144000	136000	198000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	299000	295000	399000	280000	264000	308000	301000	296000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	13.6	13.7	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	33.4	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	<10	24.5	21.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1	2.01	41.7	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	17200	23000	9770	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6640	1560	3550	52100	7220	11300	21200	11600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	<3	9.7	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	33.1	<3	<3	4.4	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	52600	30900	89200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30700	32000	130000	39600	31000	29300	29000	33300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	496	668	535	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	521	378	554	947	594	489	502	520	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	<0.2	0.44	0.46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.22 ER		<0.2	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	12.3	29.9	24.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.909 ER	ND	ND	16.5	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	23200	15900	35300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10700	11600	32800	13200	10500	10800	10800	13700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	91.3	NR	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.4	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	5000	NLE	21500	165000	56100	518000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43600	49200	931000	E 254000	98600	40600	41300	79500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.23	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	125	272	183	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.8	ND	ND	155	<20	<20	24.9	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
/a = Elevated sample detection limit due to difficult sample matrix

Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW18									M8MW19																			M8MW20							
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF3	LF4	LF5	LF6	LF6 Dup	LF7		39	40	41	42	43	44	45	46	LF1	LF2	LF2 Dup	LF3	LF4	LF5	LF6	LF7		39	40	41	42	43	44	45	46
Date Collected				3/19/2010	6/28/2010	9/29/2010	12/23/2010	3/8/2011	5/26/2011	5/26/2011	8/11/2011		3/13/2008	6/5/2008	9/4/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/8/2009	3/17/2010	6/28/2010	6/28/2010	9/28/2010	12/23/2010	3/7/2011	5/20/2011	8/10/2011		3/13/2008	6/5/2008	9/4/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/8/2009
Volatile Organic Compounds (µg/L)																																					
Tert-butyl alcohol	100	NLE	--	ND	ND	ND	<5	<5	<5	<5	NA		ND	8.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5	<5	<5	NA		ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6000	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<10		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10		ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2		ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<10		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10		ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	10.23	8.92	8.8	6.34	2.68	6.7	6.22	14.8		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		1.57 J	0.3 J	2.12	1.39 J	1.83 J	1.35 J	1.45	1.06
Bromodichloromethane	1	80	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	0.33 J		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	2.71	2.61	2.34	1.84	<0.5	1.2	1.03	4.1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35 J	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	0.38 J		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2		ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	5	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	2.1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2		ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert butyl ether	70	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1	5	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	<1	<1	<1	<1	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1		ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	1	2	--	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1		ND	ND	ND	ND	ND	ND	ND	ND
TICs	500	ND	--	3	ND	3	ND	ND	3	7	ND		14	8	10	5	ND	9	11	11	14	5	5	4	ND	ND	9	ND		ND	ND	4	ND	ND	ND	ND	ND
Pesticides/PCBs (µg/L)																																					
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan 1	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																					
Aluminum	200	NLE	121000	23.6	ND	ND	420	<200	470	275	235		NA	NA	NA	NA	NA	NA	NA	NA	44.4	ND	ND	ND	<200	<200	<200	<200		NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	10.8	11.3	8.76	<6	<6	<6	<6	<6		NA	NA	NA	NA	NA	NA	NA	NA	11.5	9.6 ER	10.2	30.3	<6	<6	<6	<6		NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	0.88 ER	ND	2.61	<3	<3	<3	<3	<3		NA	NA	NA	NA	NA	NA	NA	NA	1.71 ER	ND	ND	4.21 ER	<3	<3	<3	<3		NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	277	278	406	<200	<200	356	331	453		NA	NA	NA	NA	NA	NA	NA	NA	48.8	96.1	98.3	511	<200	<200	<200	273		NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	ND	0.105 ER	ND	<1	<1	<1	<1	<1		NA	NA	NA	NA	NA	NA	NA	NA	ND	0.117 ER	0.118 ER	0.057 ER	<1	<1	<1	<1		NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	0.728 ER	1.77 ER	0.618 ER	<3	<3	<3	<3	5		NA	NA	NA	NA	NA	NA	NA	NA	ND	0.826 ER	0.932 ER	1.29 ER	<3	<3	<3	3.8		NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	152000	149000	225000	92400	117000	147000	144000	154000		NA	NA	NA	NA	NA	NA	NA	NA	92500	166000	170000	607000 E	42800	135000	126000	306000		NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	ND	ND	ND	<10	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	3.68 ER	<10	12.1	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	ND	ND	ND	<50	<50	<50	<50	<50		NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<50	<50	<50	<50		NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	ND	ND	3.22 ER	11	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA	ND	2.55 ER	2.14 ER	2.69 ER	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	15200	23500	18700	1610	1480	25000	22900	24300		NA	NA	NA	NA	NA	NA	NA	NA	5850	12000	12100	30200	4440	9870	4070	13000		NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	ND	ND	3.07 ER	<3	<3	16.3	9.7	4.7		NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	3.34 ER	<3	<3	<3	<3		NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	39700	46300	97200	100000	39200	42700	41600	48600		NA	NA	NA	NA	NA	NA	NA	NA	37200	65400	67100	295000	6720	43100	44000	150000		NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	840	604	1070	35.1	348	681	651	739		NA	NA	NA	NA	NA	NA	NA	NA	219	386	394	1230	1010	421	461	801		NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	ND	ND	ND		<0.2	<0.2	<0.2	<0.2		NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.25 ER		<0.2	<0.2	<0.2		NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	1.88 ER	2.3 ER	0.565 ER	<10	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA	1.31 ER	ND	ND	ND	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	25300	27100	38000	44900	17700	32500	31200	37700		NA	NA	NA	NA	NA	NA	NA	NA	12800	20600	21000	57500	<10000	16600	21100	42300		NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	66.5	NR	ND	<10	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA	69.3	NR	NR	1.61	<10	<10	<10	12.4		NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	3.64	0.505	ND	<10	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA	3.16	ND	ND	ND	<10	<10	<10	<10		NA	NA	NA	NA	NA	NA	NA	NA
Sodium	5000	NLE	21500	118000	182000	463000	883000	147000	154000	150000	198000		NA	NA	NA	NA	NA	NA	NA	NA	337000	445000	435000	2010000 E	69700	357000	408000	1030000		NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	ND	ND	ND	<2	<2	<2	<2	<2		NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<2	<2	<2	<2		NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	3.82	ND	ND	<50	<50	<50	<50	<50		NA	NA	NA	NA	NA	NA	NA	NA	3.39	ND	ND	ND	<50	<50	<50	<50		NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	89.4	ND	ND	216	254	123	79.8	274		NA	NA	NA	NA	NA	NA	NA	NA	8.02	1.25	2.57	ND	<20	117	33.7	198		NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
/a = Elevated sample detection limit due to difficult sample matrix

Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW20								M8MW21																				M8MW22							
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF3	LF4	LF5	LF6	LF7	LF7 Dup	39	40	41	42	43	44	45	46	LF1	LF2	LF3	LF4	LF5	LF6	LF6 Dup	LF7	39	40	41	42	43	44	45	46
Date Collected				3/17/2010	6/28/2010	9/28/2010	12/23/2010	3/7/2011	5/25/2011	8/11/2011	8/11/2011	3/13/2008	6/5/2008	9/4/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/8/2009	3/17/2010	6/28/2010	9/28/2010	12/23/2010	3/7/2011	5/25/2011	5/25/2011	8/10/2011	3/13/2008	6/5/2008	9/4/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/8/2009
Volatile Organic Compounds (µg/L)																																					
Tert-butyl alcohol	100	NLE	--	ND	ND	ND	<5	<5	<5	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5	<5	<5	<5	NA	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	6000	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<2	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	100	--	1.16	0.45 J	0.42 J	0.34 J	0.26 J	1.84	1.8	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	0.36 J	0.27 J	0.31 J	ND	ND	0.24 J	ND	0.21 J
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	<0.5	<0.5	0.16 J	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<2	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	5	--	ND	ND	ND	<0.5	<0.5	<0.5	2	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert butyl ether	70	NLE	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1	5	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	<1	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	1	2	--	ND	ND	ND	<0.5	<0.5	<0.5	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND
TICs	500	ND	--	8	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides/PCBs (µg/L)																																					
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan 1	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																																					
Aluminum	200	NLE	121000	20.6	ND	37.4	<200	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	857	ND	137	<200	1020	24500	8720	<200	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	7.8 ER	14.2	34.1	<6	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	ND	11	28.2	<6	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	ND	ND	1.46 ER	<3	<3	<3	3.8	<3	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.99 ER	6.4	<3	13	5.3	<3	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	110	148	238	<200	<200	360	409	422	NA	NA	NA	NA	NA	NA	NA	NA	10.1	36.2	72.4	<200	<200	257	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	ND	0.073 ER	ND	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.067 ER	ND	<1	<1	2.4	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	ND	ND	ND	<3	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.55 ER	1.81 ER	<3	<3	14.9	5.7	<3	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	136000	184000	344000	58400	137000	318000	330000	349000	NA	NA	NA	NA	NA	NA	NA	NA	34500	133000	158000	23400	21900	122000	124000	187000	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	ND	7.25	4.89 ER	<10	16.5	<10	10.6	<10	NA	NA	NA	NA	NA	NA	NA	NA	1.74 ER	ND	ND	<10	<10	118	43.1	<10	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	ND	ND	1.96 ER	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	6.73	5.27	9.08	<10	14.6	81	30	<10	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	478	720	3310	5550	1230	3390	6990	4190	NA	NA	NA	NA	NA	NA	NA	NA	2290	1950	1880	15700	1900	73700	31400	7380	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	ND	ND	ND	<3	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3	<3	65	24.9	<3	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	43500	96000	293000	7700	92900	64600	110000	120000	NA	NA	NA	NA	NA	NA	NA	NA	19400	75800	166000	<5000	19900	114000	95500	141000	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	93.6	160	332	70.6	125	336	321	338	NA	NA	NA	NA	NA	NA	NA	NA	39.6	132	207	57.1	17	274	202	306	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	ND	ND	0.24 ER		<0.2	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.27 ER		<0.2	0.71	0.26	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	0.624 ER	ND	0.506 ER	<10	<10	<10	10.1	<10	NA	NA	NA	NA	NA	NA	NA	NA	4.66 ER	7.83	9.15	<10	<10	54.5	25.7	<10	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	17400	39600	90000	11300	36100	28500	43300	47200	NA	NA	NA	NA	NA	NA	NA	NA	13800	28400	56200	<10000	13500	47100	40000	54700	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	86.5	NR	3.01	<10	<10	<10	12.1	11.5	NA	NA	NA	NA	NA	NA	NA	NA	46.2	NR	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	6.84	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	1.38	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	5000	NLE	21500	140000	570000	1890000 E	30200	533000	180000	527000	596000	NA	NA	NA	NA	NA	NA	NA	NA	172000	426000	1160000 E	47000	243000	739000	671000	1000000	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	ND	ND	ND	<2		<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	3.83	7.54	1.07	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	3.25	0.639	ND	<50	<50	60.6	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	16.6	ND	ND	<20	<20	39.5	71.6	33	NA	NA	NA	NA	NA	NA	NA	NA	86.5	200	201	<20	91.2	1300	588	127	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
/a = Elevated sample detection limit due to difficult sample matrix

Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW22								M8MW23																M8MW24						
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF3	LF3 Dup	LF4	LF5	LF6	LF7	37	38	39	40	41	44	45	46	LF1	LF2	LF3	LF4	LF5	LF6	LF7	36	37	38	39	40	41	42
Date Collected				3/17/2010	6/28/2010	9/29/2010	9/29/2010	12/23/2010	3/7/2011	5/25/2011	8/10/2011	3/13/2008	6/5/2008	9/5/2008	11/21/2008	2/23/2009	6/27/2009	9/21/2009	12/10/2009	3/19/2010	6/29/2010	9/29/2010	12/23/2010	3/9/2011	5/25/2011	8/11/2011	3/14/2008	6/5/2008	9/5/2008	11/21/2008	2/9/2009	2/23/2009	6/27/2009
Volatile Organic Compounds (µg/L)																																		
Tert-butyl alcohol	100	NLE	--	ND	ND	ND	ND	<5	<5	<5	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5	<5	<5	NA	ND	ND	ND	ND	NA	ND	ND
Acetone	6000	NLE	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	NA	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	NA	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	NA	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	0.74 J	ND	0.24 J	ND	NA	ND	0.26 J
Chlorobenzene	50	100	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	5.08	2.35	3.68	2.3	NA	3.31	4.03
Bromodichloromethane	1	80	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
cis-1,2-Dichloroethene	70	70	--	0.19 J	ND	0.2 J	0.22 J	0.23 J	0.18 J	0.19 J	<1	0.33 J	ND	11.67	5.6	2.09	ND	6.48	1.11	ND	3.07	5.06	2.58	0.32 J	1.19	6.1	ND	ND	0.31 J	ND	NA	ND	ND
1,3-Dichlorobenzene	600	NLE	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	0.3 J	ND	0.33 J	ND	NA	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	1.03 J	0.53 J	1.04 J	0.53 J	NA	0.58 J	0.8 J
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
Isopropylbenzene	700	NLE	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	NA	ND	ND
Methylene chloride	3	5	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	NA	ND	ND
Methyl tert butyl ether	70	NLE	--	ND	ND	ND	ND	<0.5	<0.5	0.18 J	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
Tetrachloroethene	1	5	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	NA	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	2.06	ND	ND	0.19 J	ND	1.02	ND	<0.5	0.17 J	0.84	0.62 J	ND	ND	ND	ND	NA	ND	ND
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1	ND	ND	ND	ND	NA	ND	ND
Vinyl Chloride	1	2	--	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	2.73	0.79 J	ND	ND	0.71	ND	ND	ND	1.59	0.67	<0.5	<0.5	0.6 J	ND	ND	ND	ND	NA	ND	ND
TICs	500	ND	--	ND	ND	ND	ND	ND	ND	ND	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8	ND	17	4	NA	4	5
Pesticides/PCBs (µg/L)																																		
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.043	NA
4-4'-DDD	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
4-4'-DDE	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.156	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.049	NA
Endosulfan I	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.021	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.026	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.056	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.055	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.15	NA
Metals (µg/L)																																		
Aluminum	200	NLE	121000	ND	50	13.7	ND	<200	<200	785	355	NA	NA	NA	NA	NA	NA	NA	NA	258	210	48.8	<200	807	312	<200	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	ND	ND	6.42	7.38	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	10.1	9.13 ER	ND	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	8.49	10.63	9.23	7.79	6.9	5.2	38.1	34.2	NA	NA	NA	NA	NA	NA	NA	NA	0.67	3.9 ER	0.77	<3	<3	5.1	<3	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	ND	1.31 ER	3.78 ER	4.33 ER	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	7.51	33.5	37.9	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	ND	ND	ND	ND	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	ND	ND	ND	ND	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	1.22	ND ER	ND	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	8120	6370	67200	64400	151000	56300	14000	13000	NA	NA	NA	NA	NA	NA	NA	NA	62700	41200	32000	42800	18500	32800	33400	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	1.08 ER	3.99 ER	ND	ND	<10	<10	11.4	11.7	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	ND	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.584	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	ND	ND	4.09 ER	3.3 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	12	6.11	1.61 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	2210	1760	11700	12800	50100	11500	56500	40300	NA	NA	NA	NA	NA	NA	NA	NA	359	3740	5490	4440	2590	2550	2800	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	ND	ND	ND	ND	<3	<3	14.3	4.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	3.06 ER	ND	<3	6	3.3	<3	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	12000	9100	127000	121000	240000	88300	16600	15700	NA	NA	NA	NA	NA	NA	NA	NA	7280	7360	6610	6720	<5000	6250	6230	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	14.5	15.5	326	324	663	234	92.1	88.6	NA	NA	NA	NA	NA	NA	NA	NA	20	636	829	1010	158	439	530	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	ND	ND	ND	ND		<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND		<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	ND	ND	1.68 ER	2.13 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	5.26	10.6	3.82 ER	<10	<10	16.6	10.4	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	15900	13500	43700	42600	69200	37800	19300	19300	NA	NA	NA	NA	NA	NA	NA	NA	5750	3450	3760	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	19.3	NR	1.62	2.16	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	47.7	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	ND	ND	0.876	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	3.51	0.627	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA
Sodium	5000	NLE	21500	125000	124000	715000	694000	E 493000	236000	146000	153000	NA	NA	NA	NA	NA	NA	NA	NA	7880	64600	54600	69700	20300	87400	79400	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	ND	ND	ND	ND	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	4.23	7.11	0.704	0.674	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	1.97	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	8.09	10.4	31.1	47	128	51.5	147	124	NA	NA	NA	NA	NA	NA	NA	NA	275	461	9.8	<20	472	1730	345	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
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ND = Not detected
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/a = Elevated sample detection limit due to difficult sample matrix

Table 2
Historical Groundwater Analytical Results
Site FTMM-08
Fort Monmouth, New Jersey

				M8MW24											697MW01														
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	43	44	LF1	LF2	LF2 Dup	LF3	LF4	LF5	LF6	LF7	44	45	46	47	48	48 Dup	49	50	51	LF1	LF2	LF3	LF4	LF5	LF6	LF7
Date Collected				9/21/2009	12/8/2009	3/19/2010	6/29/2010	6/29/2010	9/29/2010	12/23/2010	3/8/2011	5/26/2011	8/11/2011	3/14/2008	6/5/2008	9/5/2008	11/21/2008	2/23/2009	2/23/2009	6/27/2009	9/21/2009	12/8/2009	3/19/2010	6/29/2010	9/29/2010	12/23/2010	3/9/2011	5/26/2011	8/11/2011
Volatile Organic Compounds (µg/L)																													
Tert-butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	<5	<5	<5	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5	<5	<5	NA
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.54	<0.5	<0.5	<10
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	97.04 J	<0.5	<0.5	<10
Benzene	1	5	--	0.22 J	ND	1.21	0.21 J	0.24 J	0.53	<0.5	0.32 J	0.21 J	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.96	0.45 J	0.21 J	0.96	0.35 J	<0.5	<1
Chlorobenzene	50	100	--	3.98	2.68	9.88	3.27	3.51	4.76	1.43	2.25	3.47	1	0.42 J	ND	ND	ND	ND	ND	0.22 J	ND	0.26 J	5.63	2.52	1.08	3.14	1.11	<0.5	<1
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
cis-1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	0.39 J	ND	ND	ND	ND	ND	ND	0.6	0.4 J	0.19 J	0.49	0.42 J	<0.5	<1
1,3-Dichlorobenzene	600	NLE	--	ND	ND	0.64	ND	0.26 J	0.38 J	<0.5	0.17 J	0.25 J	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
1,4-Dichlorobenzene	75	75	--	0.83	0.7	2.37	0.84	0.92	1.22	<0.5	0.55	0.79	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
1,2-Dichlorobenzene	600	600	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
Isopropylbenzene	700	NLE	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2
Methylene chloride	3	5	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<2
Methyl tert butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
Tetrachloroethene	1	5	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	0.86 J	1.01 J	1.15 J	1.44 J	1.16 J	1.19 J	0.98 J	1.85 J	1.71	ND	ND	ND	<0.5	0.31 J	0.96	1.1
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	0.57	0.7 J
Total Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1	<1	<1	<1
Vinyl Chloride	1	2	--	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.5	<0.5	<0.5	<1
TICs	500	ND	--	6	ND	7	5	5	11	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides/PCBs (µg/L)																													
beta-BHC	0.04	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.628	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-chlordane	0.5	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.461	0.512	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDD	0.1	NLE	--	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.28	1.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-4'-DDE	0.1	NLE	--	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.048	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.1	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.301	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.03	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.055	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan 1	40	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	2	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.05	0.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.071	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	40	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.035	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (µg/L)																													
Aluminum	200	NLE	121000	NA	NA	34	69.6	58	ND	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	39.1	ND	9.01	<200	<200	<200	<200
Antimony	6	6	20.70	NA	NA	14.4	9.82 ER	9.04 ER	5.35	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.4	7.69 ER	ND	<6	<6	<6	<6
Arsenic	3	10	89.30	NA	NA	0.64 ER	0.7 ER	0.9 ER	0.84 ER	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.35	4.2 ER	2.9 ER	6.4	<3	<3	<3
Barium	6000	2000	699.00	NA	NA	393	182	179	343	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	54.6	38.5	36.3	<200	<200	<200	<200
Beryllium	1	4	2.10	NA	NA	ND	ND	0.05 ER	ND	<1	<1	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<1	<1	<1	<1
Cadmium	4	5	9.50	NA	NA	ND	ND	0.73 ER	0.651 ER	<3	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.809 ER	ND	<3	<3	<3	<3
Calcium	NLE	NLE	45400.00	NA	NA	141000	66400	65300	111000	58400	74700	58900	40200	NA	NA	NA	NA	NA	NA	NA	NA	NA	125000	51900	26900	23400	15000	13100	18400
Chromium	70	100	191.00	NA	NA	ND	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10
Cobalt	NLE	NLE	18.30	NA	NA	ND	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.785	0.832	<50	<50	<50	<50
Copper	1300	1300	65.60	NA	NA	ND	5.7	6.23	2.59 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	6.26	ND	<10	<10	<10	<10
Iron	300	NLE	431000	NA	NA	23000	10100	9940	23000	5550	10300	8290	4840	NA	NA	NA	NA	NA	NA	NA	NA	NA	14100	10100	3940	15700	7880	1080	568
Lead	5	15	22.70	NA	NA	ND	3.31 ER	3.89 ER	2.92 ER	<3	<3	3.9	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3	<3	<3	<3
Magnesium	NLE	NLE	62700	NA	NA	27300	11700	11600	24600	7700	11100	10000	6350	NA	NA	NA	NA	NA	NA	NA	NA	NA	14400	8890	6200	<5000	<5000	<5000	<5000
Manganese	50	NLE	331	NA	NA	177	78	77	168	70.6	88.5	69.3	48.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	107	59.5	37.7	57.1	35.8	<15	<15
Mercury	2	2	0.26	NA	NA	ND	ND	0.08 ER	ND		<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<0.2	<0.2	<0.2	<0.2
Nickel	100	NLE	187	NA	NA	1.63 ER	0.846 ER	0.853 ER	1.1 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.45 ER	4.09 ER	7.19	<10	<10	<10	<10
Potassium	NLE	NLE	137000	NA	NA	25200	12400	12100	19400	11300	12500	12200	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5980	3570	3410	<10000	<10000	<10000	<10000
Selenium	40	50	29.60	NA	NA	65.1	NR	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.7	NR	1.38	<10	<10	<10	<10
Silver	40	NLE	ND	NA	NA	ND	0.871	0.764	1.55	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.44	1.14	ND	<10	<10	<10	<10
Sodium	5000	NLE	21500	NA	NA	110000	44600	44300	115000	30200	42600	44100	30300	NA	NA	NA	NA	NA	NA	NA	NA	NA	30300	50100	47400	47000	42100	57100	72800
Thallium	2	2	5.50	NA	NA	ND	ND	ND	ND	<2	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2	<2	<2	<2
Vanadium	60	NLE	108	NA	NA	3.62	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.35	ND	ND	<50	<50	<50	<50
Zinc	2000	NLE	233	NA	NA	3.86	3.4	3.66	ND	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.12	1.45	2.12	<20	<20	<20	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
/a = Elevated sample detection limit due to difficult sample matrix

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-08
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-8-GW-M8MW12		FTMM-8-GW-M8MW13		FTMM-8-GW-M8MW14		FTMM-8-GW-M8MW114*		FTMM-8-GW-M8MW15		FTMM-8-GW-M8MW16		FTMM-8-GW-M8MW17	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	16-Aug-2013		15-Aug-2013		16-Aug-2013		16-Aug-2013		19-Aug-2013		20-Aug-2013		16-Aug-2013	
LAB SAMPLE ID:						R1306020-020		R1305972-001		R1306020-018		R1306020-019		R1306029-017		R1306058-005		R1306020-011	
SAMPLE INTERVAL (ft bgs):						5-15		5-15		5-15		5-15		4-14		3-13		3-13	
	CAS No.	Unit																	
Volatile Organics - SW8260C																			
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	**0.56**	J	**0.34**	J
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	**0.92**	J	**0.37**	J
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	--	1.0	U	1.0	U	**1.4**	J	**1.2**	J	**2.5**	J	**3.4**	J	**1.3**	J
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	2.0	UJ	10	U	1.0	U	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	--	1.0	UJ	1.0	U	1.0	UJ	2.0	UJ	10	U	1.0	UJ	1.0	UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	--	5.0	U	5.0	U	5.0	U	10	U	50	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	--	5.0	UJ	**2.7**	BJ	**2.9**	BJ	**3.1**	BJ	**14**	BJ	**2.6**	J	**2.5**	BJ
Benzene	71-43-2	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	**0.77**	J	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	--	**0.98**	J	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	UJ	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	--	1.0	U	1.0	U	**3.7**	J	**3.3**	J	**12**	J	**29**		**4.6**	J
Chloroethane	75-00-3	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	--	**7.1**		1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	**0.29**	J	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	**0.23**	BJ
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	**0.24**	J	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	--	**1.3**	J	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	--	1.0	U	1.0	U	**0.22**	J	2.0	U	10	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	--	1.0	U	1.0	U	1.0	U	2.0	U	10	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	--	3.0	U	3.0	U	3.0	U	6.0	U	30	U	3.0	U	3.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-08
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-8-GW-M8MW12	FTMM-8-GW-M8MW13	FTMM-8-GW-M8MW14	FTMM-8-GW-M8MW114*	FTMM-8-GW-M8MW15	FTMM-8-GW-M8MW16	FTMM-8-GW-M8MW17
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	16-Aug-2013	15-Aug-2013	16-Aug-2013	16-Aug-2013	19-Aug-2013	20-Aug-2013	16-Aug-2013
LAB SAMPLE ID:						R1306020-020	R1305972-001	R1306020-018	R1306020-019	R1306029-017	R1306058-005	R1306020-011
SAMPLE INTERVAL (ft bgs):						5-15	5-15	5-15	5-15	4-14	3-13	3-13
	CAS No.	Unit										
Pesticides - SW8081B												
4,4'-DDD	72-54-8	µg/L	0.1	NLE	--	0.040 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U
4,4'-DDT	50-29-3	µg/L	0.1	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
4,4'-DDE	72-55-9	µg/L	0.1	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Aldrin	309-00-2	µg/L	0.04	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
alpha-BHC	319-84-6	µg/L	0.02	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
alpha-Chlordane	5103-71-9	µg/L	5 [5]	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
beta-BHC	319-85-7	µg/L	0.04	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
delta-BHC	319-86-8	µg/L	100 [3]	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Dieldrin	60-57-1	µg/L	0.03	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endosulfan I	959-98-8	µg/L	40	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endosulfan II	33213-65-9	µg/L	40	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endosulfan sulfate	1031-07-8	µg/L	40	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endrin	72-20-8	µg/L	2	2	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endrin aldehyde	7421-93-4	µg/L	5 [3]	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Endrin ketone	53494-70-5	µg/L	100 [3]	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
gamma-BHC (Lindane)	58-89-9	µg/L	0.03	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
gamma-Chlordane	5566-34-7	µg/L	5 [3]	NLE	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Heptachlor	76-44-8	µg/L	0.05	0.4	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Heptachlor Epoxide	1024-57-3	µg/L	0.2	0.2	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Methoxychlor	72-43-5	µg/L	40	40	--	0.026 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Toxaphene	8001-35-2	µg/L	2	3	--	0.51 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Metals - SW6010C												
Lead	7439-92-1	µg/L	5	15 [5]	22.70	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Value is the USEPA Action Level.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-08
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VA		FTMM-8-GW-M8MW18		FTMM-8-GW-M8MW19		FTMM-8-GW-M8MW20		FTMM-8-GW-M8MW21		FTMM-8-GW-M8MW22		FTMM-8-GW-M8MW23		FTMM-8-GW-RM8MW24	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013		15-Aug-2013		15-Aug-2013		15-Aug-2013		16-Aug-2013		19-Aug-2013		19-Aug-2013	
LAB SAMPLE ID:					R1306029-010		R1305972-008		R1305972-003		R1305972-010		R1306020-013		R1306029-018		R1306029-011	
SAMPLE INTERVAL (ft bgs):					3-18		3-18		5-15		5-20		5-20		3-15		13-38	
	CAS No.	Unit																
Volatile Organics - SW8260C																		
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	**1.2**	J	**0.33**	J	10	U	1.0	U	1.0	U	1.0	U	**0.56**	J
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	10	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	UJ	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	50	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**4.8**	BJ	**3.9**	BJ	50	U	**2.1**	BJ	**8.8**	BJ	5.0	U	**2.4**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	**7.7**		1.0	U	10	U	1.0	U	1.0	U	1.0	U	**1.5**	J
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	10	U	1.0	U	1.0	U	**5.2**		1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	10	U	1.0	U	1.0	U	**0.62**	J	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	10	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	10	U	1.0	U	1.0	U	**0.68**	J	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	30	U	3.0	U	3.0	U	3.0	U	3.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-08
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VA		FTMM-8-GW-M8MW18		FTMM-8-GW-M8MW19		FTMM-8-GW-M8MW20		FTMM-8-GW-M8MW21		FTMM-8-GW-M8MW22		FTMM-8-GW-M8MW23		FTMM-8-GW-RM8MW24	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013		15-Aug-2013		15-Aug-2013		15-Aug-2013		16-Aug-2013		19-Aug-2013		19-Aug-2013	
LAB SAMPLE ID:					R1306029-010		R1305972-008		R1305972-003		R1305972-010		R1306020-013		R1306029-018		R1306029-011	
SAMPLE INTERVAL (ft bgs):					3-18		3-18		5-15		5-20		5-20		3-15		13-38	
	CAS No.	Unit																
Pesticides - SW8081B																		
4,4'-DDD	72-54-8	µg/L	0.1	NLE	0.039	U	0.039	U	0.039	U	0.039	U	0.039	U	0.039	U	0.040	U
4,4'-DDT	50-29-3	µg/L	0.1	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
4,4'-DDE	72-55-9	µg/L	0.1	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Aldrin	309-00-2	µg/L	0.04	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
alpha-BHC	319-84-6	µg/L	0.02	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
alpha-Chlordane	5103-71-9	µg/L	5 [5]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
beta-BHC	319-85-7	µg/L	0.04	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
delta-BHC	319-86-8	µg/L	100 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Dieldrin	60-57-1	µg/L	0.03	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Endosulfan I	959-98-8	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Endosulfan II	33213-65-9	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Endosulfan sulfate	1031-07-8	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Endrin	72-20-8	µg/L	2	2	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Endrin aldehyde	7421-93-4	µg/L	5 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Endrin ketone	53494-70-5	µg/L	100 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.03	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
gamma-Chlordane	5566-34-7	µg/L	5 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Heptachlor	76-44-8	µg/L	0.05	0.4	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Heptachlor Epoxide	1024-57-3	µg/L	0.2	0.2	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Methoxychlor	72-43-5	µg/L	40	40	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.026	U
Toxaphene	8001-35-2	µg/L	2	3	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.51	U
Metals - SW6010C																		
Lead	7439-92-1	µg/L	5	15 [5]	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	**2.4**	J	2.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Value is the USEPA Action Level.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-08
Fort Monmouth, New Jersey

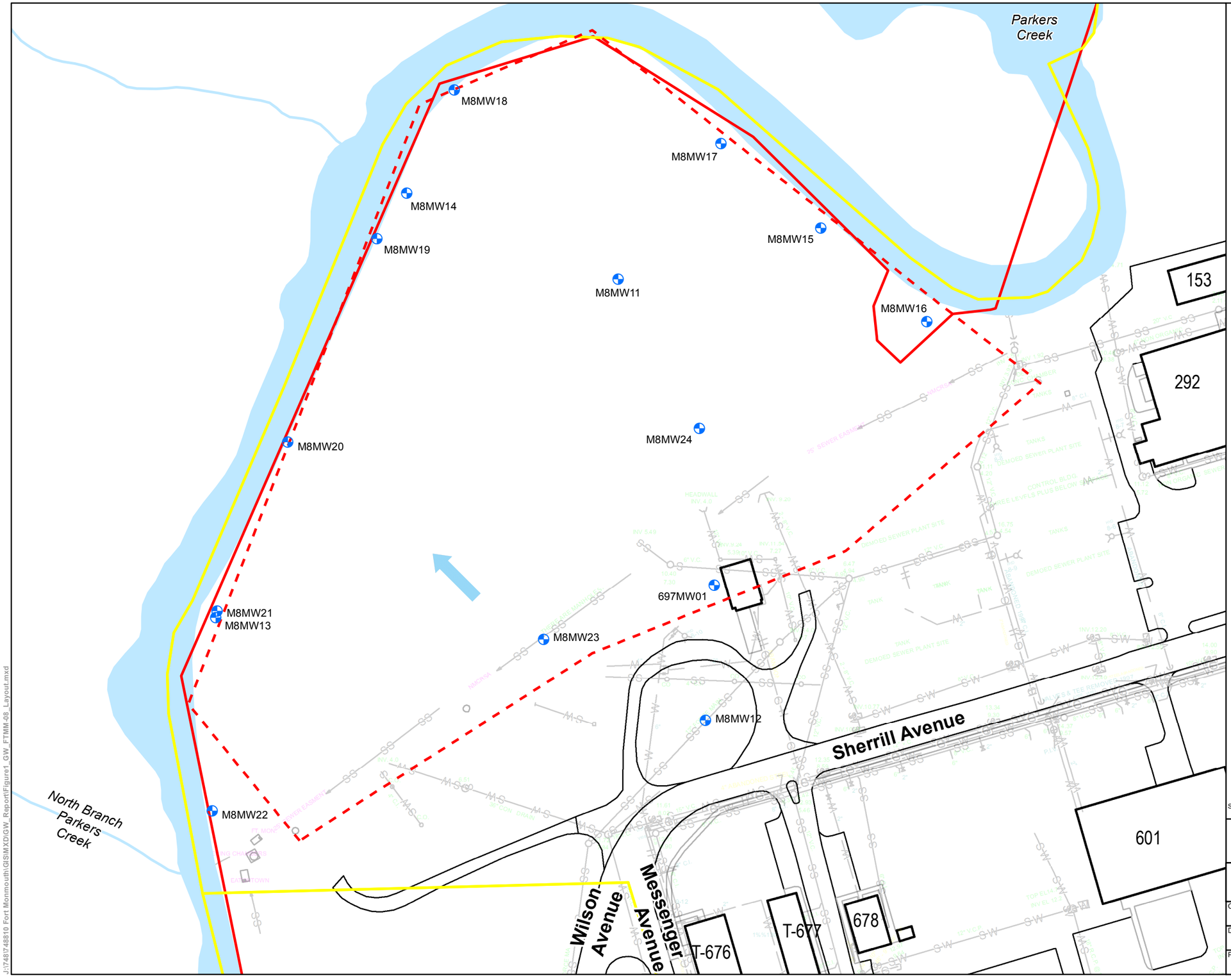
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-8 Landfill									
697MW01		Not sampled/located					NO	Yes (VOCs, Pb, and pesticides)	Well could not be located and was not sampled in August 2013. Well will be located and sampled.
M8MW11		benzene, Al, As, Ba, Ca, Fe, Pb, Mn, Na,	Pb, Mn, Na	NO	NO	NO	NO	Yes (Pb and VOCs only)	Continue sampling for Pb. Mn and Na are considered background concentrations and not from historical site use. Benzene will continue to be sampled.
M8MW12		PCE, Al, As, Fe, Mn, Na	Na	NO	NO	Yes (PCE)	NO	Yes (VOCs only)	PCE exceeded in August 2013. Na is considered a background concentration and not from historical site use.
M8MW13		Al, Ca, Fe, Pb, Mn, Mg, Na	Ca, Mg, Na	NO	NO	NO	NO	NO	Ca, Mg, and Na are considered background concentrations and not from historical site use.
M8MW14		Al, As, Ca, Fe, Mn, Na	Ca, Mg, Na	NO	NO	NO	NO	NO	Ca, Mg, and Na are considered background concentrations and not from historical site use.
M8MW15		benzene, Ca, Fe, Mn, Na	Ca, Mn, Na	NO	NO	NO	NO	Yes (VOCs only)	Ca, Mn and Na are considered background concentrations and not from historical site use. Benzene will continue to be sampled.
M8MW16	VOC, Lead, Pesticides	Al, Cd, Fe, Pb, Mg, Mn, Na	Cd, Mg, Mn, Na	NO	NO	NO	NO	Yes (VOCs only)	Ca, Mg, Mn and Na are considered background concentrations and not from historical site use.Benzene will continue to be sampled.
M8MW17		Al, As, Ca, Fe, Pb, Mn, Na	Pb, Mn, Na	NO	NO	NO	NO	Yes (Pb only)	Continue sampling for Pb. Mn and Na are considered background concentrations and not from historical site use.
M8MW18		Al, Cd, Ca, Fe, Pb, Mg, Mn, Na	Ca, Mg, Mn, Na	NO	NO	NO	NO	NO	Ca, Mg, Mn and Na are considered background concentrations and not from historical site use.
M8MW19		Ca, Fe, Mg, Mn, Na	Ca, Mg, Mn, Na	NO	NO	NO	NO	NO	Ca, Mg, Mn and Na are considered background concentrations and not from historical site use.
M8MW20		As, Ca, Fe, Mg, Mn, Na	Ca, Mn, Na	NO	NO	NO	NO	NO	Ca, Mn and Na are considered background concentrations and not from historical site use.
M8MW21		Al, As, Be, Cd, Ca, Cr, Fe, Pb, Mg, Mn, Na, V	Be, Cd, Cr, Pb, Mn, Na	NO	NO	NO	NO	Yes (Pb only)	Continue sampling for Pb. Be, Cd, Cr, Mn and Na are considered background concentrations and not from historical site use.
M8MW22		Al, As, Fe, Pb, Mn, Na	Na	NO	NO	NO	NO	NO	Na is considered a background concentration and not from historical site use.
M8MW23		Al, As, Fe, Pb, Mn, Na	Mg, Na	NO	NO	NO	NO	NO	Mg and Na are considered background concentrations and not from historical site use.
RM8MW24		Fe, Mn, Na	No	NO	NO	NO	NO	Yes (VOCs only)	Benzene will continue to be sampled.

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs. summer/fall) for the 4 previous data rounds ?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-08



Legend

- Shallow Monitoring Well
- M-8 Landfill Boundary
- Municipal Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 100 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-08	
CREATED BY: **TS**	REVIEWED BY: **IG**
DATE: **January 2014**	FIGURE NUMBER: **Figure 1**
PROJECT NUMBER: **748810.01000**	FILE: **Figure1_GW_FTMM-08_Layout.mxd**

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-08_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW12

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8 (JC)
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: ~~N/A~~ MiniRAE (JC)

DATE: 8/16/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex DiIonno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): 17.51'
FEET OF WATER IN WELL: ~~18~~ 8.56

SCREENED INTERVAL (TOC): 6.79 - 17.51'
PUMP INTAKE DEPTH (ft below TOC): 13.24
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.96

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1350	x		6.44	NA	0.304	NA	95.9	NA	8.68	NA	18.5	NA	20.84	NA	175	9.09
1355	x		5.87	0.57	0.276	0.028	129.5	33.6	6.36	2.32	21.2	2.7	20.41	0.43	175	9.09
1400	x		5.80	0.07	0.276	0.0	136.6	7.1	6.17	0.19	14.5	6.7	20.55	0.14	150	9.09
1405	x		5.76	0.04	0.279	0.003	144.6	8.0	5.87	0.3	25.3	10.8	20.79	0.24	150	9.09
1410	x		5.75	0.01	0.281	0.002	148.6	4.0	5.64	0.23	28.7	3.4	20.89	0.10	150	9.09
1415	x		5.74	0.01	0.282	0.001	152.9	4.3	5.74	0.10	10.0	18.7	21.11	0.22	150	9.09
1420	x		5.73	0.01	0.284	0.002	157.3	4.4	5.13	0.61	29.9	19.9	21.07	0.04	150	9.09
1425	x		5.72	0.01	0.283	0.001	161.4	4.1	4.90	0.23	12.9	17.0	21.01	0.06	150	9.09
1430	x		5.71	0.01	0.283	0.0	164.0	2.6	4.78	0.12	0.0	12.9	21.21	0.20	150	9.09
1435	x		5.70	0.01	0.282	0.001	166.9	2.9	4.69	0.09	0.0	0.0	21.32	0.11	150	9.09
1440	x		5.69	0.01	0.281	0.001	168.9	2.0	4.60	0.09	0.0	0.0	21.28	0.04	150	9.09
1445		x	5.69	0.0	0.281	0.0	169.2	0.3	4.52	0.08	0.0	0.0	21.28	0.0	150	9.09

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW12

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-8-GW-M8MW12

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1445	(3) VOA's w/ HCL	clear	0.0	
Lead	↓	1) 250 mL poly w/ HNO3	↓	↓	
Pesticides	↓	2) 1000 mL BA unpreserved	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW~~ FTMM-8-18MW13

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: MiniRAE

DATE: 8/15/13
LABORATORY:

SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): 12.22
FEET OF WATER IN WELL: 10

SCREENED INTERVAL (TOC): 5.9-15.9 (slotted to 12.22)
PUMP INTAKE DEPTH (ft below TOC): ~~MW~~ ~11.0
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.9

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1245	X		6.46	NA	3.168	NA	6.9	NA	2.51	NA	28.2	NA	21.37	NA	100	5.98
1250	X		6.37	0.09	3.218	0.050	13	6.1	1.78	0.73	26.3	1.9	21.26	0.11	100	6.01
1255	X		6.35	0.02	3.210	0.008	16.7	3.7	1.55	0.23	25.1	1.2	21.27	0.01	100	C.02
1300	X		6.35	Ø	3.189	0.021	20.4	3.7	1.37	0.18	23.5	1.6	21.20	0.07	100	6.02
1305	X		6.36	0.01	3.223	0.034	22.4	2.0	1.03	0.34	17.9	5.6	21.42	0.22	100	6.03
1310	X		6.36	Ø	3.273	Ø	21.8	0.6	0.941	0.09	16.0	1.9	21.50	0.08	100	6.03
1315	X		6.36	Ø	3.324	0.051	22.9	1.1	0.91	0.03	14.0	2.0	21.59	0.09	100	6.03
1320	X		6.36	Ø	3.352	0.028	23.0	0.1	0.91	Ø	10.3	3.7	21.63	0.04	100	6.03
1325	X	X	6.36	Ø	3.355	0.03	23.1	0.1	0.89	0.02	9.6	0.6	21.66	0.03	100	C.03

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW13

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: FTMM-8-GW-M8MW13

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	(3) 40ml (HCl)	9335	clear	9.6	
Metal	(1) 250ml (HNO3)	"	"	"	
PCB/Pest	(2) Amber	"			

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/15/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MBMW14

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: MiniRAE

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Custer
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): [illegible]
FEET OF WATER IN WELL:

SCREENED INTERVAL (TOC): 6.9 - 16.9
PUMP INTAKE DEPTH (ft below TOC): [illegible] ~12
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.10

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:00	X		6.30	NA	2.160	NA	-69.7	NA	1.88	NA	9.9	NA	28.9	NA	100	7.41
13:05	X		6.27	0.03	3.868	1.70	-67.5	[illegible]	1.85	0.03	10.5	0.6	27.76	1.14	100	7.46
13:10	X		6.23	0.04	3.845	0.023	-68.7	1.2	1.73	0.12	11.2	0.7	27.70	0.06	150	7.54
13:15	X		6.23	0	3.706	0.139	-66.1	2.6	1.65	0.08	9.7	1.5	27.58	0.12	150	7.60
13:20	X		6.24	0.01	3.628	0.078	-55.3	10.8	1.60	0.05	8.6	0.9	26.81	0.77	150	
13:30	X		6.23	0.01	3.603	0.025	-59.8	4.5	1.60	0	7.3	1.3	25.68	1.13	150	
13:35	X		6.22	[illegible]	3.534	0.069	-59.9	0.1	1.60	0	5.2	2.1	24.77	0.91	150	
13:40	X		6.23	[illegible]	3.510	0.024	-61.5	1.6	1.61	0.01	5.6	0.4	24.55	0.22	150	
13:45	X	X	6.23	[illegible]	3.490	0.020	-61.6	0.1	1.65	0.04	4.8	0.8	24.43	0.12	150	
			[illegible]													

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** MBMW14

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: FTMM-8-GW-M8MW14

SAMPLE PARAMETER	* TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1345	40ml HCL	Clear	4.8	
Metals	"	250mL HNO	"	"	
PCB/Pest	"	Amber	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

FTMM-8-GW-M8MW14

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/16/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW15

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: Minirae

DATE: 8/19/13
LABORATORY:

SAMPLING PERSONNEL
NAME: C Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): = 0.0 (JC)
WELL DEPTH (TOC): 16.81
FEET OF WATER IN WELL: 10.01

SCREENED INTERVAL (TOC): 6.8 - 16.8
PUMP INTAKE DEPTH (ft below TOC): ~11.8
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.1

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1220	X		6.68	NA	3.810	NA	-117.4	NA	2.31	NA	21.6	NA	19.2	NA	150	5.67
1225	X		6.64	0.04	3.702	0.108	-120.1	2.7	1.07	1.24	20.1	1.5	19.29	0.09	150	5.83
1230	X		6.64	0	3.700	0.002	-119.2	0.9	1.81	0.74	21.0	0.9	19.32	0.03	100	5.91
1235	X		6.64	0	3.704	0.004	-114.6	4.4	1.87	0.01	19.8	0.2	19.87	0.55	100	6.06
1240	X		6.64	0	3.696	0.008	-110.6	4.0	1.26	0.56	18.1	1.7	20.03	0.16	100	6.11
1245	X		6.64	0	3.679	0.017	-108	2.6	1.24	0.02	17.5	0.6	20.17	0.14	100	6.13
1250	X		6.63	0.01	3.665	0.014	-108.1	0.1	1.24	0	17.6	0.1	20.28	0.11	100	6.14
1255	X		6.63	0	3.652	0.013	-108.8	0.7	1.24	0	16.2	1.4	20.37	0.09	100	6.18
1300	X		6.63	0	3.645	0.007	-105.7	3.1	1.22	0.02	14.3	1.9	20.35	0.02	100	6.19
1305	X		6.64	0.01	3.640	0.005	-106.4	0.7	1.19	0.03	10.6	3.7	20.36	0.01	100	6.20
1310	X		6.63	0.01	6.642	0.002	-106.5	0.1	1.19	0	9.8	0.8	20.59	0.23	100	6.20
1315	X	X	6.63	0	6.640	0.002	-106.3	0.2	1.18	0.01	9.9	0.1	20.83	0.26	100	6.21

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: M8MW15

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: FTMM-8-GW-M8MW15 @ 1315

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1315	40 mL (3)	clear	9.99	
metal		(1) 250mL			
PCB/Pest		(2) Amber			

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/19/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW16

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: miniRAE

DATE: 8/20/15
LABORATORY:

SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
WELL DEPTH (TOC): 15.49
FEET OF WATER IN WELL: 7.38

SCREENED INTERVAL (TOC): 5.49 - 15.49
PUMP INTAKE DEPTH (ft below TOC): ~12
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.11

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0900	X		6.71	NA	1.623	NA	-37.2	NA	1.37	NA	35.3	NA	19.12	NA	200	8.17
0905	X		6.61	.10	1.664	0.041	-34.1	3.1	0.78	0.59	21.9	17.4	18.88	2.4	200	8.17
0910	X		6.58	0.03	1.694	0.030	-20.7	3.4	1.42	0.64	16.0	5.9	18.83	0.05	200	8.0
0915	X		6.57	0.01	1.707	0.013	-29.7	1	1.04	0.38	13.7	2.3	18.76	0.06	200	8.7
0920	X		6.56	0.01	1.711	0.004	-28.6	1.1	1.26	0.22	7.7	6	18.75	0.01	200	8.7
0925	X		6.55	0.01	1.713	0.002	-28	0.6	1.31	0.05	4.7	3	18.82	0.07	200	8.7
0930	X		6.54	0	1.723	0.010	-27.3	0.7	1.28	0.03	3.0	1.7	18.86	0.04	200	8.7
0935	C	X	6.54	0	1.723	0	-27.4	0.1	1.29	0.01	3.1	0.1	18.85	0.0	200	8.7

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** M8MW16

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: Form-8-GW-M8MW16

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	0935	(3) 40 ml (HCl)	clear	3.1	Collected at 0935
Metals	|	(1) 500 ml (HNO3)	|	|	|
PCB/Pest	|	(2) Amber	|	|	|

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

CARBON BUCKET

Date: 8/20/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW17

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: ~~N/A~~ MiniRAE (JC)

DATE: 8/16/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex D. Tonna
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): 15.66
FEET OF WATER IN WELL: ~~9~~ 9.86

SCREENED INTERVAL (TOC): 5.8 - 15.66 (2.8' Stickup)
PUMP INTAKE DEPTH (ft below TOC): ~~15~~ 10.73'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.80'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1059	X		6.55	NA	3.048	NA	-71.8	NA	5.09	NA	5.9	NA	21.61	NA	175	6.05
1104	X		6.55	0.0	3.210	0.162	-82.5	4.7	3.18	1.91	2.2	3.7	21.54	0.07	175	6.05
1109	X		6.53	0.02	3.361	0.151	-79.9	2.6	2.37	0.81	0.0	2.2	21.44	0.10	175	6.05
1114	X		6.52	0.01	3.406	0.045	-78.3	1.6	2.15	0.22	7.4	7.4	21.05	0.39	175	6.05
1119	X		6.52	0.0	3.426	0.020	-76.6	1.7	1.75	0.40	5.2	2.2	20.77	0.28	175	6.05
1124	X		6.52	0.0	3.440	0.014	-76.2	0.4	1.49	0.26	1.1	3.1	20.91	0.14	175	6.05
1129	X		6.53	0.01	3.446	0.006	-76.1	0.1	1.38	0.11	1.0	0.1	20.73	0.18	175	6.05
1134	X		6.53	0.0	3.451	0.005	-76.0	0.1	1.34	0.04	1.0	0.0	20.75	0.02	175	6.05
1139		X	6.54	0.01	3.459	0.008	-76.3	0.3	1.30	0.04	1.0	0.0	21.16	0.41	175	6.05

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW17

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-8-GW-M8MW17

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	1139	3 VOA's w/ HCL	clear	1.0	
Lead	↓	1) 250 mL Poly/HNO3	↓	↓	
Pesticides	↓	2) 1000 mL GA unpres.	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name: FTMM-8-GW-M8MW17QA

QA\QC RINSATE SAMPLE NAME: ↓

MATRIX SPIKE SAMPLE COLLECTED: (YES) or NO

FTMM-8-GW-M8MW17-MS / FTMM-8-GW-M8MW17-MSD

INVESTIGATION DERIVED WASTE (IDW): N/A (used carbon buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW18

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: - MiniRAE

DATE: 8/19/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Cwatsn
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): 16.72
FEET OF WATER IN WELL: 10.49

SCREENED INTERVAL (TOC): 5.8-20.8 (16.72)
PUMP INTAKE DEPTH (ft below TOC): ~10.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.71

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:05	X		6.52	NA	2.889	NA	-120.0	NA	0.43	NA	143.1	NA	20.81	NA	150	6.41
10:10	X		6.55	0.03	2.852	0.037	-123.1	3.1	0.06	0.37	133.8	9.3	21.01	0.2	150	6.54
10:15	X		6.56	0.01	2.864	0.014	-121.9	1.2	1.20	1.14	107.3	26.5	21.17	0.16	156	6.55
10:20	X		6.54	0.02	2.872	0.008	-115.6	6.3	1.19	0.01	94.1	13.2	21.68	0.51	150	6.57
10:25	X		6.52	0.02	2.917	0.045	-112.6	3	1.44	0.25	66.4	27.7	21.96	0.28	150	6.55
10:30	X		6.52	0	2.919	0.002	-112.4	0.2	1.42	0.02	64.2	2.2	21.90	0.06	150	6.55
10:35	X		6.49	0.03	2.936	0.017	-108.4	4.0	1.47	0.05	52.8	11.4	21.97	0.07	150	6.55
10:40	X		6.49	0	3.016	0.08	85.6	22.8	1.63	0.16	36.3	16.3	21.99	0.02	150	6.56
10:45	X		6.47	0.02	3.015	0.001	-86.9	0.7	1.63	0	31.1	5.2	22.67	0.7	150	6.56
10:50	X		6.46	0.01	3.016	0.001	-94.5	7.6	1.61	0.02	32.9	1.8	22.69	0.02	150	6.56
10:55	X		6.46	0	3.015	0.001	-94.8	0.3	1.64	0.03	32.0	0.9	22.88	0.2	150	6.56
11:00	X	X	6.46	0	3.014	0.001	-95.1	0.3	1.62	0.02	30.9	1.1	22.89	0	150	6.56

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW18

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: FTMM-8-GW-M8MW18 @ 1100

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1100	40 mL (3)	Stained	30.9	
Metals	"	(1) Amber	"	"	
PCB / Pest	"	(2)	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): CARBON Bucket

Date: 8/19/15									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW19

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-8
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: ~~n/a~~ MiniRAE (JC)

DATE: 8/15/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Alex DiIonno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
WELL DEPTH (TOC): 17.70
FEET OF WATER IN WELL: 10.95'

SCREENED INTERVAL (TOC): 5.48 - 17.70 (2.48' stickup)
PUMP INTAKE DEPTH (ft below TOC): 12.23'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.75'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1412	x		6.43	NA	4.098	NA	-76.7	NA	4.81	NA	15.6	NA	19.19	NA	175	7.33
1417	x		6.27	0.16	4.230	0.132	-80.0	3.3	1.51	3.3	4.0	11.6	19.30	0.11	175	7.33
1422	x		6.23	0.04	4.260	0.030	-80.9	0.9	1.41	0.10	3.7	0.3	19.29	0.01	175	7.33
1427	x		6.25	0.02	4.322	0.062	-79.8	1.1	1.17	0.24	2.6	1.1	19.16	0.13	175	7.33
1432	x		6.24	0.01	4.409	0.087	-79.5	0.3	1.08	0.09	0.0	2.6	19.30	0.14	175	7.33
1437	x		6.23	0.01	4.421	0.012	-78.9	0.6	1.08	0.0	0.0	0.0	19.49	0.19	175	7.33
1442	x		6.23	0.0	4.467	0.046	-78.3	0.6	1.06	0.02	0.0	0.0	19.57	0.08	175	7.33
1447		X														

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MBMW19

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-8-GW-M8MW19

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1447	(3) 40mL vials w/ HCl	clear	0.0	
Lead	↓	1) 250mL poly w/ HNO3	↓		
Pesticides	↓	2) 1L unpr. glass amber	↓		

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A, using carbon buckets

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW20

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-8
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: ~~N/A~~ MiniRAE (JC)

DATE: 8/15/2013
LABORATORY:

SAMPLING PERSONNEL
NAME: Alex DiIoanno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
WELL DEPTH (TOC): 17.61
FEET OF WATER IN WELL: 10'

SCREENED INTERVAL (TOC): 7.09 - 17.09 (2.09' stickup)
PUMP INTAKE DEPTH (ft below TOC): 12.09'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.52'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1237	X		6.44	NA	6.187	NA	-40.5	NA	3.41	NA	5.5	NA	18.59	NA	200	6.78
1242	X		6.42	0.02	6.059	0.128	-55.8	15.3	1.90	1.51	3.7	1.8	18.58	0.01	200	6.78
1247	X		6.44	0.02	5.924	0.135	-65.3	9.5	1.37	0.53	2.3	1.4	18.61	0.03	200	6.78
1252	X		6.44	0.0	5.837	0.087	-70.7	5.4	1.20	0.17	1.7	0.6	18.66	0.05	200	6.78
1257	X		6.44	0.0	5.742	0.095	-76.3	5.6	1.10	0.10	0.9	0.8	18.70	0.04	200	6.78
1302	X		6.45	0.01	5.662	0.080	-82.1	5.8	0.95	0.15	0.4	0.5	18.74	0.04	200	6.78
1307	X		6.45	0.0	5.627	0.035	-85.9	3.8	0.80	0.15	0.1	0.3	18.72	0.02	200	6.78
1312	X		6.45	0.0	5.601	0.026	-90.4	4.5	0.80	0.0	0.1	0.0	18.80	0.08	200	6.78
1317	X		6.45	0.0	5.600	0.001	-91.2	0.8	0.80	0.0	0.1	0.0	18.81	0.01	200	6.78
1322		X														

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW20

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: FTMM-8-GW-M8MW20

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	1322	(3) 40 mL vials w/ HCL	clear	0.1	decomposed organic odor
~~Metals~~ Lead	↓	1) 250 mL poly w/ HNO_3	↓	↓	↓
Pesticides	↓	2) 1 L unpreserved amber	↓	↓	↓

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A, used carbon buckets

Date:									
Volume Transferred to VBW Tank:									
Volume Transferred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW21

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/15/13
AOC # (AREA): M-8
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: C Water
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
SCREENED INTERVAL (TOC): SWDA 7.8-22.1 (Slotted to 15.87)
WELL DEPTH (TOC): 15.87
PUMP INTAKE DEPTH (ft below TOC): 11
FEET OF WATER IN WELL: 9.97
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.9

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
14:20	Y		6.37	NA	6.692	NA	45	NA	2.0	NA	18.8	NA	20.8	NA	100	6.72
14:25	Y		6.37	0.00	6.695	0.003	59.7	14.7	1.58	0.42	12.6	6.2	20.50	0.3	100	6.81
14:30	Y		6.37	0.00	5.605	1.09	52.5	7.2	1.20	0.38	6.4	6.2	20.89	0.39	100	6.84
14:35	Y		6.38	0.01	5.539	0.066	43.6	8.9	1.00	0.20	4.3	2.1	20.94	0.05	100	6.87
14:40	Y		6.38	0	5.529	0.010	38.1	5.5	1.00	0	4.0	0.3	21.06	0.16	100	6.87
14:45	Y	Y	6.38	0	5.524	0.005	37.6	0.5	1.01	0.01	3.9	0.1	21.00	0.06	100	6.87

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW21

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-8-GW-MW21

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1445	(3) 40mL (HCl)	clear	3.9	
Metals	"	(1) 250mL (HNO3)	"	"	
PCB/Pest	"	(1) Amber	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Buckets

Date: 8/15/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M8MW22

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-16-13
AOC # (AREA): M-8
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)
SCREENED INTERVAL (TOC): 7.6 - 22.6 (18.3)
WELL DEPTH (TOC): 18.3
PUMP INTAKE DEPTH (ft below TOC): ~12.5
FEET OF WATER IN WELL: 12.2
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.10

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1055	X		6.61	NA	2.489	NA	-50.1	NA	2.75	NA	239	NA	30.57	NA	150	6.2
1100	X		6.65	0.04	2.480	0.009	-42.6	7.5	1.89	0.86	231.6	7.4	30.59	0.02	150	7.6
1105	X		6.64	0.01	2.490	0.010	-48.9	6.3	1.48	0.41	228.6	2.4	30.49	0.10	150	8.5
1110	X		6.63	0.01	2.487	0.003	-46.1	2.8	1.54	0.06	211.2	17.4	30.52	0.03	150	8.8
1115	X		6.63	"	2.488	0.001	-45.6	0.5	1.54	"	224.5	13.3	30.51	0.01	100	8.84
1120	X		6.63	"	2.465	0.023	-42.5	3.1	1.56	0.02	51.1	173.4	29.31	1.20	100	8.86
1125	X		6.63	"	2.470	0.005	-42.2	0.3	1.58	0.02	49.6	1.5	29.32	0.01	100	8.88
1130	X		6.64	0.1	2.469	0.001	-42.2	"	1.63	"	48.9	0.7	29.58	0.26	100	9.20
11:40	X		6.65	0.1	2.472	0.003	-42.2	"	1.63	"	44.3	4.6	29.66	0.08	100	9.24
11:45	X		6.65	"	2.481	0.009	-42.1	0.1	1.64	0.01	41.2	3.1	29.64	0.02	100	9.26
11:50	X		6.65	"	2.482	0.001	-43.0	0.9	1.63	0.01	40.9	0.3	29.61	0.03	100	9.28
11:55	X	X	6.65	"	2.484	0.002	-42.2	0.8	1.63	"	41.3	0.4	29.62	0.01	100	9.31

COMMENTS: FTMM-8-GW-M8MW22 collected @ for VOC's/PCB-pest/Metals

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M & MW22

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-8-GW-M8MW22 [illegible]

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC		(3) 40ml (HCl)	-	-	
Metals		(1)	-	-	
PCB/Pest		(2) Amber	-	-	
[illegible]					
[illegible]		(3) 40ml (HCl)	-	-	
[illegible]		(1)	-	-	
[illegible]		(2) amb	-	-	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: ~~YES~~ or (NO)

Duplicate Sample Name: [illegible]

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/16/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW23

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: ~~N/A~~ MiniRAE (JC)

DATE: 8/19/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex D. Ionno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): 16.94
FEET OF WATER IN WELL: 8.63

SCREENED INTERVAL (TOC): 5.34-16.94 (2.34'SU)
PUMP INTAKE DEPTH (ft below TOC): 12.63'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.31

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1216	X		5.98	NA	0.579	NA	14.6	NA	4.00	NA	20.2	NA	17.56	NA	200	8.41
1221	X		5.91	0.07	0.566	0.013	26.7	12.1	2.60	1.4	19.2	1.0	17.25	0.31	200	8.41
1226	X		5.90	0.01	0.555	0.011	34.5	7.8	1.72	0.88	17.0	2.2	17.25	0.0	225	8.41
1231	X		5.87	0.03	0.545	0.010	42.4	7.9	1.12	0.6	13.0	4.0	17.25	0.0	225	8.41
1236	X		5.87	0.0	0.540	0.005	46.3	3.9	1.28	0.16	11.4	1.6	17.30	0.05	225	8.41
1241	X		5.86	0.01	0.536	0.004	50.4	4.1	1.34	0.06	9.6	1.8	17.42	0.12	225	8.41
1246	X		5.87	0.01	0.534	0.002	54.6	4.2	1.24	0.10	9.2	0.4	17.59	0.17	225	8.41
1251	X		5.87	0.0	0.533	0.001	55.3	0.7	1.13	0.11	8.8	0.4	17.56	0.03	225	8.41
1256		X	5.87	0.0	0.532	0.001	56.0	0.7	1.09	0.04	8.6	0.2	17.56	0.0	225	8.41

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M8MW23

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-8-GW-M8MW23

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1256	(3) VOA's w/ HCl	clear w/ brown tint	8.6	
Lead	↓	1) 250 mL PP w/ HNO3	↓	↓	
Pesticides	↓	2) 100 mL GA unpreserved	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

Form LFPS -GW.xls

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** RMBMW24

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-8
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: ~~N/A~~ MiniRAE (JC)

DATE: 8/19/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex D'Ianno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~~—~~ 0.0 (JC)
WELL DEPTH (TOC): 40.98
FEET OF WATER IN WELL: 22.18

SCREENED INTERVAL (TOC): 15.55 - 40.98 (2.55' SU)
PUMP INTAKE DEPTH (ft below TOC): 30.70'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 18.80'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1019	X		6.07	NA	0.666	NA	50.6	NA	8.51	NA	2.8	NA	17.26	NA	~~125~~	~~18.97~~ 7
1024	X		6.00	0.07	0.660	0.006	26.0	24.6	2.45	6.06	1.7	1.1	15.25	2.01	125	18.97
1029	X		6.02	0.02	0.660	0.0	19.4	6.6	1.92	0.53	1.7	0.0	15.16	0.09	125	18.97
1034	X		6.05	0.03	0.658	0.002	13.1	6.3	1.60	0.32	1.8	0.1	15.06	0.10	125	18.97
1039	X		6.07	0.02	0.664	0.006	9.4	6.4	1.42	0.18	1.8	0.0	15.03	0.03	125	18.97
1044	X		6.08	0.01	0.664	0.0	6.7	2.7	1.38	0.04	1.8	0.0	15.00	0.03	125	18.97
1049	X		6.09	0.01	0.668	0.004	3.5	3.2	1.30	0.08	1.8	0.0	15.00	0.0	125	18.97
1054	X		6.09	0.0	0.670	0.002	2.1	1.4	1.28	0.02	1.8	0.0	14.86	0.14	125	18.97
1059		X	6.10	0.01	0.668	0.002	0.7	1.4	1.24	0.04	1.8	0.0	14.93	0.07	125	18.97

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: RM8MW24

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-8-GW-RM8MW24

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's ETC's	1059	3) VOA's w/ HCL	clear	1.8	
Pesticides	↓	2) 1000mL GA unpreserved	↓	↓	
Lead	↓	1) 250mL poly w/ HNO3	↓		

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX F: FTMM-12 Landfill

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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

LIST OF FIGURES

Figure No.	Title
1	Layout of FTMM-12

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-12 GROUNDWATER MONITORING

Groundwater samples were collected from 16 monitoring wells located at the FTMM-12 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program consisted of measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted between August 20 and August 23, 2013. Groundwater samples were analyzed for lead via United States Environmental Protection Agency (USEPA) Method SW6010C. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESMENT

Monitoring wells located within FTMM-12 were gauged on August 7 and August 8, 2013. Groundwater elevations in monitoring wells ranged from 1.37 (M12MW19) to 5.92 (M12MW24) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Additionally, monitoring wells within FTMM-12 were assessed for their physical integrity at the time of groundwater gauging. Site monitoring wells were found to be in good condition, and several wells had tubing staged within the well casing.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From June 1997 through November 2004, FTMM-12 monitoring wells were sampled for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. From February 2004 to August 2010 wells were sampled primarily for metals.

From September 2010 to May 2011 the last four rounds of groundwater sampling were conducted at FTMM-12, solely for metals and were carried out on a quarterly basis. Historically, several metals including aluminum, antimony, arsenic, beryllium, iron, lead, manganese, selenium and sodium were detected at concentrations greater than their respective New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standard (GWQS). Historical groundwater analytical results are presented in **Table 2.**

Arsenic, manganese, selenium and sodium were detected above their respective background concentration established in the 1995 Weston Report. The background concentration for sodium however is lower than the NJDEP GWQS. Manganese is a common metal detected at high concentrations in groundwater throughout FTMM, this is most likely due to the

abundance of manganese in sediments that underlie the site and not attributable to site contamination. Arsenic and selenium are not related to historical site use and are therefore considered solely background analytes. .

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event were analyzed for lead. Lead was not detected above its NJDEP GWQS in the samples collected from FTMM-12 monitoring wells. Groundwater analytical results for this event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Due to the absence of exceedances of the NJDEP GWQS in FTMM-12 monitoring wells during the August 2013 Baseline Groundwater Sampling Event, and only anomalous historical exceedances, it is recommended that sampling be discontinued at FTMM-12. **Table 4** presents the matrix used to determine the recommendations for this site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-12
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC	Gauged DTB (ft) TOC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-12 Landfill															
M12MW11	E201010531	539010.213	620708.187	20.00	15.00	5-20	11.59	8-7-13	1612	0.0	8.70	22.19	2.89	8/20/2013	1525
M12MW12	E201010532	539446.768	620984.773	20.00	15.00	5-20	8.13	8-7-13	1558	0.0	4.80	22.15	3.33	8/21/2013	1140
M12MW13	E201010533	539408.034	621318.057	20.00	15.00	5-20	10.58	8-7-13	1543	0.0	5.50	22.20	5.08	8/21/2013	1540
M12MW14	E201007330	539133.332	621032.886	20.00	15.00	5-20	14.10	8-7-13	1608	0.0	8.37	21.88	5.73	8/21/2013	937
M12MW15	E201007331	539266.819	621404.003	20.00	15.00	5-20	12.49	8-7-13	1453	0.0	6.58	21.70	5.91	8/21/2013	1342
M12MW16	29-32576	539498.292	621162.664	14.50	10.00	4.5-14.5	7.04	8-7-13	1555	0.0	3.89	17.06	3.15	8/23/2013	1233
M12MW17	29-32577	539365.294	620884.499	14.50	10.00	4.5-14.5	6.69	8-7-13	1600	0.0	3.65	17.04	3.04	8/21/2013	1315
M12MW18	29-32578	539599.924	621247.334	14.50	10.00	4.5-14.5	5.53	8-7-13	1551	0.0	3.06	17.00	2.47	8/21/2013	930
M12MW19	29-41779	539156.543	620648.632	18.00	15.00	3-18	10.24	8-7-13	1630	0.0	8.87	20.15	1.37	8/20/2013	1527
M12MW20	29-41780	539162.910	620391.800	18.00	15.00	3-18	8.41	8-8-13	1115	0.0	6.35	20.50	2.06	8/20/2013	1218
M12MW21	29-41781	539113.568	620111.479	18.00	15.00	3-18	8.32	8-8-13	1108	0.0	4.59	20.21	3.73	8/20/2013	937
M12MW22	29-41782	539069.196	619927.574	18.00	15.00	3-18	10.47	8-8-13	1102	0.0	6.25	20.00	4.22	8/22/2013	908
M12MW23	29-41783	538964.114	620174.773	18.00	15.00	3-18	7.62	8-7-13	1621	0.0	5.25	19.20	2.37	8/21/2013	1512
M12MW24	29-41784	538958.169	620429.594	18.00	15.00	3-18	13.17	8-7-13	1617	0.0	7.25	21.85	5.92	8/21/2013	1221
M12MW25	E201008227	539160.985	620513.748	18.50	15.00	3.5-18.5	11.56	8-8-13	1120	0.0	9.68	20.87	1.88	8/20/2013	1401
M12MW26	29-41856	539161.843	620234.751	18.00	15.00	3-18	8.30	8-8-13	1112	0.0	5.87	19.60	2.43	8/20/2013	1057

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
LFPS - low flow purging and sampling
TOC= Top of Casing
ft. AMSL = feet above means sea level

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	M12MW11					M12MW12					M12MW13				M12MW14				
				LF1	LF2	LF3	LF4	LF5	LF1	LF2	LF3	LF4	LF5	LF1	LF2	LF3	LF4	LF1	LF2	LF3	LF4	LF5
Date Collected				10/7/2010	10/22/2010	12/7/2010	3/1/2011	5/9/2011	10/8/2010	10/22/2010	11/30/2010	3/2/2011	5/9/2011	10/8/2010	11/30/2010	3/1/2011	5/9/2011	8/20/2010	10/22/2010	12/8/2010	3/3/2011	5/10/2011
ANALYTE/Lab ID				1043301	1045604	1053205	1107403	1119807	1043701	1045605	1052005	1107608	1119806	1043702	1052004	1107407	1119808	10357.01	1045606	1053405	1108101	1119903
Metals (µg/L)																						
Aluminum	200	NLE	121000	7630	2680	1440	4700	4220	1030	819	1050	<200	202	1420	951	987	458	393	774	<13	<200	1570
Antimony	6	6	20.70	5.98 ER	7.98 ER	5.35 ER	<6.0	<6.0	ND	ND	<4.7	<6.0	<6.0	5.24 ER	7.1 ER	<6.0	<6.0	ND	10	<4.7	<6.0	<6.0
Arsenic	3	10	89.30	ND	1.48 ER	3.56 ER	<3.0	<3.0	3.23 ER	1.06 ER	1.86 ER	<3.0	<3.0	ND	1.89 ER	<3.0	<3.0	0.68 ER	0.71 ER	4.84 ER	8.1	145
Barium	6000	2000	699.00	222	192	182	214	<200	272	266	278	<200	1360	223	252	317	<200	83.6	212	27	<200	<200
Beryllium	1	4	2.10	1.42	0.947	0.685	1	1.2	0.761	1.02	1.19	<1.0	<1.0	0.526	0.631	<1.0	<1.0	0.8	0.466 ER	<0.4	<1.0	<1.0
Cadmium	4	5	9.50	3.76	2.29	2.15	<3.0	<3.0	0.827 ER	0.789 ER	0.921 ER	<3.0	<3.0	1.43 ER	1 ER	<3.0	<3.0	0.68 ER	0.771 ER	1.02 ER	<3.0	<3.0
Calcium	NLE	NLE	45400.00	62100	58600	51900	50700	36400	21300	19200	18500	22100	17400	54200	64400	61100	20100	29800	57200	26500	23900	13700
Chromium	70	100	191.00	ND	ND	<0.6	<10	<10	ND	ND	<0.6	<10	<10	ND	<0.6	<10	<10	ND	ND	<0.6	<10	<10
Cobalt	NLE	NLE	18.30	30.4	17.3	10.8	<50	<50	4.64	4.35	4.85	<50	<50	16.6	7.3	<50	<50	8.07	9.86	0.575 ER	<50	<50
Copper	1300	1300	65.60	4.43 ER	1.82 ER	<0.8	<10	<10	ND	ND	<0.8	<10	<10	ND	<0.8	<10	<10	3.46 ER	ND	<0.8	<10	<10
Iron	300	NLE	431000	2790	5680	4760	609	855	9680	7280	4160	6000	21300	9410	3380	1840	5230	2600	5600	14400	15000	33100
Lead	5	15	22.70	ND	ND	<2.1	<3.0	<3.0	4.95 ER	4.81 ER	3.66 ER	<3.0	<3.0	ND	<2.1	<3.0	<3.0	ND	ND	3.27 ER	<3.0	<3.0
Magnesium	NLE	NLE	62700	19900	16500	14800	18300	14900	10900	10400	10600	7510	6420	14000	16100	16900	6440	9370	14300	4810	<5000	<5000
Manganese	50	NLE	331	378	284	238	310	242	100	78.6	74.6	125	197	240	239	256	89.3	114	213	170	169	129
Mercury	2	2	0.26	ND	ND	<0.254	<0.20	<0.20	ND	ND	<0.254	<0.2	<0.20	ND	<0.254	<0.20	<0.20	ND	ND	<0.254	<0.20	<0.20
Nickel	100	NLE	187	65.8	44	29.7	36.5	29.1	13.9	12.5	13.6	<10	<10	41.6	33.5	40.8	<10	28.9	36	10.9	24.1	<10
Potassium	NLE	NLE	137000	10100	9680	9860	<10000	<10000	8530	7820	8180	<10000	<10000	13600	16300	13500	<10000	4500	15500	4160	<10000	<10000
Selenium	40	50	29.60	ND	ND	1.38 ER	<10	<10	ND	ND	<1.36	<10	<10	ND	<1.36	<10	<10	57.2	1.37 ER	1.98 ER	<10	<10
Silver	40	NLE	ND	2.36 ER	1.13 ER	1.06 ER	<10	<10	ND	ND	1.39 ER	<10	<10	ND	<0.6	<10	<10	0.732 ER	1.19 ER	2.41 ER	<10	<10
Sodium	50000	NLE	21500	115000	102000	96100	155000	145000	38500	38300	38200	40300	45100	97400	125000	157000	170000	52200	96700	15900	24000	44800
Thallium	2	2	5.50	ND	ND	<0.53	<2.0	<2.0	ND	ND	<0.53	<2.0	<2.0	ND	<0.53	<2.0	<2.0	ND	ND	<0.53	<2.0	<2.0
Vanadium	NLE	NLE	108	1.09 ER	ND	<0.5	<50	<50	1.75 ER	ND	<0.5	<50	<50	1.89 ER	0.59 ER	<50	<50	ND	ND	<0.5	<50	<50
Zinc	2000	NLE	233	251	169	138	257	230	126	93.6	95.6	<20	<20	105	89.2	124	39.7	54.7	89.6	9.05 ER	27.2	23.7

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.
NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level
LF = Low flow sampling method used to collect sample
< = the analyte was not detected above the indicated reporting limit
ER = Estimated result
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

				M12MW15				M12MW16													
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF3	LF4	46	46 Dup	47	48	48 Dup	49	49 Dup	50	51	52	53	54	LF1	LF2
Date Collected				8/20/2010	12/8/2010	3/1/2011	5/9/2011	3/7/2008	3/7/2008	5/15/2008	8/7/2008	8/7/2008	10/27/2008	10/27/2008	3/13/2009	6/25/2009	9/8/2009	11/18/2009	2/4/2010	6/4/2010	9/9/2010
ANALYTE/Lab ID				10357.02	1053404	1107404	1119809	80074.03	80074.02	80165.03	80286.03	80286.02	80390.03	80390.02	90109.03	90263.01	90370.03	90451.03	10049.03	10235.04	10382.08
Metals (µg/L)																					
Aluminum	200	NLE	121000	2370	5030	235	8590	ND	ND	ND	ND	ND	ND	ND	144	155	779	607	253	85.8 ER	112
Antimony	6	6	20.70	10.2	7.86	<6.0	<6.0	ND	ND	ND	ND	ND	1.39 ER	ND	12.8	2.31 ER	ND	ND	ND	7.81 ER	12.8
Arsenic	3	10	89.30	0.68 ER	4.83	<3.0	5.7	45.1	40.8	23.3	22	21.6	43.5	58.7	84.2	57.5	55	39.1	25.3	19.92	47.03
Barium	6000	2000	699.00	305	89.1	311	<200	110	113	53	118	118	286	282	102	97.8	205	213	84.9	69.3	135
Beryllium	1	4	2.10	0.815	<0.4	<1.0	<1.0	0.182 ER	0.173 ER	ND	0.131 ER	0.155 ER	1.03	1.37	0.109 ER	0.246 ER	0.651	0.628	0.106 ER	0.169 ER	0.231 ER
Cadmium	4	5	9.50	2.42	1.27	<3.0	<3.0	ND	ND	2.84	3.11	2.91	ND	ND	ND	0.441 ER	2.08	ND	ND	1.41 ER	2.46
Calcium	NLE	NLE	45400.00	59800	9460	32000	11600	17700	17700	17700	17700	17700	17700	17700	35800	39200	33400	41200	22700	25300	25800
Chromium	70	100	191.00	ND	32.5	<10	43.9	1.88 ER	1.85 ER	2.02 ER	0.901 ER	0.746 ER	0.732 ER	1.92 ER	1.82 ER	1.84 ER	ND	ND	ND	ND	1.78 ER
Cobalt	NLE	NLE	18.30	14.1	2.39	<50	<50	ND	ND	ND	ND	ND	ND	ND	0.336	1.07	2.85	3.49	0.793 ER	ND	1.47 ER
Copper	1300	1300	65.60	4.93 ER	13.7	<10	30.2	4.66 ER	4.29 ER	ND	ND	ND	ND	ND	ND	0.979 ER	ND	ND	ND	ND	ND
Iron	300	NLE	431000	5950	9340	119	16400	23300	23300	23300	23300	23300	23300	23300	53600	48100	38400	38300	31200	44500	50600
Lead	5	15	22.70	3.19 ER	8.27	<3.0	10.6	ND	ND	2.66 ER	2.97 ER	1.86 ER	ND	ND	10.2	ND	ND	ND	2.58 ER	ND	5.31
Magnesium	NLE	NLE	62700	20300	4970	7380	7340	5880	5880	5880	5880	5880	5880	5880	17400	16600	20800	23300	11500	12300	16600
Manganese	50	NLE	331	338	77.7	97.3	135	124	124	124	124	124	124	124	196	181	140	184	114	136	115
Mercury	2	2	0.26	ND	<0.254	<0.20	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.09 ER	0.19 ER
Nickel	100	NLE	187	ND	14.9	34	20.7	7.2	6.92	0.934 ER	3.59 ER	3.43 ER	11.6	10.2	ND	2.55 ER	6.95	10.6	4.14 ER	1.98 ER	3.75 ER
Potassium	NLE	NLE	137000	12400	6070	<10000	<10000	2000	2000	2000	2000	2000	2000	2000	4110	4940	5990	6000	3410	4470	5920
Selenium	40	50	29.60	83.8	2.86	<10	<10	ND	ND	ND	ND	ND	ND	ND	29.6	13.4	20.8	ND	ND	NR	ND
Silver	40	NLE	ND	ND	<0.6	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	0.994	NA	ND	ND	7.37	7.22
Sodium	50000	NLE	21500	200000	112000	558000	118000	7680	7680	7680	7680	7680	7680	7680	22500	26600	52600	68100	26000	26200	60800
Thallium	2	2	5.50	ND	<0.53	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	NLE	NLE	108	ND	21	<50	<50	NA	NA	NA	NA	NA	NA	NA	8.2	2.16 ER	7.24	8.69	5.54	ND	ND
Zinc	2000	NLE	233	108	50.3	31.5	80.3	NA	NA	NA	NA	NA	NA	NA	24.6	18.2 ER	71.1	56.2	27.5 ER	ND	13.7 ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.

NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

< = the analyte was not detected above the indicated reporting limit

ER = Estimated result

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

								M12MW17																	
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF3		LF4	LF5	46		47		47 Dup		48		49		50		50 Dup		51		52		53	
Date Collected				11/30/2010		3/2/2011	5/9/2011	3/7/2008		5/15/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009		3/13/2009		6/8/2009		9/8/2009		11/18/2009	
ANALYTE/Lab ID				1052003		1107609	1119804	80074.04		80165.04		80165.02		80286.04		80390.04		90109.04		90109.02		90221.04		90370.04		90451.04	
Metals (µg/L)																									
Aluminum	200	NLE	121000	<13		<200	<200	ND		ND		ND		ND		ND		ND		ND		ND		20.3	ER	ND	
Antimony	6	6	20.70	<4.7		<6.0	<6.0	ND		ND		ND		ND		ND		15.6		10.9		3.95	ER	ND		ND	
Arsenic	3	10	89.30	25.22		21.2	15.5	ND		ND		ND		ND		ND		83		80.6		27.7		21.6		0.77	ER
Barium	6000	2000	699.00	70.5		<200	<200	33.2		73		72.2		114		42.6		112		117		122		80.7		39.3	
Beryllium	1	4	2.10	<0.4		<1.0	<1.0	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cadmium	4	5	9.50	1.58	ER	<3.0	<3.0	ND		1.37	ER	1.36	ER	2.1		0.294	ER	ND		ND		ND		1.54	ER	ND	
Calcium	NLE	NLE	45400.00	47600		46100	41900	45700		45700		45700		45700		45700		46500		46900		43000		48500		51600	
Chromium	70	100	191.00	<0.6		<10	<10	0.24	ER	0.486	ER	0.679	ER	ND		ND		ND		1.01	ER	ND		ND		ND	
Cobalt	NLE	NLE	18.30	<0.3		<50	<50	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Copper	1300	1300	65.60	<0.8		<10	<10	4.31	ER	ND		ND		ND		ND		ND		ND		1.29	ER	ND		ND	
Iron	300	NLE	431000	29100		58700	43400	5230		5230		5230		5230		5230		22300		25900		20600		15100		8650	
Lead	5	15	22.70	3.88	ER	<3.0	<3.0	ND		ND		ND		1.83	ER	ND		6.17		4.44	ER	2.55	ER	ND		ND	
Magnesium	NLE	NLE	62700	16600		17200	14500	2450		2450		2450		2450		2450		5150		5290		5410		5080		4040	
Manganese	50	NLE	331	255		289	240	64.3		64.3		64.3		64.3		64.3		176		182		167		132		78.1	
Mercury	2	2	0.26	<0.254		<0.20	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	0.953	ER	<10	<10	3.54	ER	ND		ND		ND		ND		ND		1.55	ER	ND		ND		ND	
Potassium	NLE	NLE	137000	5520		<10000	<10000	3810		3810		3810		3810		3810		3610		3610		3850		4100		4530	
Selenium	40	50	29.60	<1.36		<10	<10	ND		ND		ND		ND		ND		72.7		70.8		ND		36.7		ND	
Silver	40	NLE	ND	6.23		<10	<10	ND		ND		ND		ND		ND		ND		ND		0.597		ND		ND	
Sodium	50000	NLE	21500	49900		31400	37700	5710		5710		5710		5710		5710		21000		22200		21800		19300		18000	
Thallium	2	2	5.50	<0.53		<2.0	<2.0	ND		ND		ND		ND		1.69	ER	ND		ND		ND		ND		ND	
Vanadium	NLE	NLE	108	1.77	ER	<50	<50	ND		ND		ND		ND		ND		1.97		2.78		0.753		2.19	ER	2.32	ER
Zinc	2000	NLE	233	<2.5		<20	<20	9.72		9.72		9.72		9.72		9.72		5.73		6.29		3.29		4.91	ER	2.88	ER

								M12MW17																	
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	54		LF1		LF1 Dup		LF2		LF3		LF4											
Date Collected				2/4/2010		6/2/2010		6/2/2010		9/8/2010		11/26/2010		3/2/2011											
ANALYTE/Lab ID				10049.04		10226.03		10226.02		10379.04		1051301		1107607											
Metals (µg/L)																									
Aluminum	200	NLE	121000	44.6	ER	ND		ND		ND		<13		<200											
Antimony	6	6	20.70	ND		7.94	ER	5.34	ER	16.1		<4.7		<6.0											
Arsenic	3	10	89.30	0.66	ER	ND		ND		0.67	ER	<0.62		<3.0											
Barium	6000	2000	699.00	33.2		4.53	ER	4.64	ER	4.35	ER	4.33	ER	<200											
Beryllium	1	4	2.10	ND		ND		ND		ND		<0.4		<1.0											
Cadmium	4	5	9.50	ND		ND		ND		ND		<0.4		<3.0											
Calcium	NLE	NLE	45400.00	27100		46300		49200		45200		46400		41200											
Chromium	70	100	191.00	ND		ND		ND		ND		<0.6		<10											
Cobalt	NLE	NLE	18.30	ND		ND		ND		ND		<0.3		<50											
Copper	1300	1300	65.60	ND		ND		ND		ND		<0.8		<10											
Iron	300	NLE	431000	6830		ND		ND		ND		24.3		<100											
Lead	5	15	22.70	ND		ND		ND		ND		<2.1		<3.0											
Magnesium	NLE	NLE	62700	2370		2270		2330		2170		2090		<5000											
Manganese	50	NLE	331	64.6		7.83		7.64		7.3		7.55		<15											
Mercury	2	2	0.26	ND		ND		ND		0.06	ER	<0.254		<0.2											
Nickel	100	NLE	187	0.996	ER	ND		ND		ND		<0.7		<10											
Potassium	NLE	NLE	137000	2890		4620		4900		4320		8610		<10000											
Selenium	40	50	29.60	ND		NR		NR		ND		<1.36		<10											
Silver	40	NLE	ND	ND		ND		ND		ND		<0.6		<10											
Sodium	50000	NLE	21500	9520		6560		6000		5060		4740	ER	<10000											
Thallium	2	2	5.50	ND		1.76	ER	ND		ND		<0.53		<2.0											
Vanadium	NLE	NLE	108	2	ER	ND		ND		ND		0.562	ER	<50											
Zinc	2000	NLE	233	2.31	ER	ND		ND		ND		<2.5		<20											

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.

NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

< = the analyte was not detected above the indicated reporting limit

ER = Estimated result

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

				M12MW18																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF5	46		47		48		49		50		51		51 Dup		52		52 Dup		53		53 Dup		54		54 Dup		LF1		LF2	
Date Collected				5/9/2011	3/7/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009		6/8/2009		6/8/2009		9/8/2009		9/8/2009		11/18/2009		11/18/2009		2/4/2010		2/4/2010		6/2/2010		9/8/2010	
ANALYTE/Lab ID				1119805	80074.05		80165.05		80286.05		80390.05		90109.05		90221.05		90221.02		90370.05		90370.02		90451.05		90451.02		10049.05		10049.02		10226.04		10379.03	
Metals (µg/L)																																	
Aluminum	200	NLE	121000	<200	136		136		136		136		200		951		985		872		873		1040		1060		673		652		600		562	
Antimony	6	6	20.70	<6.0	ND		ND		ND		ND		15.5		2.89	ER	2.53	ER	ND		ND		ND		ND		ND		ND		ND		5.49	ER
Arsenic	3	10	89.30	<3.0	ND		ND		ND		ND		32.3		14.3		14.7		9.26		6.83		1.11	ER	ND		ND		0.88	ER	ND		1.2	ER
Barium	6000	2000	699.00	<200	424		313		314		316		280		232		238		239		239		256		258		146		140		137		169	
Beryllium	1	4	2.10	<1.0	1.11		0.87		0.823		0.94		0.809		0.746		0.767		0.767		0.792	ER	0.801		0.819	ER	0.446	ER	0.437	ER	0.554		0.655	
Cadmium	4	5	9.50	<3.0	1.18	ER	0.946	ER	1.26	ER	1.05	ER	0.745	ER	0.633	ER	0.7	ER	0.739	ER	0.627	ER	ND		ND		ND		ND		ND		0.749	ER
Calcium	NLE	NLE	45400.00	42700	ND		ND		ND		ND		16300		15200		15500		14900		14800		16500		16500		9660		9210		10900		11600	
Chromium	70	100	191.00	<10	0.417	ER	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cobalt	NLE	NLE	18.30	<50	ND		ND		ND		ND		2.32		2.07		2.02		2.39		2.46		2.23		2.69		1.06	ER	1.28	ER	1.57	ER	1.62	ER
Copper	1300	1300	65.60	<10	7.92		3.09	ER	1.63	ER	ND		0.846	ER	2.34	ER	2.41	ER	2.53	ER	2.92	ER	ND		ND		2.16	ER	1.16	ER	ND		2.26	ER
Iron	300	NLE	431000	17900	ND		ND		ND		ND		139		151		218	ER	198		197	ER	173	ER	254	ER	188	ER	248	ER	123	ER	256	ER
Lead	5	15	22.70	<3.0	ND		ND		ND		ND		5.67		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Magnesium	NLE	NLE	62700	<5000	ND		ND		ND		ND		10000		9200		9360		9190		9190		9840		9960		5720		5480		6740		7270	
Manganese	50	NLE	331	176	ND		ND		ND		ND		38.7		36.5		37.1		37.1		37.2		37.8		38.7		23		22.3		26		28.5	
Mercury	2	2	0.26	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	<10	15.2		10.3		9.39		8.75		6.77		8.67		8.85		7.06		7.25		9.12		9.03		6.3		6.26		5.44		5.66	
Potassium	NLE	NLE	137000	<10000	ND		ND		ND		ND		7270		7610		7640		7620		7490		8010		8070		5020		4940		7020		7130	
Selenium	40	50	29.60	<10	ND		5.85	ER	5.05	ER	ND		63.7		ND		ND		27		18		9.05	ER	ND		ND		ND		NR		ND	
Silver	40	NLE	ND	<10	ND		ND		ND		ND		ND		ND		ND		0.677	ER	0.843	ER	0.514		ND		0.877	ER	ND		ND		ND	
Sodium	50000	NLE	21500	24100	ND		ND		ND		ND		41200		36900		37100		37700		37800		45600		44700		26200		25500		35200		37200	
Thallium	2	2	5.50	<2.0	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1.94	ER	ND	
Vanadium	NLE	NLE	108	<50	ND		ND		ND		ND		1.19		0.547	ER	0.372	ER	ND		ND		0.627	ER	0.79	ER	1.15	ER	0.709	ER	ND		ND	
Zinc	2000	NLE	233	21.4	28.4		28.4		28.4		28.4		66.9		69.7		70.1		74.3		73.9		70.8		72.3		42.7	ER	41.8	ER	50.2		55.9	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.

NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

< = the analyte was not detected above the indicated reporting limit

ER = Estimated result

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

								M12MW19																
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF2 Dup		LF3		LF4	LF5	36		37		38		39		40		41		42		43		44		44 Dup		LF1		LF2		LF3		LF4	LF5
Date Collected				9/8/2010		11/26/2010		3/2/2011	5/9/2011	3/7/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009		6/8/2009		9/8/2009		11/18/2009		2/5/2010		2/5/2010		6/2/2010		9/8/2010		11/26/2010		3/2/2011	5/9/2011
ANALYTE/Lab ID				10379.02		1051302		1107610	1119803	80074.06		80165.06		80286.06		80390.06		90109.06		90221.06		90370.06		90451.06		10052.03		10052.02		10226.05		10379.05		1051503		1107606	1119810
Metals (µg/L)																																			
Aluminum	200	NLE	121000	578		663		718	745	320		320		320		320		2610		574		211		24.9	ER	161		85.6	ER	ND		ND		<13		<200	<200
Antimony	6	6	20.70	8.99	ER	<4.7		<6.0	<6.0	ND		ND		2.89	ER	ND		16.5		4.52	ER	ND		ND		ND		ND		4.91	ER	13.7		5.77	ER	<6.0	<6.0
Arsenic	3	10	89.30	0.99	ER	<0.62		<3.0	<3.0	ND		ND		ND		ND		91.1		28.3		25.4		0.99	ER	0.69	ER	ND		ND		0.97	ER	<0.62		<3.0	<3.0
Barium	6000	2000	699.00	169		169		<200	<200	9.88		27.4		12.3		11.8		9.24		8.72		7.92		16.9		3.43	ER	2.8	ER	5.81		6.08		6.35		<200	<200
Beryllium	1	4	2.10	0.651		0.767	ER	<1.0	<1.0	ND		ND		ND		ND		1.15		0.124	ER	ND		ND		ND		ND		ND		ND		<0.4		<1.0	<1.0
Cadmium	4	5	9.50	ND		0.671	ER	<3.0	<3.0	0.301	ER	0.374	ER	ND		0.88	ER	0.836	ER	0.219	ER	ND		ND		ND		ND		ND		ND		ND		<0.4		<3.0	<3.0
Calcium	NLE	NLE	45400.00	11700		12000		11400	10300	ND		ND		ND		ND		48000		48500		41200		70400		15000		13200		39200		42800		42400		37700	57400
Chromium	70	100	191.00	ND		0.665	ER	<10	<10	0.215	ER	1.06	ER	ND		0.544	ER	1.07	ER	0.539	ER	ND		ND		ND		ND		ND		ND		ND		<0.6		<10	<10
Cobalt	NLE	NLE	18.30	1.46	ER	1.97	ER	<50	<50	ND		ND		ND		ND		ND		0.236	ER	ND		ND		ND		ND		ND		ND		ND		<0.3		<50	<50
Copper	1300	1300	65.60	ND		0.826	ER	<10	<10	2.91	ER	10.9		ND		3.57	ER	404		9.91		1.07	ER	ND		ND		ND		ND		ND		ND		<0.8		<10	<10
Iron	300	NLE	431000	207	ER	120		216	457	ND		ND		ND		ND		62.9		583		200	ER	3850		ND		ND		ND		262	ER	<132		417	2580
Lead	5	15	22.70	ND		<2.10		<3.0	<3.0	ND		ND		ND		ND		18		1.57	ER	ND		ND		ND		ND		ND		ND		<2.10		<3.0	<3.0
Magnesium	NLE	NLE	62700	7370		6910		6800	5830	ND		ND		ND		ND		4040		4050		3520		6370		1250		1110		3330		3540		3300		<5000	<5000
Manganese	50	NLE	331	28.3		28.5		32	28.3	ND		ND		ND		ND		28.8		28.1		23.4		104		9.05		7.84		16.2		17.2		17.8		16.9	69.3
Mercury	2	2	0.26	ND		<0.254		<0.2	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.12	ER	<0.254		<0.2	<0.20
Nickel	100	NLE	187	5.52		6.77		<10	<10	5.28		23.8		1.72	ER	0.775	ER	ND		3.41	ER	ND		3.05	ER	ND		ND		ND		ND		ND		<0.7		<10	<10
Potassium	NLE	NLE	137000	7040		9330		<10000	<10000	ND		ND		ND		ND		5930		6280		5240		6720		2940		2850		5200		5630		5620		<10000	<10000
Selenium	40	50	29.60	ND		<1.36		<10	<10	ND		7.82	ER	8.01	ER	ND		79.5		ND		36.6		ND		19.9	ER	22.1		NR		ND		<1.36		<10	<10
Silver	40	NLE	ND	ND		<0.6		<10	<10	NA		NA		NA		NA		ND		ND		1.67	ER	1.33	ER	1.48	ER	1.48	ER	ND		ND		<0.6		<10	<10
Sodium	50000	NLE	21500	38200		40700		43400	40100	NA		NA		NA		NA		2130		3810	ER	3930	ER	17200		2480	ER	2350	ER	5720		3970	ER	4840	ER	<10000	<10000
Thallium	2	2	5.50	ND		<0.53		<2.0	<2.0	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.72	ER	ND		<0.53		<2.0	<2.0
Vanadium	NLE	NLE	108	ND		<0.5		<50	<50	NA		NA		NA		NA		0.475		1.03	ER	0.796	ER	2.08	ER	ND		ND		ND		ND		<0.5		<50	<50
Zinc	2000	NLE	233	55.7		53.9		61.8	59.9	NA		NA		NA		NA		460		102		29.4		17.6	ER	34.9	ER	20	ER	ND		11.4	ER	<2.5		25.8	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	M12MW20																					
				36		37		38		39		40		41		42		43		44		LF1		LF2		LF3	
Date Collected				3/7/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009		6/8/2009		9/8/2009		11/18/2009		2/4/2010		6/2/2010		9/8/2010		11/26/2010	
ANALYTE/Lab ID				80074.07		80165.07		80286.07		80390.07		90109.07		90221.07		90370.07		90451.07		10049.06		10226.06		10379.06		1051504	
Metals (µg/L)																									
Aluminum	200	NLE	121000	ND		ND		ND		ND		ND		ND		13.3		ND		44	ER	ND		ND		<13	
Antimony	6	6	20.70	ND		ND		ND		ND		18		1.48	ER	ND		ND		ND		ND		13.3		<4.7	
Arsenic	3	10	89.30	3.11	ER	ND		ND		ND		87.4		27		25		0.8	ER	1.17	ER	ND		ND		0.94	ER
Barium	6000	2000	699.00	41.9		44		44.6		31		34.1		30.9		28.6		30.4		22		25.6		26.1		12.9	
Beryllium	1	4	2.10	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.4	
Cadmium	4	5	9.50	ND		0.979	ER	0.895	ER	0.391	ER	ND		ND		ND		ND		ND		ND		ND		<0.4	
Calcium	NLE	NLE	45400.00	ND		ND		ND		ND		46300		41300		41700		41700		25700		40700		41000		56000	
Chromium	70	100	191.00	0.494	ER	ND		0.359	ER	ND		ND		ND		ND		ND		ND		ND		ND		<0.6	
Cobalt	NLE	NLE	18.30	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.3	
Copper	1300	1300	65.60	7.78		0.953	ER	22.1		ND		ND		1.32	ER	ND		ND		1.75	ER	ND		ND		<0.8	
Iron	300	NLE	431000	ND		ND		ND		ND		4270		4200		2580		3660		3860		1400		1500		<132	
Lead	5	15	22.70	ND		ND		ND		ND		6.82		1.47	ER	ND		ND		ND		ND		4.09	ER	<2.10	
Magnesium	NLE	NLE	62700	ND		ND		ND		ND		4300		3930		4010		3910		2350		3920		3770		5000	
Manganese	50	NLE	331	ND		ND		ND		ND		48.9		38.4		36.6		37.5		22.5		33.3		33.1		19.1	
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.254	
Nickel	100	NLE	187	3.52	ER	0.538	ER	1.96	ER	ND		ND		ND		ND		0.632	ER	1.25	ER	ND		ND		<0.7	
Potassium	NLE	NLE	137000	ND		ND		ND		ND		6100		5850		5590		5590		3560		5870		5630		7810	
Selenium	40	50	29.60	ND		5.85	ER	4.86	ER	ND		86.4		ND		39.2		ND		ND		NR		ND		<1.36	
Silver	40	NLE	ND	ND		ND		ND		ND		ND		ND		0.574		ND		ND		ND		ND		<0.6	
Sodium	50000	NLE	21500	ND		ND		ND		ND		5280		4510	ER	4870		6580		3580	ER	5920		4140	ER	10600	
Thallium	2	2	5.50	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.53	
Vanadium	NLE	NLE	108	ND		ND		ND		ND		0.753		0.464	ER	0.931		1.54	ER	1.67	ER	ND		ND		<0.5	
Zinc	2000	NLE	233	25.9		25.9		25.9		25.9		14.5		4.6	ER	4.51		ND		4.72	ER	ND		1.35	ER	<2.5	

Round No.	LF2		LF3		LF4		LF5		36		37		38		39		40	
	9/8/2010		11/26/2010		3/2/2011		5/9/2011		3/7/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009	
ANALYTE/Lab ID	10379.06		1051504		1107603		1119811		80074.08		80165.08		80286.08		80390.08		90109.08	
Metals (µg/L)																		
Aluminum	ND		<13		<200		<200		ND		ND		ND		ND		ND	
Antimony	13.3		<4.7		<6.0		<6.0		ND		ND		ND		ND		11.8	
Arsenic	ND		0.94	ER	<3.0		<3.0		ND		ND		2.78	ER	ND		109	
Barium	26.1		12.9		<200		<200		61.3		57.1		43.7		55		71.6	
Beryllium	ND		<0.4		<1.0		<1.0		ND		ND		ND		ND		ND	
Cadmium	ND		<0.4		<3.0		<3.0		ND		0.727	ER	ND		0.321	ER	ND	
Calcium	41000		56000		39600		40100		ND		ND		ND		ND		67100	
Chromium	ND		<0.6		<10		<10		ND		ND		ND		ND		ND	
Cobalt	ND		<0.3		<50		<50		ND		ND		ND		ND		ND	
Copper	ND		<0.8		<10		<10		3.54	ER	ND		ND		ND		ND	
Iron	1500		<132		11100		41100		ND		ND		ND		ND		8750	
Lead	4.09	ER	<2.10		<3.0		<3.0		ND		ND		ND		ND		2.4	ER
Magnesium	3770		5000		<5000		<5000		ND		ND		ND		ND		6300	
Manganese	33.1		19.1		42.4		65.4		ND		ND		ND		ND		80.3	
Mercury	ND		<0.254		<0.2		<0.20		ND		ND		ND		ND		ND	
Nickel	ND		<0.7		<10		<10		3.22	ER	0.755	ER	1.04	ER	ND		ND	
Potassium	5630		7810		<10000		<10000		ND		ND		ND		ND		6530	
Selenium	ND		<1.36		<10		<10		ND		4.31	ER	6.04	ER	ND		106	
Silver	ND		<0.6		<10		<10		ND		ND		ND		ND		ND	
Sodium	4140	ER	10600		<10000		<10000		ND		ND		ND		ND		9680	
Thallium	ND		<0.53		<2.0		<2.0		ND		ND		ND		ND		ND	
Vanadium	ND		<0.5		<50		<50		ND		ND		ND		ND		1.64	
Zinc	1.35	ER	<2.5		<20		<20		13.8		13.8		13.8		13.8		ND	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.

NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

< = the analyte was not detected above the indicated reporting limit

ER = Estimated result

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

				M12MW21											M12MW22									
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	41	42	43	44	LF1	LF2	LF2 Dup	LF3	LF4	LF5	36	37	38	39	40	41	42	43	44	
Date Collected				6/8/2009	9/8/2009	11/18/2009	2/5/2010	6/3/2010	9/9/2010	9/9/2010	11/26/2010	03/01/11	05/09/11	3/7/2008	5/15/2008	8/7/2008	10/27/2008	3/13/2009	6/8/2009	9/8/2009	11/18/2009	2/5/2010	
ANALYTE/Lab ID				90221.08	90370.08	90451.08	10052.04	10234.04	10382.03	10382.02	1051505	1107409	1119812	80074.09	80165.09	80286.09	80390.09	90109.09	90221.09	90370.09	90451.09	10052.05	
Metals (µg/L)																							
Aluminum	200	NLE	121000	ND	16	126	227	ND	ND	ND	<13	<200	<200	ND	ND	ND	ND	80	140	134	ND	ND	
Antimony	6	6	20.70	6.2 ER	ND	7.79 ER	ND	8.59 ER	18.9	20.2	6.16 ER	<6.0	<6.0	ND	ND	ND	4.48 ER	11	4.28 ER	ND	ND	ND	
Arsenic	3	10	89.30	26.1	26.8	1.74 ER	1.1 ER	ND	1.3 ER	1.17 ER	1.1 ER	<3.0	<3.0	25.5	93.4	68.8	55.8	113	110	64.8	96.1	47.2	
Barium	6000	2000	699.00	65.1	56.7	64.3	50.5	50.6	57	60.9	54.9	<200	<200	42.5	50.3	60.8	45.9	50.9	50.8	50.3	52	24.2	
Beryllium	1	4	2.10	ND	ND	ND	ND	ND	ND	ND	<0.4	<1.0	<1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cadmium	4	5	9.50	ND	ND	ND	ND	ND	0.799 ER	0.776 ER	<0.4	<3.0	<3.0	ND	8.2	10.3	ND	ND	ND	4.34	ND	0.565 ER	
Calcium	NLE	NLE	45400.00	64500	61700	64700	36000	62600	65300	69600	65700	61900	66300	30900	30900	30900	30900	35800	39300	24900	41200	21900	
Chromium	70	100	191.00	ND	ND	ND	ND	ND	ND	ND	<0.6	<10	<10	0.362 ER	ND	0.84 ER	ND	ND	0.92 ER	ND	ND	ND	
Cobalt	NLE	NLE	18.30	ND	ND	ND	ND	ND	ND	ND	<0.3	<50	<50	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Copper	1300	1300	65.60	ND	ND	ND	ND	ND	ND	ND	<0.8	<10	<10	4.39 ER	ND	ND	ND	ND	ND	ND	ND	ND	
Iron	300	NLE	431000	13200	ND	10000	7090	6950	8590	9090	6940	18200	44700	124000	124000	124000	124000	94900	82500	98500	92900	44200	
Lead	5	15	22.70	3.45 ER	ND	ND	ND	ND	ND	ND	2.47 ER	<3.0	<3.0	ND	8.49	11.6	ND	12	ND	5.02	6.04	ND	
Magnesium	NLE	NLE	62700	6110	6150	6450	3830	6440	6860	7280	6670	6080	6110	8110	8110	8110	8110	10400	10200	8350	10600	5350	
Manganese	50	NLE	331	67.2	79.5	83.5	48.9	88	99.6	106	105	103	119	550	550	550	550	418	379	357	387	201	
Mercury	2	2	0.26	ND	ND	ND	ND	ND	0.18 ER	0.11 ER	<0.254	<0.2	<0.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nickel	100	NLE	187	ND	ND	0.644 ER	1.02 ER	ND	ND	ND	<0.7	<10	<10	2.08 ER	ND	1.38 ER	ND	ND	ND	ND	ND	ND	
Potassium	NLE	NLE	137000	6360	5950	6620	5090	6280	6570	6920	7610	<10000	<10000	3010	3010	3010	3010	4160	4560	4880	4460	2390	
Selenium	40	50	29.60	8.17 ER	44.9	ND	30.1	NR	ND	ND	<1.36	<10	<10	ND	ND	ND	ND	ND	3.39 ER	ND	ND	ND	
Silver	40	NLE	ND	ND	ND	ND	ND	ND	ND	ND	1.28 ER	<10	<10	ND	ND	ND	ND	ND	2.02 ER	ND	ND	ND	
Sodium	50000	NLE	21500	9320	8450	9080	6430	8560	7440	8500	7750	<10000	<10000	2000	2000	2000	2000	32800	32200	28800	33900	15600	
Thallium	2	2	5.50	ND	ND	ND	ND	ND	0.85 ER	ND	<0.53	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Vanadium	NLE	NLE	108	0.712 ER	1.44	2.45 ER	1.83 ER	ND	ND	ND	<0.5	<50	<50	ND	ND	ND	ND	7.7	1.61 ER	12.1	14.3	5.05	
Zinc	2000	NLE	233	ND	3.47	ND	2.92 ER	ND	ND	ND	<2.5	<20	<20	ND	ND	ND	ND	11	4.44 ER	5.55 ER	ND	3.56 ER	

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.
NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level
LF = Low flow sampling method used to collect sample
< = the analyte was not detected above the indicated reporting limit
ER = Estimated result
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

												M12MW23																		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1		LF1 Dup		LF2		LF3		LF4	LF5	36		37		38		39		40		41		42		43		44		LF1	
Date Collected				6/4/2010		6/4/2010		9/9/2010		12/7/2010		3/1/2011	5/10/2011	3/7/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009		6/8/2009		9/8/2009		11/18/2009		2/4/2010		6/4/2010	
ANALYTE/Lab ID				10235.03		10235.02		10382.07		1053203		1107408	##########	80074.1		80165.1		80286.1		80390.1		90109.1		90221.1		90370.1		90451.1		10049.07		10235.05	
Metals (µg/L)																															
Aluminum	200	NLE	121000	ND		ND		ND		<13		<200	<200	3940		3940		3940		3940		4650		1350		5130		1270		1460		3790	
Antimony	6	6	20.70	9.83	ER	11.8		17.7		<4.7		<6.0	<6.0	ND		ND		ND		ND		7.04	ER	3.14	ER	ND		ND		ND		6.75	ER
Arsenic	3	10	89.30	136		122		47.82		81.6		113	76.4	2.8	ER	ND		ND		2.6	ER	56.8		17.9		15		1.05	ER	ND		0.74	ER
Barium	6000	2000	699.00	48.8		51.6		43.6		54.6		<200	<200	44.9		46.8		31.8		40.8		36.5		46.7		31.6		57		27.7		70.3	
Beryllium	1	4	2.10	0.138	ER	0.143	ER	ND		<0.4		<1.0	<1.0	ND		ND		1.84		1.87		0.931		0.574		1.67		0.568		0.271	ER	1.23	
Cadmium	4	5	9.50	2.43		2.72		3.65		7.53		<3.0	<3.0	0.741	ER	0.634	ER	1.71	ER	2.27		1.14	ER	0.782	ER	1.95	ER	1.13	ER	ND		1.86	ER
Calcium	NLE	NLE	45400.00	49700		50400		28500		47000		65800	38700	ND		ND		ND		ND		23800		17700		25700		17700		9620		26900	
Chromium	70	100	191.00	ND		ND		ND		<0.6		<10	<10	1.71	ER	1.97	ER	1.6	ER	2.4	ER	1.17	ER	0.472	ER	ND		ND		2.59	ER	ND	
Cobalt	NLE	NLE	18.30	ND		ND		ND		<0.3		<50	<50	ND		ND		ND		ND		4.17		3.05		6.35		2.73		1.25	ER	7.36	
Copper	1300	1300	65.60	ND		ND		ND		<0.8		<10	<10	6.07		3.92	ER	5.99		3.82	ER	3.7	ER	2.63	ER	4.32	ER	ND		2.22	ER	3.41	ER
Iron	300	NLE	431000	72900		76600		74800		109000		105000	74000	ND		ND		ND		ND		133		236		273		85.4	ER	441	ER	520	
Lead	5	15	22.70	7		4.83	ER	7.19		14.5		<3.0	<3.0	ND		ND		ND		1.5	ER	4.83	ER	2.4	ER	ND		ND		ND		2.78	ER
Magnesium	NLE	NLE	62700	10900		11100		7600		11400		12700	8990	ND		ND		ND		ND		5410		4000		5770		4030		2530		6420	
Manganese	50	NLE	331	338		343		285		439		485	354	ND		ND		ND		ND		147		1.03		183		83.4		51.1		187	
Mercury	2	2	0.26	0.07	ER	0.07	ER	0.18	ER	<0.254		<0.2	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		0.07	ER
Nickel	100	NLE	187	0.65	ER	0.579	ER	ND		1.28	ER	<10	<10	10.7		7.95		29.9		30.8		20.1		16.7		25.7		18		10.8		32.4	
Potassium	NLE	NLE	137000	3240		3320		4170		5330		<10000	<10000	ND		ND		ND		ND		1970		2200		2970		2140		1560		2770	
Selenium	40	50	29.60	NR		NR		ND		<1.36		<10	<10	ND		3.94	ER	5.07	ER	ND		65.9		ND		30.2		10.9	ER	ND		NR	
Silver	40	NLE	ND	11.7		11.7		10.8		<0.6		<10	<10	ND		ND		ND		ND		ND		ND		1.43	ER	0.808	ER	0.617	ER	ND	
Sodium	50000	NLE	21500	29700		29400		24300		32700		31200	32100	ND		ND		ND		ND		25500		19800		32500		20800		13600		34100	
Thallium	2	2	5.50	ND		ND		ND		<0.53		<2.0	<2.0	ND		ND		ND		ND		ND		ND		ND		NA		ND		ND	
Vanadium	NLE	NLE	108	ND		ND		ND		<0.5		<50	<50	ND		ND		ND		ND		0.804		0.908		0.662	ER	0.839	ER	1.52	ER	0.711	ER
Zinc	2000	NLE	233	ND		ND		ND		<2.5		<20	<20	149		149		149		149		116		99.5		125		114		74.7		190	

												M12MW23																		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF2		LF3		LF4		36		37		38		39		40		41		42		43		44		LF1		LF2	
Date Collected				9/10/2010		12/7/2010		3/1/2011		3/7/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009		6/8/2009		9/8/2009		11/18/2009		2/4/2010		6/4/2010		9/10/2010	
ANALYTE/Lab ID				10384.01		1053203		1107405		80074.1		80165.1		80286.1		80390.1		90109.1		90221.1		90370.1		90451.1		10049.07		10235.05		10384.01	
Metals (µg/L)																														
Aluminum	200	NLE	121000	7780		483		1340		3940		3940		3940		3940		4650		1350		5130		1270		1460		3790		7780	
Antimony	6	6	20.70	12.8		<4.7		<6.0		ND		ND		ND		ND		7.04	ER	3.14	ER	ND		ND		ND		6.75	ER	12.8	
Arsenic	3	10	89.30	3.67	ER	1.51	ER	<3.0		2.8	ER	ND		ND		2.6	ER	56.8		17.9		15		1.05	ER	ND		0.74	ER	3.67	ER
Barium	6000	2000	699.00	46.5		42.9		<200		44.9		46.8		31.8		40.8		36.5		46.7		31.6		57		27.7		70.3		46.5	
Beryllium	1	4	2.10	2.05		<0.4		<1.0		ND		ND		1.84		1.87		0.931		0.574		1.67		0.568		0.271	ER	1.23		2.05	
Cadmium	4	5	9.50	2	ER	1.07	ER	<3.0		0.741	ER	0.634	ER	1.71	ER	2.27		1.14	ER	0.782	ER	1.95	ER	1.13	ER	ND		1.86	ER	2	ER
Calcium	NLE	NLE	45400.00	34700		8150		6630		ND		ND		ND		ND		23800		17700		25700		17700		9620		26900		34700	
Chromium	70	100	191.00	2.04	ER	2.53	ER	10.4		1.71	ER	1.97	ER	1.6	ER	2.4	ER	1.17	ER	0.472	ER	ND		ND		2.59	ER	ND		2.04	ER
Cobalt	NLE	NLE	18.30	8		<0.3		<50		ND		ND		ND		ND		4.17		3.05		6.35		2.73		1.25	ER	7.36		8	
Copper	1300	1300	65.60	2.49	ER	3.01	ER	11.2		6.07		3.92	ER	5.99		3.82	ER	3.7	ER	2.63	ER	4.32	ER	ND		2.22	ER	3.41	ER	2.49	ER
Iron	300	NLE	431000	2760		528		1910		ND		ND		ND		ND		133		236		273		85.4	ER	441	ER	520		2760	
Lead	5	15	22.70	5.49		3.21	ER	<3.0		ND		ND		ND		1.5	ER	4.83	ER	2.4	ER	ND		ND		ND		2.78	ER	5.49	
Magnesium	NLE	NLE	62700	7750		2670		<5000		ND		ND		ND		ND		5410		4000		5770		4030		2530		6420		7750	
Manganese	50	NLE	331	230		19.2		19.9		ND		ND		ND		ND		147		1.03		183		83.4		51.1		187		230	
Mercury	2	2	0.26	0.07	ER	<0.254		<0.2		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.07	ER
Nickel	100	NLE	187	36.3		8.29		<10		10.7		7.95		29.9		30.8		20.1		16.7		25.7		18		10.8		32.4		36.3	
Potassium	NLE	NLE	137000	3820		1990		<10000		ND		ND		ND		ND		1970		2200		2970		2140		1560		2770		3820	
Selenium	40	50	29.60	ND		1.64	ER	<10		ND		3.94	ER	5.07	ER	ND		65.9		ND		30.2		10.9	ER	ND		NR		ND	
Silver	40	NLE	ND	ND		<0.6		<10		ND		ND		ND		ND		ND		ND		1.43	ER	0.808	ER	0.617	ER	ND		ND	
Sodium	50000	NLE	21500	49400		15400		15400		ND		ND		ND		ND		25500		19800		32500		20800		13600		34100		49400	
Thallium	2	2	5.50	ND		<0.53		<2.0		ND		ND		ND		ND		ND		ND		ND		NA		ND		ND		ND	
Vanadium	NLE	NLE	108	2.33		0.709	ER	<50		ND		ND		ND		ND		0.804		0.908		0.662	ER	0.839	ER	1.52	ER	0.711	ER	2.33	
Zinc	2000	NLE	233	200		109		85		149		149		149		149		116		99.5		125		114		74.7		190		200	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.

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LF = Low flow sampling method used to collect sample

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ER = Estimated result

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

				M12MW24																				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF5	36		37		38		39		40		41		42		43		44		LF1		LF2		LF3		LF4	LF5	36		37		38	
Date Collected				5/10/2011	3/7/2008		5/15/2008		8/7/2008		10/27/2008		3/13/2009		6/8/2009		9/8/2009		11/18/2009		2/4/2010		6/3/2010		9/9/2010		11/26/2010		3/1/2011	5/10/2011	3/7/2008		5/15/2008		8/7/2008	
ANALYTE/Lab ID				1119907	80074.11		80165.11		80286.11		80390.11		90109.11		90221.11		90370.11		90451.11		10049.08		10234.05		10382.05		1051507		1107406	1119904	80074.12		80165.12		80286.12	
Metals (µg/L)																																			
Aluminum	200	NLE	121000	2280	1170		1170		1170		1170		2480		466		948		4510		3220		6000		6710		6680		6640	3680	ND		ND		ND	
Antimony	6	6	20.70	<6.0	ND		ND		ND		ND		18.6		2.37	ER	ND		ND		ND		6.25	ER	13.9		7.51	ER	<6.0	<6.0	ND		ND		ND	
Arsenic	3	10	89.30	<3.0	ND		ND		ND		ND		72.8		16.7		17.3		0.82	ER	ND		ND		1.24	ER	<0.62		<3.0	<3.0	ND		ND		3.01	ER
Barium	6000	2000	699.00	<200	49.7		33.5		30.1		60		43.6		27.1		39.9		53.3		37.6		56.7		61.3		65		<200	<200	29.1		25.7		66.8	
Beryllium	1	4	2.10	<1.0	0.553		0.203	ER	ND		1.44		0.765		0.193	ER	0.432	ER	1.24		0.677		1.35		1.78		1.83	ER	1	<1.0	ND		ND		ND	
Cadmium	4	5	9.50	<3.0	0.454	ER	0.689	ER	0.359	ER	1.41	ER	ND		ND		ND		ND		0.817	ER	1	ER	1.05	ER	1.02	ER	<3.0	<3.0	ND		ND		0.578	ER
Calcium	NLE	NLE	45400.00	20400	ND		ND		ND		ND		31200		22600		25900		44900		32800		53800		52500		56700		54900	46400	NA		NA		NA	
Chromium	70	100	191.00	<10	ND		0.473	ER	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.6		<10	<10	1.26	ER	0.873	ER	ND	
Cobalt	NLE	NLE	18.30	<50	ND		ND		ND		ND		8.27		3.1		5.1		14.2		8.91		15.8		18.5		18.6		<50	<50	NA		NA		NA	
Copper	1300	1300	65.60	<10	6.2		1.35	ER	ND		0.821	ER	ND		0.928	ER	ND		ND		1.59	ER	ND		4.06	ER	5.58		<10	<10	8.7		7.35		ND	
Iron	300	NLE	431000	716	ND		ND		ND		ND		2590		1590		2000		1840		2240		2070		3600		1580		1990	3110	372		372		372	
Lead	5	15	22.70	<3.0	ND		ND		ND		ND		4.67	ER	ND		ND		ND		ND		ND		ND		<2.1		<3.0	<3.0	ND		ND		ND	
Magnesium	NLE	NLE	62700	<5000	ND		ND		ND		ND		6510		3590		4940		10000		6800		11900		12300		12100		11300	8670	5370		5370		5370	
Manganese	50	NLE	331	269	ND		ND		ND		ND		251		152		248		365		257		433		467		467		474	331	27		27		27	
Mercury	2	2	0.26	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.21	ER	<0.254		<0.2	<0.20	ND		ND		ND	
Nickel	100	NLE	187	25.9	12.7		5.51		2.29	ER	25.6		7.94		4.86	ER	5.57		19.2		12.4		18.7		24.7		23.4		23	14.6	6.82		2.2	ER	ND	
Potassium	NLE	NLE	137000	<10000	ND		ND		ND		ND		4730		5330		6340		6490		4870		6260		7370		8520		<10000	<10000	5750		5750		5750	
Selenium	40	50	29.60	<10	ND		6.05	ER	6.31	ER	ND		92.4		ND		35.3		13.6	ER	16.8	ER	NR		ND		<1.36		<10	<10	ND		7.22	ER	8.74	ER
Silver	40	NLE	ND	<10	ND		ND		ND		ND		ND		ND		0.559	ER	1.14	ER	1.72	ER	ND		ND		<0.6		<10	<10	ND		ND		ND	
Sodium	50000	NLE	21500	28200	ND		ND		ND		ND		62300		29500		45900		93100		61900		111000		108000		115000		112000	88900	24600		24600		24600	
Thallium	2	2	5.50	<2.0	ND		ND		ND		ND		ND		ND		ND		ND		ND		1.21	ER	ND		<0.53		<2.0	<2.0	ND		ND		ND	
Vanadium	NLE	NLE	108	<50	ND		ND		ND		ND		0.506		0.511	ER	ND		1.05	ER	1.31	ER	ND		ND		<0.5		<50	<50	ND		ND		ND	
Zinc	2000	NLE	233	179	51		51		51		51		129		51.1		83		195		137		228		278		270		270	187	14.9		14.9		14.9	

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.
NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level
LF = Low flow sampling method used to collect sample
< = the analyte was not detected above the indicated reporting limit
ER = Estimated result
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

				M12MW25																				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	39	40	41	42	43	44	LF1	LF2	LF3	LF4	LF5	36	37	38	39	40	41	42			
Date Collected				10/27/2008	3/13/2009	6/8/2009	9/8/2009	11/18/2009	2/5/2010	6/3/2010	9/9/2010	12/8/2010	3/2/2011	5/10/2011	3/7/2008	5/15/2008	8/7/2008	10/27/2008	3/13/2009	6/8/2009	9/8/2009			
ANALYTE/Lab ID				80390.12	90109.12	90221.12	90370.12	90451.12	10052.06	10234.06	10382.06	1053403	1107605	1119905	80074.13	80165.13	80286.13	80390.13	90109.13	90221.13	90370.13			
Metals (µg/L)																								
Aluminum	200	NLE	121000	ND	ND	ND	24 ER	32.2 ER	62.2 ER	ND	32.1 ER	<13	<200	<200	373	373	373	373	ND	141	82.9 ER			
Antimony	6	6	20.70	ND	21	2.79 ER	ND	5.87 ER	5.23 ER	6.44 ER	15.5	6.35 ER	<6.0	<6.0	ND	ND	ND	ND	15.1	3.69 ER	ND			
Arsenic	3	10	89.30	ND	111	29.2	29.2	0.7 ER	1.69 ER	ND	0.89 ER	1.42 ER	<3.0	<3.0	6.37	4.06 ER	3.44 ER	ND	76.2	11.5	20.4			
Barium	6000	2000	699.00	256	31.4	38.2	58.3	78	22.5	15.3	14.3	13.2	<200	<200	78.7	41.9	46.1	41.4	38.5	19.7	31.8			
Beryllium	1	4	2.10	ND	ND	ND	ND	ND	ND	ND	ND	<0.4	<1.0	<1.0	0.379 ER	0.295 ER	ND	0.117 ER	ND	0.114 ER	ND			
Cadmium	4	5	9.50	0.404 ER	ND	ND	ND	ND	ND	ND	ND	<0.4	<3.0	<3.0	0.822 ER	1.65 ER	0.454 ER	1.24 ER	ND	ND	ND			
Calcium	NLE	NLE	45400.00	NA	70200	62000	78300	65500	30000	50800	55500	53100	52100	71100	ND	ND	ND	ND	34000	12600	33300			
Chromium	70	100	191.00	ND	0.438 ER	ND	ND	ND	ND	ND	ND	<0.6	<10	<10	1.21 ER	1.74 ER	ND	2.32 ER	ND	1.12 ER	ND			
Cobalt	NLE	NLE	18.30	NA	ND	ND	ND	ND	ND	ND	ND	<0.3	<50	<50	NA	NA	NA	NA	ND	ND	ND			
Copper	1300	1300	65.60	ND	0.746 ER	1.04 ER	ND	ND	1.08 ER	ND	ND	<0.8	<10	<10	15.9	5.97	ND	ND	1.15 ER	3.84 ER	ND			
Iron	300	NLE	431000	372	4190	5250	9230	4900	3350	ND	213 ER	<132	<100	16500	ND	ND	ND	ND	2950	2450	3400			
Lead	5	15	22.70	ND	2.77 ER	1.33 ER	ND	ND	ND	ND	ND	3.23 ER	<3.0	<3.0	ND	2.16 ER	ND	ND	5.56	ND	ND			
Magnesium	NLE	NLE	62700	5370	9490	8830	13000	14700	4220	4590	5120	4700	<5000	10200	ND	ND	ND	ND	3630	1500	3590			
Manganese	50	NLE	331	27	99.4	88.2	147	101	43.3	18.2	20.6	18.7	16.9	155	ND	ND	ND	ND	35.8	30.1	36.1			
Mercury	2	2	0.26	ND	ND	ND	ND	ND	ND	ND	ND	<0.254	<0.2	<0.2	ND	ND	ND	ND	ND	ND	ND			
Nickel	100	NLE	187	ND	ND	1.38 ER	ND	0.821 ER	ND	ND	ND	0.802 ER	<10	<10	5.17	1.65 ER	0.65 ER	ND	ND	2.27 ER	ND			
Potassium	NLE	NLE	137000	5750	7710	8350	8990	9010	4680	6480	6870	7160	<10000	<10000	ND	ND	ND	ND	4710	2320	5250			
Selenium	40	50	29.60	ND	91.5	5.85 ER	48.8	11.5 ER	36.1	NR	ND	1.64 ER	<10	<10	ND	ND	6.88 ER	ND	78.7	ND	36.2			
Silver	40	NLE	ND	ND	ND	ND	ND	0.593	1.04 ER	ND	ND	<0.6	<10	<10	ND	ND	ND	ND	ND	ND	ND			
Sodium	50000	NLE	21500	24600	45500	32900	69500	104000	22200	9170	8530	8490	<10000	66200	ND	ND	ND	ND	9290	14300	4930 ER			
Thallium	2	2	5.50	2.15 ER	ND	ND	ND	ND	ND	ND	ND	<0.53	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND			
Vanadium	NLE	NLE	108	ND	2.14	1.04 ER	2.12 ER	2.56 ER	1.5 ER	ND	ND	<0.5	<50	<50	1.53	1.53	1.53	1.53	1.53 ER	1.55 ER	2.08 ER			
Zinc	2000	NLE	233	14.9	ND	9.84 ER	4.35 ER	ND	11.6 ER	ND	ND	<2.5	<20	<20	65.4	65.4	65.4	65.4	11.7 ER	87.9	5.39 ER			

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.
NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level
LF = Low flow sampling method used to collect sample
< = the analyte was not detected above the indicated reporting limit
ER = Estimated result
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established

Table 2
Historical Groundwater Analytical Results
Site FTMM-12
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	M12MW26							
				43	44	LF1	LF1 Dup	LF2	LF3	LF4	LF5
Date Collected				11/18/2009	2/4/2010	6/3/2010	6/3/2010	9/9/2010	11/26/2010	3/2/2011	5/10/2011
ANALYTE/Lab ID				90451.13	10049.09	10234.03	10234.02	10382.04	1051506	1107604.00	1119908.00
Metals (µg/L)											
Aluminum	200	NLE	121000	ND	323	20.5 ER	ND	535	<13	<200	<200
Antimony	6	6	20.70	ND	ND	5.87 ER	6.7 ER	14.3	<4.7	<6.0	<6.0
Arsenic	3	10	89.30	2.27 ER	1.85 ER	ND	ND	1.92 ER	1.49 ER	<3.0	6.1
Barium	6000	2000	699.00	27.1	23.1	27.1	24.9	38.3	50.4	<200	<200
Beryllium	1	4	2.10	ND	0.163 ER	ND	ND	0.105 ER	<0.4	<1.0	<1.0
Cadmium	4	5	9.50	ND	0.856 ER	ND	ND	0.808 ER	1.03 ER	<3.0	<3.0
Calcium	NLE	NLE	45400.00	25000	12100	34100	31600	37300	49600	29200	28400
Chromium	70	100	191.00	ND	1.74 ER	ND	ND	3.05 ER	0.683 ER	<10	<10
Cobalt	NLE	NLE	18.30	ND	ND	ND	ND	ND	<0.3	<50	<50
Copper	1300	1300	65.60	ND	ND	ND	ND	1.7 ER	<0.8	<10	10.6
Iron	300	NLE	431000	8920	7950	4730	4310	6050	15500	22400	29600
Lead	5	15	22.70	ND	ND	ND	ND	2.8 ER	2.52 ER	<3.0	<3.0
Magnesium	NLE	NLE	62700	2630	1400	3750	3490	3940	5040	5530	5090
Manganese	50	NLE	331	52.4	24.9	38.3	35.7	36.6	92.9	156	331
Mercury	2	2	0.26	ND	ND	ND	ND	ND	<0.254	<0.2	<0.2
Nickel	100	NLE	187	1.01 ER	2.99 ER	ND	ND	ND	1.02 ER	<10	<10
Potassium	NLE	NLE	137000	3730	2320	5270	4860	5530	6900	<10000	<10000
Selenium	40	50	29.60	ND	ND	NR	NR	ND	<1.36	<10	<10
Silver	40	NLE	ND	ND	ND	ND	ND	0.551 ER	3.48 ER	<10	<10
Sodium	50000	NLE	21500	17700	10600	7250	50000	4140 ER	15100	19500	19100
Thallium	2	2	5.50	ND	ND	ND	ND	ND	<0.53	<2.0	<2.0
Vanadium	NLE	NLE	108	2.04	3.76 ER	ND	ND	2.76 ER	<0.5	<50	<50
Zinc	2000	NLE	233	3.15	31 ER	4.55 ER	ND	36.5 ER	3.12 ER	<20	27.6

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS

* Volatile Organic Compounds and Pesticides were sampled in certain wells but were not detected above the reporting limit (RL) and are therefore not included in this table.
NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level
LF = Low flow sampling method used to collect sample
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ER = Estimated result
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-12
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-12-GW-M12MW11	FTMM-12-GW-M12MW12	FTMM-12-GW-M12MW13	FTMM-12-GW-M12MW14	FTMM-12-GW-M12MW15	FTMM-12-GW-M12MW16	FTMM-12-GW-M12MW17	FTMM-12-GW-M12MW18
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	20-Aug-2013	21-Aug-2013	21-Aug-2013	21-Aug-2013	21-Aug-2013	23-Aug-2013	21-Aug-2013	21-Aug-2013
LAB SAMPLE ID:						R1306058-018	R1306112-012	R1306112-025	R1306112-005	R1306112-017	R1306198-012	R1306112-016	R1306112-001
SAMPLE INTERVAL (ft bgs):						5-20	5-20	5-20	5-20	5-20	4-14	4-14	4-14
	CAS No.	Unit											
Metals - SW6010C													
Lead	7439-92-1	µg/L	5	15 [3]	22.70	2.0 U	**1.6** J	2.0 U	2.0 U	**0.951** J	2.0 UJ	**2.0** J	2.0

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Value is the USEPA Action Level.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-12
Fort Monmouth, New Jersey

SAMPLE ID:			FTMM-12-GW-M12MW19	FTMM-12-GW-M12MW20	FTMM-12-GW-M12MW21	FTMM-12-GW-M12MW121*	FTMM-12-GW-M12MW22	FTMM-12-GW-M12MW23	FTMM-12-GW-M12MW24	FTMM-12-GW-M12MW25	FTMM-12-GW-M12MW26
DATE SAMPLED:			20-Aug-2013	20-Aug-2013	20-Aug-2013	20-Aug-2013	22-Aug-2013	21-Aug-2013	21-Aug-2013	20-Aug-2013	20-Aug-2013
LAB SAMPLE ID:			R1306058-028	R1306058-026	R1306058-006	R1306058-007	R1306152-001	R1306112-023	R1306112-015	R1306058-027	R1306058-008
SAMPLE INTERVAL (ft bgs):			3-18	3-18	3-18	3-18	3-18	3-18	3-18	3-18	3-18
	CAS No.	Unit									
Metals - SW6010C											
Lead	7439-92-1	µg/L U	2.0 U	**1.7** J	2.0 U	2.0 U	2.0 U	**2.2** J	2.0 U	2.0 U	2.0 U

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.
(http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012.
[3] Value is the USEPA Action Level.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-12
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-12 Landfill	Pb								
M12MW11		Al, Sb, As, Be, Fe, Mn, Na	Na	NO	NO	NO	NO	NO	Na due to site background concentrations not historical site usage.
M12MW12		Al, Be, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW13		Al, Sb, Fe, Mn, Se, Na	Se	NO	NO	NO	NO	NO	No analytes above background. Se due to site background concentrations not historical site usage.
M12MW14		Al, Sb, As, Fe, Mn, Na	As	NO	NO	NO	NO	NO	No analytes above background. As due to site background concentrations not historical site usage.
M12MW15		Al, Sb, As, Fe, Pb, Mn, Se, Na	Mn, Se, Na	NO	NO	NO	NO	NO	No analytes above background. Metals due to site background concentrations not historical site usage.
M12MW16		Sb, As, Fe, Pb, Mn, Na	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW17		Sb, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW18		Al, Sb, Fe	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW19		Sb, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW20		Sb, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW21		Sb, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW22		Sb, As, Cd, Fe, Pb, Mn	As, Mn	NO	NO	NO	NO	NO	As due to site background concentrations not historical site usage.
M12MW23		Al, Sb, As, Be, Fe, Pb,	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW24		Al, Sb, Be, Fe, Mn, Na	Mn	NO	NO	NO	NO	NO	Mn due to site background concentrations not historical site usage.
M12MW25		Sb, Fe, Mn, Na	NO	N/A	N/A	N/A	NO	NO	No analytes above background.
M12MW26		Al, Sb, As, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	No analytes above background.

Notes

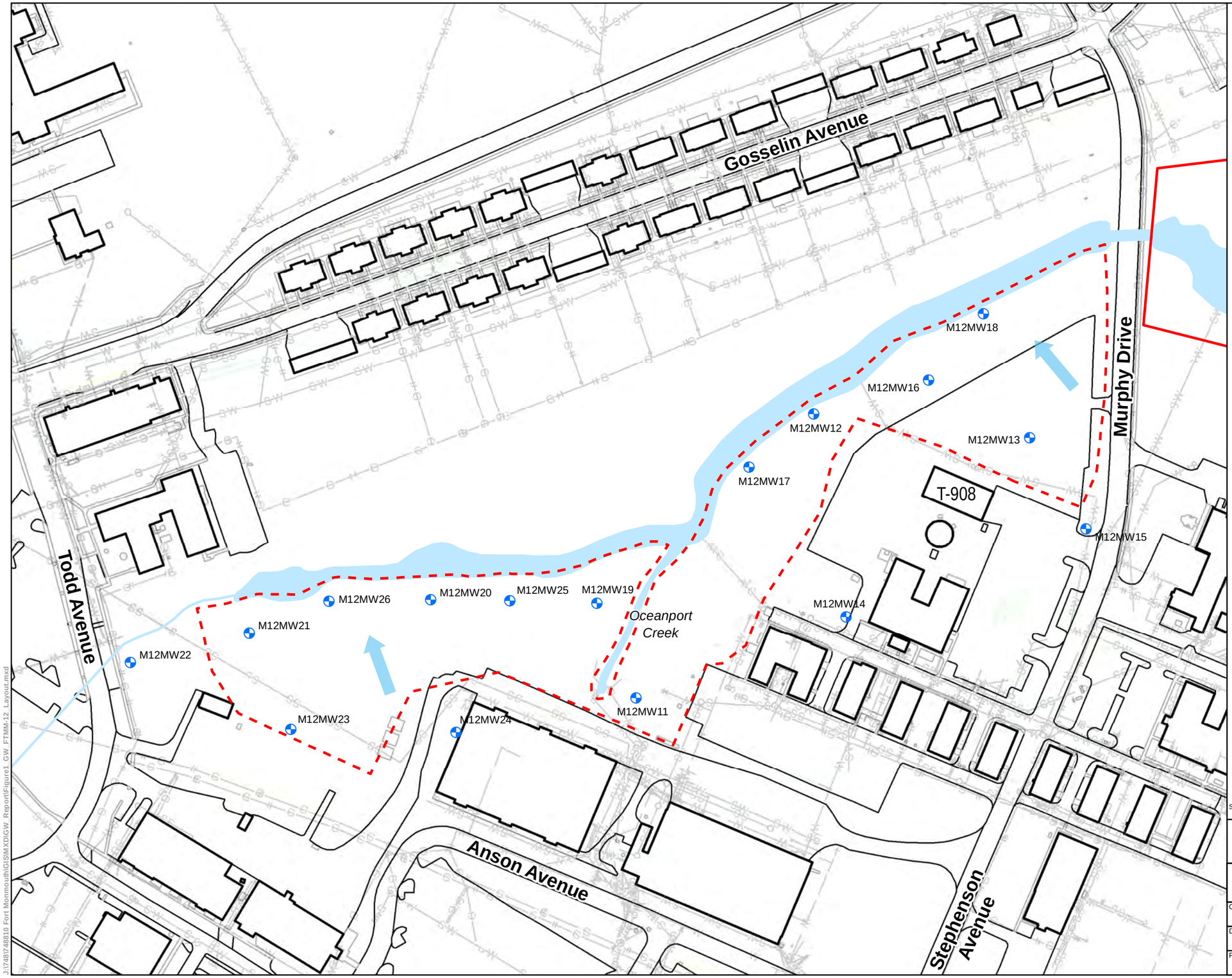
1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyte from LTM list

2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds?
If yes then keep analyte in LTM list
If no then remove this analyte from LTM list

3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-12



Legend

- Shallow Monitoring Well
- M-12 Landfill Boundary
- Municipal Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 150 feet

0 50 100 200 300 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-12	
CREATED BY: **TS**	REVIEWED BY: **IG**
DATE: **November 2013**	FIGURE NUMBER: **Figure 1**
PROJECT NUMBER: **748810.01000**	FILE: **Figure1_GW_FTMM-12_Layout.mxd**

J:\748\7\48810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-12_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW11

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-12
SAMPLIG INSTRUMENTS: ~~Geotech~~ Geotech Bladder pump
PID DETECTOR: N/A MiniRAE (JC)

DATE: 8/24/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Alex D'Ionno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~~0.0~~ 0.0 (JC)
WELL DEPTH (TOC): 22.19
FEET OF WATER IN WELL: 13.68

SCREENED INTERVAL (TOC): 7- 22.19 (2' stickup)
PUMP INTAKE DEPTH (ft below TOC): 15.35
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.51

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1445	X		5.50	NA	1.251	NA	128.1	NA	5.33	NA	0.0	NA	19.36	NA	250	8.61
1450	X		5.46	0.04	1.247	0.004	148.6	20.5	4.56	0.77	4.5	4.5	19.56	0.20	250	8.61
1455	X		5.38	0.08	1.283	0.036	168.0	19.4	4.51	0.05	28.5	24.0	17.62	1.94	250	8.61
1500	X		5.30	0.08	1.325	0.042	181.3	13.3	3.53	0.58	22.7	5.8	17.37	0.25	250	8.61
1505	X		5.29	0.01	1.339	0.014	184.3	3.0	3.58	0.05	24.5	1.8	17.37	0.0	250	8.61
1510	X		5.24	0.05	1.349	0.010	191.5	7.2	3.49	0.09	0.0	0.0	17.82	0.45	250	8.61
1515	X		5.23	0.01	1.352	0.003	200.1	8.6	3.38	0.11	0.0	0.0	18.23	0.41	250	8.61
1520	X		5.20	0.03	1.353	0.001	209.0	8.9	3.33	0.05	0.0	0.0	18.40	0.17	250	8.61
1525		X	5.19	0.01	1.356	0.003	213.7	4.7	3.30	0.03	0.0	0.0	18.27	0.13	250	8.61

COMMENTS: Sample ID: FTMM-12-GW-M12MW11
Sample Time: 1525 Pump depth: ~~15.35~~ 15.35'

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW11

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-12-GW-M12MW11

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1525	1) 250mL HNO3	clear	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-12

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-12
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: MiniRae

DATE: 8/21/13
LABORATORY:

SAMPLING PERSONNEL
NAME: C. Hutton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
WELL DEPTH (TOC): 22.15
FEET OF WATER IN WELL: 14.5

SCREENED INTERVAL (TOC): 7.65-22.15
PUMP INTAKE DEPTH (ft below TOC): 14.9
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.41

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1030	X		4.09	NA	0.691	NA	207.3	NA	1.93	NA	55.4	NA	18.61	NA	200	4.50
1035	X		4.04	0.05	0.692	0.001	214.3	7	1.21	0.72	57.3	1.9	18.67	0.23	200	4.53
1040	X		3.94	0.10	0.699	0.007	237.4	23.1	0.99	0.22	47.8	9.5	18.69	0.02	200	4.53
1045	X		3.94	0	0.703	0.004	251.4	11.0	0.89	0.10	40.6	7.2	18.69	0	200	4.53
1050	X		3.79	0.15	0.713	0.010	269.8	18.4	0.78	0.11	32.5	8.1	18.99	0.30	200	4.53
1055	X		3.73	0.06	0.717	0.004	278.6	8.8	0.67	0.11	26.4	6.1	19.10	0.11	200	4.53
1100	X		3.71	0.02	0.721	0.004	285.6	7.0	0.64	0.03	23.3	3.1	19.09	0.01	200	4.53
1105	X		3.57	0.14	0.727	0.006	297.5	11.9	0.53	0.09	15.3	8.0	19.33	0.24	200	4.53
1110	X		3.57	0	0.728	0.001	298.2	0.7	0.47	0.06	12.6	2.7	19.36	0.03	200	4.53
1115	X		3.56	0.01	0.729	0.001	299.1	0.9	0.48	0.01	11.1	1.5	19.37	0.01	200	4.53
1120	X		3.55	0.01	0.729	0	299.4	0.3	0.47	0.01	11.3	0.2	19.36	0.01	200	4.53
1125	X		3.55	0	0.730	0.01	300.1	0.7	0.49	0.02	10.1	1.2	19.39	0.03	200	4.53

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW12

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: ftMm-12-GW-M12MW12

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1140	(1) 250mL (HNO3)	Clear	8.6	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 3/21/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW12

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): M-12

SAMPLIG INSTRUMENTS: Bladder pump

PID DETECTOR: Mini Rae

DATE: 8/21/13

LABORATORY:

SAMPLING PERSONNEL

NAME: C. Watson

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)

WELL DEPTH (TOC): 22.15

FEET OF WATER IN WELL: 14.5

SCREENED INTERVAL (TOC): 7.65 - 22.15

PUMP INTAKE DEPTH (ft below TOC): 14.9

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.41

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:30	X		3.53	0.02 NA	0.732	0.002 NA	302.3	2.2 NA	0.48	0.01 NA	8.9	NA	19.36	0.03 NA	200	4.53
11:35	X		3.52	0.01	0.731	Q	302.5	0.2	0.47	0.01	8.6	0.3	19.40	0.04	200	4.53
11:40	X		3.52	0	0.732	0	302.9	0.4	0.46	0.01	8.6	Q	19.40	0	200	4.53

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12mw12

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTmm-12-GW-M12mw12

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
1Cmb	1140	(1) 250mm (HNO_3)	Clear	8.6	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 3/21/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW12/MW13

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): MW12
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: Mini Rae
SAMPLING PERSONNEL
NAME: A. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
SCREENED INTERVAL (TOC): 7.5-22.2
WELL DEPTH (TOC): 22.20
PUMP INTAKE DEPTH (ft below TOC): ~15
FEET OF WATER IN WELL: 17.1
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.10

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1430	X		4.90	NA	1.918	NA	159.6	NA	0.85	NA	27.9	NA	23.20	NA	200	5.12
1435	X		4.46	0.44	1.892	0.026	225.4	64.8	0.54	0.31	24.7	3.2	22.91	0.99	200	5.12
1440	X		4.40	0.06	1.910	0.018	243.3	17.9	0.50	0.04	30.9	6.2	22.50	0.41	200	5.12
1445	X		4.30	0.10	1.890	0.020	254.3	11	0.52	0.02	25.0	5.9	22.29	0.21	200	5.12
1450	X		4.23	0.07	1.895	0.005	265.7	11.4	0.65	0.13	20.3	4.7	20.25	0.04	200	5.12
1455	X		4.20	0.03	1.881	0.014	270.1	4.4	0.65	Ø	20.1	0.2	19.99	0.26	200	5.12
1500	X		4.17	0.03	1.877	0.004	278.5	8.4	0.64	0.01	18.0	2.1	19.61	0.38	200	5.12
1505	X		4.20	0.03	1.881	0.004	285.5	7	0.60	0.04	17.0	1	19.63	0.02	200	5.12
1510	X		4.23	0.03	1.886	0.005	286.0	0.5	0.61	0.01	18.6	2.02	19.69	0.03	200	5.12
1515	X		4.23	Ø	1.825	0.001	287.9	1.9	0.59	0.02	17.0	1.6	19.75	0.06	200	5.12
1520	X		4.23	Ø	1.889	0.004	287.4	0.5	0.57	0.02	12.2	6.8	19.76	0.01	200	5.12
1525	X		4.22	0.1	1.891	0.002	285.9	2.5	0.57	Ø	9.8	2.4	19.80	0.04	200	5.12

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: M12MW13

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FRMM-12-GW-M12MW13

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1540	(1) 250 mL (HNO3)	Clear	9.3	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

CARBON BUCKET

Date: 8/21/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MI2mw13

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): M-12
LABORATORY:
SAMPLIG INSTRUMENTS: Ehorn
SAMPLING PERSONNEL
PID DETECTOR: Minirae
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	6	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
SCREENED INTERVAL (TOC): 7.5-22.2
WELL DEPTH (TOC): 22.20
PUMP INTAKE DEPTH (ft below TOC): 15
FEET OF WATER IN WELL: 17.1
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.12

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1530	X		4.22	0 NA	1.890	0.001 NA	286.9	1.0 NA	0.56	0.0 NA	9.6	0.0 NA	19.95	0.15 NA	200	5.12
1535	X		4.21	0.01	1.891	0.001	287.0	0.1	0.56	0	9.2	0.4	19.99	0.04	200	5.12
1540	X	X	4.21	0	1.893	0.002	287.4	0.4	0.56	0	9.3	0.1	20.01	0.02	200	5.12

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: AI2MW13

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: Form-12-GW-MI2MW13

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1540	(1) 250 (HNO_3)	Clear	9.3	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/21/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW14

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M12
SAMPLIG INSTRUMENTS: Geofeck Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-21-2013
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 21.88
FEET OF WATER IN WELL: 13.73

SCREENED INTERVAL (TOC): 6.88 - 21.88
PUMP INTAKE DEPTH (ft below TOC): 15.0 ft
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.15

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:50	X		6.25	NA	0.425	NA	-21.9	NA	2.46	NA	20.8	NA	20.05	NA	100	8.15
8:55	X		6.06	-0.19	0.406	-0.019	-17.3	+4.6	1.33	-1.13	17.4	-3.4	19.89	-0.16	100	8.25
9:00	X		5.92	-0.14	0.402	-0.004	-9.2	+8.1	0.55	-0.78	15.1	-2.3	19.74	-0.15	100	8.37
9:05	X		5.99	+0.07	0.401	-0.001	-10.3	-1.1	0.42	-0.13	13.3	-1.8	19.84	+0.10	100	8.39
9:10	X		6.02	+0.03	0.400	-0.001	-10.2	+0.1	0.40	-0.02	11.9	-1.4	19.87	+0.03	100	8.41
9:15	X		6.03	+0.01	0.401	+0.001	-7.3	+2.9	0.37	-0.03	10.1	-1.8	19.97	+0.10	100	8.41
9:20	X		6.03	0.0	0.405	+0.004	-3.7	+3.6	0.35	-0.02	9.9	-0.2	20.02	+0.03	100	8.41
9:25	X		6.03	0.0	0.412	+0.007	1.0	+4.7	0.34	-0.01	8.6	-1.3	20.09	+0.07	100	8.41
9:30	X		6.02	-0.01	0.416	+0.004	4.8	+3.8	0.33	-0.01	8.6	0.0	20.18	+0.09	100	8.41
9:35	X		6.00	-0.02	0.420	+0.004	8.8	+4.0	0.33	0.0	8.5	-0.1	20.24	+0.06	100	8.41
9:37		X	6.00	0.0	0.422	+0.002	10.8	+2.0	0.33	0.0	8.5	0.0	20.23	-0.01	100	8.41

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW14

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-12-GW-M12MW14

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
lead	9:37	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW15

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-21-13
AOC # (AREA): M12
LABORATORY:
SAMPLIG INSTRUMENTS: Geo Tech Bladder Pump
PID DETECTOR: MiniRAE (JC)
SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 6.7 - 21.70
WELL DEPTH (TOC): 21.70
PUMP INTAKE DEPTH (ft below TOC): 14.05
FEET OF WATER IN WELL: 15.3
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.40

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:00	X		5.30	NA	2.161	NA	251.3	NA	3.34	NA	6.5	NA	23.76	NA	100	6.39
13:05	X		4.64	-0.66	2.179	+0.018	272.9	+21.6	1.79	-1.55	5.3	-1.2	23.31	-0.45	100	6.65
13:10	X		4.39	-0.25	2.193	+0.014	299.0	+26.1	0.89	-0.90	4.4	-0.9	22.64	-0.67	100	6.89
13:15	X		4.33	-0.06	2.193	0.0	312.9	+13.9	0.60	-0.29	4.4	0.0	22.20	-0.44	100	7.04
13:20	X		4.32	-0.01	2.188	-0.005	315.6	+2.7	0.55	-0.05	3.9	-0.5	22.46	+0.26	100	7.10
13:25	X		4.32	0.0	2.188	0.0	316.2	+0.6	0.49	-0.06	3.3	-0.6	22.66	+0.20	100	7.16
13:30	X		4.33	+0.01	2.183	-0.005	314.4	-1.8	0.46	-0.03	2.8	-0.5	22.55	-0.11	100	7.16
13:35	X		4.32	-0.01	2.181	-0.002	316.1	+1.7	0.45	-0.01	2.8	0.0	22.67	+0.12	100	7.16
13:40	X		4.32	0.0	2.175	-0.006	316.3	+0.2	0.43	-0.02	2.7	-0.1	22.66	-0.01	100	7.16
13:42		X	4.32	0.0	2.175	0.0	316.2	-0.1	0.42	-0.01	2.8	+0.1	22.70	+0.04	100	7.16

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW15

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-12-GW-M12MW15

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	13:42	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** M12MW16

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/23/13
AOC # (AREA): M-12
LABORATORY: ALS
SAMPLIG INSTRUMENTS: Geotech bladder pump
SAMPLING PERSONNEL
PID DETECTOR: ~~N/A~~ MiniRAE (JC)
NAME: Alex DiIonno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
SCREENED INTERVAL (TOC): 6.27 - 17.06' (1.77' Stickup)
WELL DEPTH (TOC): 17.06
PUMP INTAKE DEPTH (ft below TOC): 11.67'
FEET OF WATER IN WELL: 14.03
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.03

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1158	X		5.97	NA	0.789	NA	31.2	NA	3.24	NA	0.0	NA	22.90	NA	125	3.12
1203	X		5.75	0.22	0.802	0.013	15.5	15.7	1.21	2.03	0.0	0.0	20.53	0.37	125	3.12
1208	X		5.68	0.07	0.805	0.003	13.8	1.7	0.97	0.24	0.0	0.0	20.01	1.52	125	3.12
1213	X		5.59	0.09	0.811	0.006	14.1	0.3	0.83	0.14	0.0	0.0	19.95	0.06	125	3.12
1218	X		5.55	0.04	0.827	0.016	15.7	1.6	0.78	0.05	0.0	0.0	20.29	0.34	125	3.12
1223	X		5.46	0.09	0.830	0.003	19.8	4.1	0.82	0.04	0.0	0.0	20.21	0.08	125	3.12
1228	X		5.36	0.10	0.845	0.015	28.3	8.5	0.76	0.06	0.0	0.0	19.89	0.32	125	3.12
1233		X	5.33	0.03	0.848	0.003	31.3	3.0	0.79	0.03	0.0	0.0	19.86	0.03	125	3.12

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW16

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-2-GW-M12MW16

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1233	1) 250mL w/ HNO_3	clear	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW12MW17

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): M-12
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: mini Rae
SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)
SCREENED INTERVAL (TOC): 6.60 – 17.04
WELL DEPTH (TOC): 17.04
PUMP INTAKE DEPTH (ft below TOC): 11.8
FEET OF WATER IN WELL: 14.04
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.0

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1220	↓		6.49	NA	0.318	NA	-84.3	NA	0.73	NA	7.8	NA	20.51	NA	200	3.17
1225	↓		6.53	0.04	0.312	0.006	-93.2	8.9	0.63	0.10	4.9	2.9	20.39	0.02	200	3.17
1230	↓		6.54	0.01	0.319	0.007	-100.6	7.4	0.64	0.01	4.3	6.6	20.30	0.09	200	3.17
1235	↓		6.73	0.19	0.297	0.022	-126	25.4	0.38	0.26	3.5	0.8	20.24	0.06	200	3.17
1240	↓		6.76	0.03	0.296	0.001	-134.2	8.2	0.33	0.05	3.8	0.3	20.26	0.02	200	3.17
1245	↓		6.82	0.06	0.295	0.001	-148.9	14.7	0.32	0.01	3.5	0.3	20.26	⊘	200	3.17
1250	↓		6.88	0.06	0.292	0.003	158.6	9.7	0.29	0.03	5.0	1.5	20.28	0.02	200	3.17
1255	↓		6.02	0.14	0.291	0.001	-165.6	7	0.21	0.08	2.9	2.1	20.08	0.20	200	3.17
1300	↓		7.07	0.05	0.287	0.004	181.8	16.2	0.22	0.01	2.8	0.1	20.00	0.08	200	3.17
1305	↓		7.09	0.02	0.284	0.003	186.1	5.7	0.22	⊘	2.6	0.2	19.95	0.05	200	3.17
1310	↓		7.09	⊘	0.283	0.001	188.1	2.0	0.22	⊘	2.6	⊘	19.88	0.07	200	3.17
1315	↓		7.09	⊘	0.283	⊘	-190.4	2.3	0.22	⊘	2.7	0.1	19.76	0.12	200	3.17

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12mw17

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-12-GW-M12MW17

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1315	(1) 250 (HCL)	Clear	2.7	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): CARBON Drum

Date: 8/21/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MZ MW 18

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 2/21/13
AOC # (AREA): M-12
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder pump
SAMPLING PERSONNEL
PID DETECTOR: mini Rae
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
SCREENED INTERVAL (TOC): 7-17
WELL DEPTH (TOC): 17'
PUMP INTAKE DEPTH (ft below TOC): 12
FEET OF WATER IN WELL: 14.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 2.50

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0855	X		4.92	NA	0.247	NA	189.2	NA	2.88	NA	46.1	NA	17.52	NA	200	2.77
0900	X		4.85	0.07	0.245	0.002	194.0	4.8	2.77	0.11	34.4	11.7	17.51	0.01	200	2.81
0905	X		4.80	0.05	0.245	0	202.7	8.7	2.72	0.05	17.8	16.6	17.54	0.03	200	2.82
0910	X		4.77	0.03	0.250	0.005	208.2	5.5	2.51	0.21	13.4	4.4	17.58	0.04	200	2.82
0915	X		4.75	0.02	0.252	0.002	212.2	4	2.49	0.02	10.5	2.9	17.60	0.02	200	2.82
0920	X		4.72	0.03	0.259	0.007	217.2	5	2.57	0.08	8.8	1.7	17.61	0.01	200	2.82
0925	X		4.68	0.04	0.266	0.007	222.8	5.6	2.48	0.09	8.6	0.2	17.64	0.03	200	2.82
0930	X		4.67	0.01	0.268	0.002	224.0	1.2	2.46	0.02	8.0	0.6	17.64	0	200	2.82

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW18

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-12-GW-M12MW18

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead		(1) 250mL (HNO3)			

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): CARBON Bucket

Date: 8/21/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW19

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M12
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-20-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 20.15
FEET OF WATER IN WELL: 11.56

SCREENED INTERVAL (TOC): 15'
PUMP INTAKE DEPTH (ft below TOC): 14.37'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.59

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
14:45	X		7.35	NA	0.175	NA	-63.7	NA	3.44	NA	3.2	NA	21.72	NA	100	8.58
14:50	X		7.09	-0.26	0.289	+0.114	-72.1	-8.4	1.27	-2.17	2.6	-0.6	20.04	-1.68	100	8.65
14:55	X		6.81	-0.28	0.286	-0.003	-73.3	-1.2	0.67	-0.60	1.1	-1.5	17.40	-2.64	100	8.67
15:00	X		6.68	-0.13	0.285	-0.001	-86.0	-12.7	0.51	-0.16	0.8	-0.3	16.69	-0.71	100	8.67
15:05	X		6.67	-0.01	0.285	0.0	-90.2	-4.2	0.38	-0.13	0.6	-0.2	16.60	-0.09	100	8.67
15:10	X		6.73	+0.06	0.285	0.00	-101.8	-11.6	0.33	-0.05	0.0	-0.6	16.80	+0.20	100	8.67
15:15	X		6.72	-0.01	0.285	0.0	-106.2	-4.4	0.30	-0.03	0.0	0.0	16.83	+0.03	100	8.67
15:20	X		6.72	0.0	0.285	0.0	-109.3	-3.1	0.29	-0.01	0.0	0.0	16.96	+0.13	100	8.67
15:25	X		6.70	-0.02	0.285	0.0	-113.6	-4.3	0.29	0.0	0.0	0.0	16.91	-0.05	100	8.67
15:27		X	6.67	-0.03	0.285	0.0	-111.7	+1.9	0.29	0.0	0.0	0.0	16.82	-0.09	100	8.67

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-M12-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12 MW 19

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-M12-GW-M12MW19

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	15:27	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW20

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-20-13
AOC # (AREA): M12
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech Bladder Pumps
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC):
WELL DEPTH (TOC): 20.50
PUMP INTAKE DEPTH (ft below TOC): 13.3
FEET OF WATER IN WELL: 14.40
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.10

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
11:45	X		7.22	NA	0.334	NA	-94.1	NA	3.57	NA	3.7	NA	21.27	NA	100	6.09
11:50	X		7.31	+0.09	0.314	-0.02	-111.9	-17.8	1.68	-1.89	2.3	-1.4	19.85	-1.42	100	6.20
11:55	X		7.20	-0.11	0.308	-0.006	-120.8	-8.9	0.64	-1.04	0.9	-1.4	18.72	-1.13	100	6.20
12:00	X		7.19	-0.01	0.307	-0001	-124.5	-3.7	0.56	-0.08	1.7	+0.8	18.43	-0.29	100	6.20
12:05	X		7.22	+0.03	0.307	0.0	-127.0	-2.5	0.40	-0.14	0.4	-1.3	18.31	-0.12	100	6.20
12:10	X		7.22	0.0	0.307	0.0	-128.9	-1.9	0.38	-0.02	0.4	0.0	18.44	+0.13	100	6.20
12:15	X		7.25	+0.03	0.309	+0.002	-130.5	-1.6	0.36	-0.02	0.4	0.0	18.11	-0.33	100	6.20
12:18		X	7.26	+0.01	0.308	-0.001	-130.5	0.0	0.35	-0.01	0.4	0.0	17.99	-0.12	100	6.20

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-M12-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12 MW 20

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-M12-GW-M12MW20

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	12:18	500mL plastic	clr	air	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW21

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-20-13
AOC # (AREA): M12
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 5-20
WELL DEPTH (TOC): 20.21
PUMP INTAKE DEPTH (ft below TOC): 12.1
FEET OF WATER IN WELL: 16.22
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.99

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:00	X		7.22	NA	0.806	NA	-32.5	NA	4.80	NA	19.2	NA	18.68	NA	100	3.98
9:05	X		6.69	-0.53	0.566	-0.240	-99.7	-67.2	0.85	-3.95	11.2	-8.0	17.69	-0.99	100	4.12
9:10	X		6.68	-0.01	0.534	-0.032	-98.7	+1.0	0.54	-0.31	6.4	-4.8	17.38	-0.31	100	4.15
9:15	X		6.78	+0.10	0.525	-0.009	-99.5	-0.8	0.45	-0.09	4.2	-2.2	17.28	-0.10	100	4.15
9:20	X		6.82	+0.04	0.525	0.0	-100.8	-1.3	0.42	-0.03	3.0	-1.2	17.25	-0.03	100	4.15
9:25	X		6.85	+0.03	0.526	+0.001	-103.0	-2.2	0.39	-0.03	2.9	-0.1	17.15	-0.10	100	4.15
9:30	X		6.86	+0.01	0.526	0.0	-103.3	-0.3	0.37	-0.02	2.9	0.0	17.19	+0.04	100	4.15
9:35	X		6.87	+0.01	0.526	0.0	-104.2	-0.9	0.37	0.0	2.8	-0.1	17.17	-0.02	100	4.15
9:37		X	6.87	0.0	0.526	0.0	-104.3	-0.1	0.37	0.0	2.8	0.0	17.16	-0.01	100	4.15

COMMENTS: Dup taken here

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-M12-GW

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW21

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder Pump

SAMPLE NUMBER: FTMM-M12-GW-M12MW21

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	9:37	500 mL plastic	clr	clr	Dup taken

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name: FTMM-M12-GW-M12MW121

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW22

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M12
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-22-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 20.00
FEET OF WATER IN WELL: 13.88

SCREENED INTERVAL (TOC): 5-20
PUMP INTAKE DEPTH (ft below TOC): 13.06
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.12

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:35	X		6.38	NA	0.941	NA	-77.1	NA	3.95	NA	9.0	NA	20.76	NA	100	6.12
8:40	X		6.11	+0.27	0.884	-0.057	-72.5	+4.6	0.63	-3.32	6.0	-3.0	20.31	-0.45	100	6.35
8:45	X		6.14	+0.03	0.881	-0.003	-74.8	-2.3	0.48	-0.15	4.1	-1.9	20.20	-0.11	100	6.60
8:50	X		6.18	+0.04	0.876	-0.004	-77.7	-2.9	0.42	-0.06	3.6	-0.5	20.21	+0.01	100	6.60
8:55	X		6.19	+0.01	0.874	-0.002	-78.5	-0.8	0.43	+0.01	3.0	-0.6	20.23	+0.02	100	6.60
9:00	X		6.20	+0.01	0.870	-0.004	-79.0	-0.5	0.42	-0.01	3.1	+0.1	20.24	+0.01	100	6.60
9:05	X		6.20	0.0	0.868	-0.002	-78.9	+0.1	0.42	0.0	3.0	-0.1	20.24	0.0	100	6.60
9:08	X	X	6.21	+0.01	0.867	-0.001	-78.7	+0.2	0.41	-0.01	2.9	-0.1	20.20	-0.04	100	6.60

COMMENTS: slight sheen observed

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12 MW 22

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-12-GW-M12MW22

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	9:08	500 ml plast	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW23

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M12
SAMPLIG INSTRUMENTS: Geoteck Hadder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-29-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 19.20
FEET OF WATER IN WELL: 14.35

SCREENED INTERVAL (TOC): 4.2 – 19.2
PUMP INTAKE DEPTH (ft below TOC): 12.02
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.85

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
14:30	X		5.54	NA	0.222	NA	133.4	NA	2.64	NA	20.2	NA	22.38	NA	100	4.85
14:35	X		5.28	-0.26	0.167	-0.055	150.0	+16.6	0.61	-2.03	18.5	-1.9	20.26	-2.12	100	5.10
14:40	X		5.25	-0.03	0.166	-0.001	152.1	+2.1	0.49	-0.12	15.4	-3.1	20.03	-0.23	100	5.12
14:45	X		5.23	-0.02	0.165	-0.001	153.8	+1.7	0.37	-0.12	14.4	-1.0	20.09	+0.06	100	5.15
14:50	X		5.22	-0.01	0.165	0.0	154.4	+0.6	0.33	-0.04	12.4	-2.0	19.82	-0.27	100	5.18
14:55	X		5.24	+0.02	0.166	+0.001	152.3	-2.1	0.34	+0.01	11.1	-1.3	19.80	-0.02	100	5.20
15:00	X		5.24	0.0	0.166	0.0	151.8	-0.5	0.32	-0.02	8.9	-2.2	19.48	-0.32	100	5.22
15:05	X		5.25	+0.01	0.167	+0.001	149.4	-2.4	0.32	0.0	8.8	-0.1	19.27	-0.21	100	5.24
15:10	X		5.27	+0.02	0.169	+0.002	145.8	-3.6	0.32	0.0	8.9	+0.1	19.51	+0.24	100	5.26
15:12		X	5.28	+0.01	0.171	+0.002	145.1	-0.7	0.32	0.0	8.8	-0.1	19.59	+0.08	100	5.28

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW 23

SAMPLING INFORMATION

SAMPLING DEVICE: bladder Pump

SAMPLE NUMBER: FTHM-12-GW-M12MW23

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	15:12	500mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW24

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M12
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-21-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 21.85
FEET OF WATER IN WELL: 15.02

SCREENED INTERVAL (TOC): 6.85 - 21.85
PUMP INTAKE DEPTH (ft below TOC): 7.51
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.83

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:15	X		6.37	NA	0.369	NA	177.9	NA	3.20	NA	4.8	NA	22.22	NA	100	6.83
10:20	X		6.12	-0.25	0.362	-0.007	173.7	-4.2	2.11	-1.09	3.4	-1.4	21.84	-0.38	100	6.90
10:25	X		6.04	-0.08	0.358	-0.004	185.7	+12.0	1.67	-0.44	2.1	-1.3	21.54	-0.30	100	6.90
10:30	X		6.02	-0.02	0.357	-0.001	197.9	+12.2	1.43	-0.24	1.6	-0.5	21.23	-0.31	100	6.90
10:35	X		6.02	0.0	0.358	+0.001	205.4	+7.5	1.35	-0.08	1.5	-0.1	21.15	-0.08	100	6.90
10:40	X		6.01	-0.01	0.361	+0.003	213.3	+7.9	1.30	-0.05	1.5	0.0	21.12	-0.03	100	6.90
10:45	X		6.01	0.0	0.369	+0.007	217.7	+4.4	1.18	-0.12	1.2	-0.3	21.08	-0.04	100	6.90
10:50	X		5.99	-0.01	0.381	+0.012	219.0	+1.3	1.04	-0.14	1.0	-0.2	21.05	-0.03	100	6.90
10:55	X		5.96	-0.03	0.412	+0.031	222.1	+3.1	0.79	-0.25	0.7	-0.3	20.98	-0.07	100	6.90
11:00	X		5.90	-0.06	0.446	+0.034	222.9	+0.7	0.63	-0.16	0.6	-0.1	20.89	-0.09	100	6.90
11:05	X		5.87	-0.03	0.464	+0.018	212.8	-10.0	0.60	-0.03	0.5	-0.1	20.84	-0.05	100	6.90
11:10	X		5.85	-0.02	0.477	+0.013	201.8	-11.0	0.56	-0.04	0.5	0.0	20.80	-0.04	100	6.90

COMMENTS:

continued

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW24

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-12-GW-M12MW24

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	12:24	250 plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): carbon breakthrough used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW~~ M12MW24 cont.#1

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 5-21
AOC # (AREA): M12
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Briggs
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):
WELL DEPTH (TOC): See other page
FEET OF WATER IN WELL:
SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): See other page
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
				NA		NA		NA		NA		NA		NA		
11:15	X		5.83	-0.02	0.497	+0.020	190.5	-11.3	0.56	0.0	0.6	+0.1	20.84	+0.04	100	6.90
11:20	X		5.80	-0.03	0.529	+0.032	179.3	-11.2	0.56	0.0	0.7	+0.1	20.81	-0.03	100	6.90
11:25	X		5.77	-0.03	0.550	+0.021	174.5	-4.8	0.55	-0.01	0.8	+0.1	20.82	+0.01	100	6.90
11:30	X		5.69	-0.08	0.608	+0.058	167.5	-7.0	0.57	+0.02	1.0	+0.2	20.87	+0.05	100	6.90
11:35	X		5.67	-0.02	0.631	+0.023	167.8	+0.3	0.57	0.0	1.0	0.0	20.83	-0.04	100	6.90
11:40	X		5.65	-0.02	0.645	+0.014	169.9	+2.1	0.59	+0.02	1.0	0.0	20.81	-0.02	100	6.90
11:45	X		5.63	-0.02	0.661	+0.016	170.7	+0.8	0.59	0.0	1.0	0.0	20.76	-0.05	100	6.90
11:50	X		5.61	-0.02	0.673	+0.012	171.5	+0.8	0.59	0.0	1.0	0.0	20.86	+0.10	100	6.90
11:55	X		5.58	-0.03	0.698	+0.025	174.5	+3.0	0.59	0.0	1.0	0.0	20.91	+0.05	100	6.90
12:00	X		5.54	-0.04	0.713	+0.015	177.4	+2.9	0.59	0.0	1.0	0.0	21.15	+0.24	100	6.90
12:05	X		5.53	-0.01	0.749	+0.036	182.7	+5.3	0.60	+0.01	1.0	0.0	21.33	+0.18	100	6.90

COMMENTS:

continued

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW24

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	12:21	250mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:								
Volume Transferred to VBW Tank:								
Volume Transerred to Drum:								

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW24 cont.#2

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M12
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR:

DATE: 8-21
LABORATORY:

SAMPLING PERSONNEL
NAME: James Briens
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):
WELL DEPTH (TOC): See other sheet
FEET OF WATER IN WELL:

SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): see other sheet
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
~~12:10~~	X			NA		NA		NA		NA		NA		NA		
12:10	X		5.48	-0.05	0.768	+0.019	185.7	+3.0	0.60	0.0	1.0	0.0	21.25	-0.08	100	6.90
12:15	X		5.46	-0.02	0.781	+0.013	188.7	+3.0	0.59	-0.01	1.0	0.0	21.22	-0.03	100	6.90
12:20	X		5.44	-0.02	0.789	+0.008	192.1	+3.4	0.59	0.0	1.0	0.0	21.17	-0.05	100	6.90
12:21		X	5.44	0.0	0.790		192.0		0.59		1.0		21.20		100	6.90

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: MI2 MW24

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	12:21	~30 plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW25

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M12
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-20-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 20.87
FEET OF WATER IN WELL: 11.5

SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): 15.12
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.37

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:05	X		6.79	NA	0.450	NA	-358	NA	2.05	NA	0.0	NA	20.66	NA	100	9.37
13:10	X		6.56	-0.23	0.439	-0.011	-54.7	-18.9	0.56	-1.49	0.0	0.0	18.35	-2.31	100	9.82
13:15	X		6.54	-0.02	0.438	-0.001	-61.4	-6.7	0.42	-0.14	0.0	0.0	18.13	-0.22	100	9.82
13:20	X		6.54	0.0	0.437	-0.001	-73.7	-12.3	0.28	-0.14	0.0	0.0	18.22	+0.09	100	9.82
13:25	X		6.56	+0.02	0.437	0.0	-81.6	-7.9	0.24	-0.04	0.0	0.0	18.35	+0.13	100	9.82
13:30	X		6.57	+0.01	0.437	0.0	-88.5	-6.9	0.21	-0.03	0.0	0.0	18.14	-0.21	100	9.82
13:35	X		6.59	+0.02	0.436	-0.001	-95.9	-7.4	0.20	-0.01	0.0	0.0	18.36	+0.22	100	9.82
13:40	X		6.60	+0.01	0.436	0.0	-101.3	-5.4	0.20	0.0	0.0	0.0	18.45	+0.09	100	9.82
13:45	X		6.61	+0.01	0.436	0.0	-107.5	-6.2	0.20	0.0	0.0	0.0	18.49	+0.04	100	9.82
13:50	X		6.61	0.0	0.436	0.0	-113.1	-5.6	0.19	-0.01	0.0	0.0	18.51	+0.02	100	9.82
13:55	X		6.65	+0.04	0.436	0.0	-119.1	-6.0	0.19	0.0	0.0	0.0	18.50	-0.01	100	9.82
14:00	X		6.63	-0.02	0.437	+0.001	-121.7	-2.6	0.19	0.0	0.0	0.0	18.42	-0.08	100	9.82
14:21	X		6.63	0.0	0.437	0.0	-122.8	-1.1	0.19	0.0	0.0	0.0	18.41	-0.01	100	9.82

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-M12-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW25

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-M12-GW-M12MW25

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	14:01	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** M12MW26

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-20-13
AOC # (AREA): M12
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech Waddler Pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Pruitt
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 5-20
WELL DEPTH (TOC): 19.60
PUMP INTAKE DEPTH (ft below TOC): 12.45
FEET OF WATER IN WELL: 14.29
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.31

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:25	X		7.09	NA	0.221	NA	-195.6	NA	8.53	NA	0.1	NA	23.34	NA	100	5.31
10:30	X		6.88	-0.21	0.317	+0.096	-111.8	+83.8	0.60	-7.93	0.5	+0.4	18.21	-5.13	100	5.51
10:35	X		6.80	-0.08	0.317	0.0	-103.7	+8.1	0.43	-0.17	0.1	-0.4	18.17	-0.04	100	5.51
10:40	X		6.78	-0.02	0.317	0.0	-101.8	+1.9	0.38	-0.05	0.0	-0.1	18.19	+0.02	100	5.51
10:45	X		6.77	-0.01	0.318	+0.001	-99.1	+2.7	0.35	-0.03	0.0	0.0	18.22	+0.03	100	5.51
10:50	X		6.78	+0.01	0.318	0.0	-96.9	+2.2	0.34	-0.01	0.0	0.0	18.28	+0.05	100	5.51
10:55	X		6.77	-0.01	0.318	0.0	-95.5	+1.4	0.33	-0.01	0.0	0.0	18.25	-0.03	100	5.51
10:57		X	6.77	0.0	0.318	0.0	-95.4	+0.1	0.33	0.0	0.0	0.0	18.25	0.0	100	5.51

COMMENTS: QA-QC taken on this well

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** FTMM-M12-GW-M12MW26

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech Bladder Pump

SAMPLE NUMBER: FTMM-M12-GW-M12MW26

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	10:57	500 ml plastic	Clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: ~~YES or NO~~ Yes

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX G: FTMM-14 Landfill

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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

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1	Layout of FTMM-14

LIST OF ATTACHMENTS

Attachment	Title
A	NJDEP PDB Checklists

1.0 FTMM-14 GROUNDWATER MONITORING

Groundwater samples were collected from six monitoring wells located at FTMM-14 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using passive diffusion bags (PDBs) methodology as per the March 2013 Sampling and Analysis Plan (SAP). PDBs were deployed in FTMM-14 monitoring wells on August 12, 2013 and samples were retrieved on August 27, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed NJDEP PDB checklists for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within the FTMM-14 Closed Solid Waste Landfill Site were gauged on August 7, 2013. Groundwater elevations in monitoring wells ranged from 0.96 (M14MW24) to 1.64 (M14MW21) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the southeast towards Husky Brook (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Also, during the groundwater gauging, site monitoring wells were evaluated for their physical condition. FTMM-14 monitoring wells were found to be in good condition, and had tubing within their inner well casings.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From June 1997 through August 2004, FTMM-14 monitoring wells were sampled primarily for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. From November 2004 to November 2010, FTMM-14 wells were sampled for VOCs and metals.

The last four rounds of sampling conducted quarterly at FTMM-14, from December 2010 to August 2011, consisted of VOC and metals analysis. Within the last four rounds of groundwater sampling, aluminum, antimony, arsenic, cadmium, iron, manganese, sodium, and zinc were detected above their respective NJDEP GWQS. However, the only metal detected at a concentration greater than its background concentration established in the 1995 Weston Report was cadmium in M14MW22. This exceedance occurred in December 2010 and was not detected in prior or subsequent sample events. Cadmium is not related to historical site usage and is therefore considered a background analyte for the site. No VOCs were detected in

exceedance of their applicable standards. Historical groundwater analytical results are presented in **Table 2.**

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical detections from samples collected for VOC analysis during the August 2013 Baseline Sampling Event are presented in **Table 3**. Groundwater samples were not analyzed for metals due to the absence of significant concentrations observed in the historical data. No VOCs were detected in exceedance of their respective NJDEP GWQS.

5.0 FINDINGS AND RECOMMENDATIONS

Due to the absence of exceedances of the NJDEP GWQS in FTMM-14 monitoring wells; it is recommended that sampling be discontinued at FTMM-14. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-14
Fort Monmouth, New Jersey

															Every 5' of saturated screen requires PDB & its deployed in mid-point of saturated screen interval								
Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	Saturated Screen Length	PDB Interval 1 (ft. below TOC)	PDB Interval 2 (ft. below TOC)	PDB Interval 3 (ft. below TOC)	PDB Interval 4 (ft. below TOC)	PDB Deploy Date	PDB Deploy Time	PDB Sample Date	PDB Sample Time	LFPS Confirmatory Sample Date and Time
				feet																			
M-14 Landfill																							
M14MW19	29-32579	539354.570	620768.363	15.00	10.00	5-15	8.43	8-7-13	1419	0	6.93	17.77	1.50	13.35	10.5	15.5	N/A	N/A	8/12/2013	1242	8/27/2013	1110	N/A
M14MW20	29-32580	539648.374	620836.547	14.50	10.00	4.5-14.5	8.05	8-7-13	1429	0	6.55	17.18	1.50	9.83	11.42	N/A	N/A	N/A	8/12/2013	1450	8/27/2013	1130	N/A
M14MW21	29-32581	539691.194	621285.592	16.00	10.00	6-16	8.49	8-7-13	1403	0	6.85	19.6	1.64	10	10.3	13.5	N/A	N/A	8/12/2013	1100	8/27/2013	1015	N/A
M14MW22	29-41787	539466.503	620899.871	18.00	15.00	3-18	7.81	8-7-13	1413	0	6.35	20.5	1.46	13.98	12.18	19.13	N/A	N/A	8/12/2013	1215	8/27/2013	1050	N/A
M14MW23	29-41786	539558.229	621053.919	18.00	15.00	3-18	7.62	8-7-13	1409	0	6.38	20.35	1.24	14.57	9.59	17.31	N/A	N/A	8/12/2013	1030	8/27/2013	1040	N/A
M14MW24	29-41788	539749.015	621404.794	18.00	15.00	3-18	8.44	8-7-13	1400	0	7.48	19.13	0.96	13.02	10.74	14.24	N/A	N/A	8/12/2013	1000	8/27/2013	950	N/A

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC = Top of Casing
ft. AMSL = feet above means sea level
LFPS = low flow purging and sampling
PDB = Passive Diffusion Bag
N/A = not applicable

Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

| | | | | M14MW18 | | | M14MW19 | | | |

Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	52 Dup		LF1		LF2		LF2 Dup		LF3		LF4		LF4 Dup		LF5	LF6	LF6 Dup	LF7	46		47		48		49	
Date Collected				11/20/2009		3/31/2010		6/4/2010		6/4/2010		8/26/2010		12/9/2010		12/9/2010		3/3/2011	5/11/2011	5/11/2011	8/2/2011	3/18/2008		5/19/2008		8/14/2008		10/30/2008	
ANALYTE/Lab ID				90452.03		10114.07		10237.04		10237.03		1036304		1054104		1054103		1108008	1120104	1120103	1132006	80089.05		80167.05		80299.05		80395.05	
Volatile Organic Compounds (µg/L)																													
1,4-Dichlorobenzene	75	75	--	ND		ND		ND		ND		<0.15		<0.15		<0.15		<0.15	<0.15	<0.15	<0.26	ND		ND		ND		ND	
Acetone	6000	NLE	--	ND		ND		ND		ND		<0.32		<0.32		<0.32		<0.32	<0.32	<0.32	<7.6	ND		ND		2.8		ND	
Carbon disulfide	700	NLE	--	ND		ND		ND		ND		<0.12		<0.12		<0.12		<0.12	<0.12	<0.12	<0.18	ND		ND		ND		ND	
Chlorobenzene	50	100	--	ND		ND		ND		ND		<0.12		<0.12		<0.12		<0.12	<0.12	<0.12	<0.22	ND		ND		ND		ND	
Cyclohexane	100.0	NLE	--	NA		NA		ND		ND		NA		NA		NA		NA	NA	NA	<0.29	NA		NA		NA		NA	
Methylcyclohexane	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	<0.18	NA		NA		NA		NA	
Methylene chloride	3	5	--	ND		ND		ND		ND		<0.26		<0.26		<0.26		<0.26	<0.26	<0.26	<0.20	ND		ND		ND		ND	
TICs*	500	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	0	ND		4	J	ND		ND	
Metals (µg/L)																													
Aluminum	200	NLE	121000	47.2	ER	319		15.4	ER	ND		<100		<100		<100		<200	<200	<200	<200	78.5	ER	ND		1050		51.3	ER
Antimony	6	6	20.70	ND		4.94	ER	ND		8.64	ER	<10		<10		<10		<6.0	<6.0	<6.0	<6.0	ND		ND		ND		ND	
Arsenic	3	10	89.30	0.68	ER	0.89	ER	ND		ND		1.83	ER	0.77	ER	1.06	ER	<3.0	<3.0	<3.0	<3.0	2.74	ER	4.5	ER	6.1		3.27	ER
Barium	6000	2000	699.00	90.7		12.1		9.41		8.56		13.1		12.8		13.2		<200	<200	<200	<200	18.8		ND		92.1		19.8	
Beryllium	1	4	2.10	ND		0.047	ER	0.108	ER	0.086	ER	<0.5		<0.5		<0.5		<1.0	<1.0	<1.0	<1.0	ND		1.2	ER	0.145	ER	ND	
Cadmium	4	5	9.50	ND		ND		ND		0.527	ER	0.663	ER	<2		0.431	ER	<3.0	<3.0	<3.0	<3.0	0.902	ER	0.586	ER	2.13		ND	
Calcium	NLE	NLE	45400.00	21400		12700		13700		12400		19700		15800		16400		15500	17800	19200	27400	30800		27.6		35500		36600	
Chromium	70	100	191.00	1.09	ER	3.64	ER	ND		ND		<5		<5		0.69	ER	<10	<10	<10	<10	0.315	ER	ND		4.07	ER	ND	
Cobalt	NLE	NLE	18.30	ND		ND		ND		ND		<2		<2		<2		<50	<50	<50	<50	ND		ND		ND		ND	
Copper	1300	1300	65.60	ND		1.09	ER	ND		ND		1.6	ER	<5		<5		<10	<10	<10	<10	4.99	ER	ND		ND		ND	
Iron	300	NLE	431000	13600		8110		10900		9950		14400		11900		12200		11900	19000	19100	21300	2850		335	ER	8760		8210	
Lead	5	15	22.70	3.11	ER	3.65	ER	ND		ND		<5		<5		2.79	ER	<3.0	<3.0	<3.0	<3.0	ND		ND		ND		ND	
Magnesium	NLE	NLE	62700	3170		1950		1970		1810		2930		2090		2170		<5000	<5000	<5000	<5000	1850		13.9	ER	2440		3240	
Manganese	50	NLE	331	154		58.9		57.7		53.5		98.7		70.4		73		69.6	115	128	213	123		ND		59.7		47.7	
Mercury	2	2	0.26	ND		ND		0.08	ER	0.06	ER	<0.5		<0.5		<0.5		<0.20	<0.20	<0.20	<0.20	ND		ND		ND		ND	
Nickel	100	NLE	187	2.42	ER	1.61	ER	ND		ND		0.828	ER	<5		<5		<10	<10	<10	<10	1.92	ER	ND		1.68	ER	ND	
Potassium	NLE	NLE	137000	4890		5890		5610		5010		6340		7260		7450		<10000	<10000	<10000	<10000	3360		ND		5490		5840	
Selenium	40	50	29.60	ND		17.8	ER	NR		NR		41.2		<5		<5		<10	<10	<10	<10	ND		6.8	ER	ND		ND	
Silver	40	NLE	ND	ND		ND		2.13	ER	2.39		2.46	ER	1.75	ER	0.896	ER	<10	<10	<10	<10	1.47	ER	ND		2.01	ER	ND	
Sodium	50000	NLE	21500	5870		4160	ER	5120		4120		6210		2440	ER	5010		<10000	<10000	<10000	<10000	5670		838	ER	6720		6050	
Thallium	2	2	5.50	ND		ND		ND		ND		<5		<5		<5		<2.0	<2.0	<2.0	<2.0	ND		4.94	ER	ND		ND	
Vanadium	NLE	NLE	108	2.8	ER	1.32	ER	ND		ND		<5		0.583	ER	0.789	ER	<50	<50	<50	<50	0.754	ER	ND		2.57	ER	0.566	ER
Zinc	2000	NLE	233	65.4		53		ND		ND		1.54	ER	<50		<50		<20	20.8	21.3	<20	8.04	ER	ND		4.87	ER	3.92	ER

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

				M14MW20																											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	50		50 Dup		51		52		53		LF1		LF2		LF2 Dup		LF3		LF4		LF5	LF6	LF7	46		47	
Date Collected				3/31/2009		3/31/2009		6/17/2009		9/10/2009		11/20/2009		3/31/2010		6/7/2010		6/7/2010		8/26/2010		12/9/2010		3/3/2011	5/11/2011	8/2/2011	3/18/2008		5/19/2008	
ANALYTE/Lab ID				90139.05		90139.03		90242.05		90375.04		90452.05		10114.08		10240.04		10240.03		1036305		1054105		1108008	1120105	1132007	80089.06		80167.06	
Volatile Organic Compounds (µg/L)																															
1,4-Dichlorobenzene	75	75	--	ND		ND		ND		ND		ND		ND		ND		ND		<0.15		<0.15		<0.15	<0.15	<0.26	ND		ND	
Acetone	6000	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		<0.32		<0.32		<0.32	<0.32	<7.6	ND		ND	
Carbon disulfide	700	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		<0.12		<0.12		<0.12	<0.12	<0.18	ND		ND	
Chlorobenzene	50	100	--	ND		ND		ND		ND		ND		ND		ND		ND		<0.12		<0.12		<0.12	<0.12	<0.22	ND		ND	
Cyclohexane	100.0	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	<0.29	NA		NA	
Methylcyclohexane	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	<0.18	NA		NA	
Methylene chloride	3	5	--	ND		ND		ND		ND		ND		ND		ND		ND		<0.26		<0.26		<0.26	<0.26	<0.20	ND		ND	
TICs*	500	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND	0	ND		ND	
Metals (µg/L)																															
Aluminum	200	NLE	121000	ND		ND		ND		56.5	ER	ND		23.5	ER	ND		ND		<100		<100		<200	<200	<200	60.8	ER	ND	
Antimony	6	6	20.70	9.38	ER	8.68	ER	1.88	ER	ND		ND		6.67	ER	4.97	ER	7.12	ER	<10		5.38	ER	<6.0	<6.0	<6.0	ND		ND	
Arsenic	3	10	89.30	54.2		47.5		24.6		22.7		1.92	ER	ND		ND		ND		1.75	ER	2.5	ER	<3.0	3.8	8.7	ND		2.88	ER
Barium	6000	2000	699.00	25.4		42.3		15.9		18.9		96.9		8.84		10.2		10.3		11.3		8.1		<200	<200	<200	39.7		34.8	
Beryllium	1	4	2.10	ND		ND		ND		ND		ND		ND		0.065	ER	0.058	ER	<0.5		<0.5		<1.0	<1.0	<1.0	ND		ND	
Cadmium	4	5	9.50	ND		ND		0.621	ER	ND		ND		ND		ND		ND		<2		<2		<3.0	<3.0	<3.0	0.227	ER	0.307	ER
Calcium	NLE	NLE	45400.00	27900		28800		30200		33700		83600		29100		30400		31000		30600		29200		33600	26100	31000	54100		40200	
Chromium	70	100	191.00	1.22	ER	0.873	ER	0.476	ER	ND		ND		ND		ND		ND		<5		<5		<10	<10	<10	ND		0.692	ER
Cobalt	NLE	NLE	18.30	ND		ND		0.445	ER	ND		0.458	ER	ND		ND		ND		<2		<2		<50	<50	<50	ND		ND	
Copper	1300	1300	65.60	2.9	ER	2.18	ER	11.8		ND		ND		ND		ND		ND		2.51	ER	<5		<10	12.5	<10	0.908	ER	ND	
Iron	300	NLE	431000	6730		8400		5850		5890		29000		515		532		527		1310		837		588	5140	9230	1330		1760	
Lead	5	15	22.70	5.46		ND		1.79	ER	ND		2.93	ER	ND		ND		ND		<5		<5		<3.0	<3.0	<3.0	ND		ND	
Magnesium	NLE	NLE	62700	2390		2410		2370		3050		18400		1690		1760		1760		1980		1940		<5000	<5000	<5000	7040		5370	
Manganese	50	NLE	331	129		197		68.3		45.3		290		20.9		57.1		57.5		44.2		28.6		<15	128	45.5	122		121	
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		0.09	ER	0.08	ER	<0.5		<0.5		<0.20	<0.20	<0.20	ND		ND	
Nickel	100	NLE	187	ND		ND		1.64	ER	ND		8.11		ND		ND		ND		0.471	ER	<5		<10	<10	<10	ND		ND	
Potassium	NLE	NLE	137000	4150		4170		4940		6380		9930		5230		4920		5070		4610		5800		<10000	<10000	<10000	8620		7380	
Selenium	40	50	29.60	51.2		60.2		8.42	ER	24.1		ND		38.1		NR		NR		62.2		<5		<10	<10	<10	ND		4.88	ER
Silver	40	NLE	ND	ND		ND		ND		ND		ND		1.53	ER	ND		ND		<5		<5		<10	<10	<10	2.04	ER	ND	
Sodium	50000	NLE	21500	11400		11500		7840		5890		160000		5140		4820		3510		5720		4720	ER	<10000	10500	<10000	12500		ND	
Thallium	2	2	5.50	ND		ND		ND		ND		ND		ND		ND		ND		<5		<5		<2.0	<2.0	<2.0	ND		ND	
Vanadium	NLE	NLE	108	1.31	ER	1.15	ER	0.213	ER	1.33	ER	6.1		ND		ND		ND		<5		<5		<50	<50	<50	ND		0.482	ER
Zinc	2000	NLE	233	5.84	ER	5.53		ND		3.7	ER	ND		ND		ND		ND		<50		<50		<20	<20	<20	5.76		ND	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

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ND = Not detected

NLE = No limit established

ER = Estimated Result

Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

| | | | | M14MW21 | | | |

Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

				M14MW22																											
Round No.					47		48		49		50		51		52		53		LF1		LF2		LF3		LF4		LF5		LF6		LF7		35
Date Collected	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**		5/19/2008		8/14/2008		10/30/2008		3/31/2009		6/17/2009		9/10/2009		11/20/2009		3/31/2010		6/7/2010		8/27/2010		12/9/2010		3/3/2011		5/11/2011		8/3/2011		3/18/2008
ANALYTE/Lab ID					80167.07		80299.07		80395.07		90139.07		90242.07		90375.06		90452.07		10114.09		10240.08		1036505		1054109		1108007		1120109		1132304		80089.08
Volatile Organic Compounds (µg/L)																															
1,4-Dichlorobenzene	75	75	--		ND		0.65	J	0.74	J	ND		ND		ND		0.61		ND		ND		<0.15		<0.15		<0.15	<0.15		0.81	J	ND
Acetone	6000	NLE	--		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.32		<0.32		<0.32	<0.32		<7.6		ND
Carbon disulfide	700	NLE	--		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.12		<0.12		<0.12	<0.12		<0.18		ND
Chlorobenzene	50	100	--		ND		5.56		4.6		1.34	ER	ND		1.84		5.21		0.85		ND		<0.12		<0.12		<0.12	0.23	J	5.8		ND
Cyclohexane	100.0	NLE	--		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA		3	J	NA
Methylcyclohexane	NLE	NLE	--		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA		1.8	J	NA
Methylene chloride	3	5	--		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.26		<0.26		<0.26	<0.26		<0.2		ND
TICs*	500	NLE	--		ND		16		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND		ND		ND
Metals (µg/L)																															
Aluminum	200	NLE	121000	ER	ND		ND		95.9	ER	22.4	ER	ND		41	ER	ND		26.6	ER	ND		390		710		379	377		<200		261
Antimony	6	6	20.70		ND		ND		2.93	ER	21.8		4.92	ER	ND		ND		14.3		ND		22.5		6.27	ER	<6.0	<6.0		<6		ND
Arsenic	3	10	89.30		3.33	ER	4.02	ER	ND		52.1		28.1		22.7		0.97	ER	ND		ND		1.71	ER	1.46	ER	<3.0	4		<3		7.63
Barium	6000	2000	699.00		41.7		143		346		184		213		156		393		29.4		16.6		219		59.5		<200	<200		<200		203
Beryllium	1	4	2.10		ND		ND		ND		ND		ND		ND		ND		ND		0.052	ER	0.324	ER	0.593		<1.0	<1.0		<1		ND
Cadmium	4	5	9.50		0.665	ER	2.5		ND		ND		0.743	ER	1.21	ER	0.521	ER	ND		ND		145		20.1		<3.0	<3.0		<3		0.777
Calcium	NLE	NLE	45400.00		43400		68300		103000		69300		75700		63600		98300		47500		40100		15500		37500		37600	38600		66100		45000
Chromium	70	100	191.00		0.814	ER	0.561	ER	ND		1.05	ER	ND		ND		ND		ND		ND		<5		<5		<10	<10		<10		0.329
Cobalt	NLE	NLE	18.30		ND		ND		5.05		0.65		0.194	ER	ND		ND		ND		ND		51.2		15.7		<50	<50		<50		1.98
Copper	1300	1300	65.60	ER	ND		ND		ND		ND		1.39	ER	ND		ND		ND		ND		115		47.3		17.5	47.7		<10		60.6
Iron	300	NLE	431000		6110		21800		45800		51100		37300		21300		47300		3450		79.4	ER	166	ER	4050		1930	15500		20500		25300
Lead	5	15	22.70		ND		ND		ND		9.96		ND		ND		2.41	ER	ND		ND		9.32		8.05		4.7	5.9		<3		1.19
Magnesium	NLE	NLE	62700		3620		6060		23600		9700		7770		6030		20800		3470		2780		110000		16500		<5000	5540		8740		7680
Manganese	50	NLE	331		97.8		242		600		520		328		231		550		53.3		13.8		892		396		32.7	196		292		239
Mercury	2	2	0.26		ND		ND		ND		ND		ND		ND		ND		ND		0.09	ER	0.21	ER	<0.5		<0.20	<0.20		<0.2		ND
Nickel	100	NLE	187		1.11	ER	0.643	ER	11.3		ND		0.518	ER	ND		6.02		ND		ND		205		49.6		<10	<10		<10		7.11
Potassium	NLE	NLE	137000		18200		6600		10000		6650		7720		6350		10300		5720		4880		22800		6890		<10000	<10000		<10000		6240
Selenium	40	50	29.60		ND		ND		ND		42.5		9.71	ER	33.2		ND		47.6		NR		107		<5		<10	<10		<10		ND
Silver	40	NLE	ND		0.568	ER	4.08	ER	ND		ND		ND		ND		ND		1.75	ER	ND		<5		2.8	ER	<10	<10		<10		ND
Sodium	50000	NLE	21500		11000		10400		153000		39200		17900		12700		134000		5060		3900		791000		70800		<10000	27900		38000		16700
Thallium	2	2	5.50		ND		ND		ND		ND		ND		ND		ND		1.74	ER	ND		<5		<5		<2.0	<2.0		<2		ND
Vanadium	NLE	NLE	108		0.757	ER	0.786	ER	0.796	ER	4.3	ER	ND		3.05	ER	8.65		ND		ND		0.667	ER	0.948	ER	<50	<50		<50		1.72
Zinc	2000	NLE	233	ER	3.72	ER	ND		376		39.8		11.1	ER	9.71	ER	93.5		8.23	ER	3.73	ER	11800		2460		146	96.5		<20		126

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

| | | | | M14MW23 | | | |

Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

				M14MW24																															
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	34 Dup		35		36		37		38		39		40		41		LF1		LF1 Dup		LF2		LF3		LF4		LF5		LF6	
Date Collected				3/18/2008		5/19/2008		8/14/2008		10/30/2008		3/31/2009		6/17/2009		9/10/2009		11/20/2009		3/31/2010		3/31/2010		6/7/2010		8/27/2010		12/9/2010		3/4/2011		5/11/2011	
ANALYTE/Lab ID				80089.03		80167.09		80299.09		80395.09		90139.09		90242.09		90375.08		90452.09		10114.04		10114.03		10240.07		1036504		1054108		1108305		1120108	
Volatile Organic Compounds (µg/L)																																			
1,4-Dichlorobenzene	75	75	--	NA		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.15		<0.15		<0.15		<0.15	
Acetone	6000	NLE	--	NA		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.32		<0.32		<0.32		<0.32	
Carbon disulfide	700	NLE	--	NA		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.12		<0.12		<0.12		<0.12	
Chlorobenzene	50	100	--	NA		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.12		<0.12		<0.12		<0.12	
Cyclohexane	100.0	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylcyclohexane	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	3	5	--	NA		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.26		<0.26		<0.26		<0.26	
TICs*	500	NLE	--	NA		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Metals (µg/L)																																			
Aluminum	200	NLE	121000	217		ND		ND		310		123		ND		56.4		35.1	ER	30.2	ER	123		41.7	ER	<100		<100		239		<200	
Antimony	6	6	20.70	5.93	ER	ND		ND		ND		23.1		4.81	ER	6.59	ER	4.9	ER	6.94	ER	13.9		13.2		13.5		6.59	ER	<6.0		<6.0	
Arsenic	3	10	89.30	43.1		8.43		4.64	ER	ND		95.6		21.3		30.9		3.41	ER	ND		0.9	ER	4.74	ER	1.58	ER	2.88	ER	<3.0		6.1	
Barium	6000	2000	699.00	28.9		25		32.7		35.6		23.7		28.4		20.9		25.9		30.9		13.9		21.8		19.6		28.3		<200		<200	
Beryllium	1	4	2.10	ND		0.165	ER	0.136	ER	ND		ND		0.103	ER	ND		ND		ND		ND		0.135	ER	<0.5		0.416	ER	<1.0		<1.0	
Cadmium	4	5	9.50	0.613	ER	ND		ND		1.63	ER	1.05	ER	0.891	ER	ND		ND		ND		0.713	ER	0.624	ER	<2		1.75	ER	<3.0		<3.0	
Calcium	NLE	NLE	45400.00	209000		200000		240000		239000		198000		240000		157000		220000	E	30600		104000		162000		151000		221000		187000		206000	
Chromium	70	100	191.00	0.561	ER	0.424	ER	0.508	ER	ND		0.629	ER	ND		ND		ND		ND		ND		ND		<5		<5		<10		<10	
Cobalt	NLE	NLE	18.30	1.95	ER	ND		ND		1.27	ER	0.196	ER	0.431	ER	ND		ND		ND		ND		ND		<2		1.33	ER	<50		<50	
Copper	1300	1300	65.60	2.11	ER	ND		ND		ND		11.8		ND		ND		ND		ND		2.96	ER	ND		3.02	ER	3.58	ER	<10		27.1	
Iron	300	NLE	431000	887		1400		133		5390		481	ER	2610		ND		705		2460		282		2830		78	ER	649		924		2860	
Lead	5	15	22.70	ND		ND		ND		ND		ND		5.41		ND		ND		ND		ND		ND		<5		<5		<3.0		<3.0	
Magnesium	NLE	NLE	62700	27500		25800		34900		31200		28700		31700		36100		35100		4300		11600		26500		29800		23100		17700		22100	
Manganese	50	NLE	331	107		106		123		392		93.6		280		142		169		98.9		12.8		90.7		54.8		90.5		164		211	
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		ND		ND		ND		0.12	ER	0.1	ER	0.19	ER	<0.5		<0.20		<0.20	
Nickel	100	NLE	187	25.6		6.2		1.72	ER	6.15		7.79		3.94	ER	1.25	ER	2.61	ER	ND		16.2		2.05	ER	2.14	ER	28.3		34.4		21.2	
Potassium	NLE	NLE	137000	6840		5040		11100		8660		7660		8850		19800		12800		7260		2760		10000		13300		5460		<10000		<10000	
Selenium	40	50	29.60	ND		15.5		16.4		ND		62.7		4.42	ER	58		10.7	ER	49.5		85.8		NR		119		<5		<10		<10	
Silver	40	NLE	ND	1.47		ND		ND		ND		ND		ND		6.31		10.5		1.25	ER	5.49		ND		<5		<5		<10		<10	
Sodium	50000	NLE	21500	38000		26500		63100		42300		44300		46200		95700		63400		7620		9170		50300		81300		18800		13900		25800	
Thallium	2	2	5.50	1.73	ER	ND		ND		4.02	ER	ND		ND		ND		ND		ND		ND		ND		<5		<5		<2.0		<2.0	
Vanadium	NLE	NLE	108	3.96	ER	1.47	ER	2.91		2.12	ER	2.69	ER	0.956	ER	3.14	ER	3.16		ND		0.861	ER	2.28	ER	2.98	ER	0.903	ER	<50		<50	
Zinc	2000	NLE	233	21.1	ER	ND		ND		41.9		58.1		8.77	ER	4.74	ER	4.63		ND		17.6	ER	ND		<50		8.76	ER	31.8		<20	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Table 2
Historical Groundwater Analytical Results
Site FTMM-14
Fort Monmouth, New Jersey

					M14MW25								M14MW26										
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF7	LF1		LF1 Dup		LF2		LF3		LF1		LF2		LF3		LF4	LF5	LF6	LF6 Dup
Date Collected				8/3/2011	8/12/2010		8/12/2010		8/27/2010		12/9/2010		10/29/2010		11/12/2010		12/9/2010		3/3/2011	5/11/2011	8/2/2011	8/2/2011
ANALYTE/Lab ID				1132306	1034104		1034103		10366.01		1054110		1046801		1048301		1054111		1108004	1120110	1132004	1132003
Volatile Organic Compounds (µg/L)																							
1,4-Dichlorobenzene	75	75	--	<0.26	<0.15		<0.15		<0.15		<0.15		<0.15		<0.15		<0.15		<0.15	<0.15	<0.26	<0.26
Acetone	6000	NLE	--	<7.6	<0.32		<0.32		<0.32		<0.32		4.29		<0.32		<0.32		<0.32	<0.32	<7.6	<7.6
Carbon disulfide	700	NLE	--	<0.18	0.63		0.6		<0.12		<0.12		1.03		<0.12		<0.12		<0.12	<0.12	<0.18	<0.18
Chlorobenzene	50	100	--	<0.22	<0.12		<0.12		<0.12		<0.12		<0.12		<0.12		<0.12		<0.12	<0.12	<0.22	<0.22
Cyclohexane	100.0	NLE	--	<0.29	NA		NA		NA		NA		NA		NA		NA		NA	NA	<0.29	<0.29
Methylcyclohexane	NLE	NLE	--	<0.18	NA		NA		NA		NA		NA		NA		NA		NA	NA	<0.18	<0.18
Methylene chloride	3	5	--	<0.20	<0.26		<0.26		<0.26		<0.26		<0.26		<0.26		<0.26		<0.26	<0.26	<0.20	<0.20
TICs*	500	NLE	--	ND	ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	ND
Metals (µg/L)																							
Aluminum	200	NLE	121000	<200	139		157		174		48.3	ER	32.9	ER	41.8	ER	21.2	ER	<200	702	626	1060
Antimony	6	6	20.70	<6	<4.8		<10		<4.8		<4.70		5.03	ER	<4.70		<10		<6.0	<6.0	<6.0	<6
Arsenic	3	10	89.30	7.2	2.74	ER	3.15		10.25		9.86		3.16	ER	3.97	ER	9.2		<3.0	4.6	10	19.6
Barium	6000	2000	699.00	<200	33.3		35.8		10.1		7.51		22.9		28.1		20.1		<200	<200	<200	<200
Beryllium	1	4	2.10	<1	0.072	ER	0.071		<0.04		<0.40		<0.40		<0.40		<0.5		<1.0	<1.0	<1.0	<1
Cadmium	4	5	9.50	<3	<0.500		<2		<0.500		<0.40		<0.40		<0.40		<2		<3.0	<3.0	<3.0	<3
Calcium	NLE	NLE	45400.00	200000	8020		8560		7980		6480		30200		15400		16000		5610	<5000	6940	8920
Chromium	70	100	191.00	<10	<1.0		<5		1.05	ER	<0.60		0.883	ER	<0.60		<5		<10	<10	<10	10.6
Cobalt	NLE	NLE	18.30	<50	2.54		2.72		<0.400		<0.30		2.8		3.24		1.75	ER	<50	<50	<50	<50
Copper	1300	1300	65.60	<10	2.45	ER	2.81		3.94	ER	<0.80		<0.80		<0.80		<5		<10	29.4	<10	<10
Iron	300	NLE	431000	8490	574		497		6240		5080		217	ER	617		928		407	1860	3910	6620
Lead	5	15	22.70	<3	<2.4		<5		<2.4		<2.10		<2.10		<2.10		<5		<3.0	<3.0	<3.0	<3
Magnesium	NLE	NLE	62700	31200	1670		1760		1640		1320		2970		2240		1730		<5000	<5000	<5000	<5000
Manganese	50	NLE	331	286	50.3		54.3		42.3		25.6		62.1		54.9		47		21.3	15	30.7	37.9
Mercury	2	2	0.26	<0.2	<0.050		<0.5		0.1	ER	<0.254		<0.254		<0.254		<0.5		<0.20	<0.20	<0.20	<0.2
Nickel	100	NLE	187	<10	9.75		9.81		3.8	ER	<0.70		4.31	ER	5.76		3.14	ER	<10	<10	<10	<10
Potassium	NLE	NLE	137000	13300	6300		6740		6250		6480		4250		5410		5360		<10000	<10000	<10000	<10000
Selenium	40	50	29.60	<10	18.7	ER	21.9		30.1		<1.36		<1.36		<1.36		<5		<10	<10	<10	<10
Silver	40	NLE	ND	<10	<0.500		<5		1.7	ER	0.981	ER	<0.60		<0.60		<5		<10	<10	<10	<10
Sodium	50000	NLE	21500	65600	6840		7720		7150		4100	ER	7030		7920		4690	ER	<10000	<10000	<10000	<10000
Thallium	2	2	5.50	<2	<0.53		<5		<0.53		<0.53		<0.53		<0.53		<5		<2.0	<2.0	<2.0	<2
Vanadium	NLE	NLE	108	<50	<0.600		<5		0.726	ER	0.629	ER	0.713	ER	0.957	ER	<5		<50	<50	<50	<50
Zinc	2000	NLE	233	<20	21.1	ER	23.6		9.58	ER	<2.50		5.27	ER	12.6	ER	9.27	ER	<20	<20	22.3	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-14
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-14-GW-M14MW19-10.5		FTMM-14-GW-M14MW19-15.5		FTMM-14-GW-M14MW20-11.42		FTMM-14-GW-M14MW21-10.3		FTMM-14-GW-M14MW21-13.5		FTMM-14-GW-M14MW22-12.18		FTMM-14-GW-M14MW22-19.13	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013	
LAB SAMPLE ID:					R1306281-010		R1306281-011		R1306281-012		R1306281-013		R1306281-014		R1306281-015		R1306281-016	
SAMPLE DEPTH (ft bgs):					10.5		15.5		11.42		10.3		13.5		12.18		19.13	
	CAS No.	Unit																
Volatile Organics - SW8260C																		
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**1.8**	BJ	**7.3**		**1.8**	BJ	**2.2**	BJ	5.0	U	**2.2**	BJ	**1.5**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-14
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-14-GW-M14MW19-10.5	FTMM-14-GW-M14MW19-15.5	FTMM-14-GW-M14MW20-11.42	FTMM-14-GW-M14MW21-10.3	FTMM-14-GW-M14MW21-13.5	FTMM-14-GW-M14MW22-12.18	FTMM-14-GW-M14MW22-19.13
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013	27-Aug-2013
LAB SAMPLE ID:					R1306281-010	R1306281-011	R1306281-012	R1306281-013	R1306281-014	R1306281-015	R1306281-016
SAMPLE DEPTH (ft bgs):					10.5	15.5	11.42	10.3	13.5	12.18	19.13
	CAS No.	Unit									
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-14
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-14-GW-M14MW23-9.59		FTMM-14-GW-M14MW23-17.31		FTMM-14-GW-M14MW24-10.74		FTMM-14-GW-M14MW124-10.74*		FTMM-14-GW-M14MW24-14.24	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013		27-Aug-2013	
LAB SAMPLE ID:					R1306281-017		R1306281-018		R1306281-019		R1306281-001		R1306281-020	
SAMPLE DEPTH (ft bgs):					9.59		17.31		10.74		10.74		14.24	
	CAS No.	Unit												
Volatile Organics - SW8260C														
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.5**	BJ	**2.2**	BJ	**1.9**	BJ	**2.3**	BJ	**1.9**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-14
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-14-GW-M14MW23-9.59		FTMM-14-GW-M14MW23-17.31		FTMM-14-GW-M14MW24-10.74		FTMM-14-GW-M14MW124-10.74*		FTMM-14-GW-M14MW24-14.24	
DATE SAMPLED:			**NJDEP GWQS[1]**	**USEPA MCL[2]**	**27-Aug-2013**		**27-Aug-2013**		**27-Aug-2013**		**27-Aug-2013**		**27-Aug-2013**	
LAB SAMPLE ID:					**R1306281-017**		**R1306281-018**		**R1306281-019**		**R1306281-001**		**R1306281-020**	
SAMPLE DEPTH (ft bgs):					**9.59**		**17.31**		**10.74**		**10.74**		**14.24**	
	CAS No.	**Unit**												
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-14
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-14 Landfill									
M14MW19	VOC	Fe, Mn, Zn	NO	NO	N/A	N/A	N/A	NO	No exceedances exhibited
M14MW20		As, Fe, Mn, Na	NO	NO	N/A	N/A	N/A	NO	No exceedances exhibited
M14MW21		Fe, Mn, Na	NO	NO	N/A	N/A	N/A	NO	No exceedances exhibited
M14MW22		Al, Sb, Cd, Fe, Pb, Mn, Na, Zn	Cd	NO	NO	NO	N/A	NO	Cd is a site background concentration and not due to historical site usage.
M14MW23		Al, Sb, As, Fe, Mn, Na, Zn	NO	NO	N/A	N/A	N/A	NO	No exceedances of background criteria
M14MW24		Al, Sb, As, Fe, Mn, Na,	NO	NO	N/A	N/A	N/A	NO	No exceedances of background criteria

Notes

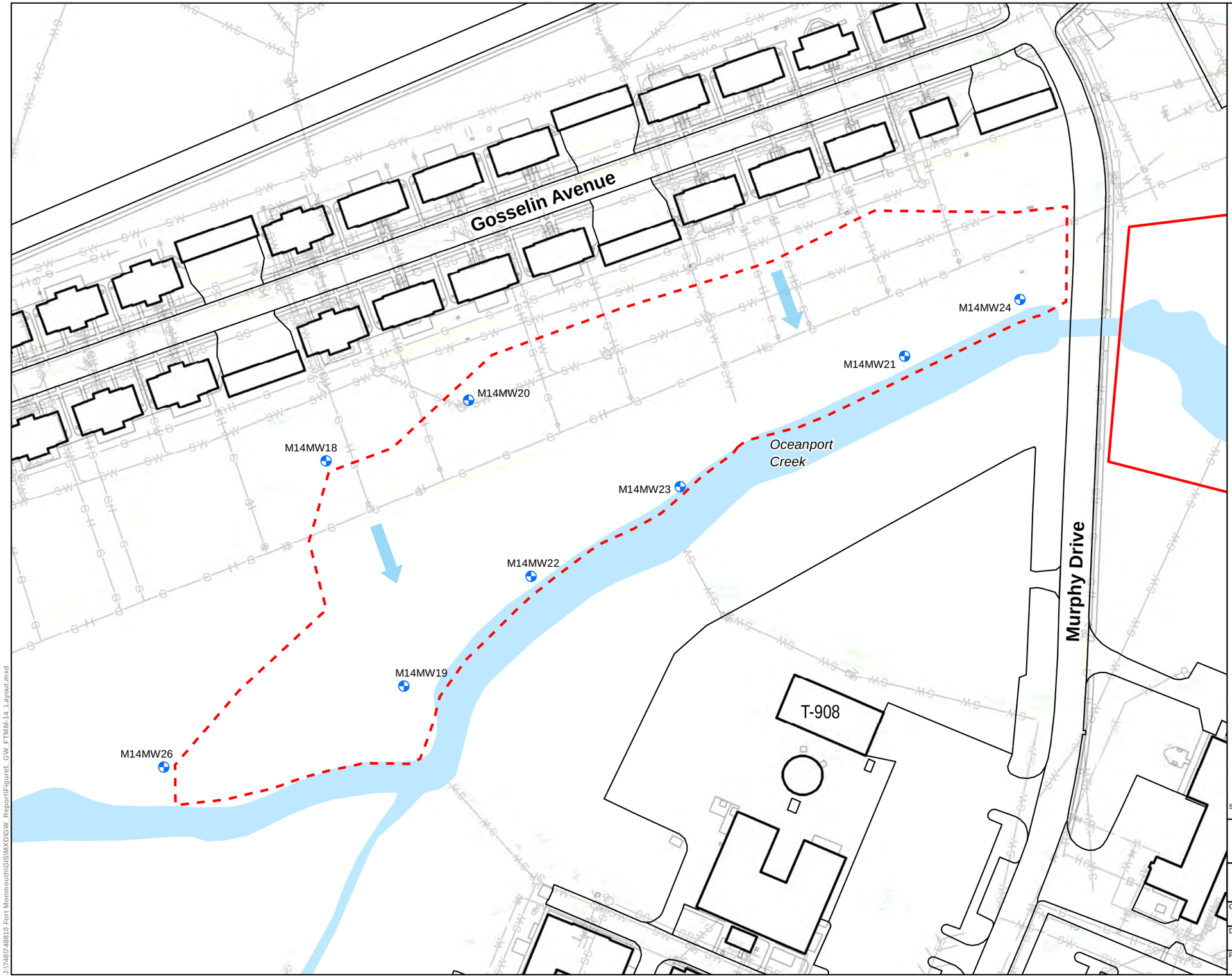
1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyte from LTM list

2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds?
If yes then keep analyte in LTM list
If no then remove this analyte from LTM list

3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-14



Legend

- Shallow Monitoring Well
- M-14 Landfill Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 100 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-14	
CREATED BY: **TS**	REVIEWED BY: **IG**
DATE: **March 2014**	FIGURE NUMBER: **Figure 1**
PROJECT NUMBER: **748810.01000**	FILE: **Figure1_GW_FTMM-14_Layout.mxd**

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-14_Layout.mxd

ATTACHMENTS

Attachment A NJDEP PDB Checklists

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-14
3. Well Designation: M14MW19
4. Well Permit Number:

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Suck Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify)
8. NOTE: PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.): 1.65
9. Total Well Depth (fbgs): 15
10. Screened interval/open hole (fbgs): 5-15
11. Well Casing: Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size: 0.01

14. Date and Time of Deployment: Date: 8/12/13 Time: 1242
15. Depth to Ground Water: Depth to ground water at time of deployment: 6.93
16. Date and Time of Retrieval: Date: 8/27/13 Time: 11.10
17. Depth to Ground Water: Depth to ground water at time of retrieval: 6.91
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 200z (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment if PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.): 18 Diameter (in.): 1.5 Filled:
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.5	15.5		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled:
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing:
    Type of flow meter used:
    Measurements taken every feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-5 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician (Name(s) and Company (please print clearly)

Name	Company
Alex D'Imma	
Chris Watson	Parsons
Zalar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-14
3. Well Designation: M14MW20
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.85
9. Total Well Depth (fbgs): 14.5
10. Screened interval/open hole (fbgs): 4.5-14.5
11. Well Casing: Diameter: 4 Material: [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter): Diameter: 4 Material: [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8-12-13 Time: 1450
15. Depth to Ground Water: Depth to ground water at time of deployment 6.52
16. Date and Time of Retrieval: Date: 8-27-13 Time: 1130
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.90
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: stainless steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    [X] Attached to bottom of PDBS and suspended in well
    [ ] Attached to bottom of deployment line and suspended in well
    [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
11.42			
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    [ ] **No**, this well is being profiled during this sampling round
    [ ] **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    [ ] **No**, flow testing has not been conducted in this well
    [ ] **Yes**, flow testing of this well was conducted. **Date of testing:** _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-5 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing

28. Field Sampling Technician (Name(s) and Company (please print clearly)

Name	Company
Alex DiTomo	Parsons
Chris Watson	
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: A-14
3. Well Designation: A14MW21
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☐ Top of Casing ☐ Other (specify) _____
8. **NOTE**: PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.80
9. Total Well Depth, (fbgs) 16
10. Screened interval/open hole (fbgs) 6-16; 10' screen
11. Well Casing — Diameter: 4" — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: 4" — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01

14. Date and Time of Deployment — Date: 8/12/13 — Time: 1160
15. Depth to Ground Water — Depth to ground water at time of deployment 6.85
16. Date and Time of Retrieval — Date: 8/27/13 — Time: 1015
17. Depth to Ground Water — Depth to ground water at time of retrieval 7.27
18. Type of Deployment Line Used — Diameter: 3/16" — Material: poly

19. Material and Mass (oz.) of PDBS Weight: stainless steel 20oz (stainless steel recommended)
20. Type of PDBS Used
   ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
   ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 — Diameter (in.) 1.5 — Filled _____
22. Position of PDBS Weight
   ☐ Attached to bottom of PDBS and suspended in well
   ☐ Attached to bottom of deployment line and suspended in well
   ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.3	13.5		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75F — Wind 0-1 mph — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80F — Wind 0-1 mph — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiTorro	Parsons
Chris Watson	
Zolar Levy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-14
3. Well Designation: M14MW22
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.33
9. Total Well Depth (fbgs): 18
10. Screened interval/open hole (fbgs): 3 - 18
11. Well Casing: Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/12/13 Time: 1215
15. Depth to Ground Water: Depth to ground water at time of deployment 6.35'
16. Date and Time of Retrieval: Date: 8/27/13 Time: 1050
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.38
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: stainless steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
12.18	19.13		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75 Wind 0 - 1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0 - 5 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly):

Name	Company
Alex D. Imms	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-14
3. Well Designation: M14MW23
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.95
9. Total Well Depth (fbgs): 18'
10. Screened interval/open hole (fbgs): 3-18', 15' Screen
11. Well Casing: Diameter 4" Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4" Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/12/13 Time: 1030
15. Depth to Ground Water: Depth to ground water at time of deployment 6.38
16. Date and Time of Retrieval: Date: 8/27/13 Time: 1040
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.75
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: stainless steel 20oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
~~12~~ 9.59	17.31		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Ianni	Parsons
Chris Watson	
Zolar Lacy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: M-14 1
2. Location: Ft. Monmouth
3. Well Designation: M14MW24
4. Well Permit Number:

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify)
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.): 2.5
9. Total Well Depth (fbgs): 18
10. Screened interval/open hole (fbgs): 3-18 / 15' Screen
11. Well Casing: Diameter: 4" Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter: 4" Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size: 0.01

14. Date and Time of Deployment: Date: 8/12/13 Time: 1000
15. Depth to Ground Water: Depth to ground water at time of deployment: 7.48
16. Date and Time of Retrieval: Date: 8/27/13 Time: 0950
17. Depth to Ground Water: Depth to ground water at time of retrieval: 7.33
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.): 18 Diameter (in.): 1.5 Filled:
22. Position of PDBS Weight:
    ☐ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.74	14.24		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled:

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing:
    Type of flow meter used:
    Measurements taken every feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80° Wind 0-5 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Tonn	
Chris Watson	Parsons
Zohar Lavy	

APPENDIX H: FTMM-18 Landfill

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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
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Attachment	Title
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1.0 FTMM-18 GROUNDWATER MONITORING

Groundwater samples were collected from three monitoring wells located at the FTMM-18 Landfill as part of the August 2013 Baseline Sampling Event. M18MW23 was slated for sampling but could not be located and therefore a groundwater sample was not collected from this well. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using passive diffusion bags (PDBs) as per the March 2013 Sampling Analysis Plan (SAP). PDBs were deployed on August 12 and August 13, 2013, and retrieved for sampling on August 30, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed NJDEP PDB checklists for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-18 were gauged on August 7, 2013. Groundwater elevations in monitoring wells ranged from 0.94 (MP18MW25) to 3.75 (M18MW22) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the north northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Additionally, the physical condition of FTMM-18 monitoring wells was assessed at the time of groundwater gauging. Monitoring well M18MW23 was unable to be visually located at the time of well gauging or sampling. The remaining FTMM-18 wells were found to be in good condition

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From June 1997 through November 2004, FTMM-18 monitoring wells were sampled for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. From February 2005 to September 2010, monitoring wells were sampled primarily for metals.

In the last four rounds of groundwater sampling conducted on a monthly basis at FTMM-18 from October 2010 to April 2011, samples were analyzed for VOCs and metals. Several metals including aluminum, beryllium, cadmium, iron, manganese, nickel, and sodium were detected in exceedance of their respective NJDEP GWQS. However, only antimony, beryllium, manganese and sodium were detected at concentrations greater than their background concentrations established in the 1995 Weston Report. The background

concentration for sodium however is lower than the NJDEP GWQS. Historical groundwater analytical results are presented in **Table 2.**

Additionally, within the most recent four rounds of sampling, benzene was detected in M18MW22 (1.58 – 1.99 µg/L) and M18MW23 (664.44 - 1078.96 µg/L) above its NJDEP GWQS of 1 µg/L.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater samples were collected for VOCs in August 2013 due to the absence of environmentally significant metals exceedances. 1,2-dichloroethane (1,2-DCA) was detected in exceedance of its NJDEP GWQS of 2 µg/L in M18MW22. Additionally, benzene was detected in M18MW22 below its NJDEP GWQS. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Due to the 1,2-DCA exceedance and the benzene detection in M18MW22, continued annual groundwater monitoring for VOC is recommended via PDB sampling methodology. An effort to locate M18MW23 will be made, and if located will also be sampled for VOCs. In the event M18MW23 is not located, proximal monitoring well M18MW22 will serve to monitor for benzene. Sampling will be conducted via PDB sampling methodology on an annual basis.

Historical metal exceedances are likely background conditions and not indications of groundwater contamination. Elevated sodium concentrations are most likely attributable to the site's proximity to the ocean and other estuarine water bodies. Glauconitic sediments underlying the site are rich in antimony, beryllium and manganese; resulting in high concentrations of these analytes in groundwater. **Table 4** presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-18
Fort Monmouth, New Jersey

															Every 5' of saturated screen requires PDB & its deployed in mid-point of saturated screen interval								
Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	Saturated Screen Length	PDB Interval 1 (ft. below TOC)	PDB Interval 2 (ft. below TOC)	PDB Interval 3 (ft. below TOC)	PDB Interval 4 (ft. below TOC)	PDB Deploy Date	PDB Deploy Time	PDB Sample Date	PDB Sample Time	LFPS Confirmatory Sample Date and Time
				feet																			
M-18 Landfill																							
M18MW22	E201011280	540600.000	618880.000	20.00	15.00	5-20	12.54	8-7-13	1521	0	8.79	22.17	3.75	12.7	12.33	18.98	N/A	N/A	8/12/2013	1530	8/30/2013	950	N/A
M18MW23	E201010529	540589.390	618871.976	20.00	15.00	5-20	12.58	Not located/not sampled															
MP18MW24	29-32565	540648.276	618515.373	14.50	10.00	4.5-14.5	7.04	8-7-13	1508	0	6.1	17.15	0.94	9.75	10.9	N/A	N/A	N/A	8/13/2013	905	8/30/2013	915	N/A
MP18MW25	29-32566	540648.911	618639.300	14.50	10.00	4.5-14.5	7.06	8-7-13	1512	0	5.8	17	1.26	10	8.81	13.81	N/A	N/A	8/13/2013	915	8/30/2013	925	N/A

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC = Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling
PDB = Passive Diffusion Bag

Table 2
Historical Groundwater Analytical Results
Site FTMM-18
Fort Monmouth, New Jersey

				M18MW22					M18MW23						M18MW24			
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF2 Dup	LF3	LF4	LF1	LF2	LF2 Dup	LF3	LF4	LF4 Dup	46	47	48	49
Date Collected				10/29/2010	11/12/2010	11/12/2010	2/24/2011	4/28/2011	10/29/2010	11/16/2010	11/16/2010	2/24/2011	4/28/2011	4/28/2011	3/4/2008	5/14/2008	8/13/2008	10/24/2008
ANALYTE/Lab ID				1046704	1048204	1048203	1106801	1117805	1046705	1049304	1049303	1106802	1117804	1117803	80067.01	80162.01	80296.01	80387.01
Volatile Organic Compounds (µg/L)																		
1,2-Dichloroethane	75	74	--	53.00	53.99	52.29	58.58	43.48	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	ND	ND	ND	ND
1,2-Dichloropropane	1	5	--	0.27 J	0.24 J	0.25 J	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	ND	ND	ND	ND
Acetone	6000	NLE	--	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	ND	ND	2.88	4.04
Benzene	1	5	--	1.99	1.70	1.58	1.81	1.65	1023.29 D	1066.87 D	1078.96 D	775.67 D	664.44 D	688.03 D	ND	ND	ND	ND
Carbon Tetrachloride	1	5	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.60	0.58	0.95	1.02	1.02	ND	ND	ND	ND
tert-Butyl alcohol	100	NLE	--	43.40	51.98	49.67	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	<1.64	ND	ND	ND	ND
Trichloroethene	1	5	--	0.46 J	0.41 J	0.43 J	0.49 J	0.40 J	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	ND	ND	ND	ND
TICs*	500	NLE	--	276.00 J	339.00 J	320.00 J	175.00 J	106.00 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																		
Aluminum	200	NLE	121000	1970.00	2120.00	2050.00	2160.00	2350.00	551.00	461.00	421.00	656.00	2390.00	1990.00	233.00	ND	ND	624.00
Antimony	6	6	20.70	<4.70	<4.70	<4.70	<6.0	<6.0	<4.70	4.78 ER	<4.70	<6.0	<6.0	<6.0	ND	ND	ND	ND
Arsenic	3	10	89.30	1.16 ER	1.39 ER	1.22 ER	<3.0	<3.0	5.20	7.85	7.79	11.30	7.80	6.90	ND	6.41	13.20	ND
Barium	6000	2000	699.00	521.00	757.00	737.00	664.00	734.00	125.00	114.00	108.00	<200	<200	<200	108.00	115.00	243.00	310.00
Beryllium	1	4	2.10	2.56	2.85	2.77	2.30	2.30	0.53	<0.40	<0.40	<1.0	<1.0	<1.0	ND	0.20 ER	0.27 ER	ND
Cadmium	4	5	9.50	4.57	6.36	6.42	5.50	5.70	0.46 ER	<0.40	<0.40	<3.0	<3.0	<3.0	0.52 ER	ND	5.04	0.57 ER
Calcium	NLE	NLE	45400.00	21800.00	31600.00	30700.00	25300.00	27200.00	23800.00	27400.00	26100.00	25000.00	16600.00	17400.00	334000.00	348000.00 E	519000.00 E	595000.00
Chromium	70	100	191.00	<0.60	<0.60	<0.60	<10	<10	<0.60	<0.60	<0.60	<10	<10	<10	1.20 ER	0.94 ER	1.61 ER	2.00 ER
Cobalt	NLE	NLE	18.30	26.10	35.30	34.00	<50	<50	5.65	5.34	5.13	<50	<50	<50	1.97 ER	ND	ND	3.69
Copper	1300	1300	65.60	<0.80	<0.80	<0.80	<10	<10	<0.80	<0.80	<0.80	<10	<10	<10	1.93 ER	ND	ND	ND
Iron	300	NLE	431000	499.00 ER	834.00	787.00	200.00	693.00	1060.00	756.00	658.00	647.00	10200.00	8070.00	1810.00	2820.00	49100.00	46400.00
Lead	5	15	22.70	<2.10	<2.10	<2.10	<3.0	<3.0	<2.10	<2.10	<2.10	<3.0	4.50	3.40	2.48 ER	3.01 ER	3.11 ER	ND
Magnesium	NLE	NLE	62700	9930.00	15100.00	14800.00	12400.00	15900.00	10200.00	10600.00	10100.00	10500.00	9700.00	10300.00	17600.00	20200.00	39000.00	44100.00
Manganese	50	NLE	331	94.10	121.00	117.00	107.00	97.00	66.70	73.60	70.30	76.50	56.60	57.60	152.00	155.00	396.00	429.00
Mercury	2	2	0.26	<0.254	<0.254	<0.254	<0.20	<0.20	<0.254	<0.254	<0.254	<0.20	<0.20	<0.20	ND	ND	ND	ND
Nickel	100	NLE	187	94.60	121.00	115.00	109.00	99.20	16.90	18.10	17.70	17.70	16.00	17.00	11.20	5.25	ND	3.60 ER
Potassium	NLE	NLE	137000	11300.00	15500.00	15100.00	11100.00	<10000	9440.00	11600.00	11000.00	<10000	<10000	<10000	13000.00	12500.00	16500.00	20300.00
Selenium	40	50	29.60	<1.36	<1.36	<1.36	<10	<10	<1.36	<1.36	<1.36	<10	<10	<10	ND	24.20	17.90	ND
Silver	40	NLE	ND	<0.60	<0.60	<0.60	<10	<10	<0.60	<0.60	<0.60	<10	<10	<10	ND	ND	6.18	ND
Sodium	50000	NLE	21500	23700.00	67200.00	66200.00	44900.00	104000.00	11300.00	13100.00	13500.00	12900.00	12900.00	13700.00	17800.00	21000.00	46300.00	63200.00
Thallium	2	2	5.50	<0.53	<0.53	<0.53	<2.0	<2.0	<0.53	<0.53	<0.53	<2.0	<2.0	<2.0	5.80 ER	ND	ND	7.19 ER
Vanadium	NLE	NLE	108	<0.50	<0.50	<0.50	<50	<50	<0.50	0.84 ER	0.73 ER	<50	<50	<50	3.71 ER	1.42 ER	3.04 ER	2.41 ER
Zinc	2000	NLE	233	271.00	374.00	361.00	374.00	405.00	106.00	93.60	88.40	136.00	142.00	151.00	28.70	ND	ND	99.90

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

D= Diluted Sample

Table 2
Historical Groundwater Analytical Results
Site FTMM-18
Fort Monmouth, New Jersey

				M18MW24										M18MW25			
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	50	51	52	53	54	LF1	LF2	LF3	LF4	LF5	46	47	48	49
Date Collected				3/25/2009	6/2/2009	9/17/2009	11/23/2009	2/2/2010	5/14/2010	9/14/2010	11/12/2010	2/24/2011	4/20/2011	3/4/2008	5/14/2008	8/13/2008	10/24/2008
ANALYTE/Lab ID				90121.01	90219.01	90385.01	90458.01	10046.01	10193.05	10389.05	1048402	1106803	1116102	80067.02	80162.02	80296.02	80387.02
Volatile Organic Compounds (µg/L)																	
1,2-Dichloroethane	75	74	--	ND	ND	ND	ND	ND	ND	ND	<0.11	<0.11	<0.11	ND	ND	ND	ND
1,2-Dichloropropane	1	5	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	ND	ND	ND	ND
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	ND	ND	ND	ND
Carbon Tetrachloride	1	5	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	ND	ND	ND	ND
tert-Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	<1.64	<1.64	<1.64	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	<0.11	<0.11	<0.11	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	5.00 JN	ND	ND	ND	ND	ND	ND
Metals (µg/L)																	
Aluminum	200	NLE	121000	250.00	21.10	166.00	41.70 ER	179.00	ND	69.20 ER	<13.0	<200	<200	130.00	ND	ND	745.00
Antimony	6	6	20.70	28.20	8.00 ER	ND	ND	ND	15.90	24.50	<4.70	<6.0	<6.0	ND	ND	ND	11.70
Arsenic	3	10	89.30	140.00	ND	42.90	1.33 ER	1.86	1.25	1.64 ER	3.44 ER	<3.0	<3.0	4.61 ER	7.00	13.50	ND
Barium	6000	2000	699.00	279.00	225.00	289.00	460.00	182.00	158.00	312.00	294.00	<200	<200	43.90	39.30	295.00	376.00
Beryllium	1	4	2.10	ND	0.11 ER	ND	ND	ND	ND	ND	0.45 ER	<1.0	<1.0	ND	0.10 ER	0.12 ER	ND
Cadmium	4	5	9.50	ND	ND	3.17	ND	ND	0.94 ER	3.99	0.79 ER	<3.0	<3.0	0.26 ER	2.40	8.83	ND
Calcium	NLE	NLE	45400.00	495000.00	491000.00	539000.00 E	943000.00	495000.00	383000.00	623000.00 E	975000.00 E	523000.00	260000.00	117000.00	97700.00	429000.00	325000.00
Chromium	70	100	191.00	3.90 ER	1.85 ER	ND	ND	ND	ND	1.89 ER	<0.60	<10	<10	ND	2.20 ER	ND	4.29 ER
Cobalt	NLE	NLE	18.30	1.27 ER	0.74 ER	1.06 ER	0.56 ER	0.78 ER	ND	ND	16.90	<50	<50	2.66	1.80 ER	ND	2.68
Copper	1300	1300	65.60	25.50	ND	ND	ND	ND	ND	3.45 ER	<0.80	<10	<10	9.21	ND	ND	3.43 ER
Iron	300	NLE	431000	23700.00	49300.00	81400.00	18900.00	3540.00	25400.00	78700.00	13900.00	11300.00	11000.00	19100.00	25500.00	82600.00	150000.00
Lead	5	15	22.70	5.87	3.07 ER	ND	ND	ND	3.58 ER	8.89	<2.10	3.60	9.10	ND	3.00 ER	6.89	ND
Magnesium	NLE	NLE	62700	30100.00	39100.00	48200.00	60300.00	30300.00	27100.00	55500.00	63900.00	35400.00	14300.00	20100.00	16500.00	116000.00	151000.00
Manganese	50	NLE	331	339.00	420.00	335.00	422.00	296.00	345.00	392.00	499.00	453.00	288.00	966.00	1090.00	694.00	477.00
Mercury	2	2	0.26	ND	ND	ND	ND	ND	ND	0.09 ER	<0.254	<0.20	<0.20	ND	ND	ND	ND
Nickel	100	NLE	187	ND	ND	ND	ND	1.88 ER	0.90 ER	2.19 ER	58.90	<10	<10	20.80	3.00 ER	ND	ND
Potassium	NLE	NLE	137000	14700.00	15400.00	18700.00	30200.00	16000.00	13700.00	19400.00	40300.00	18500.00	10400.00	5790.00	5600.00	41500.00	58300.00
Selenium	40	50	29.60	36.70	ND	ND	ND	15.00	NR	1.91 ER	<1.36	<10	<10	ND	ND	7.79 ER	ND
Silver	40	NLE	ND	ND	ND	ND	35.60	26.20	ND	2.56 ER	<0.60	<10	<10	ND	2.00 ER	11.10	ND
Sodium	50000	NLE	21500	34600.00	42400.00	68800.00	256000.00	59900.00	62300.00	113000.00	238000.00	88500.00	21900.00	58200.00	30700.00	774000.00 E	1090000.00
Thallium	2	2	5.50	36.50	ND	ND	ND	ND	ND	ND	<0.53	<2.0	<2.0	3.31 ER	ND	ND	2.21 ER
Vanadium	NLE	NLE	108	7.60	2.27 ER	14.40	7.20	4.95 ER	ND	ND	<0.50	<50	<50	ND	0.90 ER	3.35 ER	12.90
Zinc	2000	NLE	233	82.10	6.88 ER	10.70 ER	4.69 ER	5.45 ER	ND	ND	532.00	<20	<20	25.80	ND	ND	38.60

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-18
Fort Monmouth, New Jersey

				M18MW25																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	50		51		52		53		54		LF1		LF1 Dup		LF2		LF2 Dup		LF3		LF4		LF5
Date Collected				3/25/2009		6/2/2009		9/17/2009		11/23/2009		2/2/2010		5/14/2010		5/14/2010		9/14/2010		9/14/2010		11/12/2010		2/24/2011		4/20/2011
ANALYTE/Lab ID				90121.02		90219.02		90385.02		90458.02		10046.02		10193.04		10193.03		10389.04		10389.03		1048401		1106804		1116101
Volatile Organic Compounds (µg/L)																									
1,2-Dichloroethane	75	74	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.11		<0.11		<0.11
1,2-Dichloropropane	1	5	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.12		<0.12		<0.12
Acetone	6000	NLE	--	6.86		ND		ND		ND		ND		ND		ND		ND		ND		<0.32		<0.32		<0.32
Benzene	1	5	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.12		0.29	J	<0.12
Carbon Tetrachloride	1	5	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.12		<0.12		<0.12
tert-Butyl alcohol	100	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		<1.64		<1.64		<1.64
Trichloroethene	1	5	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.11		<0.11		<0.11
TICs*	500	NLE	--	ND		ND		ND		ND		ND		ND		ND		4.00	JN	ND		ND		ND		ND
Metals (µg/L)																									
Aluminum	200	NLE	121000	81.00	ER	ND		136.00		ND		46.70	ER	ND		ND		ND		ND		<13.0		<200		<200
Antimony	6	6	20.70	22.70		6.19	ER	ND		ND		6.43	ER	16.30		14.70		33.10		31.70		<4.70		<6.0		<6.0
Arsenic	3	10	89.30	112.00		15.40		52.00		2.98	ER	8.11		2.15		1.28	ER	7.58		4.82	ER	<0.62		<3.0		10.80
Barium	6000	2000	699.00	147.00		133.00		352.00		170.00		44.00		118.00		109.00		459.00		441.00		526.00		230.00		<200
Beryllium	1	4	2.10	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.40		<1.0		<1.0
Cadmium	4	5	9.50	ND		ND		2.05		ND		ND		1.20	ER	0.95	ER	2.09		2.32	ER	2.65		<3.0		<3.0
Calcium	NLE	NLE	45400.00	211000.00		ND		506000.00		295000.00	E	112000.00		214000.00		198000.00		640000.00	E	612000.00	E	661000.00	E	367000.00		71800.00
Chromium	70	100	191.00	0.92	ER	ND		ND		ND		ND		ND		ND		ND		ND		<0.60		<10		<10
Cobalt	NLE	NLE	18.30	0.42		0.56	ER	0.50	ER	ND		ND		ND		ND		ND		ND		<0.30		<50		<50
Copper	1300	1300	65.60	2.37	ER	ND		ND		ND		ND		ND		ND		4.09	ER	3.90	ER	<0.80		<10		<10
Iron	300	NLE	431000	47500.00		48600.00		60400.00		30200.00		ND		31400.00		28500.00		48600.00		47700.00		42400.00		4860.00		7950.00
Lead	5	15	22.70	11.50		ND		ND		ND		ND		3.31	ER	3.08	ER	ND		3.56	ER	2.80	ER	<3.0		<3.0
Magnesium	NLE	NLE	62700	909000.00		153000.00		155000.00		64100.00		18700.00		39700.00		36900.00		181000.00		175000.00		177000.00		100000.00		11600.00
Manganese	50	NLE	331	451.00		419.00		1130.00		819.00		594.00		610.00		569.00		1120.00		1090.00		1120.00		912.00		543.00
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		ND		0.07	ER	0.09	ER	<0.254		<0.20		<0.20
Nickel	100	NLE	187	ND		ND		0.82	ER	ND		2.20	ER	ND		ND		1.33	ER	1.03	ER	<0.70		<10		<10
Potassium	NLE	NLE	137000	33000.00		50400.00		51500.00		17800.00		6750.00		14700.00		13100.00		42000.00		40600.00		67500.00		28600.00		<10000
Selenium	40	50	29.60	73.40		6.19	ER	24.60		ND		ND		NR		NR		1.61	ER	2.34	ER	<1.36		<10		<10
Silver	40	NLE	ND	ND		ND		ND		ND		ND		1.37	ER	1.07	ER	ND		ND		2.38	ER	<10		<10
Sodium	50000	NLE	21500	647000.00		1040000.00		948000.00	E	347000.00		45500.00		232000.00		214000.00		1060000.00	E	1020000.00	E	118000.00	E	608000.00		23200.00
Thallium	2	2	5.50	ND		ND		ND		ND		ND		ND		ND		ND		ND		<0.53		<2.0		<2.0
Vanadium	NLE	NLE	108	10.70		3.59	ER	12.70		7.00		3.46	ER	ND		ND		ND		ND		<0.50		<50		<50
Zinc	2000	NLE	233	16.60	ER	ND		3.81	ER	ND		2.28	ER	ND		ND		ND		ND		<2.50		<20		<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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D= Diluted Sample

Table 2
Historical Groundwater Analytical Results
Site FTMM-18
Fort Monmouth, New Jersey

| | | | | 296MW03 | | | |

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-018
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-18-GW-M18MW22-12.33		FTMM-18-GW-M18MW22-18.98		FTMM-18-GW-M18MW24-10.9		FTMM-18-GW-M18MW25-8.8		FTMM-18-GW-M18MW25-13.8	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	30-Aug-2013		30-Aug-2013		30-Aug-2013		30-Aug-2013		30-Aug-2013	
LAB SAMPLE ID:					R1306380-004		R1306380-005		R1306380-001		R1306380-002		R1306380-003	
SAMPLE DEPTH (ft bgs):					12.33		18.98		10.9		8.81		13.81	
	CAS No.	Unit												
Volatile Organics - SW8260C														
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	**13**		**26**		1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.4**	BJ	**3.5**	BJ	**3.0**	BJ	**2.3**	BJ	**2.1**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	**0.37**	J	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-018
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-18-GW-M18MW22-12.33		FTMM-18-GW-M18MW22-18.98		FTMM-18-GW-M18MW24-10.9		FTMM-18-GW-M18MW25-8.8		FTMM-18-GW-M18MW25-13.8	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	30-Aug-2013		30-Aug-2013		30-Aug-2013		30-Aug-2013		30-Aug-2013	
LAB SAMPLE ID:					R1306380-004		R1306380-005		R1306380-001		R1306380-002		R1306380-003	
SAMPLE DEPTH (ft bgs):					12.33		18.98		10.9		8.81		13.81	
	CAS No.	Unit												
tert-Butylbenzene	98-06-6	µg/L	100 [5]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
VOC - TICs														
Isobutane	75-28-5	µg/L	500 [3]	NLE			**6.9**	JN						

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.
(http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-18
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration (metals only) Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-18 Landfill									
M18MW22		Be, Al, Ba, Cd, Fe, Mn, Ni, Na, B1,2-DCA, Benzene	Be, Na	N/A	NO	YES	N/A	YES (VOCs only)	Be and Na are considered background analytes and not from historical site use. August 2013 1,2-DCA + historical benzene exceedance
M18MW23	VOCs	Benzene, carbon tetrachloride, Al, As, Fe, Mn	NO	N/A	NO	YES	N/A	YES (VOCs only)	Historical benzene exceedance. Well could not be located and was not sampled in August 2013. Well will be located and sampled.
MP18MW24		Sb, As, Fe, Pb, Mn, Na	Sb, Mn, Na	N/A	N/A	N/A	NO	NO	Metals exceedance due to background concentrations not historical site use.
MP18MW25		Sb, As, Fe, Mn, Na	Sb, Mn, Na	N/A	N/A	N/A	NO	NO	Metals exceedance due to background concentrations not historical site use.

Notes

1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyte from LTM list

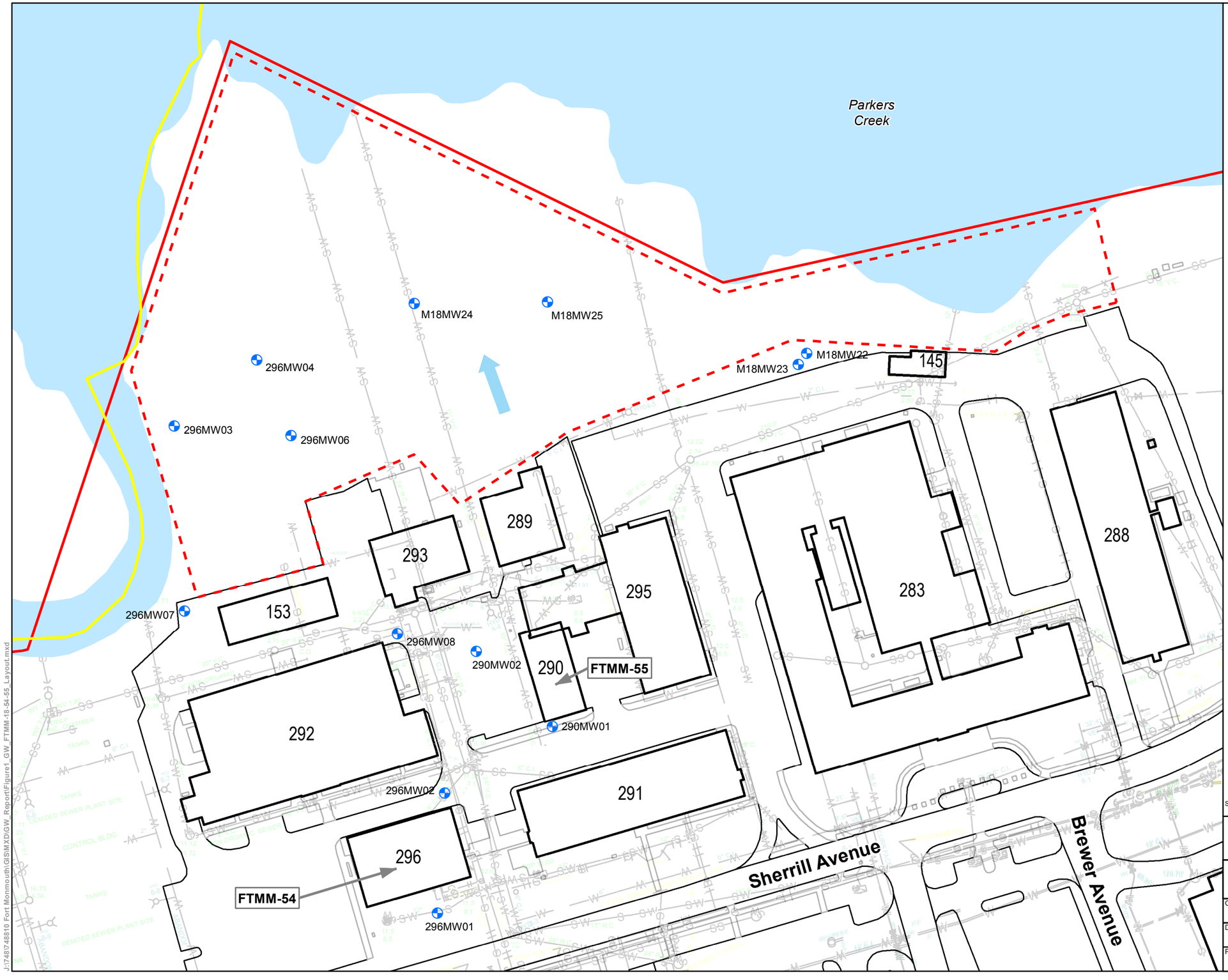
2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds?
If yes then keep analyte in LTM list
If no then remove this analyte from LTM list

3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

4 1,2-DCA = 1,2-dichloroethane

FIGURES

Figure 1 Layout of FTMM-18, FTMM-54 (Building 296), & FTMM-55 (Building 290)



Legend

- Shallow Monitoring Well
- M-18 Landfill Boundary
- Municipal Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 90 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-18, FTMM-54 (Building 296) & FTMM-55 (Building 290)

CREATED BY: TS	REVIEWED BY: IG
DATE: January 2014	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-18-54-55_Layout.mxd

J:\748748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-18-54-55_Layout.mxd

ATTACHMENTS

Attachment A NJDEP PDB Checklists

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-18
3. Well Designation: M18MW22
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.65
9. Total Well Depth (fbgs): 15
10. Screened interval/open hole (fbgs): 5-20, 15' screen
11. Well Casing: Diameter 4" Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4" Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/12/13 Time: 1530
15. Depth to Ground Water: Depth to ground water at time of deployment 8.95
16. Date and Time of Retrieval: Date: 8/30/13 Time: 0950
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.94
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: stainless steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    [ ] Attached to bottom of PDBS and suspended in well
    [ ] Attached to bottom of deployment line and suspended in well
    [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
12.33	18.98		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    [ ] **No**, this well is being profiled during this sampling round
    [ ] **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    [ ] **No**, flow testing has not been conducted in this well
    [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 80°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval: Temp. _____ Wind _____ [ ] Sunny [ ] Overcast [ ] Raining [ ] Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiTonno	Parsons
Chris Watson	

Zebra Lady

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-18
3. Well Designation: MP18MW24
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.3
9. Total Well Depth (fbgs): 14.50
10. Screened interval/open hole (fbgs): 4.5 - 14.50, 10' screen
11. Well Casing: Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 0905
15. Depth to Ground Water: Depth to ground water at time of deployment 6.05
16. Date and Time of Retrieval: Date: 8/30/13 Time: 0915
17. Depth to Ground Water: Depth to ground water at time of retrieval 5.85
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight
    ☒ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.9			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☒ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiTomma	Parsons
Chris Watson	
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-18
3. Well Designation: MP18MW25
4. Well Permit Number: _____

5 Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other

6 Well Surface Finish: ☒ Stick Up ☐ Flush Mount

7 Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____

8 **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below any differences between the measuring point identified above and actual ground surface at the well head.

Distance between measuring point and ground surface (ft.) 1.81

9 Total Well Depth (fbgs): 14.5

10 Screened interval/open hole (fbgs): 4.5-14.5

11 Well Casing: Diameter 4" Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel

12 Well Screen (or open hole diameter): Diameter 4" Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel

13 Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 0915

15. Depth to Ground Water: Depth to ground water at time of deployment 5.85

16. Date and Time of Retrieval: Date: 8/29/13 Time: 0925

17. Depth to Ground Water: Depth to ground water at time of retrieval 5.65

18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19 Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)

20 Type of PDBS Used:
☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)

21 Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____

22 Position of PDBS Weight:
☒ Attached to bottom of PDBS and suspended in well
☒ Attached to bottom of deployment line and suspended in well
☐ Attached to bottom of deployment line and resting on bottom of well (preferred)

23 Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.81	13.81		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
☐ **No**, this well is being profiled during this sampling round
☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
☐ **No**, flow testing has not been conducted in this well
☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
Type of flow meter used: _____
Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☒ Raining ☐ Snowing

27. Weather Conditions During Retrieval: Temp. _____ Wind _____ ☐ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28 Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Iannone	Parsons
Chris Watson	
Zoher Levy	

APPENDIX I: FTMM-22 Former Wastewater Treatment Lime Pit

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1.0 FTMM-22 GROUNDWATER MONITORING I-1
2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT I-1
3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS I-1
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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

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1	Layout of FTMM-22 (Former CW1 Lime Pit at Building 2700)

LIST OF ATTACHMENTS

Attachment	Title
A	NJDEP PDB Checklists & LFPS Field Sheets

1.0 FTMM-22 GROUNDWATER MONITORING

Groundwater samples were collected from 17 monitoring wells located at the FTMM-22 as part of the August 2013 Baseline Sampling Event. CW1MW281 was slated for sampling but could not be sampled due to an obstruction in the monitoring well casing. The obstruction appeared to be a pump and associated tubing. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using passive diffusion bags (PDBs), as per the March 2013 Sampling Analysis Plan (SAP). PDBs were deployed on August 14, 2013, and retrieved for sampling on August 28, 2013. Additionally, groundwater samples were collected from monitoring wells CW1MW27 and CW1MW39 via low flow purging and sampling (LFPS) methodology in order to determine the representativeness of groundwater samples collected using PDBs. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual (FSPM) and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed NJDEP PDB checklists and LFPS field sheets for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-22 were gauged on August 6, 2013. Groundwater elevations in monitoring wells ranged from 48.21 (CW1MW29) to 52.10 (CW1MW27) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the southeast (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging, the physical condition of FTMM-22 monitoring wells was assessed. CW1MW281 was found to be obstructed by a pump and associated tubing. This equipment could not be removed in time for the well to be sampled and CW1MW281 was therefore not sampled. The remaining site monitoring wells were found to be in good condition and contained sampling tubing.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From April 1997 through February 2004, FTMM-22 monitoring wells were sampled primarily for VOCs, semi-volatile organic compounds (SVOCs) and metals. From March 2004 to January 2010, monitoring wells were sampled for VOCs. From April 2010 to August 2010 groundwater sampling consisted of VOCs and metals analysis.

In the last four rounds of groundwater sampling conducted on a quarterly basis from October 2010 to July 2011, samples were analyzed for VOCs and metals. Aluminum, antimony,

arsenic, beryllium, cadmium, chromium, iron, lead, manganese, sodium and vanadium were detected in exceedance of their respective NJDEP GWQS. Arsenic, selenium, and sodium were detected at concentrations greater than their background concentration as established in the 1995 Weston Report in several monitoring wells; however selenium and sodium have background concentrations lower than the NJDEP GWQS.

Trichloroethene (TCE) was detected in monitoring wells CW1MW27 (1.5 µg/L), CW1MW28 (1.64J – 13.15 µg/L) CW1MW29 (1.03 – 29.08 µg/L), CW1MW31 (1.82J – 14.95 µg/L), CW1MW37 (1.29J µg/L) and CW1MW281 (1.15J – 109.9D µg/L). Historical groundwater analytical results are presented in **Table 2.**

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**. Groundwater samples were analyzed for VOCs. TCE was detected in site monitoring well CW1MW29 above its NJDEP GWQS of 1 µg/L at 2.5J µg/L.

5.0 FINDINGS AND RECOMMENDATIONS

Due to the historical exceedances of TCE in monitoring wells CW1MW27 and CW1MW31, and the August 2013 TCE exceedance in CW1MW29; continued quarterly VOC monitoring is recommended for these wells via PDB sampling methodology.

NJDEP approved a no further action determination for monitoring of metals in groundwater at FTMM-22, dated May 7, 2012, therefore metals analysis will be discontinued at the Site.

During the August 2013 Groundwater Monitoring Event, a groundwater sample could not be collected from CW1MW281 due to the presence of an obstruction within the well casing. The obstruction, a “pitless” adapter for a submersible pump, was removed during remedial investigation activities conducted at the Site in January 2014. Monitoring well CW1MW281 will be sampled for VOCs during the next round of groundwater sampling.

Table 4 presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-22
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	Saturated Screen Length	Every 5' of saturated screen requires PDB & its deployed in mid-point of saturated screen interval				PDB Deploy Date	PDB Deploy Time	PDB Sample Date	PDB Sample Time	LFPS Confirmatory Sample Date and Time
				feet											PDB Interval 1 (ft. below TOC)	PDB Interval 2 (ft. below TOC)	PDB Interval 3 (ft. below TOC)	PDB Interval 4 (ft. below TOC)					
M-22, CW-1 (Former Neutralization Pit)																							
CW1MW26	29-32590	532932.459	607087.706	15.00	10.00	5-15	60.81	8-6-13	1555	0	9	17.1	51.81	7.53	12.79	N/A	N/A	N/A	8/14/2013	1155	8/28/2013	1350	N/A
CW1MW27	29-32591	532942.541	607079.911	15.00	10.00	5-15	60.85	8-6-13	1552	0	8.75	17.1	52.10	7.71	12.63	N/A	N/A	N/A	8/14/2013	1205	8/28/2013	1314	8-28-13; 1410
CW1MW29	29-32593	532952.804	607110.856	15.00	10.00	5-15	58.40	8-6-13	1603	0	6.74	14.7	51.66	8.3	10.85	N/A	N/A	N/A	8/14/2013	1150	8/28/2013	1400	N/A
CW1MW30	29-43188	532932.459	607094.397	17.00	10.00	7-17	61.93	8-6-13	1615	0	9.93	21.6	52.00	8.81	14.27	N/A	N/A	N/A	8/14/2013	1035	8/28/2013	1135	N/A
CW1MW31	29-43189	532952.948	607141.850	19.00	15.00	4-19	61.47	8-6-13	1607	0	10.15	21.8	51.32	11	8.86	18.36	N/A	N/A	8/14/2013	1115	8/28/2013	1205	N/A
CW1MW32	29-43190	532953.165	607188.334	22.00	15.00	7-22	62.18	8-6-13	1526	0	11.34	22.02	50.84	13.65	14.72	21.55	N/A	N/A	8/14/2013	1132	8/28/2013	1410	N/A
CW1MW33	29-43191	532902.608	607196.318	20.00	15.00	5-20	62.27	8-6-13	1608	0	11.15	23.5	51.12	11.2	14	19.6	N/A	N/A	8/14/2013	1141	8/28/2013	1420	N/A
CW1MW34	29-43192	533014.201	607257.782	20.00	15.00	5-20	58.63	8-6-13	1523	0	8.61	19.7	50.02	11.35	11.43	17.17	N/A	N/A	8/14/2013	920	8/28/2013	955	N/A
CW1MW35	29-43193	532973.908	607296.710	20.00	15.00	5-20	58.09	8-6-13	1510	0	8.35	16.71	49.74	11.65	11.26	17.09	N/A	N/A	8/14/2013	940	8/28/2013	1035	N/A
CW1MW36	29-43194	533014.490	607319.765	20.00	15.00	5-20	58.70	8-6-13	1520	0	9.1	16.53	49.60	10.85	11.86	17.29	N/A	N/A	8/14/2013	930	8/28/2013	1015	N/A
CW1MW37	29-43195	532953.850	607335.547	20.00	15.00	5-20	59.21	8-6-13	1515	0	8.84	13.7	50.37	11.19	11.66	17.15	N/A	N/A	8/14/2013	950	8/28/2013	1050	N/A
CW1MW38	29-43186	532922.196	607056.762	50.00	20.00	30-50	61.93	8-6-13	1557	0	12.8	50.79	49.13	20	35.18	40.18	45.18	50.18	8/14/2013	1210	8/28/2013	1330	N/A
CW1MW39	29-43185	533064.217	607133.581	48.00	20.00	28-48	61.51	8-6-13	1535	0	13.3	50.95	48.21	20	33.35	38.35	43.35	48.35	8/14/2013	955	8/28/2013	1110	8-29-13; 1020
CW1MW40	29-43187	532973.221	607149.501	50.00	20.00	30-50	62.35	8-6-13	1530	0	14.03	50.2	48.32	20	35.17	40.17	45.17	50.17	8/14/2013	1048	8/28/2013	1145	N/A
CW1MW281	29-35312	532962.886	607103.061	41.00	10.00	31-41	58.20	8-6-13	1542	0	9.4	35.45	48.80	Not Sampled									
CW1MW282	29-35313	533064.253	607141.330	16.00	10.00	6-16	60.29	8-6-13	1533	0	8.7	18.17	51.59	8.44	12.62	N/A	N/A	N/A	8/14/2013	1030	8/28/2013	1125	N/A
CW1MW291	29-35314	532993.640	607188.146	16.00	10.00	6-16	62.21	8-6-13	1528	0	11.31	18.3	50.90	7.04	14.77	N/A	N/A	N/A	8/14/2013	1125	8/28/2013	1300	N/A

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS = low flow purging and sampling
PDB = Passive Diffusion Bag
N/A = not applicable

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW25							CW1MW26													
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	**LF1**	**LF2**	LF2 Dup	LF3	LF4	LF5	LF5 Dup	80	80 Dup	81	81 Dup	82	82 Dup	83	83 Dup	84	84 Dup	85	85 Dup	86	86 Dup	87
Date Collected				10/28/2010	11/10/2010	11/10/2010	2/17/2011	4/27/2011	7/14/2011	7/14/2011	2/25/2008	2/25/2008	4/10/2008	4/10/2008	7/29/2008	7/29/2008	12/8/2008	12/8/2008	2/18/2009	2/18/2009	5/15/2009	5/15/2009	7/29/2009	7/29/2009	10/14/2009
ANALYTE/Lab ID				10466.01	10479.04	10479.03	11059.07	11173.05	11297.04	11297.03	80055.04	80055.03	80121.04	80121.03	80267.04	80267.03	80450.04	80450.03	90059.04	90059.03	90198.04	90198.03	90318.04	90318.03	90415.04
Volatile Organic Compounds (µg/L)																									
Acetone	6000	NLE	--	35.85	32.96	32.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	3.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	2.49	2.57	2.6	ND	ND	0.66 J	1.5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																									
Aluminum	200	NLE	8210	2320	1010	1010	<200	<200	319	307	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	ND	6.91 ER	5.07 ER	ND	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	25.10	5.15	2.29 ER	2.59 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	192.00	742	827	820	329	355	614	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.80	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	3.70	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	8700.00	206000	250000	252000	147000	128000	325000	315000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	49.60	17.4	0.8 ER	0.937 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	30.60	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	9.80	0.89 ER	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	19600	7700	3120	3460	1610	5590	<100	214	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	7.30	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	7160	1650	500 ER	543 ER	<5000	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	232	31.7	14.4	16.1	<15	48.4	<15	<15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	ND	ND	ND	ND	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	48.3	3.03 ER	1.07 ER	0.773 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	4630	189000	120000	120000	18000	15100	19500	19200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	3.80	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	7.56	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	36400	217000	164000	163000	38400	23700	64800	63800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	ND	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	28.9	8.57	3.76 ER	3.37 ER	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	133	6.65 ER	ND	ND	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW26																CW1MW27					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	87 Dup	88	88 Dup	LF1	LF1 Dup	LF2	LF2 Dup	LF3	LF3 Dup	LF4	LF4 Dup	LF5	LF5 Dup	LF6	LF6 Dup	80	81	82	83	84	85
Date Collected				10/14/2009	1/20/2010	1/20/2010	4/19/2010	4/19/2010	8/10/2010	8/10/2010	10/20/2010	10/20/2010	2/16/2011	2/16/2011	4/26/2011	4/26/2011	7/13/2011	7/13/2011	2/25/2008	4/10/2008	7/29/2008	12/8/2008	2/18/2009	5/15/2009
ANALYTE/Lab ID				90415.03	10026.04	10026.03	10150.04	10150.03	10338.04	10338.03	10449.04	10449.03	11058.04	11058.03	11169.04	11169.03	11295.04	11295.03	80055.05	80121.05	80267.05	80450.05	90059.05	90198.05
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																								
Aluminum	200	NLE	8210	NA	NA	NA	2080	2270	180	189	80.8 ER	122	<200	<200	575	573	285	315	NA	NA	NA	NA	NA	NA
Antimony	6	6	ND	NA	NA	NA	ND	ND	ND	5.09 ER	ND	ND	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA
Arsenic	3	10	25.10	NA	NA	NA	0.72 ER	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA
Barium	6000	2000	192.00	NA	NA	NA	60.4	67.9	17.7	18.2	18.1	17.1	<200	<200	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.80	NA	NA	NA	0.892	0.987	0.223 ER	0.216 ER	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA
Cadmium	4	5	3.70	NA	NA	NA	ND	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	8700.00	NA	NA	NA	30700	34100	7660	7950	6470	6140	10700	10900	16800	15900	7960	8140	NA	NA	NA	NA	NA	NA
Chromium	70	100	49.60	NA	NA	NA	ND	ND	2.4 ER	2.67 ER	1.27 ER	1.5 ER	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	30.60	NA	NA	NA	2.63	2.62	0.979 ER	0.941 ER	0.55 ER	0.576 ER	<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA
Copper	1300	1300	9.80	NA	NA	NA	ND	ND	1.51 ER	1.43 ER	ND	ND	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Iron	300	NLE	19600	NA	NA	NA	148 ER	ND	ND	ND	ND	ND	<100	<100	138	217	<100	110	NA	NA	NA	NA	NA	NA
Lead	5	15	7.30	NA	NA	NA	ND	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	7160	NA	NA	NA	3980	4350	1250	1290	1100	1050	<5000	<5000	<5000	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	232	NA	NA	NA	17.9	19.5	7.68	7.76	6.79	6.42	<15	<15	<15	<15	<15	<15	NA	NA	NA	NA	NA	NA
Mercury	2	2	ND	NA	NA	NA	0.06 ER	ND	ND	ND	ND	ND	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	48.3	NA	NA	NA	3.59 ER	4.41 ER	0.804 ER	1.33 ER	0.954 ER	1.1 ER	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	4630	NA	NA	NA	2550	2840	2980	3100	2970	2860	<10000	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA
Selenium	40	50	3.80	NA	NA	NA	NR	NR	12.9 ER	12.1 ER	ND	ND	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	ND	ND	ND	ND	0.733 ER	0.648 ER	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	36400	NA	NA	NA	9930	11800	28500	29900	21700	20300	16700	17600	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA
Thallium	2	2	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	28.9	NA	NA	NA	ND	ND	ND	ND	ND	ND	<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	133	NA	NA	NA	12 ER	12.5 ER	5.64 ER	5.04 ER	3.3 ER	2.75 ER	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

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NLE = No limit established

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D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW27										CW1MW28															
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	86	87	88	LF1		LF2		LF3	LF4	LF5	LF6	69	70		71	72	73	74	75	76	77	LF1		LF2		LF3	
Date Collected				7/29/2009	10/14/2009	1/20/2010	4/19/2010		8/11/2010		10/20/2010	2/16/2011	5/3/2011	7/13/2011	2/25/2008	4/10/2008		7/29/2008	12/8/2008	2/18/2009	5/15/2009	7/29/2009	10/14/2009	1/20/2010	4/23/2010		8/25/2010		10/28/2010	
ANALYTE/Lab ID				90318.05	90415.05	10026.05	10150.05		10338.05		10449.05	11058.06	11189.05	11295.05	80055.06	80121.06		80267.06	80450.06	90059.06	90198.06	90318.06	90415.06	10026.06	10162.07		10362.08		10465.10	
Volatile Organic Compounds (µg/L)																													
Acetone	6000	NLE	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Bromodichloromethane	1	80	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
2-Butanone	300	NLE	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Carbon disulfide	700	NLE	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Chloroform	70	80	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Chloromethane	NLE	NLE	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		6.09		ND	
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Toluene	600	1000	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	0.3	J	ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Trichloroethene	1	5	--	ND	ND	ND	ND		ND		ND	0.9	0.58	1.5	2.99	1.64	J	10.53	ND	ND	2.49	ND	ND	0.25	J	ND		2.69		1	
TICs*	500	NLE	--	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Metals (µg/L)																													
Aluminum	200	NLE	8210	NA	NA	NA	847		267		200	12600	<200	<200	NA	NA		NA	NA	NA	NA	NA	NA	NA	132		72.5	ER	95.2	ER
Antimony	6	6	ND	NA	NA	NA	ND		ND		ND	<6.0	<6.0	<6.0	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Arsenic	3	10	25.10	NA	NA	NA	ND		ND		ND	<3.0	<3.0	<3.0	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		1	ER	ND	
Barium	6000	2000	192.00	NA	NA	NA	68.4		20.1		26.5	<200	<200	<200	NA	NA		NA	NA	NA	NA	NA	NA	NA	31.2		18.1		17.9	
Beryllium	1	4	2.80	NA	NA	NA	0.236	ER	0.179	ER	ND	1.1	<1.0	<1.0	NA	NA		NA	NA	NA	NA	NA	NA	NA	0.173	ER	0.095	ER	ND	
Cadmium	4	5	3.70	NA	NA	NA	ND		ND		ND	<3.0	<3.0	<3.0	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Calcium	NLE	NLE	8700.00	NA	NA	NA	15500		6030		5280	166000	16500	<5000	NA	NA		NA	NA	NA	NA	NA	NA	NA	2620		1980		2300	
Chromium	70	100	49.60	NA	NA	NA	ND		3.23	ER	0.981	ER	<10	<10	<10	NA	NA		NA	NA	NA	NA	NA	NA	NA	1.09	ER	ND		1.68	ER
Cobalt	NLE	NLE	30.60	NA	NA	NA	1.67	ER	1.34	ER	0.712	ER	<50	<50	<50	NA	NA		NA	NA	NA	NA	NA	NA	NA	1.33	ER	1.07	ER	0.745	ER
Copper	1300	1300	9.80	NA	NA	NA	ND		1.94	ER	ND		<10	<10	<10	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		1.02	ER	ND	
Iron	300	NLE	19600	NA	NA	NA	ND		ND		9.97		<100	<100	<100	NA	NA		NA	NA	NA	NA	NA	NA	NA	100	ER	ND		ND	
Lead	5	15	7.30	NA	NA	NA	ND		ND		ND		<3.0	<3.0	<3.0	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Magnesium	NLE	NLE	7160	NA	NA	NA	2620		1400		1210		13400	<5000	<5000	NA	NA		NA	NA	NA	NA	NA	NA	NA	1160		897	ER	809	ER
Manganese	50	NLE	232	NA	NA	NA	19		8.38		9.02		307	30	<15	NA	NA		NA	NA	NA	NA	NA	NA	NA	7.19		5.46		5.35	
Mercury	2	2	ND	NA	NA	NA	0.08	ER	ND		ND		<0.20	<0.20	<0.20	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Nickel	100	NLE	48.3	NA	NA	NA	3.57	ER	1.39	ER	1.1	ER	22.9	<10	<10	NA	NA		NA	NA	NA	NA	NA	NA	NA	0.915	ER	1.2	ER	1.12	ER
Potassium	NLE	NLE	4630	NA	NA	NA	3860		2300		2260		<10000	<10000	<10000	NA	NA		NA	NA	NA	NA	NA	NA	NA	14600		3780		3210	
Selenium	40	50	3.80	NA	NA	NA	NR		14.7	ER	1.44	ER	<10	<10	<10	NA	NA		NA	NA	NA	NA	NA	NA	NA	NR		12.4	ER	ND	
Silver	40	NLE	ND	NA	NA	NA	ND		0.737	ER	ND		<10	<10	<10	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Sodium	50000	NLE	36400	NA	NA	NA	68900		48600		46500		16800	<10000	<10000	NA	NA		NA	NA	NA	NA	NA	NA	NA	34200		24600		28000	
Thallium	2	2	ND	NA	NA	NA	ND		ND		ND		<2.0	<2.0	<2.0	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Vanadium	60	NLE	28.9	NA	NA	NA	ND		ND		ND		<50	<50	<50	NA	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		0.73	ER
Zinc	2000	NLE	133	NA	NA	NA	9.06	ER	7.8	ER	3.56	ER	111	<20	<20	NA	NA		NA	NA	NA	NA	NA	NA	NA	118		2.45	ER	ND	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

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CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW28				CW1MW29																		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	LF4	LF5	LF5 Dup	LF6	69	70	71	72	73	74	75	76	77	LF1		LF2		LF3		LF4	LF5	LF5 Dup	LF6	
Date Collected				2/18/2011	4/28/2011	4/28/2011	7/14/2011	2/25/2008	4/10/2008	7/29/2008	12/8/2008	2/18/2009	5/15/2009	7/29/2009	10/14/2009	1/20/2010	4/19/2010		8/11/2010		10/20/2010		2/16/2011	4/27/2011	4/27/2011	7/14/2011	
ANALYTE/Lab ID				11062.05	11175.04	11175.03	11297.10	80055.07	80121.07	80267.07	80450.07	90059.07	90198.07	90318.07	90415.07	10026.07	10150.06		10338.09		10449.06		11058.08	11173.04	11173.03	11297.11	
Volatile Organic Compounds (µg/L)																											
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	0.85	J
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Chloroform	70	80	--	ND	ND	ND	0.28	J ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	3.83	ND	ND	ND	ND	ND	ND	ND		0.39	J	4.93		3.29	ND	ND	0.77	J
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		0.26	J	ND	ND	ND	ND	
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Trichloroethene	1	5	--	13.15	1.07	1.09	4.9	ND	ND	29.08	ND	ND	ND	0.55	ND	ND	0.39	J	2		7.66		4.31	1.12	1.03	24.3	
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND	ND	ND	ND	
Metals (µg/L)																											
Aluminum	200	NLE	8210	1480	NA	NA	444	NA	NA	NA	NA	NA	NA	NA	NA	NA	108		106		212		<200	539	316	308	
Antimony	6	6	ND	<6.0	NA	NA	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		10.3		5.03	ER	<6.0	<6.0	<6.0	<6.0	
Arsenic	3	10	25.10	<3.0	NA	NA	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.02	ER	0.81	ER	ND		<3.0	<3.0	<3.0	<3.0	
Barium	6000	2000	192.00	<200	NA	NA	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.9		35.6		47.3		<200	<200	<200	<200	
Beryllium	1	4	2.80	<1.0	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.043	ER	0.06	ER	ND		<1.0	<1.0	<1.0	<1.0	
Cadmium	4	5	3.70	<3.0	NA	NA	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.29		1.55	ER	2.92		5.3	3	3.2	8.2	
Calcium	NLE	NLE	8700.00	21900	NA	NA	14600	NA	NA	NA	NA	NA	NA	NA	NA	NA	16100		31000		47400		48200	61300	53600	102000	
Chromium	70	100	49.60	<10	NA	NA	16.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.33	ER	1.81	ER	ND		<10	<10	<10	18.2	
Cobalt	NLE	NLE	30.60	<50	NA	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		0.404	ER	ND		<50	<50	<50	<50	
Copper	1300	1300	9.80	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		2.3	ER	ND		<10	<10	<10	<10	
Iron	300	NLE	19600	<100	137	155	173	NA	NA	NA	NA	NA	NA	NA	NA	NA	82.3	ER	79.7	ER	147	ER	182	787	461	329	
Lead	5	15	7.30	<3.0	NA	NA	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<3.0	<3.0	<3.0	<3.0	
Magnesium	NLE	NLE	7160	<5000	NA	NA	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	1960		3880		6470		<5000	5590	<5000	9200	
Manganese	50	NLE	232	15.3	<15	<15	22.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.31	ER	3.95	ER	26.4		<15	<15	<15	<15	
Mercury	2	2	ND	<0.20	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.07	ER	ND		ND		<0.20	<0.20	<0.20	<0.20	
Nickel	100	NLE	48.3	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.48	ER	1.83	ER	4.65	ER	<10	<10	<10	<10	
Potassium	NLE	NLE	4630	<10000	NA	NA	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	2710		3570		4280		<10000	<10000	<10000	<10000	
Selenium	40	50	3.80	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR		41.7		ND		<10	<10	<10	<10	
Silver	40	NLE	ND	<10	NA	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		2.76	ER	<10	<10	<10	<10	
Sodium	50000	NLE	36400	48300	NA	NA	57200	NA	NA	NA	NA	NA	NA	NA	NA	NA	14800		30200		15700		29100	36300	24400	91500	
Thallium	2	2	ND	<2.0	NA	NA	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		<2.0	<2.0	<2.0	<2.0	
Vanadium	60	NLE	28.9	<50	NA	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	ER	2.11	ER	2.29	ER	<50	<50	<50	<50	
Zinc	2000	NLE	133	<20	NA	NA	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.07	ER	7.69	ER	15.8	ER	<20	<20	<20	<20	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW30																CW1MW31							
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	54	55	56	57	58	59	60	61	62	LF1	LF2	LF3	LF4	LF5	LF6	54	55	56	57	58	59	60	61
Date Collected				2/25/2008	4/10/2008	7/29/2008	12/8/2008	2/18/2009	5/15/2009	7/29/2009	10/14/2009	1/20/2010	4/19/2010	8/11/2010	10/20/2010	2/17/2011	4/26/2011	7/13/2011	2/25/2008	4/10/2008	7/29/2008	12/8/2008	2/18/2009	5/15/2009	7/29/2009	10/14/2009
ANALYTE/Lab ID				80055.08	80121.08	80267.08	80450.08	90059.08	90198.08	90318.08	90415.08	10026.08	10150.07	10338.06	10449.07	11059.14	11169.05	11295.06	80055.09	80121.09	80267.09	80450.09	90059.09	90198.09	90318.09	90415.09
Volatile Organic Compounds (µg/L)																											
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.82 J	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																											
Aluminum	200	NLE	8210	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.8 ER	84.2 ER	162	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	25.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.27 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	192.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	11.0	86.7	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.09 ER	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	3.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	8700.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	518 ER	3360	3340	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	49.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.13 ER	ND	0.689 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	30.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.79	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	9.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.69 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	19600	NA	NA	NA	NA	NA	NA	NA	NA	NA	119 ER	ND	59.5	<100	<100	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	7.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	7160	NA	NA	NA	NA	NA	NA	NA	NA	NA	538 ER	496 ER	3410	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	232	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.86 ER	1.96 ER	23.9	19.3	<15	<15	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	48.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.919 ER	0.636 ER	4.99 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	4630	NA	NA	NA	NA	NA	NA	NA	NA	NA	2100	1220	5730	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	3.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.86 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	36400	NA	NA	NA	NA	NA	NA	NA	NA	NA	15800	3730 ER	73500	71000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.09 ER	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	28.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.689 ER	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.26 ER	5.67 ER	7.26 ER	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW31										CW1MW32									
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	62	62 Dup	LF1	LF1 Dup	LF2	LF3	LF3 Dup	LF4	LF5	LF6	54	55	56	57	58	59	60	61	62	LF1	LF2
Date Collected				1/22/2010	1/22/2010	4/20/2010	4/20/2010	8/11/2010	10/26/2010	10/26/2010	2/17/2011	5/3/2011	7/14/2011	2/25/2008	4/10/2008	7/29/2008	12/8/2008	2/18/2009	5/15/2009	7/29/2009	10/14/2009	1/22/2010	4/20/2010	8/27/2010
ANALYTE/Lab ID				10031.04	10031.03	10154.04	10154.03	10338.08	10461.04	10461.03	11059.05	11189.06	11297.09	80055.10	80121.10	80267.10	80450.10	90059.10	90198.10	90318.10	90415.10	10031.05	10154.05	10367.01
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	21.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	0.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	1.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	1.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	0.28 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.06	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	3.26	3.27	ND	1.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	14.95	14.64	ND	5.47	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																								
Aluminum	200	NLE	8210	NA	NA	339	350	842	134	133	644	<2000	2410	NA	NA	NA	NA	NA	NA	NA	NA	NA	364	
Antimony	6	6	ND	NA	NA	ND	ND	7.66 ER	ND	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Arsenic	3	10	25.10	NA	NA	ND	ND	ND	ND	ND	<3.0	98.5	38.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Barium	6000	2000	192.00	NA	NA	106	117	263	61.6	61.8	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	185	85.2
Beryllium	1	4	2.80	NA	NA	0.23 ER	0.245 ER	0.783	ND	ND	<1.0	<10	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.252 ER	0.07 ER
Cadmium	4	5	3.70	NA	NA	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.65 ER	ND
Calcium	NLE	NLE	8700.00	NA	NA	9670	10600	23000	5470	5550	15100	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	9760	
Chromium	70	100	49.60	NA	NA	1.01 ER	ND	ND	ND	ND	<10	176	36.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Cobalt	NLE	NLE	30.60	NA	NA	1.7 ER	1.78 ER	4.48	0.851 ER	0.848 ER	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.78	
Copper	1300	1300	9.80	NA	NA	ND	ND	1.96 ER	ND	ND	<10	30.1	10.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	2.18 ER
Iron	300	NLE	19600	NA	NA	91.4 ER	ND	ND	ND	ND	<100	3730	6250	NA	NA	NA	NA	NA	NA	NA	NA	NA	82.6 ER	
Lead	5	15	7.30	NA	NA	ND	ND	ND	ND	ND	<3.0	<3.0	8.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Magnesium	NLE	NLE	7160	NA	NA	1270	1360	2730	593 ER	597 ER	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	10400	
Manganese	50	NLE	232	NA	NA	11	11.9	23.9	6.7	5.5	<15	<15	18.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	67.7	
Mercury	2	2	ND	NA	NA	0.12 ER	0.09 ER	ND	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14 ER	ND
Nickel	100	NLE	48.3	NA	NA	3.91 ER	3.75 ER	6.51	1.99 ER	1.84 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2	4.74 ER
Potassium	NLE	NLE	4630	NA	NA	7550	8070	15500	7750	7810	14800	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	2440	
Selenium	40	50	3.80	NA	NA	NR	NR	36.2	1.88 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR
Silver	40	NLE	ND	NA	NA	ND	ND	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Sodium	50000	NLE	36400	NA	NA	15100	16000	41900	22100	22600	42700	1640000	173000	NA	NA	NA	NA	NA	NA	NA	NA	NA	23700	
Thallium	2	2	ND	NA	NA	ND	ND	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Vanadium	60	NLE	28.9	NA	NA	ND	ND	ND	ND	0.744 ER	<50	160	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Zinc	2000	NLE	133	NA	NA	5.3 ER	5.62 ER	13 ER	ND	ND	<20	41.6	39.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.7 ER	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW32						CW1MW33																
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	LF3		LF4	LF4 Dup	LF5	LF6	57	58	59	60	61	62	63	64	65	LF1		LF2		LF2 Dup		LF3		LF4	LF5	LF6
Date Collected				10/26/2010		2/17/2011	2/17/2011	4/26/2011	7/13/2011	2/25/2008	4/10/2008	7/29/2008	12/8/2008	2/18/2009	5/15/2009	7/29/2009	10/14/2009	1/22/2010	4/20/2010		8/17/2010		8/17/2010		10/26/2010		2/17/2011	4/26/2011	7/13/2011
ANALYTE/Lab ID				10461.05		11059.04	11059.03	11169.06	11295.07	80055.11	80121.11	80267.11	80450.11	90059.11	90198.11	90318.11	90415.11	10031.06	10154.06		10346.04		10346.03		10461.06		11059.06	11169.07	11295.08
Volatile Organic Compounds (µg/L)																													
Acetone	6000	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Bromodichloromethane	1	80	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
2-Butanone	300	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Carbon disulfide	700	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Chloroform	70	80	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Chloromethane	NLE	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Dibromochloromethane	1	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Toluene	600	1000	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Trichloroethene	1	5	--	0.34	J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
TICs*	500	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND
Metals (µg/L)																													
Aluminum	200	NLE	8210	116		636	629	724	268	NA	NA	NA	NA	NA	NA	NA	NA	NA	118		345		394		576		337	297	498
Antimony	6	6	ND	ND		<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<6.0	<6.0	<6.0
Arsenic	3	10	25.10	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		1.27	ER	0.89	ER	ND		<3.0	<3.0	<3.0
Barium	6000	2000	192.00	76		<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.9		45.3		47.4		54.1		<200	<200	<200
Beryllium	1	4	2.80	ND		<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.219	ER	0.401	ER	0.442	ER	0.693		<1.0	<1.0	<1.0
Cadmium	4	5	3.70	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<3.0	<3.0	<3.0
Calcium	NLE	NLE	8700.00	17300		16600	16700	24800	20100	NA	NA	NA	NA	NA	NA	NA	NA	NA	9440		9050		9620		9920		11700	7000	7990
Chromium	70	100	49.60	ND		<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.33	ER	1.22	ER	2.86	ER	1.85	ER	<10	<10	<10
Cobalt	NLE	NLE	30.60	2.35		<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.01	ER	1.62	ER	1.64	ER	2.83		<50	<50	<50
Copper	1300	1300	9.80	ND		<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<10	<10	<10
Iron	300	NLE	19600	ND		<100	<100	<100	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	227	ER	ND		98.5	ER	234	ER	156	141	218
Lead	5	15	7.30	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<3.0	<3.0	<3.0
Magnesium	NLE	NLE	7160	4770		9470	9520	8210	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	2360		3390		3600		4890		<5000	<5000	<5000
Manganese	50	NLE	232	22.8		64.1	63.6	46.8	22.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.71	ER	8.67		10.6		13.1		<15	<15	<15
Mercury	2	2	ND	ND		<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.12	ER	ND		ND		ND		<0.20	<0.20	<0.20
Nickel	100	NLE	48.3	3.48	ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.04	ER	3.4	ER	4.19	ER	4.53	ER	<10	<10	<10
Potassium	NLE	NLE	4630	2420		<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	1620		1270		1380		1800		<10000	<10000	<10000
Selenium	40	50	3.80	ND		<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR		26.3		13.6	ER	ND		<10	<10	<10
Silver	40	NLE	ND	ND		<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<10	<10	<10
Sodium	50000	NLE	36400	33400		49300	48700	51600	38400	NA	NA	NA	NA	NA	NA	NA	NA	NA	3910	ER	10700		11300		14900		<10000	<10000	<10000
Thallium	2	2	ND	ND		<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<2.0	<2.0	<2.0
Vanadium	60	NLE	28.9	0.652	ER	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		1.07	ER	<50	<50	<50
Zinc	2000	NLE	133	7.18	ER	24	23.3	24	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.03	ER	18.6	ER	20.4	ER	16.3	ER	<20	<20	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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< = Analyte does not exceed the detection limit shown

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ND = Not detected

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ER = Estimated Result

D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW34																	CW1MW35					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	54	55	56	57	58	59	59 Dup	60	60 Dup	61	62	LF1	LF2	LF3	LF4	LF5	LF6	54	55	56	57	57 Dup	58
Date Collected				2/25/2008	4/10/2008	7/29/2008	12/8/2008	2/18/2009	5/18/2009	5/18/2009	8/4/2009	8/4/2009	10/19/2009	1/22/2010	4/20/2010	8/17/2010	10/26/2010	2/17/2011	5/2/2011	7/14/2011	2/25/2008	4/10/2008	7/29/2008	1/13/2009	1/13/2009	2/18/2009
ANALYTE/Lab ID				80055.12	80121.12	80267.12	80450.12	90059.12	90201.04	90201.03	90327.04	90327.03	90420.04	10031.07	10154.07	10346.06	10461.07	11059.08	11186.06	11297.12	80055.13	80121.13	80267.13	90015.04	90015.03	90059.13
Volatile Organic Compounds (µg/L)																										
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																										
Aluminum	200	NLE	8210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	95.1 ER	54.7 ER	41.9 ER	<200	<200	<200	NA	NA	NA	NA	NA	NA
Antimony	6	6	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA
Arsenic	3	10	25.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA
Barium	6000	2000	192.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.1	23	26.6	<200	<200	<200	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.111 ER	0.05 ER	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA
Cadmium	4	5	3.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	8700.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3020	2490	2790	5810	<5000	<5000	NA	NA	NA	NA	NA	NA
Chromium	70	100	49.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	30.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.417 ER	ND	0.939 ER	<50	<50	<50	NA	NA	NA	NA	NA	NA
Copper	1300	1300	9.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA
Iron	300	NLE	19600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<100	178	<100	NA	NA	NA	NA	NA	NA
Lead	5	15	7.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	7160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1610	1820	2470	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.11	7.44	9.09	17.5	<15	<15	NA	NA	NA	NA	NA	NA
Mercury	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	48.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.92 ER	2.13 ER	2.2 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	4630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2830	3740	3560	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA
Selenium	40	50	3.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	12.6 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	36400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17200	22100	20200	47400	10600	<10000	NA	NA	NA	NA	NA	NA
Thallium	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	28.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.31 ER	19.1 ER	4.59 ER	<20	<20	<20	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW35											CW1MW36												
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	59	60	61	62	LF1	LF2	LF3	LF4	LF5	LF6	54	55	56	57	58	59	60	61	62	LF1	LF1 Dup	LF2
Date Collected				5/18/2009	8/4/2009	10/19/2009	1/22/2010	4/22/2010	8/17/2010	10/26/2010	2/17/2011	5/2/2011	7/14/2011	2/25/2008	4/10/2008	7/29/2008	1/13/2009	2/18/2009	5/18/2009	8/4/2009	10/19/2009	1/22/2010	4/22/2010	4/22/2010	8/17/2010
ANALYTE/Lab ID				90201.05	90327.05	90420.05	10031.08	10160.05	10346.05	10461.08	11059.09	11186.05	11297.14	8005.14	80121.14	80267.14	90015.05	90059.14	90201.06	90327.06	90420.06	10031.09	10160.04	10160.03	10346.07
Volatile Organic Compounds (µg/L)																									
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																									
Aluminum	200	NLE	8210	NA	NA	NA	NA	481	184	143	204	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	89 ER	102	142
Antimony	6	6	ND	NA	NA	NA	NA	ND	ND	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.9	13.6	5.87 ER
Arsenic	3	10	25.10	NA	NA	NA	NA	ND	0.68 ER	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.78 ER	0.86 ER
Barium	6000	2000	192.00	NA	NA	NA	NA	58.4	59.8	56.9	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	265	256	104
Beryllium	1	4	2.80	NA	NA	NA	NA	0.201 ER	0.283 ER	0.41 ER	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.102 ER	0.121 ER	0.108 ER
Cadmium	4	5	3.70	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.52 ER	1.85 ER	ND
Calcium	NLE	NLE	8700.00	NA	NA	NA	NA	6650	5840	6000	6350	5080	6950	NA	NA	NA	NA	NA	NA	NA	NA	NA	222000	221000	55000
Chromium	70	100	49.60	NA	NA	NA	NA	5.56	1.4 ER	0.712 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Cobalt	NLE	NLE	30.60	NA	NA	NA	NA	5.35	4.03	4.36	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.14 ER	1.17 ER	ND
Copper	1300	1300	9.80	NA	NA	NA	NA	2.12 ER	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	16.8	15.4	2.47 ER
Iron	300	NLE	19600	NA	NA	NA	NA	ND	ND	ND	<100	151	208	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Lead	5	15	7.30	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	2.66 ER	ND
Magnesium	NLE	NLE	7160	NA	NA	NA	NA	8020	6710	6850	8700	5400	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	33400	32700	7950
Manganese	50	NLE	232	NA	NA	NA	NA	33.8	27.6	27.2	42	24.6	<15	NA	NA	NA	NA	NA	NA	NA	NA	NA	71.7	69.5	16.6
Mercury	2	2	ND	NA	NA	NA	NA	ND	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Nickel	100	NLE	48.3	NA	NA	NA	NA	12	5.76	5.74	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	11.5	4.34 ER
Potassium	NLE	NLE	4630	NA	NA	NA	NA	2600	1720	2010	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	13100	12800	6900
Selenium	40	50	3.80	NA	NA	NA	NA	ND	15.2 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	58.5	64.7	64.9
Silver	40	NLE	ND	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Sodium	50000	NLE	36400	NA	NA	NA	NA	7610	4730 ER	5800	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	329000	322000	116000
Thallium	2	2	ND	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Vanadium	60	NLE	28.9	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.747 ER	ND	ND
Zinc	2000	NLE	133	NA	NA	NA	NA	20.5 ER	25.7 ER	17.7 ER	29.3	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.6 ER	39.6 ER	20.1 ER

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW36						CW1MW37															
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	LF3		LF4	LF5	LF5 Dup	LF6	54	55	56	56 Dup	57	58	59	60	61	62	LF1	LF2	LF3	LF4	LF5	LF6
Date Collected				10/26/2010		2/17/2011	5/3/2011	5/3/2011	7/14/2011	2/25/2008	4/10/2008	7/31/2008	7/31/2008	1/13/2009	2/18/2009	5/18/2009	8/4/2009	10/19/2009	1/22/2010	4/23/2010	8/17/2010	10/28/2010	2/17/2011	5/2/2011	7/14/2011
ANALYTE/Lab ID				10461.09		11059.11	11189.03	11189.04	11297.13	80055.15	80121.15	80273.04	80273.03	90015.06	90059.15	90201.07	90327.07	90420.07	10031.10	10162.08	10346.09	10465.11	11059.13	11186.07	11297.15
Volatile Organic Compounds (µg/L)																									
Acetone	6000	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND		ND	ND	ND	ND	ND	2.62	1.31	J 1.27	J ND	0.26	J 0.43	J 2.04	ND	0.75	0.98	ND	ND	ND	0.5	ND
trans-1,2-Dichloroethene	100	0.1	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND		ND	ND	ND	ND	ND	1.29	J 0.71	J 0.74	J ND	0.48	J 0.42	J 0.86	ND	0.57	0.68	ND	ND	0.17	J 0.27	J ND
TICs*	500	NLE	--	ND		ND	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																									
Aluminum	200	NLE	8210	86.9	ER	<200	262	277	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.7	ER ND	ND	<200	677	<200
Antimony	6	6	ND	6.38	ER	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.7	6.58	ER 9.12	ER <6.0	<6.0	<6.0
Arsenic	3	10	25.10	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.13	ER 0.74	ER <3.0	<3.0	<3.0
Barium	6000	2000	192.00	79.8		<200	375	368	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	57.6	45.6	32.5	<200	<200	<200
Beryllium	1	4	2.80	ND		<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<1.0	<1.0	<1.0
Cadmium	4	5	3.70	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.565	ER ND	0.507	ER <3.0	<3.0	<3.0
Calcium	NLE	NLE	8700.00	45500		196000	85300	94600	75700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53500	56600	43200	43100	40600	46200
Chromium	70	100	49.60	ND		<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10
Cobalt	NLE	NLE	30.60	1.06	ER	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.87	2.68	2.18	<50	<50	<50
Copper	1300	1300	9.80	ND		<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10
Iron	300	NLE	19600	74.9		<100	<100	133	<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	123	<100	1890	379
Lead	5	15	7.30	ND		<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0
Magnesium	NLE	NLE	7160	5910		25400	22500	23200	12100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13000	12200	8790	8140	8190	8950
Manganese	50	NLE	232	13.4		19	72.1	71.4	26.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	214	159	124	84.9	198	125
Mercury	2	2	ND	ND		<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<0.20	<0.20	<0.20
Nickel	100	NLE	48.3	3.38	ER	<10	16.5	16.1	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.8	11.5	8.19	<10	<10	<10
Potassium	NLE	NLE	4630	5790		<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4640	4920	3830	<10000	<10000	<10000
Selenium	40	50	3.80	ND		<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	69.3	ND	<10	<10	<10
Silver	40	NLE	ND	0.933	ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.54	ER <10	<10	<10
Sodium	50000	NLE	36400	83500		351000	203000	210000	217000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65000	63800	65500	69100	58200	56700
Thallium	2	2	ND	ND		<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0
Vanadium	60	NLE	28.9	ND		<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.79	ER ND	<50	<50	<50
Zinc	2000	NLE	133	6.28	ER	28.2	47.9	48.7	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.2	ER 35.3	ER 17.7	ER <20	<20	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

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D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW38																		CW1MW39			
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	54	55	55 Dup	56	57	58	59	60	61	62	LF1	LF2	LF2 Dup	LF3	LF3 Dup	LF4	LF5	LF6	54	55	56	57
Date Collected				2/27/2008	4/11/2008	4/11/2008	7/31/2008	1/13/2009	2/25/2009	5/18/2009	7/30/2009	10/19/2009	1/22/2010	4/22/2010	8/24/2010	8/24/2010	10/28/2010	10/28/2010	2/18/2011	5/3/2011	7/14/2011	2/27/2008	4/11/2008	7/31/2008	1/13/2009
ANALYTE/Lab ID				80061.04	80127.04	80127.03	80273.05	90015.07	90074.04	90201.08	90323.04	90420.08	10031.11	10160.08	10362.04	10362.03	10465.04	10465.03	11062.06	11189.07	11297.08	80061.05	80127.05	80273.06	90015.08
Volatile Organic Compounds (µg/L)																									
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.93	4.74	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.56 J	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																									
Aluminum	200	NLE	8210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.1 ER	ND	20.6 ER	ND	ND	<200	<200	<200	NA	NA	NA	NA
Antimony	6	6	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.3	9.16 ER	8.65 ER	ND	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA
Arsenic	3	10	25.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.67 ER	5.06	5.06	3.82 ER	3.65 ER	6.4	7.2	<3.0	NA	NA	NA	NA
Barium	6000	2000	192.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	242	176	193	199	199	222	<200	<200	NA	NA	NA	NA
Beryllium	1	4	2.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA
Cadmium	4	5	3.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9 ER	1.48 ER	1.87 ER	2.45	2.44	<3.0	<3.0	<3.0	NA	NA	NA	NA
Calcium	NLE	NLE	8700.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65700	50300	52400	47800	49000	53100	54000	41600	NA	NA	NA	NA
Chromium	70	100	49.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA
Cobalt	NLE	NLE	30.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA
Copper	1300	1300	9.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.9 ER	2.09 ER	ND	ND	<10	<10	<10	NA	NA	NA	NA
Iron	300	NLE	19600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	62800	41900	45000	46000	46300	51000	53200	41200	NA	NA	NA	NA
Lead	5	15	7.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.33	5.29	3.58 ER	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA
Magnesium	NLE	NLE	7160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10700	7990	8390	7390	7430	8120	8700	5610	NA	NA	NA	NA
Manganese	50	NLE	232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	353	271	283	262	261	309	300	241	NA	NA	NA	NA
Mercury	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA
Nickel	100	NLE	48.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.18	4.91 ER	4.88 ER	2.73 ER	2.6 ER	<10	<10	<10	NA	NA	NA	NA
Potassium	NLE	NLE	4630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9440	7260	7630	7650	7870	<10000	<10000	<10000	NA	NA	NA	NA
Selenium	40	50	3.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.8	7.12 ER	67.7	ND	ND	<10	<10	<10	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.3	5.65	6.47	ND	ND	<10	<10	<10	NA	NA	NA	NA
Sodium	50000	NLE	36400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18900	15800	16900	15500	15600	19300	20800	11800	NA	NA	NA	NA
Thallium	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA
Vanadium	60	NLE	28.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA
Zinc	2000	NLE	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	<20	<20	<20	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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ER = Estimated Result

D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW39													CW1MW40								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	58	59	60	60 Dup	61	62	LF1	LF2	LF3	LF4	LF5	LF6	54	55	56	57	58	59	60	61	62
Date Collected				2/25/2009	5/18/2009	7/30/2009	7/30/2009	10/19/2009	1/22/2010	4/22/2010	8/25/2010	10/28/2010	2/17/2011	4/27/2011	7/14/2011	2/25/2008	4/11/2008	7/31/2008	1/13/2009	2/25/2009	5/18/2009	7/30/2009	10/19/2009	1/22/2010
ANALYTE/Lab ID				90074.05	90201.09	90323.05	90323.03	90420.09	10031.12	10160.07	10362.05	10465.05	11059.12	11173.06	11297.05	80055.16	80127.06	80273.07	90015.09	90074.06	90201.10	90323.06	90420.10	10031.13
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	4.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																								
Aluminum	200	NLE	8210	NA	NA	NA	NA	NA	NA	160	110	117	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	ND	NA	NA	NA	NA	NA	NA	12.4	12.9	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	25.10	NA	NA	NA	NA	NA	NA	25.92	36.4	30.43	17.8	5.8	28.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	192.00	NA	NA	NA	NA	NA	NA	54.9	42.2	43.1	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.80	NA	NA	NA	NA	NA	NA	0.219 ER	0.118 ER	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	3.70	NA	NA	NA	NA	NA	NA	1.75 ER	1.3 ER	2.2	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	8700.00	NA	NA	NA	NA	NA	NA	64700	55000	58500	56500	58100	54500	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	49.60	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	30.60	NA	NA	NA	NA	NA	NA	4.27	3.73	4.01	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	9.80	NA	NA	NA	NA	NA	NA	ND	2.31 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	19600	NA	NA	NA	NA	NA	NA	46700	35700	37900	32400	59500	25700	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	7.30	NA	NA	NA	NA	NA	NA	3.67 ER	3.83 ER	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	7160	NA	NA	NA	NA	NA	NA	16000	14300	14600	13800	10900	13000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	232	NA	NA	NA	NA	NA	NA	317	272	277	291	316	304	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	48.3	NA	NA	NA	NA	NA	NA	32.2	30.4	29.5	31.2	15.1	30.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	4630	NA	NA	NA	NA	NA	NA	9130	7180	8100	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	3.80	NA	NA	NA	NA	NA	NA	34.9	75.4	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	6.43	5.23	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	36400	NA	NA	NA	NA	NA	NA	54700	51900	55900	59100	27600	57200	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	ND	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	28.9	NA	NA	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	133	NA	NA	NA	NA	NA	NA	14.2 ER	13.3 ER	11.7 ER	<20	<20	32.3	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

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D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW40								CW1MW281											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	LF1	LF1 Dup	LF2	LF3	LF4	LF5	LF6	80	81	82	83	84	84 Dup	85	86	87	88	89	
Date Collected				4/23/2010	4/23/2010	8/25/2010	10/28/2010	2/16/2011	4/27/2011	7/14/2011	2/25/2008	4/11/2008	7/31/2008	1/13/2009	2/25/2009	2/25/2009	5/18/2009	7/29/2009	10/19/2009	1/22/2010	4/23/2010	
ANALYTE/Lab ID				10162.04	10162.03	10362.06	10465.06	11058.07	11173.07	11297.06	80055.17	80127.07	80273.08	90015.10	90074.07	90074.03	90201.11	90318.12	90420.11	10031.14	10162.06	
Volatile Organic Compounds (µg/L)																						
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	3.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	112.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.38	3.8	ND	
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	NLE	NLE	--	ND	ND	3.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24 J	ND	ND	ND	3.16	1	
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.51	
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	2.65	ND	1.15 J	2.52	20.1	18.58	15.58	3.25	10.25	109.9 D	37.62	
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	ND	ND	ND	ND	29	ND	ND	
Metals (µg/L)																						
Aluminum	200	NLE	8210	85.7 ER	73.1 ER	29 ER	33.6 ER	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.6 ER	
Antimony	6	6	ND	7 ER	8.99 ER	6.94 ER	4.91 ER	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.07 ER	
Arsenic	3	10	25.10	9.69	9.61	10.21	12.33	14.2	4.9	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.06 ER	
Barium	6000	2000	192.00	57.8	55.4	41.9	40	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	94.3	
Beryllium	1	4	2.80	0.138 ER	0.095 ER	0.045 ER	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Cadmium	4	5	3.70	0.932 ER	1.18 ER	1.11 ER	1.67 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.77 ER	
Calcium	NLE	NLE	8700.00	43400	43100	36600	38600	33000	37300	40500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	433000	
Chromium	70	100	49.60	ND	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Cobalt	NLE	NLE	30.60	1.75 ER	1.82 ER	1.48 ER	1.86 ER	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Copper	1300	1300	9.80	ND	ND	2.09 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Iron	300	NLE	19600	35000	33900	24500	26600	19600	25200	6120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	55500	
Lead	5	15	7.30	ND	ND	2.86 ER	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.88 ER	
Magnesium	NLE	NLE	7160	10100	10100	8630	8800	8780	8160	8580	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6940	
Manganese	50	NLE	232	222	220	183	192	224	205	233	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	256	
Mercury	2	2	ND	ND	ND	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Nickel	100	NLE	48.3	19.5	19.4	18.6	16.9	34.8	15.7	22.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.38	
Potassium	NLE	NLE	4630	7690	7680	6030	6840	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9080	
Selenium	40	50	3.80	NR	NR	61.9	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	
Silver	40	NLE	ND	5	4.68 ER	3.81 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.77	
Sodium	50000	NLE	36400	17100	17400	16500	16500	19400	15900	17400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22900	
Thallium	2	2	ND	ND	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Vanadium	60	NLE	28.9	ND	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	
Zinc	2000	NLE	133	2.56 ER	2.6 ER	2.94 ER	ND	<20	<20	24.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.8 ER	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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ER = Estimated Result

D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW281					CW1MW282															
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	90	LF3	LF4	LF5	LF6	80	81	82	83	84	85	86	87	88	LF1	LF2	LF3	LF4	LF5	LF6
Date Collected				8/25/2010	10/28/2010	2/16/2011	4/27/2011	7/14/2011	2/27/2008	4/10/2008	7/31/2008	12/8/2008	2/18/2009	5/18/2009	7/29/2009	10/19/2009	1/20/2010	4/22/2010	8/11/2010	10/28/2010	2/17/2011	4/27/2011	7/13/2011
ANALYTE/Lab ID				10362.07	10465.09	11058.05	11173.08	11297.07	80061.06	80121.16	80273.09	80450.13	90059.16	90201.12	90318.13	90420.12	10026.09	10160.06	10338.07	10465.07	11059.10	11173.09	11295.10
Volatile Organic Compounds (µg/L)																							
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	0.2 J	ND	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	2.71	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	2.11	0.58	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	0.24 J	1.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	91.55	13.47	29.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																							
Aluminum	200	NLE	8210	ND	ND	266	<200	617	NA	NA	NA	NA	NA	NA	NA	NA	NA	59.9 ER	262	420	<200	<200	<200
Antimony	6	6	ND	5.7 ER	4.9 ER	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<6.0	<6.0	<6.0
Arsenic	3	10	25.10	1.54 ER	1.02 ER	<3.0	<3.0	4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.93 ER	<3.0	<3.0	<3.0
Barium	6000	2000	192.00	115	156	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.89 ER	142	12.6	<200	<200	<200
Beryllium	1	4	2.80	ND	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.139 ER	ND	<1.0	<1.0	<1.0
Cadmium	4	5	3.70	1.13 ER	1.27 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0
Calcium	NLE	NLE	8700.00	32000	41000	35200	50000	44400	NA	NA	NA	NA	NA	NA	NA	NA	NA	11900	6510	3660	11200	7580	9940
Chromium	70	100	49.60	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.05 ER	<10	<10	<10
Cobalt	NLE	NLE	30.60	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	4.96	ND	<50	<50	<50
Copper	1300	1300	9.80	1.79 ER	3.09 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.66 ER	ND	<10	<10	<10
Iron	300	NLE	19600	29800	41400	20100	41400	34400	NA	NA	NA	NA	NA	NA	NA	NA	NA	197 ER	ND	492 ER	184	<100	121
Lead	5	15	7.30	2.45 ER	ND	<3.0	<3.0	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0
Magnesium	NLE	NLE	7160	4070	5130	6510	7400	8070	NA	NA	NA	NA	NA	NA	NA	NA	NA	1400	6230	646 ER	<5000	<5000	<5000
Manganese	50	NLE	232	143	197	115	259	205	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.595 ER	47.8	3.08 ER	<15	<15	<15
Mercury	2	2	ND	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<0.20	<0.20	<0.20
Nickel	100	NLE	48.3	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.463 ER	8.53	0.993 ER	<10	<10	<10
Potassium	NLE	NLE	4630	6410	7730	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	2330	7600	1550	<10000	<10000	<10000
Selenium	40	50	3.80	52.4	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.85 ER	13.5 ER	ND	<10	<10	<10
Silver	40	NLE	ND	4.37 ER	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10
Sodium	50000	NLE	36400	8090	10300	231000	75800	81700	NA	NA	NA	NA	NA	NA	NA	NA	NA	6050	94700	4700 ER	<10000	<10000	<10000
Thallium	2	2	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.93 ER	ND	<2.0	<2.0	<2.0
Vanadium	60	NLE	28.9	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.52 ER	ND	1.2 ER	<50	<50	<50
Zinc	2000	NLE	133	ND	ND	<20	<20	25.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	17.6 ER	2.9 ER	<20	<20	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

D = Diluted Sample

CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-22
Fort Monmouth, New Jersey

				CW1MW291																		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Charles Wood)**	80	81	82	83	84	85	86	87	87 Dup	88	LF1	LF2	LF3	LF4	LF4 Dup	LF5	LF5 Dup	LF6
Date Collected				2/27/2008	4/10/2008	7/31/2008	12/8/2008	2/18/2009	5/18/2009	7/29/2009	10/19/2009	10/19/2009	1/20/2010	4/23/2010	8/17/2010	10/28/2010	2/18/2011	2/18/2011	5/2/2011	5/2/2011	7/13/2011
ANALYTE/Lab ID				80061.07	80121.17	80273.10	80450.14	90059.17	90201.13	90318.14	90420.13	90420.03	10026.10	10162.05	10346.08	10465.08	11062.04	11062.03	11186.03	11186.04	11295.09
Volatile Organic Compounds (µg/L)																					
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	75	75	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	100	0.1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	30	0.2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	0.36 J	ND	ND	ND	ND	ND	ND	0.59	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	ND
Metals (µg/L)																					
Aluminum	200	NLE	8210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	76.5 ER	172	80.5 ER	<200	<200	1120	<200	<200
Antimony	6	6	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	25.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.68 ER	ND	<3.0	<3.0	<3.0	<3.0	<3.0
Barium	6000	2000	192.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.9	135	51.5	<200	<200	<200	<200	<200
Beryllium	1	4	2.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.12 ER	ND	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	3.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	8700.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17500	6410	2450	7420	7240	9840	9900	5580
Chromium	70	100	49.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	<10
Cobalt	NLE	NLE	30.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.93 ER	0.817 ER	<50	<50	<50	<50	<50
Copper	1300	1300	9.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.22 ER	ND	<10	<10	10.9	<10	<10
Iron	300	NLE	19600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<100	<100	1080	<100	<100
Lead	5	15	7.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.21 ER	<3.0	<3.0	<3.0	<3.0	<3.0
Magnesium	NLE	NLE	7160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2030	3530	1350	<5000	<5000	<5000	<5000	<5000
Manganese	50	NLE	232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.41 ER	14.8	7.08	<15	<15	<15	<15	<15
Mercury	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	100	NLE	48.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	3.67 ER	1.99 ER	<10	<10	<10	<10	<10
Potassium	NLE	NLE	4630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6670	20300	13100	<10000	<10000	<10000	<10000	<10000
Selenium	40	50	3.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	17.9 ER	ND	<10	<10	<10	<10	<10
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	<10
Sodium	50000	NLE	36400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	61200	76400	49000	46400	46600	46900	38200	28400
Thallium	2	2	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0
Vanadium	60	NLE	28.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.748 ER	ND	ND	<50	<50	<50	<50	<50
Zinc	2000	NLE	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.49 ER	14.9 ER	2.97 ER	<20	<20	<20	<20	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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CW1MW32 - Third Quarter 2010 metals data is incomplete due to missing data sheet in the analytical data package.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-22
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-22-GW-CW1MW26-12.79		FTMM-22-GW-CW1MW27-12.63		FTMM-22-GW-CW1MW127-12.63*		FTMM-22-GW-CW1MW27-12.63LF		FTMM-22-GW-CW1MW29-10.85		FTMM-22-GW-CW1MW30-14.27		FTMM-22-GW-CW1MW31-8.86		FTMM-22-GW-CW1MW31-18.36		FTMM-22-GW-CW1MW32-14.72	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013	
LAB SAMPLE ID:					R1306302-030		R1306302-024		R1306302-025		R1306302-040		R1306302-031		R1306302-016		R1306302-021		R1306302-022		R1306302-032	
SAMPLE DEPTH (ft bgs):					12.79		12.63		12.63		12.63		10.85		14.27		8.86		18.36		14.72	
	CAS No.	Unit																				
Volatile Organics - SW8260C																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.4**	BJ	**1.7**	BJ	**2.1**	BJ	5.0	U	**1.9**	BJ	**2.3**	BJ	**1.8**	BJ	**1.3**	BJ	**2.2**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	**2.5**	J	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
LF - Low flow method used to collect sample.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-22
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-22-GW-CW1MW32-21.55		FTMM-22-GW-CW1MW33-14.0		FTMM-22-GW-CW1MW33-19.6		FTMM-22-GW-CW1MW34-11.43		FTMM-22-GW-CW1MW34-17.17		FTMM-22-GW-CW1MW35-11.26		FTMM-22-GW-CW1MW35-17.09		FTMM-22-GW-CW1MW36-11.86		FTMM-22-GW-CW1MW136-11.86*	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013	
LAB SAMPLE ID:					R1306302-033		R1306302-034		R1306302-035		R1306302-001		R1306302-002		R1306302-006		R1306302-007		R1306302-003		R1306302-004	
SAMPLE DEPTH (ft bgs):					21.55		14		19.6		11.43		17.17		11.26		17.09		11.86		11.86	
	CAS No.	Unit																				
Volatile Organics - SW8260C																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.0**	BJ	**2.5**	BJ	**2.4**	BJ	**2.9**	BJ	**3.0**	BJ	**1.9**	BJ	**1.7**	BJ	**2.6**	BJ	**1.5**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	**0.49**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
LF - Low flow method used to collect sample.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels.
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-22
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-22-GW-CW1MW36-17.29		FTMM-22-GW-CW1MW37-11.66		FTMM-22-GW-CW1MW37-17.15		FTMM-22-GW-CW1MW38-35.18		FTMM-22-GW-CW1MW38-40.18		FTMM-22-GW-CW1MW38-45.18		FTMM-22-GW-CW1MW38-50.18		FTMM-22-GW-CW1MW39-33.35		FTMM-22-GW-CW1MW39-38.35	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013	
LAB SAMPLE ID:					R1306302-005		R1306302-008		R1306302-009		R1306302-026		R1306302-027		R1306302-028		R1306302-029		R1306302-010		R1306302-011	
SAMPLE DEPTH (ft bgs):					17.29		11.66		17.15		35.18		40.18		45.18		50.18		33.35		38.35	
	CAS No.	Unit																				
Volatile Organics - SW8260C																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.3**	BJ	**1.6**	BJ	**2.3**	BJ	**2.7**	BJ	**2.9**	BJ	**2.1**	BJ	**2.1**	BJ	**3.0**	BJ	**2.9**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	**0.28**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
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* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
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NOTES:
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NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-22
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-22-GW-CW1MW39-38.35LF		FTMM-22-GW-CW1MW39-43.35		FTMM-22-GW-CW1MW39-48.35		FTMM-22-GW-CW1MW40-35.17		FTMM-22-GW-CW1MW40-40.17		FTMM-22-GW-CW1MW40-45.17		FTMM-22-GW-CW1MW40-50.17		FTMM-22-GW-CW1MW282-12.62		FTMM-22-GW-CW1MW291-14.77	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013		28-Aug-2013	
LAB SAMPLE ID:					R1306348-010		R1306302-012		R1306302-013		R1306302-017		R1306302-018		R1306302-019		R1306302-020		R1306302-014		R1306302-023	
SAMPLE DEPTH (ft bgs):					38.35		43.35		48.35		35.17		40.17		45.17		50.17		12.62		14.77	
	CAS No.	Unit																				
Volatile Organics - SW8260C																						
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	5.0	U	**2.3**	BJ	**3.0**	BJ	**2.0**	BJ	**2.0**	BJ	**2.0**	BJ	**2.6**	BJ	**2.2**	BJ	**1.8**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:
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[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-22
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration (metals only) Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-22, CW-1									
CW1MW25	Not sampled in August 2013	As, Na, Se	Na	N/A	N/A	N/A	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW26	VOC/ Pesticides/ Metals	Al	NO	N/A	N/A	N/A	NO	NO	No exceedances of background concentrations.
CW1MW27		TCE, Al, Be, Mn	Al, Mn	NO	NO	Yes	NO	Yes (VOCs)	Metals attributed to background concentrations not historical site uses.
CW1MW29		TCE, Al, Cd, Fe, Na	Cd, Na	NO	NO	Yes	NO	Yes (VOCs)	Metals attributed to background concentrations not historical site uses.
CW1MW30		Na	Na	NO	NO	Yes	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW31		TCE, Al, As, Cr, Fe, Pb, Na, V	As, Cr, Pb, Na, V	NO	NO	Yes	NO	Yes (VOCs)	Metals attributed to background concentrations not historical site uses.
CW1MW32		Al, Mn, Na	Na	NO	NO	Yes	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW33		Al	NO	NO	NO	NO	NO	NO	No exceedances of background concentrations.
CW1MW34		NO	NO	NO	NO	NO	NO	NO	No exceedances.
CW1MW35		Al	NO	NO	NO	NO	NO	NO	No exceedances of background concentrations.
CW1MW36		Al, Mn, Na	Na	NO	NO	NO	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW37		Al, Sb, Fe, Mn, Na	Na	NO	NO	NO	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW38		As, Fe, Mn	Fe, Mn	NO	NO	NO	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW39		As, Fe, Mn, Na	As, Fe, Mn, Na	NO	NO	NO	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW40		As, Fe, Mn	Fe, Mn	NO	NO	NO	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW281		TCE, Al, As, Fe, Mn, Na	Fe, Mn, Na	NO	NO	Yes	NO	Yes (VOCs)	Metals slightly greater than background. Well not sampled in August 2013.
CW1MW282		Al, Fe, Na	Na	NO	NO	NO	NO	NO	Metals attributed to background concentrations not historical site uses.
CW1MW291		Al, Fe	NO	NO	NO	NO	NO	NO	No exceedances of background concentrations.

Notes

1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyte from LTM list

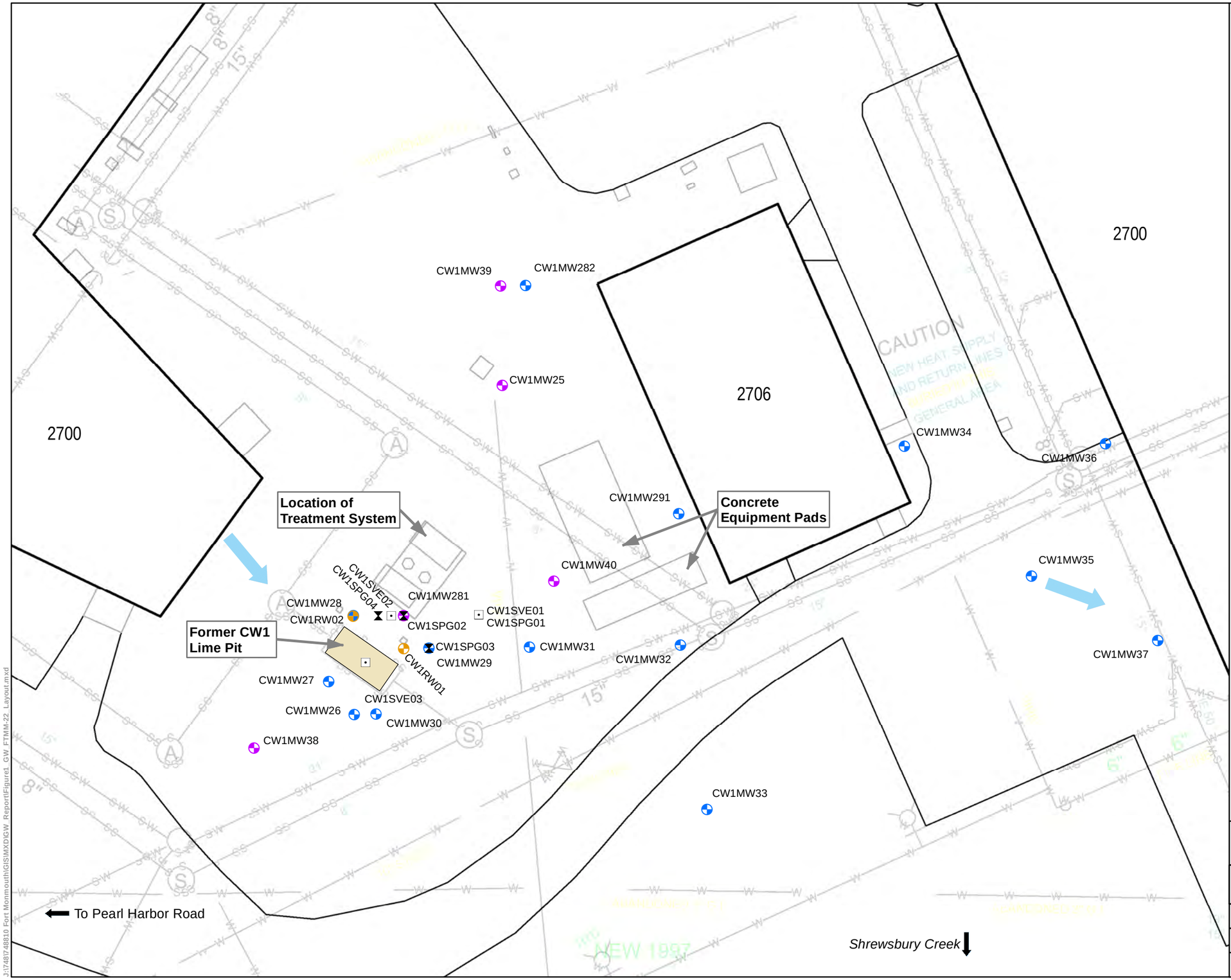
2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds?
If yes then keep analyte in LTM list
If no then remove this analyte from LTM list

3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

4 TCE - Trichloroethene

FIGURES

Figure 1 Layout of FTMM-22 (Former CW1 Lime Pit at Building 2700)



Legend

- Shallow Monitoring Well
- Deep Monitoring Well
- Recovery Well
- Air Sparge Well
- SVE Well
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Former CW1 Lime Pit
- Estimated Groundwater Flow Direction

N

1 inch = 30 feet

0 12.5 25 50 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-22
(Former CW1 Lime Pit at Building 2700)

CREATED BY: TS	REVIEWED BY: IG
DATE: March 2014	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-22_Layout.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-22_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets & NJDEP PDB Checklists

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CW1MW26
4. Well Permit Number: _____

5 Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other

6 Well Surface Finish: ☒ Stick Up ☐ Flush Mount

7 Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____

8 **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.

Distance between measuring point and ground surface (ft.) 1.55

9 Total Well Depth (fbgs): 16.55

10 Screened interval/open hole (fbgs): 6.55-16.55

11 Well Casing: Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel

12 Well Screen (or open hole diameter): Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel

13 Screen Size (slot): Screen Slot Size 0.01

14 Date and Time of Deployment: Date: 8/14/13 Time: 1155

15 Depth to Ground Water: Depth to ground water at time of deployment 9.02

16 Date and Time of Retrieval: Date: 8/28/13 Time: 1350

17 Depth to Ground Water: Depth to ground water at time of retrieval 9.26

18 Type of Deployment Line Used: Diameter: 3/16" Material: poly

19 Material and Mass (oz.) of PDBS Weight: stainless steel 20oz (stainless steel recommended)

20 Type of PDBS Used:
☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)

21 Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____

22 Position of PDBS Weight:
☒ Attached to bottom of PDBS and suspended in well
☒ Attached to bottom of deployment line and suspended in well
☐ Attached to bottom of deployment line and resting on bottom of well (preferred)

23 Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
12.79			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
☐ **No**, this well is being profiled during this sampling round
☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
☐ **No**, flow testing has not been conducted in this well
☐ **Yes**, flow testing of this well was conducted. **Date of testing:** _____
Type of flow meter used: _____
Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Iannone	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: CW1MW27
3. Well Designation: M-22
4. Well Permit Number:

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify)
8. **NOTE:** PDBS represents a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.): 1.48
9. Total Well Depth (fbgs): 16.48
10. Screened interval/open hole (fbgs): 6.48-16.48
11. Well Casing — Diameter: ____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: ____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 1205
15. Depth to Ground Water: Depth to ground water at time of deployment: 8.48
16. Date and Time of Retrieval: Date: 8/28/13 Time: 1314
17. Depth to Ground Water: Depth to ground water at time of retrieval: 8.9
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20oz (stainless steel recommended)
20. Type of PDBS Used
   ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
   ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.): 18 Diameter (in.): 1.5 Filled: ____
22. Position of PDBS Weight
   ☒ Attached to bottom of PDBS and suspended in well
   ☒ Attached to bottom of deployment line and suspended in well
   ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
12.63			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: ____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: ____
   Type of flow meter used: ____
   Measurements taken every ____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Torres	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: CW/MW29
3. Well Designation: M-22
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.

   Distance between measuring point and ground surface (ft.) 0.0
9. Total Well Depth (fbgs): 15'
10. Screened interval/open hole (fbgs): 5-15'
11. Well Casing — Diameter: _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/14/13 Time: 1150
15. Depth to Ground Water: Depth to ground water at time of deployment 6.7
16. Date and Time of Retrieval: Date: 8/28/13 Time: 1400
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.87
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20oz (stainless steel recommended)
20. Type of PDBS Used:
    - ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    - ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    - ☒ Attached to bottom of PDBS and suspended in well
    - ☒ Attached to bottom of deployment line and suspended in well
    - ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.85			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    - ☐ **No**, this well is being profiled during this sampling round
    - ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    - ☐ **No**, flow testing has not been conducted in this well
    - ☐ **Yes**, flow testing of this well was conducted. **Date of testing:** _____
      Type of flow meter used: _____
      Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Ionno	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CWIMW30
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.67
9. Total Well Depth (fbgs): 18.67
10. Screened interval/open hole (fbgs): 8.67-18.67
11. Well Casing: Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 1035
15. Depth to Ground Water: Depth to ground water at time of deployment 9.86
16. Date and Time of Retrieval: Date: 8/28/13 Time: 1135
17. Depth to Ground Water: Depth to ground water at time of retrieval 10.12
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☐ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
14.27			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Zinno	
Chris Weldon	Parsons
Zoltan Lacy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: EW1MW31
3. Well Designation: M-22
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.11
9. Total Well Depth (fbgs) 21.11
10. Screened interval/open hole (fbgs) 6.11-21.11
11. Well Casing — Diameter 4 — Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4 — Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01

14. Date and Time of Deployment — Date: 8/14/13 Time: 1115
15. Depth to Ground Water — Depth to ground water at time of deployment 10.11
16. Date and Time of Retrieval — Date: 8/28/13 Time: 1205
17. Depth to Ground Water — Depth to ground water at time of retrieval 10.26
18. Type of Deployment Line Used — Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel (stainless steel recommended)
20. Type of PDBS Used
   ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
   ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight
   ☒ Attached to bottom of PDBS and suspended in well
   ☒ Attached to bottom of deployment line and suspended in well
   ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.86	15.56		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician (Name(s) and Company (please print clearly)

Name	Company
Alex D. Toma	Parsons
Chris Watson	
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CW1MW32
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.): 2.96
9. Total Well Depth (fbgs): 24.96
10. Screened interval/open hole (fbgs): 9.96 - 24.96
11. Well Casing — Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 1132
15. Depth to Ground Water: Depth to ground water at time of deployment: 11.31
16. Date and Time of Retrieval: Date: 8/28/13 Time: 1410
17. Depth to Ground Water: Depth to ground water at time of retrieval: 11.4
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight
    ☒ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
14.72	21.55		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Anna	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CW/MW33
4. Well Permit Number:

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify)
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.): 2.4
9. Total Well Depth (fbgs): 22.4
10. Screened interval/open hole (fbgs): 7.4 - 22.4
11. Well Casing — Diameter: _____ Material: [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: _____ Material: [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot) — Screen Slot Size: 0.01

14. Date and Time of Deployment — Date: 8/14/13 Time: 1141
15. Depth to Ground Water — Depth to ground water at time of deployment: 11.20
16. Date and Time of Retrieval — Date: 8/28/13 Time: 1420
17. Depth to Ground Water — Depth to ground water at time of retrieval: 11.33
18. Type of Deployment Line Used — Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: _____ (stainless steel recommended)
20. Type of PDBS Used
   [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
   [ ] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.): _____ Diameter (in.): _____ Filled: _____
22. Position of PDBS Weight
   [ ] Attached to bottom of PDBS and suspended in well
   [ ] Attached to bottom of deployment line and suspended in well
   [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
14	19.6		
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   [ ] **No**, this well is being profiled during this sampling round
   [ ] **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   [ ] **No**, flow testing has not been conducted in this well
   [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval — Temp. 80°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Aki DiTonno	Parsons
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CWIMW34
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☒ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☐ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.0
9. Total Well Depth (fbgs): 20.0
10. Screened interval/open hole (fbgs): 5-20
11. Well Casing: Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 0920
15. Depth to Ground Water: Depth to ground water at time of deployment 8.65
16. Date and Time of Retrieval: Date: 8/28/13 Time: 0955
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.41
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18" Diameter (in.) 1.5" Filled _____
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
16.43	17.17		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician: Name(s) and Company (please print clearly)

Name	Company
Alex D. Finn	Parsons
Chris Watson	Parsons
Zola Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CW1MW35
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.0
9. Total Well Depth (fbgs): 20
10. Screened interval/open hole (fbgs): 5-20
11. Well Casing: Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 0940
15. Depth to Ground Water: Depth to ground water at time of deployment 8.35
16. Date and Time of Retrieval: Date: 8/28/13 Time: 1035
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.37
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
11.26	17.09		
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Ienna	
Chris Watson	Parsons
Zuhar Lazy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CWIMW36
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.0
9. Total Well Depth (fbgs) 20'
10. Screened interval/open hole (fbgs) 5-20'
11. Well Casing — Diameter 4 — Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4 — Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01
14. Date and Time of Deployment — Date: 8/14/13 — Time: 0930
15. Depth to Ground Water — Depth to ground water at time of deployment 9.15
16. Date and Time of Retrieval — Date: 8/28/13 — Time: 1015
17. Depth to Ground Water — Depth to ground water at time of retrieval 9.46
18. Type of Deployment Line Used — Diameter: 3/16" — Material: Poly
19. Material and Mass (oz.) of PDBS Weight — Stainless Steel (stainless steel recommended)
20. Type of PDBS Used
    [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 — Diameter (in.) 1.5 — Filled _____
22. Position of PDBS Weight
    [ ] Attached to bottom of PDBS and suspended in well
    [ ] Attached to bottom of deployment line and suspended in well
    [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
16.86	17.29		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    [ ] **No**, this well is being profiled during this sampling round
    [ ] **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    [ ] **No**, flow testing has not been conducted in this well
    [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment — Temp. 75°F — Wind 0-1 mph — [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval — Temp. 80°F — Wind 0-1 mph — [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Iemo	Parsons
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: 4-22
3. Well Designation: CW1MW37
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [ ] Stick Up [X] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.0
9. Total Well Depth (fbgs): 20
10. Screened interval/open hole (fbgs): 5-20
11. Well Casing: Diameter: 4 Material: [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter): Diameter: 4 Material: [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/14/13 Time: 0950
15. Depth to Ground Water: Depth to ground water at time of deployment 8.81
16. Date and Time of Retrieval: Date: 8/28/13 Time: 1050
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.87
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    [ ] Attached to bottom of PDBS and suspended in well
    [ ] Attached to bottom of deployment line and suspended in well
    [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
11.66	17.15		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    [ ] **No**, this well is being profiled during this sampling round
    [ ] **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    [ ] **No**, flow testing has not been conducted in this well
    [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex Ortman	Parsons
Chris Watson	Parsons

Zone Lamp

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CW/MW38
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.65
9. Total Well Depth (fbgs): 52.68
10. Screened interval/open hole (fbgs): 30-50
11. Well Casing: Diameter 4 Material ☐ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☐ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 1210
15. Depth to Ground Water: Depth to ground water at time of deployment 12.55
16. Date and Time of Retrieval: Date: 8/28/13 Time: 1330
17. Depth to Ground Water: Depth to ground water at time of retrieval 13.00
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19. Material and Mass (oz) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☐ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
35.18	40.18	45.18	50.18
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DeTomo	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CW1/MW39
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☐ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.16
9. Total Well Depth (fbgs) 50.16
10. Screened interval/open hole (fbgs) 30.85-50.16
11. Well Casing — Diameter 4 — Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4 — Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01

14. Date and Time of Deployment — Date: 8/14/13 Time: 0955
15. Depth to Ground Water — Depth to ground water at time of deployment 13.00
16. Date and Time of Retrieval — Date: 8/28/13 Time: 1110
17. Depth to Ground Water — Depth to ground water at time of retrieval 13.50
18. Type of Deployment Line Used — Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight — Stainless Steel - 20 oz (stainless steel recommended)
20. Type of PDBS Used
   ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
   ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight
   ☒ Attached to bottom of PDBS and suspended in well
   ☒ Attached to bottom of deployment line and suspended in well
   ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
33.35	38.35	43.35	48.35

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician (Name(s) and Company (please print clearly)

Name	Company
Alex DiTomo	Parsons
Chris Watson	
Zahar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft Monmouth
2. Location: M-22
3. Well Designation: CW1MW40
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.

   Distance between measuring point and ground surface (ft.) 2.6
9. Total Well Depth (fbgs) 52.67
10. Screened interval/open hole (fbgs) 32.67-52.67
11. Well Casing — Diameter 4 — Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4 — Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01

14. Date and Time of Deployment — Date: 8/14/13 — Time: 1048
15. Depth to Ground Water — Depth to ground water at time of deployment 13.61
16. Date and Time of Retrieval — Date: 8/28/13 — Time: 1145
17. Depth to Ground Water — Depth to ground water at time of retrieval 14.1
18. Type of Deployment Line Used — Diameter: 3/16" — Material: poly

19. Material and Mass (oz.) of PDBS Weight — Stainless steel (stainless steel recommended)
20. Type of PDBS Used
    - ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    - ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 — Diameter (in.) 1.5 — Filled _____
22. Position of PDBS Weight
    - ☐ Attached to bottom of PDBS and suspended in well
    - ☒ Attached to bottom of deployment line and suspended in well
    - ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
35.17	40.17	45.17	50.17

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    - ☐ **No**, this well is being profiled during this sampling round
    - ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    - ☐ **No**, flow testing has not been conducted in this well
    - ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
      Type of flow meter used: _____
      Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment — Temp. 75°F — Wind 0-1 mph — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80°F — Wind 0-1 — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician, Name(s) and Company (please print clearly)

Name	Company
Alex D. Finn	
Chris Weform	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CW1MW282
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.84
9. Total Well Depth (fbgs) 16.84
10. Screened interval/open hole (fbgs) 6.84-16.84
11. Well Casing — Diameter: 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.02

14. Date and Time of Deployment — Date: 8/14/13 — Time: 1030
15. Depth to Ground Water — Depth to ground water at time of deployment 8.40
16. Date and Time of Retrieval — Date: 8/28/13 — Time: 1125
17. Depth to Ground Water — Depth to ground water at time of retrieval 8.78
18. Type of Deployment Line Used — Diameter: 3/16" — Material: poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20.2 (stainless steel recommended)
20. Type of PDBS Used
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 — Diameter (in.) 1.5 — Filled _____
22. Position of PDBS Weight
    ☐ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
12.62			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment — Temp. 75°F — Wind 0-1 mph — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80°F — Wind 0-1 mph — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician: Name(s) and Company (Please print clearly)

Name	Company
Alex DiTrano	Parsons
Chris Watson	

2 what Lady

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-22
3. Well Designation: CWIMW291
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.29
9. Total Well Depth (fbgs) 18.29
10. Screened interval/open hole (fbgs) 8.29-18.29
11. Well Casing — Diameter 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.02

14. Date and Time of Deployment — Date: 8/14/13 — Time: 1125
15. Depth to Ground Water — Depth to ground water at time of deployment 11.25
16. Date and Time of Retrieval — Date: 8/29/13 — Time: 1302
17. Depth to Ground Water — Depth to ground water at time of retrieval 11.41
18. Type of Deployment Line Used — Diameter: 3/16" — Material: poly

19. Material and Mass (oz.) of PDBS Weight — Stainless Steel / 20.2 (stainless steel recommended)
20. Type of PDBS Used
   ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
   ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 — Diameter (in.) 1.5 — Filled _____
22. Position of PDBS Weight
   ☒ Attached to bottom of PDBS and suspended in well
   ☐ Attached to bottom of deployment line and suspended in well
   ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
14.77			
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75°F — Wind 0-1 mph — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80°F — Wind 0-1 mph — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiGenno	
Chris Watson	Parsons
Zohar Levy	

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE: Fort Monmouth M-22 (JC)
DATE: 8/28/13
WEATHER:
CONSULTING FIRM: PARSONS
FIELD PERSONNEL: C. Watson

MONITOR WELL #: CW1MW27
WELL PERMIT #:
WELL DEPTH: 16.48
WELL DIAMETER: 4 inches
SCREENED/OPEN INTERVAL: 6.48 - 16.48

PID/FID READINGS (ppm):
BACKGROUND: 0.0 (JC)
BENEATH OUTER CAP: 0.0 (JC)
BENEATH INNER CAP: 0.0 (JC)
PUMP INTAKE DEPTH: 12.63 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 8.93 ft below TOC
MAKE/MODEL OF PUMP:

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1340	X		4.87	NA	0.345	NA	258.8	NA	0.07	NA	0.3	NA	20.11	NA	175	8.96
1345	X		4.88	0.01	0.345	0	281.2	22.4	0.09	0.02	0.3	0	19.52	0.59	175	8.96
1350	X		4.88	0	0.359	0.014	281.2	0	0.15	0.06	0.1	0.2	19.30	0.22	175	8.96
1355	X		4.88	0	0.361	0.002	281.0	0.2	0.20	0.05	0.2	0.1	19.32	0.02	175	8.96
1400	X		4.87	0.01	0.372	0.011	281.2	0.2	0.21	0.01	0.2	0	19.31	0.01	175	8.96
1405	X		4.86	0.01	0.378	0.006	281.2	0	0.22	0.01	0.2	0	19.32	0.01	175	8.96
1410	X		4.86	0	0.378	0	281.5	0.3	0.22	0	0.1	0.1	19.35	0.03	175	8.96

COMMENTS:

ftmw-22-GW-CW1MW27-12634 @ 1410

*INDICATOR PARAMETERS HAVE STABILIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10 mv for Redox Potential; and ±10% for Dissolved Oxygen and Turbidity.

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CWIMW27

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER: FtMM-22-GW-CWIMW27-12.63LF

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	1410	(3) 40mL (HCl)	clear	0.1	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/28/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** (W) MW39

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/29/30
AOC # (AREA): M-22
LABORATORY:
SAMPLIG INSTRUMENTS: Bimpar
PID DETECTOR: Mini Rae
SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): - 0.0 (JC)
WELL DEPTH (TOC): 50.16
FEET OF WATER IN WELL: 36.54
SCREENED INTERVAL (TOC): 30.85-50.16
PUMP INTAKE DEPTH (ft below TOC): 38.35
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 13.62

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0935	X		5.19	NA	0.567	NA	99.4	NA	6.11	NA	70.3	NA	20.30	NA	175	13.6
0940	X		5.39	0.20	0.980	0.413	66.8	33.6	4.60	1.51	39.2	31.1	19.55	0.75	175	13.6
0945	X		5.43	0.04	0.964	0.016	59.3	6.5	3.67	0.93	32.5	6.7	19.42	0.17	175	13.6
0950	X		5.46	0.03	0.954	0.010	54.7	4.6	3.26	0.41	28.2	4.3	19.33	0.09	175	13.6
0955	X		5.47	0.01	0.953	0.001	53.4	1.3	3.29	0.03	18.6	9.6	19.21	0.12	175	13.6
1000	X		5.47	0	0.950	0.003	52.5	0.9	3.27	0.02	16.5	2.1	19.06	0.15	175	13.6
1005	X		5.47	0	0.949	0.001	52.6	0.1	3.28	0.01	11.6	4.9	19.09	0.03	175	13.6
1010	X		5.47	0	0.950	0.001	52.2	0.4	3.26	0.02	10.9	0.7	19.13	0.04	175	13.6
1015	X		5.47	0	0.949	0.001	52.4	0.2	3.25	0.01	11.2	0.3	19.16	0.03	175	13.6
1020	X	X	5.47	0	0.949	0	52.6	0.02	3.27	0.02	9.8	1.4	19.11	0.05	175	13.6

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** QW/MW39

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: FTMM-22-GW-QWMW39

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1020	(2) 40mm (HCl)	Clear	9.8	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Carbon Buckets

Date: 8/29/17

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CWI MW39

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): N-22
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: MiniRae

DATE: 8/29/30
LABORATORY:

SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
WELL DEPTH (TOC): 50.16
FEET OF WATER IN WELL: 36.54

SCREENED INTERVAL (TOC): 30.85-50.16
PUMP INTAKE DEPTH (ft below TOC): 38.35
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 13.62

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0935	X		5.19	NA	0.567	NA	99.4	NA	6.11	NA	70.3	NA	20.30	NA	175	13.6
0940	X		5.39	0.20	0.980	0.413	66.8	33.6	4.60	1.51	39.2	31.1	19.55	0.75	175	13.6
0945	X		5.43	0.04	0.964	0.016	59.3	6.5	3.67	0.93	32.5	6.7	19.42	0.13	175	13.6
0950	X		5.46	0.03	0.954	0.010	54.7	4.6	3.26	0.41	28.2	4.3	19.33	0.09	175	13.6
0955	X		5.47	0.01	0.953	0.001	53.4	1.3	3.29	0.03	18.6	9.6	19.21	0.12	175	13.6
1000	X		5.47	0	0.950	0.003	52.5	0.9	3.27	0.02	16.5	2.1	19.06	0.15	175	13.6
1005	X		5.47	0	0.949	0.001	52.6	0.1	3.28	0.01	11.6	4.9	19.09	0.03	175	13.6
1010	X		5.47	0	0.950	0.001	52.2	0.4	3.26	0.02	10.9	0.7	19.13	0.04	175	13.6
1015	X		5.47	0	0.949	0.001	52.4	0.2	3.25	0.01	11.2	0.3	19.16	0.03	175	13.6
1020	X	X	5.47	0	0.949	0	52.6	0.02	3.27	0.02	9.8	1.4	19.11	0.05	175	13.6

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** OW/MW39

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: FTMM-22-GW-OWMW39

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1020	5) 40ml (HCl)	Clear	9.8	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Carbon Buckets

Date: 8/29/17

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

APPENDIX J: FTMM-25 Landfill

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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
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1	Layout of FTMM-25

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-25 GROUNDWATER SAMPLING

Groundwater samples were collected from four monitoring wells located at FTMM-25 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Samples were collected on August 21, 2013 and submitted for Target Compound List (TCL) volatile organic compounds (VOCs) via the United States Environmental Protection Agency (USEPA) Method SW260C, pesticides via USEPA Method SW8081B, and target analyte list (TAL) metals via USEPA Method SW6010C/SW7470A. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-25 were gauged for groundwater measurements on August 9, 2013. Groundwater elevations in monitoring wells ranged from 52.54 (CW3AMW04) to 53.93 (CW3AMW02) feet above mean sea level, and interpreted groundwater flow direction is towards the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

The physical integrity of site monitoring wells was also assessed during the groundwater gauging. FTMM-25 monitoring wells were found to be in good condition at the time of gauging and were able to be sampled.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From December 1997 to October 2004, wells were sampled primarily for VOCs, semi-volatile organic compounds (SVOCS), and metals. From January 2005 to July 2010, monitoring wells were sampled for metals.

From October 2010 to July 2011, the last four rounds of groundwater sampling have been comprised solely of metals analysis. Groundwater samples were collected on a semi-quarterly basis. Aluminum, antimony, arsenic, iron, manganese, lead, thallium, and sodium were detected in exceedance of their respective NJDEP Groundwater Quality Standards (GWQS). However, only sodium (CW3AM01, CW3AM03, and CW3AM04), manganese (CW3AM02 and CW3AM04) and arsenic (CW3AM02) were detected above their respective background concentration as established in the 1995 Weston Report. Historical analytical data can be referenced in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

No VOCs or pesticides were detected above their respective NJDEP GWQS in groundwater analytical results. Arsenic, iron, manganese, and sodium were detected in exceedance of their respective NJDEP GWQS in several monitoring wells. However, only sodium and manganese were detected above their background concentrations (Weston 1995) in August 2013. These metals exceedances are likely due to the proximity of the site to the ocean (sodium) and the high natural abundance of manganese in Site soils. Groundwater analytical data from samples collected during the August 2013 event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Several metals have been historically detected in FTMM-25 monitoring wells above their respective NJDEP GWQS. However, most of these metals were not detected in exceedance of their background concentrations (Weston 1995). Arsenic was detected once above its background concentration in CW3AMW02 in July 2011. This result is approximately three orders of magnitude greater than previous results and only slightly greater than the arsenic background concentration(Weston 1995) The elevated arsenic concentrations observed are likely due to the presence of glauconitic soils that underlie the Site, and not indicative of historical site use.

Sodium and manganese have been historically detected above their background concentrations (Weston 1995), which continued in August 2013. Sodium and manganese are both considered site background analytes and are not indicative of historical site usage.

It is recommended that groundwater monitoring be discontinued at FTMM-25. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-25
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-25, CW-3A (Landfill)															
CW3AMW01	29-38021	531317.330	606944.408	20.00	15.00	5-20	67.66	8-9-13	0937	0.0	13.74	22.05	53.92	8/21/2013	1403
CW3AMW02	29-38022	531456.756	606902.808	17.00	12.00	5-17	62.79	8-9-13	0939	0.0	8.86	20.39	53.93	8/21/2013	1524
CW3AMW03	29-38023	532581.771	606986.104	13.50	10.00	3.5-13.5	60.51	8-9-13	0941	0.0	7.31	15.33	53.20	8/21/2013	1208
CW3AMW04	29-38024	531534.050	607057.983	16.00	12.00	4-12	61.93	8-9-13	0944	0.0	9.39	17.93	52.54	8/21/2013	952

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-25
Fort Monmouth, New Jersey

				CW3AMW01																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	45		45 Dup		46		46 Dup		47		47 Dup		48		48 Dup		49		50		50 Dup		51		52		53		LF1	
Date Collected				1/9/2008		1/9/2008		4/8/2008		4/8/2008		7/23/2008		7/23/2008		10/15/2008		10/15/2008		2/17/2009		4/22/2009		4/22/2009		7/22/2009		10/7/2009		1/5/2010		4/7/2010	
ANALYTE/Lab ID				80011.03		80011.02		80116.03		80116.02		80249.03		80249.02		80366.03		80366.02		90055.03		90164.03		90164.02		90306.03		90407.03		10004.03		10129.04	
Metals (µg/L)																															
Aluminum	200	NLE	121000	ND		ND		ND		ND		ND		ND		268		396		ND		ND		ND		54.1	ER	ND		ND		ND	
Antimony	6	6	20.70	ND		ND		ND		ND		ND		ND		ND		ND		7.12	ER	13.4		8.08	ER	ND		ND		4.94	ER	ND	
Arsenic	3	10	89.30	ND		ND		ND		ND		ND		ND		ND		2.42	ER	35.7		49.3		40.6		28.3		ND		2	ER	0.9	ER
Barium	6000	2000	699.00	1.36	ER	1.24	ER	ND		ND		31.3		24.5		26.2		26.4		2.61	ER	13.6		14.4		83.5		56		3.42	ER	8.67	
Beryllium	1	4	2.10	0.177	ER	0.184	ER	ND		ND		0.108	ER	ND		0.217	ER	0.248	ER	ND		ND		ND		ND		ND		ND		ND	
Cadmium	4	5	9.50	0.202	ER	ND		ND		ND		1.14	ER	0.495	ER	0.676	ER	0.713	ER	0.221	ER	ND		ND		0.955	ER	ND		ND		ND	
Calcium	NLE	NLE	45400.00	3550		3170		12800		13200		55100		48100		29100		29500		15500		38000		37200		66500		59000		11700		15500	
Chromium	70	100	191.00	3.91	ER	69.7		ND		ND		1.02	ER	0.985	ER	4.09	ER	5.25		0.814	ER	1.29	ER	0.479	ER	ND		ND		1.38	ER	ND	
Cobalt	NLE	NLE	18.30	ND		0.662	ER	ND		ND		0.272	ER	ND		3.88		3.73		ND		ND		ND		3.05		1.34	ER	ND		ND	
Copper	1300	1300	65.60	ND		12.4		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.84	ER	ND		ND	
Iron	300	NLE	431000	ND		410	ER	ND		ND		ND		ND		8960		6530		ND		60.8	ER	204	ER	890		108		220	ER	185	ER
Lead	5	15	22.70	ND		ND		ND		ND		ND		ND		1.62	ER	4.03	ER	8.83		ND		2.13	ER	ND		ND		ND		ND	
Magnesium	NLE	NLE	62700	817		723	ER	3690		3800		14000		12600		7590		7640		4060		9970		9710		17100		14600		3250		3800	
Manganese	50	NLE	331	ND		2.85	ER	ND		ND		20		11.1		153		121		2.13	ER	8.09		9.94		100		43.1		5.75		4.56	ER
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	4.71	ER	33.4		ND		ND		ND		ND		0.718	ER	1.1	ER	ND		0.676	ER	ND		6.82		4.48	ER	1.93	ER	ND	
Potassium	NLE	NLE	137000	1130		1010		776		751	ER	5700		5150		5100		4840		1370		1400		1460		5330		5520		1610		2580	
Selenium	40	50	29.60	ND		ND		ND		ND		9.63	ER			ND		ND		46.9		96.6		91.3		47.6		39.3		ND		21.9	
Silver	40	NLE	ND	ND		ND		0.878	ER	ND		ND		ND		ND		ND		ND		0.637	ER	ND		ND		2.89	ER	1.58	ER	1.03	ER
Sodium	50000	NLE	21500	48900		54500		11800		9800		187000		169000		205000		205000		27400		80000		85300		310000		269000		35200		22300	
Thallium	2	2	5.50	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	NLE	NLE	108	5.51		5.08		1.88	ER	1.72	ER	5.02		3.38	ER	21.5		35.3		2.11	ER	1.97	ER	3.24	ER	2.46	ER	5.29		3.31	ER	1.27	ER
Zinc	2000	NLE	233	ND		ND		ND		ND		ND		ND		6	ER	6.16	ER	ND		ND		ND		11.2	ER	8.4	ER	ND		2.3	ER

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

For the July 2010 sampling event, metal analytical results were not available for: Ca, Co, Fe, Mg, Mn, K, Ag, Na, V, and Zn.

LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown

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Table 2
Historical Groundwater Analytical Results
Site FTMM-25
Fort Monmouth, New Jersey

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Table 2
Historical Groundwater Analytical Results
Site FTMM-25
Fort Monmouth, New Jersey

									CW3AMW03													
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF3		LF4	LF5	LF6	45		46		47		48		49		50		51		51 Dup		52		52 Dup		53		53 Dup	
Date Collected				10/19/2010		3/4/2011	4/12/2011	7/6/2011	1/9/2008		4/8/2008		7/23/2008		10/15/2008		2/17/2009		4/22/2009		7/22/2009		7/22/2009		10/7/2009		10/7/2009		1/5/2010		1/5/2010	
ANALYTE/Lab ID				1044806		1108602	1114306	1128206	80011.05		80116.05		80249.05		80366.05		90055.05		90164.05		90306.05		90306.02		90407.05		90407.02		10004.05		10004.02	
Metals (µg/L)																															
Aluminum	200	NLE	121000	33.8	ER	<200	<200	<200	ND		ND		ND		10000		176		ND		309		1210		1320		1470		644		1130	
Antimony	6	6	20.70	<4.70		<6.0	<6.0	<6.0	ND		ND		ND		18.7		17.8		17.7		ND		15		ND		6.79	ER	5.85	ER	5.59	ER
Arsenic	3	10	89.30	5.08		<3.0	3.5	123	3.9	ER	ND		ND		ND		92.6		61.4		14.7		21.3		4.82	ER	5.1		1.87	ER	2.82	ER
Barium	6000	2000	699.00	623		559	553	571	144		114		80.8		180		88.4		127		87.7		97.1		97.3		92.3		101		103	
Beryllium	1	4	2.10	<0.40		<1.0	<1.0	<1.0	0.17	ER	ND		0.1	ER	2.04		ND		ND		0.087	ER	0.193	ER	0.182	ER	0.209	ER	ND		ND	
Cadmium	4	5	9.50	0.568		<3.0	<3.0	<3.0	0.239	ER	1.23	ER	0.313	ER	0.697	ER	ND		0.243	ER	0.574	ER	1.95	ER	2.04		1.79	ER	ND		ND	
Calcium	NLE	NLE	45400.00	102000		77200	102000	91000	75700		51000		21200		62600		46700		86500		29000		30500		30500		27300		66100		68100	
Chromium	70	100	191.00	<0.60		<10	<10	<10	0.344	ER	0.857	ER	1.05	ER	92		3.91	ER	1.37	ER	3.09	ER	14.1		13.7		16.4		5.21		10.5	
Cobalt	NLE	NLE	18.30	<0.30		<50	<50	<50	ND		ND		1.62	ER	3.14		0.145	ER	ND		1.48	ER	1.56	ER	1.96	ER	1.95	ER	ND		ND	
Copper	1300	1300	65.60	<0.80		<10	<10	<10	2.76	ER	ND		ND		113		10		ND		6.55		88.3		21.9		35.1		3.36	ER	10.3	
Iron	300	NLE	431000	58000		47200	69100	41200	8710		11900		2140		93000		15900		6550		9570		17300		17200		15900		8540		10800	
Lead	5	15	22.70	<2.10		<3.0	<3.0	<3.0	ND		0.758	ER	ND		11		8.35		ND		ND		9.51		8.99		8.57		ND		4.86	ER
Magnesium	NLE	NLE	62700	12100		8760	12400	10500	12700		9810		6330		10400		7220		7400		7720		8160		7840		7850		10800		10900	
Manganese	50	NLE	331	705		633	851	666	262		201		123		260		133		145		161		170		176		173		203		208	
Mercury	2	2	0.26	<0.254		<0.20	<0.20	<0.20	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	1.95	ER	<10	<10	<10	6.33		0.385	ER	2.66	ER	45.3		ND		2.59	ER	7.48		10.6		12.8		11.9		6		7.53	
Potassium	NLE	NLE	137000	10000		<10000	<10000	10600	9680		9380		4970		6190		5720		3530		5030		5360		4940		5400		9040		9070	
Selenium	40	50	29.60	<1.36		<10	<10	<10	ND		ND		8.14	ER	ND		80.6		132		19.8		ND		ND		ND		ND		ND	
Silver	40	NLE	ND	<0.60		<10	<10	<10	ND		2.58	ER	ND		ND		ND		ND		1.7	ER	3.61	ER	ND		ND		0.913		ND	
Sodium	50000	NLE	21500	21400		<10000	16500	19100	111000		90300		158000		140000		120000		15600		158000		160000		168000		161000		91800		91700	
Thallium	2	2	5.50	<0.53		<2.0	2.5	<2.0	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.63	ER	ND	
Vanadium	NLE	NLE	108	6.57		<50	<50	<50	1.58	ER	2.42	ER	ND		146		7.38		5.1		6.53		17.5		20.2		18.7		7.58		12	
Zinc	2000	NLE	233	4.26	ER	<20	<20	<20	28.8		ND		21.7	ER	1250		52.3		16.3	ER	84.5		247		254		233		107		182	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-25
Fort Monmouth, New Jersey

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Table 2
Historical Groundwater Analytical Results
Site FTMM-25
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	LF1		LF1 Dup		LF2		LF2 Dup		LF3		LF4	LF5	LF6
Date Collected				4/7/2010		4/7/2010		7/26/2010		7/26/2010		10/19/2010		3/4/2011	4/12/2011	7/6/2011
ANALYTE/Lab ID				10129.03		10129.02		10320.03		10320.02		1044803		1108604	1114303	1128203
Metals (µg/L)																
Aluminum	200	NLE	121000	ND		ND						143		<200	<200	<200
Antimony	6	6	20.70	ND		7.25	ER	13.8		9.47	ER	<4.70		<6.0	<6.0	<6.0
Arsenic	3	10	89.30	3.9	ER	4.01	ER	4.17	ER	4.04	ER	2.42	ER	3.1	4.4	7.4
Barium	6000	2000	699.00	112		120		152		135		126		<200	<200	<200
Beryllium	1	4	2.10	ND		ND		ND		ND		<0.40		<1.0	<1.0	<1.0
Cadmium	4	5	9.50	1.18	ER	1.38	ER	3.9		3.24		<0.40		<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	71100		76500						60400		101000	67900	61500
Chromium	70	100	191.00	ND		ND		ND		ND		<0.60		<10	<10	<10
Cobalt	NLE	NLE	18.30	ND		ND						0.344	ER	<50	<50	<50
Copper	1300	1300	65.60	ND		ND		ND		ND		<0.80		<10	<10	<10
Iron	300	NLE	431000	53200		57500						20400		79100	52200	49700
Lead	5	15	22.70	2.82	ER	3.14	ER	5.46		2.53	ER	<2.10		<3.0	<3.0	<3.0
Magnesium	NLE	NLE	62700	6510		6750						7150		7720	8610	7970
Manganese	50	NLE	331	540		578						349		731	498	401
Mercury	2	2	0.26	ND		ND		ND		ND		<0.254		<0.20	<0.20	<0.20
Nickel	100	NLE	187	3.4	ER	3.18	ER	0.606	ER	0.539	ER	3.18	ER	<10	<10	<10
Potassium	NLE	NLE	137000	8730		9390						8250		10900	<10000	<10000
Selenium	40	50	29.60	24.5		29.9		NR		NR		<1.36		<10	<10	<10
Silver	40	NLE	ND	ND		ND						<0.60		<10	<10	<10
Sodium	50000	NLE	21500	51200		48800						102000		25200	96500	73300
Thallium	2	2	5.50	ND		ND		ND		ND		<0.53		<2.0	<2.0	<2.0
Vanadium	NLE	NLE	108	5.32		6.1						3.74	ER	<50	<50	<50
Zinc	2000	NLE	233	5.26	ER	5.88	ER					12.9	ER	<20	<20	<20

Notes:

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Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-25
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-25-GW-CW3AMW01		FTMM-25-GW-CW3AMW02		FTMM-25-GW-CW3AMW03		FTMM-25-GW-CW3AMW04		FTMM-25-GW-CW3AMW10	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	21-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013	
LAB SAMPLE ID:						R1306112-018		R1306112-024		R1306112-011		R1306112-002		R1306112-006	
SAMPLE INTERVAL (ft bgs):						5-15		5-17		4-14		4-16		4-16	
	CAS No.	Unit													
Volatile Organics - SW8260C															
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	--	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	--	5.0	U	**1.6**	BJ	5.0	U	**1.7**	BJ	5.0	U
Benzene	71-43-2	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	--	1.0	U	1.0	U	**0.55**	J	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	--	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Pesticides - SW8081B															
4,4'-DDD	72-54-8	µg/L	0.1	NLE	--	0.040	U	0.039	U	0.040	U	0.040	U	0.039	U
4,4'-DDT	50-29-3	µg/L	0.1	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
4,4'-DDE	72-55-9	µg/L	0.1	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Aldrin	309-00-2	µg/L	0.04	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
alpha-BHC	319-84-6	µg/L	0.02	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
alpha-Chlordane	5103-71-9	µg/L	5 [3]	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-25
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-25-GW-CW3AMW01		FTMM-25-GW-CW3AMW02		FTMM-25-GW-CW3AMW03		FTMM-25-GW-CW3AMW04		FTMM-25-GW-CW3AMW10	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	21-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013		21-Aug-2013	
LAB SAMPLE ID:						R1306112-018		R1306112-024		R1306112-011		R1306112-002		R1306112-006	
SAMPLE INTERVAL (ft bgs):						5-15		5-17		4-14		4-16		4-16	
	CAS No.	Unit													
beta-BHC	319-85-7	µg/L	0.04	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
delta-BHC	319-86-8	µg/L	100 [3]	NLE	--	0.026	U	**0.042**	J	0.026	U	0.026	U	0.025	U
Dieldrin	60-57-1	µg/L	0.03	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Endosulfan I	959-98-8	µg/L	40	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Endosulfan II	33213-65-9	µg/L	40	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Endosulfan sulfate	1031-07-8	µg/L	40	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Endrin	72-20-8	µg/L	2	2	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Endrin aldehyde	7421-93-4	µg/L	5 [3]	NLE	--	0.026	U	0.025	UJ	0.026	U	0.026	U	0.025	U
Endrin ketone	53494-70-5	µg/L	100 [3]	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.03	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
gamma-Chlordane	5566-34-7	µg/L	5 [3]	NLE	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Heptachlor	76-44-8	µg/L	0.05	0.4	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Heptachlor Epoxide	1024-57-3	µg/L	0.2	0.2	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Methoxychlor	72-43-5	µg/L	40	40	--	0.026	U	0.025	U	0.026	U	0.026	U	0.025	U
Toxaphene	8001-35-2	µg/L	2	3	--	0.51	U	0.50	U	0.51	U	0.51	U	0.50	U
Metals - SW6010C/SW7470A															
Aluminum	7429-90-5	µg/L	200	NLE	121000	25	U	25	U	**126**		25	U	25	U
Antimony	7440-36-0	µg/L	6	6	20.70	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
Arsenic	7440-38-2	µg/L	3	10	89.30	5.0	U	**6.0**	J	5.0	U	**6.5**	J	**5.4**	J
Barium	7440-39-3	µg/L	6,000	2,000	699.00	**62.5**		**463**		**175**		**161**		**159**	
Beryllium	7440-41-7	µg/L	1	4	2.10	0.30	U	0.30	U	0.30	U	**0.237**	J	0.30	U
Cadmium	7440-43-9	µg/L	4	5	9.50	0.40	U	0.40	U	**0.751**	J	0.40	U	0.40	U
Calcium	7440-70-2	µg/L	NLE	NLE	45400.00	**108,000**		**71,800**		**20,600**		**51,600**		**51,100**	
Chromium	7440-47-3	µg/L	70	100	191.00	**2.4**		**0.989**	J	**0.355**	J	**2.0**		**1.7**	
Cobalt	7440-48-4	µg/L	NLE	NLE	18.30	**1.1**	BJ	1.0	U	**9.2**	B	**1.3**	BJ	**0.805**	BJ
Copper	7440-50-8	µg/L	1,300	1,300 [5]	65.60	**1.1**	BJ	4.0	U	**5.8**	BJ	**2.4**	BJ	4.0	U
Iron	7439-89-6	µg/L	300	NLE	431000	**187**		**45,700**		**756**		**43,700**		**43,500**	
Lead	7439-92-1	µg/L	5	15 [5]	22.70	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Magnesium	7439-95-4	µg/L	NLE	NLE	62700	**26,100**		**9,390**		**11,800**		**8,130**		**8,120**	
Manganese	7439-96-5	µg/L	50	NLE	331	**18.9**		**552**		**196**		**352**		**351**	
Mercury	7439-97-6	µg/L	2	2	0.26	0.080	U	0.080	U	0.080	U	0.080	U	0.080	U
Nickel	7440-02-0	µg/L	100	NLE	187	**1.2**	BJ	5.0	U	**9.5**		**3.3**	BJ	**5.5**	B
Potassium	9/7/7440	µg/L	NLE	NLE	137000	**4,220**		**7,480**		**5,660**		**7,190**		**7,250**	
Selenium	7782-49-2	µg/L	40	50	29.60	**3.3**	J	**2.9**	J	**2.9**	J	**4.0**	J	5.0	U
Silver	7440-22-4	µg/L	40	NLE	ND	**0.432**	J	2.0	U	**0.278**	J	**0.515**	J	2.0	U
Sodium	7440-23-5	µg/L	50,000	NLE	21500	**324,000**		**53,500**		**185,000**		**99,000**		**99,600**	
Thallium	7440-28-0	µg/L	2	2	5.50	10	U	10	U	10	U	10	U	10	U
Vanadium	7440-62-2	µg/L	NLE	NLE	108	**2.8**	J	**1.6**	J	0.60	U	**2.3**	J	**2.5**	J
Zinc	7440-66-6	µg/L	2,000	NLE	233	**3.0**	BJ	4.0	U	**68.7**		**5.0**	BJ	**5.5**	BJ

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
B - The analyte was found in an associated blank at concentration above one half the LOQ, as well as in the sample.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Value is the USEPA Action Level.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-25
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-25, CW-3A									
CW3AMW01	VOC/ Pesticides/ Metals	Fe, Na	Na	NO	NO	Yes	NO	NO	Na due to site background concentrations and not due to historical site use.
CW3AMW02		As, Fe, Mn, Th	As, Mn	NO	NO	NO	NO	NO	As and Mn due to site background concentrations and not due to historical site use.
CW3AMW03		Al, Sb, As, Fe, Pb, Mn, Na	Na	NO	NO	Yes	NO	NO	Na due to site background concentrations and not due to historical site use.
CW3AMW04		As, Fe, Mn, Na	Mn, Na	NO	NO	Yes	NO	NO	Na and Mn due to site background concentrations and not due to historical site use.

Notes

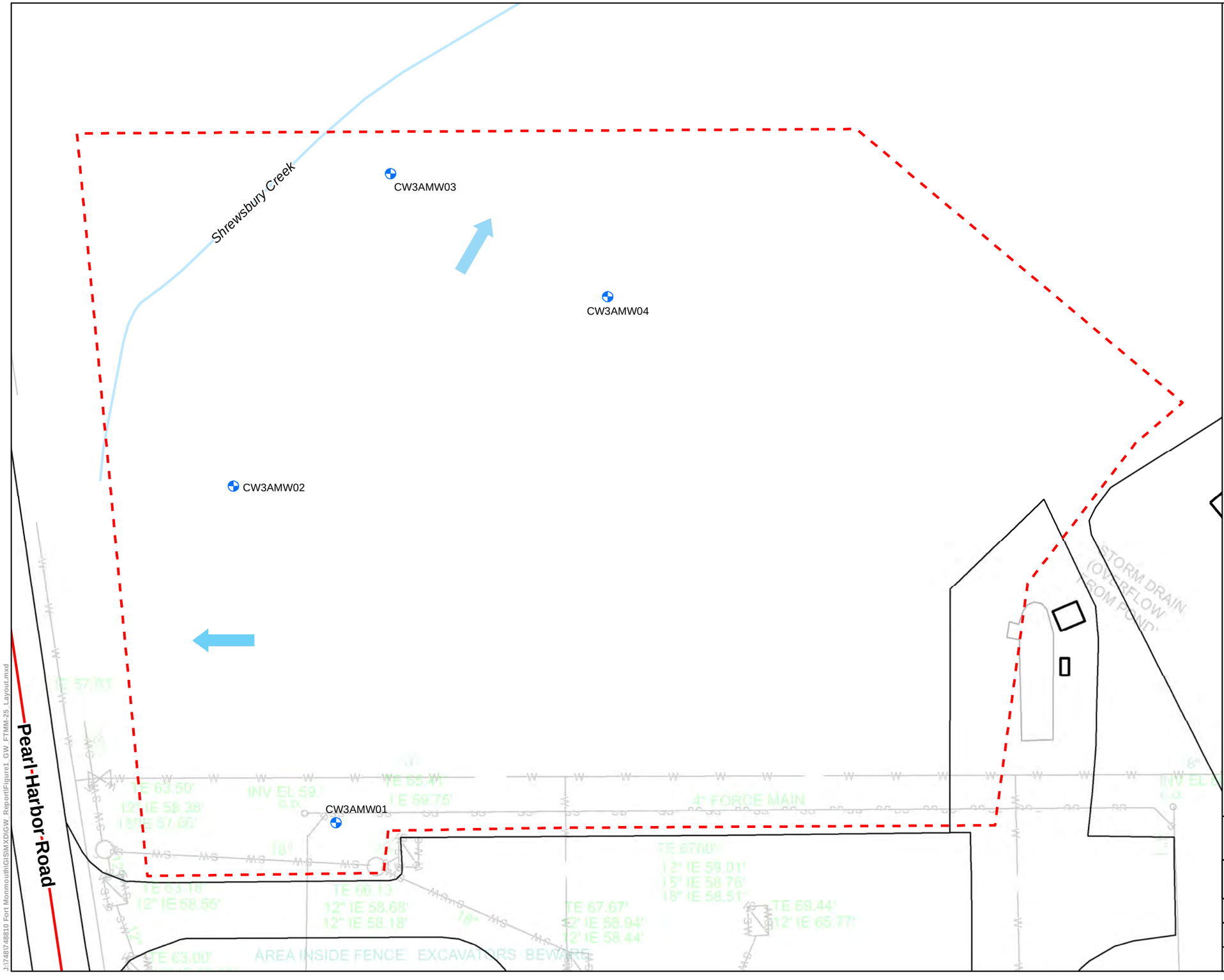
1 Has any of the analyte compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds?
If no then remove this analyte from LTM list

2 Has any of the analyte compounds exceeded the NJDEP GWQS seasonally (winter spring vs. summer fall) for the 4 previous data rounds?
If yes then keep analyte in LTM list
If no then remove this analyte from LTM list

3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-25



Legend

- Shallow Monitoring Well
- CW-3A Landfill Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 40 feet

0 50 100 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-25	
CREATED BY: **TS**	REVIEWED BY: **IG**
DATE: **November 2013**	FIGURE NUMBER: **Figure 1**
PROJECT NUMBER: **748810.01000**	FILE: **Figure1_GW_FTMM-25_Layout.mxd**

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-25_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CW3AMW01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-25
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: ~~n/a~~ MiniRAE (JC)

DATE: 8/21/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex DiIonno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
WELL DEPTH (TOC): 22.05
FEET OF WATER IN WELL: 8.1'

SCREENED INTERVAL (TOC): 8.2 – 22.05 (3.2' stickup)
PUMP INTAKE DEPTH (ft below TOC): 18.00'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 13.95'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1328	X		6.07	NA	2.949	NA	152.6	NA	4.61	NA	0.0	NA	25.58	NA	200	13.98
1333	X		6.06	0.01	2.912	0.037	173.2	20.6	4.87	0.26	0.0	0.0	21.27	4.31	225	13.98
1338	X		6.02	0.04	2.874	0.038	196.6	23.5	4.95	0.08	0.0	0.0	20.67	0.6	225	13.98
1343	X		5.98	0.04	2.855	0.019	207.4	10.8	4.79	0.16	0.0	0.0	20.57	0.1	225	13.98
1348	X		5.96	0.02	2.820	0.035	212.9	5.4	4.69	0.10	0.0	0.0	20.92	0.35	225	13.98
1353	X		5.96	0.0	2.809	0.011	219.9	7.0	4.32	0.37	0.0	0.0	20.99	0.07	225	13.98
1358	X		5.94	0.02	2.799	0.010	228.6	8.7	4.30	0.02	0.0	0.0	20.98	0.01	225	13.98
1403		X	5.95	0.01	2.769	0.030	236.2	7.6	4.26	0.04	0.0	0.0	20.95	0.03	225	13.98

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CW3AMW01

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-25-GW-CW3AMW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	1403	3) VOAs w/HCL	clear	0.6	
Pesticides	↓	2) 1000 mL GA unpreserved	↓	↓	
Metals	↓	1) 500 mL poly w/HNO3	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transferred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: CW3AMW02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): M-25

SAMPLIG INSTRUMENTS: Geotech bladder pump

PID DETECTOR: ~~N/A~~ MiniRAE (JC)

DATE: 8/21/13

LABORATORY: ALS

SAMPLING PERSONNEL

NAME: Alex DiIonno

NAME: ALS

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)

WELL DEPTH (TOC): 20.39

FEET OF WATER IN WELL: 11.44

SCREENED INTERVAL (TOC): 8.07 - 20.39 (3.07' Stickup)

PUMP INTAKE DEPTH (ft below TOC): 14.67'

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.95'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1449	X		6.27	NA	1.228	NA	-50.6	NA	3.19	NA	1.7	NA	19.30	NA	150	9.01
1454	X		6.21	0.06	1.114	0.114	-70.5	19.9	0.95	2.24	1.7	0.0	17.26	2.04	150	9.01
1459	X		6.19	0.02	1.104	0.010	-73.9	3.4	0.76	0.19	1.9	0.2	17.14	0.12	150	9.01
1504	X		6.21	0.02	1.092	0.012	-76.5	2.6	0.57	0.19	1.8	0.1	17.20	0.06	150	9.01
1509	X		6.21	0.0	1.081	0.011	-78.2	1.7	0.41	0.16	1.8	0.0	17.18	0.02	150	9.01
1514	X		6.22	0.01	1.076	0.004	-79.7	1.5	0.42	0.01	1.8	0.0	17.25	0.07	150	9.01
1519	X		6.25	0.03	1.056	0.020	-81.2	1.5	0.39	0.03	1.8	0.0	17.40	0.15	150	9.01
1524		X	6.26	0.01	1.045	0.011	-82.3	1.1	0.38	0.01	1.8	0.0	17.43	0.03	150	9.01

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CW3AMW02

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-25-GW-CW3AMW02

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	1524	3) VOAs w/ HCL	clear	1.8	
Pesticides	↓	2) 1000 mL GA unpreserved	↓	↓	
Metals	↓	1) 500 mL poly w/ HNO_3	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CW3AMW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): M-25
LABORATORY: ALS
SAMPLIG INSTRUMENTS: Geotech bladder pump
SAMPLING PERSONNEL
PID DETECTOR: ~~n/a~~ MiniRAE (JC)
NAME: Alex DiIonno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): - 0.0 (JC)
SCREENED INTERVAL (TOC): 6.63-15.33 (3.13' Stickup)
WELL DEPTH (TOC): 15.33
PUMP INTAKE DEPTH (ft below TOC): 11.36'
FEET OF WATER IN WELL: 7.95
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.38'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1128	X		6.52	NA	1.264	NA	94.9	NA	4.18	NA	12.9	NA	19.86	NA	100	7.59
1133	X		5.26	1.26	1.356	0.092	153.9	59.0	0.96	3.22	7.3	5.6	18.61	1.25	75	7.70
1138	X		5.16	0.10	1.359	0.003	172.9	19.0	0.72	0.24	5.8	1.5	19.60	0.99	75	7.75
1143	X		5.14	0.02	1.359	0.0	187.0	14.1	0.66	0.06	4.6	1.8	20.31	0.71	75	7.75
1148	X		5.14	0.0	1.357	0.002	196.3	9.3	0.63	0.03	4.1	0.1	20.52	0.21	75	7.75
1153	X		5.12	0.02	1.356	0.001	202.3	6.0	0.65	1.02	3.9	0.2	20.68	0.16	75	7.75
1158	X		5.12	0.0	1.353	0.003	208.0	5.7	0.65	0.0	3.6	0.3	20.70	0.02	75	7.75
1203	X		5.12	0.0	1.350	0.003	210.3	2.3	0.65	0.0	3.4	0.2	20.86	0.16	75	7.75
1208		X	5.11	0.01	1.349	0.001	213.8	3.5	0.65	0.0	3.1	3.0	20.86	0.0	75	7.75

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: CW3AMW03

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-25-GW-CW3AMW03

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	1208	3) VOAs w/HCl	clear	3.1	
Pesticides	↓	2) 1000mL AA unpreserved	↓	↓	
Metals	↓	1) 500mL HNO3	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration buckets)

Date:								
Volume Transferred to VBW Tank:								
Volume Transerred to Drum:								

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CW3AMW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): CW3A M-25
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: ~~N/A~~ MiniRAE (JC)

DATE: 8/21/13
LABORATORY: ALS

SAMPLING PERSONNEL
NAME: Alex D. Tonno
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): 17.93'
FEET OF WATER IN WELL: 8.3

SCREENED INTERVAL (TOC): 6.91 - 17.93 (2.91' stickup)
PUMP INTAKE DEPTH (ft below TOC): 13.78
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.63'

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0907	X		6.21	NA	0.904	NA	-58.5	NA	3.60	NA	2.3	NA	17.63	NA	225	9.75
0912	X		6.24	0.03	0.912	0.008	-80.8	22.3	1.46	2.14	1.4	0.9	16.99	0.64	225	9.75
0917	X		6.27	0.03	0.936	0.024	-87.7	6.9	1.08	0.38	1.0	0.4	16.74	0.25	225	9.75
0922	X		6.29	0.02	0.952	0.016	-89.9	2.2	1.03	0.05	0.6	0.4	16.68	0.06	225	9.75
0927	X		6.31	0.02	0.971	0.019	-91.3	1.4	0.76	0.27	0.4	0.2	16.64	0.04	225	9.75
0932	X		6.32	0.01	0.989	0.018	-91.7	0.4	0.63	0.13	0.6	0.2	16.68	0.04	225	9.75
0937	X		6.33	0.01	1.006	0.017	-91.1	0.6	0.60	0.03	0.2	0.4	16.67	0.01	225	9.75
0942	X		6.33	0.0	1.012	0.006	-89.6	1.5	0.55	0.05	0.2	0.0	16.66	0.01	225	9.75
0947	X		6.33	0.0	1.022	0.010	-88.6	1.0	0.60	0.05	0.2	0.6	16.72	0.06	225	9.75
0952		X	6.33	0.0	1.027	0.005	-86.4	2.2	0.55	0.05	0.2	0.0	16.74	0.02	225	9.75

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** CW3AMW04

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-25-GW-CW3AMW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Metals	0952	1) 500mL Poly w/ HNO_3	clear	0.2	
Pesticides	↓	2) 1000-L GA unpreserved	↓	↓	
VOCs-TICs	↓	3) VOA's w/ HCL	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:
FTMM-25-GW-CW3AMW04

QA\QC RINSATE SAMPLE NAME:
FTMM-25-GW-CW3AMW04-QA

MATRIX SPIKE SAMPLE COLLECTED: (YES) or NO

FTMM-25-GW-CW3AMW04-MS / FTMM-25-GW-CW3AMW04-MSD

INVESTIGATION DERIVED WASTE (IDW): N/A (using carbon filtration bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX K: FTMM-53 Building 699

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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
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1	Layout of FTMM-53 (Former Gas Station at Building 699)

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-53 GROUNDWATER MONITORING

Groundwater sampling was conducted at 14 monitoring wells, located in FTMM-53 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to water in monitoring wells and sample collection using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted between August 19 and August 21, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260C. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within the FTMM-53 site were gauged on August 9, 2013. Groundwater elevations in monitoring wells ranged from 7.62 (699RW11) to 10.24 (699MW15) feet above mean sea level (amsl) and groundwater is expected to flow to the south (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Additionally, during the groundwater gauging activities, the condition of FTMM-53 monitoring wells was assessed. Three recovery wells, 699RW03, 699RW05, and 699 RW11 were found to have wiring and a submersible pump in the well casing at the time of gauging. The pump and associate wiring was able to be removed prior to the sampling. The remaining FTMM-53 monitoring wells were in good condition and had tubing staged within their well casings.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From April 1997 through June 2010, FTMM-53 monitoring wells were sampled for VOCs and metals.

In the last four rounds of quarterly groundwater sampling conducted at FTMM-53 from June 2010 to June 2011, samples were submitted for VOCs and metals. Historically, several metals were detected in exceedance of both their New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standard (GWQS) and background concentrations established in the 1995 Weston Report; including beryllium, cadmium, iron, lead, manganese, nickel and sodium. These metals are considered background analytes and are not indicative of historical site usage.

Historically, several VOCs have been found to be in exceedance of their respective NJDEP GWQS in FTMM-53 monitoring wells. These VOCs include benzene, tetrachloroethene

(PCE), trichloroethene (TCE), *tert*-butyl-alcohol (TBA), and tentatively identified compounds (TICs). Historical groundwater analytical results are presented in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Benzene was detected in FTMM-53 monitoring wells 699MW06, 699RW03, 699RW05 and 699RW11 above its NJDEP GWQS of 1 µg/L. PCE (699MW16), 1,2,4-trimethylbenzene (699RW03, 699WR05), 1,3,5–trimethylbenzene (699RW05) and total xylenes (699RW05) were detected in exceedance of their respective NJDEP GWQS. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

It is recommended that groundwater monitoring be discontinued at FTMM-53 monitoring wells 616MW01, 699MW02, 699MW05, 699MW08, 699MW12, and 699MW15. These wells exhibited either no VOC detections or detections that were lower than each detected compound's NJDEP GWQS. Groundwater monitoring for VOCs should be continued on a quarterly basis via PDB sampling methodology at FTMM-53 monitoring wells 699MW01, 699MW04, 699MW06, 699MW09, 699MW16, 699RW03, 699RW05 and 699RW11 due to VOC exceedances or detections that are close to the NJDEP GWQS. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-53
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-53, B699															
616MW01	29-33760	539282.814	618630.807	14.00	10.00	4-14	17.64	8-7-13	0951	0.0	7.84	16.64	9.80	8/19/2013	1431
699MW01	29-23677-1	539094.956	618689.924	15.00	13.00	2-15	14.48	8-7-13	1002	0.0	4.43	13.41	10.05	8/21/2013	932
699MW02	29-23678-9	539212.459	618724.121	17.00	15.00	2-17	15.13	8-7-13	0940	0.0	6.29	16.64	8.84	8/19/2013	1531
699MW04	29-23680-7	539111.313	618732.386	20.00	18.00	2-20	15.03	8-7-13	1005	0.0	4.94	17.47	10.09	8/21/2013	917
699MW05	29-23808	539142.503	618894.896	15.00	12.00	3-15	13.22	8-7-13	0933	0.0	5.06	14.96	8.16	8/20/2013	1222
699MW06	29-23809-1	539071.235	618810.053	15.00	13.00	2-15	16.75	8-7-13	0930	0.0	7.13	15.05	9.62	8/20/2013	1223
699MW08	29-23811	539060.005	618593.218	15.00	13.00	2-15	14.88	8-7-13	1008	0.0	4.73	13.35	10.15	8/20/2013	925
699MW09	29-24639	538950.010	618849.406	15.00	13.00	2-15	14.70	8-7-13	1022	0.0	5.47	12.60	9.23	8/20/2013	1107
699MW12	29-28907	538918.899	618702.388	15.00	10.00	5-15	15.50	8-7-13	1026	0.0	5.43	14.90	10.07	8/20/2013	1408
699MW15	29-33753	539404.555	618692.152	13.50	10.00	3.5-13.5	15.70	8-7-13	0946	0.0	5.46	13.97	10.24	8/20/2013	937
699MW16	29-33757	538859.181	618896.350	13.50	10.00	3.5-13.5	15.27	8-7-13	1024	0.0	5.58	14.15	9.69	8/20/2013	1102
699RW03	29-43891	539070.639	618693.863	20.00	15.00	5-20	14.87	8-7-13	1013	0.0	5.20	17.97	9.67	8/20/2013	1530
699RW05	29-56509	539121.709	618786.556	15.00	10.00	5-15	13.91	8-7-13	1018	0.0	4.06	12.30	9.85	8/20/2013	1407
699RW11	29-28031	539063.440	618770.989	20.00	15.00	5-20	13.13	8-7-13	0956	0.0	5.51	17.00	7.62	8/20/2013	1522

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC = Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699MW01																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	43	43 Dup	44	45	46	46 Dup	47	48	48 Dup	49	50	LF1	LF2	LF3	LF4	LF5	LF6	LF6 Dup	44	45	46
Date Collected				3/30/2008	3/30/2008	6/4/2008	9/29/2008	12/30/2008	12/30/2008	3/27/2009	6/25/2009	6/25/2009	8/26/2009	11/16/2009	3/25/2010	6/16/2010	9/17/2010	1/10/2011	3/15/2011	6/3/2011	6/3/2011	3/30/2008	6/4/2008	9/29/2008
ANALYTE/Lab ID				80100.04	80100.03	80190.04	80345.04	80482.04	80482.03	90129.04	90262.07	90262.03	90359.04	90444.04	10108.06	10268.06	10398.05	11017.06	11109.08	11236.04	11236.03	80100.05	80190.05	80345.05
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	9.38	NA	1.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	7.04	NA	1.16 J	1.9 J	3.61	3.5	10.5	0.7 J	0.77 J	9.63	6.56 D	1.41	0.99	9.65	0.3 J	ND	0.35 J	0.48 J	ND	ND	ND
Bromodichloromethane	1	80	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	248.83	NA	44.45	146.77	195.49	190.2	419.87 D	5.68	8.35	587.78 D	376.59 D	45.63	11.97	143.24 D	16.25	1.18	12.68	17.45	ND	ND	ND
4-Methyl-2-pentanone	NLE		--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36 J	0.3 J	ND	ND	ND
Styrene	100	100	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	3		--	2.62	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	39.13	NA	4.06	9.25	15.06	14.94	53.67 D	0.31 J	0.49 J	30.28	13.27 D	1.72	ND	9.9	0.31 J	ND	0.67	0.92	ND	ND	ND
m +*p* -Xylenes	1000	10,000	--	571.88	NA	60.92	75.57	197.66	193.83	874.09 D	2.09 J	3.94 J	606.88 D	218.2 D	12.23	0.38 J	4.25	0.74 J	ND	13.24	18.57	ND	ND	ND
o -Xylene	1000	10,000	--	462.49	NA	96.17	155	235.14	231.05	940.67 D	15.21	22.31	866.01 D	448.44 D	36.35	13.8	97.6 D	6.32	2.42	14.23	20.51	ND	ND	ND
TICs*	500	NLE	--	438	NA	238	477	642	654	1018	80	106	462	9140	562	281	1983	139	7	154	188	ND	ND	ND
Metals (µg/L)																								
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	883	1390	198	375	1620	1620	2810	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.65 ER	7.44 ER	6.88 ER	<6.0	<6.0	<6.0	<6.0	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.49 ER	3.07 ER	11.79	<3.0	<3.0	9	12.1	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	76	63.1	41.9	<200	<200	<200	<200	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.428 ER	1.65	0.1 ER	<1.0	<1.0	<1.0	<1.0	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.13	ND	0.835 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	54000	20500	23500	114000	15700	16600	16700	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	11.2	<10	<10	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.36	10.8	2.42	<50	<50	<50	<50	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	2.03 ER	1.28 ER	<10	13.8	<10	<10	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18600	3710	23000	3990	3880	7640	10500	NA	NA	NA
Lead	5	15	22.70	0.914 ER	1.8 ER	16.6	9.2	3.72 ER	3.07 ER	7.3	5.62	6.34	ND	2.53 ER	ND	ND	ND	<3.0	6	<3.0	5.8	ND	ND	2.48 ER
Lead (dissolved)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	NA	NA	NA
Lead (total)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	--	--	--	--	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19200	12400	13300	21600	<5000	6470	6620	NA	NA	NA
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	819	565	561	345	21.9	323	328	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.1 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.24	12.4	1.49 ER	<10	<10	<10	<10	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9530	5400	6520	13100	<10000	<10000	<10000	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.6	NR	2.7 ER	<10	<10	<10	<10	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.04 ER	3.7 ER	<10	<10	<10	<10	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	529000 E	285000	316000	577000	121000	248000	254000	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Vanadium	60	NLE	108	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.31 ER	ND	ND	<50	<50	<50	<50	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	48.2 ER	74.6	ND	<20	<20	25.3	38.2	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Third Quarter 2011 data is not included due to an incomplete analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699MW02																				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	47	48	49	49 Dup	50	51	51 Dup	LF1	LF1 Dup	LF2	LF3	LF4	LF5	LF6	LF6 Dup	42	43	43 Dup	44	44 Dup	45
Date Collected				12/30/2008	3/27/2009	6/24/2009	6/24/2009	8/26/2009	11/16/2009	11/16/2009	3/26/2010	3/26/2010	6/15/2010	9/16/2010	1/6/2011	3/15/2011	5/27/2011	5/27/2011	3/30/2008	6/4/2008	6/4/2008	9/29/2008	9/29/2008	12/30/2008
ANALYTE/Lab ID				80482.05	90129.05	90261.04	90261.03	90359.05	90444.05	90444.03	10109.04	10109.03	10265.05	10396.01	11014.01	11109.04	11229.04	11229.03	80100.06	80190.06	80190.03	80345.06	80345.03	80482.06
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.47 J	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.35	32.21	45.15	25.37	25.44	13.31
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39.32	36.72	88.46	17.61	18.31	53.28
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	78.05	48.41	115.01	40.79	41.42	27.62
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.77	2.53	3.53	2.36	2.57	4.2
m +*p* -Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	85.47	52.71	140.04	25.36	26.96	81.63
o -Xylene	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	48.91	35.43	43.03	15.05	16.09	71.16
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	296	503	575	747	807	405
Metals (µg/L)																								
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	NA	129	139	68.2 ER	68.6 ER	<200	437	2550	1570	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	5.66 ER	7.2 ER	7.15 ER	15.4	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	1.36 ER	0.67 ER	1.92 ER	2.77 ER	<3.0	<3.0	<3.0	5.7	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	9.46	9.43	10.4	15.1	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.158 ER	0.157 ER	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	1.19 ER	0.938 ER	0.572 ER	1.44 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	NA	72800	69600	52900	66600	128000	62800	<5000	109000	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<10	<10	19.8	10.8	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	NA	0.8 ER	0.716 ER	4.52	7.47	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	2.22 ER	5.74	1.64 ER	2.11 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	186 ER	240 ER	3380	5800	<100	865	5000	7760	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	4.18 ER	2.33 ER	1.65 ER	1.76 ER	ND	6.58	ND	ND	ND	3.05 ER	ND	<3.0	<3.0	5.3	5.7	ND	4.56 ER	4.25 ER	4.69 ER	8.37	4.31 ER
Lead (dissolved)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	NA	NA	NA	NA	NA	NA
Lead (total)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	--	--	--	--	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	NA	5110	4890	8560	12200	27500	5040	<5000	13600	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	NA	6.12	6.42	38.8	117	69.2	<15	23.7	123	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.07 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	5.82	5.25	9.75	12.2	26.8	<10	10.6	20.4	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	NA	2860	2880	3100	5820	10200	25900	<10000	13300	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	62	59.2	NR	1.53 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	3.3 ER	3.12 ER	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	NA	NA	NA	NA	12700	11100	14700	18300	60200	16300	<10000	33900	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	0.86 ER	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	NA	NA	NA	NA	NA	NA	NA	1.2 ER	1.64 ER	ND	0.771 ER	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	NA	27.5 ER	30.2 ER	49.2 ER	62.7	61.7	77.4	51	96.7	NA	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
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NA = Not analyzed
ND = Not detected
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ER = Estimated Result
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Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699MW04											699MW05										
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	46	47	48	49	LF1	LF2	LF3	LF4	LF4 Dup	LF5	LF6	44	45	46	47	48	49	50	51	LF1	LF1 Dup	LF2
Date Collected				3/27/2009	6/25/2009	8/26/2009	11/16/2009	3/26/2010	6/16/2010	9/17/2010	1/10/2011	1/10/2011	3/15/2011	6/2/2011	3/30/2008	6/4/2008	9/29/2008	12/30/2008	3/27/2009	6/24/2009	8/26/2009	11/16/2009	3/24/2010	3/24/2010	6/16/2010
ANALYTE/Lab ID				90129.06	90262.08	90359.06	90444.06	10109.05	10268.07	10398.06	11017.04	11017.03	11109.09	11236.05	80100.07	80190.07	80345.07	80482.07	90129.07	90261.05	90359.07	90444.07	10105.04	10105.03	10268.05
Volatile Organic Compounds (µg/L)																									
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	20.32	21.62	4.69	7.34	ND	ND	9.07	1.62	1.8	ND	58.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	118.21 D	289.42 D	5.46	66.76	0.99	1.71	93.76	3.83	4.04	0.3 J	85.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	49.49	47.72	5.05	22.77	6.16	3.03	25.13	10.87	10.06	1.95	12.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	19.67	ND	ND	ND	8.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	5.65	16.03	0.48 J	2.73	ND	ND	10.33	ND	ND	ND	7.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -Xylenes	1000	10,000	--	139.14 D	540.66 D	7.71	71.01	0.97 J	ND	36.73	1.92	1.95	0.46 J	100.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o -Xylene	1000	10,000	--	141.12 D	396.44 D	4.57	70.77	1.1	1.34	30.9	0.52	0.42 J	0.3 J	63.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	1302	923	778	626	ND	4	1219	90	108	ND	968	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																									
Aluminum	200	NLE	121000	NA	NA	NA	NA	2430	1470	161	287	262	4080	4220	NA	NA	NA	NA	NA	NA	NA	NA	432	367	27.9 ER
Antimony	6	6	20.70	NA	NA	NA	NA	7.88 ER	9.37 ER	12.8	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	5.38 ER	9.89 ER	6.14 ER
Arsenic	3	10	89.30	NA	NA	NA	NA	1.11 ER	1.18 ER	4.18 ER	<3.0	<3.0	<3.0	6.7	NA	NA	NA	NA	NA	NA	NA	NA	1.76 ER	0.84 ER	ND
Barium	6000	2000	699.00	NA	NA	NA	NA	60.7	51.5	15.1	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	51.4	59.5	41.2
Beryllium	1	4	2.10	NA	NA	NA	NA	1.46	1.33	0.078 ER	<1.0	<1.0	1.1	1.1	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Cadmium	4	5	9.50	NA	NA	NA	NA	7.09	1.39 ER	1.4 ER	<3.0	<3.0	4.3	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.579 ER
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	85100	58700	22500	24500	25200	89600	50700	NA	NA	NA	NA	NA	NA	NA	NA	29100	35000	20700
Chromium	70	100	191.00	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	1.87 ER	1.77 ER	ND
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	23.8	6.44	0.876 ER	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Copper	1300	1300	65.60	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	8.44	9.08	2.01 ER
Iron	300	NLE	431000	NA	NA	NA	NA	1510	838	27700	4110	4470	1800	14600	NA	NA	NA	NA	NA	NA	NA	NA	827	619	ND
Lead	5	15	22.70	6.92	1.63 ER	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	3.5	ND	ND	1.99 ER	2.8 ER	ND	ND	ND	ND	ND	ND	ND
Lead (dissolved)				NA	NA	NA	NA	NA	NA	NA	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (total)				NA	NA	NA	NA	ND	ND	ND	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	22300	16000	6260	6250	6390	22500	14200	NA	NA	NA	NA	NA	NA	NA	NA	3040	3640	2990
Manganese	50	NLE	331	NA	NA	NA	NA	854	470	149	226	228	651	528	NA	NA	NA	NA	NA	NA	NA	NA	51.7	59.9	46.7
Mercury	2	2	0.26	NA	NA	NA	NA	ND	0.09 ER	ND	ND	ND	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.06 ER
Nickel	100	NLE	187	NA	NA	NA	NA	46.7	14	1.95 ER	<10	<10	34.2	19.8	NA	NA	NA	NA	NA	NA	NA	NA	4.49 ER	4.17 ER	1.37 ER
Potassium	NLE	NLE	137000	NA	NA	NA	NA	8630	6000	3020	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	15000	15900	6370
Selenium	40	50	29.60	NA	NA	NA	NA	61.9	NR	1.77 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	29.6	42.5	NR
Silver	40	NLE	ND	NA	NA	NA	NA	3.03 ER	ND	4.2 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	2.13 ER	3.01 ER	0.903 ER
Sodium	50000	NLE	21500	NA	NA	NA	NA	256000	177000	102000	111000	113000	293000	201000	NA	NA	NA	NA	NA	NA	NA	NA	862000 E	1030000 E	530000 E
Thallium	2	2	5.50	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Vanadium	60	NLE	108	NA	NA	NA	NA	1.42 ER	0.622 ER	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	4.09 ER	3.45 ER	1.23 ER
Zinc	2000	NLE	233	NA	NA	NA	NA	376	90.6	13.3 ER	20.3	<20	180	107	NA	NA	NA	NA	NA	NA	NA	NA	17.5 ER	18.8 ER	49.2 ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
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ER = Estimated Result
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Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

									699MW06																		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	LF3	LF4	LF5	LF5 Dup	LF6	43	44	45	46	47	48	49	50	LF1	LF2	LF3	LF4	LF5	LF6	LF6 Dup	44	45	46
Date Collected				9/16/2010	1/5/2011	3/11/2011	3/11/2011	6/1/2011	3/30/2008	6/4/2008	9/29/2008	12/30/2008	3/27/2009	6/24/2009	8/26/2009	11/16/2009	3/26/2010	6/16/2010	9/17/2010	1/5/2011	3/11/2011	6/2/2011	6/2/2011	3/30/2008	6/4/2008	9/29/2008
ANALYTE/Lab ID				10396.04	11010.01	11103.07	11103.03	11233.06	80100.08	80190.08	80345.08	80482.08	90129.08	90261.12	90359.08	90444.08	10109.06	10268.08	10398.07	11010.04	11103.05	11235.04	11235.03	80100.09	80190.09	80345.09
Volatile Organic Compounds (µg/L)																										
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	2.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	6.27	34.82	73.8	9.24	26.73	ND	13.93	2.08	0.59	1.03	4.22	ND	ND	0.69	0.78	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	22.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	50.27	283.29	333.11	44.48	427.63 D	ND	735.48 D	31.39	26.31	11.82	3.02	ND	ND	89.43	98.65	ND	ND	ND
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	6.02	2.93	0.72 J	0.58 J	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	2.69	13.82	5.1	1.21 J	14.15	ND	11.3	0.44 J	1.43	ND	ND	ND	ND	0.83	0.91	ND	ND	ND
m +*p* -Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	65.44	224.14	176.29	33.93	541.18 D	ND	1047.96 D	38.73	37.9	6.55	3.32	ND	ND	78.95	88.01	ND	ND	ND
o -Xylene	1000	10,000	--	ND	ND	ND	ND	ND	29.01	108.41	25.77	14.49	197.76 D	ND	146.76 D	5.82	16.54	0.75	1.2	ND	ND	20.48	21.27	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	86	210	212	123	632	ND	533	75	57	56	104	ND	ND	294	319	ND	ND	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	4860	2650	1640	1620	3020	NA	NA	NA	NA	NA	NA	NA	NA	12900	852	232	<200	3400	3070	2000	NA	NA	NA
Antimony	6	6	20.70	10	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	7.69 ER	ND	13.2	<6.0	<6.0	<6.0	<6.0	NA	NA	NA
Arsenic	3	10	89.30	1.44 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	10.16	2.2 ER	2.04 ER	<3.0	<3.0	16	12.7	NA	NA	NA
Barium	6000	2000	699.00	181	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	63.1	22.5	19.9	<200	<200	<200	<200	NA	NA	NA
Beryllium	1	4	2.10	3.59	1.2	<1.0	<1.0	1.7	NA	NA	NA	NA	NA	NA	NA	NA	0.819	0.066 ER	ND	<1.0	<1.0	<1.0	<1.0	NA	NA	NA
Cadmium	4	5	9.50	1.98 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	1.84 ER	ND	0.552 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA
Calcium	NLE	NLE	45400.00	28300	30000	21800	22000	29500	NA	NA	NA	NA	NA	NA	NA	NA	39400	18400	27900	74200	11500	20300	20400	NA	NA	NA
Chromium	70	100	191.00	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	104	7.24	8.12	<10	29.3	33.5	22.8	NA	NA	NA
Cobalt	NLE	NLE	18.30	8.46	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	6.02	ND	0.662 ER	<50	<50	<50	<50	NA	NA	NA
Copper	1300	1300	65.60	1.38 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	1.41 ER	ND	6.86	<20	13.5	<10	<10	NA	NA	NA
Iron	300	NLE	431000	54 ER	220	1060	983	754	NA	NA	NA	NA	NA	NA	NA	NA	21000	1710	2840	489	7480	12200	8590	NA	NA	NA
Lead	5	15	22.70	ND	<3.0	<3.0	<3.0	<3.0	ND	5.99	3.76 ER	2.53 ER	6.11	ND	ND	ND	8.68	ND	ND	<3.0	4.8	5	3.1	ND	ND	ND
Lead (dissolved)				NA	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	NA	NA	NA
Lead (total)				ND	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	8.68	ND	ND	--	--	--	--	NA	NA	NA
Magnesium	NLE	NLE	62700	8200	6590	<5000	<5000	6180	NA	NA	NA	NA	NA	NA	NA	NA	8290	3790	4360	8660	<5000	<5000	<5000	NA	NA	NA
Manganese	50	NLE	331	268	285	127	128	288	NA	NA	NA	NA	NA	NA	NA	NA	73.3	48.7	14.5	<15	23.2	36.3	34.2	NA	NA	NA
Mercury	2	2	0.26	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.08 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA
Nickel	100	NLE	187	19.1	10.8	<10	<10	16.6	NA	NA	NA	NA	NA	NA	NA	NA	18.7	4.11 ER	4.6 ER	<10	<10	<10	<10	NA	NA	NA
Potassium	NLE	NLE	137000	4350	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	8810	2330	2340	<10000	<10000	<10000	<10000	NA	NA	NA
Selenium	40	50	29.60	1.45 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	23.8	NR	2.62 ER	<10	<10	<10	<10	NA	NA	NA
Silver	40	NLE	ND	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.885 ER	ND	<10	<10	<10	<10	NA	NA	NA
Sodium	50000	NLE	21500	246000	267000	192000	190000	256000	NA	NA	NA	NA	NA	NA	NA	NA	63100	62300	72600	78200	20500	57200	57000	NA	NA	NA
Thallium	2	2	5.50	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA
Vanadium	60	NLE	108	0.679 ER	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	56.2	3.5 ER	2.16 ER	<50	<50	<50	<50	NA	NA	NA
Zinc	2000	NLE	233	137	58.1	155	142	61.9	NA	NA	NA	NA	NA	NA	NA	NA	121	18 ER	16.7 ER	<20	21.9	36.6	30.1	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Third Quarter 2011 data is not included due to an incomplete analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699MW08													699MW09								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	47	48	48 Dup	49	50	51	LF1	LF2	LF2 Dup	LF3	LF4	LF5	LF6	44	45	46	47	48	49	50	51	LF1
Date Collected				12/30/2008	3/27/2009	3/27/2009	6/24/2009	8/26/2009	11/16/2009	3/24/2010	6/16/2010	6/16/2010	9/16/2010	12/30/2010	3/11/2011	6/2/2011	3/30/2008	6/4/2008	9/29/2008	12/30/2008	3/27/2009	6/24/2009	8/26/2009	11/16/2009	3/26/2010
ANALYTE/Lab ID				80482.09	90129.09	90129.03	90261.06	90359.13	90444.09	10105.06	10268.04	10268.03	10396.05	10577.05	11103.08	11235.05	80100.10	80190.10	80345.10	80482.10	90129.10	90261.08	90359.09	90444.10	10109.08
Volatile Organic Compounds (µg/L)																									
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.07 J	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.97	ND	ND	ND	1.65	1.88	ND
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o -Xylene	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																									
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	2110	6020	6090	6330	6060	3780	5160	NA	NA	NA	NA	NA	NA	NA	NA	2810
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	9.45 ER	10.5	12.3	14.6	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	ND
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	ND	1.5 ER	ND	1.19 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	0.65 ER
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	153	320	322	405	339	230	306	NA	NA	NA	NA	NA	NA	NA	NA	33.4
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	0.885	2.46	2.51	3.31	2.2	1.5	2.1	NA	NA	NA	NA	NA	NA	NA	NA	1.02
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	3.16	2.88	2.77	3.01	<3.0	<3.0	4	NA	NA	NA	NA	NA	NA	NA	NA	ND
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	56000	50500	51200	53400	49900	48900	54800	NA	NA	NA	NA	NA	NA	NA	NA	2250
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	2.48 ER
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	24.5	18.6	19	22.9	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	4.68
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	1.25 ER	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	88.2 ER	ND	ND	ND	167	404	597	NA	NA	NA	NA	NA	NA	NA	NA	1520
Lead	5	15	22.70	4.27 ER	ND	ND	ND	ND	ND	ND	2.74 ER	ND	ND	<3.0	<3.0	<3.0	ND	1.51 ER	6.44	4.34 ER	2.25 ER	ND	ND	ND	ND
Lead (dissolved)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (total)				NA	NA	NA	NA	NA	NA	ND	2.74 ER	ND	ND	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	22900	29900	30300	32100	26100	21100	23400	NA	NA	NA	NA	NA	NA	NA	NA	3690
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	1950	980	997	1280	965	1150	1500	NA	NA	NA	NA	NA	NA	NA	NA	10.1
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	ND	0.08 ER	0.09 ER	ND	ND	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	ND
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	42.9	30.2	30.4	34.8	30.3	31.8	43.6	NA	NA	NA	NA	NA	NA	NA	NA	10.7
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	10600	9280	9360	13300	<10000	<10000	11800	NA	NA	NA	NA	NA	NA	NA	NA	1250
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	52.8	NR	NR	1.41 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	3.12 ER	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND
Sodium	50000	NLE	21500	NA	NA	NA	NA	NA	NA	248000	265000	268000	296000	265000	261000	275000	NA	NA	NA	NA	NA	NA	NA	NA	42300
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	0.68 ER
Vanadium	60	NLE	108	NA	NA	NA	NA	NA	NA	1.06 ER	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	1.01 ER
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	75	111	112	148	125	105	114	NA	NA	NA	NA	NA	NA	NA	NA	49.1 ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Third Quarter 2011 data is not included due to an incomplete analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

										699MW12																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	LF2		LF3		LF4	LF5	LF6	44		45	46	47	48	49	50	51	LF1		LF2		LF3		LF3 Dup		LF4	LF4 Dup	LF5	LF6	44	
Date Collected				6/16/2010		9/17/2010		1/5/2011	3/11/2011	6/1/2011	3/30/2008		6/4/2008	9/29/2008	12/30/2008	3/27/2009	6/24/2009	8/26/2009	11/16/2009	3/24/2010		6/15/2010		9/17/2010		9/17/2010		12/30/2010	12/30/2010	3/11/2011	6/2/2011	3/30/2008	
ANALYTE/Lab ID				10268.09		10398.08		11010.03	11103.04	11233.05	80100.11		80190.11	80345.11	80482.11	90129.11	90261.07	90359.10	90444.11	10105.05		10265.07		10398.04		10398.03		10577.04	10577.03	11103.06	11235.06	80100.12	
Volatile Organic Compounds (µg/L)																															
Acetone	6000	NLE	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Benzene	1	5	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Bromodichloromethane	1	80	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
2-Butanone	300	NLE	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Carbon disulfide	700	NLE	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Carbon tetrachloride	1		--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Chloroform	70	80	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
cis -1,2-Dichloroethene	70	70	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Ethylbenzene	700	700	--	ND		0.53		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
4-Methyl-2-pentanone	NLE		--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Methyl *tert* -butyl ether	70	NLE	--	ND		1.78		2.93	ND	ND	0.51	J	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Styrene	100	100	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
tert -Butyl alcohol	100	NLE	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Tetrachloroethene	1		--	0.51		2.32		1.09	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
1,1,2,2-Tetrachloroethane	3		--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Trichloroethene	1	5	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Toluene	600	1000	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
m +*p* -Xylenes	1000	10,000	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
o -Xylene	1000	10,000	--	ND		0.28	J	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
TICs*	500	NLE	--	ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND		ND		ND		ND		ND	ND	ND	
Metals (µg/L)																															
Aluminum	200	NLE	121000	3310		2700		3540	1430	5180	NA		NA	NA	NA	NA	NA	NA	NA	2650		3000		1640		1540		1310	1330	2080	3160	NA	
Antimony	6	6	20.70	ND		6.6	ER	<6.0	<6.0	<6.0	NA		NA	NA	NA	NA	NA	NA	NA	5.04	ER	6.01	ER	6.33	ER	ND		<6.0	<6.0	<6.0	<6.0	NA	
Arsenic	3	10	89.30	0.77	ER	ND		<3.0	<3.0	3.6	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<3.0	<3.0	<3.0	<3.0	NA	
Barium	6000	2000	699.00	90.9		90.5		<200	<200	<200	NA		NA	NA	NA	NA	NA	NA	NA	101		150		137		128		<200	<200	<200	<200	NA	
Beryllium	1	4	2.10	1.31		1.35		1.8	<1.0	1.9	NA		NA	NA	NA	NA	NA	NA	NA	1.03		1.88		1.98		1.86		1.1	1.1	1	1.6	NA	
Cadmium	4	5	9.50	0.793	ER	1.22	ER	<3.0	<3.0	<3.0	NA		NA	NA	NA	NA	NA	NA	NA	1.68	ER	1.73	ER	1.67	ER	1.07	ER	<3.0	<3.0	<3.0	<3.0	NA	
Calcium	NLE	NLE	45400.00	12700		11100		13900	<5000	9230	NA		NA	NA	NA	NA	NA	NA	NA	21900		20200		10300		9690		8580	8700	15300	25600	NA	
Chromium	70	100	191.00	ND		1.95	ER	<10	<10	<10	NA		NA	NA	NA	NA	NA	NA	NA	ND		1.3	ER	ND		ND		<10	<10	<10	<10	NA	
Cobalt	NLE	NLE	18.30	7.91		7.32		<50	<50	<50	NA		NA	NA	NA	NA	NA	NA	NA	12.2		15.1		13		12.1		<50	<50	<50	<50	NA	
Copper	1300	1300	65.60	ND		ND		<10	<10	<10	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		2.89	ER	<10	<10	<10	<10	NA	
Iron	300	NLE	431000	954		1640		2390	545	4150	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<100	<100	353	162	NA	
Lead	5	15	22.70	ND		ND		<3.0	<3.0	<3.0	ND		ND	ND	3.64	ER	2.09	ER	ND	ND		ND		ND		ND		<3.0	<3.0	<3.0	<3.0	2.29	ER
Lead (dissolved)				NA		NA		--	--	--	NA		NA	NA	NA		NA		NA	NA		NA		NA		NA		--	--	--	--	NA	
Lead (total)				ND		ND		--	--	--	NA		NA	NA	NA		NA		NA	ND		ND		ND		ND		--	--	--	--	NA	
Magnesium	NLE	NLE	62700	4450		3970		6680	<5000	6320	NA		NA	NA	NA	NA	NA	NA	NA	20600		24900		19300		18200		14700	14800	17500	21900	NA	
Manganese	50	NLE	331	61.8		63.5		68.8	<15	54.9	NA		NA	NA	NA	NA	NA	NA	NA	171		121		78.5		73.8		66.3	66.9	109	202	NA	
Mercury	2	2	0.26	0.08	ER	ND		ND	<0.20	<0.20	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		ND	ND	<0.20	<0.20	NA	
Nickel	100	NLE	187	11.9		12.1		23.5	<10	22.3	NA		NA	NA	NA	NA	NA	NA	NA	37.5		49.4		44.3		42.7		36.6	37	36.7	43	NA	
Potassium	NLE	NLE	137000	1470		1860		<10000	<10000	<10000	NA		NA	NA	NA	NA	NA	NA	NA	4840		4120		4550		4280		<10000	<10000	<10000	<10000	NA	
Selenium	40	50	29.60	NR		ND		<10	<10	<10	NA		NA	NA	NA	NA	NA	NA	NA	21.5		NR		ND		1.8	ER	<10	<10	<10	<10	NA	
Silver	40	NLE	ND	0.628	ER	ND		<10	<10	<10	NA		NA	NA	NA	NA	NA	NA	NA	1.33	ER	ND		ND		ND		<10	<10	<10	<10	NA	
Sodium	50000	NLE	21500	97100		106000		153000	31700	141000	NA		NA	NA	NA	NA	NA	NA	NA	51800		64500		65000		62000		29400	29800	39500	66700	NA	
Thallium	2	2	5.50	ND		ND		<2.0	<2.0	<2.0	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<2.0	<2.0	<2.0	<2.0	NA	
Vanadium	60	NLE	108	ND		1.32	ER	<50	<50	<50	NA		NA	NA	NA	NA	NA	NA	NA	ND		ND		ND		ND		<50	<50	<50	<50	NA	
Zinc	2000	NLE	233	178		159		142	37.5	187	NA		NA	NA	NA	NA	NA	NA	NA	130		167		172		165		143	144	130	158	NA	

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Third Quarter 2011 data is not included due to an incomplete analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699MW15																						
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	45	46	47	48	49	50	51	LF1	LF1 Dup	LF2	LF3	LF4	LF4 Dup	LF5	LF6	44	45	46	47	48	49	50
Date Collected				6/4/2008	9/29/2008	12/30/2008	3/27/2009	6/24/2009	8/26/2009	11/16/2009	3/25/2010	3/25/2010	6/15/2010	9/16/2010	1/7/2011	1/7/2011	3/15/2011	5/27/2011	3/30/2008	6/4/2008	9/29/2008	12/30/2008	3/27/2009	6/24/2009	8/26/2009
ANALYTE/Lab ID				80190.12	80345.12	80482.12	90129.12	90261.11	90359.11	90444.12	10108.04	10108.03	10265.06	10396.03	11016.04	11016.03	11109.06	11229.06	80100.13	80190.13	80345.13	80482.13	90129.13	90261.09	90359.12
Volatile Organic Compounds (µg/L)																										
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.41 J	ND	ND	0.45 J	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.88 J	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	32.23	39.61	4.68	23.77	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.72 J	1.93 J	0.51 J	0.65 J	ND	ND	0.93
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o -Xylene	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	NA	10200	6350	273	971	903	895	2460	3620	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	8.17 ER	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	4.64 ER	4.25 ER	2.06 ER	2.27 ER	<3.0	<3.0	<3.0	3.5	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	112	90.3	61.3	63.6	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	0.469 ER	0.26 ER	0.071 ER	0.088 ER	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	0.649 ER	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	NA	20900	17900	10800	6460	6860	6790	11000	9630	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	53.8	32.9	1.46 ER	4.15 ER	<10	<10	14.2	19.3	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	NA	0.969 ER	0.643 ER	ND	2.88	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	42.6	32.9	13.7	12.6	11.8	13.1	34.2	26.7	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	15900	9990	163 ER	1450	1390	1390	4540	6670	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	7.12	5.62	7.16	1.79 ER	3.85 ER	3.04 ER	2.71 ER	31.1	19.7	3.5 ER	ND	3	3.2	10.9	13.3	ND	ND	ND	4 ER	ND	ND	ND	ND
Lead (dissolved)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA
Lead (total)				NA	NA	NA	NA	NA	NA	NA	31.1	19.7	3.5 ER	ND	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	NA	5420	4230	2300	2400	<5000	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	NA	28	20.2	17.9	41	<15	<15	20.2	23.4	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.07 ER	ND	ND	ND	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	8.68	6.39	2.14 ER	4.07 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	NA	8200	6310	3330	3680	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	12.2 ER	15.1 ER	NR	1.75 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	0.841 ER	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	NA	NA	NA	NA	6230	5490	5100	4880 ER	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	NA	NA	NA	NA	NA	NA	NA	36.8	22.4	ND	2.84 ER	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	NA	135	ND	57.5	91.5	71	72.5	82.6	121	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
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Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699MW16										699RW03								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	50 Dup	51	LF1	LF2	LF2 Dup	LF3	LF4	LF5	LF6	LF6 Dup	1	2	3	4	5	6	7	8	9	10	11
Date Collected				8/26/2009	11/16/2009	3/26/2010	6/17/2010	6/17/2010	9/17/2010	1/5/2011	3/15/2011	6/1/2011	6/1/2011	12/30/2008	3/27/2009	6/25/2009	8/26/2009	11/16/2009	3/31/2010	6/17/2010	9/27/2010	1/10/2011	3/15/2011	6/3/2011
ANALYTE/Lab ID				90359.03	90444.13	10109.07	10271.04	10271.03	10398.09	11010.02	11109.07	11233.04	11233.03	80482.14	90129.15	90262.04	90359.14	90444.15	10116.01	10271.05	10413.01	11017.07	11109.10	11236.07
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.85
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.93	257.57 D	42.28 D	32.01	13.49	ND	11.29	1.3	9.75	16.33	4.49
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.88
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.78
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	0.42 J	ND	ND	ND	ND	143.23	230.43 D	146.89 D	78.96 D	85.08	0.96	24.37	15.89	93.59	88.78	5.5
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24.58	48.59	20.22	18.89	17.26	ND	8.96	1.69	5.57	10.23	8.39
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	46.89	ND	ND	28.08	ND	8.81	21.19	108.06
Tetrachloroethene	1		--	1.04	1.09	0.96	0.99	0.97	1.71	1.06	0.59	0.42 J	0.41 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.81
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.24
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.54	378.26 D	16.08	3.77	1.96	ND	0.58	2.21	2.39	4.14	1.45
m +*p* -Xylenes	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	269.83	444.31 D	245.27 D	75.41	71.66	0.68 J	6.02	45.92	72.6	141.87	12.54
o -Xylene	1000	10,000	--	ND	ND	ND	ND	ND	0.22 J	ND	ND	ND	ND	115.12	201.3 D	125.01 D	39.17	51.14	0.19 J	8.02	36.84	61.47	74.75	7.35
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	646	1140	455	348	187	8	468	313	858	934	193
Metals (µg/L)																								
Aluminum	200	NLE	121000	NA	NA	2540	1470	1580	2160	2520	1830	1910	1910	NA	NA	NA	NA	NA	1390	79600	2390	19800	65900	57300
Antimony	6	6	20.70	NA	NA	ND	ND	ND	ND	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	5.94 ER	7.49 ER	8.4 ER	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	NA	NA	ND	1.76 ER	1.74 ER	ND	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	ND	19.42	1.74 ER	10.5	11.9	21.7
Barium	6000	2000	699.00	NA	NA	20.4	17.2	18.9	19.7	<200	<200	<200	<200	NA	NA	NA	NA	NA	11.4	36.9	111	<200	<400	<200
Beryllium	1	4	2.10	NA	NA	0.654	0.524	0.544	0.682	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	0.063 ER	10.5	0.86	3.6	10	4.1
Cadmium	4	5	9.50	NA	NA	ND	ND	ND	0.981 ER	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	0.548 ER	13.5	3.71	<3.0	<3.0	13.7
Calcium	NLE	NLE	45400.00	NA	NA	7870	5230	5670	4990	5640	<5000	<5000	<5000	NA	NA	NA	NA	NA	15500	19300	28800	23900	36900	41100
Chromium	70	100	191.00	NA	NA	ND	1.03 ER	1.21 ER	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	5.28	17.2	2.21 ER	<10	<10	86.1
Cobalt	NLE	NLE	18.30	NA	NA	5.99	4.13	4.41	5.43	<50	<50	<50	<50	NA	NA	NA	NA	NA	1.9 ER	720	10.1	151	323	220
Copper	1300	1300	65.60	NA	NA	ND	ND	ND	2.31 ER	<10	<10	<10	<10	NA	NA	NA	NA	NA	12	ND	12	<10	<10	64.2
Iron	300	NLE	431000	NA	NA	98.3 ER	2920	3080	659	183	741	607	1010	NA	NA	NA	NA	NA	2930	287000 ER	23600	84900	177000	233000
Lead	5	15	22.70	ND	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	2.61 ER	12.9	11.3	ND	7.14	ND	29.3	2.82 ER	<3.0	5.5	22.9
Lead (dissolved)				NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead (total)				NA	NA	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	NLE	NLE	62700	NA	NA	19000	14500	15500	18000	16400	11700	11100	10800	NA	NA	NA	NA	NA	3770	702 ER	17400	31200	48900	34100
Manganese	50	NLE	331	NA	NA	73.1	51.2	54.6	58.7	61.5	46.1	41.3	41.3	NA	NA	NA	NA	NA	45.4	15200	615	785	757	676
Mercury	2	2	0.26	NA	NA	ND	0.12 ER	0.08 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	ND	0.14 ER	0.28 ER	ND	<0.20	<0.20
Nickel	100	NLE	187	NA	NA	27.5	20.1	20.7	25.6	25	18.2	19.6	21	NA	NA	NA	NA	NA	4.35 ER	1430	16.4	346	892	664
Potassium	NLE	NLE	137000	NA	NA	3700	3320	3630	4260	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	3250	8410	5810	<10000	<20000	<10000
Selenium	40	50	29.60	NA	NA	8.1 ER	NR	NR	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	25.4	NR	2.07 ER	<10	<10	<10
Silver	40	NLE	ND	NA	NA	ND	1.25 ER	0.814 ER	ND	<10	<10	<10	<10	NA	NA	NA	NA	NA	ND	37.7	2.85 ER	<10	<10	<10
Sodium	50000	NLE	21500	NA	NA	16600	11600	12000	14500	12500	12100	12900	12300	NA	NA	NA	NA	NA	118000	152000	286000	292000	303000	169000
Thallium	2	2	5.50	NA	NA	1.41 ER	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	ND	0.94 ER	ND	<4.0	<2.0	<2.0
Vanadium	60	NLE	108	NA	NA	ND	ND	ND	ND	<50	<50	<50	<50	NA	NA	NA	NA	NA	3.5 ER	40.9	ND	<50	<50	56.2
Zinc	2000	NLE	233	NA	NA	57.7	45.5 ER	46.6 ER	89.7	65.8	46.2	47.2	52.5	NA	NA	NA	NA	NA	357	3920	2300	950	2310	2430

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
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ER = Estimated Result
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Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699RW04					699RW05															
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	44	45	46	47	48
Date Collected				3/30/2008	6/4/2008	9/29/2008	3/27/2009	6/3/2011	6/4/2008	9/29/2008	12/30/2008	6/25/2009	8/26/2009	11/16/2009	6/17/2010	9/30/2010	1/10/2011	3/15/2011	6/3/2011	3/30/2008	6/4/2008	9/29/2008	12/30/2008	3/27/2009
ANALYTE/Lab ID				80100.14	80190.15	80345.16	90129.16	11236.06	80190.16	80345.15	80482.15	90262.06	90359.15	90444.16	10271.07	10420.01	11017.08	11109.12	11236.09	80100.15	80190.17	80345.17	80482.16	90129.17
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	6.19	2.54	ND	ND	ND	34.42	37.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2	4.28	ND	ND	ND
Benzene	1	5	--	23.33	28.19	0.38 J	1.43 J	ND	878.97	87.27	499.65	177.44 D	212.5 D	2.87	8.64	2.2	ND	0.19 J	ND	0.58 J	158	2.94	248.4	0.87 J
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	1.16 J	0.98 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	94.27	27.78	ND	0.77 J	ND	770.76	215.88	647.7	73.58 D	178.64 D	0.9	8.43	ND	0.78	7.44	ND	0.29 J	224.45	ND	29.66	ND
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.29 J	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	24.27	30.85	9.96	2.21	ND	38.69	1.94 J	10.37	43.36	25.01	2.31	1.01	ND	ND	ND	ND	7.92	16.33	4.59	13.4	0.44 J
Styrene	100	100	--	0.37 J	ND	ND	ND	ND	6.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	106.76	183.71	33.67	ND	ND	ND	ND	ND	139.97	ND	ND	ND	ND	ND	ND	ND	165.09	ND	ND	ND	15.29
Tetrachloroethene	1		--	ND	0.72 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	24.81	10.11	ND	ND	ND	1338.47	1005.58	2611.43	55.93 D	235.6 D	1.74	13.16	ND	ND	4.78	0.41 J	ND	7.53	0.41 J	16.32	ND
m +*p* -Xylenes	1000	10,000	--	252.17	44.87	ND	1.25 J	ND	2391.41	624.26	2484.88	108.35 D	359.37 D	2.43	23.02	ND	2.47	34.85	0.95 J	0.38 J	302.59	0.86 J	34.32	ND
o -Xylene	1000	10,000	--	88.98	27.17	ND	0.43 J	ND	785.91	269.99	1110.8	60.47 D	197.15 D	2.51	7.78	ND	1.34	14.91	0.54	ND	82.49	0.59 J	16.36	ND
TICs*	500	NLE	--	186	170	9	ND	6	400	359	189	450	748	ND	69	ND	ND	15	ND	ND	278	136	459	ND
Metals (µg/L)																								
Aluminum	200	NLE	121000	NA	NA	NA	NA	5180	NA	NA	NA	NA	NA	NA	1110	1180	10600	54700	1770	NA	NA	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	NA	<6.0	NA	NA	NA	NA	NA	NA	7.85 ER	12.8	<6.0	<12	<6.0	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	<3.0	NA	NA	NA	NA	NA	NA	2.02 ER	23.95	7.2	26.8	<3.0	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	<200	NA	NA	NA	NA	NA	NA	22.3	35	<200	<400	<200	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	1.9	NA	NA	NA	NA	NA	NA	0.069 ER	0.214 ER	<1.0	4	<1.0	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	6.5	NA	NA	NA	NA	NA	NA	ND	ND	<3.0	<6.0	<3.0	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	58700	NA	NA	NA	NA	NA	NA	35800	15300	80300	28600	16500	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	7.97	5.08	72.2	424	14.8	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	<50	NA	NA	NA	NA	NA	NA	ND	ND	<50	<100	<50	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	93.2	NA	NA	NA	NA	NA	NA	4.25 ER	15.6	31.2	122	<10	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	3990	NA	NA	NA	NA	NA	NA	3270	1670	17700	120000	4090	NA	NA	NA	NA	NA
Lead	5	15	22.70	6.87	21.8	9.68	6.02	10.6	9.22	5.84	3.96 ER	45	ND	64.1	ND	4.12 ER	11.2	82.2	<3.0	ND	3.37 ER	3.54 ER	3 ER	2.47 ER
Lead (dissolved)				NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	NA	NA	NA	NA	NA
Lead (total)				NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	21800	NA	NA	NA	NA	NA	NA	4150	20.1 ER	6350	13200	<5000	NA	NA	NA	NA	NA
Manganese	50	NLE	331	NA	NA	NA	NA	1600	NA	NA	NA	NA	NA	NA	95.3	28500	113	980	27.8	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	0.14 ER	ND	ND	<0.40	<0.20	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	53.8	NA	NA	NA	NA	NA	NA	3.45 ER	3.37 ER	10.2	55.2	<10	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	NA	12600	NA	NA	NA	NA	NA	NA	4350	2380	<10000	23200	<10000	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	NR	2.68 ER	<10	<20	<10	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA	1 ER	ND	<10	<20	<10	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	NA	308000	NA	NA	NA	NA	NA	NA	198000	28500	311000	96900	36000	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	<2.0	NA	NA	NA	NA	NA	NA	ND	ND	<2.0	<4.0	<2.0	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	NA	NA	NA	NA	<50	NA	NA	NA	NA	NA	NA	4.6 ER	5.92	<50	213	<50	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	NA	NA	385	NA	NA	NA	NA	NA	NA	17 ER	44.5 ER	180	624	<20	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
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NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

				699RW11									616MW01										
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	49	50	51	52	53	54	55	56	57	44	45	46	47	48	49	50	51	LF1	LF2	LF2 Dup	LF3
Date Collected				6/25/2009	8/26/2009	11/16/2009	3/31/2010	6/17/2010	9/27/2010	1/10/2011	3/15/2011	6/3/2011	3/30/2008	6/4/2008	9/29/2008	12/30/2008	3/27/2009	6/24/2009	8/26/2009	11/16/2009	3/25/2010	6/15/2010	6/15/2010	9/16/2010
ANALYTE/Lab ID				90262.05	90359.16	90444.17	10116.02	10271.06	10413.02	11017.05	11109.11	11236.08	80100.16	80190.14	80345.14	80482.17	90129.14	90261.10	90359.17	90444.14	10108.05	10265.04	10265.03	10396.02
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	8.41	0.25 J	4.06	0.33 J	6.11	ND	6.65	97.92	6.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	0.35 J	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	5.22	ND	1	ND	3.55	ND	ND	108.63 D	0.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	1.8 J	ND	9.94	2.34	15.53	ND	2.97	2.96	1.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	119.7	ND	185.93	112.41	237.89	ND	ND	ND	6.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	0.57 J	ND	2.86	ND	13.52	ND	0.42 J	0.62	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	0.83	ND	2.83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	1.7 J	ND	ND	ND	0.3 J	ND	0.4 J	3.81	0.39 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -Xylenes	1000	10,000	--	4.78	ND	ND	ND	ND	0.62 J	0.54 J	151.75	0.87 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o -Xylene	1000	10,000	--	0.68 J	ND	ND	ND	ND	0.43 J	0.42 J	25.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	159	ND	182	5	436	ND	35	739	181	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																								
Aluminum	200	NLE	121000	NA	NA	NA	26700	46600	2840	5280	9220	36100	NA	NA	NA	NA	NA	NA	NA	NA	681	121	122	119
Antimony	6	6	20.70	NA	NA	NA	ND	14	17.6	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Arsenic	3	10	89.30	NA	NA	NA	ND	2.34 ER	1.61 ER	<3.0	<3.0	6.1	NA	NA	NA	NA	NA	NA	NA	NA	0.87 ER	ND	ND	ND
Barium	6000	2000	699.00	NA	NA	NA	48.2	18.2	66.7	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	29.8	75.6	74	80.7
Beryllium	1	4	2.10	NA	NA	NA	2.46	3.96	0.585	<1.0	<1.0	2.8	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.331 ER	0.345 ER	0.269 ER
Cadmium	4	5	9.50	NA	NA	NA	17.7	14.4	4.39	3.8	4.9	8.9	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Calcium	NLE	NLE	45400.00	NA	NA	NA	49000	28300	55200	29200	67200	45300	NA	NA	NA	NA	NA	NA	NA	NA	8070	1520	1600	1870
Chromium	70	100	191.00	NA	NA	NA	3.75 ER	22.8	ND	<10	<10	30	NA	NA	NA	NA	NA	NA	NA	NA	5.51	ND	ND	ND
Cobalt	NLE	NLE	18.30	NA	NA	NA	144	253	30.5	<50	<50	136	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.12 ER	1.17 ER	1.05 ER
Copper	1300	1300	65.60	NA	NA	NA	ND	ND	2.66 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	1	2.15 ER	2.75 ER
Iron	300	NLE	431000	NA	NA	NA	97200	261000 E	147 ER	11700	27800	138000	NA	NA	NA	NA	NA	NA	NA	NA	1310	ND	ND	151 ER
Lead	5	15	22.70	3.91 ER	ND	9.16	2.85 ER	24.2	ND	<3.0	<3.0	<3.0	ND	ND	ND	5.45	2.64 ER	2.13 ER	3.33 ER	ND	ND	ND	ND	ND
Lead (dissolved)				NA	NA	NA	NA	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (total)				NA	NA	NA	2.85 ER	24.2	ND	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Magnesium	NLE	NLE	62700	NA	NA	NA	26200	39600	16200	7640	15500	24800	NA	NA	NA	NA	NA	NA	NA	NA	2750	2570	2600	2530
Manganese	50	NLE	331	NA	NA	NA	402	570	601	709	414	572	NA	NA	NA	NA	NA	NA	NA	NA	7.31	14.3	15.2	13
Mercury	2	2	0.26	NA	NA	NA	ND	0.12 ER	0.26 ER	ND	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Nickel	100	NLE	187	NA	NA	NA	365	663	83.9	62.4	93.8	372	NA	NA	NA	NA	NA	NA	NA	NA	3.05 ER	5.98	6.38	7.43
Potassium	NLE	NLE	137000	NA	NA	NA	6540	5730	6990	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	2420	1570	1540	1780
Selenium	40	50	29.60	NA	NA	NA	ND	NR	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	14 ER	NR	NR	ND
Silver	40	NLE	ND	NA	NA	NA	ND	41.5	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.06 ER	1.55 ER	ND
Sodium	50000	NLE	21500	NA	NA	NA	162000	158000	197000	118000	140000	185000	NA	NA	NA	NA	NA	NA	NA	NA	4040 ER	6270	5900	5900
Thallium	2	2	5.50	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Vanadium	60	NLE	108	NA	NA	NA	7.72	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	3.15 ER	ND	ND	0.641 ER
Zinc	2000	NLE	233	NA	NA	NA	1570	2810	432	239	367	1390	NA	NA	NA	NA	NA	NA	NA	NA	8.97 ER	17.3 ER	17.7 ER	20.9 ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
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Third Quarter 2011 data is not included due to an incomplete analytical data package.

Table 2
Historical Groundwater Analytical Results
Site FTMM-53
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main)	LF4	LF5	LF5 Dup	LF6
Date Collected				1/7/2011	3/15/2011	3/15/2011	5/27/2011
ANALYTE/Lab ID				11016.05	11109.05	11109.03	11229.05
Volatile Organic Compounds (µg/L)							
Acetone	6000	NLE	--	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND	ND
Carbon disulfide	700	NLE	--	ND	ND	ND	ND
Carbon tetrachloride	1		--	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND
4-Methyl-2-pentanone	NLE		--	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	3		--	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND
m +*p* -Xylenes	1000	10,000	--	ND	ND	ND	ND
o -Xylene	1000	10,000	--	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND
Metals (µg/L)							
Aluminum	200	NLE	121000	508	1770	1740	2560
Antimony	6	6	20.70	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	<3.0	<3.0	<3.0	6.9
Barium	6000	2000	699.00	<200	<200	<200	<200
Beryllium	1	4	2.10	<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	<5000	5680	5470	108000
Chromium	70	100	191.00	<10	14.9	14.4	16.1
Cobalt	NLE	NLE	18.30	<50	<50	<50	<50
Copper	1300	1300	65.60	<10	14.2	<10	<10
Iron	300	NLE	431000	180	4070	3930	9520
Lead	5	15	22.70	<3.0	5	4	9.4
Lead (dissolved)				--	--	--	--
Lead (total)				--	--	--	--
Magnesium	NLE	NLE	62700	<5000	<5000	<5000	13600
Manganese	50	NLE	331	24.5	<15	<15	125
Mercury	2	2	0.26	ND	<0.20	<0.20	<0.20
Nickel	100	NLE	187	14.3	<10	<10	22.5
Potassium	NLE	NLE	137000	<10000	<10000	<10000	13500
Selenium	40	50	29.60	<10	<10	<10	<10
Silver	40	NLE	ND	<10	<10	<10	<10
Sodium	50000	NLE	21500	<10000	<10000	<10000	33600
Thallium	2	2	5.50	<2.0	<2.0	<2.0	<2.0
Vanadium	60	NLE	108	<50	<50	<50	<50
Zinc	2000	NLE	233	34.2	38.9	20.4	109

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
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< = Analyte does not exceed the detection limit shown
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NA = Not analyzed
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Third Quarter 2011 data is not included due to an incomplete analytical data package.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-53
Fort Monmouth, New Jersey

SAMPLE ID:			**STANDARDS VALUES**		**FTMM-53-GW-616MW01**		**FTMM-53-GW-699MW01**		**FTMM-53-GW-699MW02**		**FTMM-53-GW-699MW04**		**FTMM-53-GW-699MW05**		**FTMM-53-GW-699MW06**		**FTMM-53-GW-699MW08**		**FTMM-53-GW-699MW108***	
DATE SAMPLED:			**NJDEP GWQS[1]**	**USEPA MCL[2]**	**19-Aug-2013**		**21-Aug-2013**		**19-Aug-2013**		**21-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**	
LAB SAMPLE ID:					**R1306029-008**		**R1306112-009**		**R1306029-009**		**R1306112-007**		**R1306058-025**		**R1306058-012**		**R1306058-002**		**R1306058-003**	
SAMPLE INTERVAL (ft bgs):					**4-14**		**2-15**		**2-17**		**2-20**		**3-15**		**2-15**		**2-15**		**2-15**	
	CAS No.	**Unit**																		
Volatile Organics - SW8260C																				
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	**4.6**	J	1.0	U	**3.3**	J	1.0	U	**76**		1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	**0.21**	J	1.0	U	1.0	U	1.0	U	**10**		1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	**2.5**	J	1.0	UJ	1.0	UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**1.4**	BJ	5.0	U	**2.3**	BJ	5.0	U	5.0	UJ	5.0	UJ	5.0	UJ	**4.4**	J
Benzene	71-43-2	µg/L	1	5	1.0	U	**0.25**	J	1.0	U	**0.97**	J	1.0	U	**1.5**	J	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	**7.1**		1.0	U	**2.7**	J	1.0	U	**83**		1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	**2.0**	J	1.0	U	**1.4**	J	1.0	U	**7.6**		1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	**1.2**	BJ	1.0	U	**1.3**	BJ	**0.23**	BJ	**15**	B	**0.49**	BJ	**0.56**	BJ
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	**0.59**	J	1.0	U	**0.27**	J	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	**4.2**	J	1.0	U	**0.90**	J	1.0	U	**12**		1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.25**	J	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	**0.71**	J	1.0	U	**0.87**	J	1.0	U	**0.71**	J	**0.48**	J	**0.51**	J
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	**0.23**	J	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	**0.46**	J	1.0	U	**0.59**	BJ	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	**0.28**	J	3.0	U	**5.7**	J	3.0	U	**110**		3.0	U	3.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-53
Fort Monmouth, New Jersey

		SAMPLE ID:	STANDARDS VALUES		FTMM-53-GW-616MW01	FTMM-53-GW-699MW01	FTMM-53-GW-699MW02	FTMM-53-GW-699MW04	FTMM-53-GW-699MW05	FTMM-53-GW-699MW06	FTMM-53-GW-699MW08	FTMM-53-GW-699MW108*
		DATE SAMPLED:	NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013	21-Aug-2013	19-Aug-2013	21-Aug-2013	20-Aug-2013	20-Aug-2013	20-Aug-2013	20-Aug-2013
		LAB SAMPLE ID:			R1306029-008	R1306112-009	R1306029-009	R1306112-007	R1306058-025	R1306058-012	R1306058-002	R1306058-003
		SAMPLE INTERVAL (ft bgs):			4-14	2-15	2-17	2-20	3-15	2-15	2-15	2-15
	CAS No.	Unit										
VOC - TICs												
1,2,3,5-Tetramethylbenzene	527-53-7	µg/L	500 [5]	NLE				**5.7** JN				
1,2,3-Trimethylbenzene	526-73-8	µg/L	500 [5]	NLE						**22.3** JN		
1,2,4,5-Tetramethylbenzene	95-93-2	µg/L	500 [5]	NLE								
1,2-Diethylbenzene	135-01-3	µg/L	500 [5]	NLE								
1,4-Diethylbenzene	105-05-5	µg/L	500 [5]	NLE						**5.5** JN		
1,4-Dimethyl-2-ethylbenzene	1758-88-9	µg/L	500 [5]	NLE								
1-Ethyl-2-methylbenzene	611-14-3	µg/L	500 [5]	NLE						**41.6** JN		
1-Ethyl-3-methylbenzene	620-14-4	µg/L	500 [5]	NLE						**45.5** JN		
1-Ethyl-4-(1-methylethyl)benzene	4218-48-8	µg/L	500 [5]	NLE								
1-Ethyl-4-methylbenzene	622-96-8	µg/L	500 [5]	NLE								
1-Methyl-2-(1-methylethyl)benzene	527-84-4	µg/L	500 [5]	NLE								
1-Methyl-2-propylbenzene	1074-17-5	µg/L	500 [5]	NLE								
1-Methyl-3-(1-methylethyl)benzene	535-77-3	µg/L	500 [5]	NLE								
1-Methyl-indan	767-58-8	µg/L	500 [5]	NLE		**5.0** JN				**5.6** JN		
1-Propenylbenzene	637-50-3	µg/L	500 [5]	NLE				**20.0** JN				
2,3,4-Trimethylpentane	565-75-3	µg/L	500 [5]	NLE				**6.1** JN				
2,3-Dihydro-1,3-dimethyl-1H-indene	4175-53-5	µg/L	500 [5]	NLE								
2,3-Dihydro-1,6-dimethyl-1H-indene	17059-48-2	µg/L	500 [5]	NLE								
2,3-Dihydro-1-methyl-indene	27133-93-3	µg/L	500 [5]	NLE				**11.0** JN		**5.4** JN		
2,3-Dimethylbutane	79-29-8	µg/L	500 [5]	NLE		**6.0** JN		**9.9** JN				
2,3-Dimethylpentane	565-59-3	µg/L	500 [5]	NLE		**5.3** JN		**17.8** JN				
2,4-Dimethylpentane	108-08-7	µg/L	500 [5]	NLE				**5.4** JN				
2-Ethenyl-1,4-dimethylbenzene	2039-89-6	µg/L	500 [5]	NLE				**10.3** JN				
2-Methylbutane	78-78-4	µg/L	500 [5]	NLE		**13.2** JN						
2-Methylpentane	107-83-5	µg/L	500 [5]	NLE						**6.5** JN		
3-Methylpentane	96-14-0	µg/L	500 [5]	NLE		**6.9** JN		**6.9** JN				
Benzene,(2-methyl-2-propenyl)-	3290-53-7	µg/L	500 [5]	NLE								
Indane	496-11-7	µg/L	500 [5]	NLE						**31.0** JN		
Methylcyclopentane	96-37-7	µg/L	500 [5]	NLE						**9.7** JN		
TIC - Unknown Aliphatic Hydrocarbon	NA	µg/L	500 [5]	NLE				**16.1** J		**5.9** J		**5.0** J
TIC-02 - Unknown Aliphatic Hydrocarbon	NA	µg/L	500 [5]	NLE				**8.6** J				
TIC - Unknown Aliphatic Hydrocarbon C8	NA	µg/L	500 [5]	NLE							**8.5** J	**9.1** J
TIC - Unknown Aromatic Hydrocarbon	NA	µg/L	500 [5]	NLE								
TIC - Unknown Aromatic Hydrocarbon C9	NA	µg/L	500 [5]	NLE		**13.4** J						
TIC - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [5]	NLE								
TIC-01 - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [5]	NLE								
TIC-02 - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [5]	NLE								
TIC - Unknown Hydrocarbon C6	NA	µg/L	500 [5]	NLE								

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
B - The analyte was found in an associated blank at concentration above one half the LOQ, as well as in the sample.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-53
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-53-GW-699MW09		FTMM-53-GW-699MW12		FTMM-53-GW-699MW15		FTMM-53-GW-699MW16		FTMM-53-GW-699RW03		FTMM-53-GW-699RW05		FTMM-53-GW-699RW11	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013		20-Aug-2013	
LAB SAMPLE ID:					R1306058-011		R1306058-024		R1306058-001		R1306058-010		R1306058-022		R1306058-021		R1306058-023	
SAMPLE INTERVAL (ft bgs):					2-15		5-15		4-14		4-14		5-20		4-14		5-20	
	CAS No.	Unit																
Volatile Organics - SW8260C																		
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**170**		**610**		1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**0.39**	J	5.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**11**		**130**		1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	UJ	1.0	U	1.0	U	5.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	UJ	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	5.0	UJ	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	25	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	5.0	UJ	**2.2**	J	5.0	UJ	5.0	UJ	5.0	UJ	25	UJ	5.0	U
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	**2.2**	J	**7.1**	J	**3.6**	J
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	UJ	1.0	U	1.0	U	1.0	UJ	1.0	U	5.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	UJ	1.0	U	1.0	U	5.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	**0.47**	J	1.0	U	5.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	5.0	UJ	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	**35**		**370**		**0.21**	J
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**18**		**29**		**6.9**	
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	**0.38**	J	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	**0.31**	BJ	1.0	U	1.0	U	**33**		**190**		**1.7**	BJ
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**7.9**		**3.4**	J	**0.46**	J
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**34**		**64**		**4.8**	J
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**3.2**	J	**2.4**	J	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**7.6**		**5.1**	J	**2.0**	J
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**0.32**	J	5.0	U	**0.41**	J
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	**1.1**	J	1.0	U	5.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	**0.72**	BJ	**50**		**0.34**	BJ
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	5.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	**67**		**1,200**		**0.41**	J

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-53
Fort Monmouth, New Jersey

SAMPLE ID:			**STANDARDS VALUES**		**FTMM-53-GW-699MW09**		**FTMM-53-GW-699MW12**		**FTMM-53-GW-699MW15**		**FTMM-53-GW-699MW16**		**FTMM-53-GW-699RW03**		**FTMM-53-GW-699RW05**		**FTMM-53-GW-699RW11**	
DATE SAMPLED:			**NJDEP GWQS[1]**	**USEPA MCL[2]**	**20-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**		**20-Aug-2013**	
LAB SAMPLE ID:					**R1306058-011**		**R1306058-024**		**R1306058-001**		**R1306058-010**		**R1306058-022**		**R1306058-021**		**R1306058-023**	
SAMPLE INTERVAL (ft bgs):					**2-15**		**5-15**		**4-14**		**4-14**		**5-20**		**4-14**		**5-20**	
	CAS No.	**Unit**																
VOC - TICs																		
1,2,3,5-Tetramethylbenzene	527-53-7	µg/L	500 [5]	NLE									**66.8**	JN	**63.2**	JN		
1,2,3-Trimethylbenzene	526-73-8	µg/L	500 [5]	NLE									**111.2**	JN	**237.1**	JN		
1,2,4,5-Tetramethylbenzene	95-93-2	µg/L	500 [5]	NLE									**73.5**	JN	**44.2**	JN		
1,2-Diethylbenzene	135-01-3	µg/L	500 [5]	NLE													**22.1**	JN
1,4-Diethylbenzene	105-05-5	µg/L	500 [5]	NLE														
1,4-Dimethyl-2-ethylbenzene	1758-88-9	µg/L	500 [5]	NLE									**40.9**	JN				
1-Ethyl-2-methylbenzene	611-14-3	µg/L	500 [5]	NLE									**103.0**	JN	**206.8**	JN		
1-Ethyl-3-methylbenzene	620-14-4	µg/L	500 [5]	NLE											**345.2**	JN		
1-Ethyl-4-(1-methylethyl)benzene	4218-48-8	µg/L	500 [5]	NLE									**28.5**	JN				
1-Ethyl-4-methylbenzene	622-96-8	µg/L	500 [5]	NLE									**26.9**	JN				
1-Methyl-2-(1-methylethyl)benzene	527-84-4	µg/L	500 [5]	NLE											**38.9**	JN		
1-Methyl-2-propylbenzene	1074-17-5	µg/L	500 [5]	NLE									**22.4**	JN				
1-Methyl-3-(1-methylethyl)benzene	535-77-3	µg/L	500 [5]	NLE											**60.4**	JN		
1-Methyl-indan	767-58-8	µg/L	500 [5]	NLE											**87.1**	JN		
1-Propenylbenzene	637-50-3	µg/L	500 [5]	NLE									**85.7**	JN				
2,3,4-Trimethylpentane	565-75-3	µg/L	500 [5]	NLE									**23.1**	JN				
2,3-Dihydro-1,3-dimethyl-1H-indene	4175-53-5	µg/L	500 [5]	NLE													**8.1**	JN
2,3-Dihydro-1,6-dimethyl-1H-indene	17059-48-2	µg/L	500 [5]	NLE									**21.7**	JN				
2,3-Dihydro-1-methyl-indene	27133-93-3	µg/L	500 [5]	NLE											**32.3**	JN	**35.8**	JN
2,3-Dimethylbutane	79-29-8	µg/L	500 [5]	NLE													**12.8**	JN
2,3-Dimethylpentane	565-59-3	µg/L	500 [5]	NLE									**29.5**	JN			**13.9**	JN
2,4-Dimethylpentane	108-08-7	µg/L	500 [5]	NLE														
2-Ethenyl-1,4-dimethylbenzene	2039-89-6	µg/L	500 [5]	NLE														
2-Methylbutane	78-78-4	µg/L	500 [5]	NLE											**55.0**	JN		
2-Methylpentane	107-83-5	µg/L	500 [5]	NLE									**33.5**	JN	**76.7**	JN		
3-Methylpentane	96-14-0	µg/L	500 [5]	NLE									**22.6**	JN	**46.1**	JN	**6.6**	JN
Benzene,(2-methyl-2-propenyl)-	3290-53-7	µg/L	500 [5]	NLE													**6.0**	JN
Indane	496-11-7	µg/L	500 [5]	NLE											**215.8**	JN		
Methylcyclopentane	96-37-7	µg/L	500 [5]	NLE											**112.1**	JN		
TIC - Unknown Aliphatic Hydrocarbon	NA	µg/L	500 [5]	NLE													**9.0**	J
TIC-02 - Unknown Aliphatic Hydrocarbon	NA	µg/L	500 [5]	NLE														
TIC - Unknown Aliphatic Hydrocarbon C8	NA	µg/L	500 [5]	NLE									**35.8**	J			**5.6**	J
TIC - Unknown Aromatic Hydrocarbon	NA	µg/L	500 [5]	NLE									**55.0**	J				
TIC - Unknown Aromatic Hydrocarbon C9	NA	µg/L	500 [5]	NLE														
TIC - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [5]	NLE											**40.5**	J	**34.0**	J
TIC-01 - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [5]	NLE									**41.5**	J				
TIC-02 - Unknown Aromatic Hydrocarbon C10	NA	µg/L	500 [5]	NLE									**76.8**	J				
TIC - Unknown Hydrocarbon C6	NA	µg/L	500 [5]	NLE											**41.1**	J		

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
B - The analyte was found in an associated blank at concentration above one half the LOQ, as well as in the sample.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-53
Fort Monmouth, New Jersey

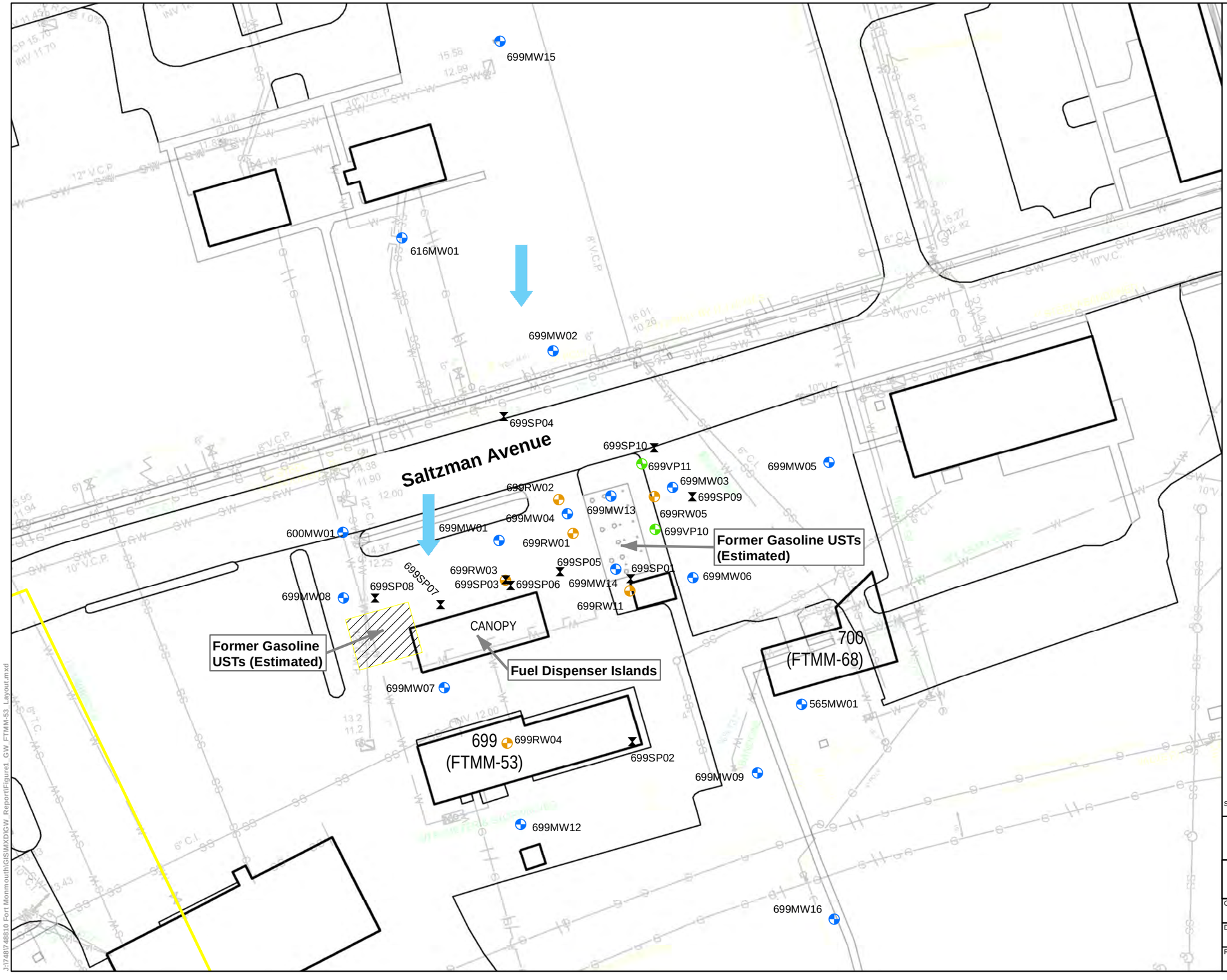
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration (metals only) Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-53, B699									
616MW01		Al, As, Fe, Mn	NO	N/A	N/A	N/A	NO	NO	
699MW01		benzene, Al, AS, Fe, Pb, Mn, Na	Mn	NO	NO	Yes	NO	Yes	Mn is a background analyte and not from historical site uses.
699MW02		Al, As, Fe, Pb, Mn, Na	Na	NO	NO	Yes	NO	NO	Na is a background analyte and not from historical site uses.
699MW04		benzene, TICs, Al, As, Fe, Mn, Na	Mn, Na	NO	NO	Yes	NO	Yes	Historical benzene and TICs exceedances. Na and Mn are background analytesand not from historical site uses.
699MW05		Al, Be, Fe, Mn, Na	Na	NO	NO	Yes	NO	NO	Na is a background analyte and not from historical site uses.
699MW06		benzene, Al, Sb, As, Fe, Na	NO	NO	NO	Yes	NO	Yes	Benzene exceedance in August 2013 Sampling
699MW08		Al, Sb, Be, Fe, Mn, Na	Be, Mn, Na	NO	NO	Yes	NO	NO	Na, Be, and Mm are background analytes and not from historical site uses.
699MW09	VOC	PCE, Al, Sb, Be, Pb, Mn, Na	Na	NO	NO	Yes	NO	Yes	PCE exceedance. Na is a background analyte and not from historical site uses.
699MW12		Al, Be, Fe, Mn, Na	Na	NO	NO	Yes	NO	NO	Na is a background analyte and not from historical site uses.
699MW15		Al, As, Fe	NO	NO	NO	Yes	NO	NO	Metals exceedances most likely background not from historical uses.
699MW16		PCE, Al, Fe, Mn	NO	NO	NO	Yes	NO	Yes	PCE exceedance
699RW03		1,2,4-trimethylbezene, benzene, tert-butyl-alcohol, PCE, TCE, TICs, Al, AS, Be, Cd, Cr, Fe, Pb, Mn, Na	Be, Cd, Fe, Pb, Mn, Ni, Na	NO	NO	Yes	NO	Yes	VOC exceedances. Metals exceedances most likely background not from historical uses.
699RW05		1,2,4-trimethylbezene, 1,3,5-trimethylbenzene, benzene, xylenes, Al, Sb, As, Be, Cr, Fe, Pb, Mn	Be, Cr, Mn, Na	NO	NO	Yes	NO	Yes	VOC exceedances.Metals exceedances most likely background not from historical uses.
699RW11		benzene, Al, Sb, Cd, Fe, Mn, Ni, Na	Be, Mn, Ni, Na	NO	NO	Yes	NO	Yes	Benzene exceedance in August 2013 Sampling. Metals exceedances most likely background not from historical uses.

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3 Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-53 (Former Gas Station at Building 699)



Legend

- Shallow Monitoring Well
- Vapor Monitoring Well
- Recovery Well
- Air Sparge Well
- Municipal Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Estimated Groundwater Flow Direction

N

1 inch = 60 feet

0 12.5 25 50 75 100 Feet

Source: FTMM Supplied CAD

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-53_Layout.mxd

PARSONS 401 Diamond Drive NW, Huntsville AL	Fort Monmouth New Jersey
Layout of FTMM-53 (Former Gas Station at Building 699)	
CREATED BY: TS	REVIEWED BY: IG
DATE: March 2014	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-53_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 616MW01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-19-13
AOC # (AREA): 53 FTMM-53 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech bladder pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Brown
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 6-16
WELL DEPTH (TOC): 16.64
PUMP INTAKE DEPTH (ft below TOC): 11.98'
FEET OF WATER IN WELL: 9.32
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.32

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:30	X		4.78	NA	0.077	NA	263.9	NA	2.60	NA	13.5	NA	19.64	NA	100	7.32
13:35	X		4.72	-0.06	0.075	-0.002	272.9	+9.0	1.87	-0.73	14.5	+1.0	19.03	-0.61	100	7.50
13:40	X		4.73	+0.01	0.076	+0.001	283.9	+11.0	1.36	-0.51	15.8	+1.3	18.82	-0.21	100	7.61
13:45	X		4.74	+0.01	0.076	0.0	289.8	+5.1	1.26	-0.10	15.2	-0.5	18.74	-0.08	100	7.70
13:50	X		4.74	0.0	0.077	+0.001	294.9	+5.9	1.22	-0.04	14.4	-0.8	18.85	+0.11	100	7.79
13:55	X		4.73	-0.01	0.077	0.0	300.8	+5.9	1.16	-0.06	13.6	-0.8	18.92	+0.07	100	7.85
14:00	X		4.72	-0.01	0.077	0.0	305.8	+5.0	1.16	0.0	12.8	-0.8	19.00	+0.08	100	7.92
14:05	X		4.72	0.0	0.077	0.0	303.0	-2.8	1.17	+0.01	12.0	-0.8	19.05	+0.05	100	7.98
14:10	X		4.73	+0.01	0.077	0.0	303.7	+0.7	1.23	+0.06	11.4	-0.6	19.12	+0.07	100	8.05
14:15	X		4.74	+0.01	0.077	0.0	301.5	-2.2	1.29	+0.06	10.0	-1.4	19.15	+0.03	100	8.05
14:20	X		4.74	0.0	0.078	+0.001	295.5	-6.0	1.29	0.0	9.4	-0.6	19.13	-0.02	100	8.05
14:25	X		4.75	+0.1	0.078	0.0	290.2	-5.3	1.26	-0.03	9.3	-0.1	19.20	+0.07	100	8.05
COMMENTS:	X		4.75	0.0	0.078	0.0	290.1	-0.1	1.24	-0.02	9.0	-0.3	19.21	+0.01	100	8.05
14:30		X	4.75	0.0	0.078	0.0	290.0	-0.1	1.24	0.0	8.9	-0.1	19.20	-0.01	100	8.05
14:32																

*Indicate readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-53-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 616MW01

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOA TICS	14:31	40 mL vials	CR	CR	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-53
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/21/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 13.41
FEET OF WATER IN WELL: 9.04
SCREENED INTERVAL (TOC): 13.00
PUMP INTAKE DEPTH (ft below TOC): 7.70
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.37

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:40	X		5.61	NA	0.290	NA	146.8	NA	1.24	NA	[illegible]	NA	25.41	NA	100	4.50
8:45	X		5.38	0.23	0.273	0.017	149.0	2.2	[illegible]	[illegible]	[illegible]	[illegible]	25.58	0.17	100	4.68
8:50	X		5.41	0.03	0.270	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.6	0.1	25.62	0.04	100	4.76
8:55	X		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.02	8.8	0.8	25.84	0.22	100	4.81
9:00	X		[illegible]	[illegible]	0.268	[illegible]	[illegible]	37.6	0.67	0.02	8.5	0.3	25.97	0.13	100	4.81
9:05	X		[illegible]	[illegible]	[illegible]	0.010	33.6	46.8	0.73	0.06	8.4	0.1	26.17	0.20	100	4.81
9:10	X		5.43	0.00	0.281	0.003	0.0	33.6	0.75	0.02	9.2	0.8	26.28	0.11	100	4.82
9:15	X		5.43	0.00	0.289	0.008	-10.9	10.9	0.75	0.00	9.4	0.2	26.24	0.04	100	4.82
9:20	X		5.45	0.02	0.293	0.004	-35.9	25.0	0.74	0.01	9.3	0.1	26.28	0.04	100	4.82
9:25	X		5.46	0.01	0.297	0.004	-38.1	2.2	0.74	0.00	9.3	0.0	26.34	0.06	100	4.82
9:30	X		5.45	0.01	0.299	0.002	-39.3	3.4	0.73	0.01	9.4	0.1	26.37	0.05	100	4.82
9:32		X	5.45	0.00	0.301	0.002	-40.7	1.4	0.73	0.00	9.6	0.2	26.42	0.05	100	4.82

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW01

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-53-GW-699MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	9:32	3	CLR		

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/21/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): ~~53~~ FTMM-53 (JC)

SAMPLIG INSTRUMENTS: Geotech bladder Pump

PID DETECTOR: MiniRAE (JC)

DATE: 8-19-13

LABORATORY:

SAMPLING PERSONNEL

NAME: James Bruins

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0-0

WELL DEPTH (TOC): 16.64

FEET OF WATER IN WELL: 10.8

SCREENED INTERVAL (TOC): 2 - 15

PUMP INTAKE DEPTH (ft below TOC): 11.24

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.84

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
15:00	X		6.17	NA	0.603	NA	54.1	NA	1.63	NA	2.5	NA	18.43	NA	100	5.80
15:05	X		6.20	+0.03	0.605	+0.002	49.5	-4.6	0.91	-0.72	2.5	0.0	18.32	-0.11	100	5.93
15:10	X		6.22	+0.02	0.604	-0.001	44.2	-5.3	0.52	-0.39	2.5	0.0	18.14	-0.18	100	5.98
15:15	X		6.22	0.0	0.603	-0.001	41.4	-2.8	0.44	-0.08	2.4	-0.1	18.15	+0.01	100	6.04
15:20	X		6.22	0.0	0.601	-0.002	41.3	-0.1	0.41	-0.03	2.5	+0.1	18.15	0.0	100	6.11
15:25	X		6.22	0.0	0.598	-0.003	40.9	-0.4	0.39	-0.02	2.5	0.0	18.29	+0.14	100	6.20
15:30	X		6.21	-0.01	0.597	-0.001	39.3	-1.6	0.38	-0.01	2.6	+0.1	18.42	+0.13	100	6.23
15:31	X	X	6.21	0.0	0.597	0.0	39.1	-0.2	0.38	0.0	2.5	-0.1	18.41	-0.01	100	6.23

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/21/13
AOC # (AREA): FTMM-53
LABORATORY: NCL
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID Minirae
SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 2-17.47
WELL DEPTH (TOC): 17.47
PUMP INTAKE DEPTH (ft below TOC): 9.5
FEET OF WATER IN WELL: 13.94
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.53

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
845	X		5.72	NA	0.686	NA	52.3	NA	1.99	NA	42.3	NA	24.45	NA	100	3.75
850	X		5.65	-0.07	0.608	-0.78	32.3	-20	0.60	-1.39	24.9	-17.4	24.50	+0.05	100	3.80
855	X		5.68	+0.03	0.605	-0.003	42.7	+10.4	0.40	-0.20	16.4	-8.5	24.59	+0.09	100	3.83
900	X		5.71	+0.03	0.603	-0.002	54.1	+11.4	0.34	-0.06	10.3	-6.1	24.70	+0.11	100	3.83
905	X		5.72	+0.01	0.600	-0.003	53.9	-0.2	0.33	-0.01	9.1	-1.2	24.68	-0.02	100	3.83
910	X		5.71	-0.01	0.600	—	54.2	+0.3	0.32	-0.01	8.9	-0.2	24.69	+0.01	100	3.83
915		X	5.72	+0.01	0.600	—	54.4	+0.2	0.32	—	8.9	—	24.72	+0.03	100	11

COMMENTS: 917 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW04

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-SJ-GW-699MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	917	40mL	clr	8.9	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985 | **DATE:** 8/20/13

AOC # (AREA): FTMM-53 | **LABORATORY:**

SAMPLIG INSTRUMENTS: Bladder pump | **SAMPLING PERSONNEL**

PID DETECTOR: PID Minirae | **NAME:** Michael Tilton

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 | SCREENED INTERVAL (TOC): 3-14.96

WELL DEPTH (TOC): 14.96 | PUMP INTAKE DEPTH (ft below TOC): 9

FEET OF WATER IN WELL: 11.35 | DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.61

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1140	X		4.48	NA	0.703	NA	280.9	NA	2.92	NA	14.4	NA	27.52	NA	100	3.67
1145	X		4.42	-0.06	0.701	-0.002	297.5	+12.6	1.78	-1.14	8.8	-5.6	27.09	-0.43	100	3.70
1150	X		4.41	-0.01	0.701	—	307.6	+10.1	1.50	-0.28	5.9	-2.9	27.00	-0.09	100	3.70
1155	X		4.41	—	0.701	—	315.9	+8.3	1.42	-0.08	4.1	-1.8	27.11	+0.11	100	11
1200	X		4.39	-.002	0.698	-0.003	325.4	+9.5	1.33	-0.09	2.3	-1.8	27.13	+0.03	100	11
1205	X		4.39	—	0.693	-0.005	331.3	+5.9	1.35	+002	1.7	-0.6	27.27	+0.14	100	11
1210	X		4.39	—	0.692	-0.001	336.0	+4.7	1.34	-0.01	0.0	-1.7	27.37	+0.10	100	11
1215	X		4.40	+0.01	0.692	—	338.0	+2	1.33	-0.01	0.0	—	27.42	+0.05	100	11
1220		X	4.39	-001	0.691	-0.001	341.9	+3.9	1.32	-0.01	0.0	—	27.28	-0.14	100	11

COMMENTS: 1222 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699 MW 5

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-53 GW-699MW05

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	12:22	40mL	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-06~~ 699MW06 (JC)

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/20/13
AOC # (AREA): FTMM-53
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: PID MiniRAE
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 13.00
WELL DEPTH (TOC): 15.05
PUMP INTAKE DEPTH (ft below TOC): 9.2
FEET OF WATER IN WELL: 8.84
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.64

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:40	X		5.49	NA	0.255	NA	-5.4	NA	2.24	NA	0.0	NA	23.71	NA	100	6.73
11:45	X		5.46	0.03	0.215	0.040	-13.4	8.0	0.77	1.47	6.0	6.0	21.96	1.75	100	6.80
11:50	X		5.44	0.02	0.210	0.005	-15.1	1.7	0.75	0.02	0.0	0.0	21.99	0.03	100	6.87
11:55	X		5.48	0.04	0.212	0.002	-22.6	7.5	0.66	0.09	0.0	0.0	22.49	0.50	100	6.93
12:00	X		5.52	0.04	0.211	0.001	-34.0	11.4	0.61	0.05	0.0	0.0	22.63	0.14	100	6.95
12:05	X		5.54	0.02	0.211	0.000	-37.3	3.3	0.61	0.00	0.0	0.0	22.71	0.08	100	6.95
12:10	X		5.57	0.03	0.213	0.002	-44.3	7.0	0.61	0.00	0.0	0.0	22.90		100	6.95
12:15	X		5.59	0.02	0.216	0.003	-50.4	6.1	0.64	0.03	0.0	0.0	22.23		100	6.95
12:20	X		5.58	0.01	0.216	0.000	-53.1	2.7	0.63	0.01	0.0	0.0	22.17		100	6.95
12:23		X	5.57	0.01	0.217	0.001	-54.5	1.4	0.63	0.00	0.0	0.0	22.12		100	6.95

COMMENTS: Stickup 1.48' above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-06~~ 699MW06 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-53-GW-699MW06

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + Tics	12:23	3	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-08~~ 699MW08 (JC)

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-53
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE

DATE: 8/20/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 13.35
FEET OF WATER IN WELL: 8.56

SCREENED INTERVAL (TOC): 13.0
PUMP INTAKE DEPTH (ft below TOC): 7.68
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.79

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:53	X		4.66	NA	1.999	NA	230.5	NA	0.98	NA	0.0	NA	26.87	NA	100	4.89
8:58	X		4.08	0.58	1.814	0.185	271.5	*41.0	0.61	0.37	0.0	0.0	26.86	0.01	100	4.91
9:03	X		4.06	0.02	1.782	0.032	279.2	7.7	0.52	0.09	0.0	0.0	26.77	0.09	100	4.91
9:08	X		4.05	0.01	1.754	0.028	283.3	4.1	0.46	0.06	0.0	0.0	26.61	0.16	100	4.91
9:13	X		4.04	0.01	1.746	0.008	284.2	0.9	0.45	0.01	0.0	0.0	26.51	0.10	100	4.91
9:18	X		4.04	0.00	1.736	0.010	285.4	1.12	0.45	0.00	0.0	0.0	26.48	0.03	100	4.91
9:23	X		4.03	0.01	1.729	0.007	286.1	0.7	0.44	0.01	0.0	0.0	26.43	0.05	100	4.91
9:25		X	4.03	0.00	1.728	0.001	266.4	0.3	0.44	0.00	0.0	0.0	26.41	0.02	100	4.91

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-08 699MW08 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-53-GW-699MW08

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + Tics	9:25	3	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

FTMM-53-GW-699MW108

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used - No waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** MW-09 699MW09 (JC)

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM -53
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE

DATE: 8/20/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 12.60
FEET OF WATER IN WELL: 7.55

SCREENED INTERVAL (TOC): 13.0
PUMP INTAKE DEPTH (ft below TOC): 7.30
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.05

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:15	X		4.36	NA	0.530	NA	96.6	NA	3.13	NA	12.6	NA	20.10	NA	100	5.21
10:20	X		4.27	0.09	0.511	0.019	~~100~~ 83.4	~~13.2~~ ~~>1000~~	2.71	0.42	16.3	3.7	19.48	0.62	100	5.27
10:25	X		4.22	0.05	0.502	0.009	~~82.6~~ 79.6	~~>1000~~ 3.8	2.47	0.24	2.0	14.3	19.26	0.22	100	5.30
10:30	X		4.20	0.02	0.506	0.002	72.1	7.5	2.36	0.11	6.0	48.0	18.92	0.44	100	5.32
10:35	X		4.21	0.01	0.516	0.010	28.3	43.8	2.28	0.08	4.4	1.6	18.64	0.28	100	5.32
10:40	X		4.22	0.01	0.529	0.013	10.7	17.6	2.13	0.15	3.4	1.0	18.58	0.06	100	5.32
10:45	X		4.22	0.00	0.545	0.016	*0.0	10.7	1.93	0.20	2.7	0.7	18.58	0.00	100	5.32
10:50	X		4.21	0.01	0.567	0.022	-11.2	11.2	1.76	0.17	0.0	2.7	18.52	0.06	100	5.32
10:55	X		4.20	0.01	0.593	0.026	-25.1	13.9	1.54	0.22	0.0	0.0	18.46	0.06	100	5.32
11:00	X		4.20	0.00	0.594	0.001	-26.7	1.6	1.55	0.01	0.0	0.0	18.43	0.03	100	5.32
11:05	X		4.19	0.01	0.598	0.004	-24.5	2.2	1.53	0.02	0.0	0.0	18.43	0.00	100	5.32
11:07		X	4.19	0.00	0.602	0.004	25.9	1.4	1.52	0.01	0.0	0.0	18.42	0.01	100	5.32

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-09~~ 699MW09 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-53-GW-699MW09

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	11:07	3	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

699MW12 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-12

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): FTMM

SAMPLIG INSTRUMENTS: Bladder Pump

PID DETECTOR: PID MiniRAE

DATE: 8/20/13

LABORATORY:

SAMPLING PERSONNEL

NAME: Owen Zalme

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0

WELL DEPTH (TOC): 14.90

FEET OF WATER IN WELL: 9.50

SCREENED INTERVAL (TOC): 10.00

PUMP INTAKE DEPTH (ft below TOC): 9.95

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.40

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
13:35	X		3.92	NA	1.142	NA	73.1	NA	2.34	NA	0.0	NA	27.77	NA	100	5.45
13:40	X		3.72	0.20	1.144	0.002	98.8	25.7	1.26	1.08	0.0	0.0	26.98	0.79	100	5.45
13:45	X		3.71	0.01	1.145	0.001	108.8	10.0	1.10	0.16	0.0	0.0	26.61	0.37	100	5.45
13:50	X		3.71	0.00	1.144	0.001	113.5	4.7	1.07	0.03	0.0	0.0	26.66	0.05	100	5.45
13:55	X		3.71	0.00	1.147	0.003	116.4	2.9	1.05	0.02	0.0	0.0	26.69	0.03	100	5.46
~~14:00~~ 14:00	X		3.71	0.00	1.144	0.003	119.2	2.8	1.06	0.01	0.0	0.0	26.71	0.02	100	5.46
14:05	X		3.71	0.00	1.144	0.000	121.2	2.0	1.07	0.01	0.0	0.0	26.67	0.04	100	5.46
14:08		X	3.71	0.00	1.143	0.001	122.7	1.5	1.07	0.00	0.0	0.0	26.70	0.03	100	5.46

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-12

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-53-GW-699MW12

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	14:08	3	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW15

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-53
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PIDMiniRae

DATE: 8/20/13
LABORATORY: HCV

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 13.97
FEET OF WATER IN WELL: 10.12
SCREENED INTERVAL (TOC): 3.5 - 13.97
PUMP INTAKE DEPTH (ft below TOC): 8.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.85

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
905	X		5.85	NA	0.143	NA	165.3	NA	1.70	NA	5.6	NA	20.68	NA	100	3.95
910	X		5.82	-0.03	0.135	-0.008	140.0	-25.3	1.09	-0.61	5.8	+0.2	20.56	-0.12	100	4.05
915	X		5.79	-0.03	0.131	-0.004	144.4	+4.4	0.99	-0.10	5.7	-0.1	20.49	-0.07	100	4.13
920	X		5.78	-0.01	0.129	-0.002	154.9	+10.5	1.23	+0.24	5.3	-0.4	20.48	-0.01	100	4.15
925	X		5.75	-0.03	0.128	-0.001	168.4	+14.5	1.26	+0.03	4.6	-0.7	20.68	+0.20	100	4.15
930	X		5.73	-0.02	0.127	-0.001	173.8	+5.4	1.23	-0.03	4.4	-0.2	20.81	+0.13	100	4.15
935		X	5.74	+0.01	0.127	—	175.0	+1.2	1.20	-0.03	4.4	—	20.86	+0.05	100	4.15

COMMENTS: 937 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL#:** 699MW15

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-53-GW-699MW15

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	937	40mL	clr	4.4	
MS	937	↓	clr	4.4	
MSD	937	↓	clr	4.4	
QA	937	↓	clr	4.4	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

FTMM-53-GW-699MW15-QA

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: (YES) or NO

FTMM-53-GW-699MW15-MS
FTMM-53-GW-699MW15-MSD

INVESTIGATION DERIVED WASTE (IDW): carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transferred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW16

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/20/13
AOC # (AREA): FTMM-53
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder pump
SAMPLING PERSONNEL
PID DETECTOR: PID Minirae
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 3.5-14.15
WELL DEPTH (TOC): 14.15
PUMP INTAKE DEPTH (ft below TOC): 9
FEET OF WATER IN WELL: 9.95
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.20

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1020	X		4.20	NA	0285	NA	265.0	NA	1.55	NA	0.6	NA	19.87	NA	100	4.28
1025	X		4.14	-0.06	0.287	+0.002	288.5	+23.5	0.87	-0.68	0.0	-0.6	19.48	-0.39	100	4.31
1030	X		4.15	+0.01	0.281	-0.006	281.1	-7.4	0.59	-0.28	0.0	—	19.08	-0.40	100	4.35
1035	X		4.17	+0.02	0.279	-0.002	262.8	-18.3	0.53	-0.06	0.0	—	19.05	-0.03	100	4.36
1040	X		4.19	+0.02	0.276	-0.003	250.9	11.9	0.47	-0.06	0.0	—	18.92	-0.13	100	"
1045	X		4.20	+0.01	0.274	-0.002	234.7	-16.2	0.45	-0.02	0.0	—	18.92	—	100	"
1050	X		4.22	+0.02	0.270	-0.004	201.5	-33.2	0.45	—	0.0	—	19.04	+0.12	100	"
1055	X		4.22	—	0.270	—	202.7	+1.2	0.46	+0.01	0.0	—	19.03	-0.01	100	"
1100		X	4.22	—	0.270	—	201.0	-1.7	0.46	—	0.0	—	19.07	+0.04	100	"

COMMENTS: 1102 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~MW-16~~ 699MW16 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-53-GW-699MW16

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1102	40mL	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~RW-03~~ 699RW03 (JC)

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/20/13
AOC # (AREA): FTMM
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE
SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 15.00
WELL DEPTH (TOC): 17.97
PUMP INTAKE DEPTH (ft below TOC): 11.42
FEET OF WATER IN WELL:
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.96

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
~~14:57~~	X		5.85	NA	1.464	NA	-11.8	NA	1.08	NA	7.3	NA	25.23	NA	100	5.15
15:02	X		5.92	0.07	1.488	0.004	-17.4	5.6	0.65	0.43	2.5	4.8	25.00	0.23	100	5.18
15:07	X		5.96	0.04	1.488	0.000	-32.7	15.3	0.46	0.19	2.4	0.1	25.15	0.15	100	5.20
15:12	X		5.96	0.00	1.495	0.007	-39.6	6.9	0.44	0.02	2.7	0.3	25.19	0.04	100	5.20
15:17	X		5.96	0.00	1.507	0.012	-44.3	4.7	0.44	0.00	2.8	0.1	25.19	0.00	100	5.21
15:22	X		5.96	0.00	1.519	0.012	-45.9	0.7	0.43	0.01	2.9	0.1	25.00	0.19	100	5.21
15:27	X		5.96	0.00	1.523	0.004	-45.2	0.7	0.42	0.01	3.0	0.1	24.91	0.09	100	5.21
15:30		X	5.96	0.00	1.528	0.005	-45.9	0.7	0.42	0.00	3.1	0.1	24.96	0.05	100	5.22

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | CLIENT: USAESCH | WELL #: RW-03 699RW03 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-53-GW-699RW03

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	15:30	3	CLR	3.1	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699MW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985 | **DATE:** 8/20/13

AOC # (AREA): FTMM-53 | **LABORATORY:**

SAMPLIG INSTRUMENTS: Bladder pump | **SAMPLING PERSONNEL**

PID DETECTOR: PID Minirae | **NAME:** Michael Tilton

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 | SCREENED INTERVAL (TOC): 3-14.96

WELL DEPTH (TOC): 14.96 | PUMP INTAKE DEPTH (ft below TOC): 9

FEET OF WATER IN WELL: 11.35 | DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.61

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1140	X		4.48	NA	0.703	NA	280.9	NA	2.92	NA	14.4	NA	27.52	NA	100	3.67
1145	X		4.42	-0.06	0.701	-0.002	297.5	+12.6	1.78	-1.14	8.8	-5.6	27.09	-0.43	100	3.70
1150	X		4.41	-0.01	0.701	—	307.6	+10.1	1.50	-0.28	5.9	-2.9	27.00	-0.09	100	3.70
1155	X		4.41	—	0.701	—	315.9	+8.3	1.42	-0.08	4.1	-1.8	27.11	+0.11	100	11
1200	X		4.39	-.002	0.698	-0.003	325.4	+9.5	1.33	-0.09	2.3	-1.8	27.13	+0.03	100	11
1205	X		4.39	—	0.693	-0.005	331.3	+5.9	1.35	+002	1.7	-0.6	27.27	+0.14	100	11
1210	X		4.39	—	0.692	-0.001	336.0	+4.7	1.34	-0.01	0.0	-1.7	27.37	+0.10	100	11
1215	X		4.40	+0.01	0.692	—	338.0	+2	1.33	-0.01	0.0	—	27.42	+0.05	100	11
1220		X	4.39	-001	0.691	-0.001	341.9	+3.9	1.32	-0.01	0.0	—	27.28	-0.14	100	11

COMMENTS: 1222 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 699 MW 5

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-53 GW-699MW05

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	12:22	40mL	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

699RW11 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~699~~ RW11

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/20/13
AOC # (AREA): FTMM-53
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID Minirae
SAMPLING PERSONNEL
NAME: Michael T. Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	(6)	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):
SCREENED INTERVAL (TOC): 5-17
WELL DEPTH (TOC): 17
PUMP INTAKE DEPTH (ft below TOC):
FEET OF WATER IN WELL: 13.11
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.89

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1450	X		6.38	NA	0.422	NA	+62.2	NA	1.41	NA	19.7	NA	23.12	NA	100	3.95
1455	X		6.32	-0.06	0.418	-0.004	-52.9	+10.7	0.96	-.45	18.2	-1.5	22.01	-1.11	100	4.01
1500	X		6.32	—	0.415	-0.003	-49.0	+3.9	0.72	-0.24	18.0	-0.2	21.28	-0.73	100	4.05
1505	X		6.32	—	0.413	-0.002	-47.2	+1.8	0.63	-0.09	12.4	-5.6	21.12	-0.16	100	4.10
1510	X		6.34	+0.02	0.411	-0.002	-46.7	+0.5	0.55	-0.08	8.6	-3.8	22.23	+0.11	100	4.10
1515	X		6.34	—	0.410	-0.001	-48.9	-2.2	0.53	-0.02	8.9	+0.3	22.30	+0.07	100	4.10
1520		X	6.36	+0.02	0.410	—	-50.0	-1.1	0.55	+0.02	8.6	-0.3	22.56	+0.26	100	4.10

COMMENTS: Sample time 1522

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** RW11 699RW11 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: FTMM-53-GW-699RW11

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1522	40mL	clr	8.6	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX L: FTMM-54 Building 296

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3	2013 Baseline Groundwater Analytical Detections
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1	Layout of FTMM-18, FTMM-54 (Building 296) & FTMM-55 (Building 290)

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-12 GROUNDWATER MONITORING

Groundwater samples were collected from seven monitoring wells located at FTMM-54 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted between August 16 and August 20, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B and lead via USEPA Method SW6010C. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-54 were gauged on August 9, 2013. Groundwater elevations in monitoring wells ranged from 1.28 (296MW03) to 5.26 (296MW01) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the north-northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging conducted at FTMM-54, the condition of site monitoring wells was also assessed. FTMM-54 monitoring wells were found to contain sampling pump tubing and were in good physical condition.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From June 1997 through November 2004, FTMM-54 monitoring wells were sampled primarily for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. From February 2005 to September 2010, FTMM-54 wells were sampled for VOCs and metals.

In the last four rounds of quarterly groundwater sampling conducted at FTMM-54 from November 2010 to August 2011, samples were submitted for VOCs and metals. Several metals including aluminum, antimony, arsenic, cadmium, iron, lead, manganese, sodium and zinc were detected in exceedance of their respective NJDEP Groundwater Quality Standard (GWQS). However, only aluminum, cadmium, manganese, sodium and zinc were detected above background concentrations established in the 1995 Weston Report.

Benzene was detected above its NJDEP GWQS in 296MW06 during the February 2011 sampling event. Historical groundwater analytical results are presented in **Table 2.**

4.0 AUGUST 2013 GROUNDWATER RESULTS

Benzene, detected in monitoring well 296MW06 at a concentration of 11 µg/L was the only exceedance of the NJDEP GWQS observed during the August 2013 Baseline Sampling Event. **Table 3** presents 2013 baseline groundwater analytical detections.

5.0 FINDINGS AND RECOMMENDATIONS

Aluminum, cadmium, manganese, sodium and zinc were detected above their background concentrations (Weston 1995) in past sampling events. However, these metals are common constituents in glauconitic soils that underlie the site and are not indicative of historical site usage. It is recommended that sampling be discontinued for metals at FTMM-54 monitoring wells.

Benzene was detected in exceedance of its NJDEP GWQS in the August 2013 Baseline Groundwater Sampling Event, as well as within the last four rounds of historical analytical data only in site monitoring well 296MW06. Continued annual groundwater monitoring for VOCs is recommended for monitoring well 296MW06, as well as 296MW04, which appears to be hydraulically down gradient. As determined by the correlation study performed in August 2013, monitoring wells analyzed for only VOCs will be sampled using PDB sampling methodology.

It is recommended VOC groundwater monitoring be discontinued for the remainder of Site. **Table 4** presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-54
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-54, B296															
296MW01	29-30979	540081.711	618533.764	15.00	13.00	2-15	15.28	8-9-13	0916	0.0	10.02	16.97	5.26	8/16/2013	1452
296MW02	29-30980	540193.056	618540.940	12.50	10.50	2-12.5	9.05	8-9-13	0913	0.0	4.09	11.43	4.96	8/19/2013	1218
296MW03	29-30975	540535.822	618291.322	12.50	10.50	2-12.5	7.92	8-9-13	0847	0.0	6.64	16.54	1.28	8/19/2013	1456
296MW04	29-33989	540596.930	618368.467	10.00	9.50	0.5-10	4.18	8-9-13	0854	0.0	1.89	12.24	2.29	8/20/2013	1140
296MW06	29-30978	540526.258	618399.811	12.50	10.50	2-12.5	7.97	8-9-13	0850	0.0	4.97	15.30	3.00	8/19/2013	1515
296MW07	29-30973	540363.845	618299.947	12.50	10.50	2-12.5	7.37	8-9-13	0902	0.0	5.46	12.21	1.91	8/19/2013	1054
296MW08	29-30974	540344.638	518501.435	12.50	10.50	2-12.5	7.61	8-9-13	0906	0.0	3.87	10.63	3.74	8/19/2013	1009

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-54
Fort Monmouth, New Jersey

				296MW01																				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	46	47	48	48 Dup	49	49 Dup	50	50 Dup	51	51 Dup	52	53	54	55	56	57	57 Dup	58
Date Collected				3/4/2008	5/14/2008	8/13/2008	8/13/2008	10/22/2008	10/22/2008	3/26/2009	3/26/2009	6/2/2009	6/2/2009	9/17/2009	11/23/2009	2/2/2010	5/20/2010	9/10/2010	11/22/2010	11/22/2010	2/24/2011
ANALYTE/Lab ID																					
Volatile Organic Compounds (µg/L)																					
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -xylenes	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	70	NLE	-	1.08	0.44	0.69	0.67	0.3	0.29	ND	ND	0.46	0.46	0.43 J	0.41 J	0.38 J	0.25 J	0.41 J	ND	ND	ND
o- xylene	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																					
Aluminum	200	NLE	121000	578	484	591	618	712	973	1060	852	702	697	750	630	821	811	855	642	649	341
Antimony	6	6	20.70	ND	1.67	ND	ND	ND	ND	22.7	14.6	1.89	2.29	ND	5.41	ND	ND	13.6	ND	ND	< 6
Arsenic	3	10	89.30	ND	ND	ND	ND	2.66	ND	56	52.9	11	7.64	12.4	0.74	1.3	1.31	0.93	1.52	ND	< 3
Barium	6000	2000	699.00	40.2	39.9	39	39.2	40.6	40.8	42.2	40.5	38.8	39.4	40.9	32.9	38.2	61.4	53.9	38.5	38.8	< 200
Beryllium	1	4	2.10	ND	0.135	ND	ND	ND	ND	ND	ND	0.101	0.126	ND	ND	ND	0.075	0.077	ND	ND	< 1
Cadmium	4	5	9.50	0.374	0.294	0.743	0.54	0.479	0.527	0.206	0.54	ND	ND	ND	ND	ND	0.692	0.908	ND	ND	< 3
Calcium	NLE	NLE	45400.00	23800	16800	17200	17100	21600	21700	22300	21500	17200	17000	21100	17000	20400	34800	31100	20000	20300	26700
Chromium	70	100	191.00	ND	1.27	0.47	0.571	ND	0.734	0.342	0.519	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 10
Copper	1300	1300	65.60	1.39	ND	ND	ND	ND	ND	ND	ND	1.34	0.998	ND	ND	ND	ND	ND	ND	ND	< 10
Iron	300	NLE	431000	2410	2950	2300	2210	2720	4320	5760	4500	6970	6400	4310	1310	4480	468	280	220	240	1250
Lead	5	15	22.70	ND	ND	ND	ND	ND	ND	5.9	7.06	9.32	ND	ND	ND	ND	ND	ND	ND	ND	< 3
Magnesium	NLE	NLE	62700	9640	8220	8540	8590	8820	8770	10100	9900	9480	9270	9770	8320	9380	14200	12000	8620	8770	7380
Manganese	50	NLE	331	175	182	184	185	146	144	165	162	202	207	142	135	179	203	176	132	134	32.5
Mercury	2	2	0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND	0.08	ND	ND	ND	ND	< 0.2
Nickel	100	NLE	187	12.8	8.53	8.64	8.96	10.3	10.4	12.1	12.7	10.1	9.82	13.1	10.9	11.8	18.3	18.6	11.5	11.4	< 10
Potassium	NLE	NLE	137000	6560	7250	7920	7870	8090	8210	7280	7010	7340	7340	8610	7060	8790	8490	8590	8700	8910	< 10000
Selenium	40	50	29.60	ND	4.38	5.41	4.67	ND	ND	92.7	74.6	ND	ND	19.9	8.29	ND	NR	ND	ND	1.4	< 10
Silver	40	NLE	ND	ND	ND	0.817	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 10
Sodium	50000	NLE	21500	33600	31100	33000	33600	33000	32800	36200	35800	32100	31400	31600	30400	33800	38300	34700	32900	33300	26300
Thallium	2	2	5.50	ND	ND	ND	ND	ND	ND	ND	ND	1.36	1.45	ND	ND	ND	ND	ND	ND	ND	< 2
Vanadium	60	NLE	108	ND	0.235	1.02	0.981	0.54	1.56	1.93	1.37	0.678	0.504	1.36	ND	1.82	0.615	ND	0.912	0.677	< 50
Zinc	2000	5000	233	37	29.2	30.1	32.1	32.5	33.4	36.1	33.6	43	43.6	30.5	24.4	34.3	46.4	38.1	27.4	27	21.7

Notes:

Yellow highligted indicates an exceedence of NJDEP Class IIA GWQS

TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

dup = duplicate sample collected

ER-Estimated result

J - Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA - Not analyzed

ND - Not detected

NLE - No limit established

NR - Not reported

Table 2
Historical Groundwater Analytical Results
Site FTMM-54
Fort Monmouth, New Jersey

				296MW02																		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	59	60	60 Dup	46	47	48	49	50	51	52	53	54	55	56	57	58	59	59 Dup	60
Date Collected				4/20/2011	3/18/2011	8/9/2011	3/4/2008	5/14/2008	8/13/2008	10/22/2008	3/26/2009	6/2/2009	9/17/2009	11/23/2009	2/2/2010	5/21/2010	9/13/2010	11/23/2010	2/24/2011	4/20/2011	4/20/2011	8/9/2011
ANALYTE/Lab ID																						
Volatile Organic Compounds (µg/L)																						
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	ND	5.89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -xylenes	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	70	NLE	-	ND	ND	ND	ND	0.86	0.93	0.91	ND	0.36	0.24 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
o- xylene	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																						
Aluminum	200	NLE	121000	274	336	438	1340	83.8	130	327	642	294	2740	272	205000	472	200	ND	216	622	1010	2020
Antimony	6	6	20.70	< 6	< 6	< 6	ND	1.89	ND	ND	7.54	2.43	ND	ND	ND	11.8	17	ND	< 6	< 6	< 6	< 6
Arsenic	3	10	89.30	< 3	< 3	< 3	5.75	4.59	3.15	5.21	26.7	5.01	7.47	2.6	75.08	0.83	2.92	ND	< 3	< 3	< 3	< 3
Barium	6000	2000	699.00	< 200	< 200	< 200	106	7.46	7.59	6.75	8.58	14.3	39.7	15.9	1270	210	122	61.4	< 200	< 200	< 200	< 200
Beryllium	1	4	2.10	< 1	< 1	< 1	0.716	ND	ND	ND	ND	ND	0.107	ND	9.99	0.067	ND	ND	< 1	< 1	< 1	< 1
Cadmium	4	5	9.50	< 3	< 3	< 3	13.1	1.58	0.654	0.49	1.17	0.729	2.86	ND	184	8.51	1.78	0.598	3.1	3.2	3	< 3
Calcium	NLE	NLE	45400.00	41000	19300	19300	10000	1820	1760	1830	4270	3910	6250	4760	93700	80900	40300	30700	42000	57400	55700	23900
Chromium	70	100	191.00	< 10	< 10	< 10	5.21	0.986	1.63	2.45	4.49	2.46	12.2	1.86	840	ND	ND	ND	< 10	< 10	< 10	10.4
Copper	1300	1300	65.60	< 10	< 10	< 10	ND	10.5	12.3	22.4	30.7	15.5	128	62.3	5440	47.1	11.6	1.55	16.3	16.5	22.3	47.7
Iron	300	NLE	431000	590	3220	3920	23200	366	398	860	3780	607	10100	1180	579000 E	7130	39600	12800	1100	4650	7100	18900
Lead	5	15	22.70	< 3	< 3	< 3	21.7	1.96	ND	ND	7.34	ND	36.1	2.73	1060	4.51	4.83		< 3	3.3	6	9.8
Magnesium	NLE	NLE	62700	9440	8950	9000	2050	468	498	586	925	1010	2640	1150	77900	12900	11200	7080	6680	7370	6870	5760
Manganese	50	NLE	331	27.3	205	206	296	17	18.6	15.5	95.3	76.7	176	55.6	5590	780	510	284	282	287	269	284
Mercury	2	2	0.26	< 0.2	< 0.2	< 0.2	ND	ND	ND	ND	ND	ND	0.18	ND	0.69	ND	ND	ND	< 0.2	< 0.2	< 0.2	< 0.2
Nickel	100	NLE	187	< 10	10.4	10.3	44	4.82	3.16	2.54	3.6	5.14	10.3	6.45	514	23	20.8	9.84	13.3	13.4	17.6	15.7
Potassium	NLE	NLE	137000	< 10000	< 10000	< 10000	2450	2920	2770	3060	3650	2200	4700	3050	59700	14800	11900	32900	< 10000	10900	10500	< 10000
Selenium	40	50	29.60	< 10	< 10	< 10	ND	4.8	3.58		42.7	ND	ND	11.8	ND	NR	2.13	1.47	< 10	< 10	< 10	10.1
Silver	40	NLE	ND	< 10	< 10	< 10	ND	ND	0.708	1.08	ND	ND	ND	ND	ND	1.08	6.6	2.37	< 10	< 10	< 10	< 10
Sodium	50000	NLE	21500	21000	36600	36500	128000	239000	255000	255000	317000	281000	286000	270000	475000	2670000 E	1320000 E	929000 E	818000	802000	720000	578000
Thallium	2	2	5.50	< 2	< 2	< 2	1.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 2	< 2	< 2	< 2
Vanadium	60	NLE	108	< 50	< 50	< 50	41.9	2.19	2.65	2.85	12.2	2.2	16.9	1.74	989	1.75	ND	ND	< 50	< 50	< 50	< 50
Zinc	2000	5000	233	31	72.5	73.8	466	30.9	19	38	83.8	60.3	173	162	13200	458	191	89.1	2110	10800	9920	6980

Notes:

Yellow highligted indicates an exceedence of NJDEP Class IIA GWQS

TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

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ER-Estimated result

J - Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA - Not analyzed

ND - Not detected

NLE - No limit established

NR - Not reported

Table 2
Historical Groundwater Analytical Results
Site FTMM-54
Fort Monmouth, New Jersey

				296MW03																			
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	46	47	48	49	50	50 Dup	51	52	53	54	55	55 Dup	56	57	57 Dup	58	59	60	46	47
Date Collected				3/4/2008	5/14/2008	8/13/2008	10/22/2008	3/25/2009	3/25/2009	6/2/2009	9/17/2009	11/23/2009	2/2/2010	5/21/2010	5/21/2010	9/13/2010	11/24/2010	11/24/2010	2/24/2011	4/21/2011	8/9/2011	3/4/2008	5/14/2008
ANALYTE/Lab ID																							
Volatile Organic Compounds (µg/L)																							
Acetone	6000	NLE	-	ND	ND	ND	6.89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18
Ethylbenzene	700	700	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -xylenes	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	70	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o- xylene	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																							
Aluminum	200	NLE	121000	242	131	372	166	274	196	166	263	174	157	30.6	22.3	3920	1310	1240	< 200	222	< 200	103	83.4
Antimony	6	6	20.70	ND	ND	ND	ND	9.1	9.54	3.05	6.05	ND	ND	ND	ND	26.6	5.59	9.76	< 6	< 6	< 6	ND	1.29
Arsenic	3	10	89.30	ND	ND	ND	3.55	21.9	19	ND	8.49	0.71	0.72	ND	ND	7.05	2.1	1.3	< 3	< 3	< 3	ND	ND
Barium	6000	2000	699.00	3.53	4.77	10.4	5.71	3.55	3.42	2.09	6.91	6.64	4.73	2.1	2.33	102	115	115	< 200	< 200	< 200	11.2	27
Beryllium	1	4	2.10	ND	0.214	0.167	ND	ND	ND	ND	0.122	ND	ND	ND	ND	0.946	0.485	0.434	< 1	< 1	< 1	ND	ND
Cadmium	4	5	9.50	1.22	1.86	3.91	1.71	1.39	1.41	0.689	3.53	1.63	1.18	ND	0.874	46.2	13.7	13.5	< 3	< 3	< 3	0.59	0.579
Calcium	NLE	NLE	45400.00	5050	4980	28400	15900	8460	7800	4120	19500	20400	9810	5940	6020	488000	250000	242000	11200	< 5000	14700	28000	35100
Chromium	70	100	191.00	1.76	0.98	1.46	1.85	2.3	1.57	1.98	1.45	ND	1.93	ND	ND	ND	ND	ND	< 10	< 10	< 10	0.609	0.758
Copper	1300	1300	65.60	1.31	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	3.84	ND	ND	< 10	< 10	< 10	1.19	1.4
Iron	300	NLE	431000	3110	151	1760	3160	3780	1870	668	1530	1590	1220	119	ND	25700	557	486	903	737	1120	3690	3120
Lead	5	15	22.70	ND	ND	ND	ND	5.51	7.33	2.56	ND	ND	ND	ND	ND	ND	ND	ND	< 3	< 3	< 3	1.1	4.2
Magnesium	NLE	NLE	62700	1800	1650	11100	6400	3520	3210	1630	7350	8000	3880	2470	2490	209000	114000	113000	< 5000	< 5000	6660	14500	29700
Manganese	50	NLE	331	14.8	22.9	27.9	27	16.4	15.6	7.53	37.8	30.4	20.1	6.65	6.81	680	279	273	< 15	< 15	24.5	70.7	129
Mercury	2	2	0.26	ND	ND	ND	ND	ND	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	< 0.2	< 0.2	< 0.2	ND	ND
Nickel	100	NLE	187	5.61	4	5.59	2.81	1.31	2.01	2.1	5.51	4.52	4.17	0.974	1.46	56.7	25.6	25.6	< 10	< 10	< 10	4.03	1.49
Potassium	NLE	NLE	137000	1560	2040	5570	4370	2130	2050	1830	5350	3650	4190	2390	2430	22700	25900	21000	< 10000	< 10000	< 10000	3190	7540
Selenium	40	50	29.60	ND	4.83	ND	ND	46.8	51.5	ND	22.1	ND	ND	NR	NR	1.93	ND	1.4	< 10	< 10	< 10	ND	ND
Silver	40	NLE	ND	ND	ND	0.564	0.707	ND	ND	ND	ND	ND	0.659	0.58	ND	ND	ND	ND	< 10	< 10	< 10	ND	ND
Sodium	50000	NLE	21500	12200	9990	99400	53200	37400	34300	21500	36400	83700	36200	45300	44400	739000	E 694000	E 679000	E 60400	16600	111000	119000	232000
Thallium	2	2	5.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 2	< 2	< 2	ND	ND
Vanadium	60	NLE	108	1.7	ND	2.13	0.971	3.3	2.28	1.22	1.09	1.64	1.57	ND	ND	ND	1.03	1.23	< 50	< 50	< 50	2.28	4.28
Zinc	2000	5000	233	48.2	57.3	147	97	59.8	59.1	33.5	151	91.7	59.9	38.1	39.3	1580	833	812	54.5	35.2	75	35.6	16.7

Notes:

Yellow highligted indicates an exceedence of NJDEP Class IIA GWQS

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Table 2
Historical Groundwater Analytical Results
Site FTMM-54
Fort Monmouth, New Jersey

				296MW04																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	48		49	50	51	52	53	54		55	56		57		58	58 Dup	59	60	46	47	47 Dup	48	49	50
Date Collected				8/13/2008		10/22/2008	3/26/2009	6/2/2009	9/17/2009	11/23/2009	2/2/2010		5/21/2010	9/13/2010		11/23/2010		2/24/2011	2/24/2011	4/21/2011	8/9/2011	3/4/2008	5/14/2008	5/14/2008	8/13/2008	10/22/2008	3/25/2009
ANALYTE/Lab ID																										
Volatile Organic Compounds (µg/L)																										
Acetone	6000	NLE	-	2.93		ND	ND	ND	ND	ND	ND		ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	ND		ND	0.39	0.38	ND	ND	0.27	J	ND	ND		ND		ND	ND	ND	ND	0.56	0.51	0.55	0.48	1.74	ND
Ethylbenzene	700	700	-	ND		ND	ND	ND	ND	ND	ND		ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	4.98	ND
m +*p* -xylenes	100	NLE	-	ND		ND	ND	ND	ND	ND	ND		ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	0.68	ND
MTBE	70	NLE	-	ND		ND	ND	ND	ND	ND	ND		ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o- xylene	100	NLE	-	ND		ND	ND	ND	ND	ND	ND		ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	1.24	ND
Toluene	600	1000	-	ND		ND	ND	ND	ND	ND	ND		ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND		ND	ND	ND	ND	ND	ND		ND	ND		ND		ND	ND	11	ND	ND	ND	ND	ND	11	ND
Metals (µg/L)																										
Aluminum	200	NLE	121000	ND		251	57	10.3	126	ND	441		511	ND		ND		< 200	< 200	653	< 200	76.3	146	142	391	126	70.6
Antimony	6	6	20.70	ND		ND	19.4	4.06	7.82	ND	ND		ND	40.1		ND		< 6	< 6	< 6	< 6	ND	ND	1.85	ND	ND	38.1
Arsenic	3	10	89.30	2.57		ND	67	20.3	28	1.76	1.48		13.59	13.46		ND		< 3	< 3	< 3	< 3	ND	ND	ND	2.51	ND	67.6
Barium	6000	2000	699.00	112		180	26.5	33.3	62.8	71.2	21.1		5.8	379		48.9		< 200	< 200	< 200	< 200	8.19	3.09	3.18	4.73	49.6	102
Beryllium	1	4	2.10	ND		ND	ND	ND	ND	ND	ND		0.048	ND		ND		< 1	< 1	< 1	< 1	ND	ND	ND	ND	ND	ND
Cadmium	4	5	9.50	0.94		0.725	ND	ND	ND	ND	ND		ND	2.63		0.789		< 3	< 3	< 3	< 3	ND	0.265	0.239	0.395	ND	ND
Calcium	NLE	NLE	45400.00	119000		190000	49300	46300	77800	10000	34200		12400	667000	E	66600		41700	56200	11900	131000	19900	7720	7620	10900	62600	182000
Chromium	70	100	191.00	ND		ND	1.38	ND	ND	ND	2.1		5.79	6.61		ND		< 10	< 10	< 10	< 10	0.587	1.04	1.42	4.35	ND	ND
Copper	1300	1300	65.60	ND		1.81	2.23	ND	ND	ND	ND		1.17	4.92		ND		< 10	< 10	< 10	< 10	2.35	7.03	7.33	3.06	0.959	ND
Iron	300	NLE	431000	9210		1.71	8810	8500	6390	15300	11500		3450	54100		13200		11000	8430	4000	14700	3050	1350	1320	3540	20600	56800
Lead	5	15	22.70	ND		16600	7.39	3.92	ND	ND	2.4		ND	7.24		ND		< 3	< 3	8.3	< 3	ND	ND	ND	ND	ND	7.43
Magnesium	NLE	NLE	62700	108000		251000	35000	38900	71900	99100	31300		6870	830000	E	82300		41700	44300	7140	191000	4550	1640	1620	3050	21900	59100
Manganese	50	NLE	331	166		225	173	189	342	484	182		49.7	1780		347		204	185	31.9	441	103	41.4	40.7	89.3	460	1560
Mercury	2	2	0.26	ND		ND	ND	ND	0.18	ND	ND		ND	0.11		ND		< 0.2	< 0.2	< 0.2	< 0.2	ND	ND	ND	ND	ND	ND
Nickel	100	NLE	187	2.01		1.69	ND	1.91	0.642	1.78	3.05		0.716	14		ND		< 10	< 10	< 10	< 10	5.33	1.48	1.56	1.56	ND	ND
Potassium	NLE	NLE	137000	25100		57500	6800	9610	17100	15100	10600		2930	148000		33400		11300	11400	< 10000	44000	1030	990	1560	1850	4920	7110
Selenium	40	50	29.60	10.6		ND	117	4.8	63.2	ND	ND		NR	4.72		ND		< 10	< 10	< 10	< 10	ND	3.13	ND	ND	ND	68.9
Silver	40	NLE	ND	0.662		ND	ND	ND	ND	ND	ND		0.733	ND		2.08		< 10	< 10	< 10	< 10	ND	ND	ND	1.08	ND	ND
Sodium	50000	NLE	21500	796000	E	1830000	272000	314000	483000	688000	268000		82400	5610000	E	814000	E	461000	472000	119000	1420000	58400	31200	31000	42200	4920	258000
Thallium	2	2	5.50	ND		ND	ND	ND	ND	ND	ND		ND	ND		ND		< 2	< 2	< 2	< 2	ND	ND	ND	ND	ND	ND
Vanadium	60	NLE	108	3.08		3.19	6.15	2.46	4.5	5.03	7.09		5.39	ND		2.12		< 50	< 50	< 50	< 50	2.06	2.28	2.38	8.35	3.27	7.68
Zinc	2000	5000	233	ND		55.6	19	9.49	12	9.38	39		12.7	3.82		ND		< 20	35.5	< 20	< 20	8.39	3.84	3.77	ND	5.37	16.6

Notes:

Yellow highligted indicates an exceedence of NJDEP Class IIA GWQS

TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

dup = duplicate sample collected

ER-Estimated result

J - Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA - Not analyzed

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NR - Not reported

Table 2
Historical Groundwater Analytical Results
Site FTMM-54
Fort Monmouth, New Jersey

				296MW06																		
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	51	52	53	54	55	56	57	58	59	59 Dup	60	46	47	48	49	50	51	52	52 Dup	53
Date Collected				6/2/2009	9/17/2009	11/23/2009	2/2/2010	5/21/2010	9/13/2010	11/24/2010	2/24/2011	4/21/2011	4/21/2011	8/9/2011	3/4/2008	5/14/2008	8/13/2008	10/22/2008	3/26/2009	6/2/2009	9/17/2009	9/17/2009	11/23/2009
ANALYTE/Lab ID																							
Volatile Organic Compounds (µg/L)																							
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	ND	ND	ND	ND	27.45	12.81	61.13	75.98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	-	ND	ND	ND	ND	2.94	1.25	7.5	7.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -xylenes	100	NLE	-	ND	ND	ND	ND	2.43	1.04	6.81	5.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	70	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o- xylene	100	NLE	-	ND	ND	ND	ND	1.24	0.66	3.72	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	ND	ND	ND	ND	ND	ND	0.58	0.53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	110	71	206	258	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																							
Aluminum	200	NLE	121000	237	226	240	150	58.9	327	ND	294	1880	1590	3050	165	63	104	145	175	271	225	263	109
Antimony	6	6	20.70	2.94	11	ND	ND	10.7	24.6	ND	< 6	< 6	< 6	< 6	ND	ND	ND	ND	21.2	2.3	ND	ND	ND
Arsenic	3	10	89.30	6.66	35.2	1.34	ND	22.9	2.38	4.06	< 3	< 3	< 3	4	ND	4.24	5.22	3.82	33.1	15.1	11.1	16.3	2.91
Barium	6000	2000	699.00	4.97	102	10	7.39	0.73	82.1	325	299	< 200	< 200	< 200	7.29	7.83	22.3	41.6	57.7	114	14.4	17.3	37.4
Beryllium	1	4	2.10	ND	ND	ND	ND	0.044	ND	ND	< 1	< 1	< 1	< 1	ND	0.132	ND	ND	ND	0.103	ND	ND	ND
Cadmium	4	5	9.50	ND	1.41	ND	ND	2.04	1.19	4.74	< 3	< 3	< 3	< 3	0.819	1	1.05	0.773	0.962	2.02	0.524	0.808	0.556
Calcium	NLE	NLE	45400.00	8800	150000	18400	16900	133000	147000	386000	360000	< 5000	7360	8080	12800	14000	12400	13600	15300	18900	19200	18200	31200
Chromium	70	100	191.00	2.24	1.13	3.21	ND	ND	ND	ND	< 10	23.2	19.4	43.5	1.35	1.24	0.973	ND	0.848	0.365	2.33	2.56	ND
Copper	1300	1300	65.60	17.6	4.17	ND	1.22	ND	6.8	ND	< 10	25.4	30.5	31.1	1.75	ND	ND	ND	ND	4.55	ND	ND	ND
Iron	300	NLE	431000	1740	49400	6130	4310	39700	41200	98500	111000	6360	25700	11100	6720	8850	7690	11200	25500	28300	7990	8730	13700
Lead	5	15	22.70	1.81	6.43	ND	ND	4.5	ND	12.1	< 3	< 3	< 3	3.5	ND	ND	ND	ND	8.39	1.56	ND	ND	ND
Magnesium	NLE	NLE	62700	2280	48700	5850	4630	47400	55800	145000	146000	< 5000	< 5000	< 5000	2690	3180	2450	2800	2960	2580	4680	4400	7370
Manganese	50	NLE	331	65.9	1310	151	137	1090	1240	2700	3130	28.1	63.8	70.4	101	79.8	49.8	62.1	72.8	92.8	83.2	79.9	128
Mercury	2	2	0.26	ND	0.39	0.06	ND	ND	0.08	ND	< 0.2	< 0.2	< 0.2	< 0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	NLE	187	2.44	1.68	1.21	2.66	ND	1.59	1.27	< 10	< 10	< 10	< 10	5.22	1.88	0.989	0.874	ND	1.14	0.925	1.41	3.12
Potassium	NLE	NLE	137000	903	11300	1500	3040	7090	10200	28200	16400	< 10000	< 10000	< 10000	5910	5860	7330	7690	6570	9340	8340	7860	8240
Selenium	40	50	29.60	ND	60.3	ND	ND	NR	1.98	ND	< 10	< 10	< 10	< 10	ND	ND	ND	ND	39.9	ND	13.4	ND	ND
Silver	40	NLE	ND	ND	ND	ND	ND	4.34	5.07	20.7	< 10	< 10	< 10	< 10	ND	ND	1.67	ND	ND	ND	ND	ND	ND
Sodium	50000	NLE	21500	46100	218000	48500	66800	232000	254000	697000	E 616000	28700	32400	55600	7820	13600	7520	10300	12200	5650	15400	13400	34100
Thallium	2	2	5.50	ND	ND	ND	ND	ND	ND	ND	< 2	< 2	< 2	< 2	ND	ND	ND	ND	ND	2.41	ND	ND	ND
Vanadium	60	NLE	108	6.43	9.85	5.14	2.28	ND	ND	1.09	< 50	< 50	< 50	< 50	0.626	1.09	1.31	ND	4.41	1.81	4.07	3.64	3.02
Zinc	2000	5000	233	5.24	ND	ND	2.39	ND	ND	ND	< 20	26	27.6	< 20	61.8	26.5	12.5	44.9	85.5	178	58.5	56.7	84.7

Notes:

Yellow highligted indicates an exceedence of NJDEP Class IIA GWQS

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J - Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA - Not analyzed

ND - Not detected

NLE - No limit established

NR - Not reported

Table 2
Historical Groundwater Analytical Results
Site FTMM-54
Fort Monmouth, New Jersey

				296MW07												296MW08										
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	53 Dup	54	54 Dup	55	56	56 Dup	57	58	59	59 Dup	60	46	47	48	49	50	51	52	53	54	55
Date Collected				11/23/2009	2/2/2010	2/2/2010	5/20/2010	9/13/2010	9/13/2010	11/22/2010	2/24/2011	4/19/2011	4/19/2011	8/9/2011	3/4/2008	5/14/2008	8/13/2008	10/22/2008	3/26/2009	6/2/2009	9/17/2009	11/23/2009	2/2/2010	5/21/2010
ANALYTE/Lab ID																								
Volatile Organic Compounds (µg/L)																								
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m +*p* -xylenes	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	70	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	0.21 J	0.2 J	ND	1.24	ND	ND	ND	ND	0.45	ND	ND	ND	0.81
o- xylene	100	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																								
Aluminum	200	NLE	121000	118	382	409	48.4	45.8	46.5	14.8	< 200	315	306	902	419	88.1	ND	273	372	399	1040	452	1230	998
Antimony	6	6	20.70	ND	ND	ND	ND	ND	37.5	ND	< 6	< 6	< 6	< 6	ND	ND	ND	3.06	25	2.53	ND	ND	ND	10
Arsenic	3	10	89.30	3.28	2.61	2.69	3.01	2.29	2.68	1.52	< 3	< 3	< 3	7.2	18.7	48.8	135	42.3	54.3	57.1	81.1	23.8	22.53	8.84
Barium	6000	2000	699.00	36.7	24.8	29	7.47	7.79	7.6	5.78	< 200	< 200	< 200	< 200	56.3	40.6	23.7	30.9	56.2	64.5	63.5	53	107	133
Beryllium	1	4	2.10	ND	ND	ND	ND	ND	ND	ND	< 1	< 1	< 1	< 1	0.109	0.193	ND	ND	ND	0.178	0.083	0.051	0.11	0.297
Cadmium	4	5	9.50	ND	ND	ND	ND	ND	ND	ND	< 3	< 3	< 3	< 3	1.01	10.1	14.2	ND	ND	1.03	3.88		2.57	4.02
Calcium	NLE	NLE	45400.00	33000	14100	14200	14500	12900	13100	15200	13900	30300	29900	13500	35800	29100	27300	19800	27200	30400	27900	23600	41300	44700
Chromium	70	100	191.00	ND	3.2	3.58	ND	ND	ND	ND	< 10	< 10	< 10	< 10	ND	ND	ND	ND	ND	ND	2.63	ND	ND	ND
Copper	1300	1300	65.60	ND	ND	ND	1.52	1.11	1.44	3.95	< 10	< 10	< 10	< 10	2.08	ND	ND	2.35	ND	0.921	ND	ND	ND	ND
Iron	300	NLE	431000	14100	10600	11700	2950	4180	4040	2200	6830	5450	6840	47100	96700	96700	124000	77100	47400	60200	83600	53400	59300	31700
Lead	5	15	22.70	ND	ND	ND	ND	ND	ND	ND	< 3	< 3	< 3	< 3	ND	11.8	11.9	ND	13.2	4.25	10	6.1	8.58	
Magnesium	NLE	NLE	62700	7730	3130	3120	3520	2830	2870	3390	< 5000	8750	8690	< 5000	25400	18700	15600	14300	20400	21000	20000	17500	31900	37700
Manganese	50	NLE	331	134	69.6	68.1	46.7	51.9	53.5	50.4	47.1	93.8	91.7	67	302	285	289	167	196	234	254	185	293	316
Mercury	2	2	0.26	ND	ND	0.09	ND	0.08	ND	ND	< 0.2	< 0.2	< 0.2	< 0.2	ND	ND	ND	ND	ND	ND	0.09	ND	ND	ND
Nickel	100	NLE	187	3.5	3.01	2.72	0.61	1.78	1.23	1.31	< 10	< 10	< 10	< 10	19.6	11.2	7.24	8.24	17.2	22.6	16.7	15.3	38.4	46.7
Potassium	NLE	NLE	137000	8460	7720	7880	6590	7460	7580	8050	< 10000	< 10000	< 10000	< 10000	3540	4180	3980	4040	3790	4530	5650	4170	7390	5670
Selenium	40	50	29.60	ND	ND	ND	NR	1.57	1.37	ND	< 10	< 10	< 10	< 10	ND	ND	ND	ND	45.1	4.46	ND	ND	ND	NR
Silver	40	NLE	ND	ND	ND	ND	ND	1.7	1.57	ND	< 10	< 10	< 10	< 10	ND	9.67	18.5	ND	ND	ND	ND	ND	ND	4.73
Sodium	50000	NLE	21500	34900	23400	22200	21200	8110	7720	15700	28800	105000	103000	10800	168000	148000	157000	119000	129000	127000	148000	121000	148000	136000
Thallium	2	2	5.50	ND	ND	ND	ND	ND	ND	ND	< 2	< 2	< 2	< 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	60	NLE	108	3	3.99	3.69	1.11	0.64	0.673	1.28	< 50	< 50	< 50	< 50	ND	0.348	0.525	0.261	5.24	0.683	13.2	9.72	11.1	ND
Zinc	2000	5000	233	90.1	36.9	372	55.2	24.5	24.9	44.1	71.5	177	182	115	122	69.1	17.4	58.1	128	121	122	99.4	232	262

Notes:

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Table 2
Historical Groundwater Analytical Results
Site FTMM-54
Fort Monmouth, New Jersey

Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	56		57	57 Dup	58		59	60
Date Collected				9/13/2010		11/23/2010	11/23/2010	2/24/2011		4/19/2011	8/9/2011
ANALYTE/Lab ID											
Volatile Organic Compounds (µg/L)											
Acetone	6000	NLE	-	ND		ND	ND	ND		ND	ND
Benzene	1	5	-	ND		ND	ND	ND		ND	ND
Ethylbenzene	700	700	-	ND		ND	ND	ND		ND	ND
m +*p* -xylenes	100	NLE	-	ND		ND	ND	ND		ND	ND
MTBE	70	NLE	-	0.46	J	ND	ND	0.39	J	0.79	ND
o- xylene	100	NLE	-	ND		ND	ND	ND		ND	ND
Toluene	600	1000	-	ND		ND	ND	ND		ND	ND
TICs*	500	NLE	-	ND		49	48	7		ND	ND
Metals (µg/L)											
Aluminum	200	NLE	121000	567		286	322	1140		1330	648
Antimony	6	6	20.70	9.95		ND	ND	< 6		< 6	< 6
Arsenic	3	10	89.30	19.4		9.18	9.54	6.1		3.4	97.1
Barium	6000	2000	699.00	73.2		38.5	40	< 200		< 200	< 200
Beryllium	1	4	2.10	0.181		ND	ND	< 1		< 1	< 1
Cadmium	4	5	9.50	3.1		2.65	2.95	< 3		< 3	3
Calcium	NLE	NLE	45400.00	25700		17600	18000	41800		46000	48000
Chromium	70	100	191.00	ND		1.28	1.18	< 10		< 10	< 10
Copper	1300	1300	65.60	4.02		ND	ND	< 10		< 10	< 10
Iron	300	NLE	431000	56600		45100	46100	24900		25700	158000
Lead	5	15	22.70	3.38		8.27	6.51	< 3		< 3	< 3
Magnesium	NLE	NLE	62700	20000		12200	12600	35100		38700	28500
Manganese	50	NLE	331	215		150	154	329		357	556
Mercury	2	2	0.26	0.11		ND	ND	< 0.2		< 0.2	< 0.2
Nickel	100	NLE	187	20.6		12.5	12.5	49.2		56.6	24
Potassium	NLE	NLE	137000	5540		6120	5770	< 10000		< 10000	< 10000
Selenium	40	50	29.60	1.57		ND	ND	< 10		< 10	< 10
Silver	40	NLE	ND	8.12		9.61	9.35	< 10		< 10	< 10
Sodium	50000	NLE	21500	131000		105000	107000	135000		124000	300000
Thallium	2	2	5.50	ND		ND	ND	< 2		< 2	< 2
Vanadium	60	NLE	108	ND		0.78	1.14	< 50		< 50	< 50
Zinc	2000	5000	233	122		71.4	73.6	309		390	183

Notes:

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Table 3
2013 Baseline Groundwater Analytical Detection
Site FTMM-54
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-54-GW-296MW01		FTMM-54-GW-296MW02		FTMM-54-GW-296MW03		FTMM-54-GW-296MW04	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	16-Aug-2013		19-Aug-2013		19-Aug-2013		20-Aug-2013	
LAB SAMPLE ID:						R1306020-012		R1306029-014		R1306029-005		R1306058-009	
SAMPLE INTERVAL (ft bgs):						2-15		2-12		2-12		0-10	
	CAS No.	Unit											
Volatile Organics - SW8260C													
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	--	1.0	UJ	**1.8**	J	1.0	U	1.0	UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	--	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	--	5.0	UJ	**5.9**	B	5.0	U	5.0	UJ
Benzene	71-43-2	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	--	1.0	U	1.0	U	1.0	U	1.0	UJ
Bromomethane	74-83-9	µg/L	10	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	--	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	--	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	--	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detection
Site FTMM-54
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-54-GW-296MW01		FTMM-54-GW-296MW02		FTMM-54-GW-296MW03		FTMM-54-GW-296MW04	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	16-Aug-2013		19-Aug-2013		19-Aug-2013		20-Aug-2013	
LAB SAMPLE ID:						R1306020-012		R1306029-014		R1306029-005		R1306058-009	
SAMPLE INTERVAL (ft bgs):						2-15		2-12		2-12		0-10	
	CAS No.	Unit											
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	--	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	--	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	--	3.0	U	3.0	U	3.0	U	3.0	U
VOC - TICs					--								
Indane	496-11-7	µg/L	500 [5]	NLE	--								
Metals - SW6010C													
Lead	7439-92-1	µg/L	5	15 [6]	22.70	2.0	U	2.0	U	2.0	U	2.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
B - The analyte was found in an associated blank at concentration above one half the LOQ, as well as in the sample.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
[6] Value is the USEPA Action Level.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detection
Site FTMM-54
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALU		FTMM-54-GW-296MW06		FTMM-54-GW-296MW106*		FTMM-54-GW-296MW07		FTMM-54-GW-296MW08	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013		19-Aug-2013		19-Aug-2013		19-Aug-2013	
LAB SAMPLE ID:					R1306029-006		R1306029-007		R1306029-015		R1306029-016	
SAMPLE INTERVAL (ft bgs):					2-12		2-12		2-12		2-12	
	CAS No.	Unit										
Volatile Organics - SW8260C												
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	**0.20**	J	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	**0.23**	J
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.2**	BJ	**2.4**	BJ	**2.1**	BJ	**4.9**	BJ
Benzene	71-43-2	µg/L	1	5	**11**		**12**		1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	**0.72**	J	**0.72**	J	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	**0.80**	J	**0.85**	J	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	**1.1**	BJ	**1.1**	BJ	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	**0.27**	J	**0.26**	J	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detection
Site FTMM-54
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALU		FTMM-54-GW-296MW06		FTMM-54-GW-296MW106*		FTMM-54-GW-296MW07		FTMM-54-GW-296MW08	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013		19-Aug-2013		19-Aug-2013		19-Aug-2013	
LAB SAMPLE ID:					R1306029-006		R1306029-007		R1306029-015		R1306029-016	
SAMPLE INTERVAL (ft bgs):					2-12		2-12		2-12		2-12	
	CAS No.	Unit										
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	**0.70**	J	**0.74**	J	3.0	U	3.0	U
VOC - TICs												
Indane	496-11-7	µg/L	500 [5]	NLE	**23.9**	JN	**24.3**	JN				
Metals - SW6010C												
Lead	7439-92-1	µg/L	5	15 [6]	2.0	U	2.0	U	2.0	U	2.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
B - The analyte was found in an associated blank at concentration above one half the LOQ, as well as in the sample.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
[6] Value is the USEPA Action Level.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-54
Fort Monmouth, New Jersey

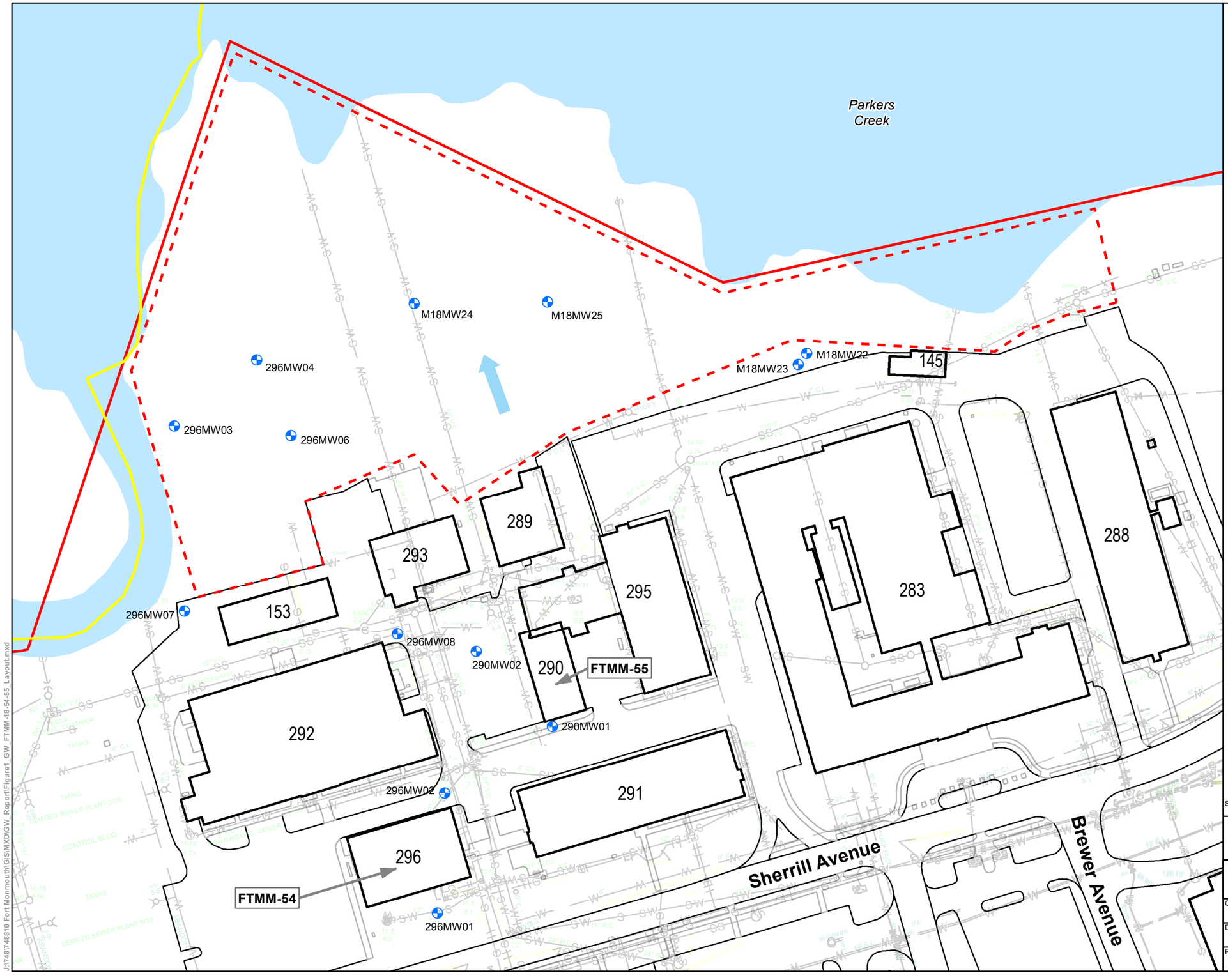
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes?		
M-54, B296									
296MW01	VOC/Pb	Al, Fe, Mn	Al	NO	NO	Yes	NO	NO	Al is a background analyte and not from historical site uses.
296MW02		Al, Fe, Pb, Mn, Na, Zn	Al, Na, Zn	NO	NO	Yes	NO	NO	Al, Na, and Zn are background analytes and not from historical site uses.
296MW03		Al, Sb, Cd, Fe, Mn, Na	Al, Cd, Na	NO	NO	Yes	NO	NO	Al, Na, and Cd are background analytes and not from historical site uses.
296MW04		Al, Fe, Pb, Mn, Na	Al, Mn, Na	NO	NO	Yes	NO	Yes	Analyzed for benzene as a downgradient delineation point.
296MW06		Benzene, Al, As, Cd, Fe, Pb, Mn, Na	Benzene, Al, Mn, Na	NO	NO	Yes	NO	Yes	Benzene exceedance. Discontinue metals. Al, Na, and Mn are background analytes and not from historical site uses.
296MW07		Al, As, Fe, Mn, Na	Al, Na	NO	NO	Yes	NO	NO	Al and Na are background analytes and not from historical site uses.
296MW08		Al, As, Fe, Pb, Mn, Na	Al, Mn, Na	NO	NO	Yes	NO	NO	Al, Na, and Mn are background analytes and not from historical site uses.

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds ?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-18, FTMM-54 (Building 296) & FTMM-55 (Building 290)



Legend

- Shallow Monitoring Well
- M-18 Landfill Boundary
- Municipal Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 90 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-18, FTMM-54 (Building 296) & FTMM-55 (Building 290)

CREATED BY: TS	REVIEWED BY: IG
DATE: January 2014	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-18-54-55_Layout.mxd

J:\748748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-18-54-55_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296 MW 01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-16-13
AOC # (AREA): ~~54~~ M-54 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: Geoteck bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0-0
SCREENED INTERVAL (TOC): 4 - 17
WELL DEPTH (TOC): 16.97
PUMP INTAKE DEPTH (ft below TOC): ~~10.5~~ 13.3
FEET OF WATER IN WELL: 7.39
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.58

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
14:15	X		5.85	NA	0.392	NA	34	NA	1.66	NA	12.1	NA	20.65	NA	100	9.58
14:20	X		5.57	-0.28	0.371	-0.021	41	+7	1.11	-0.55	7.9	-4.2	19.34	-1.31	100	9.65
14:25	X		5.51	-0.06	0.356	-0.015	53	+12	0.77	-0.34	5.2	-2.7	18.65	-0.69	100	9.67
14:30	X		5.49	~~-0.02~~	0.346	-0.010	61	+8	0.60	-0.17	3.9	-1.3	18.52	-0.13	100	9.69
14:35	X		5.47	-0.02	0.344	-0.002	67	+6	0.55	-0.05	3.5	-0.4	18.57	+0.05	100	9.69
14:40	X		5.46	-0.01	0.342	-0.002	77	+10	0.47	-0.08	2.7	-0.8	18.44	-0.13	100	9.69
14:45	X		5.45	-0.01	0.341	-0.001	81	+4	0.47	0.0	2.6	-0.1	18.40	-0.04	100	9.69
14:50	X		5.43	-0.02	0.340	-0.001	87	+6	0.43	-0.04	2.6	0.0	18.39	-0.01	100	9.69
14:52		X	5.42	-0.01	0.339	-0.001	90	+3	0.43	0.0	2.6	0.0	18.37	-0.02	100	9.69

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-54-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW01

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech Bladder Pump

SAMPLE NUMBER: FTMM-54-GW-296MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOA+TICs	14:52	40 mL Vials	clr	clr	
Pb	14:52	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Used carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296 MW 02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-19-2013
AOC # (AREA): 54
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech bladder pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 2-12.5'
WELL DEPTH (TOC): 11.43
PUMP INTAKE DEPTH (ft below TOC): 7.8
FEET OF WATER IN WELL: 7.27
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.16

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:20	X		5.89	NA	2.079	NA	58.2	NA	2.26	NA	2.8	NA	24.56	NA	100	4.10
11:25	X		5.84	-0.05	2.042	-0.037	62.5	+4.3	1.94	-0.32	1.2	-1.6	24.25	-0.31	100	4.60
11:30	X		5.71	-0.13	2.037	-0.005	69.2	+6.7	1.32	-0.62	0.5	-0.7	23.95	-0.30	100	5.00
11:35	X		5.71	0.0	2.037	0.0	72.8	+3.6	1.75	+0.43	0.5	0.0	24.05	+0.10	100	5.35
11:40	X		5.72	+0.01	2.033	-0.004	73.7	+0.9	2.25	+0.50	0.4	-0.1	24.14	+0.09	100	5.70
11:45	X		5.73	+0.01	2.017	-0.016	69.2	-4.5	2.45	+0.20	0.6	+0.2	24.49	+0.35	100	5.99
11:50	X		5.75	+0.02	1.998	-0.019	65.1	-4.1	2.97	+0.52	0.9	+0.3	24.62	+0.13	100	6.35
11:55	X		5.79	+0.04	1.940	-0.058	54.8	-10.3	4.31	+1.34	1.4	+0.5	24.72	+0.10	100	6.52
12:00	X		5.83	+0.04	1.900	-0.040	46.6	-8.2	6.10	+1.79	1.7	+0.3	24.87	+0.15	100	6.80
12:05	X		5.84	+0.01	1.867	-0.033	42.5	-4.1	4.49	-1.61	3.0	+1.3	25.19	+0.32	100	6.95
12:10	X		5.88	+0.04	1.848	-0.019	39.5	-3.0	4.64	+0.15	2.9	-0.1	25.20	+0.01	100	7.00
12:15	X		5.90	+0.02	1.831	-0.017	38.7	-0.8	4.80	+0.16	2.8	-0.1	25.32	+0.12	100	7.10
~~12:18~~ SAMPLED		X	5.90	0.0	1.826	-0.005	38.0	-0.7	4.75	-0.05	2.9	+0.1	25.35	+0.03	100	7.15

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-54-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #** 296MW02

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs	12:18	40 mL vials	clr	clr	
Pb	12:18	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296 MW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-54
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: ~~Mutt~~ MiniRae

DATE: 8/20/13
LABORATORY:

SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)
WELL DEPTH (TOC): 12.24
FEET OF WATER IN WELL: 10.12

SCREENED INTERVAL (TOC): 2.24 - 12.24
PUMP INTAKE DEPTH (ft below TOC): 7.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 2.12

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1115	Y		6.53	NA	4.413	NA	-7.0	NA	1.86	NA	2.9	NA	22.39	NA	150	2.34
1120	Y		6.28	0.25	4.363	0.050	-2.9	4.1	1.28	0.58	2.0	0.9	20.99	1.40	150	2.34
1125	Y		6.21	0.07	4.372	0.011	-5.3	2.4	1.24	0.04	0.8	1.2	20.20	0.79	150	2.35
11:30	Y		6.22	0.01	4.414	0.042	-7.6	2.3	1.31	0.07	0.7	0.1	20.66	0.46	150	2.35
11:35	Y		6.23	0.01	4.444	0.030	-6.6	1	1.29	0.02	0.6	0.1	20.68	0.02	150	2.36
11:40	Y	X	6.23	0	4.464	0.020	-6.0	0.6	1.27	0.02	0.7	0.1	21.08	0.40	150	2.36

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW04

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: FTMM-SY-GW-296MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Metals	1140	(1) 500 mL (HNO3)	clear	0.7	
VOC's	"	(3) 40mL (HCl)	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket - No waste

Date: 8/20/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW06

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): M-54
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: miniRAE

DATE: 8/19/13
LABORATORY:

SAMPLING PERSONNEL
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): ~ 0.0 (JC)
WELL DEPTH (TOC): 15.30
FEET OF WATER IN WELL: 10.1
SCREENED INTERVAL (TOC): 5.5 - 15.5
PUMP INTAKE DEPTH (ft below TOC): ~10
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.2

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1435	X		6.49	NA	4.044	NA	-63.3	NA	2.56	NA	21.3	NA	22.11	NA	200	5.21
1440	X		6.30	0.19	3.949	0.095	-71.5	8.2	2.23	0.33	18.0	3.3	20.90	1.21	200	5.25
1445	X		6.29	0.01	3.929	0.020	-72.0	0.5	1.31	0.92	16.9	1.1	20.87	0.03	200	5.25
1450	X		6.26	0.03	3.834	0.095	-76.9	4.9	1.32	0.07	13.1	3.8	20.27	0.6	200	5.25
1455	X		6.25	0.01	3.836	0.002	-76.6	0.3	1.40	0.02	12.2	0.9	20.17	0.10	200	5.25
1500	X		6.25	0	3.859	0.023	-76.9	0.3	1.42	0.02	12.4	0.2	20.14	0.03	200	5.25
1505	X		6.24	0.01	3.866	0.007	-77	0.1	1.51	0.09	9.9	2.5	20.15	0.01	200	5.25
1510	X		6.24	0	3.878	0.012	-78.2	1.2	1.53	0.02	9.6	0.3	20.21	0.6	200	5.25
1515	X	X	6.24	0	3.881	0.003	-78.3	0.1	1.53	0	9.8	0.2	20.22	0.01	200	5.25

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW06

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: ftmm54-GW-296MW06 1515

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC's	1515	40ml (3) HCL	Clear	9.8	
lead	"	250ml (1) HNO3	"	"	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name: ftmm54-GW-296MW106

QA\QC RINSATE SAMPLE NAME: ---

MATRIX SPIKE SAMPLE COLLECTED: YES or ~~NO~~ (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 2/19/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/19/13
AOC # (AREA): M-54
LABORATORY: ALS
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: ~~N/A~~ MiniRAE (JC)
SAMPLING PERSONNEL
NAME: Alex D. Torres
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): — 0.0 (JC)
SCREENED INTERVAL (TOC): 4.65 - 16.54
WELL DEPTH (TOC): 16.54
PUMP INTAKE DEPTH (ft below TOC): 11.48
FEET OF WATER IN WELL: 10.13
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.41

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1401	X		4.52	NA	2.017	NA	203.8	NA	4.22	NA	3.0	NA	17.87	NA	225	6.58
1406	X		4.34	0.18	2.029	0.012	243.0	39.2	3.34	0.88	2.1	0.9	17.63	0.24	225	6.58
1411	X		4.32	0.02	2.025	0.004	269.5	26.5	2.36	0.98	2.5	0.4	17.75	0.12	225	6.58
1416	X		4.31	0.01	2.018	0.007	291.8	22.3	1.98	0.38	2.0	0.5	18.01	0.26	225	6.58
1421	X		4.31	0.0	1.994	0.024	305.7	13.9	1.96	0.02	1.7	0.3	18.28	0.27	225	6.58
1426	X		4.32	0.01	1.947	0.047	312.7	7.0	1.79	0.17	1.2	0.5	18.43	0.15	225	6.58
1431	X		4.32	0.0	1.904	0.043	317.1	4.4	1.82	0.03	0.9	0.3	18.39	0.04	225	6.58
1436	X		4.31	0.01	1.886	0.018	323.6	6.5	1.83	0.01	0.5	0.4	18.46	0.07	225	6.58
1441	X		4.31	0.0	1.899	0.013	327.4	3.8	1.84	0.01	0.3	0.2	18.73	0.27	225	6.58
1446	X		4.30	0.0	1.909	0.010	336.5	9.1	1.76	0.08	0.2	0.1	18.72	0.01	225	6.58
1451	X		4.29	0.01	1.916	0.007	341.3	4.8	1.79	0.03	0.2	0.0	18.74	0.02	225	6.58
1456		X	4.30	0.01	1.926	0.010	345.3	4.0	1.74	0.05	0.2	0.0	18.72	0.02	225	6.58

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW03

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech Bladder pump

SAMPLE NUMBER: FTMM-54-GW-296MW03

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs+TICs	1456	3) VOA's w/HCL	clear	0.2	
[redacted]	↓	[redacted]	↓	↓	
Lead	↓	1) 250mL Poly w/ HNO3	↓	↓	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME: FTMM-54-GW-296MW03

MATRIX SPIKE SAMPLE COLLECTED: (YES) or NO

FTMM-54-GW-296MW03-MS ; FTMM-54-GW-296MW03-MSD

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transferred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW07

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-19-2013
AOC # (AREA): 54
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Bruhs
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 2 - 12.5
WELL DEPTH (TOC): 12.21
PUMP INTAKE DEPTH (ft below TOC): 8.63'
FEET OF WATER IN WELL: 7.16
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.05

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:15	X		5.77	NA	0.244	NA	18.3	NA	1.52	NA	9.1	NA	22.10	NA	100	5.05
9:20	X		5.76	-0.01	0.245	+0.001	9.2	-9.1	0.93	-0.59	7.2	-1.9	22.19	+0.09	100	5.16
9:25	X		5.75	-0.01	0.246	+0.001	0.9	-8.3	0.53	-0.40	4.9	-2.3	22.27	+0.08	100	5.34
9:30	X		5.75	0.0	0.246	0.0	-0.6	-1.5	0.49	-0.04	4.2	-0.7	22.38	+0.11	100	5.34
9:35	X		5.75	0.0	0.259	+0.013	-3.0	-2.4	0.44	-0.05	3.4	-0.8	22.71	+0.33	100	5.34
9:40	X		5.74	-0.01	0.270	+0.011	-3.3	-0.3	0.44	0.0	0.6	-2.8	22.90	+0.19	100	5.34
9:45	X		5.73	-0.01	0.282	+0.012	-5.1	-1.8	0.42	-0.02	0.6	0.0	23.17	+0.27	100	5.34
9:50	X		5.71	-0.02	0.296	+0.014	6.9	+12	0.41	-0.01	0.6	0.0	23.30	+0.13	100	5.34
9:55	X		5.71	0.0	0.310	+0.014	-1.1	-8	0.41	0.0	0.6	0.0	23.31	+0.01	100	5.34
10:00	X		5.69	-0.01	0.323	+0.013	-2.7	-1.6	0.40	-0.01	0.7	+0.1	23.21	-0.10	100	5.34
10:05	X		5.69	0.0	0.335	+0.012	-3.3	-0.6	0.39	-0.01	0.8	+0.1	23.14	-0.07	100	5.34
10:10	X		5.68	-0.01	0.343	+0.008	-3.8	-0.5	0.39	0.0	1.2	+0.4	23.21	+0.07	100	5.34

COMMENTS: ~~Pump intake~~ continued

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-54-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW07

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech Bladder Pump

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC+TICs	10:54	40mL vials	clr	clr	
Pb	10:54	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW07 cont.1

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-19-13
AOC # (AREA): 54
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech bladder pump
SAMPLING PERSONNEL
PID DETECTOR:
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):
WELL DEPTH (TOC): See other page
FEET OF WATER IN WELL:
SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): See other page
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:15	X		5.67	NA	0.354	NA	-4.0	NA	0.39	NA	2.0	NA	23.20	NA	100	5.34
10:20	X		5.66	-0.01	0.362	+0.008	-5.9	-1.9	0.38	-0.01	1.9	-0.1	23.24	+0.04	100	5.34
10:25	X		5.66	0.0	0.370	+0.008	-4.1	+1.8	0.38	0.0	1.8	-0.1	23.33	+0.09	100	5.34
10:30	X		5.66	0.0	0.376	+0.006	-3.0	+1.1	0.38	0.0	1.8	0.0	23.46	+0.13	100	5.34
10:35	X		5.66	0.0	0.382	+0.006	-0.9	+2.1	0.38	0.0	1.7	-0.1	23.63	+0.17	100	5.34
10:40	X		5.64	-0.02	0.393	+0.011	0.9	0.0	0.38	0.0	1.7	0.0	23.49	-0.14	100	5.34
10:45	X		5.64	0.0	0.398	+0.005	0.5	+0.4	0.37	-0.01	1.6	-0.1	23.40	-0.09	100	5.34
10:50	X		5.63	-0.01	0.401	+0.003	2.2	+1.7	0.38	+0.01	1.6	0.0	23.59	+0.19	100	5.34
10:54		X	5.63	0.0	0.402	+0.001	2.4	+0.2	0.37	-0.01	1.6	0.0	23.65	+0.06	100	5.34

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM -54-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW07

SAMPLING INFORMATION

SAMPLING DEVICE: Geo tech bladder Pump

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs	10:54	40 mL vials	clr	clr	
Pb	10:54	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296 MW 08

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-19-13
AOC # (AREA): 54
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: MiniRAE (JC)
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): ~~10.5~~ 2-12.5
WELL DEPTH (TOC): 10.63
PUMP INTAKE DEPTH (ft below TOC): 7.17
FEET OF WATER IN WELL: 6.93
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.70

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:30	X		5.92	NA	2.177	NA	-50.0	NA	2.18	NA	7.9	NA	25.29	NA	100	3.70
9:35	X		5.82	-0.10	2.128	-0.049	-36.2	+13.8	1.56	-0.62	4.2	-3.7	25.17	-0.12	100	3.82
9:40	X		5.79	-0.03	2.108	-0.020	-30.0	+6.2	1.12	-0.44	3.5	-0.7	25.17	0.0	100	3.82
9:45	X		5.74	-0.05	2.084	-0.024	-20.1	+9.9	1.12	0.0	0.7	-2.8	25.18	+0.01	100	3.82
9:50	X		5.72	-0.02	2.068	-0.016	-12.3	+7.8	0.93	-0.19	0.5	-0.2	25.25	+0.07	100	3.82
9:55	X		5.69	-0.03	2.053	-0.015	-5.6	+6.7	1.01	+0.08	0.0	-0.5	25.11	-0.14	100	3.82
10:00	X		5.68	-0.01	2.045	-0.008	0.5	+6.1	0.94	-0.07	0.0	0.0	24.99	-0.12	100	3.82
10:05	X		5.66	-0.02	2.032	-0.013	0.6	+0.1	0.98	+0.04	0.0	0.0	24.93	-0.06	100	3.82
10:09		X	5.66	0.0	2.030	-0.002	0.6	0.0	0.98	0.0	0.0	0.0	24.92	-0.01	100	3.82

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-54-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 296MW08

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC + SIM	10:09	40 mL vials	clr	clr	
Pb	10:09	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX M: FTMM-55 Building 290

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LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-55 GROUNDWATER MONITORING

Groundwater sampling was conducted at one monitoring well, 290MW01, located at FTMM-55 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to water and sample collection using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted on August 16, 2013. The groundwater sample was analyzed for lead via United States Environmental Protection Agency (USEPA) Method SW6010C. The monitoring well location as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which volatile organic compounds (VOCs) were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring well 290MW01, located within FTMM-55 was gauged on August 8, 2013. The groundwater elevation was found to be 4.89 feet above mean sea level (amsl). Groundwater is expected to flow north-northwest in the Site vicinity based on groundwater elevations collected from wells proximal to FTMM-55 (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging carried out at FTMM-55, the condition of the monitoring well was also assessed. FTMM-55 monitoring well, 290MW01 was found to be in good physical condition and contained pump tubing.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From June 1997 through November 2004, FTMM-55 monitoring wells (290MW01, 290MW02) were sampled for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. From January 2005 to April 2006 FTMM-55 wells were sampled for VOCs and metals. In August 2006, 290MW02 was damaged and sampling was discontinued at this location. Groundwater sampling for VOCs and metals continued from August 2006 to September 2009 in monitoring well 290MW01.

In the last four rounds of quarterly groundwater sampling conducted at FTMM-55 from November 2009 to September 2010, samples were submitted for VOCs and metals. Within the last four rounds of groundwater sampling at FTMM-55, arsenic and lead were detected above their respective NJDEP Groundwater Quality Standard (GWQS) in monitoring well 290MW01. However, these concentrations were below the background groundwater concentrations established in the 1995 Weston Report.

No VOCs were detected in exceedance of any NJDEP GWQS within the last four rounds of groundwater sampling. Historical groundwater analytical results are presented in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Lead was detected at a concentration of 5.3 µg/L in 290MW01, in exceedance of its NJDEP GWQS of 5 µg/L. However, this concentration is below the background concentration (Weston 1995) for lead of 22.7 µg/L. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Groundwater analytical results for metals were not detected above background concentrations (Weston 1995) during the August 2013 Baseline Groundwater Sampling Event or within the last four rounds of historical groundwater sampling. Additionally, no VOCs were detected in monitoring well 290MW01 within the last four rounds of historical groundwater sampling. Therefore, it is recommended that groundwater monitoring be discontinued at FTMM-55. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-55
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-55, B290															
290MW01	29-30961	540254.283	618641.322	12.50	10.50	2-12.5	12.83	8-8-13	1542	0.0	7.94	15.91	4.89	8/16/2013	1310

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-55
Fort Monmouth, New Jersey

				290MW01																
Round No.	**NJDEP Class IIA GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	46	47	48	49	50	51	52	53	54	55	55 Dup	56	56 Dup	57	58	59	60	60 Dup
Date Collected				3/4/2008	5/14/2008	8/13/2008	10/24/2008	3/26/2009	6/2/2009	9/17/2009	11/23/2009	2/2/2010	5/10/2010	5/10/2010	9/10/2010	9/10/2010	11/12/2010	2/24/2011	4/19/2011	8/10/2011	8/10/2011
ANALYTE / Lab ID				80066.01	80163.01	80297.01	80388.01	90123.01	90218.01	90386.01	90457.01	10047.01	10182.04	10182.03	10383.04	10383.03	1048501	1106901	1115501	1133201	
Volatile Organic Compounds (µg/L)																					
Acetone	6000	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p-Xylenes	1,000	10,000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	1,000	10,000	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	NLE	NLE	-	5	ND	5	ND	ND	ND	ND	ND	4	3	3	7	0	ND	ND	5	ND	ND
Metals (µg/L)																					
Antimony	6	6	20.70	ND	ND	ND	ND	34.7	ND	ND	ND	8.36 ER	8.50 ER	9.59 ER	7.51 ER	8.30 ER	ND	< 6	< 6	< 6	< 6
Arsenic	3	10	89.30	ND	ND	2.62 ER	ND	123	13.9	20.9	3.20 ER	2.96 ER	1.21 ER	1.22 ER	2.78 ER	3.15 ER	2.98	< 3	< 3	13.2	14.5
Barium	6000	2000	699.00	39.6	26	11.6	49.2	335	13.9	21.5	11.9	46.4	59.8	56.1	31	27.5	13.9	< 200	< 200	< 200	< 200
Beryllium	1	4	2.10	ND	0.152 ER	ND	0.375 ER	ND	ND	0.183 ER	ND	ND	0.109 ER	0.121 ER	0.081 ER	0.092 ER	0.429	< 1	< 1	< 1	< 1
Cadmium	4	5	9.50	1.04 ER	1.00 ER	0.498 ER	0.849 ER	6.68	ND	ND	ND	0.634 ER	0.910 ER	0.780 ER	0.868 ER	0.857 ER	1.16	< 3	< 3	< 3	< 3
Chromium	70	100	65.60	ND	0.789 ER	5.09	ND	ND	1.43 ER	22.4	2.27 ER	ND	ND	ND	ND	ND	32.4	< 10	< 10	11.4	10.6
Copper	1300	1300	191.00	6.67	13.6	12	43.1	41.2	5.85	18.1	6.44	4.12 ER	9.3	8.72	8.96	9.02	19.7	54.9	10.7	15.3	15.2
Lead	5	15	22.70	ND	4.39 ER	ND	24.3	7.79	3.28 ER	15.2	2.95 ER	ND	ND	ND	ND	2.48 ER	13.5	4.3	< 3	10.1	10.2
Mercury	2	2	0.26	ND	ND	ND	ND	ND	ND	ND	0.07 ER	ND	0.120 ER	0.140 ER	ND	ND	ND	< 0.2	< 0.2	< 0.2	< 0.2
Nickel	100	NLE	187	10.3	3.32 ER	2.54 ER	4.50 ER	24.8	1.00 ER	4.35 ER	2.21 ER	5.45	6.37	6.09	4.68 ER	4.66 ER	6.23	15.4	< 10	< 10	< 10
Selenium	40	50	29.60	ND	5.74 ER	4.19 ER	ND	131	4.68 ER	ND	ND	NR	NR	NR	ND	ND	1.68	< 10	< 10	< 10	< 10
Thallium	2	2	5.5	2.73 ER	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 2	< 2	< 2	< 2

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP GWQS = New Jersey Department of Environmental Protection Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

< = the analyte was not detected above the indicated reporting limit

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated result

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-55
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-55-GW-290MW01	FTMM-55-GW-290MW101*
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	16-Aug-2013	16-Aug-2013
LAB SAMPLE ID:					R1306020-015	R1306020-021
SAMPLE INTERVAL (ft bgs):					2-12	2-12
	CAS No.	Unit				
Metals - SW6010C						
Lead	7439-92-1	µg/L	5	15 [3]	**5.3**	**6.2**

QA NOTES AND DATA QUALIFIERS:

* - Field duplicate of sample on left.

D**etections are bolded.**

Detections above the NJDEP GWQS are highlighted.

For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Value is the USEPA Action Level.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-55
Fort Monmouth, New Jersey

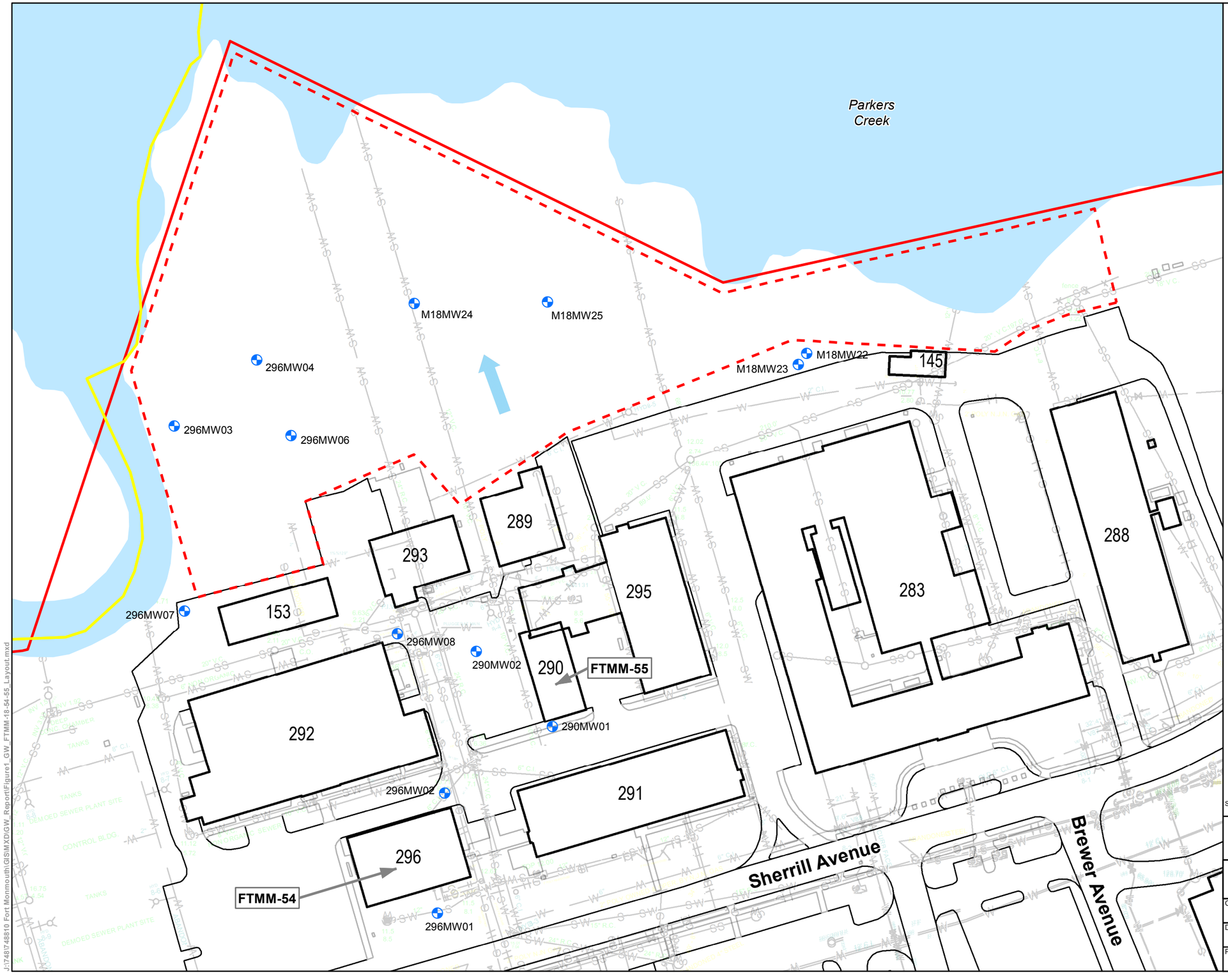
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-55, B290									
290MW01	Pb	As, Pb	NO	N/A	N/A	N/A	NO	NO	No exceedances of site background concentrations.

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds ?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-18, FTMM-54 (Building 296) & FTMM-55 (Building 290)



Legend

- Shallow Monitoring Well
- M-18 Landfill Boundary
- Municipal Boundary
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 90 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-18, FTMM-54 (Building 296) & FTMM-55 (Building 290)

CREATED BY: TS	REVIEWED BY: IG
DATE: January 2014	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-18-54-55_Layout.mxd

J:\748748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-18-54-55_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 290MW01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-16-2013
AOC # (AREA): M-55
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech
SAMPLING PERSONNEL
PID DETECTOR:
NAME: James Bruns
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 5-15
WELL DEPTH (TOC): 15.91
PUMP INTAKE DEPTH (ft below TOC): 10.6
FEET OF WATER IN WELL: 8.31
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.60

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:15	X		6.44	NA	0.402	NA	145	NA	5.54	NA	26.2	NA	25.36	NA	100	7.55
12:20	X		6.58	+0.14	0.400	-0.002	143	-2	4.85	-0.69	28.6	+2.4	25.29	-0.07	100	7.75
12:25	X		6.67	+0.09	0.403	+0.003	145	+2	4.52	-0.33	18.9	-9.7	25.27	-0.02	100	7.85
12:30	X		6.69	+0.02	0.404	+0.001	145	0.0	4.30	-0.22	15.9	-3.0	25.49	+0.22	100	7.92
12:35	X		6.70	+0.01	0.404	0.0	146	+1	4.34	+0.04	14.9	-1.0	25.51	+0.02	100	8.00
12:40	X		6.71	+0.01	0.403	-0.001	147	+1	4.18	-0.16	13.9	-1.0	25.44	-0.07	100	8.06
12:45	X		6.71	0.0	0.404	+0.001	148	+1	4.28	+0.10	12.9	-1.0	25.54	+0.10	100	8.09
12:50	X		6.72	+0.01	0.403	-0.001	146	-2	4.27	-0.01	11.9	-1.0	25.60	+0.06	100	8.12
12:55	X		6.72	0.0	0.403	0.0	146	0.0	4.23	-0.04	11.5	-0.4	25.57	-0.03	100	8.15
13:00	X		6.72	0.0	0.404	0.0	146	0.0	4.20	-0.03	11.3	-0.2	25.59	+0.02	100	8.17
13:05	X		6.73	+0.01	0.404	0.0	146	0.0	4.26	+0.06	11.1	-0.2	25.49	-0.10	100	8.19
13:10		X	6.73	0.0	0.404	0.0	146	0.0	4.32	+0.06	11.3	+0.2	25.49	0.0	100	8.20

COMMENTS: ~~Dup for TOC Tube~~

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 290-MW01

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder Pump

SAMPLE NUMBER: FTMM-MSS-GW-290MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Pb	13:10	500 mL plastic	clr	clr	
~~Pb~~	~~13:10~~	~~500 mL plastic~~	~~clr~~	~~clr~~	~~DUP named FTMM-SS-GW-290MW101~~

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: ~~YES~~ or NO

Duplicate Sample Name: ~~FTMM-SS-GW-290MW101~~

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to IDW Tank:									
Volume Transferred to Drum:									

APPENDIX N: FTMM-56 Building 80

TABLE OF CONTENTS

1.0 FTMM-56 GROUNDWATER MONITORING N-1
2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT N-1
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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
4	Groundwater Sampling Analyte Review

LIST OF FIGURES

Figure No.	Title
1	Layout of FTMM-56

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-56 GROUNDWATER MONITORING

Groundwater samples were collected from six monitoring wells located at FTMM as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted August 16, 2013. Groundwater samples were analyzed for lead via United States Environmental Protection Agency (USEPA) Method SW6010C. Monitoring well locations as well as other Site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which volatile organic compounds (VOCs) were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-56 were gauged on August 9, 2013. Groundwater elevations in monitoring wells ranged from 2.81 (80MW05) to 3.17 (166MW01) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the southeast towards Oceanport Creek (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging at FTMM-56, the physical condition of the monitoring wells was able to be assessed. FTMM-56 wells were found to be in good condition and contained sampling pump tubing.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From April 1997 through September 2004, FTMM-56 monitoring wells were sampled primarily for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. From November 2004 to June 2010, FTMM-56 wells were sampled for pesticides, PCBs and metals.

Within the last four rounds of quarterly groundwater sampling conducted at FTMM-56, from August 2010 to August 2011, monitoring wells were also sampled for pesticides, PCBs and metals. Historically, several metals including antimony, arsenic, beryllium, cadmium, chromium and lead were detected at concentrations greater than their respective NJDEP Groundwater Quality Standard (GWQS). Arsenic, beryllium, cadmium, chromium and lead were detected in FTMM-56 monitoring well 80MW05 in August 2011. However, with the exception of lead, these concentrations were below the background groundwater concentrations established in the 1995 Weston Report.

Chlordane was detected in 80MW02 above its NJDEP GWQS of 0.1 µg/L in March 2011. Historical groundwater analytical results are presented in **Table 2.**

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater samples were analyzed for lead. Lead was not detected above its NJDEP GWQS in the samples collected from FTMM-56 monitoring wells. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Lead analysis is recommended for one additional sampling event from monitoring well 80MW05 to confirm the analytical results from the August 2013 Baseline Sampling event. In addition, 80MW02 will be analyzed for pesticides due to the historical chlordane exceedances. Monitoring wells will be sampled via LFPS methodology for one additional round. **Table 4** presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-56
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-56, B80/166															
80MW01	29-31774	540841.109	623562.057	13.00	10.00	3-13	5.82	8-9-13	1022	19.7	2.77	12.35	3.05	8/16/2013	1052
80MW02	29-43199	540895.438	623503.500	12.00	10.00	2-12	6.59	8-9-13	1024	0.0	3.45	12.50	3.14	8/16/2013	947
80MW03	29-43201	540896.111	623695.234	12.00	10.00	2-12	6.54	8-9-13	1030	0.0	3.55	11.50	2.99	8/16/2013	932
80MW04	29-43200	540770.626	623695.234	12.00	10.00	2-12	6.37	8-9-13	1036	0.0	3.45	12.37	2.92	8/16/2013	1117
80MW05	29-43202	540786.220	623622.450	12.00	10.00	2-12	6.05	8-9-13	1033	0.0	3.24	12.00	2.81	8/16/2013	1202
166MW01	29-31773	540965.787	632549.320	13.00	10.00	0.5-10	5.87	8-9-13	1027	0.0	2.70	7.95	3.17	8/16/2013	1022

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

				80MW01											
Round No.	**NJDEP Criteria**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	44	44 Dup	45	46	47	47 Dup	48	49	50	51	51 Dup	52
Date Collected				9/14/2007	9/14/2007	12/12/2007	3/31/2008	6/12/2008	6/12/2008	8/15/2008	12/31/2008	2/9/2009	6/26/2009	6/26/2009	8/20/2009
ANALYTE / Lab ID				70341.03	70341.02	70529.04	80102.04	80198.04	80198.02	80300.04	80484.04	90040.04	90266.03	90266.02	90350.04
Pesticides/PCBs (µg/L)															
Heptachlor	0.05	0.4	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
alpha-Chlordane	NLE	NLE	-	ND	ND	ND	ND	0.0085	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	NLE	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	0.5	2	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
4,4'-DDD	0.1	NLE	-	0.127	0.147	ND	0.0558	ND	0.077	0.0951	ND	ND	0.048	0.039	0.0691
4,4'-DDE	0.1	NLE	-	ND	ND	ND	ND	ND	ND	ND	0.1039	ND	ND	ND	ND
4,4'-DDT	0.1	NLE	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	40	NLE	-	ND	ND	ND	ND	0.018	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	40	40	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)															
Antimony	6	6	20.70	ND	ND	ND	ND	ND	ND	ND	3.57 ER	ND	5.49 ER	2.85 ER	9.15 ER
Arsenic	3	10	89.30	15.8	16.2	9.01	8.34	11.8	14.6	26.9	ND	ND	43.9	46.7	63.7
Barium	6000	2,000	699.00	121	125	73.7	52.9	60.4	61.1	75.8	80.5	66	53	54.8	125
Beryllium	1	4	2.10	ND	ND	ND	0.117 ER	ND	ND	ND	ND	ND	ND	ND	0.057 ER
Cadmium	4	5	9.50	0.968 ER	0.558 ER	0.385 ER	1.46 ER	0.907 ER	0.796 ER	2.12	ND	ND	1.34 ER	1.84 ER	8.53
Chromium	70	100	65.60	0.249 ER	0.327 ER	ND	0.229 ER	0.432 ER	0.54 ER	ND	ND	ND	4.1 ER	4.21 ER	2.52 ER
Copper	1300	1300	191.00	3.05 ER	2.4 ER	0.709 ER	1.7 ER	ND	ND	ND	6.12	3.71 ER	20.8	19.5	8.86
Lead	5	15	22.70	ND	ND	ND	1.53 ER	1.71 ER	2.62 ER	ND	ND	ND	2.63 ER	3.37 ER	7.53
Mercury	2	2	0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12 ER
Nickel	100	NLE	187	ND	ND	ND	ND	ND	ND	ND	ND	1.32 ER	2.98 ER	3.09 ER	3.39 ER
Selenium	40	50	29.60	ND	ND	ND	4.64 ER	5.23 ER	3.67 ER	3.28 ER	ND	ND	11.1	12.9	17.8
Thallium	2	2	5.5	ND	ND	ND	ND	ND	ND	ND	ND	3.81 ER	ND	ND	ND

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Sampling for VOCs and SVOCs were discontinued after the 9/3/04 sampling event as per NJDEP approval letter dated 11/2004
(1) Low flow sampling method used to collect sample
Sampling for Volatiles and Semivolatiles were discontinued in November 2004 as per NJDEP approval dated (11/10/04)

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

Round No.	NJDEP Criteria	USEPA MCL	Weston 1995 Background (Main Post)	52 Dup		53		LF3		LF4		LF5		LF6	LF6 Dup	LF7	LF8	32		33		34		35	
Date Collected				8/20/2009		11/10/2009		3/23/2010		6/23/2010		8/31/2010		12/13/2010	12/13/2010	3/18/2011	8/12/2011	3/31/2008		6/12/2008		8/15/2008		12/31/2008	
ANALYTE / Lab ID				90350.02		90442.04		10102.05		10282.05		10374.06		10544-03	10544-02	11113.05	11339.05	80102.05		80198.05		80300.05		80484.05	
Pesticides/PCBs (µg/L)																									
Heptachlor	0.05	0.4	-	ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02	< 0.01	ND		ND		0.0138		ND	
alpha-Chlordane	NLE	NLE	-	ND		0.014		ND		ND		ND		< 0.02	< 0.02	< 0.02	< 0.01	ND		1.1		1.19		0.3308	
gamma-Chlordane	NLE	NLE	-	ND		0.019		ND		ND		ND		< 0.02	< 0.02	< 0.02	< 0.01	ND		0.91		1.12		0.293	
Chlordane	0.5	2	-	ND		ND		ND		ND		ND		< 0.5	< 0.5	< 0.5	< 0.01	9.72		NA		7.98		NA	
4,4'-DDD	0.1	NLE	-	0.0891		0.852		0.0173		0.026		0.018		< 0.02	< 0.02	0.022	0.074	ND		ND		ND		ND	
4,4'-DDE	0.1	NLE	-	ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02	< 0.01	ND		ND		ND		ND	
4,4'-DDT	0.1	NLE	-	ND		0.05		ND		ND		ND		< 0.02	< 0.02	< 0.02	< 0.01	ND		ND		ND		ND	
Endosulfan I	40	NLE	-	ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02	< 0.01	ND		ND		ND		ND	
Methoxychlor	40	40	-	ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02	< 0.02	ND		ND		ND		0.0266	
Metals (µg/L)																									
Antimony	6	6	20.70	9.89	ER	ND		8.19	ER	13.8		19.7		ND	ND	<6	< 6	ND		ND		ND		ND	
Arsenic	3	10	89.30	61.3		11.2		6.55		9.71		22.48		15.8	16.9	<3	43.2	ND		ND		2.42	ER	4.98 ER	ER
Barium	6000	2,000	699.00	126		115		442		416		193		213	222	<200	< 200	120		55.1		109		123	
Beryllium	1	4	2.10	0.06	ER	ND		ND		0.051	ER	ND		ND	ND	<1	< 1	2.3		0.586		1.9		2.51	
Cadmium	4	5	9.50	7.79		ND		2.35		1.71	ER	2	ER	5.76	5.13	8.1	< 3	1.48	ER	ND		1.28	ER	1.26	ER
Chromium	70	100	65.60	2.32	ER	ND		ND		ND		ND		ND	ND	< 10	< 10	1.62	ER	2.5	ER	1.43	ER	ND	
Copper	1300	1300	191.00	7.94		ND		ND		6.43		2.4	ER	ND	ND	59.6	< 10	ND		4.39	ER	ND		1.85	ER
Lead	5	15	22.70	8.83		ND		4.57	ER	3	ER	6.43		9.04	10.6	< 3	< 3	ND		ND		ND		ND	
Mercury	2	2	0.26	0.1	ER	ND		ND		ND		ND		ND	ND	< 0.2	< 0.2	ND		ND		ND		ND	
Nickel	100	NLE	187	2.74	ER	ND		1.05	ER	ND		1.01	ER	1.17	1.49	37.2	< 10	13		5.33		11.6		10.1	
Selenium	40	50	29.60	33.4		ND		NR		NR		ND		1.39	ND	< 10	< 10	11.6		5.88	ER	5.92	ER	ND	
Thallium	2	2	5.5	ND		ND		ND		ND		ND		ND	ND	< 2	< 2	ND		ND		ND		ND	

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
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Sampling for VOCs and SVOCs were discontinued after the 9/3/04 sampling event as per NJDEP approval letter dated 11/2004
(1) Low flow sampling method used to collect sample
Sampling for Volatiles and Semivolatiles were discontinued in November 2004 as per NJDEP approval dated (11/10/04)

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

				80MW02															
Round No.	**NJDEP Criteria**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	36	37	38	39	LF3	LF4	LF5	LF6	LF7	LF8	32	33	34	35
Date Collected				2/9/2009	6/26/2009	8/20/2009	11/10/2009	3/23/2010	6/23/2010	8/31/2010	12/13/2010	3/18/2011	8/12/2011	3/31/2008	6/12/2008	8/15/2008	12/30/2008
ANALYTE / Lab ID				90040.05	90266.08	90350.05	90442.05	10103.04	10282.08	10374.07	10544-05	11113.08	11339.08	80102.06	80198.06	80300.06	80483.03
Pesticides/PCBs (µg/L)																	
Heptachlor	0.05	0.4	-	ND	ND	ND	ND	ND	ND	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND
alpha-Chlordane	NLE	NLE	-	0.891	0.44	0.262	0.742	0.262	0.61	0.66	0.57	0.44	1.2	ND	ND	ND	ND
gamma-Chlordane	NLE	NLE	-	0.79	0.39	0.225	0.744	0.271	0.62	0.68	0.61	0.45	1	ND	ND	ND	ND
Chlordane	0.5	2	-	NA	3.22	2.121	7.604	4.268	5.88	7.52	4.8	7.87	< 0.01	NA	NA	NA	NA
4,4'-DDD	0.1	NLE	-	ND	ND	ND	ND	ND	ND	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND
4,4'-DDE	0.1	NLE	-	ND	ND	ND	ND	ND	ND	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND
4,4'-DDT	0.1	NLE	-	ND	ND	ND	ND	ND	ND	ND	< 0.02	< 0.02	0.026	ND	ND	ND	ND
Endosulfan I	40	NLE	-	ND	ND	ND	ND	ND	ND	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND
Methoxychlor	40	40	-	ND	ND	ND	ND	ND	ND	ND	< 0.02	< 0.02	< 0.02	ND	ND	ND	ND
Metals (µg/L)																	
Antimony	6	6	20.70	ND	4.73 ER	ND	ND	7.57 ER	9 ER	9.03 ER	ND	< 6	< 6	0.937 ER	ND	ND	ND
Arsenic	3	10	89.30	ND	25.5	21.4	2.33 ER	1.73 ER	0.98 ER	1.26 ER	2.84	< 3	< 3	4.07 ER	4.36 ER	3.65 ER	4.21 ER
Barium	6000	2,000	699.00	111	81.7	87.5	103	81.3	76.8	95.4	105	< 200	< 200	17.8	23.9	26.7	18.3
Beryllium	1	4	2.10	1.91 ER	1.78	1.88	2.19	1.14	1.23	2.42	2.08	1.5	2.2	0.109 ER	ND	0.18 ER	ND
Cadmium	4	5	9.50	1.59 ER	1.2 ER	1 ER	0.665 ER	0.515 ER	0.696 ER	0.6 ER	1.04	< 3	< 3	0.356 ER	0.246 ER	0.387 ER	0.263 ER
Chromium	70	100	65.60	ND	0.452 ER	ND	ND	ND	ND	ND	ND	< 10	< 10	0.717 ER	2.89 ER	1.41 ER	2.77 ER
Copper	1300	1300	191.00	1.17 ER	2.01 ER	2.33 ER	ND	1.06 ER	4.18 ER	1.77 ER	ND	< 10	< 10	6.53	5.47	1.48 ER	7.36
Lead	5	15	22.70	ND	2.92 ER	2.82 ER	ND	ND	ND	ND	2.59	< 3	< 3	ND	1.72 ER	ND	ND
Mercury	2	2	0.26	ND	ND	ND	ND	0.06 ER	ND	ND	ND	< 0.2	< 0.2	ND	ND	ND	ND
Nickel	100	NLE	187	13.7	9.88	9.75	10.1	9.05	8.68	10.3	9.85	10.9	13	0.91 ER	ND	1.34 ER	0.728 ER
Selenium	40	50	29.60	12.7	12.4	49.6	ND	58.2	50.1	ND	1.57	< 10	< 10	8.32 ER	8.77 ER	4.05 ER	4.78 ER
Thallium	2	2	5.5	ND	ND	ND	ND	ND	ND	ND	ND	< 2	< 2	ND	ND	ND	ND

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Sampling for VOCs and SVOCs were discontinued after the 9/3/04 sampling event as per NJDEP approval letter dated 11/2004
(1) Low flow sampling method used to collect sample
Sampling for Volatiles and Semivolatiles were discontinued in November 2004 as per NJDEP approval dated (11/10/04)

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

				80MW03																			
Round No.	**NJDEP Criteria**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	36		37		38		39	39 Dup		LF3		LF3 Dup		LF4		LF4 Dup		LF5		LF5 Dup		LF6	LF6 Dup	LF7
Date Collected				2/9/2009		6/26/2009		8/20/2009		11/10/2009	11/10/2009		3/23/2010		3/23/2010		6/23/2010		6/23/2010		8/31/2010		8/31/2010		12/10/2010	12/10/2010	3/17/2011
ANALYTE / Lab ID				90040.06		90266.04		90350.06		90442.06	90442.02		10102.03		10102.02		10282.03		10282.02		10374.03		10374.02		10542-03	10542-02	11113.03
Pesticides/PCBs (µg/L)																											
Heptachlor	0.05	0.4	-	ND		ND		ND		ND	ND														< 0.02	< 0.02	< 0.02
alpha-Chlordane	NLE	NLE	-	ND		ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02
gamma-Chlordane	NLE	NLE	-	ND		ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02
Chlordane	0.5	2	-	NA		NA		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.5	< 0.5	< 0.5
4,4'-DDD	0.1	NLE	-	ND		ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02
4,4'-DDE	0.1	NLE	-	ND		ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02
4,4'-DDT	0.1	NLE	-	ND		ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02
Endosulfan I	40	NLE	-	ND		ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02
Methoxychlor	40	40	-	ND		ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		< 0.02	< 0.02	< 0.02
Metals (µg/L)																											
Antimony	6	6	20.70	ND		4.15	ER	10.5		ND	ND		10.9		10.8		8.63	ER	10.6		12.3		10.8		ND	6.33	< 6
Arsenic	3	10	89.30	ND		32.3		34.3		6.53	3.29	ER	1.01	ER	1.72	ER	1.03	ER	0.83	ER	1.85	ER	2.37	ER	6.2	6.35	8.4
Barium	6000	2,000	699.00	27.8		83		110		53.2	50.6		39.2		39.8		29.8		28.4		26.9		28.3		30.1	28	< 200
Beryllium	1	4	2.10	ND		ND		0.098	ER	ND	ND		ND		ND		ND		ND		ND		ND		ND	ND	< 1
Cadmium	4	5	9.50	0.384	ER	0.383	ER	ND		ND	ND		ND		ND		ND		ND		ND		ND		0.747	ND	< 3
Chromium	70	100	65.60	1.86	ER	1.84	ER	1.85	ER	ND	ND		ND		ND		ND		ND		ND		ND		19.6	10	< 10
Copper	1300	1300	191.00	3.72	ER	17.9		16.7		6.41	3.96	ER	7.07		7		9.15		8.89		7.44		8.12		37	35.4	53.3
Lead	5	15	22.70	ND		3.3	ER	7.01		ND	ND		ND		ND		ND		ND		ND		ND		6.08	6.44	7.8
Mercury	2	2	0.26	ND		ND		0.1	ER	ND	ND		ND		ND		ND		ND		0.1	ER	0.08	ER	ND	ND	< 0.2
Nickel	100	NLE	187	1.98	ER	3.02	ER	2.34	ER	5.58	1.34	ER	0.554	ER	1.47	ER	1.6	ER	1.63	ER	2.04	ER	2.23	ER	4.41	3.04	< 10
Selenium	40	50	29.60	13.3		8.86	ER	95.3		25.6	31.1		NR		NR		NR		NR		ND		ND		2.51	2.22	< 10
Thallium	2	2	5.5	1.91	ER	ND		ND		ND	ND		ND		ND		ND		ND		ND		ND		ND	ND	< 2

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
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J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
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ER = Estimated Result
Sampling for VOCs and SVOCs were discontinued after the 9/3/04 sampling event as per NJDEP approval letter dated 11/2004
(1) Low flow sampling method used to collect sample
Sampling for Volatiles and Semivolatiles were discontinued in November 2004 as per NJDEP approval dated (11/10/04)

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

							80MW04									
Round No.	**NJDEP Criteria**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF7 Dup	LF8	LF8 Dup	32	33	34	35	36	37	38	39	LF3	LF4
Date Collected				3/17/2011	8/12/2011	8/12/2011	3/31/2008	6/12/2008	8/15/2008	12/30/2008	2/9/2009	6/26/2009	8/20/2009	11/10/2009	3/23/2010	6/23/2010
ANALYTE / Lab ID				11113.02	11339.03	11339.02	80102.07	80198.07	80300.07	80483.04	90040.07	90266.05	90350.07	90442.07	10102.06	10282.06
Pesticides/PCBs (µg/L)																
Heptachlor	0.05	0.4	-	< 0.02	< 0.01	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
alpha-Chlordane	NLE	NLE	-	< 0.02	< 0.01	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	NLE	NLE	-	< 0.02	< 0.01	< 0.01	ND	ND	0.0184	ND	ND	ND	ND	ND	ND	ND
Chlordane	0.5	2	-	< 0.5	< 0.01	< 0.01	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
4,4'-DDD	0.1	NLE	-	< 0.02	< 0.01	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	0.1	NLE	-	< 0.02	< 0.01	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	0.1	NLE	-	< 0.02	< 0.01	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	40	NLE	-	< 0.02	< 0.01	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	40	40	-	< 0.02	< 0.02	< 0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																
Antimony	6	6	20.70	< 6	< 6	< 6	ND	ND	ND	ND	ND	ND	ND	ND	10.5	9.18 ER
Arsenic	3	10	89.30	8.2	24.3	24.6	ND	ND	5.46	ND	ND	22	17.6	2.18 ER	0.94 ER	3.78 ER
Barium	6000	2,000	699.00	< 200	< 200	< 200	23.6	32.5	50.4	36.8	33.6	48.8	65.7	56.9	33.3	26.3
Beryllium	1	4	2.10	< 1	< 1	< 1	0.176 ER	ND	0.247 ER	0.148 ER	ND	0.105 ER	0.119 ER	ND	ND	0.054 ER
Cadmium	4	5	9.50	< 3	< 3	< 3	0.36 ER	ND	1.46 ER	0.528 ER	0.654 ER	0.333 ER	ND	ND	ND	ND
Chromium	70	100	65.60	< 10	76.5	79.8	0.791 ER	0.951 ER	0.633 ER	0.709 ER	1.34 ER	ND	ND	ND	ND	ND
Copper	1300	1300	191.00	51	49.9	52.8	6.41	3.99 ER	ND	3.86 ER	3.78 ER	4.16 ER	4.49 ER	1.23 ER	3.07 ER	6.21
Lead	5	15	22.70	6.9	20.5	21.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	2	2	0.26	< 0.2	< 0.2	< 0.2	ND	ND	ND	ND	ND	ND	0.06 ER	ND	0.07 ER	ND
Nickel	100	NLE	187	< 10	< 10	10.8	7.64	9.68	24.3	6.79	9.96	10.2	15.4	7.78	6.1	13.8
Selenium	40	50	29.60	< 10	< 10	< 10	8.87 ER	7.09 ER	3.93 ER	ND	9.61 ER	13.3	40.7	23.9	NR	NR
Thallium	2	2	5.5	< 2	< 2	< 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Sampling for VOCs and SVOCs were discontinued after the 9/3/04 sampling event as per NJDEP approval letter dated 11/2004
(1) Low flow sampling method used to collect sample
Sampling for Volatiles and Semivolatiles were discontinued in November 2004 as per NJDEP approval dated (11/10/04)

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

								80MW05									
Round No.	**NJDEP Criteria**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF5	LF6	LF7	LF8	30	31	32	33	34	35	36	37	38	39
Date Collected				8/31/2010	12/10/2010	3/18/2011	8/12/2011	9/14/2007	12/12/2007	3/31/2008	6/12/2008	8/15/2008	12/30/2008	2/9/2009	6/26/2009	8/20/2009	11/10/2009
ANALYTE / Lab ID				10374.05	10542-05	11113.06	11339.06	70341.07	70529.08	80102.08	80198.08	80300.08	80483.05	90040.08	90266.07	90350.08	90442..08
Pesticides/PCBs (µg/L)																	
Heptachlor	0.05	0.4	-	ND	< 0.02	< 0.02	< 0.01	0.006	ND	ND	ND	ND	ND	ND	0.013	ND	ND
alpha-Chlordane	NLE	NLE	-	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	NLE	NLE	-	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	0.5	2	-	ND	< 0.5	< 0.5	< 0.01	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
4,4'-DDD	0.1	NLE	-	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND	ND	ND	ND	0.029	ND	0.015
4,4'-DDE	0.1	NLE	-	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND
4,4'-DDT	0.1	NLE	-	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND
Endosulfan I	40	NLE	-	ND	< 0.02	< 0.02	< 0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	40	40	-	ND	< 0.02	< 0.02	< 0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																	
Antimony	6	6	20.70	8.29 ER	ND	< 6	< 6	ND	ND	ND	ND	ND	ND	ND	1.98 ER	6.91 ER	ND
Arsenic	3	10	89.30	5.14	1.73	< 3	20	ND	4.81 ER	23.3	19.7	12.5	8.74	ND	53.9	29.5	22.62
Barium	6000	2,000	699.00	28	41.9	< 200	< 200	196	266	45.2	207	237	64.5	68.7	729	48.1	101
Beryllium	1	4	2.10	0.088 ER	ND	< 1	2.3	ND	ND	ND	ND	ND	ND	ND	9.47	0.143 ER	0.111 ER
Cadmium	4	5	9.50	ND	ND	< 3	< 3	0.457 ER	0.405 ER	8.05	7.44	9.86	4.85	8.98	193	5.16	13
Chromium	70	100	65.60	ND	ND	< 10	60.9	3.22 ER	5.56	3.62 ER	3.91 ER	4.58 ER	1.63 ER	1.86 ER	89.6	4.77 ER	2.78 ER
Copper	1300	1300	191.00	2.27 ER	3.56	< 10	29.9	4.25 ER	3.89 ER	ND	ND	ND	4.28 ER	6.88	2.38 ER	14.9	ND
Lead	5	15	22.70	2.84 ER	ND	< 3	22.8	ND	ND	2.37 ER	8.2	ND	ND	ND	28.4	ND	9.32
Mercury	2	2	0.26	0.12 ER	ND	< 0.2	< 0.2	ND	ND	ND	ND	ND	ND	ND	ND	0.06 ER	ND
Nickel	100	NLE	187	16.4	6.57	10	38.5	4.83 ER	4.11 ER	2.75 ER	3.52 ER	4.12 ER	ND	2.8 ER	80.1	5.13	4.37 ER
Selenium	40	50	29.60	ND	ND	< 10	< 10	ND	ND	5.56 ER	ND	ND	ND	13	ND	43.7	ND
Thallium	2	2	5.5	ND	ND	< 2	< 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
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(1) Low flow sampling method used to collect sample
Sampling for Volatiles and Semivolatiles were discontinued in November 2004 as per NJDEP approval dated (11/10/04)

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

Round No.	NJDEP Criteria	USEPA MCL	Weston 1995 Background (Main Post)	LF3		LF4		LF5		LF6	LF7	LF8	44		45		45 Dup		46		46 Dup		47		48		48 Dup	
Date Collected				3/23/2010		6/23/2010		8/31/2010		12/10/2010	3/17/2011	8/12/2011	9/14/2007		12/12/2007		12/12/2007		3/31/2008		3/31/2008		6/12/2008		8/15/2008		8/15/2008	
ANALYTE / Lab ID				10102.04		10282.04		10374.04		10542-04	11113.04	11339.04	70341.08		70529.03		70529.02		80102.03		80102.02		80198.03		80300.03		80300.02	
Pesticides/PCBs (µg/L)																											
Heptachlor	0.05	0.4	-	ND		ND		ND		< 0.02	< 0.02	< 0.01	ND		ND		ND		ND		NA		ND		ND		ND	
alpha-Chlordane	NLE	NLE	-	ND		ND		ND		< 0.02	< 0.02	< 0.01	ND		ND		ND		ND		NA		ND		0.00946		0.00904	
gamma-Chlordane	NLE	NLE	-	ND		ND		ND		< 0.02	< 0.02	< 0.01	0.007		ND		ND		ND		NA		ND		0.012		0.0138	
Chlordane	0.5	2	-	ND		ND		ND		< 0.5	< 0.5	< 0.01	NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDD	0.1	NLE	-	ND		ND		ND		< 0.02	< 0.02	< 0.01	ND		ND		ND		ND		NA		0.06		ND		ND	
4,4'-DDE	0.1	NLE	-	ND		ND		ND		< 0.02	< 0.02	< 0.01	ND		ND		ND		ND		NA		ND		ND		ND	
4,4'-DDT	0.1	NLE	-	ND		ND		ND		< 0.02	< 0.02	< 0.01	ND		ND		ND		ND		NA		ND		ND		ND	
Endosulfan I	40	NLE	-	ND		ND		ND		< 0.02	< 0.02	< 0.01	ND		ND		ND		ND		NA		ND		ND		ND	
Methoxychlor	40	40	-	ND		ND		ND		< 0.02	< 0.02	< 0.02	ND		ND		ND		ND		NA		ND		ND		ND	
Metals (µg/L)																											
Antimony	6	6	20.70	11.6		8.3	ER	12.6		6.86	< 6	14.6	ND		ND		ND		ND		ND		ND		ND		ND	
Arsenic	3	10	89.30	4.58	ER	12.66		12.84		2.27	8.5	108	ND		ND		ND		ND		4.94	ER	3.38	ER	3.44	ER	2.65	ER
Barium	6000	2,000	699.00	24.1		24.4		39.7		58.9	< 200	< 400	16.7		21.3		26.5		14		15.5		10.9		25.3		25.1	
Beryllium	1	4	2.10	ND		ND		0.066	ER	ND	< 1	5	ND		ND		ND		0.128	ER	0.102	ER	ND		ND		0.124	ER
Cadmium	4	5	9.50	1.62	ER	1.88	ER	1.03	ER	1.86	< 3	134	0.764	ER	0.738	ER	0.86	ER	1.29	ER	1.39	ER	1.14	ER	1.28	ER	1.11	ER
Chromium	70	100	65.60	2.59	ER	1.47	ER	9.21		ND	< 10	454	0.571	ER	ND		ND		0.203	ER	0.307	ER	0.318	ER	0.448	ER	ND	
Copper	1300	1300	191.00	5.79		6.72		5.08		10.1	< 10	102	ND		3.99	ER	4.95	ER	4.05	ER	5.21		8.09		1.49	ER	ND	
Lead	5	15	22.70	2.96	ER	2.7	ER	5.15		ND	< 3	122	ND		ND		ND		ND		ND		ND		ND		ND	
Mercury	2	2	0.26	ND		ND		0.1	ER	ND	< 0.2	< 0.4	ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	2.24	ER	3.28	ER	4.45	ER	1.04	< 10	61	1.3	ER	ND		ND		0.419	ER	0.69	ER	ND		1.91	ER	1.85	ER
Selenium	40	50	29.60	NR		NR		ND		ND	< 10	< 20	ND		ND		ND		10.3		8.13	ER	ND		5.41	ER	5.24	ER
Thallium	2	2	5.5	ND		ND		ND		ND	< 2	< 8	ND		ND		ND		ND		ND		ND		ND		ND	

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)
USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result
Sampling for VOCs and SVOCs were discontinued after the 9/3/04 sampling event as per NJDEP approval letter dated 11/2004
(1) Low flow sampling method used to collect sample
Sampling for Volatiles and Semivolatiles were discontinued in November 2004 as per NJDEP approval dated (11/10/04)

Table 2
Historical Groundwater Analytical Results
Site FTMM-56
Fort Monmouth, New Jersey

| | | | | 166MW01 | | | |

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-56
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-56-GW-80MW02	FTMM-56-GW-80MW03	FTMM-56-GW-80MW04	FTMM-56-GW-80MW05	FTMM-56-GW-166MW01
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	16-Aug-2013	16-Aug-2013	16-Aug-2013	16-Aug-2013	16-Aug-2013
LAB SAMPLE ID:						R1306020-004	R1306020-001	R1306020-007	R1306020-010	R1306020-006
SAMPLE INTERVAL (ft bgs):						2-12	2-12	2-12	2-12	3-13
	CAS No.	Unit								
Metals - SW6010C										
Lead	7439-92-1	µg/L	5	15 [3]	22.70	2.0 U	**1.7** J	2.0 U	**2.4** J	2.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Value is the USEPA Action Level.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-56
Fort Monmouth, New Jersey

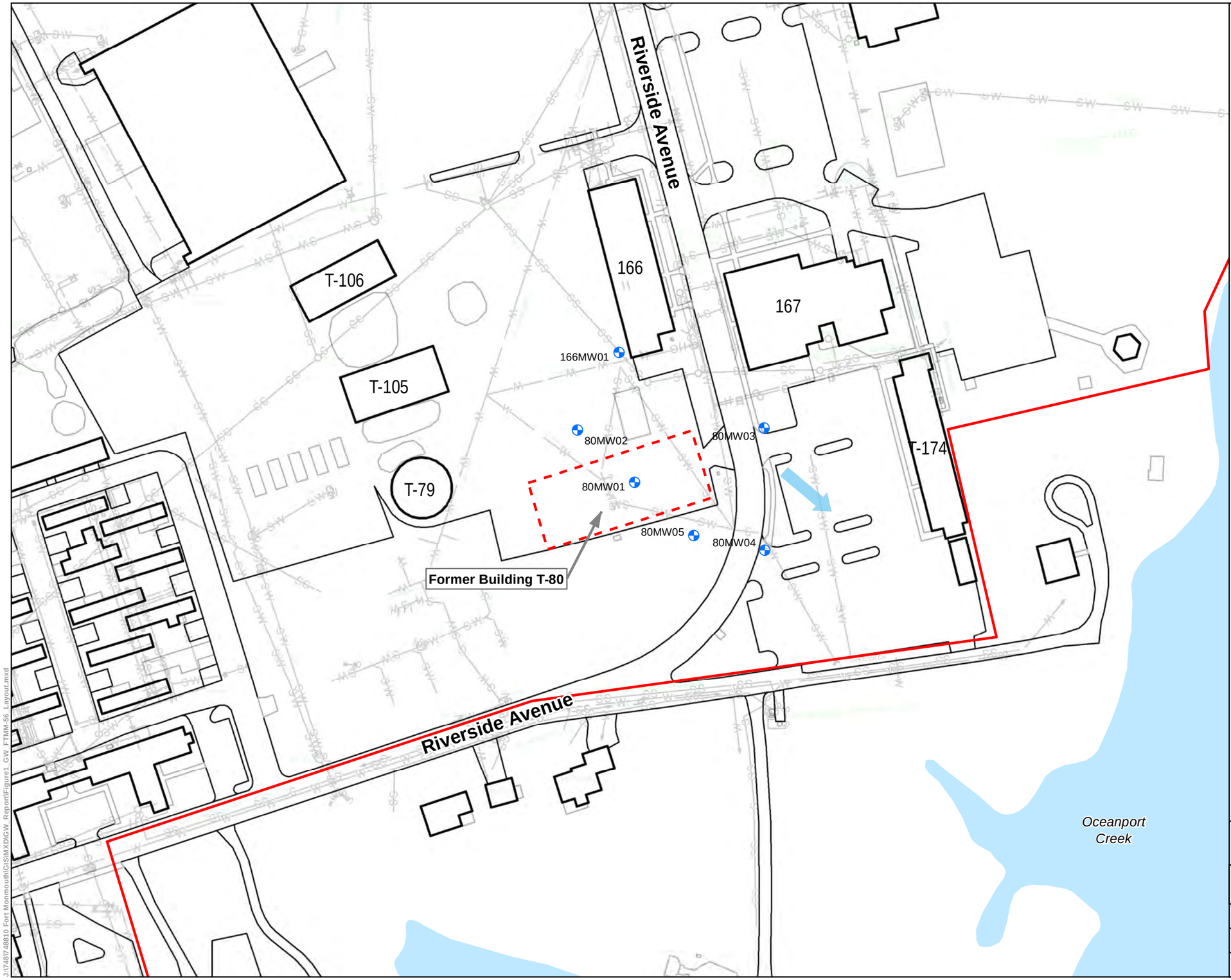
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-56, B80/166									
80MW01	Pb	Sb, As, Cd, Pb	NO	N/A	N/A	N/A	NO	NO	No background exceedances
80MW02		Chlordane, Sb, Be	Be	NO	NO	Yes (chlordane)	YES	Yes	Be is considered a background concentration and not from historical site use. Chlordane will be analyzed in next sampling event based on historical exceedances.
80MW03		Sb, As, Cr, Pb	NO	N/A	N/A	N/A	NO	NO	No background exceedances
80MW04		Sb, As, Be, Pb	NO	N/A	N/A	N/A	NO	NO	No background exceedances
80MW05		Sb, As, Be, Cd, Cr, Pb	As, Be, Cd, Cr, Pb	NO	NO	NO	NO	Yes	With the exception of lead, metals are considered background concentrations and not from historical site use.
166MW01		Sb, As, Pb	NO	N/A	N/A	N/A	NO	NO	No background exceedances

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds ?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-56



Legend

- Shallow Monitoring Well
- Former Building T-80
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 100 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-56 (Former Building T-80)

CREATED BY: TS	REVIEWED BY: IG
DATE: November 2013	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-56_Layout.mxd

J:\748\7748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-56_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

166MW01 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-56
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 7.95
FEET OF WATER IN WELL: 5.5

SCREENED INTERVAL (TOC): 10
PUMP INTAKE DEPTH (ft below TOC): 5.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 2.45

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:10	X		6.68	NA	0.283	NA	55	NA	5.01	NA	4.7	NA	24.09	NA	100	2.48
10:15	X		6.67	0.01	0.300	0.017	36	19	3.72	1.29	0.0	4.7	24.34	0.25	100	2.48
10:20	X		6.68	0.01	0.317	0.017	29	7	3.58	0.14	0.0	0.0	24.40	0.06	100	2.48
10:25	X		6.74	0.06	0.385	0.068	11	18	3.30	0.28	0.0	0.0	24.63	0.23	100	2.49
10:30	X		6.75	0.01	0.399	0.014	8	3	3.28	0.02	0.0	0.0	24.66	0.03	100	2.49
10:35	X		6.76	0.01	0.417	0.018	6	2	3.24	0.04	0.0	0.0	24.73	0.07	100	2.49
10:40	X		6.78	0.02	0.465	0.048	-2	8	2.95	0.29	0.0	0.0	24.81	0.08	100	2.49
10:45	X		6.78	0.00	0.470	0.005	-5	3	2.90	0.05	0.0	0.0	24.82	0.01	100	2.49
10:50	X		6.78	0.00	0.473	0.003	-8	3	2.91	0.01	0.0	0.0	24.82	0.00	100	2.49
10:52		X	6.79	0.01	0.477	0.004	-9	1	2.89	0.02	0.0	0.0	24.80	0.02	100	2.49

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

166MW01 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW01~~

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-56-GW-~~MW01~~ 166MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	10:52	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

Form LFPS -GW.xls

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 50 MW-01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 5b
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: PID Minirae

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Michael Triton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 12.35
FEET OF WATER IN WELL: 10.89

SCREENED INTERVAL (TOC): 3-12.35
PUMP INTAKE DEPTH (ft below TOC): 7.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 1.46

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
950	X		6.11	NA	3.62	NA	-70	NA	2.79	NA	0.0	NA	24.62	NA	100	1.50
955	X		5.93	-0.18	4.06	+0.24	-80	-10	0.69	-2.10	0.0	—	24.61	-0.01	100	1.50
1000	X		5.90	-0.03	4.09	+0.03	-82	-2	0.50	-0.19	0.0	—	24.68	+0.07	100	1.50
1005	X		5.88	-0.02	4.09	—	-84	-2	0.38	-0.12	0.0	—	24.75	+0.07	100	1.50
1010	X		5.86	—	4.08	-0.01	-85	-1	0.34	-0.04	0.0	—	24.84	+0.09	100	11
1015	X		5.88	—	4.07	-0.01	-87	-2	0.34	—	0.0	—	24.90	+0.06	100	11
1020	X		5.88	—	4.06	-0.01	-87	—	0.33	-0.01	0.0	—	24.93	+0.03	100	11
1022		X														

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** 80MW01

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-56-GW-80MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1022	500mL	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

80MW02 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 56
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0-0
WELL DEPTH (TOC): 12.50
FEET OF WATER IN WELL: 7.25
SCREENED INTERVAL (TOC): 10
PUMP INTAKE DEPTH (ft below TOC): 5.25
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.21

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
9:10	X		6.27	NA	2.13	NA	24	NA	~~5.60~~ 4.32	NA	3.1	NA	24.21	NA	100	3.23
9:15	X		6.02	0.25	2.25	0.12	33	9	3.11	1.81	0.0	3.1	24.36	0.15	100	3.23
9:20	X		5.99	0.03	2.26	0.01	36	3	3.00	0.11	0.0	0.0	24.28	0.08	100	3.23
9:25	X		5.95	0.04	2.26	0.00	42	6	2.80	0.20	0.0	0.0	24.16	0.12	100	3.24
9:30	X		5.92	0.03	2.26	0.00	47	5	2.74	0.06	0.0	0.0	24.08	0.08	100	3.25
9:35	X		5.90	0.02	2.27	0.01	52	5	2.72	0.02	0.0	0.0	24.00	0.08	100	3.25
9:40	X		5.89	0.01	2.28	0.01	51	1	2.71	0.01	0.0	0.0	23.96	0.04	100	3.25
9:45	X		5.88	0.01	2.29	0.01	56	5	2.70	0.01	0.0	0.0	23.91	0.05	100	3.25
9:47		X	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

80MW02 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-02

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-SC-GW-MMDD80MW02

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	9:47	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

80MW03 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~03~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-56
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID Minirae

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 11.50
FEET OF WATER IN WELL: 9.33
SCREENED INTERVAL (TOC): 2-11.50
PUMP INTAKE DEPTH (ft below TOC): 6.75
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 2.17

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
900	X		7.25	NA	1.41	NA	163	NA	3.35	NA	0.0	NA	21.69	NA	100	2.22
905	X		6.77	-0.48	1.41	—	158	-5	1.95	-1.4	0.0	—	21.92	+0.32	100	11
910	X		6.54	-0.23	1.41	—	135	-23	1.18	-0.77	0.0	—	22.06	+0.14	100	11
915	X		6.48	-0.06	1.39	-0.02	118	-17	0.71	-0.47	0.0	—	22.22	+0.16	100	11
920	X		6.47	-0.01	1.38	-0.01	114	-4	0.56	-0.15	0.0	—	22.33	+0.11	100	11
925	X		6.48	+0.01	1.36	-0.02	115	+1	0.58	+0.02	0.0	—	22.42	+0.09	100	11
930	X		6.48	—	1.35	-0.01	117	+2	0.58	—	0.0	—	22.49	+0.07	100	11
932		X														

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

80MW03 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~MW03~~

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
~~TPH~~					
lead	9:32	500 mL plastic	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

Form LFPS -GW.xls

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 80MW-04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-56
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID Minirae

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 12.37
FEET OF WATER IN WELL: 10.17
SCREENED INTERVAL (TOC): 2 - 12.37
PUMP INTAKE DEPTH (ft below TOC): 7.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 2.20

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1045	X		6.54	NA	0.668	NA	-19	NA	2.24	NA	0.0	NA	21.06	NA	100	2.30
1050	X		6.09	-0.45	0.529	-0.139	5	+24	0.82	-1.42	0.0	-	20.15	-0.91	100	2.30
1055	X		5.94	-0.15	0.478	-0.51	18	+13	0.48	-0.34	0.0	-	20.05	-.10	100	2.30
1100	X		5.90	-0.04	0.459	-0.19	24	+6	0.38	-0.1	0.0	-	20.10	+0.05	100	2.30
1105	X		5.88	-0.02	0.449	-0.10	28	+4	0.31	-0.7	0.0	-	20.15	+0.05	100	2.30
1110	X		5.86	-0.02	0.449	-	31	+3	0.30	-0.1	0.0	-	20.14	-0.01	100	2.30
1115	X	X	5.85	-0.01	0.453	+0.004	34	+3	0.31	+0.1	0.0	-	20.01	-0.13	100	2.30

COMMENTS: 1117 sampling

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 80MW04

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FT.MM-56-GW-80MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	1117	500mL	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

80MW05 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~MW-05~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 56
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 12.00
FEET OF WATER IN WELL: 10.75

SCREENED INTERVAL (TOC): 10.00
PUMP INTAKE DEPTH (ft below TOC): 8.00
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 1.25

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
~~11:15~~ 11:15	X		6.91	NA	2.56	NA	-120	NA	5.23	NA	0.0	NA	20.43	NA	200	1.53
11:20	X		6.93	0.02	2.58	0.02	-123	3	4.18	1.05	0.0	0.0	20.03	0.40	200	1.65
11:25	X		6.94	0.01	2.59	0.01	-124	1	3.79	0.39	0.0	0.0	20.02	0.01	200	1.99
11:30	X		6.92	0.02	2.55	0.04	-119	5	3.60	0.19	0.0	0.0	20.26	0.24	100	2.05
11:35	X		6.91	0.01	2.52	0.03	-111	8	3.49	0.11	0.0	0.0	20.41	0.15	100	2.05
11:40	X		6.89	0.02	2.42	0.10	-95	16	3.34	0.15	0.0	0.0	20.47	0.06	100	2.05
11:45	X		6.88	0.01	2.36	0.06	-83	12	3.23	0.11	0.0	0.0	20.48	0.01	100	2.05
11:50	X		6.86	0.02	2.21	0.15	-71	12	3.14	0.09	0.0	0.0	20.50	0.02	100	2.05
11:55	X		6.85	0.01	2.19	0.02	-68	3	3.12	0.02	0.0	0.0	20.51	0.01	100	2.05
12:00	X		6.85	0.0	2.18	0.01	-63	5	3.12	0.0	0.0	0.0	20.53	0.02	100	2.05
12:02		X	6.85	0.0	2.17	0.01	-62	1	3.10	0.02	0.0	0.0	20.53	0.0	100	2.05

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

80MW05 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~MW-05~~

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-56-GW-~~MW05~~ 80MW05

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
Lead	12:02	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX O: FTMM-57 Building 108

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3	2013 Baseline Groundwater Analytical Detections
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1	Layout of FTMM-57

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-57 GROUNDWATER MONITORING

Groundwater samples were collected from four monitoring wells located at FTMM-57 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted August 19, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B, pesticides via USEPA Method SW8081B and Target Analyte List (TAL) metals via USEPA method SW6010C/SW7470A. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-57 were gauged on August 9, 2013. Groundwater elevations in monitoring wells ranged from 3.93 (108MW02) to 7.68 (108MW01) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the southeast (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging, the condition of FTMM-57 monitoring wells was assessed. Site monitoring wells were found to be in good condition, and contained sampling tubing within the well casings.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

The last four quarterly groundwater sampling events conducted at FTMM-57 consisted solely of metals analysis. During these last four events, several metals including aluminum, arsenic, beryllium, chromium, iron, lead, manganese, mercury and sodium were detected in exceedance of the NJDEP GWQS. However, sodium, manganese, mercury and lead were the only metals to exceed their individual background concentration established in the 1995 Weston Report. Sodium and manganese are likely attributable to background that typically contribute to elevated metal concentrations in groundwater, such as the glauconitic soils that underlie the site. Lead was found in exceedance of its background concentration (Weston 1995) in site monitoring well 108MW04 during the February and August, 2011 groundwater monitoring events. Lead could potentially be attributable to historical site operations.

Mercury exceeded its NJDEP GWQS and background concentration (Weston 1995) in November 2010. Prior to and since this exceedance, mercury has not been detected in excess

of its NJDEP GWQS. The November 2010 mercury exceedance is anomalous. Historical groundwater analytical results are presented in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater samples were analyzed for VOCs, pesticides and metals. Aluminum, arsenic, iron, manganese and sodium were detected above their respective NJDEP Groundwater Quality Standard (GWQS). Manganese and sodium were detected at concentrations greater than their background concentrations (Weston 1995). No VOCs or pesticides were detected above their NJDEP GWQS. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Aluminum, manganese, and sodium are found naturally in the glauconitic soil underlying the Site and are considered background analytes and not indicative of historical site uses. Historically 108NMW04 contained lead above the NJDEP GWQS and its background concentration (Weston 1995); however lead was not detected in the August 2013 sampling event. Groundwater sampling for lead is recommended from 108MW04 for two more rounds to confirm a lack or presence of the contaminant. Groundwater sampling for the remaining monitoring wells located in FTMM-57 are recommended to be discontinued. **Table 4** presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-57
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-57, B108															
108MW01	29-29739	541684.193	623725.940	13.00	10.00	3-13	10.76	8-9-13	1011	0.0	3.08	9.56	7.68	8/19/2013	1102
108MW02	29-29740	541706.213	623800.791	13.00	10.00	3-13	9.80	8-9-13	1009	0.0	5.87	14.70	3.93	8/19/2013	1443
108MW03	29-29741	541636.381	623762.373	13.00	10.00	3-13	7.07	8-9-13	1013	0.0	2.76	10.46	4.31	8/19/2013	1245
108MW04	29-33762	541737.886	623706.931	12.00	10.00	2-12	8.40	8-9-13	1006	0.0	3.73	12.14	4.67	8/19/2013	955

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-57
Fort Monmouth, New Jersey

				108MW01																													
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	44		44 Dup		45		45 Dup		46		46 Dup		47		47 Dup		48		48 Dup		49		49 Dup		50	
Date Collected				8/3/2007		8/3/2007		12/3/2007		12/3/2007		3/6/2008		3/6/2008		4/30/2008		4/30/2008		8/6/2008		8/6/2008		10/15/2008		10/15/2008		2/17/2009	
ANALYTE / Lab ID				70293.03		70293.02		70502.03		70502.02		80070.03		80070.02		80144.03		80144.02		80282.03		80282.02		80370.03		80370.02		90057.03	
Metals (µg/L)																																	
Antimony	6	6	20.7	**0.955**	ER	ND		ND		ND		ND		ND		**3.13**	ER	**1.57**	ER	**1.69**	ER	ND		ND		ND		**11.4**	
Arsenic	3	10	89.3	**10.1**		**7.67**		ND		ND		**4.32**		ND		**3.82**	ER	ND		**4.5**	ER	**5.03**		**7.7**		**6.93**		**11.7**	
Barium	6,000	2,000	699	**41.8**		**40.8**		**22.3**		**21.7**		**29.6**		**29**		**29.7**		**3.13**	ER	**46.8**		**47.6**		**62.5**		**56.1**		**41.8**	
Beryllium	1	4	2.1	ND		ND		ND		ND		ND		ND		**0.237**	ER	**0.282**	ER	ND		ND		**0.41**	ER	**0.379**	ER	ND	
Cadmium	4	5	9.5	ND		ND		ND		**0.321**	ER	**0.229**	ER	**0.235**	ER	**0.409**	ER	**0.345**	ER	**0.37**	ER	**0.447**	ER	**0.644**	ER	**0.581**	ER	ND	
Chromium	70	100	191	**0.917**	ER	**0.259**	ER	**1.29**	ER	**1.19**	ER	**1.47**	ER	**1.13**	ER	**5.39**		**1.42**	ER	**0.962**	ER	**0.96**	ER	**15.8**		**6.62**		**1.07**	ER
Copper	1,300	1,300 *	65.6	**3.49**	ER	**2.77**	ER	**1.58**	ER	**1.93**	ER	**9.84**	ER	**9.91**		**2.82**	ER	**4.49**	ER	**1.49**	ER	**2.35**	ER	**13.3**		**9.61**		**7.85**	
Lead	5	15	22.7	ND		ND		**0.955**	ER	**1.47**	ER	**4.85**	ER	**4.25**	ER	**5.43**		**10.9**		**2.45**	ER	**4.41**	ER	**30.8**		**20.9**		**16.1**	
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	ND		**0.336**	ER	ND		ND		**6.12**		**6.71**		**2.74**	ER	**1.97**	ER	**0.931**	ER	**0.993**	ER	**2.12**	ER	**1.18**	ER	ND	
Selenium	40	50	29.6	**9.86**	ER	**10.3**		ND		**5.03**	ER	ND		ND		**10.2**		**8.67**	ER	**11.5**		**11.2**		**5.63**	ER	**4.33**	ER	**113**	
Thallium	2	2	5.5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

Notes:

Detections are bolded

Shaded cells= concentrations exceed the NJDEP GWQS

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

* Value is the US EPA Action Level.

J - Estimated concentration exceeds the MDL and is less than the RL

NLE = No limit established

ND - Not detected

NR - Not reported

ER = Estimated result

LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

Table 2
Historical Groundwater Analytical Results
Site FTMM-57
Fort Monmouth, New Jersey

				108MW01																108MW02					
Round No.			**Weston 1995**	51		52		53		LF3		LF4		LF4 Dup		LF5		LF6	LF7	LF8	LF9	44		45		46	
Date Collected	**NJDEP GWQS**	**USEPA MCL**	**Background (Main Post)**	6/30/2009		8/28/2009		11/6/2009		2/19/2010		5/10/2010		5/10/2010		8/19/2010		11/22/2010	2/18/2011	5/3/2011	8/19/2011	8/3/2007		12/3/2007		3/6/2008	
ANALYTE / Lab ID				90270.03		90362.03		90439.03		10062.03		10180.03		10180.02		10352.03		1050204	1106006	1118802	1135006	70293.04		70502.04		80070.04	
Metals (µg/L)																											
Antimony	6	6	20.7	**6.94**	ER	**7.06**	ER	**6.34**	ER	ND		**12.1**		**10.7**		**8.82**	ER	< 4.7	< 6	< 6	< 6	ND		ND		ND	
Arsenic	3	10	89.3	**28.2**		**32.1**		**10.32**		**2.33**	ER	**2.61**	ER	**2.91**	ER	**3.16**	ER	**1.19**	< 3	< 3	**15.6**	**6.33**		ND		**5.52**	
Barium	6,000	2,000	699	**34.5**		**43.7**		**44.7**		**14.3**		**23.7**		**23.9**		**46.2**		**36**	< 200	< 200	< 200	**42.3**		**26.4**		**38.5**	
Beryllium	1	4	2.1	ND		**0.06**	ER	**0.108**	ER	ND		ND		ND		ND		< 0.4	< 1	< 1	< 1	ND		ND		ND	
Cadmium	4	5	9.5	ND		ND		ND		ND		ND		ND		ND		< 0.4	< 3	< 3	< 3	**0.484**	ER	ND		**0.406**	ER
Chromium	70	100	191	ND		ND		**5.77**		**2.88**	ER	**1.8**	ER	**1.75**	ER	ND		< 0.6	< 10	< 10	< 10	**1.12**	ER	**1.15**	ER	**1.14**	ER
Copper	1,300	1,300 *	65.6	**5.68**		**6.23**		**7.58**		**3.11**	ER	**1.95**	ER	**1.85**	ER	**3.95**	ER	**0.986**	< 10	**13.1**	< 10	**9.9**		**6.92**		**19.5**	
Lead	5	15	22.7	**2.9**	ER	**10.4**		**26**		ND		ND		ND		**6.91**		< 2.1	< 3	**3.3**	< 3	**2.05**	ER	**3.07**	ER	**6.73**	
Mercury	2	2	0.26	ND		ND		ND		ND		**0.12**	ER	**0.12**	ER	ND		**3.97**	< 0.2	< 0.2	< 0.2	ND		ND		ND	
Nickel	100	NLE	187	**2.78**	ER	**1.01**	ER	**2.32**	ER	**0.779**	ER	**1.02**	ER	**1.27**	ER	**1.21**	ER	**1.49**	< 10	< 10	< 10	**1.84**	ER	ND		**7.11**	
Selenium	40	50	29.6	**40.8**		**77.9**		**13.6**	ER	**45**		NR		NR		**103**		**3.97**	< 10	< 10	< 10	**7.23**	ER	ND		ND	
Thallium	2	2	5.5	ND		ND		ND		ND		ND		ND		ND		< 0.53	< 2	< 2	< 2	ND		ND		ND	

Notes:

Detections are bolded

Shaded cells= concentrations exceed the NJDEP GWQS

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

* Value is the US EPA Action Level.

J - Estimated concentration exceeds the MDL and is less than the RL

NLE = No limit established

ND - Not detected

NR - Not reported

ER = Estimated result

LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

Table 2
Historical Groundwater Analytical Results
Site FTMM-57
Fort Monmouth, New Jersey

| | | | | 108MW02 | | | |

Table 2
Historical Groundwater Analytical Results
Site FTMM-57
Fort Monmouth, New Jersey

| | | | | 108MW03 | | | |

Table 2
Historical Groundwater Analytical Results
Site FTMM-57
Fort Monmouth, New Jersey

				108MW03		108MW04																											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF8	LF9	45		46		47		48		49		50		51		51 Dup		52		52 Dup		53		53 Dup		54	
Date Collected				5/11/2011	8/19/2011	8/3/2007		12/3/2007		3/6/2008		4/30/2008		8/6/2008		10/15/2008		2/17/2009		2/17/2009		6/30/2009		6/30/2009		8/28/2009		8/28/2009		11/6/2009	
ANALYTE / Lab ID				1120401	1135005	70293.06		70502.06		80070.06		80144.06		80282.06		80370.06		90057.06		90057.02		90270.06		90270.02		90362.06		90362.02		90439.06	
Metals (µg/L)																																	
Antimony	6	6	20.7	< 6	< 6	ND		ND		ND		ND		ND		ND		**7.85**	ER	**14**		**1.35**	ER	**7.37**		**7.58**	ER	**7.4**	ER	ND	
Arsenic	3	10	89.3	**4.9**	**3.3**	**6.59**		**4.17**	ER	**4.54**	ER	**9.53**		**4.92**	ER	**3.23**	ER	**52.9**		**72.9**		**19.2**		**22.6**		**31.9**		**36.1**		**9.73**	
Barium	6,000	2,000	699	< 200	< 200	**36.5**		**9.99**		**7.68**		**8.87**		**9.76**		**18**		**14.6**		**13.8**		**33.1**		**36.9**		**40.8**		**44.8**		**10.8**	
Beryllium	1	4	2.1	< 1	< 1	ND		ND		ND		**0.147**	ER	ND		**0.281**	ER	ND		ND		**0.418**	ER	**0.669**	ER	ND		ND		ND	
Cadmium	4	5	9.5	< 3	< 3	ND		ND		ND		ND		**0.323**	ER	**0.352**	ER	ND		**0.695**	ER	**0.63**	ER	**0.377**	ER	ND		ND		ND	
Chromium	70	100	191	< 10	< 10	ND		**1.81**	ER	**1.2**	ER	**0.613**	ER	**1.91**	ER	**9.47**		**1.57**	ER	**2.76**	ER	**30.4**		**72.5**		**6.02**		**5.85**		**3.41**	ER
Copper	1,300	1,300 *	65.6	< 10	< 10	**30.4**		**29.8**		**18.3**		**5.25**		**7.9**		**25.3**		**18.5**		**11.7**		81.8		**59.4**		**19.1**		**11.9**		**11.7**	
Lead	5	15	22.7	< 3	**4.7**	ND		**6.49**		ND		ND		ND		**5.38**		**9.74**		**1.71**	ER	**25.1**		**22.7**		**5.26**		**4.04**	ER	**3.55**	ER
Mercury	2	2	0.26	< 0.2	< 0.2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	< 10	< 10	**0.665**	ER	ND		**5.78**		**1.58**	ER	**0.824**	ER	**1.32**	ER	ND		**1.96**	ER	**5.16**		**5.58**		**0.42**	ER	**0.572**	ER	**1.37**	ER
Selenium	40	50	29.6	< 10	< 10	**9.78**	ER	**3.9**	ER	ND		**3.12**	ER	**3.68**	ER	**6.99**	ER	**71.8**		**43.4**		**17**		**10.4**		**89.2**		**81.4**		**8.1**	ER
Thallium	2	2	5.5	< 2	< 2	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

Notes:

Detections are bolded

Shaded cells= concentrations exceed the NJDEP GWQS

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

* Value is the US EPA Action Level.

J - Estimated concentration exceeds the MDL and is less than the RL

NLE = No limit established

ND - Not detected

NR - Not reported

ER = Estimated result

LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

Table 2
Historical Groundwater Analytical Results
Site FTMM-57
Fort Monmouth, New Jersey

| | | | | 108MW04 | | | |

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-57
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-57-GW-108MW01		FTMM-57-GW-108MW02		FTMM-57-GW-108MW03		FTMM-57-GW-108MW04	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013		19-Aug-2013		19-Aug-2013		19-Aug-2013	
LAB SAMPLE ID:					R1306029-013		R1306029-003		R1306029-004		R1306029-012	
SAMPLE INTERVAL (ft bgs):					3-13		3-13		3-13		2-12	
	CAS No.	Unit										
Volatile Organics - SW8260C												
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	5.0	U	2.9	BJ	5.0	U	1.4	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-57
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-57-GW-108MW01		FTMM-57-GW-108MW02		FTMM-57-GW-108MW03		FTMM-57-GW-108MW04	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013		19-Aug-2013		19-Aug-2013		19-Aug-2013	
LAB SAMPLE ID:					R1306029-013		R1306029-003		R1306029-004		R1306029-012	
SAMPLE INTERVAL (ft bgs):					3-13		3-13		3-13		2-12	
	CAS No.	Unit										
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U
Pesticides - SW8081B												
4,4'-DDD	72-54-8	µg/L	0.1	NLE	0.039	U	0.039	U	0.039	U	0.039	U
4,4'-DDT	50-29-3	µg/L	0.1	NLE	0.025	U	0.025	U	0.025	U	0.025	U
4,4'-DDE	72-55-9	µg/L	0.1	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Aldrin	309-00-2	µg/L	0.04	NLE	0.025	U	0.025	U	0.025	U	0.025	U
alpha-BHC	319-84-6	µg/L	0.02	NLE	0.025	U	0.025	U	0.025	U	0.025	U
alpha-Chlordane	5103-71-9	µg/L	5 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U
beta-BHC	319-85-7	µg/L	0.04	NLE	0.025	U	0.025	U	0.025	U	0.025	U
delta-BHC	319-86-8	µg/L	100 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Dieldrin	60-57-1	µg/L	0.03	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Endosulfan I	959-98-8	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Endosulfan II	33213-65-9	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Endosulfan sulfate	1031-07-8	µg/L	40	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Endrin	72-20-8	µg/L	2	2	0.025	U	0.025	U	0.025	U	0.025	U
Endrin aldehyde	7421-93-4	µg/L	5 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Endrin ketone	53494-70-5	µg/L	100 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U
gamma-BHC (Lindane)	58-89-9	µg/L	0.03	NLE	0.025	U	0.025	U	0.025	U	0.025	U
gamma-Chlordane	5566-34-7	µg/L	5 [3]	NLE	0.025	U	0.025	U	0.025	U	0.025	U
Heptachlor	76-44-8	µg/L	0.05	0.4	0.025	U	0.025	U	0.025	U	0.025	U
Heptachlor Epoxide	1024-57-3	µg/L	0.2	0.2	0.025	U	0.025	U	0.025	U	0.025	U
Methoxychlor	72-43-5	µg/L	40	40	0.025	U	0.025	U	0.025	U	0.025	U
Toxaphene	8001-35-2	µg/L	2	3	0.50	U	0.50	U	0.50	U	0.50	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-57
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-57-GW-108MW01		FTMM-57-GW-108MW02		FTMM-57-GW-108MW03		FTMM-57-GW-108MW04	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	19-Aug-2013		19-Aug-2013		19-Aug-2013		19-Aug-2013	
LAB SAMPLE ID:					R1306029-013		R1306029-003		R1306029-004		R1306029-012	
SAMPLE INTERVAL (ft bgs):					3-13		3-13		3-13		2-12	
	CAS No.	Unit										
Metals - SW6010C/SW7470A												
Aluminum	7429-90-5	µg/L	200	NLE	606		94.8	J	169		33.6	J
Antimony	7440-36-0	µg/L	6	6	4.4	BJ	4.0	U	2.5	BJ	4.0	U
Arsenic	7440-38-2	µg/L	3	10	5.0	U	9.0	J	5.4	J	5.0	U
Barium	7440-39-3	µg/L	6,000	2,000	38.3		43.1		22.6		23	
Beryllium	7440-41-7	µg/L	1	4	0.30	U	0.30	U	0.30	U	0.30	U
Cadmium	7440-43-9	µg/L	4	5	0.40	U	0.40	U	0.40	U	0.40	U
Calcium	7440-70-2	µg/L	NLE	NLE	67,500		37,700		31,700		51,200	
Chromium	7440-47-3	µg/L	70	100	5.3		3.9		2.0		1.8	
Cobalt	7440-48-4	µg/L	NLE	NLE	1.0	U	1.2	J	1.0	U	1.0	U
Copper	7440-50-8	µg/L	1,300	1,300 [5]	8.4	BJ	2.9	BJ	5.0	BJ	3.4	BJ
Iron	7439-89-6	µg/L	300	NLE	3,230		14,700		1,820		98.8	J
Lead	7439-92-1	µg/L	5	15 [5]	2.5	J	2.0	U	2.0	U	2.0	U
Magnesium	7439-95-4	µg/L	NLE	NLE	5,190		8,290		3,670		4,370	
Manganese	7439-96-5	µg/L	50	NLE	19.8		363		52.3		1.5	J
Mercury	7439-97-6	µg/L	2	2	0.080	U	0.080	U	0.080	U	0.080	U
Nickel	7440-02-0	µg/L	100	NLE	5.0	U	3.5	J	5.0	U	5.0	U
Potassium	9/7/7440	µg/L	NLE	NLE	8,520		2,970		6,100		4,540	
Selenium	7782-49-2	µg/L	40	50	6.4	J	3.6	J	4.0	J	4.4	J
Silver	7440-22-4	µg/L	40	NLE	0.893	BJ	0.545	BJ	0.773	BJ	0.601	BJ
Sodium	7440-23-5	µg/L	50,000	NLE	64,700		102,000		81,800		6,930	
Thallium	7440-28-0	µg/L	2	2	10	U	10	U	10	U	10	U
Vanadium	7440-62-2	µg/L	NLE	NLE	6.4		12.3		11.2		2.3	J
Zinc	7440-66-6	µg/L	2,000	NLE	86.2	B	3.0	BJ	30.5	B	19	BJ

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).

J - Analyte detected, estimated concentration.

UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.

B - The analyte was found in an associated blank at concentration above one half the LOQ, as well as in the sample.

BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.

D**etections are bolded.**

Detections above the NJDEP GWQS are highlighted.

For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.

[4] Interim specific groundwater quality criteria.

[5] Value is the USEPA Action Level.

NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-57
Fort Monmouth, New Jersey

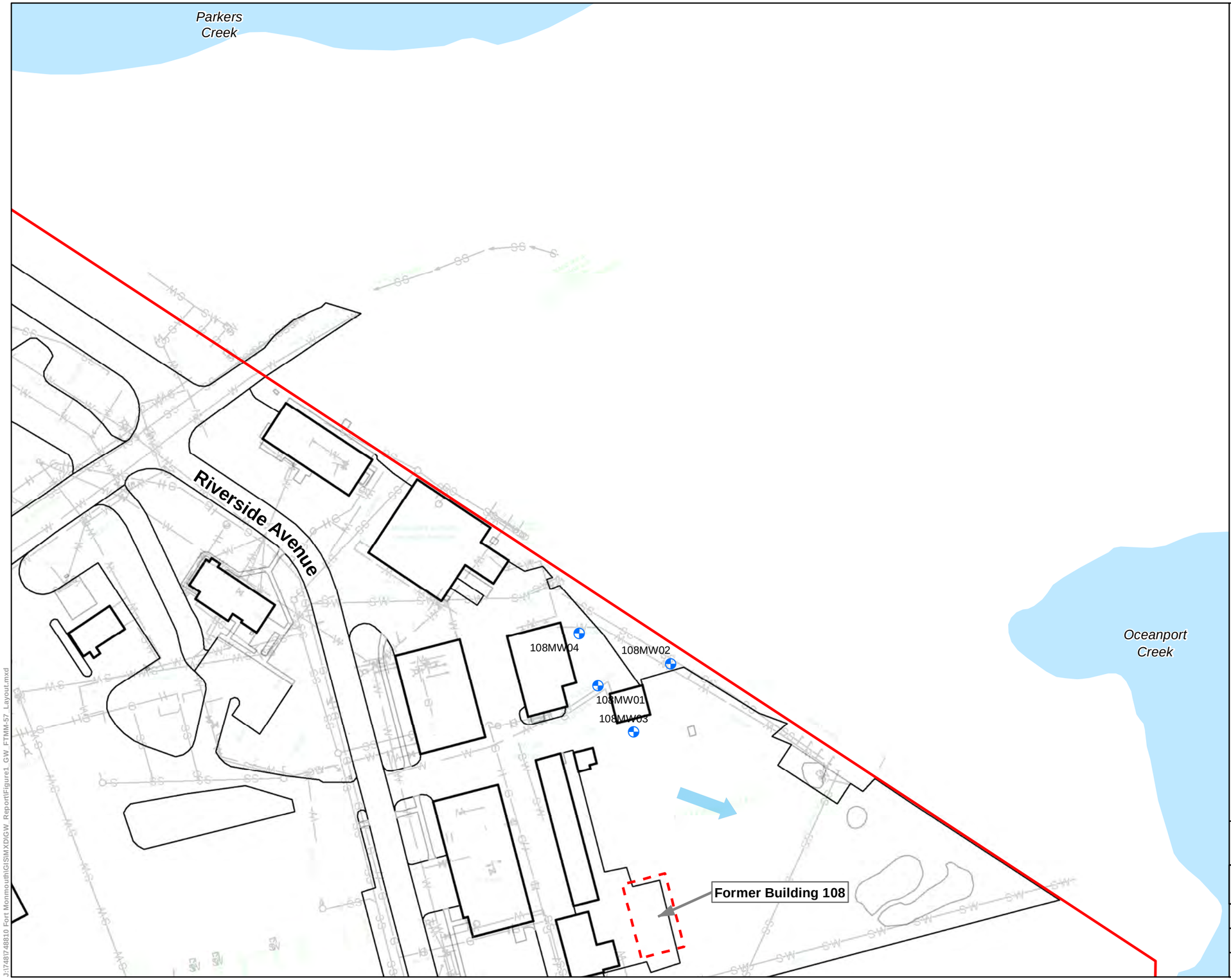
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-57, B108									
108MW01	VOC/ Pesticides/ Metals	Al, Fe, Hg, Na	Al, Hg, Na	NO	YES (Hg)	N/A	NO	NO	Al and Na are background analytes and not from historical site uses. Hg exceedances is anomalous.
108MW02		As, Fe, Mn, Na	Mn, Na	NO	NO	N/A	NO	NO	Mn and Na are background analytes and not from historical site uses.
108MW03		As, Fe, Mn, Na	NO	NO	NO	N/A	NO	NO	No exceedances of site background concentrations.
108MW04		Pb	Pb	NO	NO	N/A	NO	YES	Pb analyzed for two more rounds to confirm a lack or presence.

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 analytical data.

FIGURES

Figure 1 Layout of FTMM-57



Legend

- Shallow Monitoring Well
- Former Building 108
- Installation Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 100 feet

0 50 100 200 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-57 (Building 108)	
CREATED BY: TS	REVIEWED BY: IG
DATE: November 2013	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-57_Layout.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-57_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW01 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-01~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-57
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/19/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 9.56
FEET OF WATER IN WELL: ~~7.09~~ 6.89

SCREENED INTERVAL (TOC): 10
PUMP INTAKE DEPTH (ft below TOC): 6.28
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 2.87

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:30	X		6.87	NA	0.674	NA	23.9	NA	1.06	NA	9.0	NA	20.40	NA	100	2.76
10:35	X		6.88	0.01	0.675	0.001	18.2	5.7	0.82	0.24	10.6	1.6	20.27	0.13	100	2.90
10:40	X		6.87	0.01	0.674	0.001	11.1	7.1	0.54	0.28	8.3	2.3	20.28	0.01	100	2.91
10:45	X		6.87	0.00	0.672	0.002	2.4	8.7	0.47	0.07	8.0	0.3	20.27	0.01	100	2.93
10:50	X		6.87	0.00	0.671	0.001	-3.2	5.6	0.46	0.01	8.1	0.1	20.29	0.02	100	2.93
10:55	X		6.87	0.00	0.670	0.001	-6.5	3.3	0.45	0.01	7.9	0.2	20.23	0.06	100	2.94
11:00	X		6.88	0.01	0.670	0.000	-9.3	-2.8	0.46	0.01	7.9	0.0	20.27	0.04	100	2.94
11:02		X	6.87	0.01	0.669	0.001	-12.1	2.8	0.47	0.01	7.5	0.4	20.26	0.01	100	2.94

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW01 (JC)

PARSONS | CLIENT: USAESCH | WELL #: MW-01

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-ES7-GW-108MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	11:02	3	CLR		
Metals	11:02	1	CLR		
Pesticides	11:02	2	CLR		

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW02 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-02~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-57
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE

DATE: 8/19/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 12.76
FEET OF WATER IN WELL: 4.84

SCREENED INTERVAL (TOC): 10.00
PUMP INTAKE DEPTH (ft below TOC): 7.88
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.71

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
13:50			6.76	NA	0.826	NA	-145.3	NA	0.88	NA	127.0	NA	20.55	NA	100	4.78
13:55			6.61	0.15	0.818	0.008	-148.4	3.1	0.52	0.36	118.1	8.9	20.23	0.32	100	4.81
14:00			6.54	0.07	0.813	0.005	-158.3	9.9	0.24	0.02	116.7	1.4	20.01	0.22	100	4.81
14:05			6.53	0.01	0.812	0.001	-168.1	9.8	0.16	0.08	117.3	0.6	19.88	0.13	100	4.81
14:10			6.53	0.00	0.813	0.001	-170.6	2.5	0.11	0.05	118.9	1.6	19.89	0.01	100	4.81
14:15			6.53	0.00	0.820	0.007	-170.3	0.3	0.09	0.02	116.7	2.2	19.98	0.09	100	4.81
14:20			6.52	0.01	0.822	0.002	-168.5	1.8	0.10	0.01	117.8	1.1	20.02	0.04	100	4.81
14:25			6.52	0.00	0.826	0.002	-161.0	7.5	0.13	0.03	115.0	2.8	20.10	0.08	100	4.81
14:30			6.50	0.02	0.832	0.006	-144.0	17.0	0.18	0.05	117.4	2.4	20.10	0.00	100	4.81
14:35			6.51	0.01	0.833	0.001	-139.1	4.9	0.18	0.00	115.6	1.8	20.09	0.01	100	4.82
14:40			6.50	0.01	0.834	0.001	-136.4	2.7	0.19	0.01	117.3	1.7	20.10	0.01	100	4.82
14:43		X	6.50	0.00	0.836	0.002	-132.1	4.3	0.18	0.01	116.9	0.4	20.09	0.01	100	4.82

COMMENTS: Stickup 1.94' above grade

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW02 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-02

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-57-GW-108MW02

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	14:43	3	tan	116.9	
Metals	14:43	1	tan	116.9	
Pesticides	14:43	2	tan	116.9	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

Form LFPS -GW.xls

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW03 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-03~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM -57
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/19/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zahne
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 10.46
FEET OF WATER IN WELL: 8.7

SCREENED INTERVAL (TOC): 10
PUMP INTAKE DEPTH (ft below TOC): 6.73
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 1.76

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:53	X		7.46	NA	0.635	NA	-22.7	NA	1.53	NA	67.3	NA	25.78	NA	100	1.80
11:58	X		7.32	0.14	0.606	0.029	-71.4	~~48.7~~	0.55	0.98	53.4	3.9	25.09	0.69	100	1.95
12:03	X		7.29	0.03	0.602	0.004	-86.3	14.9	0.42	0.13	40.5	12.9	25.01	0.08	100	1.98
12:08	X		7.29	0.00	0.601	0.001	-92.3	6.0	0.36	0.06	31.1	9.4	25.07	0.06	100	2.00
12:13	X		7.29	0.00	0.601	0.000	-101.8	9.5	0.27	0.09	27.4	3.7	24.89	0.18	100	2.01
12:18	X		7.28	0.01	0.600	0.001	-106.6	4.8	0.23	0.04	21.7	5.7	24.82	0.07	100	2.01
12:23	X		7.28	0.00	0.599	0.001	-109.5	2.9	0.21	0.02	19.3	2.4	24.58	0.24	100	2.01
12:28	X		7.28	0.00	0.598	0.001	-112.9	3.4	0.19	0.02	12.3	7.0	24.32	0.26	100	2.01
12:33	X		7.28	0.00	0.598	0.000	-114.5	1.6	0.18	0.01	8.7	3.6	24.26	0.06	100	2.02
12:38	X		7.28	0.00	0.598	0.000	-116.9	2.4	0.17	0.01	8.0	0.7	24.17	0.09	100	2.02
12:43	X		7.28	0.00	0.598	0.000	-120.1	3.2	0.17	0.00	8.2	0.2	24.12	0.05	100	2.02
12:45		X	7.28	0.00	0.598	0.000	-122.9	2.8	0.16	0.01	7.9	0.3	24.09	0.03	100	2.03

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW03 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-03

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-57-GW-108MW03

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	12:45	3	CLR	7.9	
Metals	12:45	1	CLR	7.9	
Pesticides	12:45	2	CLR	7.9	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW04 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): FTMM - 57

SAMPLIG INSTRUMENTS: Bladder Pump

PID DETECTOR: PID MiniRAE

DATE: 8/19/13

LABORATORY:

SAMPLING PERSONNEL

NAME: Owen Zalme

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0

WELL DEPTH (TOC): 12.14

FEET OF WATER IN WELL: 9.29

SCREENED INTERVAL (TOC): 10.00

PUMP INTAKE DEPTH (ft below TOC): 9.07

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 2.86

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:08	X		6.68	NA	0.597	NA	212	NA	4.57	NA	3.1	NA	23.06	NA	100	2.88
9:13	X		6.65	0.03	0.469	0.128	210.1	1.9	2.21	2.36	0.0	3.1	23.15	0.09	100	2.89
9:18	X		6.66	0.01	0.459	0.010	199.4	10.7	2.12	0.09	0.0	0.0	23.30	0.15	100	2.89
9:23	X		6.68	0.02	0.442	0.017	160.0	39.4	1.57	0.55	0.0	0.0	23.55	0.25	100	2.89
9:28	X		6.67	0.01	0.428	0.014	128.2	31.8	1.48	0.09	0.0	0.0	23.73	0.18	100	2.89
9:33	X		6.67	0.00	0.425	0.003	122.1	6.1	1.50	0.02	0.0	0.0	23.72	0.01	100	2.89
9:38	X		6.65	0.02	0.408	0.017	99.3	22.8	1.55	0.05	0.0	0.0	23.79	0.07	100	2.90
9:43	X		6.67	0.02	0.396	0.012	82.8	16.5	1.53	0.02	0.0	0.0	23.90	0.11	100	2.90
9:48	X		6.66	0.01	0.393	0.003	79.4	3.4	1.50	0.03	0.0	0.0	23.98	0.08	100	2.90
9:53	X		6.66	0.0	0.389	0.004	73.9	5.5	1.52	0.02	0.0	0.0	23.94	0.04	100	2.90
9:55		X	6.66	0.0	0.386	0.003	72.1	1.8	1.49	0.03	0.0	0.0	24.02	0.08	100	2.90

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

108MW04 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-04

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-57-GW-108MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	9:55	3	CLR	0.0	
Metals	9:55	1	CLR	0.0	
Pesticides	9:55	2	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX P: FTMM-58 Building 2567

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2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT P-1
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3	2013 Baseline Groundwater Analytical Detections
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Figure No.	Title
1	Layout of FTMM-58 (Building 2567)

LIST OF ATTACHMENTS

Attachment	Title
A	NJDEP PDB Checklists & LFPS Field Sheets

1.0 FTMM-58 GROUNDWATER MONITORING

Groundwater samples were collected from seven monitoring wells located at FTMM-58 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using passive diffusion bags (PDBs) methodology as per the March 2013 Sampling and Analysis Plan (SAP). PDBs were deployed on August 14, 2013, allowed to equilibrate for a minimum of two weeks, and retrieved on August 29, 2013. Additionally, site monitoring well 2567MW03 was sampled on August 29, 2013 using low flow purging and sampling (LFPS) methodology to determine the representativeness of samples collected via PDB. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed NJDEP PDB Checklists and LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-58 were gauged on August 6, 2013. Groundwater elevations in monitoring wells ranged from 26.06 (2567MW06) to 30.42 (2567MW02) feet above mean sea level (amsl), and interpreted groundwater flow direction is to the southeast (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Additionally, the condition of the site monitoring wells was also assessed during the groundwater gauging. FTMM-58 monitoring wells were found to be in good physical condition and contained sampling tubing.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

Groundwater monitoring has been conducted at FTMM-58 beginning in April 1997. Groundwater monitoring has consisted of sampling for select VOCs, semi-volatile organic compounds (SVOCs), and metals. The four most recent quarterly groundwater sampling events consisted of sampling for VOCs and metals.

Tert-butyl alcohol (TBA) was detected in FTMM-58 monitoring well 2567MW01 in exceedance of the NJDEP Groundwater Quality Standards (GWQS) in March and June 2010, but was not detected in the subsequent groundwater sampling event conducted in September 2010. TBA was also detected in 2567MW03 at a concentration of 486.99 µg/L in September

2010. The NJDEP GWQS for TBA is 100 µg/L. Historical groundwater analytical data can be found in **Table 2**.

The November 2011 Remedial Action Progress Report for FTMM-58 prepared by CALIBRE Systems, Inc. stated that in an effort to reduce the TBA exceedances exhibited in monitoring wells 2567MW01 and 2567MW03, *in-situ* chemical oxidation injections would be performed in this area. Three injections of RegenOx®/ORC Advanced™ were conducted between November 2010 and June 2011 under an approved NJDEP Permit by Rule letter dated October 28, 2010. These injections likely reduced the concentrations of TBA to below laboratory detection limits.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**. Groundwater samples were analyzed for VOCs. No VOCs were detected above their respective NJDEP Groundwater Quality Standard (GWQS).

5.0 FINDINGS AND RECOMMENDATIONS

No exceedances of the NJDEP GWQS for VOCs were detected in groundwater samples collected during the August 2013 Baseline Groundwater Sampling Event. Due to historical exceedances of TBA in monitoring wells 2567MW01 and 2567MW03, two more rounds of analysis solely for TBA will be performed to confirm a lack or presence of the contaminant. **Table 4** presents the matrix used to determine groundwater sampling recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-58
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC	Gauged DTB (ft) TOC	Groundwater Elevation (ft.AMSL)	Saturated Screen Length	Every 5' of saturated screen requires PDB & its deployed in mid-point of saturated screen interval: PDB Interval 1 (ft. below TOC)	PDB Interval 2 (ft. below TOC)	PDB Interval 3 (ft. below TOC)	PDB Interval 4 (ft. below TOC)	PDB Deploy Date	PDB Deploy Time	PDB Sample Date	PDB Sample Time	LFPS Confirmatory Sample Date and Time
				feet																			
M-58, B2567																							
2567MW01	29-26925	532956.749	609537.780	13.00	10.00	3-13	32.86	8-6-13	1443	0	4.3	12.05	28.56	9.34	8.33	N/A	N/A	N/A	8/14/2013	1517	8/29/2013	1030	N/A
2567MW02	29-26926	533016.726	609468.755	13.00	10.00	3-13	34.17	8-6-13	1448	0	3.75	12.45	30.42	9.88	8.06	N/A	N/A	N/A	8/14/2013	1530	8/29/2013	1050	N/A
2567MW03	29-26927	532929.317	609472.358	13.00	10.00	3-13	32.79	8-6-13	1453	0	3.2	12.7	29.59	10	5.11	10.5	N/A	N/A	8/14/2013	1446	8/29/2013	1000	8-29-13; 1135
2567MW04	29-26928	533042.700	609544.264	12.00	10.00	2-12	32.42	8-6-13	1445	0	2.77	11.69	29.65	9.83	7.09	N/A	N/A	N/A	8/14/2013	1523	8/29/2013	1040	N/A
2567MW05	29-31783	532871.131	609697.518	12.50	10.00	2.5-12.5	33.90	8-6-13	1435	0	7.41	15.02	26.49	8.9	9.65	N/A	N/A	N/A	8/14/2013	1455	8/29/2013	930	N/A
2567MW06	29-42585	532869.379	609542.569	13.00	10.00	3-13	34.01	8-6-13	1453	0	7.95	16	26.06	9.15	11.48	N/A	N/A	N/A	8/14/2013	1511	8/29/2013	1020	N/A
2567MW07	29-42586	532879.489	609473.420	13.00	10.00	3-13	35.25	8-6-13	1455	0	6.87	15.99	28.38	9.91	10.99	N/A	N/A	N/A	8/14/2013	1507	8/29/2013	950	N/A

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, and TOC elevation were provided by FTMM in a table in June 2013.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS = low flow purging and sampling
PDB = Passive Diffusion Bag
N/A = not applicable

Table 2
Historical Groundwater Analytical Results
Site FTMM-58
Fort Monmouth, New Jersey

				2567MW01																				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	42	42 Dup	43		43 Dup		44		45		45 Dup		46		46 Dup		47		47 Dup		48	49	50	50 Dup
Date Collected				7/30/2007	7/30/2007	12/4/2007		12/4/2007		2/29/2008		4/23/2008		4/23/2008		8/8/2008		8/8/2008		11/4/2008		11/4/2008		3/5/2009	6/3/2009	8/24/2009	8/24/2009
ANALYTE / Lab ID				70285.04	70285.03	70504.04		70504.03		80063.04		80136.04		80136.03		80287.04		80287.03		80401.04		80401.03		90087.04	90220.04	90354.04	90354.03
Volatile Organic Compounds (µg/L)																											
Acetone	6,000	NLE	--	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	**0.46**	J	**0.24**	J	**0.57**	J	**0.44**	J	**0.44**	J	**1.12**	J	**1.19**	J	**0.71**	J	**0.75**	J	ND	**0.67**	**0.51**	**0.54**
tert -Butyl alcohol	100	NLE	--	**381.93**	**414.03**	**76.26**		**56.34**		**138.73**		**80.22**		**50.57**		**136.16**		**134.66**		**355.01**		**359.60**		**22.07**	**130.92**	ND	ND
Toluene	600	1,000	--	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	ND
TICs*	NLE	NLE	--	ND	ND	ND		ND		ND		ND		ND		ND		**3**		ND		ND		ND	ND	ND	ND
Metals (µg/L)																											
Antimony	6	6	20.7	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Arsenic	3	10	89.3	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Barium	6,000	2,000	699	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Beryllium	1	4	2.1	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Cadmium	4	5	9.5	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Chromium	70	100	191	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Copper	1,300	1,300 **	65.6	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Lead	5	15	22.7	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	ND	ND	ND
Mercury	2	2	0.26	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Selenium	40	50	29.6	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA
Thallium	2	2	5.5	NA	NA	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

** Value is the USEPA Action Level.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

Table 2
Historical Groundwater Analytical Results
Site FTMM-58
Fort Monmouth, New Jersey

				2567MW01										2567MW02								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	51	51 Dup	LF1		LF2		LF2 Dup		LF3		42	43	44	45		46	47	48	48 Dup	49
Date Collected				10/26/2009	10/26/2009	3/4/2010		6/9/2010		6/9/2010		9/16/2010		7/30/2007	12/4/2007	2/29/2008	4/23/2008		8/8/2008	11/4/2008	3/5/2009	3/5/2009	6/3/2009
ANALYTE / Lab ID				90428.04	90428.03	10069.08		10251.04		10251.03		10395.05		70285.05	70504.05	80063.05	80136.05		80287.05	80401.05	90087.05	90087.03	90220.05
Volatile Organic Compounds (µg/L)																							
Acetone	6,000	NLE	--	ND	ND	ND		ND		ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND		ND		ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND
2-Butanone	300	NLE	--	ND	ND	--		--		--		--		ND	ND	ND	ND		ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	**0.90**	**0.92**	**1.28**		**1.15**		**1.11**		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	**13.13**	**13.13**	**662.11**		**829.45**		**736.09**		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND		ND		ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND		ND		ND		ND		ND	ND	ND	ND		ND	ND	ND	ND	ND
TICs*	NLE	NLE	--	ND	ND	ND		**9**		**6**		**234**		ND	**9**	ND	ND		**8**	**15**	**6**	**6**	ND
Metals (µg/L)																							
Antimony	6	6	20.7	NA	NA	**6.88**	ER	**10.7**		**12.6**		**18.7**		NA	NA	NA	NA		NA	NA	NA	NA	NA
Arsenic	3	10	89.3	NA	NA	**1.14**	ER	ND		**0.69**	ER	ND		NA	NA	NA	NA		NA	NA	NA	NA	NA
Barium	6,000	2,000	699	NA	NA	**845**		**1120**		**1110**		**885**		NA	NA	NA	NA		NA	NA	NA	NA	NA
Beryllium	1	4	2.1	NA	NA	ND		**0.06**	ER	**0.07**	ER	ND		NA	NA	NA	NA		NA	NA	NA	NA	NA
Cadmium	4	5	9.5	NA	NA	ND		ND		ND		ND		NA	NA	NA	NA		NA	NA	NA	NA	NA
Chromium	70	100	191	NA	NA	ND		ND		ND		ND		NA	NA	NA	NA		NA	NA	NA	NA	NA
Copper	1,300	1,300 **	65.6	NA	NA	ND		ND		ND		**1.54**	ER	NA	NA	NA	NA		NA	NA	NA	NA	NA
Lead	5	15	22.7	ND	ND	ND		ND		ND		ND		ND	ND	ND	**1.35**	ER	ND	ND	ND	**6.79**	ND
Mercury	2	2	0.26	NA	NA	ND		ND		ND		ND		NA	NA	NA	NA		NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	**1.02**	ER	ND		ND		ND		NA	NA	NA	NA		NA	NA	NA	NA	NA
Selenium	40	50	29.6	NA	NA	NR		NR		NR		ND		NA	NA	NA	NA		NA	NA	NA	NA	NA
Thallium	2	2	5.5	NA	NA	ND		ND		ND		ND		NA	NA	NA	NA		NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

** Value is the USEPA Action Level.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

Table 2
Historical Groundwater Analytical Results
Site FTMM-58
Fort Monmouth, New Jersey

				2567MW02												2567MW03											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	49 Dup		50		51		LF1		LF1 Dup		LF2		LF2 Dup		LF3		LF3 Dup		42		43		44		45		46		47	
Date Collected				6/3/2009		8/24/2009		10/26/2009		3/4/2010		3/4/2010		6/8/2010		6/8/2010		9/15/2010		9/15/2010		7/30/2007		12/4/2007		2/29/2008		4/23/2008		8/8/2008		11/4/2008	
ANALYTE / Lab ID				90220.03		90354.05		90428.05		10069.04		10069.03		10248.04		10248.03		10392.04		10392.03		70285.06		70504.06		80063.06		80136.06		80287.06		80401.06	
Volatile Organic Compounds (µg/L)																															
Acetone	6,000	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzene	1	5	--	ND		ND		ND		--		--		ND		--		--		--		ND		**0.14**	J	ND		ND		ND		**0.21**	J
2-Butanone	300	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methyl *tert* -butyl ether	70	NLE	--	ND		ND		ND		--		--		ND		--		--		--		ND		**0.62**	J	**1.10**	J	**1.46**	J	**1.24**	J	**0.92**	J
tert -Butyl alcohol	100	NLE	--	ND		ND		ND		--		--		ND		--		--		--		**71.53**		**24.36**		**29.04**		**49.26**		**27.37**		ND	
Toluene	600	1,000	--	ND		ND		ND		--		--		ND		--		--		--		ND		ND		ND		ND		ND		ND	
Xylenes (total)	1,000	10,000	--	ND		ND		ND		--		--		ND		--		--		--		ND		**0.46**	J	ND		**0.92**	J	**1.51**	J	**0.84**	J
TICs*	NLE	NLE	--	ND		ND		**15**		ND		ND		ND		ND		**20**		**26**		ND		**53**		**73**		**160**		**441**		**128**	
Metals (µg/L)																															
Antimony	6	6	20.7	NA		NA		NA		ND		**6.13**	ER	**9.73**	ER	**9.89**	ER	**13.2**		**11.1**		NA		NA		NA		NA		NA		NA	
Arsenic	3	10	89.3	NA		NA		NA		**1.01**	ER	**0.91**	ER	**0.70**	ER	**1.00**	ER	**1.46**	ER	**1.06**	ER	NA		NA		NA		NA		NA		NA	
Barium	6,000	2,000	699	NA		NA		NA		**377**		**407**		**340**		**339**		**434**		**443**		NA		NA		NA		NA		NA		NA	
Beryllium	1	4	2.1	NA		NA		NA		ND		ND		**0.136**	ER	**0.15**	ER	ND		ND		NA		NA		NA		NA		NA		NA	
Cadmium	4	5	9.5	NA		NA		NA		ND		ND		ND		ND		--		--		NA		NA		NA		NA		NA		NA	
Chromium	70	100	191	NA		NA		NA		ND		ND		ND		ND		ND		ND		NA		NA		NA		NA		NA		NA	
Copper	1,300	1,300 **	65.6	NA		NA		NA		ND		ND		ND		ND		**3.02**	ER	**2.32**	ER	NA		NA		NA		NA		NA		NA	
Lead	5	15	22.7	ND		ND		ND		ND		ND		ND		ND		ND		ND		**0.78**	ER	ND		ND		ND		ND		ND	
Mercury	2	2	0.26	NA		NA		NA		ND		ND		ND		ND		**0.08**	ER	**0.08**	ER	NA		NA		NA		NA		NA		NA	
Nickel	100	NLE	187	NA		NA		NA		ND		ND		ND		ND		**1.07**	ER	**1.63**	ER	NA		NA		NA		NA		NA		NA	
Selenium	40	50	29.6	NA		NA		NA		NR		NR		NR		NR		**1.96**		ND		NA		NA		NA		NA		NA		NA	
Thallium	2	2	5.5	NA		NA		NA		ND		ND		ND		ND		ND		ND		NA		NA		NA		NA		NA		NA	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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ER = Estimated Result

LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

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Table 2
Historical Groundwater Analytical Results
Site FTMM-58
Fort Monmouth, New Jersey

				2567MW03												2567MW04									
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	48		49		50	51	LF1		LF2		LF3		42		43	44	45	46	47	48		49	50
Date Collected				3/5/2009		6/3/2009		8/24/2009	10/26/2009	3/5/2010		6/9/2010		9/15/2010		7/30/2007		12/4/2007	2/29/2008	4/23/2008	8/8/2008	11/4/2008	3/5/2009		6/3/2009	8/24/2009
ANALYTE / Lab ID				90087.06		90220.06		90354.06	90428.06	10073.05		10251.05		10392.08		70285.07		70504.07	80063.07	80136.07	80287.07	80401.07	90087.07		90220.07	90354.07
Volatile Organic Compounds (µg/L)																										
Acetone	6,000	NLE	--	ND		ND		ND	ND	ND		ND		ND		ND		ND	ND	ND	ND	ND	ND		ND	ND
Benzene	1	5	--	ND		ND		ND	ND	ND		ND		ND		ND		ND	ND	ND	ND	ND	ND		ND	ND
2-Butanone	300	NLE	--	ND		ND		ND	ND	ND		ND		ND		ND		ND	ND	ND	ND	ND	ND		ND	ND
Methyl *tert* -butyl ether	70	NLE	--	**0.99**	J	**1.10**	J	**0.78**	**0.74**	**0.42**	J	**0.25**	J	**1.26**		ND		ND	ND	ND	ND	ND	ND		ND	ND
tert -Butyl alcohol	100	NLE	--	ND		ND		ND	ND	ND		ND		**486.99**		ND		ND	ND	ND	ND	ND	ND		ND	ND
Toluene	600	1,000	--	ND		ND		ND	ND	ND		ND		ND		ND		ND	ND	ND	ND	ND	ND		ND	ND
Xylenes (total)	1,000	10,000	--	**0.53**		**0.43**	J	ND	ND	ND		ND		ND		ND		ND	ND	ND	ND	ND	ND		ND	ND
TICs*	NLE	NLE	--	**311**		**116**		**78**	**227**	**53**		**5**		**18**		ND		ND	ND	ND	ND	ND	ND		ND	ND
Metals (µg/L)																										
Antimony	6	6	20.7	NA		NA		NA	NA	ND		**9.45**	ER	**16.5**		NA		NA	NA	NA	NA	NA	NA		NA	NA
Arsenic	3	10	89.3	NA		NA		NA	NA	ND		ND		--		NA		NA	NA	NA	NA	NA	NA		NA	NA
Barium	6,000	2,000	699	NA		NA		NA	NA	**195**		**382**		**1120**		NA		NA	NA	NA	NA	NA	NA		NA	NA
Beryllium	1	4	2.1	NA		NA		NA	NA	ND		**0.04**	ER	ND		NA		NA	NA	NA	NA	NA	NA		NA	NA
Cadmium	4	5	9.5	NA		NA		NA	NA	ND		ND		--		NA		NA	NA	NA	NA	NA	NA		NA	NA
Chromium	70	100	191	NA		NA		NA	NA	ND		ND		ND		NA		NA	NA	NA	NA	NA	NA		NA	NA
Copper	1,300	1,300 **	65.6	NA		NA		NA	NA	ND		ND		**2.46**	ER	NA		NA	NA	NA	NA	NA	NA		NA	NA
Lead	5	15	22.7	ND		**1.45**	ER	ND	ND	ND		ND		ND		**2.04**	ER	ND	ND	NA	ND	ND	**2.18**	ER	ND	ND
Mercury	2	2	0.26	NA		NA		NA	NA	ND		ND		**0.07**	ER	NA		NA	NA	NA	NA	NA	NA		NA	NA
Nickel	100	NLE	187	NA		NA		NA	NA	ND		ND		**3.11**	ER	NA		NA	NA	NA	NA	NA	NA		NA	NA
Selenium	40	50	29.6	NA		NA		NA	NA	NR		NR		ND		NA		NA	NA	NA	NA	NA	NA		NA	NA
Thallium	2	2	5.5	NA		NA		NA	NA	ND		ND		ND		NA		NA	NA	NA	NA	NA	NA		NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

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Table 2
Historical Groundwater Analytical Results
Site FTMM-58
Fort Monmouth, New Jersey

				2567MW04									2567MW05																					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	51	LF1		LF2		LF3		42		43		44		45	46	47	48	49	50	51	LF1		LF1 Dup	
Date Collected				10/26/2009	3/4/2010		6/8/2010		9/15/2010		7/30/2007		12/4/2007		2/29/2008		4/23/2008	8/8/2008	11/4/2008	3/5/2009	6/3/2009	8/24/2009	10/26/2009	3/5/2010		3/5/2010	
ANALYTE / Lab ID				90428.07	10069.05		10248.05		10392.05		70285.08		70504.08		80063.08		80136.08	80287.08	80401.08	90087.08	90220.08	90354.08	90428.08	10073.04		10073.03	
Volatile Organic Compounds (µg/L)																																		
Acetone	6,000	NLE	--	ND	ND		ND		ND		ND		**1.41**	J	ND		ND	**12.42**	ND	ND	ND	ND	ND	ND		ND	
Benzene	1	5	--	ND	--		--		--		ND		ND		ND		ND	ND	ND	ND	ND	ND	ND	--		--	
2-Butanone	300	NLE	--	ND	ND		ND		ND		ND		ND		ND		ND	**42.96**	ND	ND	ND	ND	ND	ND		ND	
Methyl *tert* -butyl ether	70	NLE	--	ND	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	ND	ND	ND	--		--	
tert -Butyl alcohol	100	NLE	--	ND	--		--		--		ND		ND		ND		ND	ND	ND	ND	ND	ND	ND	--		--	
Toluene	600	1,000	--	ND	--		--		--		ND		ND		ND		ND	**217.8**	ND	ND	**3.37**	**36.54**	ND	ND		ND	
Xylenes (total)	1,000	10,000	--	ND	--		--		--		ND		ND		ND		ND	ND	ND	ND	ND	ND	ND	--		--	
TICs*	NLE	NLE	--	ND	ND		ND		ND		ND		ND		ND		ND	**10**	ND	ND	ND	ND	ND	ND		ND	
Metals (µg/L)																																		
Antimony	6	6	20.7	NA	**5.51**	ER	**6.42**		**8.64**	ER	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	ND		ND	
Arsenic	3	10	89.3	NA	**2.37**	ER	**1.80**	ER	**2.22**	ER	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	ND		**0.71**	ER
Barium	6,000	2,000	699	NA	**74.3**		**136**		**175**		NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	**105**		**106**	
Beryllium	1	4	2.1	NA	**0.38**	ER	**0.32**	ER	**0.20**	ER	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	**0.24**	ER	**0.20**	ER
Cadmium	4	5	9.5	NA	**0.58**	ER	ND		ND		NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	**1.48**	ER	**1.36**	ER
Chromium	70	100	191	NA	**1.78**	ER	ND		ND		NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	ND		ND	
Copper	1,300	1,300 **	65.6	NA	**1.39**	ER	ND		**2.15**	ER	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	**5.22**		**5.22**	
Lead	5	15	22.7	ND	ND		ND		ND		**11.0**		**5.32**		**3.24**	ER	**8.12**	**25.6**	**8.21**	**59.9**	**5.70**	**46.0**	ND	ND		ND	
Mercury	2	2	0.26	NA	ND		ND		**0.07**	ER	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	ND		ND	
Nickel	100	NLE	187	NA	**11.4**		**10.9**		**3.7**	ER	NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	**11.1**		**11.7**	
Selenium	40	50	29.6	NA	NR		NR		ND		NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	NR		NR	
Thallium	2	2	5.5	NA	ND		ND		ND		NA		NA		NA		NA	NA	NA	NA	NA	NA	NA	ND		ND	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

** Value is the USEPA Action Level.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)

LF = Low flow sampling method used to collect sample

< = Analyte does not exceed the detection limit shown

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

NA = Not analyzed

ND = Not detected

NLE = No limit established

ER = Estimated Result

LF = Low flow sampling method used to collect sample

DUP = field duplicate sample

J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)

Table 2
Historical Groundwater Analytical Results
Site FTMM-58
Fort Monmouth, New Jersey

				2567MW05						2567MW06												
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF2		LF3		LF3 Dup		29	30	31	44	32	33	34	35	36		37	LF1	
Date Collected				6/8/2010		9/16/2010		9/16/2010		7/30/2007	12/4/2007	2/29/2008	2/29/2008	4/23/2008	8/8/2008	11/4/2008	3/5/2009	6/3/2009		8/24/2009	3/4/2010	
ANALYTE / Lab ID				10248.08		10395.04		10395.03		70285.09	70504.09	80063.09	80063.03	80136.09	80287.09	80401.09	90087.09	90220.09		90354.09	10069.06	
Volatile Organic Compounds (µg/L)																						
Acetone	6,000	NLE	--	ND		ND		ND		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	ND	
Benzene	1	5	--	--		--		--		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	--	
2-Butanone	300	NLE	--	ND		ND		ND		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	--	
Methyl *tert* -butyl ether	70	NLE	--	--		--		--		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	--	
tert -Butyl alcohol	100	NLE	--	--		--		--		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	--	
Toluene	600	1,000	--	ND		ND		ND		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	--	
Xylenes (total)	1,000	10,000	--	--		--		--		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	--	
TICs*	NLE	NLE	--	ND		ND		ND		ND	ND	ND	--	ND	ND	ND	ND	ND		ND	ND	
Metals (µg/L)																						
Antimony	6	6	20.7	ND		ND		**7.31**	ER	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	ND	
Arsenic	3	10	89.3	**1.30**	ER	**2.57**	ER	**2.41**	ER	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	**0.89**	ER
Barium	6,000	2,000	699	**49.5**		**41.5**		**38.1**		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	**67.1**	
Beryllium	1	4	2.1	**0.44**	ER	**0.36**	ER	**0.33**	ER	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	**0.558**	
Cadmium	4	5	9.5	ND		ND		ND		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	ND	
Chromium	70	100	191	**11.4**		**7.39**		**6.77**		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	**3.18**	ER
Copper	1,300	1,300 **	65.6	**16.6**		**13.1**		**12.5**		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	**1.35**	ER
Lead	5	15	22.7	**11.9**		**7.02**		**6.19**		ND	ND	ND	ND	ND	ND	ND	ND	**1.86**	ER	ND	ND	
Mercury	2	2	0.26	ND		ND		ND		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	ND	
Nickel	100	NLE	187	**6.93**		**6.1**	ER	**5.34**		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	**9.80**	
Selenium	40	50	29.6	NR		**1.7**		ND		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NR	
Thallium	2	2	5.5	ND		ND		ND		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	ND	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.

** Value is the USEPA Action Level.

NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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Table 2
Historical Groundwater Analytical Results
Site FTMM-58
Fort Monmouth, New Jersey

				2567MW06				2567MW07															
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF2		LF3		29		30	31	32	33	34	35	36	37	38	LF1		LF2		LF3	
Date Collected				6/8/2010		9/15/2010		7/30/2007		12/4/2007	2/29/2008	4/23/2008	8/8/2008	11/4/2008	3/5/2009	6/3/2009	8/24/2009	10/26/2009	3/4/2010		6/8/2010		9/15/2010	
ANALYTE / Lab ID				10248.06		10392.06		70285.10		70504.10	80063.10	80136.10	80287.10	80401.10	90087.10	90220.10	90354.10	90428.10	10069.07		10248.07		10392.07	
Volatile Organic Compounds (µg/L)																								
Acetone	6,000	NLE	--	ND		ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Benzene	1	5	--	--		--		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	--		--		--	
2-Butanone	300	NLE	--	--		--		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	--		--		--	
Methyl *tert* -butyl ether	70	NLE	--	--		--		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
tert -Butyl alcohol	100	NLE	--	--		--		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Toluene	600	1,000	--	--		--		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	--		--		--	
Xylenes (total)	1,000	10,000	--	--		--		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	--		--		--	
TICs*	NLE	NLE	--	ND		ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	
Metals (µg/L)																								
Antimony	6	6	20.7	ND		ND		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		**5.50**	ER	**7.47**	ER
Arsenic	3	10	89.3	ND		**1.37**	ER	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.64**	ER	**2.71**	ER	**8.20**	
Barium	6,000	2,000	699	**64.5**		**64.5**		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	**223**		**71.5**		**172**	
Beryllium	1	4	2.1	**0.50**	ER	**0.11**	ER	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.22**	ER	**0.19**	ER	**0.04**	ER
Cadmium	4	5	9.5	ND		ND		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Chromium	70	100	191	ND		**3.47**	ER	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	
Copper	1,300	1,300 **	65.6	**1.21**	ER	**3.37**	ER	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.06**	ER	**2.15**	ER	**2.39**	ER
Lead	5	15	22.7	ND		ND		**1.85**	ER	ND	ND	ND	ND	ND	**3.05**	ND	ND	**3.05**	ND		ND		ND	
Mercury	2	2	0.26	ND		**0.09**	ER	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		ND		**0.06**	ER
Nickel	100	NLE	187	**8.18**		**4.92**	ER	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	**15.6**		**5.22**		**9.89**	
Selenium	40	50	29.6	NR		ND		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NR		NR		**1.43**	
Thallium	2	2	5.5	ND		ND		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	ND		ND		ND	

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-58
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-58-GW-2567MW01-8.33		FTMM-58-GW-2567MW02-8.06		FTMM-58-GW-2567MW03-5.11		FTMM-58-GW-2567MW03-10.5		FTMM-58-GW-2567MW03-10.5LF	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013	
LAB SAMPLE ID:					R1306348-001		R1306348-002		R1306348-003		R1306348-004		R1306348-013	
SAMPLE DEPTH (ft bgs):					8.33		8.06		5.11		10.5		10.5	
	CAS No.	Unit												
Volatile Organics - SW8260C														
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.5**	BJ	**2.9**	BJ	**3.5**	BJ	**2.8**	BJ	5.0	U
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	UJ	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	**0.34**	J	1.0	U	1.0	U	1.0	U	**0.30**	J

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-58
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-58-GW-2567MW01-8.33	FTMM-58-GW-2567MW02-8.06	FTMM-58-GW-2567MW03-5.11	FTMM-58-GW-2567MW03-10.5	FTMM-58-GW-2567MW03-10.5LF
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013
LAB SAMPLE ID:					R1306348-001	R1306348-002	R1306348-003	R1306348-004	R1306348-013
SAMPLE DEPTH (ft bgs):					8.33	8.06	5.11	10.5	10.5
	CAS No.	Unit							
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
LF - Low flow method used to collect sample.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-58
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-58-GW-2567MW04-7.09		FTMM-58-GW-2567MW05-9.65		FTMM-58-GW-2567MW105-9*		FTMM-58-GW-2567MW06-11.48		FTMM-58-GW-2567MW07-10.99	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013	
LAB SAMPLE ID:					R1306348-005		R1306348-006		R1306348-009		R1306348-007		R1306348-008	
SAMPLE DEPTH (ft bgs):					7.09		9.65		9.65		11.48		10.99	
	CAS No.	Unit												
Volatile Organics - SW8260C														
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.8**	BJ	**2.9**	BJ	**2.7**	BJ	**2.1**	BJ	**3.3**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-58
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-58-GW-2567MW04-7.09		FTMM-58-GW-2567MW05-9.65		FTMM-58-GW-2567MW105-9*		FTMM-58-GW-2567MW06-11.48		FTMM-58-GW-2567MW07-10.99	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013	
LAB SAMPLE ID:					R1306348-005		R1306348-006		R1306348-009		R1306348-007		R1306348-008	
SAMPLE DEPTH (ft bgs):					7.09		9.65		9.65		11.48		10.99	
	CAS No.	Unit												
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
LF - Low flow method used to collect sample.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-58
Fort Monmouth, New Jersey

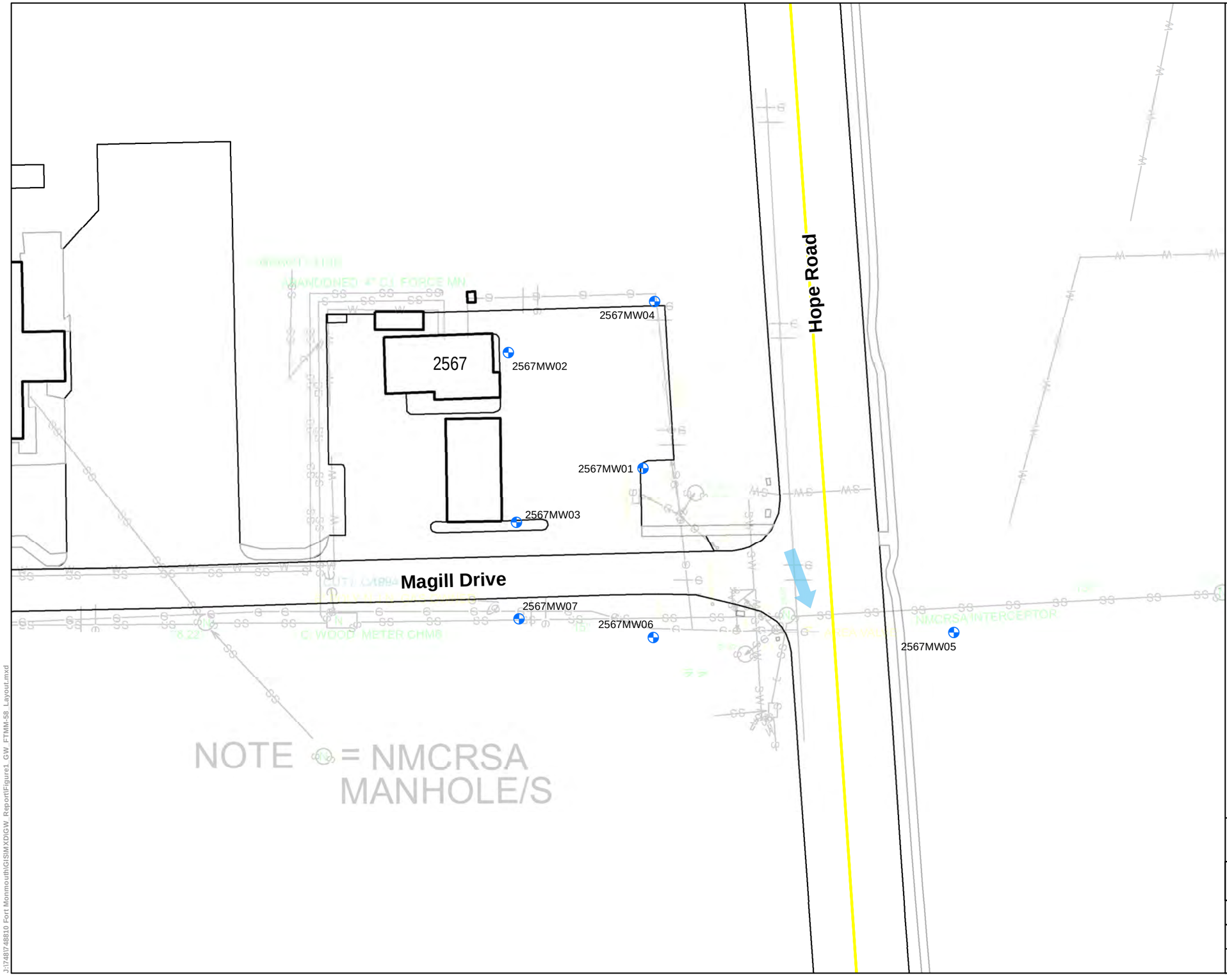
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify Compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-58, B2567	VOC								
2567MW01		NO	N/A	N/A	N/A	N/A	NO	Yes	Well will be analyzed for TBA only for two rounds to confirm presence or lack of contaminant.
2567MW02		NO	N/A	N/A	N/A	N/A	NO	NO	
2567MW03		NO	N/A	N/A	N/A	N/A	NO	Yes	Well will be analyzed for TBA only for two rounds to confirm presence or lack of contaminant.
2567MW04		NO	N/A	N/A	N/A	N/A	NO	NO	
2567MW05		NO	N/A	N/A	N/A	N/A	NO	NO	
2567MW06		NO	N/A	N/A	N/A	N/A	NO	NO	
2567MW07		NO	N/A	N/A	N/A	N/A	NO	NO	

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 analytical data.

FIGURES

Figure 1 Layout of FTMM-58 (Building 2567)



Legend

- Shallow Monitoring Well
- Municipal Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Estimated Groundwater Flow Direction

N

1 inch = 50 feet

0 50 100 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-58 (Building 2567)	
CREATED BY: TS	REVIEWED BY: IG
DATE: November 2013	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-58_Layout.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-58_Layout.mxd

ATTACHMENTS

Attachment A NJPDB Checklists & LFPS Field Sheets

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-58
3. Well Designation: 2567MW01
4. Well Permit Number:

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.

   Distance between measuring point and ground surface (ft.) 0.5
9. Total Well Depth (fbgs): 13
10. Screened interval/open hole (fbgs): 3-13
11. Well Casing: Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 1517
15. Depth to Ground Water: Depth to ground water at time of deployment 3.66
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1030
17. Depth to Ground Water: Depth to ground water at time of retrieval 4.23
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    - ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    - ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    - ☐ Attached to bottom of PDBS and suspended in well
    - ☒ Attached to bottom of deployment line and suspended in well
    - ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.33			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    - ☐ **No**, this well is being profiled during this sampling round
    - ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    - ☐ **No**, flow testing has not been conducted in this well
    - ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
      Type of flow meter used: _____
      Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Abed Ibarra	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-58
3. Well Designation: 2667 MW02
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) _____
9. Total Well Depth (fbgs): 13
10. Screened interval/open hole (fbgs): 3-13
11. Well Casing: Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 1530
15. Depth to Ground Water: Depth to ground water at time of deployment 3.12
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1050
17. Depth to Ground Water: Depth to ground water at time of retrieval 3.75
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used: ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment) ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: ☐ Attached to bottom of PDBS and suspended in well ☒ Attached to bottom of deployment line and suspended in well ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.06			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Anna	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-58
3. Well Designation: 2567MW03
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.

   Distance between measuring point and ground surface (ft.) _____
9. Total Well Depth (fbgs): 13
10. Screened interval/open hole (fbgs): 3-13
11. Well Casing — Diameter: 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size: 0.01
14. Date and Time of Deployment — Date: 8/14/13 Time: 1446
15. Depth to Ground Water — Depth to ground water at time of deployment: 2.61
16. Date and Time of Retrieval — Date: 8/29/13 Time: 1000 — MS/MSD @ 5.11
17. Depth to Ground Water — Depth to ground water at time of retrieval: 3.26
18. Type of Deployment Line Used — Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used
    - ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    - ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.): 18 Diameter (in.): 1.5 Filled: _____
22. Position of PDBS Weight
    - ☒ Attached to bottom of PDBS and suspended in well
    - ☒ Attached to bottom of deployment line and suspended in well
    - ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
5.11	10.5		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    - ☐ **No**, this well is being profiled during this sampling round
    - ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    - ☐ **No**, flow testing has not been conducted in this well
    - ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
      Type of flow meter used: _____
      Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment — Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DeLeone	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-58
3. Well Designation: 2567MW04
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [ ] Stick Up [X] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS as deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.7
9. Total Well Depth (fbgs): 12
10. Screened interval/open hole (fbgs): 2-12
11. Well Casing: Diameter 4 Material [ ] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material [ ] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/14/13 Time: 1523
15. Depth to Ground Water: Depth to ground water at time of deployment 2.17
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1040
17. Depth to Ground Water: Depth to ground water at time of retrieval 2.72
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 200z (stainless steel recommended)
20. Type of PDBS Used:
    [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    [ ] Attached to bottom of PDBS and suspended in well
    [X] Attached to bottom of deployment line and suspended in well
    [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
1.09			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    [ ] **No**, this well is being profiled during this sampling round
    [ ] **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    [ ] **No**, flow testing has not been conducted in this well
    [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Ianno	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-58
3. Well Designation: 2567MW05
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 3.2
9. Total Well Depth (fbgs) 12.5
10. Screened interval/open hole (fbgs) 2.5 - 12.5
11. Well Casing — Diameter 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01

14. Date and Time of Deployment — Date: 8/14/13 Time: 1455
15. Depth to Ground Water — Depth to ground water at time of deployment 6.8
16. Date and Time of Retrieval — Date: 8/28/13 Time: 0930 → DUP Duplicate
17. Depth to Ground Water — Depth to ground water at time of retrieval 7.38
18. Type of Deployment Line Used — Diameter: 3/16" Material: Poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used: ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment) ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: ☒ Attached to bottom of PDBS and suspended in well ☒ Attached to bottom of deployment line and suspended in well ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
9.65			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Ianno	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-58
3. Well Designation: 2567MW06
4. Well Permit Number: _____

5 Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other

6 Well Surface Finish: ☒ Stick Up ☐ Flush Mount

7 Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify) _____

8 **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.

Distance between measuring point and ground surface (ft.) 3.05

9 Total Well Depth (fbgs): 13

10 Screened interval/open hole (fbgs): 3-13

11 Well Casing: Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel

12 Well Screen (or open hole diameter): Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel

13 Screen Size (slot): Screen Slot Size: 0.01

14 Date and Time of Deployment: Date: 8/14/13 Time: 1511

15 Depth to Ground Water: Depth to ground water at time of deployment: 6.9

16 Date and Time of Retrieval: Date: 8/29/13 Time: 1020

17 Depth to Ground Water: Depth to ground water at time of retrieval: 7.75

18 Type of Deployment Line Used: Diameter: 3/16" Material: Poly

19 Material and Mass (oz.) of PDBS Weight: stainless steel 20oz (stainless steel recommended)

20 Type of PDBS Used:
☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)

21 Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____

22 Position of PDBS Weight:
☒ Attached to bottom of PDBS and suspended in well
☐ Attached to bottom of deployment line and suspended in well
☐ Attached to bottom of deployment line and resting on bottom of well (preferred)

23 Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
11.48			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
☐ **No**, this well is being profiled during this sampling round
☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
☐ **No**, flow testing has not been conducted in this well
☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
Type of flow meter used: _____
Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28 Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Ionno	
Chris Watson	Parsons

Zohar Lavy

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-58
3. Well Designation: 2567 MW07
4. Well Permit Number:

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.95
9. Total Well Depth (fbgs): 13
10. Screened interval/open hole (fbgs): 3-13
11. Well Casing: Diameter 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Slot Size: 0.01

14. Date and Time of Deployment: Date: 8/14/13 Time: 1507
15. Depth to Ground Water: Depth to ground water at time of deployment 6.04
16. Date and Time of Retrieval: Date: 8/29/13 Time: 0950 – ~~Duplicate~~ QA
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.77
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz. (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☐ Attached to bottom of PDBS and suspended in well
    ☐ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.99			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 80°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiTonno	
Chris Watson	Parsons
Zohar Lavy	

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 2567MW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/29/13
AOC # (AREA): M-58
LABORATORY:
SAMPLIG INSTRUMENTS: Blow
SAMPLING PERSONNEL
PID DETECTOR: Mini Rae
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
SCREENED INTERVAL (TOC): 3-15
WELL DEPTH (TOC): 13
PUMP INTAKE DEPTH (ft below TOC): 10.5
FEET OF WATER IN WELL: 9.74
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.26

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:15	X		6.67	NA	0.450	NA	-59.2	NA	3.51	NA	9.7	NA	21.92	NA	175	3.34
11:20	X		6.72	0.05	0.435	0.015	-74.2	16	2.70	0.81	6.7	3	22.30	0.38	175	3.41
11:25	X		6.72	Ø	0.434	0.001	-76	1.8	2.70	Ø	6.2	0.5	22.47	0.17	175	3.42
11:30	X		6.73	0.01	0.434	Ø	-77.9	1.9	2.68	0.02	5.6	0.6	22.60	0.13	175	3.42
11:35	X		6.73	Ø	0.434	Ø	-77.6	0.3	2.71	0.03	5.4	0.2	22.64	0.04	175	3.42

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 2567MW03

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: Ftmm-58-GW-2567MW03-10.5LF

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	11:35	(3)(HCL) 40mL	Clear	5.4	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/29/13									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 2567MW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/29/13
AOC # (AREA): M-58
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder
SAMPLING PERSONNEL
PID DETECTOR: MiniRae
NAME: C. Watson
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): – 0.0 (JC)
SCREENED INTERVAL (TOC): 5-15
WELL DEPTH (TOC): 13
PUMP INTAKE DEPTH (ft below TOC): 10.5
FEET OF WATER IN WELL: 9.74
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 3.26

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:15	X		6.67	NA	0.450	NA	-59.2	NA	3.51	NA	9.7	NA	21.92	NA	175	3.34
11:20	X		6.72	0.05	0.435	0.015	-74.2	16	2.70	0.81	6.7	3	22.30	0.38	175	3.41
11:25	X		6.72	Ø	0.434	0.001	-76	1.8	2.70	Ø	6.2	0.5	22.47	0.17	175	3.42
11:30	X		6.73	0.01	0.434	Ø	-77.9	1.9	2.68	0.02	5.6	0.6	22.60	0.13	175	3.42
11:35	X		6.73	Ø	0.434	Ø	-77.6	0.3	2.71	0.03	5.4	0.2	22.64	0.04	175	3.42

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 2567MW03

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder

SAMPLE NUMBER: FTMM-58-GW-2567MW03-10.5LF

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	11:35	(3)(HCL) 40ML	Clear	5.4	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon Bucket

Date: 8/29/13

Volume Transferred to VBW Tank:

Volume Transerred to Drum:

APPENDIX Q: FTMM-59 Building 1122

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4	Groundwater Sampling Analyte Review

LIST OF FIGURES

Figure No.	Title
1	Layout of FTMM-59

LIST OF ATTACHMENTS

Attachment	Title
A	NJDEP PDB Checklists

1.0 FTMM-14 GROUNDWATER MONITORING

Groundwater samples were collected from seven monitoring wells located at FTMM-59 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using passive diffusion bags (PDBs). PDBs were deployed in FTMM-59 monitoring wells on August 13, 2013 and samples were retrieved on August 29, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed NJDEP PDB checklists for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-59 were gauged on August 7, 2013. Groundwater elevations in monitoring wells ranged from 6.31 (1122MW02) to 10.13 (1122MW06) feet above mean sea level (AMSL), and interpreted groundwater flow direction is to the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Also, during the groundwater gauging, the condition of FTMM-59 monitoring wells was assessed. The site wells were found to be in good condition and the majority of wells had sampling tubing within the well casing.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From October 2007 through April 2010, FTMM-59 monitoring wells were sampled for VOCs.

The last five rounds of quarterly sampling conducted at FTMM-59, from July 2010 to August 2011, consisted of VOC and metals analysis. Arsenic, beryllium, cadmium, iron, lead, and selenium were detected above their respective NJDEP GWQS. However, only beryllium, cadmium, and selenium were detected in site monitoring wells at concentrations greater than their respective background concentrations as established in the 1995 Weston Report. Cadmium, selenium, and beryllium are not related to historical site usage and are therefore considered background for the site. No VOCs were detected in exceedance of their applicable standards. Historical groundwater analytical results are presented in **Table 2.**

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical detections from samples collected for VOC analysis during the August 2013 Baseline Sampling Event are presented in **Table 3**. No VOCs were detected in exceedance of their respective NJDEP GWQS.

5.0 FINDINGS AND RECOMMENDATIONS

Due to the absence of exceedances of the NJDEP GWQS observed in FTMM-59 monitoring wells during the August 2013 Baseline Sampling, and background concentrations found in the historical data, it is recommended that groundwater monitoring be discontinued at FTMM-59 monitoring wells 1122MW01 through 1122MW06. Since the August 2013 Groundwater Monitoring Event was the first time monitoring well 1122MW07 was sampled, although no VOCs were detected during this round of sampling, it is recommended that this well be sampled once more to time to confirm the absence of VOCs. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-59
Fort Monmouth, New Jersey

															Every 5' of saturated screen requires PDB & its deployed in mid-point of saturated screen interval								
Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC	Gauged DTB (ft) TOC	Groundwater Elevation (ft.AMSL)	Saturated Screen Length	PDB Interval 1 (ft. below TOC)	PDB Interval 2 (ft. below TOC)	PDB Interval 3 (ft. below TOC)	PDB Interval 4 (ft. below TOC)	PDB Deploy Date	PDB Deploy Time	PDB Sample Date	PDB Sample Time	LFPS Confirmatory Sample Date and Time
				feet																			
M-59, B1122																							
1122MW01	29-33755	538337.815	617448.396	18.00	13.00	5-18	15.04	8/7/13	1156	0	5.91	17.62	9.13	10	8.25	14.75	N/A	N/A	8/13/2013	1610	8/29/2013	1400	N/A
1122MW02	29-33754	538372.256	617370.995	15.00	12.00	3-15	15.12	8/7/13	1210	0	8.81	17.45	6.31	10	8.6	14.6	N/A	N/A	8/13/2013	1540	8/29/2013	1250	N/A
1122MW03	29-43196	538342.086	617406.394	14.00	10.00	4-14	13.10	8/7/13	1200	0	5.88	13.95	7.22	8.56	9.72	N/A	N/A	N/A	8/13/2013	1545	8/29/2013	1225	N/A
1122MW04	29-43197	538378.349	617471.597	14.00	10.00	4-14	13.54	8/7/13	1151	0	5.15	13.75	8.39	9.8	9.1	N/A	N/A	N/A	8/13/2013	1555	8/29/2013	1350	N/A
1122MW05	29-43198	538393.770	617423.276	15.00	10.00	5-15	12.54	8/7/13	1214	0	6.09	15	6.45	10	7.5	12.5	N/A	N/A	8/13/2013	1615	8/29/2013	1300	N/A
1122MW06	E201007327	538540.000	617520.000	20.00	15.00	5-20	17.53	8/7/13	1218	0	7.4	21.7	10.13	14.86	10.67	18.11	N/A	N/A	8/13/2013	1605	8/29/2013	1330	N/A
1122MW07	Unk	Unk	Unk	20.00	15.00	5-20	Unk	8/7/13	1205	0	10.8	21.9	N/A	9.54	15.22	N/A	N/A	N/A	8/13/2013	1620	8/29/2013	1235	N/A

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, and TOC elevation were provided by FTMM in a table in June 2013.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS = low flow purging and sampling
PDB = Passive Diffusion Bag
N/A = not applicable
Unk - 1122MW07 details are unkown, GW elevation cannot be determined without surveyed TOC elevation.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW01											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	45	45 Dup	46	46 Dup	47	47 Dup	48	48 Dup	49	49 Dup	50	50 Dup
Date Collected				10/3/2007	10/3/2007	1/8/2008	1/8/2008	4/3/2008	4/3/2008	7/10/2008	7/10/2008	10/9/2008	10/9/2008	1/23/2009	1/23/2009
ANALYTE / Lab ID				70368.04	70368.03	80006.04	80006.03	80109.04	80109.03	80226.04	80226.03	80360.04	80360.03	90021.04	90021.03
VOCs (µg/L)															
Acetone	6000		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	0.49 J	0.50 J	ND	ND	ND	ND	0.61 J	0.73 J
Toluene	7000	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)															
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
J - Estimated concentration exceeds the MDL and is less than the RL
NA - Not analyzed
ND - Not detected
NR - Not reported
Sampling for SVOCs, Pesticides/PCBs, and Metals were discontinued after the 10/7/04 sampling event as per NJDEP approval letter dated 11/2004.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW01											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	51	51 Dup	52	53	54	LF3	LF4	LF5	LF6	LF6 Dup	LF7	LK8
Date Collected				4/13/2009	4/13/2009	7/20/2009	11/4/2009	1/12/2010	4/5/2010	7/19/2010	10/5/2010	1/20/2011	1/20/2011	4/4/2011	7/5/2011
ANALYTE / Lab ID				90159.04	90159.03	90302.04	90435.04	10016.04	10122.06	10308.05	1042405	1102604	1102603	1112705	1127705
VOCs (µg/L)															
Acetone	6000		--	ND	ND	ND	ND	ND	20.57	ND	<0.32	<0.32	<0.32	<0.32	<10
Benzene	1	5	--	0.46 J	0.44 J	0.45 J	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<1
Bromodichloromethane	1		--	ND	ND	ND	ND	ND	2.26	ND	<0.12	<0.12	<0.12	<0.12	<1
2-Butanone	300		--	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<0.22	<10
Chloroform	70		--	ND	ND	ND	ND	ND	7.36	ND	<0.35	<0.35	<0.35	<0.35	<1
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<1
Dibromochloromethane	1		--	ND	ND	ND	ND	ND	0.52	ND	<0.12	<0.12	<0.12	<0.12	<1
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<1
Methyl *tert* -butyl ether	70	NLE	--	0.63 J	0.56 J	0.88	ND	ND	ND	ND	<0.11	<0.11	<0.11	<0.11	<1
Tetrachloroethene	1		--	ND	ND	ND	ND	0.42 J	ND	ND	<0.14	0.38 J	0.35 J	0.33 J	<1
Toluene	7000	1000	--	ND	ND	0.37 J	ND	ND	ND	ND	<0.12	<0.12	<0.12	<0.12	<1
TICs*	500	NLE	--	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	ND
Metals (µg/L)															
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	ND	<10	<6	<6	<6	<6
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	2.82 ER	2.05	<3	<3	3.2	5.1
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	13.4	4.33	291	291	<200	<200
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	0.053 ER	<0.5	<1	<1	<1	<1
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	1.52 ER	7.3	25.6	25.6	10.3	3.9
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	7.22	3.36	<10	<10	25.4	24.7
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	91.4	12.8	<10	<10	52.5	58.9
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	2630	1440	251	232	12700	12800
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	2.46 ER	<5	<3	<3	11.9	13.9
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	0.130 ER	<0.5	<0.2	<0.2	<0.2	<0.2
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	2.48 ER	1.27	<10	<10	13	12.9
Selenium	40	50	29.60	NA	NA	NA	NA	NR	NR	19.9	<5	<10	<10	<10	<10
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	ND	<5	<2	<2	<2	<2

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
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ND - Not detected
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Sampling for SVOCs, Pesticides/PCBs, and Metals were discontinued after the 10/7/04 sampling event as per NJDEP approval letter dated 11/2004.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW02												
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	45	46	47	48	49	50	51	52	52 Dup	53	53 Dup	54	54 Dup
Date Collected				10/3/2007	1/8/2008	4/3/2008	7/10/2008	10/9/2008	1/23/2009	4/13/2009	7/20/2009	7/20/2009	11/4/2009	11/4/2009	1/12/2010	1/12/2010
ANALYTE / Lab ID				70368.05	80006.05	80109.05	80226.05	80360.05	90021.05	90159.05	90302.05	90302.03	90435.05	90435.03	10016.05	10016.03
VOCs (µg/L)																
Acetone	6000		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	0.55 J	ND	ND	0.28 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	0.39 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	7000	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	42	ND	ND	ND	4	ND	ND	ND	ND	ND	ND
Metals (µg/L)																
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
J - Estimated concentration exceeds the MDL and is less than the RL
NA - Not analyzed
ND - Not detected
NR - Not reported
Sampling for SVOCs, Pesticides/PCBs, and Metals were discontinued after the 10/7/04 sampling event as per NJDEP approval letter dated 11/2004.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW02												
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF3	LF3 Dup	LF4	LF4 Dup	LF5	LF6	LF7	LF8	33	34	35	36	37
Date Collected				4/5/2010	4/5/2010	7/20/2010	7/20/2010	10/5/2010	1/19/2011	4/4/2011	7/5/2011	10/3/2007	1/8/2008	4/3/2008	7/10/2008	10/9/2008
ANALYTE / Lab ID				10122.04	10122.03	10311.04	10311.03	1042407	1102405	1112707	1127707	70368.06	80006.06	80109.06	80226.06	80360.06
VOCs (µg/L)																
Acetone	6000		--	ND	ND	ND	ND	<0.32	<0.32	<0.32	<10	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND	ND	ND	ND
Bromodichloromethane	1		--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND	ND	ND	ND
2-Butanone	300		--	ND	ND	ND	ND	<0.22	<0.22	<0.22	<10	ND	ND	ND	ND	ND
Chloroform	70		--	ND	ND	ND	ND	<0.35	<0.35	<0.35	<1	ND	ND	0.41 J	ND	1.03 J
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND	ND	ND	ND
Dibromochloromethane	1		--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	<0.11	<0.11	<0.11	<1	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	<0.14	<0.14	<0.14	<1	ND	ND	0.7 J	0.39 J	0.63 J
Toluene	7000	1000	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	9	ND	68	ND	ND	ND	ND	ND	ND
Metals (µg/L)																
Antimony	6	6	20.70	NA	NA	ND	ND	<10	<6	<6	<6	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	2.84 ER	2.53 ER	2.18	<3	6.4	14.7	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	14.4	14.3	14.9	<200	<200	<200	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	0.088 ER	0.118 ER	<0.5	<1	<1	<1	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	0.823 ER	0.735 ER	0.669	<3	<3	<3	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	10.4	10.8	10.7	<10	<10	10.6	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	7.21	8.01	2.46	<10	<10	<10	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	5480	5540	4140	1370	13600	19700	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	3.69 ER	ND	<5	<3	<3	<3	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	0.190 ER	0.120 ER	<0.5	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	2.53 ER	2.20 ER	1.64	<10	<10	<10	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	19.2	19.1	<5	<10	<10	<10	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	ND	ND	<5	<2	<2	<2	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
J - Estimated concentration exceeds the MDL and is less than the RL
NA - Not analyzed
ND - Not detected
NR - Not reported
Sampling for SVOCs, Pesticides/PCBs, and Metals were discontinued after the 10/7/04 sampling event as per NJDEP approval letter dated 11/2004.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW03												
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	38	39	40	41	41	LF3	LF4	LF5	LF6	LF7	LF8	33	34
Date Collected				1/23/2009	4/13/2009	7/20/2009	11/4/2009	1/12/2010	4/5/2010	7/20/2010	10/5/2010	1/20/2011	4/4/2011	7/5/2011	10/3/2007	1/8/2008
ANALYTE / Lab ID				90021.06	90159.06	90302.06	90435.06	10016.06	10122.08	10311.05	1042408	1102605	1112708	1127708	70368.07	80006.07
VOCs (µg/L)																
Acetone	6000		--	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32	<0.32	<10	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND
Bromodichloromethane	1		--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND
2-Butanone	300		--	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22	<0.22	<10	ND	ND
Chloroform	70		--	0.74 J	ND	ND	ND	ND	ND	ND	<0.35	<0.35	<0.35	<1	ND	ND
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND
Dibromochloromethane	1		--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	<0.11	<0.11	<0.11	<1	ND	ND
Tetrachloroethene	1		--	0.68 J	ND	ND	0.69	0.69	0.51	ND	0.37 J	0.94	0.84	0.66 J	ND	ND
Toluene	7000	1000	--	ND	ND	ND	ND	1.04	ND	ND	<0.12	<0.12	<0.12	<1	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	ND	<10	<6	<6	<6	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	ND	0.81	<3	<3	<3	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	166	129	<200	<200	<200	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	2.64	1.86	1.9	2.2	1.3	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	1.31 ER	<2	<3	<3	<3	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	1.53 ER	<5	<10	<10	<10	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	ND	<5	<10	<10	<10	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	ND	64	<100	<100	572	NA	NA
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	ND	<5	<3	<3	<3	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	0.190 ER	<0.5	<0.2	<0.2	<0.2	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	20.7	15.3	20.5	23.1	12.7	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	43.2	<5	<10	<10	<10	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	ND	<5	<2	<2	<2	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
J - Estimated concentration exceeds the MDL and is less than the RL
NA - Not analyzed
ND - Not detected
NR - Not reported
Sampling for SVOCs, Pesticides/PCBs, and Metals were discontinued after the 10/7/04 sampling event as per NJDEP approval letter dated 11/2004.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW04											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	35	36	37	38	39	40	41	42	LF3	LF4	LF5	LF5 Dup
Date Collected				4/3/2008	7/10/2008	10/9/2008	1/23/2009	4/13/2009	7/20/2009	11/4/2009	1/12/2010	4/5/2010	7/20/2010	10/6/2010	10/6/2010
ANALYTE / Lab ID				80109.07	80226.07	80360.07	90021.07	90159.07	90302.07	90435.07	10016.07	10122.09	10311.06	1042904	1042903
VOCs (µg/L)															
Acetone	6000		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.32	<0.32
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12
Bromodichloromethane	1		--	ND	ND	ND	ND	ND	0.21 J	ND	ND	ND	ND	<0.12	<0.12
2-Butanone	300		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	<0.22
Chloroform	70		--	ND	3.96	3.42	2.77	ND	3.8	ND	ND	ND	ND	<0.35	<0.35
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12
Dibromochloromethane	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	<0.12
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.11	<0.11
Tetrachloroethene	1		--	0.59 J	0.53 J	0.52 J	0.41 J	0.40 J	0.57	0.35 J	0.41 J	0.49 J	ND	<0.14	<0.14
Toluene	7000	1000	--	ND	ND	ND	ND	ND	ND	ND	3.19	ND	ND	<0.12	<0.12
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	4	ND	ND	ND	ND	ND
Metals (µg/L)															
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.88	<10	5.81
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.03	1.08
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	423	408	399
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.95	2.11	2.05
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.57	1.83	1.39
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<5	<5
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<5	<5
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	NA	NA	428	739	779
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<5	<5
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.340 ER	<0.5	<0.5
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.3	26	25.7
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	57.5	<5	<5
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	<5	<5

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
J - Estimated concentration exceeds the MDL and is less than the RL
NA - Not analyzed
ND - Not detected
NR - Not reported
Sampling for SVOCs, Pesticides/PCBs, and Metals were discontinued after the 10/7/04 sampling event as per NJDEP approval letter dated 11/2004.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

							1122MW05								
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF6	LF7	LF8	33	34	35	36	37	38	39	40	41
Date Collected				1/20/2011	4/4/2011	7/5/2011	10/3/2007	1/8/2008	4/3/2008	7/10/2008	10/9/2008	1/23/2009	4/13/2009	7/20/2009	11/4/2009
ANALYTE / Lab ID				1102606	1112709	1127709	70368.08	80006.08	80109.08	80226.08	80360.08	90021.08	90159.08	90302.08	90435.08
VOCs (µg/L)															
Acetone	6000		--	<0.32	<0.32	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	<0.12	<0.12	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1		--	<0.12	<0.12	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	300		--	<0.22	<0.22	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70		--	<0.35	<0.35	<1	ND	ND	ND	ND	ND	ND	ND	0.36 J	ND
cis -1,2-Dichloroethene	70	70	--	<0.12	<0.12	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	1		--	<0.12	<0.12	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	50	7	--	<0.12	<0.12	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	<0.11	<0.11	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	<0.14	0.31 J	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	7000	1000	--	<0.12	<0.12	<1	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)															
Antimony	6	6	20.70	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	425	385	337	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	1.6	1.4	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	427	4930	9260	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	<3	<3	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	26.4	25.5	21.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	<2	<2	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
J - Estimated concentration exceeds the MDL and is less than the RL
NA - Not analyzed
ND - Not detected
NR - Not reported
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Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW05								1122MW06				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	42	LF3	LF4	LF4 Dup	LF5	LF6	LF07	LF8	LF1	LF1 Dup	LF2	LF2 Dup	LF3
Date Collected				1/12/2010	4/5/2010	7/19/2010	7/19/2010	10/5/2010	1/19/2011	4/4/2011	7/5/2011	8/19/2010	8/19/2010	10/5/2010	10/5/2010	1/19/2011
ANALYTE / Lab ID				10016.08	10122.05	10308.04	10308.03	1042406	1102406	1112706	1127706	1035104	1035103	1042404	1042403	1102404
VOCs (µg/L)																
Acetone	6000		--	ND	ND	ND	ND	<0.32	<0.32	<0.32	<10	<0.32	<0.32	<0.32	<0.32	<0.32
Benzene	1	5	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	<0.12	<0.12	<0.12	<0.12	<0.12
Bromodichloromethane	1		--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	<0.12	<0.12	<0.12	<0.12	<0.12
2-Butanone	300		--	ND	ND	ND	ND	<0.22	<0.22	<0.22	<10	<0.22	<0.22	<0.22	<0.22	<0.22
Chloroform	70		--	ND	ND	ND	ND	<0.35	<0.35	<0.35	<1	<0.35	<0.35	<0.35	<0.35	<0.35
cis -1,2-Dichloroethene	70	70	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	<0.12	<0.12	<0.12	<0.12	<0.12
Dibromochloromethane	1		--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	<0.12	<0.12	<0.12	<0.12	<0.12
1,1-Dichloroethane	50	7	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	<0.12	<0.12	<0.12	<0.12	<0.12
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	<0.11	<0.11	<0.11	<1	<0.11	<0.11	<0.11	<0.11	<0.11
Tetrachloroethene	1		--	ND	ND	ND	ND	<0.14	<0.14	<0.14	<1	<0.14	<0.14	<0.14	<0.14	<0.14
Toluene	7000	1000	--	ND	ND	ND	ND	<0.12	<0.12	<0.12	<1	<0.12	<0.12	<0.12	<0.12	<0.12
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																
Antimony	6	6	20.70	NA	NA	4.81 ER	ND	<10	<6	<6	<6	<10	7.09	<10	<10	<6
Arsenic	3	10	89.30	NA	NA	ND	0.730 ER	3.29	<3	<3	<3	1	1.19	1.52	<5	<3
Barium	6000	2000	699.00	NA	NA	385	387	16.1	<200	<200	<200	344	299	317	330	317
Beryllium	1	4	2.10	NA	NA	0.995 ER	1.02	<0.5	<1	<1	<1	1.96	1.69	1.79	1.85	1.5
Cadmium	4	5	9.50	NA	NA	1.46 ER	1.68 ER	0.413	<3	<3	<3	1.01	1.11	1.26	1.35	<3
Chromium	70	100	191.00	NA	NA	1.85 ER	2.39 ER	47.9	<10	19.2	18.4	1.12	<5	<5	0.712	<10
Copper	1300	1300	65.60	NA	NA	2.80 ER	3.61 ER	11.3	<10	<10	<10	4.53	4.12	1.86	2.33	<10
Iron	300	NLE	431000	NA	NA	497	542	11600	1170	5060	4940	162	162	79.2	81.8	<100
Lead	5	15	22.70	NA	NA	ND	ND	4.46	<3	<3	NR	<5	<5	<5	<5	<3
Mercury	2	2	0.26	NA	NA	0.170 ER	ND	<0.5	<0.2	<0.2	0.2	<0.5	<0.5	<0.5	<0.5	<0.2
Nickel	100	NLE	187	NA	NA	12.8	12.8	4.48	<10	<10	<10	31.1	27	28.1	28.1	32.9
Selenium	40	50	29.60	NA	NA	33.5	34.8	1.64	<10	<10	<10	59.2	42.1	<5	2.34	<10
Thallium	2	2	5.50	NA	NA	ND	ND	<5	<2	<2	<2	<5	<5	<5	<5	<2

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
J - Estimated concentration exceeds the MDL and is less than the RL
NA - Not analyzed
ND - Not detected
NR - Not reported
Sampling for SVOCs, Pesticides/PCBs, and Metals were discontinued after the 10/7/04 sampling event as per NJDEP approval letter dated 11/2004.

Table 2
Historical Groundwater Analytical Results
Site FTMM-59
Fort Monmouth, New Jersey

				1122MW06				
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF3 Dup	LF4	LF4 Dup	LF5	LF5 Dup
Date Collected				1/19/2011	4/4/2011	4/4/2011	7/5/2011	7/5/2011
ANALYTE / Lab ID				1102403	1112704	1112703	1127704	1127703
VOCs (µg/L)								
Acetone	6000		--	<0.32	<0.32	<0.32	<10	<10
Benzene	1	5	--	<0.12	<0.12	<0.12	<1	<1
Bromodichloromethane	1		--	<0.12	<0.12	<0.12	<1	<1
2-Butanone	300		--	<0.22	<0.22	<0.22	<10	<10
Chloroform	70		--	<0.35	<0.35	<0.35	<1	<1
cis -1,2-Dichloroethene	70	70	--	<0.12	<0.12	<0.12	<1	<1
Dibromochloromethane	1		--	<0.12	<0.12	<0.12	<1	<1
1,1-Dichloroethane	50	7	--	<0.12	<0.12	<0.12	<1	<1
Methyl *tert* -butyl ether	70	NLE	--	<0.11	<0.11	<0.11	<1	<1
Tetrachloroethene	1		--	<0.14	<0.14	<0.14	<1	<1
Toluene	7000	1000	--	<0.12	<0.12	<0.12	<1	<1
TICs*	500	NLE	--	ND	ND	ND	ND	ND
Metals (µg/L)								
Antimony	6	6	20.70	<6	<6	<6	<6	<6
Arsenic	3	10	89.30	<3	<3	<3	<3	<3
Barium	6000	2000	699.00	324	218	<200	<200	<200
Beryllium	1	4	2.10	1.5	1.1	1	<1	<1
Cadmium	4	5	9.50	<3	<3	<3	<3	<3
Chromium	70	100	191.00	<10	<10	10.2	12.4	<10
Copper	1300	1300	65.60	<10	<10	<10	<10	<10
Iron	300	NLE	431000	<100	2060	2580	3170	1620
Lead	5	15	22.70	<3	<3	<3	<3	<3
Mercury	2	2	0.26	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	100	NLE	187	33.4	23.9	22.6	18.4	18
Selenium	40	50	29.60	<10	<10	<10	<10	<10
Thallium	2	2	5.50	<2	<2	<2	<2	<2

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs. No individual compound can exceed 100 µg/L.
**NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
(1)Low flow sampling method used to collect sample
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ND - Not detected
NR - Not reported
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Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-59
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-59-GW-1122MW01-8.25		FTMM-59-GW-1122MW01-14.75		FTMM-59-GW-1122MW02-8.6		FTMM-59-GW-1122MW02-14.6		FTMM-59-GW-1122MW03-9.72		FTMM-59-GW-1122MW04-9.1	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013	
LAB SAMPLE ID:					R1306348-022		R1306348-023		R1306348-014		R1306348-015		R1306348-011		R1306348-021	
SAMPLE DEPTH (ft bgs):					8.25		14.75		8.6		14.6		9.72		9.1	
	CAS No.	Unit														
Volatile Organics - SW8260C																
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.4**	BJ	**2.7**	BJ	**2.2**	BJ	**2.2**	BJ	**2.3**	BJ	**1.9**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-59
Fort Monmouth, New Jersey

		SAMPLE ID:	STANDARDS VALUES		FTMM-59-GW-1122MW01-8.25		FTMM-59-GW-1122MW01-14.75		FTMM-59-GW-1122MW02-8.6		FTMM-59-GW-1122MW02-14.6		FTMM-59-GW-1122MW03-9.72		FTMM-59-GW-1122MW04-9.1	
		DATE SAMPLED:	NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013	
		LAB SAMPLE ID:			R1306348-022		R1306348-023		R1306348-014		R1306348-015		R1306348-011		R1306348-021	
		SAMPLE DEPTH (ft bgs):			8.25		14.75		8.6		14.6		9.72		9.1	
	CAS No.	Unit														
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	**0.71**	J	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-59
Fort Monmouth, New Jersey

	SAMPLE ID:		STANDARDS VALUES		FTMM-59-GW-1122MW05-7.5		FTMM-59-GW-1122MW05-12.5		FTMM-59-GW-1122MW105-12*		FTMM-59-GW-1122MW06-10.67		FTMM-59-GW-1122MW06-18.11		FTMM-59-GW-1122MW07-15.22	
	DATE SAMPLED:		NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013		29-Aug-2013	
	LAB SAMPLE ID:				R1306348-016		R1306348-018		R1306348-017		R1306348-019		R1306348-020		R1306348-012	
	SAMPLE DEPTH (ft bgs):				7.5		12.5		12.5		10.67		18.11		15.22	
	CAS No.	Unit														
Volatile Organics - SW8260C																
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	**2.4**	BJ	**2.6**	BJ	**2.5**	BJ	**3.3**	BJ	**4.0**	BJ	**2.8**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	UJ	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.58**	J

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-59
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-59-GW-1122MW05-7.5	FTMM-59-GW-1122MW05-12.5	FTMM-59-GW-1122MW105-12*	FTMM-59-GW-1122MW06-10.67	FTMM-59-GW-1122MW06-18.11	FTMM-59-GW-1122MW07-15.22
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013	29-Aug-2013
LAB SAMPLE ID:					R1306348-016	R1306348-018	R1306348-017	R1306348-019	R1306348-020	R1306348-012
SAMPLE DEPTH (ft bgs):					7.5	12.5	12.5	10.67	18.11	15.22
	CAS No.	Unit								
Methylene chloride	75-09-2	µg/L	3	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100-42-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-59
Fort Monmouth, New Jersey

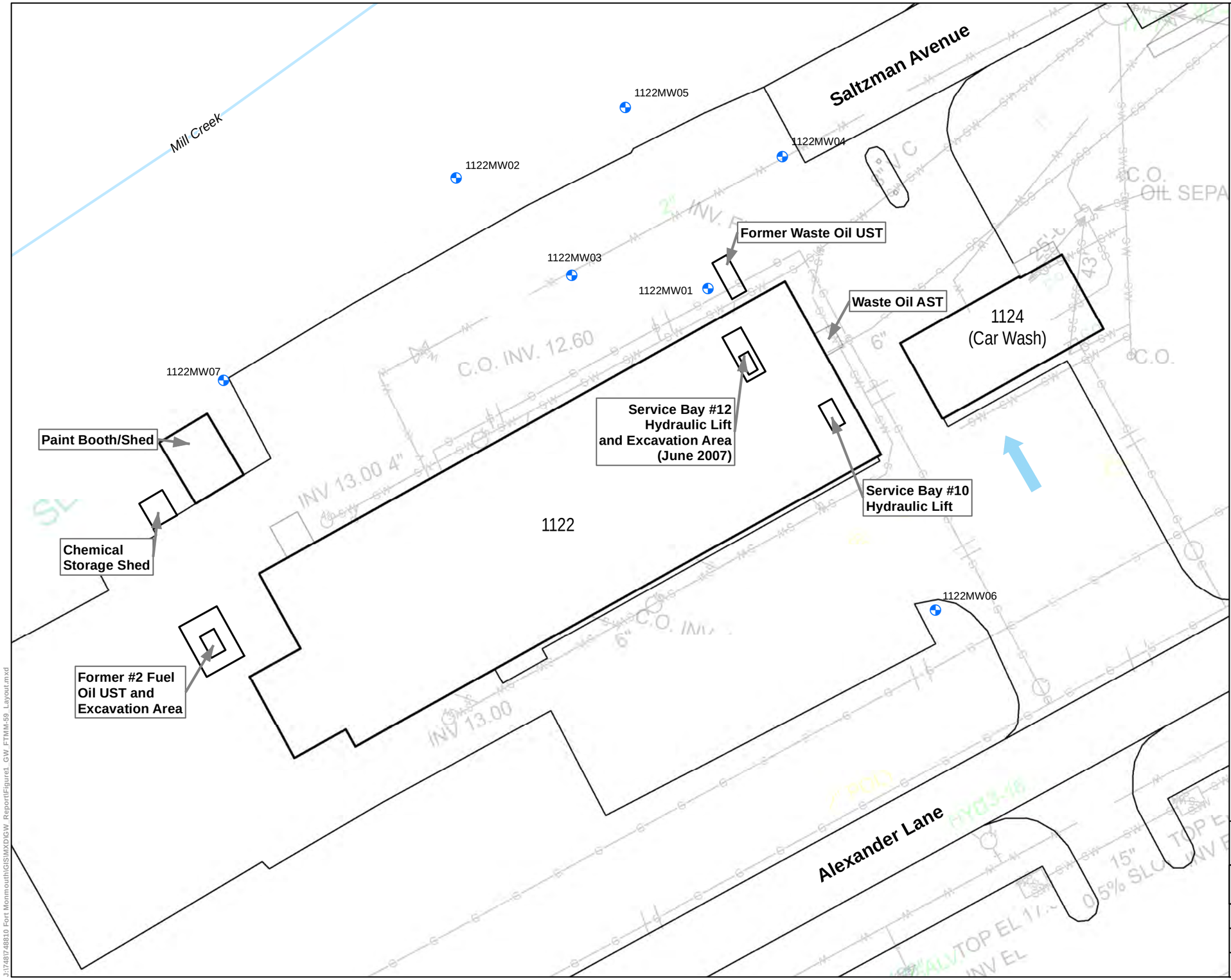
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-59, B1122	VOC, Metals								
1122MW01		As, Cd, Fe, Pb	Cd	NO	NO	Yes	NO	NO	Cd is a background analyte and not from historical site uses.
1122MW02		As, Fe	NO	N/A	N/A	N/A	NO	NO	No exceedances of site background concentrations.
1122MW03		Be, Fe, Se	Be, Se	NO	NO	Yes	NO	NO	Be and Se are background analytes and not from historical site uses.
1122MW04		Be, Fe, Se	Be	NO	NO	Yes	NO	NO	Be is a background analyte and not from historical site uses.
1122MW05		As, Fe	NO	NO	N/A	N/A	NO	NO	No exceedances of site background concentrations.
1122MW06		Be, Fe	NO	NO	N/A	N/A	NO	NO	No exceedances of site background concentrations.
1122MW07		NO	N/A	NO	N/A	N/A	NO	YES	Sample once more to confirm no exceedances.

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-59



Legend

- Shallow Monitoring Well
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 30 feet

0 12.5 25 50 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-59
(Former Auto Repair Shop at Building 1122)

CREATED BY: TS	REVIEWED BY: IG
DATE: March 2014	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.01000	FILE: Figure1_GW_FTMM-59_Layout.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-59_Layout.mxd

ATTACHMENTS

Attachment A NJPDB Checklists

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-59
3. Well Designation: 1122MW01
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify) _____
8. NOTE: PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.0
9. Total Well Depth (fbgs): 18
10. Screened interval/open hole (fbgs): 5-18
11. Well Casing: Diameter 4" Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4" Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: ~~8/20/13~~ 8/13/13 Time: ~~1610~~
15. Depth to Ground Water: Depth to ground water at time of deployment 3.75
16. Date and Time of Retrieval: Date: ~~8/20/13~~ 8/19/13 Time: ~~1610~~ 1400
17. Depth to Ground Water: Depth to ground water at time of retrieval ~~3.75~~ 6.1
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: stainless steel 2.0 oz (stainless steel recommended)
20. Type of PDBS Used: ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment) ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: ☒ Attached to bottom of PDBS and suspended in well ☒ Attached to bottom of deployment line and suspended in well ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.25	14.75		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 75°F Wind 0-1 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician: Name(s) and Company (please print clearly)

Name	Company
Alex D. Torres	
Chris Watson	Parsons

Zoher Lavy

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-59
3. Well Designation: 1122MW02
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (Specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.6
9. Total Well Depth (fbgs): 17.6
10. Screened interval/open hole (fbgs): 5.6-17.6
11. Well Casing: Diameter 4 Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.02

14. Date and Time of Deployment: Date: 8/13/13 Time: 1540
15. Depth to Ground Water: Depth to ground water at time of deployment 5.56
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1250
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.94
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20oz (stainless steel recommended)
20. Type of PDBS Used: [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment) [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: [X] Attached to bottom of PDBS and suspended in well [X] Attached to bottom of deployment line and suspended in well [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
8.6	14.6		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   [ ] **No**, this well is being profiled during this sampling round
   [ ] **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   [ ] **No**, flow testing has not been conducted in this well
   [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval: Temp. 75°F Wind 0-1 mph [X] Sunny [ ] Overcast [ ] Raining [ ] Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Iorio	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-59
3. Well Designation: 1122MW03
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE**: PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.0
9. Total Well Depth (fbgs): 13.95
10. Screened interval/open hole (fbgs): 4-14.0
11. Well Casing: Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 1545
15. Depth to Ground Water: Depth to ground water at time of deployment 5.44
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1225
17. Depth to Ground Water: Depth to ground water at time of retrieval 6.01
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):
    1st PDBS: 9.72 2nd PDBS: _____ 3rd PDBS: _____ 4th PDBS: _____
    5th PDBS: _____ 6th PDBS: _____ 7th PDBS: _____ 8th PDBS: _____

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 75F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician (Name(s) and Company (please print clearly)

Name	Company
Ken D'Amico	
Chris Watson	Parsons
Zibar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-59 (JC)
3. Well Designation: 1122MW04
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0.0
9. Total Well Depth (fbgs) 19
10. Screened interval/open hole (fbgs) 4-14
11. Well Casing — Diameter: 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter: 4 — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size: 0.01

14. Date and Time of Deployment — Date: 8/13/13 — Time: 1555
15. Depth to Ground Water — Depth to ground water at time of deployment: 4.2
16. Date and Time of Retrieval — Date: 8/29/13 — Time: 1350
17. Depth to Ground Water — Depth to ground water at time of retrieval: 5.27
18. Type of Deployment Line Used — Diameter: 3/16" — Material: poly

19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used
   ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
   ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.): 18 — Diameter (in.): 1.5 — Filled: _____
22. Position of PDBS Weight
   ☒ Attached to bottom of PDBS and suspended in well
   ☒ Attached to bottom of deployment line and suspended in well
   ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
9.1			
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75°F — Wind 0-1 — ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 75°F — Wind 0-1 — ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician (Name(s) and Company (please print clearly)

Name	Company
Alex D. Jones	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: 1 M-59 (JC)
3. Well Designation: 1122MW05
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☒ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☐ Stick Up ☒ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (Specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 0
9. Total Well Depth (fbgs): 15
10. Screened interval/open hole (fbgs): 5-15
11. Well Casing: Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/13/13 Time: 1615
15. Depth to Ground Water: Depth to ground water at time of deployment 4.55
16. Date and Time of Retrieval: Date: 8/29/13 Time: ~~1500~~ 1300
17. Depth to Ground Water: Depth to ground water at time of retrieval ~~6.4~~ 6.1
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used: ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment) ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: ☐ Attached to bottom of PDBS and suspended in well ☐ Attached to bottom of deployment line and suspended in well ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
7.5	~~8~~ 12.5		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 75°F Wind 0-1 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D'Anna	Parsons
Christopher Zuber	
Larry	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft Monmouth
2. Location: M-59 (JC)
3. Well Designation: 1122MW06
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.82
9. Total Well Depth (fbgs): 20
10. Screened interval/open hole (fbgs): 5-20
11. Well Casing: Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter _____ Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01

14. Date and Time of Deployment: Date: 8/13/13 Time: 1605
15. Depth to Ground Water: Depth to ground water at time of deployment 6.96
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1330
17. Depth to Ground Water: Depth to ground water at time of retrieval 7.43
18. Type of Deployment Line Used: Diameter: 3/16" Material: Poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel - 20 oz (stainless steel recommended)
20. Type of PDBS Used: ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment) ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight: ☐ Attached to bottom of PDBS and suspended in well ☒ Attached to bottom of deployment line and suspended in well ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
10.67	18.11		

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 75°F Wind 0-5 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex D. Iuvino	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-59 (JC)
3. Well Designation: 1/22MW07
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 2.07
9. Total Well Depth (fbgs) _____
10. Screened interval/open hole (fbgs) _____
11. Well Casing — Diameter 4" — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter) — Diameter 4" — Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot) — Screen Slot Size 0.01

14. Date and Time of Deployment — Date: 8/13/13 Time: 1620
15. Depth to Ground Water — Depth to ground water at time of deployment 9.55
16. Date and Time of Retrieval — Date: 8/29/13 Time: 1235
17. Depth to Ground Water — Depth to ground water at time of retrieval 10.85
18. Type of Deployment Line Used — Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight — Stainless Steel 20 oz (stainless steel recommended)
20. Type of PDBS Used
   ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
   ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS — Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight
   ☒ Attached to bottom of PDBS and suspended in well
   ☒ Attached to bottom of deployment line and suspended in well
   ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS)

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
15.22			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
   ☐ **No**, this well is being profiled during this sampling round
   ☐ **Yes**, this well was profiled already. Date when well was profiled: _____

25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
   ☐ **No**, flow testing has not been conducted in this well
   ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
   Type of flow meter used: _____
   Measurements taken every _____ feet **[Please Attach Results]**

26. Weather Conditions During Deployment — Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval — Temp. 75°F Wind 0-1 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing

28. Field Sampling Technician, Name(s) and Company (please print clearly)

Name	Company
Alex DiLeno	
Chris Watson	Parsons
Zohar Lavy	

APPENDIX R: FTMM-61 Building 283

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Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-61 GROUNDWATER MONITORING

Groundwater samples were collected from four monitoring wells located within FTMM-61 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). PDBs. Sampling was conducted on August 15, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B and lead via USEPA method SW6010C/SW7470A. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-61 were gauged on August 8, 2013. Groundwater elevations in monitoring wells ranged from 3.40 (283MW01) to 6.23 (283MW02) feet above mean sea level (AMSL), and interpreted groundwater flow direction is to the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Also, during the groundwater gauging, the condition of site monitoring wells was evaluated. FTMM-61 monitoring wells were found to be in good condition at the time of gauging and contained sampling tubing.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From March 2008 to November 2010, groundwater samples were collected from FTMM-61 monitoring wells and analyzed for VOCs and metals.

The last four rounds of quarterly groundwater sampling conducted at FTMM-61, from November 2010 to August 2011, also consisted of VOC and metals analysis. Historically, benzene, tentatively identified compounds (TICS), aluminum, antimony, arsenic, beryllium, iron, manganese, lead and sodium were detected above their respective NJDEP Groundwater Quality Standard (GWQS). Cadmium, sodium, and beryllium were detected at concentrations greater than their background concentrations established in the 1995 Weston Report. Historical groundwater analytical results are presented in **Table 2.**

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater samples collected from FTMM-61 wells in August 2013 were analyzed for VOCs and lead. No analytes were detected above the NJDEP GWQS. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Historically, beryllium, cadmium and sodium were detected in exceedance of their NJDEP GWQS and background concentrations (Weston 1995) in monitoring wells 283MW01, 283MW03, and 283MW04. Elevated sodium concentrations are attributable to the proximity of the site to the ocean and brackish water bodies. Beryllium and cadmium exceedances were both one-time detections considered to be background concentrations (Weston 1995) and not from historical site usage. Groundwater monitoring is recommended to be discontinued for site monitoring wells 283MW01, 283MW03 and 283MW04.

Historically, monitoring well 283MW02 has exhibited slight benzene and TICs exceedances. However, the concentrations of these compounds have been decreasing and neither benzene, nor TICs were detected during the August 2013 Baseline Groundwater Sampling Event. It is recommended that one additional round of groundwater sampling for VOCs via PDB sampling methodology be conducted at 283MW03 to confirm these compounds have attenuated. If no VOCs are detected above the NJDEP GWQS during the next round of sampling, groundwater sampling will be recommended to be discontinued.

Table 4 presents the matrix table used to determine which analytes or monitoring wells will continue to be sampled.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-61
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-61, B283															
283MW01	29-40367	540322.365	618946.237	25.00	20.00	5-25	10.25	8-8-13	1603	0.0	6.85	19.15	3.40	8/15/2013	1443
283MW02	29-40887	540539.908	619033.199	20.00	15.00	5-20	12.43	8-8-13	1548	0.0	6.2	20.01	6.23	8/16/2013	1125
283MW03	29-41650	540508.034	618821.316	20.00	15.00	5-20	10.77	8-8-13	1558	0.0	6.94	24.90	3.83	8/15/2013	1631
283MW04	29-00050701	540387.137	618896.252	18.00	15.00	3-18	13.93	8-8-13	1606	0.0	8.00	18.19	5.93	8/16/2013	945

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

				283MW01													
Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	34	34 Dup	35	35 Dup	36	36 Dup	37	37 Dup	38	38 Dup	39	39 Dup	40
Date Collected				3/6/2008	3/6/2008	5/2/2008	5/2/2008	8/6/2008	8/6/2008	10/23/2008	10/23/2008	3/12/2009	3/12/2009	5/19/2009	5/19/2009	8/19/2009
ANALYTE/Lab ID				80069.04	80069.03	80150.04	80150.03	80280.04	80280.03	80385.04	80385.02	90104.04	90104.03	90203.04	90203.04	90348.04
Volatile Organic Compounds (µg/L)																
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	100.0	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																
Aluminum	200	NLE	121000	6400.00	6450.00	4890.00	4830.00	4590.00	4620.00	4650.00	4710.00	3820.00	3810.00	2710.00	2640.00	3050.00
Antimony	6	6	20.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.30	1.20	2.03 ER	ND
Arsenic	3	10	89.30	ND	ND	ND	ND	ND	ND	ND	3.95 ER	2.98 ER	16.00	12.40	11.90	5.48
Barium	6000	2000	699.00	133.00	134.00	112.00	110.00	118.00	117.00	111.00	113.00	87.80	88.30	72.60	70.30	90.20
Beryllium	1	4	2.10	1.14 ER	1.16 ER	1.23 ER	1.15 ER	1.28 ER	1.27 ER	1.20 ER	1.21 ER	0.79	0.83	0.71	0.68	1.01
Cadmium	4	5	9.50	0.62 ER	0.58 ER	ND	0.29 ER	0.48 ER	0.36 ER	0.87 ER	0.84 ER	ND	ND	0.61 ER	0.40 ER	ND
Calcium	NLE	NLE	45400.00	14300.00	14400.00	11400.00	11300.00	10300.00	10300.00	11100.00	11300.00	9610.00	9970.00	8670.00	8360.00	9130.00
Chromium	70	100	191.00	0.95 ER	1.10 ER	0.53 ER	0.80 ER	1.26 ER	1.23 ER	1.05 ER	1.08 ER	1.43 ER	1.28 ER	0.66 ER	0.39 ER	1.58 ER
Cobalt	NLE	NLE	18.30	6.73	6.76	5.79	5.54	5.52	5.41	5.45	5.47	4.70	4.73	3.83	3.71	4.09
Copper	1300	1300	65.60	5.77	4.08 ER	1.53 ER	2.01 ER	2.14 ER	2.39 ER	1.98 ER	2.16 ER	2.48 ER	2.32 ER	2.49 ER	2.15 ER	2.78 ER
Iron	300	NLE	431000	ND	ND	72.20	44.70	135.00	113.00	216.00	227.00	146.00 ER	75.30 ER	83.50 ER	67.70 ER	170.00 ER
Lead	5	15	22.70	ND	ND	ND	ND	ND	ND	ND	2.48 ER	1.53 ER	ND	2.62 ER	ND	ND
Magnesium	NLE	NLE	62700	27500.00	27600.00	22500.00	22300.00	20600.00	20600.00	21400.00	21700.00	18500.00	18500.00	13800.00	13400.00	16400.00
Manganese	50	NLE	331	64.20	64.60	52.80	52.00	48.50	48.30	52.00	51.60	44.20	44.40	35.10	33.90	39.30
Mercury	2	2	0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16 ER
Nickel	100	NLE	187	21.40	20.00	14.90	15.10	13.40	12.90	12.90	13.00	11.20	12.10	9.80	9.33	11.60
Potassium	NLE	NLE	137000	7700.00	7920.00	6550.00	6310.00	6730.00	6620.00	7280.00	7280.00	5360.00	5350.00	5300.00	5130.00	7270.00
Selenium	40	50	29.60	ND	4.20 ER	5.65 ER	6.32 ER	8.88 ER	3.90 ER	6.58 ER	6.52 ER	47.80	50.90	5.02 ER	ND	19.30
Silver	40	NLE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	50000	NLE	21500	138000.00	140000.00	125000.00	123000.00	125000.00	126000.00	121000.00	121000.00	118000.00	118000.00	94300.00	91700.00	107000.00
Thallium	2	2	5.50	ND	ND	ND	ND	ND	ND	ND	1.60 ER	ND	ND	ND	ND	ND
Vanadium	60	NLE	108	1.02	0.79	0.23	0.50	ND	ND	ND	ND	0.43 ER	0.83 ER	ND	0.37 ER	ND
Zinc	2000	NLE	233	131.00	131.00	96.20	95.90	81.70	81.60	92.10	94.10	78.00	78.60	64.60	62.50	75.70

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs.
No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
NLE = No limit established
ER = Estimated Result

Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

				283MW01																			
Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	41		42		LF3		LF4		LF5		LF5 Dup		LF6	LF7	LF8	Dup	37		38		39		40	
Date Collected				11/5/2009		1/26/2010		5/17/2010		9/29/2010		11/18/2010		11/18/2010		2/22/2011	4/19/2011	8/18/2011	8/18/2011	3/6/2008		5/2/2008		8/6/2008		10/23/2008	
ANALYTE/Lab ID				90437.04		10035.04		10194.05		10416.02		10499.04		10499.03		11064.08	11154.01	11346.04	11346.03	80069.05		80150.05		80280.05		80385.05	
Volatile Organic Compounds (µg/L)																											
Benzene	1	5	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	27.91		26.57		76.07		48.45	
Bromodichloromethane	1	80	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	ND		ND		ND		ND	
Chloroform	70	80	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	ND		ND		ND		ND	
Cyclohexane	100.0	NLE	--	NA		NA		NA		NA		NA		NA		NA	NA	ND	ND	NA		NA		NA		NA	
Ethylbenzene	700	700	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	374.24		322.15		317.43		358.50	
Isopropylbenzene	700	NLE	--	NA		NA		NA		NA		NA		NA		NA	NA	ND	ND	NA		NA		NA		NA	
Methylcyclohexane	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA	NA	ND	ND	NA		NA		NA		NA	
4-Methyl-2-pentanone	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	1.04	J	ND		ND		ND	
Styrene	100	100	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	0.90	J	0.97	J	ND		ND	
Toluene	600	1000	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	27.72		21.68		35.37		28.06	
Xylenes (Total)	1000	10,000	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	484.87		305.69		545.78		484.30	
TICs*	500	NLE	--	ND		ND		ND		ND		ND		ND		ND	ND	ND	ND	184.00		185.00		229.00		252.00	
Metals (µg/L)																											
Aluminum	200	NLE	121000	3580.00		4050.00		3370.00		1770.00		2190.00		2030.00		3990.00	2820.00	2410.00	2420.00	396.00		272.00		190.00		222.00	
Antimony	6	6	20.70	ND		5.09	ER	ND		6.72	ER	ND		ND		<6.0	<6.0	<6.0	<6.0	ND		ND		ND		ND	
Arsenic	3	10	89.30	1.27	ER	ND		1.34	ER	ND		ND		ND		<3.0	<3.0	<3.0	<3.0	7.67		23.20		8.48		13.30	
Barium	6000	2000	699.00	95.20		97.80		79.50		67.00		86.50		80.00		<200	<200	<200	<200	41.30		38.70		48.90		29.70	
Beryllium	1	4	2.10	1.00		0.90		0.84		0.55		0.88		0.85		1.50	<1.0	<1.0	<1.0	ND		0.21	ER	ND		0.20	ER
Cadmium	4	5	9.50	ND		ND		ND		ND		0.70	ER	0.54	ER	<3.0	10.20	<3.0	<3.0	ND		0.30	ER	0.64	ER	0.28	ER
Calcium	NLE	NLE	45400.00	8650.00		10300.00		8300.00		13800.00		15500.00		14100.00		9590.00	14900.00	7660.00	7970.00	1440.00		1770.00		1280.00		962.00	
Chromium	70	100	191.00	ND		ND		ND		ND		ND		ND		<10	<10	<10	<10	4.89	ER	2.98	ER	2.57	ER	1.80	ER
Cobalt	NLE	NLE	18.30	4.56		5.02		4.13		2.29		3.71		3.48		<50	<50	<50	<50	ND		ND		0.23		ND	
Copper	1300	1300	65.60	ND		ND		1.54	ER	6.57		1.92	ER	1.16	ER	<10	<10	<10	<10	2.04	ER	ND		ND		ND	
Iron	300	NLE	431000	148.00	ER	83.80	ER	ND		35.50		167.00	ER	1.81		<100	504.00	127.00	285.00	2880.00		2800.00		3260.00		1700.00	
Lead	5	15	22.70	ND		ND		ND		ND		ND		ND		<3.0	<3.0	<3.0	<3.0	7.86		8.05		4.73	ER	7.34	
Magnesium	NLE	NLE	62700	17100.00		20200.00		16400.00		11400.00		14100.00		12800.00		16700.00	13200.00	12300.00	12500.00	999.00		898.00		1040.00		683.00	
Manganese	50	NLE	331	39.90		56.70		39.50		29.90		34.90		31.70		51.90	43.20	43.90	39.20	5.19		5.62		4.67		3.57	
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		<0.20	<0.20	<0.20	<0.20	ND		ND		ND		ND	
Nickel	100	NLE	187	12.10		15.50		10.10		8.21		11.30		10.40		12.90	11.30	10.90	<10	5.16		2.18	ER	1.95	ER	2.45	ER
Potassium	NLE	NLE	137000	6630.00		6740.00		6280.00		7170.00		8930.00		8320.00		<10000	<10000	<10000	<10000	1640.00		1650.00		ND		1300.00	
Selenium	40	50	29.60	18.00	ER	ND		NR		ND		2.33	ER	ND		<10	<10	<10	<10	9.64	ER	9.33	ER	9.83	ER	8.33	ER
Silver	40	NLE	ND	ND		1.81	ER	ND		ND		ND		ND		<10	<10	<10	<10	ND		ND		1.01		ND	
Sodium	50000	NLE	21500	114000.00		121000.00		104000.00		119000.00		119000.00		111000.00		116000.00	116000.00	101000.00	90700.00	14700.00		14900.00		14700.00		13100.00	
Thallium	2	2	5.50	ND		ND		ND		ND		ND		ND		<2.0	<2.0	<2.0	<2.0	ND		ND		ND		1.48	ER
Vanadium	60	NLE	108	0.82	ER	1.35	ER	ND		0.75	ER	0.69	ER	ND		<50	<50	<50	<50	2.30		2.02		0.38		ND	
Zinc	2000	NLE	233	77.10		71.60		74.30		54.40		68.70		62.70		88.80	85.60	78.50	73.30	12.00		3.43		ND		6.81	

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs.
No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
NA = Not analyzed
ND = Not detected
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ER = Estimated Result

Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

| | | | | 283MW02 | | | |

Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

				283MW03																	
Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	34		35		36		37		38		39		40		41		42		LF3		LF3 Dup		LF4		LF5		LF5 Dup	
Date Collected				3/6/2008		5/2/2008		8/6/2008		10/23/2008		3/12/2009		5/19/2009		8/19/2009		11/5/2009		1/26/2010		5/17/2010		5/17/2010		9/29/2010		11/17/2010		11/17/2010	
ANALYTE/Lab ID				80096.06		80150.06		80280.06		80385.06		90104.06		90203.06		90348.06		90437.06		10035.06		10194.04		10194.03		10416.01		10495.04		10495.03	
Volatile Organic Compounds (µg/L)																															
Benzene	1	5	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromodichloromethane	1	80	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroform	70	80	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cyclohexane	100.0	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	700	700	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Isopropylbenzene	700	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylcyclohexane	NLE	NLE	--	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Methyl-2-pentanone	NLE	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Styrene	100	100	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	600	1000	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Xylenes (Total)	1000	10,000	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
TICs*	500	NLE	--	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Metals (µg/L)																															
Aluminum	200	NLE	121000	88.80		ND		ND		79.00		31.50	ER	33.60	ER	116.00		78.30	ER	23.80	ER	21.20	ER	19.80	ER	84.10	ER	19.20	ER	ND	
Antimony	6	6	20.70	ND		ND		ND		ND		12.10		1.44	ER	4.97	ER	ND		ND		ND		ND		ND		ND		ND	
Arsenic	3	10	89.30	5.62		5.45		4.06	ER	ND		64.00		20.50		20.90		4.75	ER	3.69	ER	3.59	ER	3.95	ER	3.69	ER	4.33	ER	3.79	ER
Barium	6000	2000	699.00	227.00		168.00		231.00		205.00		320.00		136.00		407.00		227.00		307.00		92.80		81.20		92.80		93.60		90.80	
Beryllium	1	4	2.10	ND		0.24	ER	ND		0.21	ER	0.14	ER	ND		0.28	ER	0.16	ER	0.12	ER	0.05	ER	0.07	ER	0.07	ER	ND		ND	
Cadmium	4	5	9.50	0.23	ER	2.87		2.47		ND		ND		0.45	ER	1.23	ER	ND		ND		ND		ND		ND		0.84	ER	0.58	ER
Calcium	NLE	NLE	45400.00	23400.00		24300.00		26000.00		23200.00		22200.00		19200.00		21200.00		18700.00		18500.00		15600.00		13900.00		14300.00		15600.00		15300.00	
Chromium	70	100	191.00	ND		ND		ND		ND		1.11	ER	ND		ND		ND		ND		ND		ND		ND		0.78	ER	0.74	ER
Cobalt	NLE	NLE	18.30	1.27		1.46		1.59		1.73		1.58	ER	2.17		1.79	ER	1.64	ER	1.47	ER	1.71	ER	1.37	ER	1.77	ER	2.01		2.02	
Copper	1300	1300	65.60	1.38	ER	ND		ND		ND		ND		ND		1.09	ER	ND		ND		ND		ND		1.29	ER	ND		ND	
Iron	300	NLE	431000	24700.00		24500.00		23000.00		19700.00		21400.00		12500.00		22400.00		16100.00		21500.00		8970.00		7940.00		7480.00		9390.00		8910.00	
Lead	5	15	22.70	ND		1.43	ER	ND		ND		7.10		2.12	ER	ND		ND		ND		ND		ND		ND		ND		ND	
Magnesium	NLE	NLE	62700	4480.00		4740.00		4940.00		4570.00		4200.00		3730.00		4090.00		3570.00		3660.00		3070.00		2790.00		2920.00		2970.00		2920.00	
Manganese	50	NLE	331	65.60		73.30		76.30		67.20		63.30		57.00		61.60		49.90		51.30		42.40		38.40		38.90		44.20		41.10	
Mercury	2	2	0.26	ND		ND		ND		ND		ND		ND		0.08	ER	ND		ND		ND		ND		ND		ND		ND	
Nickel	100	NLE	187	12.30		10.60		11.00		9.78		7.29		10.30		12.00		10.20		11.10		7.50		6.89		10.80		10.70		10.10	
Potassium	NLE	NLE	137000	10900.00		11000.00		10500.00		11200.00		10800.00		10000.00		10800.00		9540.00		10700.00		9640.00		8580.00		7990.00		10200.00		10000.00	
Selenium	40	50	29.60	ND		ND		ND		ND		43.30		6.11	ER	8.19	ER	ND		ND		NR		NR		ND		ND		1.42	ER
Silver	40	NLE	ND	ND		2.92		3.53		ND		ND		ND		3.50	ER	ND		ND		0.86	ER	0.55	ER	1.30	ER	1.44	ER	1.26	ER
Sodium	50000	NLE	21500	10600.00		10700.00		11700.00		10600.00		18300.00		9860.00		10000.00		9620.00		10300.00		10600.00		8940.00		9850.00		10600.00		9980.00	
Thallium	2	2	5.50	ND		ND		ND		1.75	ER	ND		ND		ND		1.03	ER	ND		ND		ND		ND		ND		ND	
Vanadium	60	NLE	108	ND		ND		ND		ND		2.04	ER	0.41	ER	2.32	ER	2.47	ER	ND		ND		ND		ND		ND		ND	
Zinc	2000	NLE	233	19.30		7.27		ND		12.80		20.70	ER	10.80	ER	27.00		9.61	ER	ND		8.67	ER	7.26	ER	10.70	ER	9.50	ER	9.31	ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs.
No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
J = Estimated concentration exceeds the method detection limit (MDL) and is less than the reporting limit (RL)
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Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

							283MW04																	
Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	LF6	LF7	LF8	14		15		16		17		18		19		20		21		21 Dup		22		22 Dup		LF1	
Date Collected				2/22/2011	4/19/2011	8/18/2011	3/6/2008		5/2/2008		8/6/2008		10/23/2008		3/12/2009		5/19/2009		8/19/2009		11/5/2009		11/5/2009		1/26/2010		1/26/2010		5/17/2010	
ANALYTE/Lab ID				11064.09	11154.02	11346.05	80069.07		80150.07		80280.07		80385.07		90104.07		90203.07		90348.07		90437.07		90437.03		10035.07		10035.03		10194.07	
Volatile Organic Compounds (µg/L)																													
Benzene	1	5	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromodichloromethane	1	80	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroform	70	80	--	ND	ND	ND	2.77		1.89	J	2.79		ND		0.74	J	ND		ND		ND		ND		ND		ND		ND	
Cyclohexane	100.0	NLE	--	NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	700	700	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Isopropylbenzene	700	NLE	--	NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylcyclohexane	NLE	NLE	--	NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Methyl-2-pentanone	NLE	NLE	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Styrene	100	100	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	600	1000	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
TICs*	500	NLE	--	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Metals (µg/L)																													
Aluminum	200	NLE	121000	<200	<200	377.00	961.00		448.00		1580.00		ND		874.00		1070.00		2160.00		2560.00		3560.00		2420.00		1780.00		41.80	ER
Antimony	6	6	20.70	<6.0	<6.0	<6.0	ND		ND		ND		ND		ND		2.57	ER	ND		ND		ND		5.43	ER	ND		ND	
Arsenic	3	10	89.30	<3.0	6.90	6.20	ND		ND		ND		ND		ND		ND		10.90		41.87		69.48		38.13		26.55		1.44	ER
Barium	6000	2000	699.00	<200	271.00	479.00	21.40		11.80		37.10		6.56		13.90		15.10		27.70		24.00		36.40		22.20		21.50		3.76	ER
Beryllium	1	4	2.10	3.20	<1.0	<1.0	0.11	ER	0.21	ER	0.12	ER	0.20	ER	ND		0.12	ER	0.21	ER	0.20	ER	0.26	ER	0.12	ER	0.09	ER	ND	
Cadmium	4	5	9.50	<3.0	<3.0	<3.0	ND		ND		0.50	ER	0.25	ER	0.21	ER	0.73	ER	ND		ND		ND		ND		ND		ND	
Calcium	NLE	NLE	45400.00	14000.00	13600.00	13900.00	1550.00		1410.00		1580.00		1110.00		1230.00		1270.00		1510.00		1360.00		1680.00		1980.00		1510.00		737.00	ER
Chromium	70	100	191.00	<10	<10	<10	6.84		2.03	ER	3.66	ER	0.66	ER	2.02	ER	3.77	ER	6.84		9.60		11.60		4.96	ER	8.28		ND	
Cobalt	NLE	NLE	18.30	<50	<50	<50	0.26		0.34		0.87		0.31		0.46	ER	0.85	ER	0.52	ER	0.40		0.78	ER	0.63	ER	ND		ND	
Copper	1300	1300	65.60	<10	<10	<10	3.47	ER	ND		7.02		ND		3.33	ER	3.62	ER	10.60		5.00		9.65		6.41		1.32	ER	ND	
Iron	300	NLE	431000	12500.00	30600.00	29500.00	1510.00		2230.00		2280.00		543.00		1350.00		1530.00		5640.00		7860.00		6220.00		3010.00		2800.00		ND	
Lead	5	15	22.70	3.20	<3.0	<3.0	ND		ND		ND		2.37	ER	ND		2.66	ER	ND		ND		ND		ND		ND		ND	
Magnesium	NLE	NLE	62700	<5000	<5000	<5000	1860.00		1590.00		2170.00		1210.00		1350.00		1260.00		1670.00		1460.00		1870.00		1840.00		1590.00		756.00	ER
Manganese	50	NLE	331	46.10	44.60	48.80	2.48		2.40		2.51		2.79		2.23	ER	2.06	ER	5.44		3.50	ER	4.79	ER	3.83	ER	3.72	ER	0.82	ER
Mercury	2	2	0.26	<0.20	<0.20	<0.20	ND		ND		ND		ND		ND		ND		0.15	ER	0.09	ER	0.15	ER	ND		ND		ND	
Nickel	100	NLE	187	<10	<10	<10	4.98	ER	2.15	ER	2.38	ER	1.17	ER	ND		0.80	ER	2.89	ER	2.00	ER	3.33	ER	4.17	ER	3.46	ER	ND	
Potassium	NLE	NLE	137000	<10000	<10000	10100.00	2290.00		1860.00		832.00		1740.00		1620.00		1780.00		2150.00		1930.00		2280.00		2180.00		2260.00		1820.00	
Selenium	40	50	29.60	<10	<10	<10	ND		6.65	ER	5.98	ER	7.28	ER	5.11	ER	2.57	ER	ND		ND		ND		ND		ND		NR	
Silver	40	NLE	ND	<10	<10	<10	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	50000	NLE	21500	<10000	<10000	11300.00	16100.00		15000.00		12800.00		13400.00		13100.00		10800.00		12000.00		10800.00		10600.00		12500.00		11500.00		9780.00	
Thallium	2	2	5.50	<2.0	<2.0	<2.0	ND		ND		ND		2.05	ER	ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	60	NLE	108	<50	<50	<50	3.04		2.34		2.51		ND		2.44	ER	1.96	ER	6.84		9.20		10.20		5.49		5.01		ND	
Zinc	2000	NLE	233	<20	<20	27.90	15.30		5.99		6.89		6.88		8.90	ER	7.89	ER	18.50	ER	14.00	ER	17.40	ER	ND		ND		3.10	ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs.
No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
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Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

										283MW05																				
Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	LF2		LF3		LF4	LF5	LF6	14		15		16		17		18		19		20		21		22		LF1	
Date Collected				9/30/2010		11/18/2010		2/22/2011	4/18/2011	8/18/2011	3/6/2008		5/2/2008		8/6/2008		10/23/2008		3/12/2009		5/19/2009		9/17/2009		11/5/2009		1/26/2010		5/17/2010	
ANALYTE/Lab ID				10419.05		10499.05		11064.04	11152.07	11346.07	80069.08		80150.08		80280.08		80385.08		90104.08		90203.08		90387.01		90437.08		10035.08		10194.08	
Volatile Organic Compounds (µg/L)																														
Benzene	1	5	--	ND		ND		ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromodichloromethane	1	80	--	ND		ND		ND	ND	ND	0.30	J	0.27	J	0.66	J	0.48	J	ND		ND		ND		ND		ND		ND	
Chloroform	70	80	--	ND		ND		ND	ND	ND	1.78	J	1.80	J	3.88		2.80		0.44	J	ND		ND		ND		ND		ND	
Cyclohexane	100.0	NLE	--	NA		NA		NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	700	700	--	ND		ND		ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Isopropylbenzene	700	NLE	--	NA		NA		NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylcyclohexane	NLE	NLE	--	NA		NA		NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Methyl-2-pentanone	NLE	NLE	--	ND		ND		ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Styrene	100	100	--	ND		ND		ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	600	1000	--	ND		ND		ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Xylenes (Total)	1000	10,000	--	ND		ND		ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
TICs*	500	NLE	--	ND		ND		ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Metals (µg/L)																														
Aluminum	200	NLE	121000	319.00		70.30	ER	3170.00	508.00	1800.00	1380.00		446.00		2080.00		243.00		1010.00		1140.00		24000.00		1240.00		339.00		98.20	ER
Antimony	6	6	20.70	ND		ND		<6.0	<6.0	<6.0	ND		ND		ND		ND		ND		1.66	ER	ND		ND		ND		ND	
Arsenic	3	10	89.30	ND		ND		7.60	<3.0	3.40	ND		2.76	ER	ND		6.81		ND		6.54		41.60		18.95		4.24	ER	1.15	ER
Barium	6000	2000	699.00	8.99		5.27		<200	<200	<200	54.70		41.80		84.00		20.00		49.50		46.20		172.00		44.40		17.60		18.50	
Beryllium	1	4	2.10	ND		ND		2.10	<1.0	<1.0	0.15	ER	0.22	ER	0.20	ER	0.27	ER	0.15	ER	1.32		1.48		0.12	ER	ND		0.05	ER
Cadmium	4	5	9.50	ND		ND		<3.0	<3.0	<3.0	0.29	ER	ND		0.54	ER	0.33	ER	ND		0.55	ER	2.19		ND		ND		ND	
Calcium	NLE	NLE	45400.00	715.00	ER	701.00	ER	<5000	<5000	<5000	1410.00		1470.00		1660.00		1010.00		1190.00		1090.00		1320.00		1090.00		1340.00		1030.00	
Chromium	70	100	191.00	2.68	ER	1.79	ER	34.50	<10	25.20	8.56		1.09	ER	3.25	ER	0.72	ER	1.61	ER	1.50	ER	272.00		4.53	ER	1.24	ER	ND	
Cobalt	NLE	NLE	18.30	ND		0.32	ER	<50	<50	<50	0.36		0.52		1.07		0.28		0.49	ER	0.94	ER	4.49		0.44	ER	ND		ND	
Copper	1300	1300	65.60	ND		ND		<10	<10	<10	4.09	ER	ND		4.96	ER	ND		2.11	ER	3.64	ER	13.20		ND		ND		ND	
Iron	300	NLE	431000	814.00		268.00	ER	9520.00	1380.00	5640.00	1810.00		2370.00		3610.00		432.00		1170.00		1190.00		61300.00		5320.00		904.00		ND	
Lead	5	15	22.70	ND		ND		5.50	<3.0	<3.0	ND		ND		ND		2.13	ER	ND		ND		14.70		ND		ND		ND	
Magnesium	NLE	NLE	62700	911.00	ER	795.00	ER	<5000	<5000	<5000	2980.00		2720.00		3280.00		1760.00		2440.00		2050.00		11400.00		2120.00		2020.00		1750.00	
Manganese	50	NLE	331	1.31	ER	1.04	ER	<15	<15	<15	5.16		4.47		6.09		2.54		4.69	ER	3.68	ER	41.80		5.21		3.54	ER	2.32	ER
Mercury	2	2	0.26	ND		ND		<0.20	<0.20	<0.20	ND		ND		ND		ND		ND		ND		0.21	ER	ND		ND		ND	
Nickel	100	NLE	187	ND		1.41	ER	<10	<10	<10	6.42		3.16	ER	4.34	ER	1.34	ER	0.99	ER	2.03	ER	15.40		2.80	ER	2.58	ER	ND	
Potassium	NLE	NLE	137000	1480.00		2960.00		<10000	<10000	<10000	1930.00		1560.00		844.00		1350.00		1480.00		1460.00		15000.00		1810.00		1730.00		1930.00	
Selenium	40	50	29.60	3.01	ER	3.02	ER	<10	<10	<10	ND		4.24	ER	3.67	ER	4.95	ER	20.10		8.75	ER	ND		ND		ND		NR	
Silver	40	NLE	ND	ND		ND		<10	<10	<10	ND		ND		0.87		ND		ND		ND		ND		ND		ND		ND	
Sodium	50000	NLE	21500	10000.00		10700.00		<10000	<10000	13600.00	11100.00		1140.00		8580.00		10600.00		9630.00		7560.00		8560.00		7910.00		9260.00		9010.00	
Thallium	2	2	5.50	ND		ND		<2.0	<2.0	<2.0	ND		ND		ND		1.40	ER	ND		ND		ND		ND		ND		ND	
Vanadium	60	NLE	108	1.20	ER	0.69	ER	<50	<50	<50	3.63		2.17		3.11		ND		1.37	ER	1.37	ER	111.00		5.87		1.41	ER	ND	
Zinc	2000	NLE	233	3.90	ER	3.40	ER	33.30	<20	<20	22.20		11.20		18.10		10.00		12.90	ER	12.20	ER	91.80		9.07	ER	ND		6.51	ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs.
No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

USEPA MCL = U.S.Environmental Protection Agency Maximum Contaminant Level (2012)
LF = Low flow sampling method used to collect sample
< = Analyte does not exceed the detection limit shown
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Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

												283MW06																		
Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	LF2		LF3		LF4	LF4 Dup	LF5	LF6	14		15		16		17		18		19		20		20 Dup		21	
Date Collected				9/30/2010		11/18/2010		2/22/2011	2/22/2011	4/18/2011	8/18/2011	3/6/2008		5/2/2008		8/6/2008		10/23/2008		3/12/2009		5/19/2009		8/19/2009		8/19/2009		11/5/2009	
ANALYTE/Lab ID				10419.06		10499.06		11064.07	11064.03	11152.06	11346.08	80069.09		80150.09		80280.09		80385.09		90104.09		90203.09		90348.08		90348.03		90437.09	
Volatile Organic Compounds (µg/L)																														
Benzene	1	5	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromodichloromethane	1	80	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroform	70	80	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cyclohexane	100.0	NLE	--	NA		NA		NA	NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	700	700	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Isopropylbenzene	700	NLE	--	NA		NA		NA	NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylcyclohexane	NLE	NLE	--	NA		NA		NA	NA	NA	ND	NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Methyl-2-pentanone	NLE	NLE	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Styrene	100	100	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	600	1000	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Xylenes (Total)	1000	10,000	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
TICs*	500	NLE	--	ND		ND		ND	ND	ND	ND	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Metals (µg/L)																														
Aluminum	200	NLE	121000	339.00		222.00		615.00	592.00	320.00	4330.00	759.00		561.00		999.00		180.00		965.00		570.00		6060.00		4340.00		3080.00	
Antimony	6	6	20.70	ND		ND		<6.0	<6.0	<6.0	<6.0	ND		ND		ND		ND		ND		3.29	ER	ND		4.87	ER	ND	
Arsenic	3	10	89.30	ND		ND		<3.0	<3.0	<3.0	8.40	ND		4.45	ER	ND		ND		ND		5.09		13.80		11.20		30.76	
Barium	6000	2000	699.00	13.10		25.80		<200	<200	<200	<200	49.60		46.30		48.00		24.80		64.40		30.20		133.00		91.90		106.00	
Beryllium	1	4	2.10	ND		ND		<1.0	<1.0	<1.0	<1.0	0.10	ER	0.22	ER	ND		0.24	ER	0.12	ER	ND		0.79		0.54		0.46	ER
Cadmium	4	5	9.50	ND		0.42	ER	<3.0	<3.0	<3.0	<3.0	0.25	ER	0.39	ER	0.44	ER	0.23	ER	0.29	ER	0.58	ER	0.53	ER	ND		ND	
Calcium	NLE	NLE	45400.00	665.00	ER	766.00	ER	<5000	<5000	<5000	<5000	430.00		503.00		331.00		585.00		545.00	ER	282.00	ER	14500.00		11400.00		46700.00	
Chromium	70	100	191.00	3.38	ER	3.03	ER	<10	<10	<10	50.40	6.07		2.57	ER	2.36	ER	0.66	ER	2.83	ER	1.46	ER	12.10		11.70		19.20	
Cobalt	NLE	NLE	18.30	ND		0.36	ER	<50	<50	<50	<50	ND		ND		0.25		ND		ND		0.45	ER	ND		0.48	ER	0.87	ER
Copper	1300	1300	65.60	1.03	ER	ND		<10	<10	<10	<10	1.99	ER	0.73	ER	1.20	ER	ND		3.21	ER	1.70	ER	24.00		16.80		5.70	
Iron	300	NLE	431000	1000.00		574.00		1500.00	1210.00	803.00	12200.00	1310.00		2970.00		2320.00		434.00		1550.00		1070.00		4700.00		4670.00		8510.00	
Lead	5	15	22.70	ND		2.60	ER	<3.0	<3.0	<3.0	4.60	ND		ND		ND		1.80	ER	3.42	ER	ND		6.67		3.76	ER	5.25	
Magnesium	NLE	NLE	62700	1190.00		1660.00		<5000	<5000	<5000	<5000	1090.00		907.00		738.00		617.00		957.00	ER	478.00	ER	1310.00		981.00	ER	1480.00	
Manganese	50	NLE	331	2.11	ER	2.85	ER	<15	<15	<15	18.20	2.32		2.83		3.11		1.52		3.64	ER	3.45	ER	11.90		10.50		11.60	
Mercury	2	2	0.26	ND		ND		<0.20	<0.20	<0.20	<0.20	ND		ND		ND		ND		ND		ND		0.39	ER	0.25	ER	ND	
Nickel	100	NLE	187	0.69	ER	2.01	ER	<10	<10	<10	<10	4.90	ER	1.83	ER	0.87	ER	0.96	ER	ND		0.68	ER	9.01		2.64	ER	5.30	
Potassium	NLE	NLE	137000	1290.00		2740.00		<10000	<10000	<10000	<10000	1210.00		833.00		ND		837.00		836.00	ER	757.00	ER	1300.00		1350.00		1360.00	
Selenium	40	50	29.60	2.70	ER	3.39	ER	<10	<10	<10	<10	3.65	ER	5.86	ER	4.39	ER	7.72	ER	ND		6.29	ER	19.80		18.00		21.40	
Silver	40	NLE	ND	ND		ND		<10	<10	<10	<10	ND		ND		0.85		ND		ND		ND		ND		ND		ND	
Sodium	50000	NLE	21500	7150.00		8580.00		<10000	<10000	<10000	<10000	11500.00		11800.00		11100.00		9850.00		10100.00		8430.00		11200.00		11200.00		10900.00	
Thallium	2	2	5.50	ND		ND		<2.0	<2.0	<2.0	<2.0	ND		ND		ND		1.55	ER	ND		ND		ND		ND		ND	
Vanadium	60	NLE	108	1.64	ER	ND		<50	<50	<50	<50	2.41		2.52		2.01		ND		1.80	ER	1.50	ER	6.79		6.70		9.47	
Zinc	2000	NLE	233	5.58	ER	7.69	ER	<20	<20	<20	30.60	15.20		5.60		ND		5.92		10.50	ER	3.54	ER	50.30		19.90	ER	31.10	ER

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs.
No individual compound can exceed 100 µg/L.
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Table 2
Historical Groundwater Analytical Results
Site FTMM-61
Fort Monmouth, New Jersey

				283MW06								
Round No.	NJDEP GWQS	USEPA MCL	Weston 1995 Background (Main Post)	22	LF1	LF2	LF2 Dup	LF3	LF4	LF5	LF5 Dup	LF6
Date Collected				1/26/2010	5/17/2010	9/30/2010	9/30/2010	11/17/2010	2/22/2011	4/18/2011	4/18/2011	8/18/2011
ANALYTE/Lab ID				10035.09	10194.06	10419.04	10419.03	10495.06	11064.06	11152.03	11152.04	11346.06
Volatile Organic Compounds (µg/L)												
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	1	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	70	80	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	100.0	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	ND
Methylcyclohexane	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	ND
4-Methyl-2-pentanone	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	100	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)												
Aluminum	200	NLE	121000	1480.00	316.00	281.00	422.00	198.00	412.00	507.00	862.00	5940.00
Antimony	6	6	20.70	ND	ND	5.85 ER	ND	ND	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	14.32	2.22 ER	1.20 ER	0.67 ER	ND	<3.0	<3.0	<3.0	9.20
Barium	6000	2000	699.00	57.40	19.10	69.00	70.10	42.50	<200	<200	<200	<200
Beryllium	1	4	2.10	0.20 ER	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	13200.00	11300.00	16000.00	15500.00	8940.00	<5000	<5000	<5000	<5000
Chromium	70	100	191.00	7.70	4.11 ER	8.00	8.67	6.30	<10	<10	<10	60.30
Cobalt	NLE	NLE	18.30	ND	ND	ND	ND	ND	<50	<50	<50	<50
Copper	1300	1300	65.60	ND	ND	1.06 ER	1.64 ER	ND	<10	<10	<10	11.00
Iron	300	NLE	431000	3830.00	234.00 ER	570.00	927.00	587.00	747.00	1080.00	2180.00	15900.00
Lead	5	15	22.70	ND	ND	ND	ND	ND	<3.0	<3.0	<3.0	4.20
Magnesium	NLE	NLE	62700	970.00 ER	583.00 ER	2220.00	2280.00	1200.00	<5000	<5000	<5000	<5000
Manganese	50	NLE	331	9.34	2.88 ER	3.49 ER	3.97 ER	2.12 ER	<15	<15	<15	23.70
Mercury	2	2	0.26	ND	ND	ND	ND	ND	<0.20	<0.20	<0.20	<0.20
Nickel	100	NLE	187	3.76 ER	ND	1.21 ER	2.05 ER	1.71 ER	<10	<10	<10	<10
Potassium	NLE	NLE	137000	1320.00	1520.00	1480.00	1620.00	2460.00	<10000	<10000	<10000	<10000
Selenium	40	50	29.60	ND	NR	4.45 ER	4.04 ER	4.51 ER	<10	<10	<10	<10
Silver	40	NLE	ND	ND	ND	ND	ND	ND	<10	<10	<10	<10
Sodium	50000	NLE	21500	13100.00	10000.00	11600.00	11700.00	11700.00	<10000	<10000	<10000	21000.00
Thallium	2	2	5.50	ND	ND	ND	ND	ND	<2.0	<2.0	<2.0	<2.0
Vanadium	60	NLE	108	3.94 ER	0.95 ER	1.85 ER	2.65 ER	1.54 ER	<50	<50	<50	<50
Zinc	2000	NLE	233	ND	2.05 ER	4.56 ER	5.03 ER	2.93 ER	<20	21.60	66.80	33.50

Notes:
Shaded cells= concentrations exceed the NJDEP GWQS
*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for VOCs and SVOCs.
No individual compound can exceed 100 µg/L.
NJDEP GWQS = Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-61
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-61-GW-283MW01		FTMM-61-GW-283MW02		FTMM-61-GW-283MW03		FTMM-61-GW-283MW04	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	15-Aug-2013		16-Aug-2013		15-Aug-2013		16-Aug-2013	
LAB SAMPLE ID:						R1305972-011		R1306020-014		R1305972-013		R1306020-003	
SAMPLE INTERVAL (ft bgs):						5-25		5-20		5-20		3-18	
	CAS No.	Unit											
Volatile Organics - SW8260C													
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	--	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	--	**1.2**	J	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	--	**0.59**	J	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	--	1.0	U	1.0	UJ	1.0	U	1.0	UJ
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	--	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	--	5.0	U	**2.1**	BJ	**1.4**	BJ	5.0	UJ
Benzene	71-43-2	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	--	1.0	U	1.0	U	1.0	U	1.0	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	--	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	--	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	--	**1.0**	J	1.0	U	1.0	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-61
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-61-GW-283MW01		FTMM-61-GW-283MW02		FTMM-61-GW-283MW03		FTMM-61-GW-283MW04	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	15-Aug-2013		16-Aug-2013		15-Aug-2013		16-Aug-2013	
LAB SAMPLE ID:						R1305972-011		R1306020-014		R1305972-013		R1306020-003	
SAMPLE INTERVAL (ft bgs):						5-25		5-20		5-20		3-18	
	CAS No.	Unit											
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	--	**0.25**	BJ	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	--	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	--	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	--	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	--	**2.1**	J	3.0	U	3.0	U	3.0	U
VOC - TICs													
Methylcyclopentane	96-37-7	µg/L	500 [5]	NLE	--	**5.2**	JN						
Metals - SW6010C													
Lead	7439-92-1	µg/L	5	15 [6]	22.70	2.0	U	2.0	U	2.0	U	2.0	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).

J - Analyte detected, estimated concentration.

JN - Tentatively identified compound, estimated concentration.

UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.

BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.

D**etections are bolded.**

Detections above the NJDEP GWQS are highlighted.

For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).

[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).

[3] Interim generic groundwater quality criteria.

[4] Interim specific groundwater quality criteria.

[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.

[6] Value is the USEPA Action Level.

NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-61
Fort Monmouth, New Jersey

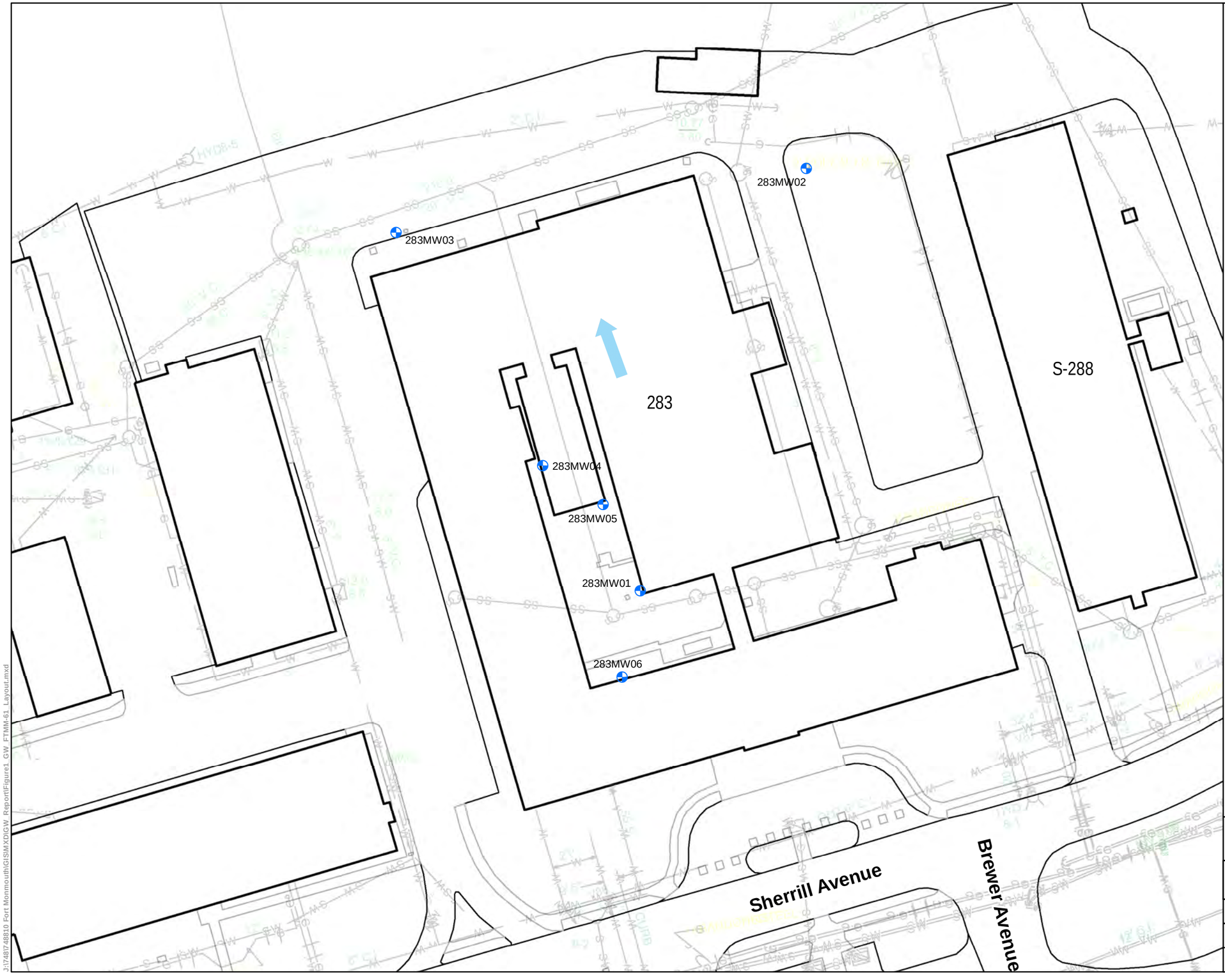
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration (metals only) Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-61, B283									
283MW01	VOC/Pb	Al, Be, Cd, Fe, Mn, Na	Cd, Na	N/A	NO	NO	NO	NO	Cd and Na are considered background analytes and not from historical site uses.
283MW02		Benzene, TICs, Al, Sb, As, Fe, Pb	Benzene, TICs	N/A	NO	Yes	N/A	Yes	Benzene and TICs are decreasing and were non-detect in August 2013. Sample well for one more round to confirm attenuation.
283MW03		Al, As, Be, Fe	Be	N/A	NO	NO	NO	NO	Be is a considered a background analyte and not from historical site uses.
283MW04		Asl As, Be, Fe, Pb	NO	N/A	N/A	N/A	N/A	N/A	No exceedances exhibited

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-61



Legend

- Shallow Monitoring Well
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 50 feet

0 50 100 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-61 (Building 283)	
CREATED BY: **TS**	REVIEWED BY: **IG**
DATE: **November 2013**	FIGURE NUMBER: **Figure 1**
PROJECT NUMBER: **748810.01000**	FILE: **Figure1_GW_FTMM-61_Layout.mxd**

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-61_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283MW01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): 61
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-15-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruhns
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 19.05
FEET OF WATER IN WELL: 14.15

SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): ~11.981
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.90

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:15	X		2.89	NA	0.812	NA	504	NA	6.10	NA	16.0	NA	20.68	NA	100	4.84
13:20	X		3.41	+0.52	0.294	-0.518	443	-61	5.35	-0.75	15.9	-0.1	21.20	+0.52	100	4.99
13:25	X		3.93	+0.52	0.174	-0.120	388	-55	4.62	-0.73	15.8	-0.1	22.09	+0.89	100	5.08
13:30	X		4.50	+0.57	0.126	-0.048	302	-86	4.56	-0.06	14.1	-1.7	21.07	-1.02	100	5.10
13:35	X		5.11	+0.61	0.105	-0.021	263	-39	4.69	+0.13	12.2	-1.9	19.64	-1.43	100	5.20
13:40	X		5.17	+0.06	0.093	-0.012	261	-2	4.15	-0.54	11.8	-0.4	19.57	-0.07	100	5.28
13:45	X		5.20	+0.03	0.087	-0.006	260	-1	4.13	-0.02	11.7	-0.1	19.70	+0.13	100	5.36
14:15	X		5.20	0.0	0.089	+0.002	263	+3	4.93	+0.80	11.1	-0.6	20.63	+0.93	100	5.36
14:20	X		5.20	0.0	0.088	-0.001	273	+10	4.76	-0.17	10.8	-0.3	19.68	-0.95	100	5.51
14:25	X		5.19	-0.01	0.086	-0.002	277	+4	4.54	-0.22	10.1	-0.7	19.29	-0.39	100	5.57
14:30	X		5.18	0.01	0.085	-0.001	279	+2	4.44	-0.10	9.9	-0.2	19.21	-0.08	100	5.69
14:35	X		5.18	0.0	0.085	0.0	273	-6	4.23	-0.21	10.0	+0.1	19.62	+0.41	100	5.79

COMMENTS: Compressor shut down @ 13:45. After packing unit with ice, purge resumed @ 14:15

Continued →

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-61-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283MW01

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-61-GW-283MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs	14:43	40 mL vials	clr	clr	
Lead	14:43	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283MW01 cont. #1

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): G1
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: MiniRAE

DATE: 8-15-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):
WELL DEPTH (TOC): See other page
FEET OF WATER IN WELL:

SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): See other page
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
				NA		NA		NA		NA		NA		NA		
14:40	X		5.18	0.0	0.085	0.0	271	-2	4.20	-0.03	9.9	-0.1	19.67	+0.05	100	5.83
14:43		X	5.18	0.0	0.085	0.0	270	-1	4.21	+0.01	10.0	+0.1	19.67	0.0	100	5.85

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-61-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283 MW01

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-61-GW-283MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs	14:43	40 mL vials	clr	clr	
Lead	14:43	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Transfered to carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-61-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283MW02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

DATE: 8-16-2013

AOC # (AREA): 61

LABORATORY:

SAMPLIG INSTRUMENTS: Geotech bladder Pump

SAMPLING PERSONNEL

PID DETECTOR: MiniRAE (JC)

NAME: James Bruins

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0

SCREENED INTERVAL (TOC): 5-20

WELL DEPTH (TOC): 20.01

PUMP INTAKE DEPTH (ft below TOC): 12.5

FEET OF WATER IN WELL: 14.14

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.87

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:35	X		5.87	NA	0.429	NA	206	NA	2.77	NA	3.8	NA	20.67	NA	100	5.86
10:40	X		5.59	-0.28	0.414	-0.015	206	0.0	1.75	-1.02	2.7	-1.1	20.24	-0.43	100	5.92
10:45	X		5.51	-0.08	0.409	-0.005	208	+2	1.34	-0.41	3.0	+0.3	20.00	-0.24	100	5.95
10:50	X		5.47	-0.04	0.402	-0.007	213	+5	1.07	-0.27	2.9	-0.1	19.93	-0.07	100	5.96
10:55	X		5.45	-0.02	0.399	-0.003	218	+5	0.96	-0.11	2.3	-0.6	19.95	+0.02	100	5.96
11:00	X		5.42	-0.03	0.398	-0.001	224	+6	0.95	-0.01	2.3	0.0	19.91	-0.04	100	5.96
11:05	X		5.41	-0.01	0.397	-0.001	226	+2	0.85	-0.10	2.3	0.0	20.02	-0.11	100	5.96
11:10	X		5.38	-0.03	0.400	+0.003	232	+8	0.97	+0.12	2.3	0.0	19.75	-0.27	100	5.96
11:15	X		5.36	-0.02	0.401	+0.001	236	+4	0.98	+0.01	2.3	0.0	19.56	-0.19	100	5.96
11:20	X		5.34	-0.02	0.403	+0.002	240	+4	0.96	-0.02	2.3	0.0	19.50	-0.06	100	5.96
11:25		X	5.32	-0.02	0.405	+0.002	244	+4	0.96	0.0	2.3	0.0	19.42	-0.08	100	5.96

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** FTMM-61-GW-283MW02

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VO + Tics	11:25	40mL vials	clr	clr	
Pb	11:25	500 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

283MW03 (JC)

PARSONS | CLIENT: USAESCH | WELL #: ~~FTMA-61-GW-28303~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): 61
SAMPLIG INSTRUMENTS: Bladder Pump (Geotech)
PID DETECTOR: MiniRAE (JC)

DATE: 8-15-2013
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0-0
WELL DEPTH (TOC): 24.90
FEET OF WATER IN WELL: 18.35

SCREENED INTERVAL (TOC): 5-20
PUMP INTAKE DEPTH (ft below TOC): 17.5'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.55

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
15:30	X		5.64	NA	0.215	NA	32	NA	3.51	NA	250	NA	21.55	NA	100	6.51
15:35	X		5.80	+0.16	0.199	-0.016	17	-15	3.24	-0.27	163	-87	20.54	-1.01	100	6.65
15:40	X		5.81	+0.01	0.202	+0.003	9	-8	2.25	+0.01	145	-18	20.10	-0.44	100	6.65
15:45	X		5.82	+0.01	0.204	+0.002	0	-9	1.75	-0.50	124	-21	19.75	-0.35	100	6.65
15:50	X		5.82	0.0	0.205	+0.001	-5	-5	1.47	-0.28	224	+100	19.58	-0.17	100	6.65
15:55	X		5.82	0.0	0.206	+0.001	-7	-2	1.43	-0.04	200	-24	19.42	-0.16	100	6.65
16:00	X		5.82	0.0	0.207	+0.001	-8	-1	1.39	-0.04	196	-4	19.41	-0.01	100	6.65
16:05	X		5.81	-0.01	0.205	-0.002	-8	0.0	1.29	-0.10	177	-19	19.32	-0.09	100	6.65
16:10	X		5.80	-0.01	0.204	-0.001	-7	+1	1.27	-0.02	185	+8	19.32	0.0	100	6.65
16:15	X		5.80	0.0	0.204	0.0	-7	0.0	1.26	-0.01	192	+7	19.33	+0.01	100	6.65
16:20	X		5.80	0.0	0.204	0.0	-8	+1.0	1.21	-0.05	193	+1	19.29	-0.04	100	6.65
16:25	X		5.80	0.0	0.204	0.0	-9	-1.0	1.21	0.0	196	+3	19.31	+0.02	100	6.65
16:30	X		5.81	0.0	0.204	0.0	-9	0.0	1.22	+0.1	189	-7	19.27	-0.04	100	6.65
COMMENTS: 16:31	X		5.81	0.0	0.204	0.0	-9	0.0	1.22	0.0	189	0.0	19.26	-0.01	100	6.65

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-61-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283MW03

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder Pump

SAMPLE NUMBER: FTMM-61-GW-283MW03

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VO+Tics	16:31	40 ml vials	white	turbid	
Pb	16:31	500 plastic	white	turbid	Also filled water for filtered sample

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-61-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283MW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): 61
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: ~~0.0~~ MiniRAE (JC)

DATE: 8-16-2013
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	(2)	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 18.19
FEET OF WATER IN WELL: 11.03'
SCREENED INTERVAL (TOC): ~~0~~ 3-18
PUMP INTAKE DEPTH (ft below TOC): 10.5'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.16

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:05	X		4.57	NA	0.112	NA	355	NA	6.94	NA	6.4	NA	17.77	NA	100	7.15
9:10	X		4.82	+0.25	0.081	-0.031	337	-18	6.00	-0.94	3.8	-2.6	17.84	~~+0.07~~	100	7.35
9:15	X		4.81	-0.01	0.078	-0.003	340	+3	5.87	-0.13	3.1	-0.7	17.95	+0.11	100	7.35
9:20	X		4.83	+0.02	0.077	-0.001	347	+7	5.74	-0.13	2.9	-0.2	17.98	+0.03	100	7.35
9:25	X		4.82	-0.01	0.076	-0.001	356	+9	5.66	-0.08	2.6	-0.3	17.98	0.0	100	7.35
9:30	X		4.81	-0.01	0.075	-0.001	363	+7	5.94	+0.28	2.4	-0.2	17.96	-0.02	100	7.35
9:35	X		4.81	0.0	0.074	-0.001	370	+7	5.75	-0.19	2.2	-0.2	17.99	+0.03	100	7.35
9:40	X		4.80	-0.01	0.074	0.0	371	+1	5.76	+0.01	2.2	0.0	17.97	-0.02	100	7.35
9:45		X	4.80	0.0	0.074	0.0	371	0	5.75	-0.01	2.2	0.0	17.96	-0.01	100	7.35

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

FTMM-GI-GW-

PARSONS | **CLIENT:** USAESCH | **WELL #:** 283MW04

SAMPLING INFORMATION

SAMPLING DEVICE: Geotech bladder pump

SAMPLE NUMBER: FTMM-GI-GW-283MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOA TICs	9:45	40 mL vials	Clr	Clr	
PL	9:45	500mL plastic	Clr	Clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX S: FTMM-64 Building 812

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2	Historical Groundwater Analytical Results
3	2013 Baseline Groundwater Analytical Detections
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1	Layout of FTMM-64 (Building 812)

LIST OF ATTACHMENTS

Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-64 GROUNDWATER MONITORING

Groundwater sampling was conducted at eight monitoring wells, located in the FTMM-64 site as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to water in monitoring wells and sample collection using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted on August 15 and August 16, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260C and lead via USEPA method SW6010C. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-64 were gauged on August 9, 2013. Groundwater elevations in monitoring wells ranged from 10.44 (812MW14) to 17.54 (812MW04) feet above mean sea level (amsl) and groundwater is expected to flow to the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

During the groundwater gauging, the condition of FTMM-64 monitoring wells was also assessed. Site monitoring wells were found to be in good condition and contained tubing at the time of groundwater gauging.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From February 2003 through December 2009, FTMM-64 monitoring wells were sampled for volatile organic compounds (VOCs) and metals.

In the last four rounds of groundwater sampling conducted at FTMM-64 from January 2010 to April 2011, samples were also submitted for VOCs and metals. Monitoring wells within FTMM-64 were sampled on a staggered quarterly basis during this period. Within the last four rounds of groundwater sampling at FTMM-64, aluminum, antimony, arsenic, beryllium, cadmium, iron, lead, manganese, selenium, and sodium were detected above their respective New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standard (GWQS) in monitoring well 812MW01. However, the concentrations of aluminum, antimony, arsenic, beryllium, cadmium, iron, and lead were below their respective background groundwater concentrations established in the 1995 Weston Report. Sodium and selenium have background concentrations (Weston 1995) below the NJDEP GWQS. Monitoring wells 812MW05 (419 – 32 µg/L), 812MW07 (374 – 771 µg/L), and 812MW08 (348 µg/L) contained detections of manganese above the background concentration of 331 µg/l (Weston

1995). Cadmium was detected in 812MW08 (10.6 – 54 µg/L) above the background concentration of 9.5 µg/L (Weston 1995).

Benzene (2.19 µg/L) and vinyl chloride (1.05 – 40.41 µg/L) were detected in 812MW04 exceedance of their NJDEP GWQS of 1 µg/L. Historical groundwater analytical results are presented in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Lead was detected in FTMM-64 monitoring well 812MW04 at a concentration of 7.5 µg/L, in exceedance of its NJDEP GWQS of 5 µg/L. However, this result is below the background concentration of 22.70 µg/L for lead (Weston 1995). Concentrations of VOC were non-detect detected during the August 2013 sampling event. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3.**

5.0 FINDINGS AND RECOMMENDATIONS

Sodium, selenium, manganese, and cadmium were detected either above the NJDEP GWQS or their background concentrations (Weston 1995), whichever being the higher value, however these analytes are considered background and not indicative of historical site uses. Metals analysis is recommended to be discontinued for FTMM-64.

Benzene and vinyl chloride were historically detected at concentrations exceeding the NJDEP GWQS in monitoring well 812MW04, but were below their respective GWQS in the August 2013 Groundwater Monitoring Event. It is recommended that groundwater monitoring for VOCs via PDB sampling methodology be continued on an annual basis at this location for FTMM-64. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-64
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-64, B812															
812MW01	29-42572	537928.666	620621.943	50.00	20.00	30-50	19.05	8-9-13	1218	0.0	7.26	46.70	11.79	8/16/2013	1345
812MW02	29-42573	537983.573	620692.546	50.00	20.00	30-50	16.38	8-9-13	1211	0.0	5.62	48.0	10.76	8/15/2013	1348
812MW04	29-42575	537927.034	620620.868	7.00	5.00	2-7	19.90	8-9-13	1220	0.0	2.36	6.85	17.54	8/16/2013	1337
812MW05	29-42576	537893.364	620502.249	18.00	10.00	8-18	21.64	8-9-13	1224	0.0	8.45	17.80	13.19	8/15/2013	1617
812MW06	29-42577	537917.092	620674.169	16.00	10.00	6-16	18.18	8-9-13	1227	0.0	6.30	15.40	11.88	8/15/2013	1521
812MW07	29-42578	537966.220	620504.459	18.00	10.00	8-18	20.60	8-9-13	1225	0.0	9.31	17.63	11.29	8/15/2013	1617
812MW08	29-42579	537955.950	620658.943	16.00	10.00	6-16	17.13	8-9-13	1215	0.0	5.90	15.45	11.23	8/15/2013	1412
812MW14	29-42888	538042.223	620663.452	15.00	10.00	5-15	16.43	8-9-13	1213	0.0	5.99	14.24	10.44	8/15/2013	1507

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

				812MW01																	
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	31	32	32 Dup	33	34	34 Dup	35	36	37	38	39	LF1	LF1 Dup	LF2	LF2 Dup		Dup		
Date Collected				2/20/2008	4/9/2008	4/9/2008	7/25/2008	10/22/2008	10/22/2008	2/6/2009	4/28/2009	8/10/2009	10/9/2009	1/14/2010	5/13/2010	5/13/2010	7/28/2010	7/28/2010	11/3/2010	11/3/2010	2/14/2011	4/14/2011
ANALYTE/Lab ID				80051.04	80120.04	80120.03	80256.04	80383.04	80383.03	90039.04	90171.04	90336.04	90412.04	10018.04	10191.04	10191.03	10323.04	10323.03	10471.04	10471.03	11051.01	11148.04
Volatile Organic Compounds (µg/L)																						
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans -l,2-Dichloroethene	100			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																						
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	40.0 ER	ND	15.0 ER	15.6 ER	<200	<200
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.7	6.21 ER	11.0	8.04 ER	ND	5.26 ER	<6.0	<6.0
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.24 ER	0.780 ER	0.910 ER	6.04	2.24 ER	2.01 ER	<3.0	<3.0
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.68	6.78	8.60	6.84	11.3	10.6	<200	<200
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<1.0	<1.0
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<3.0	<3.0
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53700	47400	59900	52800	63700	58900	60400	59000
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<10	<10
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<50	<50
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.09 ER	ND	3.00 ER	ND	ND	ND	<10	13.0
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	387 ER	218 ER	640	131 ER	3870	3530	2070	2660
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<3.0	<3.0
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2430	2230	2850	2460	3160	2940	<5000	<5000
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.5	12.6	68.1	57.6	258	238	176	191
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.210 ER	0.150 ER	ND	ND	ND	ND	<0.20	<0.20
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.15 ER	0.855 ER	1.00 ER	0.712 ER	ND	ND	<10	<10
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3780	3540	3590	2700	3240	3040	<10000	<10000
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	67.0	70.6	ND	ND	<10	<10
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	1.41 ER	1.32 ER	<10	<10
Sodium	50000	NLE	21500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6040	7570	7500	5680	6660	5940	<10000	<10000
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	<2.0	<2.0
Vanadium	60	NLE	108	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.840 ER	ND	ND	ND	ND	ND	<50	<50
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.42 ER	2.18 ER	6.00 ER	ND	ND	ND	<20	<20

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

						812MW02																	
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	Dup		31	32	33	34	35	36	37	38	39	40	41					31	32	33
Date Collected				4/14/2011	7/8/2011	2/20/2008	4/9/2008	7/25/2008	10/22/2008	2/6/2009	4/28/2009	8/10/2009	10/9/2009	1/14/2010	5/13/2010	7/28/2010	11/3/2010	2/14/2011	4/14/2011	7/8/2011	2/20/2008	4/9/2008	7/25/2008
ANALYTE/Lab ID				11148.03	11287.10	80051.05	80120.05	80256.05	80383.05	90039.05	90171.05	90336.05	90412.05	10018.05	10191.05	10323.05	10471.05	11051.02	11148.05	11287.11	80051.06	80120.06	80256.06
Volatile Organic Compounds (µg/L)																							
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.49 J
tert -Butyl alcohol	100	NLE	--	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	10.66
1,1-Dichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.11 J
trans -l,2-Dichloroethene	100			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.05 J
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	29.01
Isopropylbenzene	700	NLE	--	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.99
Vinyl chloride	1			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.47
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	45.47
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	133
Metals (µg/L)																							
Aluminum	200	NLE	121000	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	99.2 ER	ND	<200	<200	<200	NA	NA	NA
Antimony	6	6	20.70	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.56 ER	9.96 ER	6.80 ER	<6.0	<6.0	<6.0	NA	NA	NA
Arsenic	3	10	89.30	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.41 ER	1.36 ER	2.83 ER	<3.0	4.0	<3.0	NA	NA	NA
Barium	6000	2000	699.00	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.0	19.1	20.0	<200	<200	<200	NA	NA	NA
Beryllium	1	4	2.10	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<1.0	<1.0	<1.0	NA	NA	NA
Cadmium	4	5	9.50	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA
Calcium	NLE	NLE	45400.00	60400	55300	NA	NA	NA	NA	NA	NA	NA	NA	NA	52900	58500	57100	60400	57600	57100	NA	NA	NA
Chromium	70	100	191.00	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA
Cobalt	NLE	NLE	18.30	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<50	<50	<50	NA	NA	NA
Copper	1300	1300	65.60	20.7	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.71 ER	ND	<10	<10	<10	NA	NA	NA
Iron	300	NLE	431000	4610	2030	NA	NA	NA	NA	NA	NA	NA	NA	NA	128 ER	297 ER	646	588	2080	254	NA	NA	NA
Lead	5	15	22.70	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA
Magnesium	NLE	NLE	62700	<5000	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	2540	3200	3320	<5000	<5000	<5000	NA	NA	NA
Manganese	50	NLE	331	207	158	NA	NA	NA	NA	NA	NA	NA	NA	NA	63.2	32.6	204	132	62.3	102	NA	NA	NA
Mercury	2	2	0.26	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.210 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA
Nickel	100	NLE	187	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA
Potassium	NLE	NLE	137000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	5360	5380	4670	<10000	<10000	<10000	NA	NA	NA
Selenium	40	50	29.60	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	55.0	ND	<10	<10	<10	NA	NA	NA
Silver	40	NLE	ND	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.56 ER	<10	<10	<10	NA	NA	NA
Sodium	50000	NLE	21500	<10000	19500	NA	NA	NA	NA	NA	NA	NA	NA	NA	10200	16100	11300	12400	12500	<10000	NA	NA	NA
Thallium	2	2	5.50	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA
Vanadium	60	NLE	108	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.668 ER	ND	<50	<50	<50	NA	NA	NA
Zinc	2000	NLE	233	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	7.23 ER	ND	<20	<20	<20	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

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J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

				812MW04												812MW05					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	34	35	36	37	38	39	LF1	LF2					31	32	33	34	35	36
Date Collected				10/22/2008	2/6/2009	4/28/2009	8/10/2009	10/9/2009	1/14/2010	5/13/2010	8/3/2010	11/5/2010	2/15/2011	4/14/2011	7/8/2011	2/20/2008	4/9/2008	7/25/2008	10/22/2008	2/6/2009	4/28/2009
ANALYTE/Lab ID				80383.06	90039.06	90171.06	90336.06	90412.06	10018.06	10191.07	10326.07	10474.06	11053.08	11148.09	11287.09	80051.07	80120.07	80256.07	80383.07	90039.07	90171.07
Volatile Organic Compounds (µg/L)																					
Benzene	1	5	--	2.19	ND	ND	0.27 J	ND	ND	ND	0.31 J	ND	ND	ND	0.25 J	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.31 J	18.89	7.32	2.02	13.86	7.27
1,1-Dichloroethene				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	0.44 J	ND	ND	0.89	0.51	ND	ND	1.67	ND	ND	ND	0.49 J	ND	ND	ND	ND	ND	ND
trans -l,2-Dichloroethene	100			1.07 J	ND	ND	0.66	0.26 J	ND	ND	0.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.69	3.63	ND	8.14	1.68 J
Ethylbenzene	700	700	--	37.12	0.98 J	ND	4.89	0.30 J	ND	ND	0.33 J	ND	ND	ND	0.62 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.60 J	NA	NA	NA	NA	NA	NA
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.49 J	1.62 J	1.02 J	3.43	2.44
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	7.36	ND	ND	0.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1			40.41	ND	ND	12.25	5.11	1.95	1.77	9.79	ND	ND	1.05	4.9	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	33.86	0.38 J	ND	3.06	0.40 J	ND	ND	0.87	ND	ND	ND	0.74 J	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	104	ND	ND	26	3	ND	ND	13	ND	ND	ND	5.6	ND	ND	ND	ND	ND	ND
Metals (µg/L)																					
Aluminum	200	NLE	121000	NA	NA	NA	NA	NA	NA	65.2 ER	49.0 ER	2490	8070	1240	<200	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	8.73 ER	13.0	5.24 ER	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	3.34 ER	5.49	4.33 ER	9.6	3.1	9.4	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	NA	NA	NA	NA	NA	NA	23.2	34.7	27.0	<200	<200	<200	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	ND	ND	ND	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	ND	1.10 ER	0.723 ER	4.3	7.4	<3.0	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	NA	NA	NA	NA	NA	NA	41300	92300	50100	19400	37500	95200	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	ND	ND	12.8	41.9	<10	<10	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	NA	NA	NA	NA	NA	NA	ND	ND	0.544 ER	<50	<50	<50	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	NA	NA	NA	NA	NA	NA	16.1	11.0	13.0	27.2	61.2	11.0	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	NA	NA	NA	NA	NA	NA	ND	1630	5670	17300	3900	1280	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	ND	ND	6.98	21.0	18.4	<3.0	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	NA	NA	NA	NA	NA	NA	2750	5070	2740	<5000	<5000	<5000	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	NA	NA	NA	NA	NA	NA	12.1	64.2	13.8	35.5	34.9	66.1	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	NA	NA	NA	NA	NA	NA	0.210 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	1.06 ER	2.46 ER	2.66 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	NA	NA	NA	NA	NA	NA	8370	12600	8210	<10000	<10000	10900	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NR	73.4	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	NA	NA	NA	NA	NA	NA	ND	ND	0.708 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	NA	NA	NA	NA	NA	NA	43800	59900	34800	30300	32100	75100	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	NA	NA	NA	NA	NA	NA	ND	ND	0.870 ER	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	NA	NA	NA	NA	NA	NA	3.63 ER	2.68 ER	11.1	<50	<50	<50	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	NA	NA	NA	NA	NA	NA	21.3 ER	24.0 ER	31.8 ER	74.5	95.5	48.3	NA	NA	NA	NA	NA	NA

Notes:

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Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

				812MW05									812MW06									
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	37	38	39	LF1	LF2					31	32	33	34	35	36	37	38	39	LF1
Date Collected				8/10/2009	10/9/2009	1/14/2010	5/13/2010	8/3/2010	11/5/2010	2/15/2011	4/14/2011	7/8/2011	2/20/2008	4/9/2008	7/25/2008	10/22/2008	2/6/2009	4/28/2009	8/10/2009	10/9/2009	1/14/2010	5/11/2010
ANALYTE/Lab ID				90336.07	90412.07	10018.07	10191.06	10326.06	10474.05	11053.07	11148.08	11287.08	80051.08	80120.08	80256.08	80383.08	90039.08	90171.08	90336.08	90412.08	10018.08	10186.04
Volatile Organic Compounds (µg/L)																						
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane				8.36	22.57	2.44	2.01	ND	ND	4.58	3.81	15.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene				ND	0.37 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans -l,2-Dichloroethene	100			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	0.64	1.83	ND	ND	ND	ND	0.67	ND	0.54 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75
Tetrachloroethene	1		--	ND	0.44 J	ND	ND	ND	ND	ND	ND	0.34 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				2.07	3.34	1.11	1.53	ND	ND	2.41	1.33	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	0.31 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																						
Aluminum	200	NLE	121000	NA	NA	NA	5370	5590	4250	2690	3740	3810	NA	NA	NA	NA	NA	NA	NA	NA	NA	2590
Antimony	6	6	20.70	NA	NA	NA	6.29 ER	8.09 ER	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Arsenic	3	10	89.30	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Barium	6000	2000	699.00	NA	NA	NA	287	322	239	<200	227	217	NA	NA	NA	NA	NA	NA	NA	NA	NA	97.0
Beryllium	1	4	2.10	NA	NA	NA	1.10	1.56	1.46	<1.0	1.0	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.481 ER
Cadmium	4	5	9.50	NA	NA	NA	ND	ND	ND	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Calcium	NLE	NLE	45400.00	NA	NA	NA	39900	46100	36400	24000	32500	30500	NA	NA	NA	NA	NA	NA	NA	NA	NA	29000
Chromium	70	100	191.00	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Cobalt	NLE	NLE	18.30	NA	NA	NA	18.7	22.0	16.5	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2
Copper	1300	1300	65.60	NA	NA	NA	8.54	4.50 ER	1.91 ER	11.2	<10	16.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Iron	300	NLE	431000	NA	NA	NA	ND	620	728	927	1250	1930	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Lead	5	15	22.70	NA	NA	NA	ND	ND	2.24 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Magnesium	NLE	NLE	62700	NA	NA	NA	30800	32400	22000	11300	18400	18200	NA	NA	NA	NA	NA	NA	NA	NA	NA	19100
Manganese	50	NLE	331	NA	NA	NA	255	432	330	220	419	425	NA	NA	NA	NA	NA	NA	NA	NA	NA	182
Mercury	2	2	0.26	NA	NA	NA	0.170 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.150 ER
Nickel	100	NLE	187	NA	NA	NA	31.9	32.4	24.8	13.9	19.7	23.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.6
Potassium	NLE	NLE	137000	NA	NA	NA	5120	5490	12900	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	6280
Selenium	40	50	29.60	NA	NA	NA	NR	56.0	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR
Silver	40	NLE	ND	NA	NA	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Sodium	50000	NLE	21500	NA	NA	NA	401000	374000	349000	348000	348000	339000	NA	NA	NA	NA	NA	NA	NA	NA	NA	108000
Thallium	2	2	5.50	NA	NA	NA	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Vanadium	60	NLE	108	NA	NA	NA	0.887 ER	ND	0.817 ER	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Zinc	2000	NLE	233	NA	NA	NA	129	135	99.8	82.3	98.7	102	NA	NA	NA	NA	NA	NA	NA	NA	NA	63.7

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

NLE - No limit established

a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

				812MW06								812MW07									
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	LF1 Dup	LF2			Dup			Dup	31	32	33	34	35	36	37	38	39	LF1
Date Collected				5/11/2010	7/28/2010	11/3/2010	2/15/2011	2/15/2011	4/14/2011	7/8/2011	7/8/2011	2/20/2008	4/9/2008	7/25/2008	10/22/2008	2/6/2009	4/28/2009	8/10/2009	10/9/2009	1/14/2010	5/11/2010
ANALYTE/Lab ID				10186.03	10323.07	10471.06	11053.04	11053.03	11148.06	11287.04	11287.03	80051.09	80120.09	80256.09	80383.09	90039.09	90171.09	90336.09	90412.09	10018.09	10186.07
Volatile Organic Compounds (µg/L)																					
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	1.16 J	12.02	5.0	0.41 J	1.39 J	0.96	0.77	ND	ND
1,1-Dichloroethene				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans -l,2-Dichloroethene	100			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.58	1.89 J	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert* -butyl ether	70	NLE	--	0.73	0.56	0.34 J	0.34 J	0.33 J	0.21 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																					
Aluminum	200	NLE	121000	2620	2140	2670	2620	2590	2920	2120	2160	NA	NA	NA	NA	NA	NA	NA	NA	NA	2720
Antimony	6	6	20.70	7.91 ER	7.00 ER	ND	<6.0	<6.0	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.97 ER
Arsenic	3	10	89.30	ND	ND	1.08 ER	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.61 ER
Barium	6000	2000	699.00	96.5	102	122	<200	<200	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	154
Beryllium	1	4	2.10	0.462 ER	0.500	0.890	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.483 ER
Cadmium	4	5	9.50	ND	ND	0.652 ER	<3.0	<3.0	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Calcium	NLE	NLE	45400.00	28500	26500	27600	30800	30200	25700	29900	27300	NA	NA	NA	NA	NA	NA	NA	NA	NA	23600
Chromium	70	100	191.00	ND	ND	0.861 ER	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Cobalt	NLE	NLE	18.30	11.3	10.8	12.3	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.3
Copper	1300	1300	65.60	ND	2.00 ER	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Iron	300	NLE	431000	ND	ND	84.9	<100	<100	1320	838	1400	NA	NA	NA	NA	NA	NA	NA	NA	NA	4280
Lead	5	15	22.70	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	4.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Magnesium	NLE	NLE	62700	19100	18600	20400	18700	18400	15600	17000	15500	NA	NA	NA	NA	NA	NA	NA	NA	NA	27900
Manganese	50	NLE	331	179	169	175	202	195	188	239	218	NA	NA	NA	NA	NA	NA	NA	NA	NA	453
Mercury	2	2	0.26	0.180 ER	ND	ND	<0.20	<0.20	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.160 ER
Nickel	100	NLE	187	17.8	17.0	19.9	21.3	20.8	19.4	17.9	18.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.4
Potassium	NLE	NLE	137000	6100	6670	6460	<10000	<10000	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	6020
Selenium	40	50	29.60	NR	31.0	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR
Silver	40	NLE	ND	ND	ND	ND	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Sodium	50000	NLE	21500	106000	114000	122000	126000	123000	115000	130000	119000	NA	NA	NA	NA	NA	NA	NA	NA	NA	157000
Thallium	2	2	5.50	ND	ND	ND	<2.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Vanadium	60	NLE	108	ND	ND	ND	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Zinc	2000	NLE	233	63.2	62.0	71.8	70.4	70.0	66.2	65.1	94.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	77.2

Notes:

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NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

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ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

				812MW07						812MW08												
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	LF2		Dup				31	31 Dup	32	33	34	35	35 Dup	36	36 Dup	37	37 Dup	38	38 Dup	39
Date Collected				8/3/2010	11/5/2010	11/5/2010	2/15/2011	4/14/2011	7/8/2011	2/20/2008	2/20/2008	4/9/2008	7/25/2008	10/22/2008	2/6/2009	2/6/2009	4/28/2009	4/28/2009	8/10/2009	8/10/2009	10/9/2009	10/9/2009	1/14/2010
ANALYTE/Lab ID				10326.05	10474.04	10474.03	11053.06	11148.07	11287.07	80051.10	80051.03	80120.10	80256.10	80383.10	90039.10	90039.03	90171.10	90171.03	90336.10	90336.03	90412.10	90412.03	10018.10
Volatile Organic Compounds (µg/L)																							
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane				ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene				ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans -l,2-Dichloroethene	100			ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	NA	0.42 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1			ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																							
Aluminum	200	NLE	121000	3980	3570	3460	8790	3160	4060	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	6	6	20.70	7.94 ER	ND	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	1.12 ER	0.930 ER	0.690 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6000	2000	699.00	174	182	184	462	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	0.702	0.800	0.799	1.3	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	1.09 ER	5.09	4.55	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NLE	NLE	45400.00	23200	20200	19500	21100	11000	20900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NLE	NLE	18.30	17.0	61.8	59.1	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1300	1300	65.60	1.58 ER	2.07 ER	1.66 ER	13.1	<10	24.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NLE	431000	1650	2360	2030	10900	19300	32800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	4.22 ER	3.33 ER	5.37	3.8	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NLE	NLE	62700	42900	28600	28000	26900	13000	23000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	50	NLE	331	771	376	359	374	324	530	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	2	0.26	ND	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	59.1	65.0	61.9	56.4	14.7	21.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NLE	NLE	137000	5860	8330	7280	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	35.9	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	40	NLE	ND	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	50000	NLE	21500	189000	185000	181000	175000	158000	263000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	2	2	5.50	ND	ND	0.900 ER	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	60	NLE	108	ND	0.520 ER	0.871 ER	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NLE	233	144	547	542	708	111	186	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

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NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

				812MW08							812MW14											
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	39 Dup	LF1	LF2					31	32	33	33 Dup	34	35	36	37	38	39	LF1	LF2
Date Collected				1/14/2010	5/11/2010	7/28/2010	11/3/2010	2/14/2011	4/13/2011	7/8/2011	2/20/2008	4/9/2008	7/25/2008	7/25/2008	10/22/2008	2/6/2009	4/28/2009	8/10/2009	10/9/2009	1/14/2010	5/11/2010	8/3/2010
ANALYTE/Lab ID				10018.03	10186.05	10323.06	10471.07	11051.03	11145.05	11287.05	80051.11	80120.11	80256.11	80256.03	80383.11	90039.11	90171.11	90336.11	90412.11	10018.11	10186.06	10326.04
Volatile Organic Compounds (µg/L)																						
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans -l,2-Dichloroethene	100			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	0.38 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																						
Aluminum	200	NLE	121000	NA	4910	4400	3950	5610	4180	3760	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39.4 ER	135
Antimony	6	6	20.70	NA	12.3	8.69 ER	ND	<6.0	<6.0	<6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	9.83 ER
Arsenic	3	10	89.30	NA	1.10 ER	0.630 ER	0.870 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.650 ER
Barium	6000	2000	699.00	NA	90.6	108	102	<200	<200	<200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.5	44.2
Beryllium	1	4	2.10	NA	1.34	1.59	1.54	1.3	1.2	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Cadmium	4	5	9.50	NA	54.0	3.09	12.5	17.1	10.6	5.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.7	1.22 ER
Calcium	NLE	NLE	45400.00	NA	53500	43400	32000	44500	42300	35200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25700	33400
Chromium	70	100	191.00	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Cobalt	NLE	NLE	18.30	NA	13.7	12.9	12.8	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Copper	1300	1300	65.60	NA	3.22 ER	3.89 ER	1.90 ER	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.55 ER
Iron	300	NLE	431000	NA	320 ER	325 ER	124	453	1350	1160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	216 ER
Lead	5	15	22.70	NA	2.48 ER	3.41 ER	2.20 ER	<3.0	<3.0	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Magnesium	NLE	NLE	62700	NA	21000	19700	17300	23800	19900	17700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7040	11100
Manganese	50	NLE	331	NA	290	235	192	302	348	293	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.7	74.1
Mercury	2	2	0.26	NA	0.210 ER	ND	ND	<0.20	<0.20	<0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.210 ER	ND
Nickel	100	NLE	187	NA	15.5	16.1	18.5	19.7	15.3	22.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.32 ER	0.928 ER
Potassium	NLE	NLE	137000	NA	4840	5300	5300	<10000	<10000	<10000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4320	4350
Selenium	40	50	29.60	NA	NR	55.2	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	47.3
Silver	40	NLE	ND	NA	ND	ND	ND	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Sodium	50000	NLE	21500	NA	239000	226000	160000	236000	249000	233000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	223000	257000
Thallium	2	2	5.50	NA	ND	ND	ND	<2.0	<2.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Vanadium	60	NLE	108	NA	ND	ND	ND	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.77 ER	3.32 ER
Zinc	2000	NLE	233	NA	104	100	103	116	96.2	88.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.31 ER	2.31 ER

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

NLE - No limit established

a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-64
Fort Monmouth, New Jersey

				812MW14					
Round No.	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main)**	LF2 Dup				Dup	
Date Collected				8/3/2010	11/3/2010	2/15/2011	4/13/2011	4/13/2011	7/8/2011
ANALYTE/Lab ID				10326.03	10471.08	11053.05	11145.04	11145.03	11287.06
Volatile Organic Compounds (µg/L)									
Benzene	1	5	--	ND	ND	ND	ND	ND	ND
tert -Butyl alcohol	100	NLE	--	ND	ND	ND	ND	ND	NA
1,1-Dichloroethane				ND	ND	ND	ND	ND	ND
1,1-Dichloroethene				ND	ND	ND	ND	ND	ND
cis -l,2-Dichloroethene	70	70	--	ND	ND	ND	ND	ND	ND
trans -l,2-Dichloroethene	100			ND	ND	ND	ND	ND	ND
Chloroethane	NLE	NLE	--	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND
Isopropylbenzene	700	NLE	--	NA	NA	NA	NA	NA	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1		--	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane				ND	ND	ND	ND	ND	ND
Trichloroethene	1	5	--	ND	ND	ND	ND	ND	ND
Toluene	600	1000	--	ND	ND	ND	ND	ND	ND
Vinyl chloride	1			ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	10,000	--	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	ND	ND
Metals (µg/L)									
Aluminum	200	NLE	121000	284	1030	293	4790	5990	2770
Antimony	6	6	20.70	9.31 ER	5.21 ER	<6.0	<6.0	<6.0	<6.0
Arsenic	3	10	89.30	0.650 ER	2.16 ER	<3.0	3.8	5.0	3.3
Barium	6000	2000	699.00	45.7	31.3	<200	<200	<200	<200
Beryllium	1	4	2.10	ND	ND	<1.0	<1.0	<1.0	<1.0
Cadmium	4	5	9.50	1.15 ER	ND	<3.0	<3.0	<3.0	<3.0
Calcium	NLE	NLE	45400.00	35700	27300	50400	34900	35800	37200
Chromium	70	100	191.00	ND	5.34	<10	24.4	29.7	16.2
Cobalt	NLE	NLE	18.30	ND	ND	<50	<50	<50	<50
Copper	1300	1300	65.60	1.76 ER	ND	<10	<10	<10	<10
Iron	300	NLE	431000	450 ER	2000	553	11000	13700	6580
Lead	5	15	22.70	ND	ND	<3.0	3.8	4.4	<3.0
Magnesium	NLE	NLE	62700	11300	8530	8290	10100	10600	14300
Manganese	50	NLE	331	92.3	46.7	<15	353	466	318
Mercury	2	2	0.26	ND	ND	<0.20	<0.20	<0.20	<0.20
Nickel	100	NLE	187	1.00 ER	ND	<10	<10	<10	<10
Potassium	NLE	NLE	137000	4710	3670	<10000	<10000	<10000	<10000
Selenium	40	50	29.60	44.3	ND	<10	<10	<10	<10
Silver	40	NLE	ND	ND	ND	<10	<10	<10	<10
Sodium	50000	NLE	21500	263000	189000	309000	235000	241000	237000
Thallium	2	2	5.50	ND	ND	<2.0	<2.0	<2.0	<2.0
Vanadium	60	NLE	108	4.10 ER	5.09	<50	<50	<50	<50
Zinc	2000	NLE	233	3.09 ER	2.61 ER	<20	24.3	27.7	22.4

Notes:

Shaded cells= concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-64
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-64-GW-812MW01		FTMM-64-GW-812MW02		FTMM-64-GW-812MW04		FTMM-64-GW-812MW05		FTMM-64-GW-812MW06		FTMM-64-GW-812MW07		FTMM-64-GW-812MW08		FTMM-64-GW-812MW14	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	16-Aug-2013		15-Aug-2013		16-Aug-2013		15-Aug-2013		15-Aug-2013		15-Aug-2013		15-Aug-2013		15-Aug-2013	
LAB SAMPLE ID:						R1306020-016		R1305972-002		R1306020-017		R1305972-012		R1305972-015		R1305972-014		R1305972-007		R1305972-009	
SAMPLE INTERVAL (ft bgs):						30-50		30-50		2-7		8-18		6-16		8-18		6-16		5-15	
	CAS No.	Unit																			
Volatile Organics - SW8260C																					
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	--	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U	1.0	U	1.0	UJ	10	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	--	1.0	UJ	1.0	U	1.0	UJ	1.0	U	1.0	U	1.0	U	10	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	--	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	50	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	--	5.0	UJ	5.0	U	5.0	UJ	5.0	U	**1.4**	BJ	**1.4**	BJ	50	U	5.0	U
Benzene	71-43-2	µg/L	1	5	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	--	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	10	U	1.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-64
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES			FTMM-64-GW-812MW01	FTMM-64-GW-812MW02	FTMM-64-GW-812MW04	FTMM-64-GW-812MW05	FTMM-64-GW-812MW06	FTMM-64-GW-812MW07	FTMM-64-GW-812MW08	FTMM-64-GW-812MW14
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	Weston 1995 Background (Main Post)	16-Aug-2013	15-Aug-2013	16-Aug-2013	15-Aug-2013	15-Aug-2013	15-Aug-2013	15-Aug-2013	15-Aug-2013
LAB SAMPLE ID:						R1306020-016	R1305972-002	R1306020-017	R1305972-012	R1305972-015	R1305972-014	R1305972-007	R1305972-009
SAMPLE INTERVAL (ft bgs):						30-50	30-50	2-7	8-18	6-16	8-18	6-16	5-15
	CAS No.	Unit											
Methylene chloride	75-09-2	µg/L	3	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Naphthalene	91-20-3	µg/L	300	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Styrene	100-42-5	µg/L	100	100	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Toluene	108-88-3	µg/L	600	1,000	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Vinyl chloride	75-01-4	µg/L	1	2	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	1.0 U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	--	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	30 U	3.0 U
Metals - SW6010C													
Lead	7439-92-1	µg/L	5	15 [5]	22.70	2.0 U	2.0 U	**7.5**	**0.855** J	**2.1** J	2.0 U	2.0 U	2.0 U

QA NOTES AND DATA QUALIFIERS:
U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL. the cell border is bolded.

NOTES:
[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Value is the USEPA Action Level.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-64
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration (metals only) Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-64,B812									
812MW01	VOC/Pb	Fe, Mn	NO	N/A	N/A	Yes	NO	NO	No exceedances exhibited
812MW02		Fe, Mn, Sb	NO	N/A	N/A	Yes	NO	NO	No exceedances exhibited
812MW04		Benzene, VC, Al, As, Cd, Fe, Mn, Na, Pb	Na	N/A	NO	Yes	NO	YES	VOCs will be analyzed for an additional sample event. Na is a background analyte and not from historical site uses.
812MW05		Al, Be, Fe, Mn, Na	Na	N/A	NO	Yes	N/A	NO	Na is a background analyte and not from historical site uses.
812MW06		Al, Fe, Na	Na	N/A	N/A	Yes	NO	NO	Na is a background analyte and not from historical site uses.
812MW07		Al, Be, Cd, Fe, Pb, Mn, Na	Na	N/A	N/A	Yes	NO	NO	Na is a background analyte and not from historical site uses.
812MW08		Al, Be, Cd, Fe, Mn, Na	Na	N/A	N/A	Yes	NO	NO	Na is a background analyte and not from historical site uses.
812MW14		Al, As, Fe, Mn, Na	Na	N/A	N/A	Yes	NO	NO	Na is a background analyte and not from historical site uses.

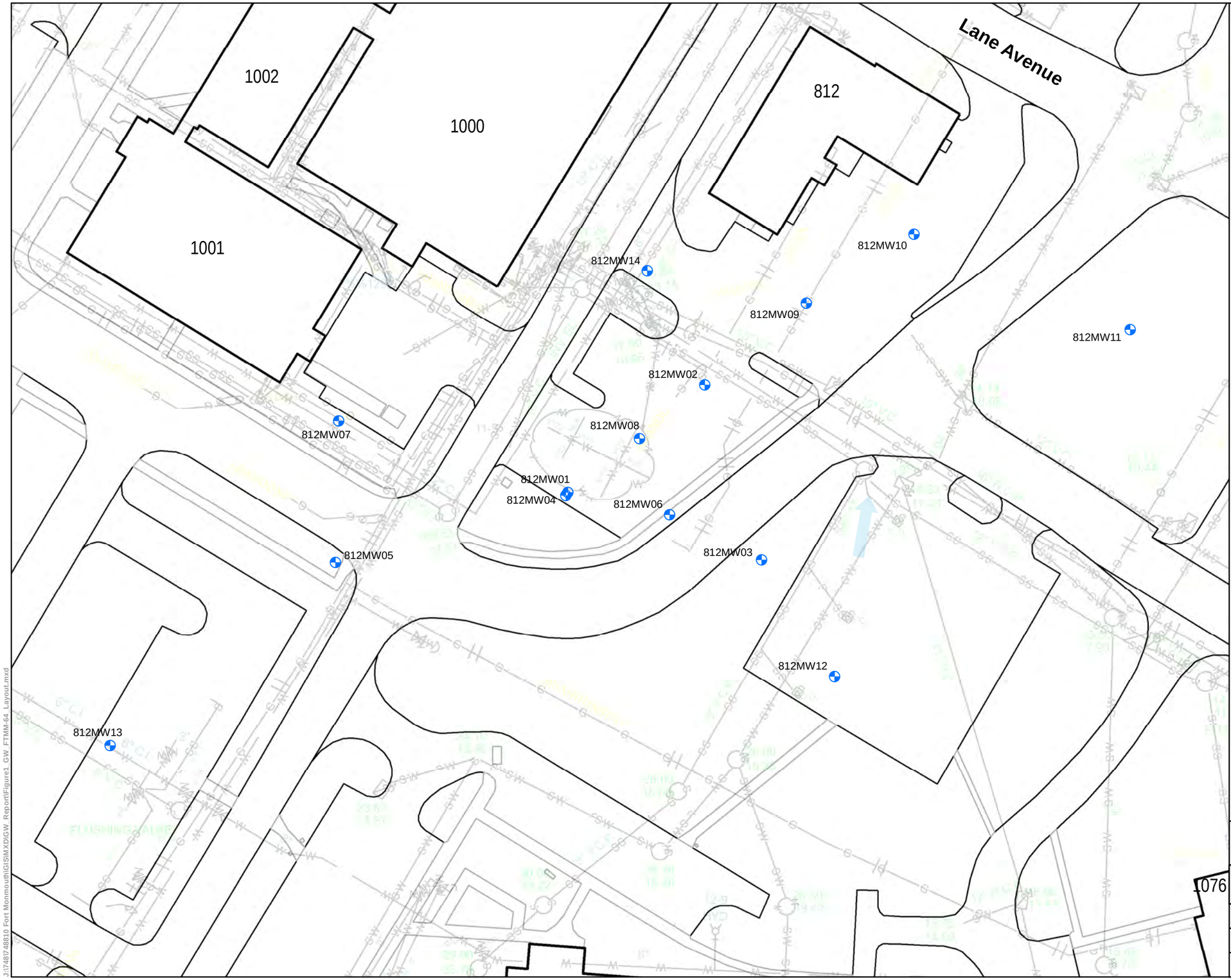
Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds ?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

VC - vinyl chloride

FIGURES

Figure 1 Layout of FTMM-64



Legend

- Shallow Monitoring Well
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Surface Water Feature
- Estimated Groundwater Flow Direction

N

1 inch = 50 feet

0 50 100 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**
Layout of FTMM-64 (Building 812)	
CREATED BY: **TS**	REVIEWED BY: **IG**
DATE: **November 2013**	FIGURE NUMBER: **Figure 1**
PROJECT NUMBER: **748810.01000**	FILE: **Figure1_GW_FTMM-64_Layout.mxd**

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-64_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW01 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-64
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 46.70
FEET OF WATER IN WELL: 38.37
SCREENED INTERVAL (TOC): 20
PUMP INTAKE DEPTH (ft below TOC): 38.35
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 8.33

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
12:55	X		7.36	NA	0.422	NA	31	NA	5.97	NA	18.1	NA	22.77	NA	100	7.45
13:00	X		7.43	0.07	0.391	0.031	28	3	4.82	1.15	8.3	9.8	19.89	2.88	100	7.70
13:05	X		7.42	0.01	0.366	0.025	10	18	4.10	0.72	6.0	2.3	19.36	0.53	100	7.92
13:10	X		7.42	0.0	0.364	0.002	-19	29	3.96	0.14	4.1	1.9	19.29	0.07	100	8.00
13:15	X		7.42	0.0	0.363	0.001	-34	15	3.84	0.12	0.0	4.1	19.10	0.19	100	8.15
13:20	X		7.41	0.01	0.362	0.001	-51	17	3.72	0.12	0.0	0.0	19.21	0.11	100	8.20
13:25	X		7.42	0.01	0.362	0.000	-68	17	3.72	0.00	0.0	0.0	18.82	0.39	100	8.23
13:30	X		7.44	0.02	0.362	0.000	-64	4	3.76	0.04	0.0	0.0	18.70	0.12	100	8.23
13:35	X		7.43	0.01	0.361	0.001	-66	2	3.77	0.01	0.0	0.0	18.65	0.05	100	8.23
13:40	X		7.43	0.0	0.361	0.000	-63	3	3.76	0.01	0.0	0.0	18.66	0.01	100	8.23
13:45	X	X	7.44	0.1	0.361	0.000	-62	1	3.76	0.00	0.0	0.0	18.67	0.01	100	8.23

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW01 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-01~~

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-64-GW-812MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	13:45	3	CLR	0.0	
Lead	13:45	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW04 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-04~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-64
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: MiniRAE (JC)

DATE: 8/16/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Michael T. Hon
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 (JC)
WELL DEPTH (TOC): 6.85
FEET OF WATER IN WELL: 5.87

SCREENED INTERVAL (TOC): 2-6.85
PUMP INTAKE DEPTH (ft below TOC): 4
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 0.98

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1250	X		6.41	NA	0.401	NA	79	NA	2.93	NA	3.6	NA	24.59	NA	100	1.03
1255	X		6.46	+0.05	0.372	-0.029	76	-3	1.72	-1.21	3.6	—	24.45	-0.14	100	1.[illegible]
1300	X		6.47	+0.01	0.294	-0.078	79	+3	2.70	+0.98	4.0	+0.4	24.59	+0.14	100	1.[illegible]
1305	X		6.44	-0.03	0.246	-0.048	86	+7	3.15	0.45	4.4	+0.4	24.66	+0.07	100	1.[illegible]
1310	X		6.42	-0.02	0.229	-0.017	91	+5	3.09	-0.06	4.6	+0.2	24.79	+0.13	100	1.[illegible]
1315	X		6.40	-0.02	0.222	-0.07	96	+5	3.43	+0.34	4.5	-0.1	24.84	+0.05	100	1.[illegible]
1320	X		6.40	—	0.225	+0.03	98	+2	3.56	+0.13	4.4	-0.1	24.93	+0.09	100	1.[illegible]
1325	X		6.41	+0.01	0.231	+0.06	101	+3	3.45	-0.11	4.5	+0.1	24.69	-0.24	100	1.[illegible]
1330	X		6.41	—	0.233	+0.02	102	+1	3.41	-0.04	4.4	-0.1	24.60	-0.09	100	1.[illegible]
1335		X	6.42	+0.01	0.235	+0.03	102	—	3.39	-0.02	4.5	+0.1	24.56	-0.04	100	

COMMENTS: 1337 Sampling

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW04 (JC)

PARSONS | CLIENT: USAESCH | WELL # : MW04

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-64-GW-812MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1337	40mL	cl.	4.5	
Lead	1337	500mL	cl.	4.5	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

FTMM-64

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW02 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~MW-02~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-64 - GW - 812MW-02
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID Minirae

DATE: 6/15/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.65	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 48
FEET OF WATER IN WELL: 43.45

SCREENED INTERVAL (TOC): 30-48
PUMP INTAKE DEPTH (ft below TOC): 39'
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.55

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1315	X	X	6.41	NA	0.491	NA	175	NA	4.79	NA	0.0	NA	22.69	NA	100	4.60
1320	X		7.95	-0.46	0.419	-0.072	158	-17	2.72	-2.07	0.0	—	21.95	-0.74	100	4.60
1325	X		7.77	-0.18	0.399	-0.020	131	-27	1.30	-1.42	0.0	—	21.89	-0.06	100	4.60
1330	X		7.66	-0.11	0.391	-0.008	101	-30	0.91	-0.39	0.0	—	21.72	-0.17	100	4.60
1335	X		7.64	-0.02	0.389	-0.002	93	-8	0.81	-0.10	0.0	—	21.57	-0.15	100	4.60
1340	X		7.61	-0.03	0.388	-0.001	88	-5	0.76	-0.05	0.0	—	21.49	-0.08	100	4.60
1345	X		7.62	0.01	0.387	-0.001	85	-3	0.74	-0.02	0.0	—	21.41	-0.08	100	4.60
1348		X														

COMMENTS: 13:48 Sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW02 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-02

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: 2

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1348	40mL VOA	clr	0.0	
Lead	1348	500mL plastics	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW05 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-05~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-64
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Minirae

DATE: 8/15/13
LABORATORY: HCL

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 17.80
FEET OF WATER IN WELL: 7.49

SCREENED INTERVAL (TOC): 8-17.80
PUMP INTAKE DEPTH (ft below TOC): 12.9
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1545	X		4.17	NA	2.43	NA	284	NA	6.53	NA	00	NA	21.60	NA	100	7.55
1550	X		3.65	-0.52	2.62	+0.19	340	+56	4.67	-1.86	0.0	-	19.48	-2.12	100	7.55
1555	X		3.58	-.07	2.63	+0.01	366	+26	4.28	-0.39	0.0	—	19.23	-0.25	100	7.55
1600	X		3.57	-0.01	2.63	—	380	+14	4.29	+0.01	0.0	—	19.05	-0.18	100	7.55
1605	X		3.55	-0.02	2.62	0.01	390	+10	4.25	-0.04	0.0	—	19.03	-0.02	100	7.55
1610	X		3.55	—	2.63	+0.01	393	+3	4.28	+0.03	0.0	—	18.97	-0.06	100	7.55
1615	X		3.55		2.62		399		4.27		0.0		18.95		100	7.55
1617																

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL # :** 812MW05 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE: bladder

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1617	40mL	clr	0.0	
Lead	1617	500mL	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW06 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-06~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/15/13
AOC # (AREA): FTMM-64
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: ~~0.0 ppm~~ PID MiniRAE
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 10ft
WELL DEPTH (TOC): 15.40 ft
PUMP INTAKE DEPTH (ft below TOC): 10.70 ft
FEET OF WATER IN WELL: ~~15.40~~ 9.77 ft
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.33 ft

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
14:44	X		4.05	NA	1.40	NA	420	NA	6.31	NA	7.5	NA	23.66	NA	100	5.25
14:49	X		4.00	0.05	1.43	0.03	435	15	5.57	0.74	0.0	7.5	22.90	0.76	100	5.26
14:54	X		4.00	0.00	1.43	0.00	435	0	5.46	0.11	0.0	0.0	22.82	0.08	100	5.26
14:58	X		3.99	0.01	1.43	0.00	439	4	5.27	0.29	0.0	0.0	22.54	0.28	100	5.26
15:04	X		~~3.99~~ 3.99	0.0	1.44	0.01	439	0	5.08	0.19	0.0	0.0	22.44	0.10	100	5.26
15:09	X		3.99	0.0	1.44	0.00	441	2	5.03	0.05	0.0	0.0	22.53	0.09	100	5.26
15:14	X		3.99	0.0	1.44	0.00	442	1	5.03	0.00	0.0	0.0	22.50	0.03	100	5.26
15:19	X		3.99	0.0	1.44	0.00	442	0	5.00	0.03	0.0	0.0	22.51	0.01	100	5.26
15:21		X														

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW06 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-06

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: 2

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	15:21	3	CLR	0.0	
Lead	15:21	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW07 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL # :** ~~07~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 64
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Mini RAE

DATE: 8/15/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 17.63
FEET OF WATER IN WELL: 8.41

SCREENED INTERVAL (TOC): 8-17.63
PUMP INTAKE DEPTH (ft below TOC): 12.18
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 9.22

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
15:45	X		4.22	NA	1.00	NA	254	NA	4.12	NA	3.4	NA	22.65	NA	100	9.27
15:50	X		4.23	0.01	1.00	0.0	255	1	3.84	0.28	0.0	3.4	22.23	0.42	100	9.27
15:55	X		4.23	0.00	0.997	0.003	249	6	2.74	1.10	0.0	0.0	21.24	0.99	100	9.27
16:00	X		4.23	0.00	0.996	0.001	248	1	2.72	0.02	0.0	0.0	21.22	0.02	100	9.27
16:05	X		4.25	0.02	0.996	0.000	243	5	2.70	0.02	0.0	0.0	21.13	0.09	100	9.27
16:10	X		4.25	0.00	0.996	0.000	240	3	2.71	0.01	0.0	0.0	21.19	0.06	100	9.27
16:15	X		4.24	0.01	0.996	0.000	239	1	2.68	0.03	0.0	0.0	21.12	0.07	100	9.27
16:17																

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW07 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** 07

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: 2

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	16:17	3	CLR	0.0	
Lead	16:17	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW08 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~MW-08~~

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-64
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE

DATE: 8/15/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 15.45ft
FEET OF WATER IN WELL: 10.02ft

SCREENED INTERVAL (TOC): 10ft
PUMP INTAKE DEPTH (ft below TOC): 10.73ft
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.43ft

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
13:20	X		5.18	NA	0.603	NA	174	NA	5.48	NA	15.3	NA	24.22	NA	100	5.49
13:25	X		4.96	0.22	0.632	0.029	202	28	4.17	1.31	7.2	8.1	24.06	0.22	100	5.55
13:30	X		4.85	0.11	0.655	0.023	246	44	3.37	0.80	0.0	7.2	23.82	~~4.82~~ 0.18	100	5.60
13:35	X		4.79	0.06	0.685	0.030	272	26	3.13	0.24	0.0	0.0	23.66	0.16	100	5.60
13:40	X		4.72	0.07	0.726	0.041	301	29	3.15	0.02	0.0	0.0	23.48	0.18	100	5.60
13:45	X		4.68	0.04	0.739	0.013	310	9	3.14	0.01	0.0	0.0	23.49	0.01	100	5.60
13:50	X		4.66	0.02	0.764	0.025	321	11	3.13	0.01	0.0	0.0	23.49	0.00	100	5.60
13:55	X		4.64	0.02	0.804	0.040	340	19	3.13	0.0	0.0	0.0	23.44	0.05	100	5.60
14:00	X		4.63	0.02	0.828	0.024	345	5	3.14	0.01	0.0	0.0	23.40	0.04	100	5.60
14:05	X		4.62	0.01	0.830	0.002	349	4	3.15	0.01	0.0	0.0	23.38	0.02	100	5.60
14:10	X		4.61	0.01	0.831	0.001	350	1	3.15	0.00	0.0	0.0	23.34	0.04	100	5.60
14:12		X														

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW08 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-08

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: 2

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs & TICs	14:12	3	CLR	0.0	
lead	14:12	1	CLR	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW14 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL #:** MW-14

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-64
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID Minirae 3000

DATE: 8/15/13
LABORATORY: HCL

SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 14.24
FEET OF WATER IN WELL: ~~14.00~~ 9.39

SCREENED INTERVAL (TOC): 5-14.24
PUMP INTAKE DEPTH (ft below TOC): 9.5
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 4.85

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1430	X		7.22	NA	0.196	NA	150	NA	6.05	NA	200+	NA	24.76	NA	100	4.90
1435	X		6.65	-0.57	0.187	-0.009	161	+11	5.75	-0.30	17.9	-3.2	24.03	-0.73	100	5.00
1440	X		6.67	+0.18	0.182	-0.005	167	+6	4.95	-0.80	16.0	-1.9	24.02	+0.01	100	5.05
1445	X		6.63	-0.04	0.180	-0.002	170	+3	5.05	+0.10	14.1	-1.9	24.15	+0.13	100	11
1450	X		6.57	-0.06	0.179	-0.001	173	+3	5.36	+0.31	12.0	-1.9	24.35	+0.20	100	11
1455	X		6.55	-0.02	0.179	—	176	+3	5.50	+0.14	10.0	-1.4	24.44	+0.09	100	11
1500	X		6.54	-0.01	0.178	-0.001	177	+1	5.52	+0.02	9.5	-0.1	24.46	+0.02	100	11
1505	X		6.53	-0.01	0.178	[redacted]	179	+2	5.56	+0.04	9.5	+0.1	24.50	+0.04	100	11
1507		X														

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

812MW14 (JC)

PARSONS | **CLIENT:** USAESCH | **WELL # :**

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: 2

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1346	40mL	clr	0.0	
Lead	1348	500mL plastics	clr	0.0	
VOC	1507	40mL	clr	9.5	
Lead	1507	500mL plastic	clr	9.5	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW):

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX T: FTMM-66 Building 886

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Attachment	Title
A	LFPS Field Sheets

1.0 FTMM-66 GROUNDWATER MONITORING

Groundwater sampling was conducted at 13 monitoring wells, located within FTMM-66 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to water in monitoring wells and sample collection using low flow purging and sampling (LFPS) methodology as per the March 2013 Sampling and Analysis Plan (SAP). Sampling was conducted on August 22 and August 23, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260C, TCL semi-volatile organic compounds (SVOCs) via USEPA method SW8270D and lead via USEPA method SW6010C. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the NJDEP Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed LFPS records for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-66 were gauged on August 9, 2013. Groundwater elevations in monitoring wells ranged from 7.20 (886MW01) to 10.84 (886MW04) feet above mean sea level (AMSL) and groundwater is expected to flow to the northwest (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Also, during the groundwater gauging, the condition of FTMM-66 monitoring wells was assessed. Monitoring wells were found to be in good physical condition and contained sampling tubing within the well casings.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

From February 2003 through October 2004, FTMM-66 monitoring wells were sampled for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH) and metals. From January 2005 to December 2009 FTMM-66 wells were sampled for VOCs and SVOCs. From February 2010 to May 2010, monitoring wells were sampled for VOCs, SVOCs and metals.

In the last four rounds of quarterly groundwater sampling conducted at FTMM-66 from August 2010 to April 2011, samples were also analyzed for VOCs, SVOCs and metals. Within the last four rounds of groundwater sampling at FTMM-66, bis(2-ethylhexyl) phthalate, antimony, arsenic, beryllium and lead were detected above their respective New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standard (GWQS) in monitoring well 886MW01. However, the concentrations of antimony, arsenic, beryllium and lead were all below their respective site-specific groundwater concentrations.

No VOCs were detected in exceedance of any NJDEP GWQS within the last four rounds of historical groundwater sampling. Historical groundwater analytical results are presented in **Table 2**.

4.0 AUGUST 2013 GROUNDWATER RESULTS

No analytes were detected in exceedance of their respective NJDEP GWQS. Groundwater analytical detections from samples collected during the August 2013 Baseline Sampling Event are presented in **Table 3**.

5.0 FINDINGS AND RECOMMENDATIONS

Bis(2-ethylhexyl) phthalate was detected in exceedance of its NJDEP GWQS of 3 µg/L twice within the last four rounds of historical groundwater data. These exceedances appear to be anomalous as there is no trend of bis(2-ethylhexyl) phthalate exceedances historically. The detection of phthalates is attributed to the laboratory; it is considered a common laboratory contaminant since it is present in all laboratory equipment and reagents. Metals were not detected above background concentrations established in the 1995 Weston Report during the last four rounds of historical groundwater sampling.

Additionally, no VOCs, SVOCs or metals were detected above any NJDEP GWQS during the August 2013 Baseline Groundwater Sampling Event. Therefore, it is recommended groundwater monitoring be discontinued at FTMM-66. **Table 4** presents the matrix used to determine the recommendations for this Site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 Historical Groundwater Analytical Results

Table 3 2013 Baseline Groundwater Analytical Detections

Table 4 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-66
Fort Monmouth, New Jersey

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	LFPS Sample Date	LFPS Sample Time
				feet											
M-66, B886															
886MW01	29-47835	538325.482	620980.995	17.00	15.00	2-17	12.95	8-9-13	1112	0.0	5.75	16.92	7.20	8/23/2013	912
886MW02	29-47836	538217.439	620928.793	17.00	15.00	2-17	12.90	8-9-13	1104	0.0	5.26	16.79	7.64	8/22/2013	1433
886MW03	29-47837	538302.921	621071.251	17.00	15.00	2-17	13.70	8-9-13	1134	0.0	6.20	17.20	7.50	8/22/2013	1330
886MW04	29-47838	538089.473	621100.444	17.00	15.00	2-17	18.22	8-9-13	1138	0.0	7.38	20.31	10.84	8/22/2013	1251
886MW05	29-47839	538253.486	621193.803	17.00	15.00	2-17	18.29	8-9-13	1136	0.0	10.29	19.41	8.00	8/22/2013	1112
886RW01	29-47840	538241.423	620972.442	17.00	15.00	2-17	13.62	8-9-13	1124	0.0	5.99	16.20	7.63	8/23/2013	1121
886RW02	29-47841	538251.080	620895.341	17.00	15.00	2-17	13.92	8-9-13	1122	0.0	6.35	17.10	7.57	8/22/2013	1145
886RW03	29-47842	538274.313	620998.035	17.00	15.00	2-17	13.96	8-9-13	1116	0.0	6.28	16.12	7.68	8/22/2013	927
886RW04	29-47843	538263.448	620990.211	17.00	15.00	2-17	13.80	8-9-13	1118	0.0	6.22	16.75	7.58	8/22/2013	1117
886RW05	29-47844	538280.462	620985.977	17.00	15.00	2-17	13.71	8-9-13	1114	0.0	6.19	15.00	7.52	8/22/2013	938
886RW06	29-47845	538273.329	621052.868	17.00	15.00	2-17	15.00	8-9-13	1131	0.0	5.19	15.19	9.81	8/22/2013	1252
886RW07	29-47846	538252.304	621047.208	17.00	15.00	2-17	14.32	8-9-13	1129	0.0	6.69	16.00	7.63	8/22/2013	1443
886RW08	29-47847	538229.910	621038.867	17.00	15.00	2-17	13.84	8-9-13	1127	0.0	6.02	15.59	7.82	8/22/2013	1500

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, screen interval and TOC elevation were provided by FTMM in a table in June 2013 and were collected in well permits.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS - low flow purging and sampling

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886MW01																
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	886MW01	MW01 Dup	886MW01	MW01 Dup	886MW01	MW01 Dup	886MW01	MW01 Dup	886MW01	886MW01	MW01 Dup	886MW01	MW01 Dup	886MW01	MW01 Dup	886MW01	LF1
Date Collected				8/2/2007	8/2/2007	10/12/2007	10/12/2007	3/27/2008	3/27/2008	6/25/2008	6/25/2008	9/16/2008	11/12/2008	11/12/2008	2/11/2009	6/10/2009	6/10/2009	9/28/2009	12/15/2009	12/15/2009	2/24/2010
Volatile Organic Compounds (µg/L)																				
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	3.86	4.46	2.48	NA	16.76	17.05	3.88	2.21	2.29	ND	0.24 J	0.26 J	4.85	0.92	0.85	1.44
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	0.38 J	NA	ND	ND	ND	ND	ND	ND	0.26 J	0.26 J	ND	0.31 J	0.31 J	ND
TICs*	500	NLE		ND	ND	ND	ND	242	NA	ND	ND	ND	13	11	200	119	124	ND	84	82	41
Total Petroleum Hydrocarbons (mg/L)																				
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																				
Acenaphthene	400	NLE	--	ND	ND	ND	ND	6.18	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.91	1.93	2.08
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.5	1.3 J	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7 J	1.8 J	2.2 J
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.96	1.91	2.31
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6 J	1.6 J	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	ND	ND	170.46	NA	ND	ND	61	19	4	15	96	90	ND	84.9	78.9	43.5
Metals (µg/L)																				
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.00 ER
Barium	6,000	2,000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.7
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Copper	1,300	1,300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.90 ER
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

NLE - No limit established

a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886MW01						886MW02											
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF2	LF3	LF4	LF5	LF5 Dup	LF6	886MW02	886MW02	886MW02	886MW02	886MW02	886MW02	886MW02	MW02 Dup	886MW02	886MW02	886MW02	LF1
Date Collected				5/24/2010	8/5/2010	10/13/2010	2/11/2011	2/11/2011	4/7/2011	8/2/2007	10/12/2007	3/27/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	2/11/2009	6/10/2009	9/28/2009	12/15/2009	2/22/2010
Volatile Organic Compounds (µg/L)																					
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	1	1.98	0.73	0.32 J	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35 J	ND	ND	0.27 J
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.43 J
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		27	ND	ND	99	99	123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons (mg/L)																					
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																					
Acenaphthene	400	NLE	--	0.535	ND	ND	4	3.85	3.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	0.166	0.164	0.179	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	1.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	1.9 J	ND	ND	2.6 J	2.6 J	3.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	1.65	ND	ND	3.17	3.19	3.71	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	1.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	0.345	0.339	0.241	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	9	ND	ND	97	105.6	167.9	ND	15	39.3	ND	23	4	11	14	6	10	ND	5.9
Metals (µg/L)																					
Antimony	6	6	20.70	5.01 ER	9.32 ER	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.62 ER
Arsenic	3	10	89.30	9.1	2.81 ER	2.25	9.8	10.3	19.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.80 ER
Barium	6,000	2,000	699.00	8.79	40.2	82.3	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	130
Beryllium	1	4	2.10	0.051 ER	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0446 ER
Cadmium	4	5	9.50	0.511 ER	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.53
Chromium	70	100	191.00	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.55 ER
Copper	1,300	1,300	65.60	1.27 ER	1.98 ER	ND	ND	ND	93.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Lead	5	15	22.70	3.68 ER	ND	ND	ND	ND	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Nickel	100	NLE	187	ND	4.37 ER	13.6	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.7
Selenium	40	50	29.60	NR	NR	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

NLE - No limit established

a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886MW02											886MW03									
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1 Dup	LF2	LF2 Dup	LF3	LF3 Dup	LF4	LF4 Dup	LF5	LF5 Dup	LF6	LF6 Dup	886MW03	886MW03	886MW03	MW03 Dup	886MW03	886MW03	886MW03	886MW03	886MW03	886MW03
Date Collected				2/22/2010	5/24/2010	5/24/2010	8/4/2010	8/4/2010	10/12/2010	10/12/2010	2/9/2011	2/9/2011	4/7/2011	4/7/2011	8/2/2007	10/12/2007	3/28/2008	3/28/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009
Volatile Organic Compounds (µg/L)																								
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	0.28 J	0.32 J	0.28 J	0.28 J	0.31 J	0.26 J	0.24 J	0.23 J	0.23 J	0.31 J	0.33 J	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	0.48 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons (mg/L)																								
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																								
Acenaphthene	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	1.4 J
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	5.8	ND	ND	ND	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	8	10	7	ND
Metals (µg/L)																								
Antimony	6	6	20.70	ND	10.6	12.1	10.5	12.6	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	2.73 ER	2.82 ER	3.01 ER	3.01 ER	3.51 ER	1.71	1.63	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6,000	2,000	699.00	141	118	114	139	144	141	134	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	ND	0.141 ER	0.139 ER	0.0887 ER	0.092 ER	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	5.33	0.973 ER	0.903 ER	1.28 ER	1.21 ER	1.68	1.15	3.7	3.8	4.7	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	1.68 ER	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1,300	1,300	65.60	ND	ND	1.26 ER	ND	1.27 ER	ND	ND	ND	ND	15.7	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	ND	2.95 ER	ND	ND	ND	ND	ND	ND	ND	ND	3.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	34.3	25.3	23.4	29.7	31.2	27.8	26	27.9	28.5	28.5	27.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NR	NR	NR	NR	NR	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886MW03							886MW04												
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	886MW03	LF1	LF2	LF3	LF4	LF5	LF6	886MW04	886MW04	886MW04	886MW04	886MW04	886MW04	886MW04	886MW04	886MW04	886MW04	LF1	LF2	LF3	LF4
Date Collected				12/15/2009	2/22/2010	5/24/2010	8/5/2010	10/12/2010	2/10/2011	4/7/2011	8/2/2007	10/12/2007	3/28/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009	12/15/2009	2/24/2010	5/24/2010	8/5/2010	10/13/2010
Volatile Organic Compounds (µg/L)																								
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.26	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons (mg/L)																								
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																								
Acenaphthene	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	1.8 J	ND	1.9 J	ND	ND	1.1 J	ND	ND	3.76 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	43.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	112	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	8.1	ND	ND	327	ND	ND	4	ND	ND	14	12	12	6	ND	ND	ND	64.2	ND	ND
Metals (µg/L)																								
Antimony	6	6	20.70	NA	9.92 ER	9.76 ER	10.7	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	5.56 ER	5.10 ER	ND
Arsenic	3	10	89.30	NA	1.77 ER	5.86	9.07	8.57	ND	8.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.750 ER	1.20 ER	0.66
Barium	6,000	2,000	699.00	NA	47.2	20.3	22.1	38.6	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.38 ER	15	34.8	53.4
Beryllium	1	4	2.10	NA	ND	0.122 ER	0.135 ER	0.673	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.091 ER	0.195 ER	0.229 ER	ND
Cadmium	4	5	9.50	NA	1.72 ER	0.531 ER	1.12 ER	1.5	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Chromium	70	100	191.00	NA	ND	1.08 ER	10.2	59.2	ND	44.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.52	ND	ND	ND
Copper	1,300	1,300	65.60	NA	9.33	28.1	23	154	21.2	50.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.38 ER	ND	1.31 ER	ND
Lead	5	15	22.70	NA	ND	5.09	7.09	19.3	4.4	11.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
Nickel	100	NLE	187	NA	1.81 ER	2.46 ER	6.52	15.4	ND	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.66 ER	1.81 ER	5.28	8.35
Selenium	40	50	29.60	NA	NR	NR	NR	1.67	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	ND

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

						886MW05															
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF5	LF6	886MW05	886MW05	886MW05	886MW05	886MW05	886MW05	886MW05	886MW05	886MW05	886MW05	LF1	LF1 Dup	LF2	LF3	LF4	LF5	LF6
Date Collected				2/11/2011	4/7/2011	8/2/2007	10/12/2007	3/28/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009	12/15/2009	2/24/2010	2/24/2010	5/24/2010	8/4/2010	10/12/2010	2/10/2011	4/7/2011
Volatile Organic Compounds (µg/L)																						
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	28	35	6	23	17	60	ND	3	95	ND	ND	ND	6	22	9	ND	ND
Total Petroleum Hydrocarbons (mg/L)																						
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																						
Acenaphthene	400	NLE	--	ND	ND	ND	2.88 J	ND	ND	ND	ND	ND	ND	1.72	ND	ND	ND	0.414	1.34	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.401	ND	ND	ND	ND	0.268	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7 B	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	2.05 J	ND	ND	ND	ND	ND	ND	1.9 J	ND	ND	ND	0.41 J	1.5 J	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	3.29 J	ND	ND	ND	ND	ND	ND	2.67	ND	ND	ND	0.552	2.13	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	13.7	24.29	ND	ND	ND	11	ND	ND	0.91 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	1.15 J	1.02 J	ND	ND	ND	ND	ND	ND	0.439	ND	ND	ND	ND	0.167	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	1.44 J	ND	ND	ND	ND	ND	ND	1.35	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	21	100	10.1	34	90	67	17	7	103.6	12.4	ND	ND	7.5	9.2	187.9	ND	4.3
Metals (µg/L)																						
Antimony	6	6	20.70	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Arsenic	3	10	89.30	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.78 ER	3.57 ER	ND	ND	3.2
Barium	6,000	2,000	699.00	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.69	6.95	3.83 ER	4.14 ER	15.2	ND	ND
Beryllium	1	4	2.10	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.044 ER	ND	0.053 ER	ND	ND	ND	ND
Cadmium	4	5	9.50	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Chromium	70	100	191.00	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.46 ER	1.61 ER	ND	ND	ND	ND	ND
Copper	1,300	1,300	65.60	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	2.27 ER	1.36	ND	ND
Lead	5	15	22.70	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.82 ER	ND	ND	ND	ND
Nickel	100	NLE	187	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.25 ER	1.85 ER	ND	ND	ND	ND	ND
Selenium	40	50	29.60	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	ND	ND	ND

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886MW06		886RW01																886RW02			
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF5	LF6	886RW01	886RW01	886RW01	886RW01	886RW01	886RW01	886RW01	886RW01	886RW01	886RW01	LF1	LF2	LF3	LF4	LF5	LF6	886RW02	886RW02	886RW02	886RW02
Date Collected				1/6/2011	4/7/2011	8/2/2007	10/11/2007	3/27/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009	12/16/2009	3/2/2010	5/25/2010	8/10/2010	10/14/2010	2/14/2011	4/11/2011	8/2/2007	10/11/2007	3/27/2008	6/25/2008
Volatile Organic Compounds (µg/L)																									
Acetone	6,000	NLE	--	ND	ND	ND	ND	4.16	8.98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	0.65 J	1.75 J	0.67 J	1.14	0.87	0.56	0.68	0.51	1.63	0.94	ND	0.30 J	ND	ND	ND	0.46 J	0.79 J	0.31 J	0.84 J	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	0.93 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	0.68J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	5.81	9	3.34	3.05	1.84	1.5	0.29 J	1.32	2.5	ND	ND	ND	ND	ND	ND	ND	ND	0.46 J	ND
Methyl *tert* -butyl ether	70	NLE	--	0.25J	0.54	ND	3.86	ND	10.14	4.3	4.83	2.86	7.13	1.11	0.33 J	ND	0.67	1.63	1.8	ND	ND	4.14	2.75	5.03	1.32
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	1.92 J	2.09 J	1.02	1.16	0.97	ND	0.30 J	ND	0.27 J	ND	0.30 J	ND	0.27 J	ND	ND	ND	ND	0.88 J	ND
TICs*	500	NLE		ND	ND	519	93	333	271	169	159	176	160	216	190	ND	179	100	75	ND	123	77	35	97	ND
Total Petroleum Hydrocarbons (mg/L)																									
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																									
Acenaphthene	400	NLE	--	ND	0.123	3.21 J	3.59 J	ND	ND	ND	ND	ND	ND	2.07	2.74	ND	2.47	1.9	1.98	ND	2.13	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.136	0.153	0.15	ND	0.149	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	2.43 J	2.84 J	ND	ND	ND	ND	ND	ND	1.9 J	1.6 J	ND	2.5 J	2.1 J	2.1 J	ND	1.4 J	2.0 J	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	3.60 J	4.04 J	ND	ND	ND	ND	ND	ND	2.93	2.73	ND	2.88	2.46	2.38	ND	1.96	1.8 J	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	35.03	18.28	ND	ND	ND	ND	15	ND	4.4	9.6	ND	1.6	ND	ND	ND	18.3	16.05	18.48	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	0.167	0.275	1.67 J	1.34 J	ND	ND	ND	ND	ND	ND	0.994	0.871	ND	0.627	ND	ND	ND	0.663	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	2.71 J	2.91 J	ND	ND	ND	ND	ND	ND	0.82	1.01	ND	0.875	0.224	0.171	ND	1.53	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.347	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	ND	313	301	516.23	30	135	391	424	433	776	441.4	7.2	135.3	46.1	69	ND	246.3	71	99	51.08	14
Metals (µg/L)																									
Antimony	6	6	20.70	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	8.67 ER	10.2	ND	ND	ND	NA	NA	NA	NA
Arsenic	3	10	89.30	10.2 [/a]	16.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.39 ER	10.75	ND	5.9	ND	5.3	NA	NA	NA	NA
Barium	6,000	2,000	699.00	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.8	41.7	59.8	54	ND	ND	NA	NA	NA	NA
Beryllium	1	4	2.10	ND	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.080 ER	ND	ND	ND	ND	NA	NA	NA	NA
Cadmium	4	5	9.50	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.789 ER	1.05 ER	0.812 ER	0.724	ND	ND	NA	NA	NA	NA
Chromium	70	100	191.00	62.4 [/a]	61.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.40 ER	1.33 ER	1.87 ER	1.5	ND	ND	NA	NA	NA	NA
Copper	1,300	1,300	65.60	ND	77.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.60 ER	ND	2.68 ER	1.64	ND	ND	NA	NA	NA	NA
Lead	5	15	22.70	11 [/a]	11.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	2.50 ER	ND	ND	ND	ND	NA	NA	NA	NA
Nickel	100	NLE	187	42.8 [/a]	33.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.95 ER	ND	1.61 ER	ND	ND	ND	NA	NA	NA	NA
Selenium	40	50	29.60	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	ND	ND	ND	NA	NA	NA	NA

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886RW02													886RW03						
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	886RW02	RW02 Dup	886RW02	886RW02	886RW02	886RW02	886RW02	LF1	LF2	LF3	LF4	LF5	LF5 Dup	LF6	886RW03	886RW03	886RW03	886RW03	886RW03	886RW03	886RW03
Date Collected				9/16/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009	12/16/2009	3/2/2010	5/25/2010	8/10/2010	10/14/2010	2/14/2011	2/14/2011	4/11/2011	8/2/2007	10/11/2007	3/27/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009
Volatile Organic Compounds (µg/L)																								
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	0.3	0.98	ND	ND	0.35 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	5.26	5.62	2.9	4.07	0.52	1.07	0.75	ND	ND	0.45 J	1.22	ND	ND	ND	ND	1.71 J	ND	ND	ND	ND	1.02
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	0.22 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		46	30	36	41	ND	29	75	ND	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	12	ND	ND
Total Petroleum Hydrocarbons (mg/L)																								
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																								
Acenaphthene	400	NLE	--	ND	ND	ND	ND	ND	2.12	2.03	ND	0.146	ND	0.166	0.126	ND	0.207	ND	ND	ND	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	0.139	0.22	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	ND	1.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	0.98 J	0.90 J	ND	ND	ND	0.64 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	ND	ND	2.05	2.38	ND	ND	ND	0.222	ND	ND	0.218	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	15	ND	3.6	7.9	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	0.328	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	0.204	0.351	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	132	185	50	400	ND	68.6	94.7	ND	5.7	ND	5.3	ND	ND	4.2	ND	ND	ND	ND	ND	7	19
Metals (µg/L)																								
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	ND	8.76 ER	12.8	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	4.46 ER	9.68	ND	18.56	ND	ND	5.5	NA	NA	NA	NA	NA	NA	NA
Barium	6,000	2,000	699.00	NA	NA	NA	NA	NA	NA	NA	41	42.1	45.7	42.8	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	0.065 ER	0.238 ER	0.085 ER	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	ND	2.42	2.00 ER	1.38	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	3.97 ER	4.52 ER	5.72	2.13	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Copper	1,300	1,300	65.60	NA	NA	NA	NA	NA	NA	NA	6.66	16.1	5.82	3.32	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	ND	5.42	4.96 ER	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	10.5	12.4	11	5.41	ND	ND	11.5	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	1.68	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

NLE - No limit established

a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886RW03											886RW04										
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	886RW03	886RW03	886RW03	LF1	LF2	LF2 Dup	LF3	LF4	LF5	LF6	LF6 Dup	886RW04	886RW04	RW04 Dup	886RW04	886RW04	886RW04	886RW04	886RW04	886RW04	886RW04	886RW04
Date Collected				6/10/2009	9/28/2009	12/16/2009	2/22/2010	5/25/2010	5/25/2010	8/5/2010	10/12/2010	2/10/2011	4/8/2011	4/8/2011	8/2/2007	10/11/2007	10/11/2007	3/27/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009	12/16/2009
Volatile Organic Compounds (µg/L)																									
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22	4.71	4.78	15.92	11.48	6.65	4.62	9.93	6.85	4.93	1.65
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.65	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	102	23	14	97	81	72	59	35	54	68	36
Total Petroleum Hydrocarbons (mg/L)																									
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																									
Acenaphthene	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.20 J	ND	ND	ND	ND	ND	0.665	0.656
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	18.5 B	ND	4.2	ND	ND	ND	ND	ND	ND	ND	ND	2.68 J	ND	ND	ND	ND	ND	ND	2.1
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.58 J	0.65 J
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.30 J	ND	ND	ND	ND	ND	ND	1	ND	0.622	0.945
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.63	7.14 J	10.23	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	6	ND	ND	ND	ND	4.2	ND	ND	54.6	ND	ND	201	62	106	196.46	ND	339	6	68	161	159.5	64.9
Metals (µg/L)																									
Antimony	6	6	20.70	NA	NA	NA	9.54 ER	5.92 ER	ND	6.76 ER	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	ND	1.65 ER	1.61 ER	1.17 ER	1.46	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	6,000	2,000	699.00	NA	NA	NA	128	18.4	17.6	28	35.2	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	ND	ND	ND	ND	0.409	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	ND	ND	ND	2.90 ER	19.1	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1,300	1,300	65.60	NA	NA	NA	ND	ND	ND	3.38 ER	2.22	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	3.04 ER	ND	ND	0.973 ER	2.92	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NR	NR	NR	NR	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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J - Estimated concentration exceeds the MDL and is less than the RL

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886RW04						886RW05															
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF1	LF2	LF3	LF4	LF5	LF6	886RW05	886RW05	886RW05	886RW05	886RW05	886RW05	886RW05	886RW05	886RW05	RW05 Dup	886RW05	RW05 Dup	LF1	LF2	LF3	LF3 Dup	LF4
Date Collected				3/2/2010	5/25/2010	8/9/2010	10/14/2010	2/11/2011	4/11/2011	8/2/2007	########	3/27/2008	6/25/2008	9/16/2008	########	2/11/2009	6/10/2009	9/28/2009	9/28/2009	########	########	2/24/2010	5/25/2010	8/9/2010	8/9/2010	########
Volatile Organic Compounds (µg/L)																										
Acetone	6,000	NLE	--	ND	ND	ND	8.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	0.51	0.73	1.01	ND	0.81	ND	ND	2.36	ND	0.36	0.33	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27 J
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	0.46 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	0.25 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	31	49	13	22	ND	ND	4	ND	4	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons (mg/L)																										
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																										
Acenaphthene	400	NLE	--	ND	0.441	0.804	1	ND	0.636	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.9	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	0.86 J	0.89 J	ND	0.50 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	0.351	1.19	1.09	ND	0.769	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	3.53 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	0.118	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	0.176	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	4.2	ND	10.9	62.5	108.9	4.7	ND	20	10	ND	60	13	69	21	ND	4	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)																										
Antimony	6	6	20.70	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.21 ER	ND	6.83 ER	9.38 ER	ND
Arsenic	3	10	89.30	5.02	6.6	ND	4.8	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	5.28	6.5	6	10.42
Barium	6,000	2,000	699.00	28.5	27.6	23.1	31.9	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.66 ER	18.4	19.4	21.6	44.6
Beryllium	1	4	2.10	0.104 ER	0.307 ER	0.117 ER	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.058 ER	0.174 ER	0.120 ER	0.124 ER	1.23
Cadmium	4	5	9.50	1.36 ER	1.08 ER	0.864 ER	1.01	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.08 ER	2.68	3	3.66
Chromium	70	100	191.00	5.99	22.2	9.06	3.25	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.22	13.7	8.45	9.68	81
Copper	1,300	1,300	65.60	6.12	5.61	4.99 ER	3.04	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.7	18.9	13.7	15.4	54
Lead	5	15	22.70	3.70 ER	5.56	2.93 ER	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	4.79 ER	ND	2.91 ER	15.1
Nickel	100	NLE	187	6.01	8.32	4.61 ER	18.5	18.4	11.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.59 ER	1.31 ER	2.94 ER	2.87 ER	8.44
Selenium	40	50	29.60	NR	NR	NR	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	NR	1.43

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

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NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

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NA - Not analyzed NR - Not reported

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a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

							886RW06																	
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	LF4 Dup	LF5	LF6	886RW06	886RW06	886RW06	886RW06	886RW06	886RW06	886RW06	886RW06	886RW06	886RW06	LF1	LF2	LF3	LF4	LF4 Dup	LF5	LF6	886RW07	886RW07
Date Collected				########	2/11/2011	4/8/2011	8/2/2007	10/11/2007	3/28/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009	12/15/2009	2/22/2010	5/25/2010	8/5/2010	10/13/2010	10/13/2010	2/11/2011	4/8/2011	8/2/2007	10/12/2007
Volatile Organic Compounds (µg/L)																								
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	0.26 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Total Petroleum Hydrocarbons (mg/L)																									
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																									
Acenaphthene	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	9.3	ND	ND	17	ND	ND	100	37	23	14	ND	ND	ND	ND	ND	4.9	ND	ND	ND	9	ND
Metals (µg/L)																									
Antimony	6	6	20.70	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Arsenic	3	10	89.30	11.13	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.35 ER	4.14 ER	5.3	2.22	2.27	ND	4.2	NA	NA
Barium	6,000	2,000	699.00	45.1	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.1	20.7	31.1	26.8	27	ND	ND	NA	NA
Beryllium	1	4	2.10	1.2	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.124 ER	0.259 ER	ND	ND	ND	ND	NA	NA
Cadmium	4	5	9.50	3.45	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Chromium	70	100	191.00	79.1	ND	15.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.47 ER	9.82	26.5	7.9	7.71	ND	27.5	NA	NA
Copper	1,300	1,300	65.60	55.4	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.20 ER	6.45	16.1	4.92	5.02	ND	10.2	NA	NA
Lead	5	15	22.70	12.2	ND	3.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	4.78 ER	9.54	ND	3.45	ND	7.5	NA	NA
Nickel	100	NLE	187	8.73	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.60 ER	2.02 ER	4.63 ER	2.7	2.96	ND	ND	NA	NA
Selenium	40	50	29.60	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	1.5	ND	ND	ND	NA	NA

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

NJDEP Ground Water Quality Criteria as per N.J.A.C. 7:9-6 (July 22, 2010)

U.S.Environmental Protection Agency Maximum Contaminant Level

LF = Low flow sampling method used to collect sample

ER-Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed NR - Not reported

ND - Not detected

NLE - No limit established

a/ Elevated sample detection limit due to difficult sample matrix.

Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886RW07														886RW08						
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	886RW07	886RW07	886RW07	886RW07	886RW07	886RW07	886RW07	886RW07	LF1	LF2	LF3	LF4	LF5	LF6	LF6 Dup	886RW08	886RW08	886RW08	886RW08	886RW08	886RW08	886RW08
Date Collected				3/28/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009	6/10/2009	9/28/2009	12/15/2009	3/2/2010	5/25/2010	8/9/2010	10/13/2010	2/11/2011	4/11/2011	4/11/2011	8/2/2007	10/12/2007	3/28/2008	6/25/2008	9/16/2008	11/12/2008	2/11/2009
Volatile Organic Compounds (µg/L)																									
Acetone	6,000	NLE	--	ND	2.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.11	2.01	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	3.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	0.49 J	ND	0.37	0.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	0.73	1.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons (mg/L)																									
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)																									
Acenaphthene	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	ND	ND	ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	3.0 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	ND	7	5	32	33	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	17	241.85	ND	36	34	19
Metals (µg/L)																									
Antimony	6	6	20.70	NA	NA	NA	NA	NA	NA	NA	NA	ND	5.32 ER	7.46 ER	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Arsenic	3	10	89.30	NA	NA	NA	NA	NA	NA	NA	NA	1.28 ER	3.16 ER	ND	4.27	ND	3.7	4.3	NA	NA	NA	NA	NA	NA	NA
Barium	6,000	2,000	699.00	NA	NA	NA	NA	NA	NA	NA	NA	7.79	6.28	7.66	20.1	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Beryllium	1	4	2.10	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.045 ER	0.113 ER	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Cadmium	4	5	9.50	NA	NA	NA	NA	NA	NA	NA	NA	1.09 ER	1.09 ER	0.503 ER	0.859	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Chromium	70	100	191.00	NA	NA	NA	NA	NA	NA	NA	NA	1.65 ER	2.78 ER	8.57	24.1	ND	22.6	23.7	NA	NA	NA	NA	NA	NA	NA
Copper	1,300	1,300	65.60	NA	NA	NA	NA	NA	NA	NA	NA	11.2	14.1	11.3	31.9	10.4	18.4	19.8	NA	NA	NA	NA	NA	NA	NA
Lead	5	15	22.70	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	2.62 ER	8.3	ND	5.4	5.5	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NLE	187	NA	NA	NA	NA	NA	NA	NA	NA	1.52 ER	0.556 ER	4.60 ER	4.93	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Selenium	40	50	29.60	NA	NA	NA	NA	NA	NA	NA	NA	NR	NR	NR	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA

Notes:

Shaded cells = concentrations exceed the NJDEP GWQS

*TICs - Tentatively identified compounds, cannot exceed 500 µg/L for total VOCs and SVOCs. No individual compound can exceed 100 µg/L.

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Table 2
Historical Groundwater Analytical Results
Site FTMM-66
Fort Monmouth, New Jersey

				886RW08									
WELL ID	**NJDEP GWQS**	**USEPA MCL**	**Weston 1995 Background (Main Post)**	886RW08	886RW08	886RW08	LF1	LF1 Dup	LF2	LF3	LF4	LF5	LF6
Date Collected				6/10/2009	9/28/2009	12/15/2009	3/2/2010	3/2/2010	5/25/2010	8/5/2010	10/13/2010	2/11/2011	4/8/2011
Volatile Organic Compounds (µg/L)													
Acetone	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone (2-Butanone)	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	700	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	700	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert* -butyl ether	70	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	1	5	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	600	1,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	1,000	10,000	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Petroleum Hydrocarbons (mg/L)													
Total Petroleum Hydrocarbons	NLE	NLE	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/L)													
Acenaphthene	400	NLE	--	ND	0.158	ND	ND	ND	ND	ND	ND	ND	0.232
Anthracene	2,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	3	NLE	--	ND	3.4	ND	ND	ND	ND	ND	ND	ND	ND
1,1'-Biphenyl	400	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	6,000	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-*n* -octyl phthalate	100	NLE	--	ND	2.5	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	300	NLE	--	ND	0.137	ND	ND	ND	ND	ND	ND	ND	0.219
2-Methylnaphthalene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	300	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	NLE	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	200	NLE	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	NLE	--	22	4.1	4.1	ND	ND	ND	ND	ND	ND	ND
Metals (µg/L)													
Antimony	6	6	20.70	NA	NA	NA	ND	ND	8.41 ER	7.60 ER	ND	ND	ND
Arsenic	3	10	89.30	NA	NA	NA	1.06 ER	1.10 ER	3.59 ER	3.72 ER	4.88	ND	3.6
Barium	6,000	2,000	699.00	NA	NA	NA	8.95	8.65	10.4	22.8	19.4	ND	ND
Beryllium	1	4	2.10	NA	NA	NA	ND	ND	0.080 ER	0.261 ER	ND	ND	ND
Cadmium	4	5	9.50	NA	NA	NA	0.861 ER	0.759 ER	0.984 ER	1.39 ER	1.12	ND	ND
Chromium	70	100	191.00	NA	NA	NA	ND	ND	5.85	18.8	26.4	10.5	ND
Copper	1,300	1,300	65.60	NA	NA	NA	10.6	9.99	12	30.4	13.7	ND	ND
Lead	5	15	22.70	NA	NA	NA	ND	ND	3.75 ER	5.89	5.87	ND	ND
Nickel	100	NLE	187	NA	NA	NA	0.717 ER	0.793 ER	2.49 ER	5.43	6.04	ND	ND
Selenium	40	50	29.60	NA	NA	NA	NR	NR	NR	NR	ND	ND	ND

Notes:

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Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-66
Fort Monmouth, New Jersey

SAMPLE ID:			**STANDARDS VALUES**		**FTMM-66-GW-886MW01**		**FTMM-66-GW-886MW02**		**FTMM-66-GW-886MW03**		**FTMM-66-GW-886MW04**		**FTMM-66-GW-886MW05**		**FTMM-66-GW-886RW01**		**FTMM-66-GW-886RW02**	
DATE SAMPLED:			**NJDEP GWQS[1]**	**USEPA MCL[2]**	**23-Aug-2013**		**22-Aug-2013**		**22-Aug-2013**		**22-Aug-2013**		**22-Aug-2013**		**23-Aug-2013**		**22-Aug-2013**	
LAB SAMPLE ID:					**R1306198-006**		**R1306152-017**		**R1306152-013**		**R1306152-014**		**R1306152-008**		**R1306198-011**		**R1306152-012**	
SAMPLE INTERVAL (ft bgs):					**2-17**		**2-17**		**2-17**		**2-17**		**2-17**		**2-17**		**2-17**	
	CAS No.	**Unit**																
Volatile Organics - SW8260C																		
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	5.0	UJ	5.0	U	**1.8**	BJ	**1.4**	BJ	**1.6**	BJ	**2.1**	BJ	**1.4**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	**0.30**	BJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	**0.34**	J	**0.32**	J	1.0	U
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	**0.21**	BJ	1.0	UJ	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	**0.46**	J	**0.30**	J	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	UJ	3.0	U	3.0	U	3.0	U	3.0	U	3.0	UJ	3.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-66
Fort Monmouth, New Jersey

	SAMPLE ID:		STANDARDS VALUES		FTMM-66-GW-886MW01		FTMM-66-GW-886MW02		FTMM-66-GW-886MW03		FTMM-66-GW-886MW04		FTMM-66-GW-886MW05		FTMM-66-GW-886RW01		FTMM-66-GW-886RW02	
	DATE SAMPLED:		NJDEP GWQS[1]	USEPA MCL[2]	23-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		23-Aug-2013		22-Aug-2013	
	LAB SAMPLE ID:				R1306198-006		R1306152-017		R1306152-013		R1306152-014		R1306152-008		R1306198-011		R1306152-012	
	SAMPLE INTERVAL (ft bgs):				2-17		2-17		2-17		2-17		2-17		2-17		2-17	
	CAS No.	Unit																
Semi-Volatile Organics - SW8270D																		
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
1,2-Diphenylhydrazine	122-66-7	µg/L	20	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2,4,5-Trichlorophenol	95-95-4	µg/L	700	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2,4,6-Trichlorophenol	88-06-2	µg/L	20	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2,4-Dichlorophenol	120-83-2	µg/L	20	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2,4-Dimethylphenol	105-67-9	µg/L	100	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2,4-Dinitrophenol	51-28-5	µg/L	40	NLE	25	UJ	25	U	25	U	25	U	25	U	25	UJ	25	U
2,4-Dinitrotoluene	121-14-2	µg/L	5 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2,6-Dinitrotoluene	606-20-2	µg/L	5 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2-Chloronaphthalene	91-58-7	µg/L	600	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2-Chlorophenol	95-57-8	µg/L	40	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2-Methylnaphthalene	91-57-6	µg/L	30 [4]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2-Methylphenol	95-48-7	µg/L	5 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
2-Nitroaniline	88-74-4	µg/L	5 [3]	NLE	25	UJ	25	U	25	U	25	U	25	U	25	UJ	25	U
2-Nitrophenol	88-75-5	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	30	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
3+4-Methylphenol	106-44-5	µg/L	5 [3]	NLE	10	UJ	10	U	10	U	10	U	10	U	10	UJ	10	U
3-Nitroaniline	99-09-2	µg/L	5 [3]	NLE	25	UJ	25	U	25	U	25	U	25	U	25	UJ	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	1 [4]	NLE	25	UJ	25	U	25	U	25	U	25	U	25	UJ	25	U
4-Bromophenyl-phenylether	101-55-3	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
4-Chloro-3-methylphenol	59-50-7	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
4-Chloroaniline	106-47-8	µg/L	30	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
4-Nitroaniline	100-01-6	µg/L	100 [3]	NLE	25	UJ	25	U	25	U	25	U	25	U	25	UJ	25	U
4-Nitrophenol	100-02-7	µg/L	100 [3]	NLE	25	UJ	25	U	25	U	25	U	25	U	25	UJ	25	U
Acenaphthene	83-32-9	µg/L	400	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Acenaphthylene	208-96-8	µg/L	100 [4]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Anthracene	120-12-7	µg/L	2,000	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Benzidine	92-87-5	µg/L	20	NLE	100	UJ	100	UJ	100	UJ	100	UJ	100	UJ	100	UJ	100	UJ
Benzo(a)anthracene	56-55-3	µg/L	0.1	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Benzo(a)pyrene	50-32-8	µg/L	0.1	0.2	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Benzo(b)fluoranthene	205-99-2	µg/L	0.2	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Benzo(g,h,i)perylene	191-24-2	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Benzo(k)fluoranthene	207-08-09	µg/L	0.5	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Benzyl alcohol	100-51-6	µg/L	2,000	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
bis(1-Chloroisopropyl)ether	108-60-1	µg/L	300	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
bis(2-Chloroethoxy)methane	111-91-1	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
bis(2-Chloroethyl)ether	111-44-4	µg/L	7	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
bis(2-Ethylhexyl)phthalate	117-81-7	µg/L	3	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Butyl benzyl phthalate	85-68-7	µg/L	100	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Carbazole	86-74-8	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Chrysene	218-01-9	µg/L	5	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Dibenzo(a,h)anthracene	53-70-3	µg/L	0.3	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Dibenzofuran	132-64-9	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Diethyl phthalate	84-66-2	µg/L	6,000	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Dimethyl phthalate	131-11-3	µg/L	100 [3]	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Di-n-butyl phthalate	84-74-2	µg/L	700	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Di-n-octyl phthalate	117-84-0	µg/L	100	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Fluoranthene	206-44-0	µg/L	300	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Fluorene	86-73-7	µg/L	300	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Hexachlorobenzene	118-74-1	µg/L	0.02	1	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Hexachlorocyclopentadiene	77-47-4	µg/L	40	50	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Hexachloroethane	67-72-1	µg/L	7	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/L	0.2	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Isophorone	78-59-1	µg/L	40	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Naphthalene	91-20-3	µg/L	300	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U
Nitrobenzene	98-95-3	µg/L	6	NLE	5.0	UJ	5.0	U	5.0	U	5.0	U	5.0	U	5.0	UJ	5.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-66
Fort Monmouth, New Jersey

	SAMPLE ID:		STANDARDS VALUES		FTMM-66-GW-886MW01	FTMM-66-GW-886MW02	FTMM-66-GW-886MW03	FTMM-66-GW-886MW04	FTMM-66-GW-886MW05	FTMM-66-GW-886RW01	FTMM-66-GW-886RW02
	DATE SAMPLED:		NJDEP GWQS[1]	USEPA MCL[2]	23-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013	23-Aug-2013	22-Aug-2013
	LAB SAMPLE ID:				R1306198-006	R1306152-017	R1306152-013	R1306152-014	R1306152-008	R1306198-011	R1306152-012
	SAMPLE INTERVAL (ft bgs):				2-17	2-17	2-17	2-17	2-17	2-17	2-17
	CAS No.	Unit									
n-Nitrosodimethylamine	62-75-9	µg/L	0.8	NLE	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
n-Nitroso-di-n-propylamine	621-64-7	µg/L	10	NLE	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
n-Nitrosodiphenylamine	86-30-6	µg/L	10	NLE	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Pentachlorophenol	87-86-5	µg/L	0.3	1	25 UJ	25 U	25 U	25 U	25 U	25 UJ	25 U
Phenanthrene	85-01-8	µg/L	100 [3]	NLE	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Phenol	108-95-2	µg/L	2,000	NLE	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Pyrene	129-00-0	µg/L	200	NLE	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
SVOC - TICs											
Benzene,(1-butyloctyl)	2719-63-3	µg/L	500 [5]	NLE							
Benzene,(1-ethyldecyl)	2400-00-2	µg/L	500 [5]	NLE							
Benzene,(1-ethylnonyl)	4536-87-2	µg/L	500 [5]	NLE						**3.9** JN	
Benzene,(1-ethyloctyl)	4621-36-7	µg/L	500 [5]	NLE							
Benzene,(1-methylnonyl)	4537-13-7	µg/L	500 [5]	NLE							
Benzene,(1-methylundecyl)	2719-61-1	µg/L	500 [5]	NLE							
Benzene,(1-pentylheptyl)	2719-62-2	µg/L	500 [5]	NLE							
Benzene,(1-propylnonyl)	2719-64-4	µg/L	500 [5]	NLE							
Benzene,(1-propyloctyl)	4536-86-1	µg/L	500 [5]	NLE							
Bromacil	314-40-9	µg/L	500 [5]	NLE				**52** JN			
N,N-Diethyl-p-nitroaniline	2216-15-1	µg/L	500 [5]	NLE	**4.5** JN						
TIC-01 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**16** J	
TIC-02 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**48** J	
TIC-03 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**60** J	
TIC-04 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**73** J	
TIC-05 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**87** J	
TIC-06 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**86** J	
TIC-07 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**97** J	
TIC-08 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**93** J	
TIC-09 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**81** J	
TIC-10 - Unknown Siloxane	NA	µg/L	500 [5]	NLE						**70** J	
TIC - Unknown	NA	µg/L	500 [5]	NLE		**14** J	**12** J	**13** J			
TIC-01 - Unknown	NA	µg/L	500 [5]	NLE	**12** J				**14** J	**11** J	**14** J
TIC-02 - Unknown	NA	µg/L	500 [5]	NLE	**5.7** J				**4.3** J	**27** J	**5.1** J
TIC-03 - Unknown	NA	µg/L	500 [5]	NLE	**23** J					**42** J	**9.6** J
TIC-04 - Unknown	NA	µg/L	500 [5]	NLE	**19** J					**43** J	**11** J
TIC-05 - Unknown	NA	µg/L	500 [5]	NLE						**41** J	
TIC-06 - Unknown	NA	µg/L	500 [5]	NLE							
TIC-07 - Unknown	NA	µg/L	500 [5]	NLE							
TIC-08 - Unknown	NA	µg/L	500 [5]	NLE							
TIC-09 - Unknown	NA	µg/L	500 [5]	NLE							
Metals - SW6010C											
Lead	7439-92-1	µg/L	5	15 [6]	2.0 UJ	2.0 U	**1.9** [7] J	2.0 U	2.0 U	2.0 [7] UJ	2.0 [7] U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
Detections are bolded.
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
[6] Value is the USEPA Action Level.
[7] Sample was field filtered and analyzed for dissolved metal.
NLE - No screening level established.

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-66
Fort Monmouth, New Jersey

	SAMPLE ID:		STANDARDS VALUES		FTMM-66-GW-886RW03		FTMM-66-GW-886RW04		FTMM-66-GW-886RW05		FTMM-66-GW-886RW105*		FTMM-66-GW-886RW06		FTMM-66-GW-886RW07		FTMM-66-GW-886RW08	
	DATE SAMPLED:		NJDEP GWQS[1]	USEPA MCL[2]	22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013	
	LAB SAMPLE ID:				R1306152-002		R1306152-010		R1306152-004		R1306152-005		R1306152-011		R1306152-016		R1306152-022	
	SAMPLE INTERVAL (ft bgs):				2-17		2-17		2-17		2-17		2-17		2-17		2-17	
	CAS No.	Unit																
Volatile Organics - SW8260C																		
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	67-64-1	µg/L	6,000	NLE	5.0	U	**3.3**	BJ	5.0	U	5.0	U	5.0	U	5.0	U	**1.6**	BJ
Benzene	71-43-2	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromoform	75-25-2	µg/L	4	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromomethane	74-83-9	µg/L	10	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Carbon tetrachloride	56-23-5	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chlorobenzene	108-90-7	µg/L	50	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloroform	67-66-3	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Ethylbenzene	100-41-4	µg/L	700	700	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.31**	J
Methylene chloride	75-09-2	µg/L	3	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Naphthalene	91-20-3	µg/L	300	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
sec-Butylbenzene	135-98-8	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Styrene	100-42-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
tert-Butylbenzene	98-06-6	µg/L	100 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Tetrachloroethene (PCE)	127-18-4	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Toluene	108-88-3	µg/L	600	1,000	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,2-Dichloroethene	156-60-5	µg/L	100	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
trans-1,3-Dichloropropene	10061-02-6	µg/L	5 [3]	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichloroethene (TCE)	79-01-6	µg/L	1	5	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L	2,000	NLE	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Vinyl chloride	75-01-4	µg/L	1	2	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Xylene (Total)	1330-20-7	µg/L	1,000	10,000	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-66
Fort Monmouth, New Jersey

SAMPLE ID:			STANDARDS VALUES		FTMM-66-GW-886RW03		FTMM-66-GW-886RW04		FTMM-66-GW-886RW05		FTMM-66-GW-886RW105*		FTMM-66-GW-886RW06		FTMM-66-GW-886RW07		FTMM-66-GW-886RW08	
DATE SAMPLED:			NJDEP GWQS[1]	USEPA MCL[2]	22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013		22-Aug-2013	
LAB SAMPLE ID:					R1306152-002		R1306152-010		R1306152-004		R1306152-005		R1306152-011		R1306152-016		R1306152-022	
SAMPLE INTERVAL (ft bgs):					2-17		2-17		2-17		2-17		2-17		2-17		2-17	
	CAS No.	Unit																
Semi-Volatile Organics - SW8270D																		
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Diphenylhydrazine	122-66-7	µg/L	20	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4,5-Trichlorophenol	95-95-4	µg/L	700	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4,6-Trichlorophenol	88-06-2	µg/L	20	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4-Dichlorophenol	120-83-2	µg/L	20	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4-Dimethylphenol	105-67-9	µg/L	100	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,4-Dinitrophenol	51-28-5	µg/L	40	NLE	25	U	25	U	25	U	25	U	25	U	25	U	25	U
2,4-Dinitrotoluene	121-14-2	µg/L	5 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2,6-Dinitrotoluene	606-20-2	µg/L	5 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Chloronaphthalene	91-58-7	µg/L	600	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Chlorophenol	95-57-8	µg/L	40	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Methylnaphthalene	91-57-6	µg/L	30 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Methylphenol	95-48-7	µg/L	5 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
2-Nitroaniline	88-74-4	µg/L	5 [3]	NLE	25	U	25	U	25	U	25	U	25	U	25	U	25	U
2-Nitrophenol	88-75-5	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
3,3'-Dichlorobenzidine	91-94-1	µg/L	30	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
3+4-Methylphenol	106-44-5	µg/L	5 [3]	NLE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	99-09-2	µg/L	5 [3]	NLE	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4,6-Dinitro-2-Methylphenol	534-52-1	µg/L	1 [4]	NLE	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4-Bromophenyl-phenylether	101-55-3	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chloro-3-methylphenol	59-50-7	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chloroaniline	106-47-8	µg/L	30	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Chlorophenyl-phenylether	7005-72-3	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
4-Nitroaniline	100-01-6	µg/L	100 [3]	NLE	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4-Nitrophenol	100-02-7	µg/L	100 [3]	NLE	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Acenaphthene	83-32-9	µg/L	400	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Acenaphthylene	208-96-8	µg/L	100 [4]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Anthracene	120-12-7	µg/L	2,000	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzidine	92-87-5	µg/L	20	NLE	100	UJ	100	UJ	100	UJ	100	UJ	100	UJ	100	UJ	100	UJ
Benzo(a)anthracene	56-55-3	µg/L	0.1	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(a)pyrene	50-32-8	µg/L	0.1	0.2	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(b)fluoranthene	205-99-2	µg/L	0.2	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(g,h,i)perylene	191-24-2	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzo(k)fluoranthene	207-08-09	µg/L	0.5	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Benzyl alcohol	100-51-6	µg/L	2,000	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
bis(1-Chloroisopropyl)ether	108-60-1	µg/L	300	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
bis(2-Chloroethoxy)methane	111-91-1	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
bis(2-Chloroethyl)ether	111-44-4	µg/L	7	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
bis(2-Ethylhexyl)phthalate	117-81-7	µg/L	3	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Butyl benzyl phthalate	85-68-7	µg/L	100	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Carbazole	86-74-8	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Chrysene	218-01-9	µg/L	5	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibenzo(a,h)anthracene	53-70-3	µg/L	0.3	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibenzofuran	132-64-9	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Diethyl phthalate	84-66-2	µg/L	6,000	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dimethyl phthalate	131-11-3	µg/L	100 [3]	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Di-n-butyl phthalate	84-74-2	µg/L	700	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Di-n-octyl phthalate	117-84-0	µg/L	100	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Fluoranthene	206-44-0	µg/L	300	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Fluorene	86-73-7	µg/L	300	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Hexachlorobenzene	118-74-1	µg/L	0.02	1	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Hexachlorocyclopentadiene	77-47-4	µg/L	40	50	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Hexachloroethane	67-72-1	µg/L	7	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/L	0.2	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Isophorone	78-59-1	µg/L	40	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Naphthalene	91-20-3	µg/L	300	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Nitrobenzene	98-95-3	µg/L	6	NLE	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U

Table 3
2013 Baseline Groundwater Analytical Detections
Site FTMM-66
Fort Monmouth, New Jersey

	SAMPLE ID:		STANDARDS VALUES		FTMM-66-GW-886RW03	FTMM-66-GW-886RW04	FTMM-66-GW-886RW05	FTMM-66-GW-886RW105*	FTMM-66-GW-886RW06	FTMM-66-GW-886RW07	FTMM-66-GW-886RW08
	DATE SAMPLED:		NJDEP GWQS[1]	USEPA MCL[2]	22-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013
	LAB SAMPLE ID:				R1306152-002	R1306152-010	R1306152-004	R1306152-005	R1306152-011	R1306152-016	R1306152-022
	SAMPLE INTERVAL (ft bgs):				2-17	2-17	2-17	2-17	2-17	2-17	2-17
	CAS No.	Unit									
n-Nitrosodimethylamine	62-75-9	µg/L	0.8	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
n-Nitroso-di-n-propylamine	621-64-7	µg/L	10	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
n-Nitrosodiphenylamine	86-30-6	µg/L	10	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pentachlorophenol	87-86-5	µg/L	0.3	1	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenanthrene	85-01-8	µg/L	100 [3]	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	108-95-2	µg/L	2,000	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pyrene	129-00-0	µg/L	200	NLE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
SVOC - TICs											
Benzene,(1-butyloctyl)	2719-63-3	µg/L	500 [5]	NLE							**5.1** JN
Benzene,(1-ethyldecyl)	2400-00-2	µg/L	500 [5]	NLE							**6.4** JN
Benzene,(1-ethylnonyl)	4536-87-2	µg/L	500 [5]	NLE							**9.4** JN
Benzene,(1-ethyloctyl)	4621-36-7	µg/L	500 [5]	NLE							**5.3** JN
Benzene,(1-methylnonyl)	4537-13-7	µg/L	500 [5]	NLE							**7.4** JN
Benzene,(1-methylundecyl)	2719-61-1	µg/L	500 [5]	NLE							**8.8** JN
Benzene,(1-pentylheptyl)	2719-62-2	µg/L	500 [5]	NLE							**6.0** JN
Benzene,(1-propylnonyl)	2719-64-4	µg/L	500 [5]	NLE							**5.5** JN
Benzene,(1-propyloctyl)	4536-86-1	µg/L	500 [5]	NLE							**7.0** JN
Bromacil	314-40-9	µg/L	500 [5]	NLE							
N,N-Diethyl-p-nitroaniline	2216-15-1	µg/L	500 [5]	NLE							
TIC-01 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**16** J		**12** J
TIC-02 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**19** J		**67** J
TIC-03 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**30** J		**76** J
TIC-04 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**46** J		**90** J
TIC-05 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**56** J		**84** J
TIC-06 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**74** J		**77** J
TIC-07 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**71** J		**67** J
TIC-08 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**61** J		
TIC-09 - Unknown Siloxane	NA	µg/L	500 [5]	NLE					**53** J		
TIC-10 - Unknown Siloxane	NA	µg/L	500 [5]	NLE							
TIC - Unknown	NA	µg/L	500 [5]	NLE						**13** J	
TIC-01 - Unknown	NA	µg/L	500 [5]	NLE		**11** J			**14** J		**15** J
TIC-02 - Unknown	NA	µg/L	500 [5]	NLE		**4.0** J			**12** J		**12** J
TIC-03 - Unknown	NA	µg/L	500 [5]	NLE					**5.7** J		**4.1** J
TIC-04 - Unknown	NA	µg/L	500 [5]	NLE					**4.5** J		**19** J
TIC-05 - Unknown	NA	µg/L	500 [5]	NLE					**6.5** J		**11** J
TIC-06 - Unknown	NA	µg/L	500 [5]	NLE							**15** J
TIC-07 - Unknown	NA	µg/L	500 [5]	NLE							**14** J
TIC-08 - Unknown	NA	µg/L	500 [5]	NLE							**34** J
TIC-09 - Unknown	NA	µg/L	500 [5]	NLE							**49** J
Metals - SW6010C											
Lead	7439-92-1	µg/L	5	15 [6]	**1.9** J	**0.863** J	**2.2** J	**1.4** J	**1.4** J	**1.7** J	2.0 U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
JN - Tentatively identified compound, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
* - Field duplicate of sample on left.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
[5] Interim generic groundwater quality criteria for Synthetic Organic Chemicals defined as non-carcinogens.
[6] Value is the USEPA Action Level.
[7] Sample was field filtered and analyzed for dissolved metal.
NLE - No screening level established.

Table 4
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-66
Fort Monmouth, New Jersey

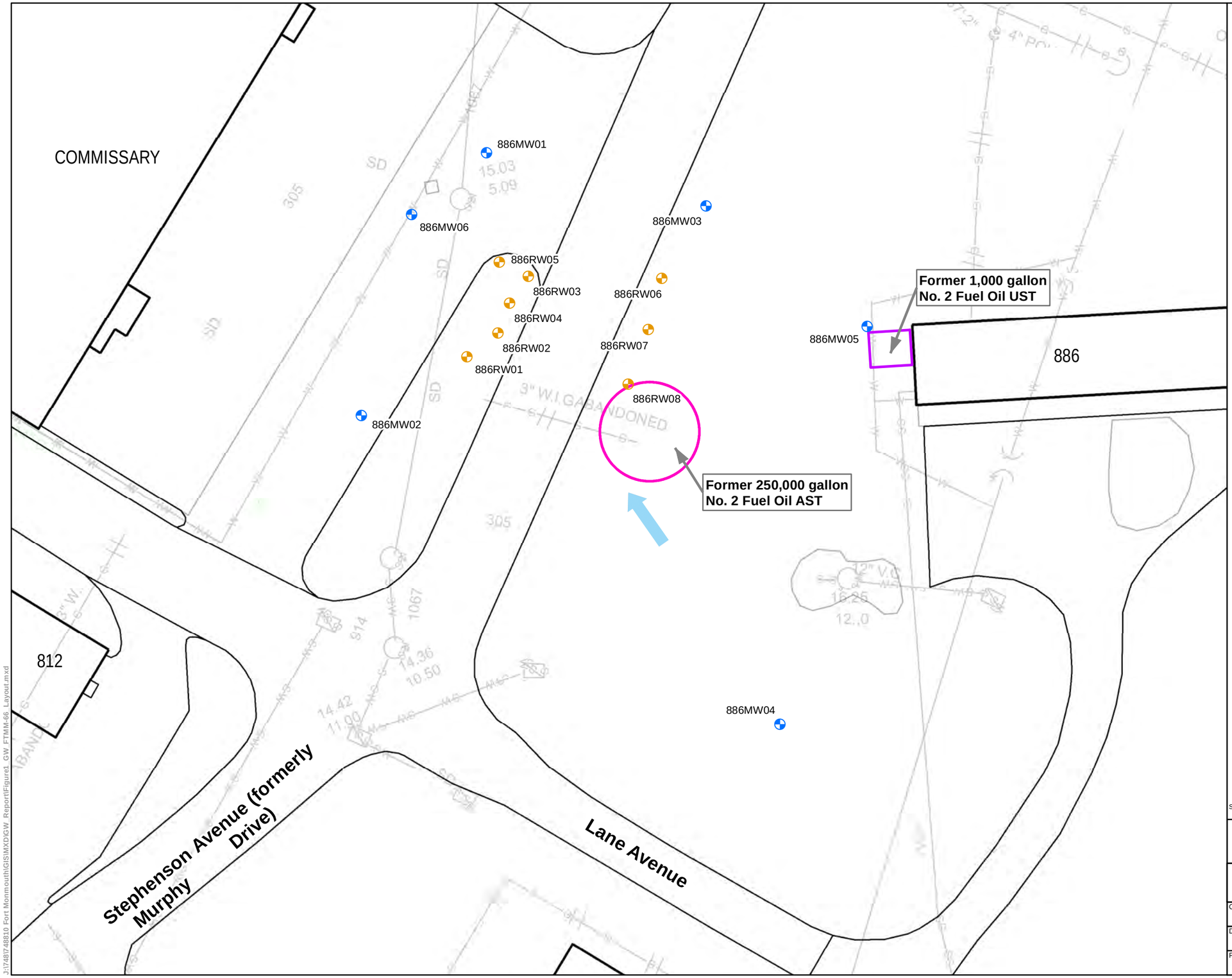
Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration (metals only) Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rationale
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-66, B886	VOC/ SVOC/ Pb								
886MW01		Sb, As, Pb	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886MW02		NO	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886MW03		Sb, As, Pb	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886MW04		NO	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886MW05		Bis(2-ethylhexyl) phthalate, As	NO	N/A	Yes (Bis(2-ethylhexyl) phthalate)	NO	NO	NO	Bis(2-ethylhexyl) phthalate result is anomalous
886RW01		Sb, As	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886RW02		Sb, As	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886RW03		Sb	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886RW04		As	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886RW05		Bis(2-ethylhexyl) phthalate, As, Be, Cr, Pb	NO	N/A	Yes (Bis(2-ethylhexyl) phthalate)	NO	NO	NO	Bis(2-ethylhexyl) phthalate result is anomalous
886RW06		As, Pb	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886RW07		As, Pb	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited
886RW08		As, Pb	NO	N/A	N/A	N/A	NO	NO	No exceedances exhibited

Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds ?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review includes the August 2013 and the last four rounds of groundwater analytical data.

FIGURES

Figure 1 Layout of FTMM-66 (Fuel Oil Tanks at Building 886)



Legend

- Shallow Monitoring Well
- Recovery Well
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Estimated Groundwater Flow Direction

N

1 inch = 40 feet

0 12.5 25 50 75 100 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-66
(Fuel Oil Tanks at Building 886)

CREATED BY: TS	REVIEWED BY: IG
DATE: March 2014	FIGURE NUMBER: Figure 1
PROJECT NUMBER: 748810.02170	FILE: Figure1_GW_FTMM-66_Layout.mxd

J:\748\748810 Fort Monmouth\GIS\MXD\GW_Report\Figure1_GW_FTMM-66_Layout.mxd

ATTACHMENTS

Attachment A LFPS Field Sheets

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): 66 FTMM-66 (JC)
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-23-13
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruin
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 16.92
FEET OF WATER IN WELL: 11.26
SCREENED INTERVAL (TOC): 1.92 – 16.92
PUMP INTAKE DEPTH (ft below TOC): 11.29
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.66

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:35	X		5.68	NA	0.416	NA	177.1	NA	2.73	NA	25.1	NA	22.27	NA	100	5.65
8:40	X		5.22	-0.46	0.413	-0.003	164.3	-12.8	0.65	-2.08	17.5	-7.6	22.04	-0.23	100	5.70
8:45	X		5.19	-0.03	0.413	0.0	150.4	-13.9	0.44	-0.21	13.2	-4.3	21.90	-0.14	100	5.70
8:50	X		5.22	+0.03	0.411	-0.002	133.9	-16.5	0.37	-0.07	9.5	-3.7	21.81	-0.09	100	5.70
8:55	X		5.26	+0.04	0.410	-0.001	124.4	-9.5	0.36	-0.01	6.5	-3.0	21.78	-0.03	100	5.70
9:00	X		5.28	+0.02	0.410	0.0	120.0	-4.4	0.33	-0.03	5.0	-1.5	21.71	-0.07	100	5.70
9:05	X		5.29	+0.01	0.411	+0.001	117.5	-2.5	0.32	-0.01	4.9	-0.1	21.74	+0.03	100	5.70
9:10	X		5.31	+0.02	0.411	0.0	114.9	-2.6	0.33	+0.01	4.8	-0.1	21.76	+0.02	100	5.70
9:12		X	5.30	-0.01	0.411	0.0	114.5	-0.4	0.33	0.0	4.9	+0.1	21.78	+0.08	100	5.70

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW01

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-66-GW-886MW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOTICs	9:12	40mL vials	clr	clr	
SVOC	9:12	1Ltr amber	clr	clr	
Lead	9:12	250 plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:								
Volume Transferred to VBW Tank:								
Volume Transerred to Drum:								

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): ~~66~~ FTMM-66 (JC)
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-22
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruns
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 16.79
FEET OF WATER IN WELL: 11.53

SCREENED INTERVAL (TOC): 1.79 - 16.79
PUMP INTAKE DEPTH (ft below TOC): 11.03
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.26

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:40	X		6.01	NA	1.028	NA	87.5	NA	1.56	NA	8.3	NA	23.02	NA	100	5.26
13:45	X		6.01	0.0	1.023	+0.001	89.1	+1.6	0.87	-0.69	0.0	-0.3	22.51	-0.51	100	5.40
14:00	X		6.09	+0.08	1.029	+0.006	49.0	-40.1	1.46	+0.59	0.4	+0.4	22.76	+0.25	100	5.26
14:05	X		6.06	-0.03	1.032	+0.003	57.9	+8.9	1.07	-0.39	0.5	+0.1	22.41	-0.35	100	5.40
14:10	X		6.00	-0.06	1.032	0.0	70.5	+12.6	0.52	-0.55	0.0	-0.5	21.98	+0.43	100	5.40
14:15	X		5.95	-0.05	1.033	+0.001	76.7	+6.2	0.43	-0.09	0.0	0.0	21.97	-0.01	100	5.40
14:20	X		5.93	-0.02	1.034	+0.001	79.5	+2.8	0.40	-0.03	0.0	0.0	21.92	-0.05	100	5.40
14:25	X		5.92	-0.01	1.035	+0.001	80.5	+1.0	0.38	-0.02	0.0	0.0	21.91	-0.01	100	5.40
14:30	X		5.92	0.0	1.036	+0.001	80.7	+0.2	0.38	0.0	0.0	0.0	21.93	+0.02	100	5.40
14:33		X	5.92	0.0	1.036	0.0	80.8	+0.1	0.38	0.0	0.0	0.0	21.92	-0.01	100	5.40

COMMENTS:
14:00 Restart purge

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW02

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-GG-GW-886MW02

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOxTICs	14:33	40mL Vials	clr	clr	
SVOC	14:33	1Ltr	clr	clr	
Lead	14:33	500mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 MW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM - 66
SAMPLIG INSTRUMENTS: Bladder Pump
PID DETECTOR: PID MiniRAE

DATE: 8/22/13
LABORATORY:

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 17.20
FEET OF WATER IN WELL: 11.01
SCREENED INTERVAL (TOC): 15.00
PUMP INTAKE DEPTH (ft below TOC): 9.7
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.19

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:30	X		6.04	NA	0.349	NA	5.5	NA	4.05	NA	58.5	NA	22.04	NA	100	6.41
12:35	X		5.85	0.19	0.332	0.017	5.3	0.2	2.04	2.01	77.6	19.1	20.89	1.18	100	6.51
12:40	X		5.83	0.02	0.330	0.002	4.0	1.3	1.63	0.41	140.3	62.7	20.55	0.33	100	6.52
12:45	X		5.85	0.02	0.328	0.002	3.5	0.5	1.42	0.21	107.6	32.7	20.50	0.05	100	6.56
12:50	X		5.84	0.01	0.328	0.000	3.0	0.5	1.09	0.33	121.8	14.20	20.73	0.23	100	6.57
12:55	X		5.84	0.00	0.327	0.001	4.0	1.0	0.80	0.29	127.4	5.6	20.62	0.11	100	6.57
13:00	X		5.84	0.00	0.327	0.000	4.5	0.5	0.73	0.07	124.9	2.5	20.71	0.09	100	6.57
13:05	X		5.84	0.00	0.327	0.000	5.1	0.6	0.66	0.07	121.1	3.8	20.76	0.05	100	6.57
13:10	X		6.85	0.01	0.327	0.000	5.9	0.8	0.60	0.06	119.7	1.4	20.70	0.06	100	6.57
13:15	X		6.86	0.01	0.327	0.000	6.3	0.4	0.57	0.03	116.1	3.6	20.67	0.03	100	6.57
13:20	X		6.86	0.00	0.327	0.000	6.6	0.3	0.56	0.01	119.4	3.3	20.63	0.07	100	6.57
13:25	X		6.86	0.00	0.327	0.000	6.6	0.0	0.56	0.00	117.3	2.1	20.69	0.06	100	6.57
COMMENTS: 13:30		X	6.86	0.00	0.327	0.000	6.7	0.1	0.55	0.01	122.4	5.1	20.65	0.04	100	6.57

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

Turbidity would not lower - stop purge and sample - metals w/ filter

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 MW03

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-66-GW-886MW03

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	13[illegible]:30	3	TAN	122.4	
SVOCs	13[illegible]:30	1	TAN	122.4	
lead	13[illegible]:30	1	TAN	122.4	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/22/13 No waste generated - carbon bucket used

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-22-13
AOC # (AREA): ~~66~~ FTMM-66 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: Geotech Bladder Pump
PID DETECTOR: MiniRAE (JC)
SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC):
WELL DEPTH (TOC): 20.31
PUMP INTAKE DEPTH (ft below TOC): 13.84
FEET OF WATER IN WELL: 12.95
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.36

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPC CHANGE*	REDOX POTENTIAL (mv) READING	REDOX CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DO CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMP CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:05	X		5.03	NA	0.171	NA	186.0	NA	4.89	NA	3.1	NA	20.13	NA	100	7.36
12:10	X		4.85	-0.18	0.154	-0.017	213.0	+27	4.70	-0.19	1.2	-1.9	20.22	+0.09	100	7.40
12:15	X		4.67	-0.18	0.137	-0.017	241.0	+28	4.51	-0.19	0.0	-1.2	20.32	+0.10	100	7.43
12:20	X		4.62	-0.05	0.134	-0.003	287.0	+46	4.32	-0.19	1.3	+1.3	20.34	+0.02	100	7.47
12:25	X		4.60	-0.02	0.135	+0.001	304.0	+17	4.19	-0.13	0.7	-0.6	20.35	+0.01	100	7.55
12:30	X		4.59	-0.01	0.135	0.0	316.0	+12	4.10	-0.09	0.7	0.0	20.45	+0.10	100	7.55
12:35	X		4.58	-0.01	0.135	0.0	310.0	-6	4.09	-0.01	0.7	0.0	20.43	-0.02	100	7.55
12:40	X		4.57	-0.01	0.135	0.0	329.8	+19.8	4.04	-0.05	0.7	0.0	20.25	-0.18	100	7.55
12:45	X		4.56	-0.01	0.134	-0.001	330.8	+1.0	3.99	-0.05	0.6	-0.1	20.44	+0.19	100	7.55
12:50	X		4.57	+0.01	0.134	0.0	326.0	-4.8	3.97	-0.02	0.6	0.0	20.59	+0.15	100	7.55
12:51		X	4.56	-0.01	0.134	0.0	324.6	-1.4	3.98	+0.01	0.6	0.0	20.61	+0.02	100	7.55

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 MW 04

SAMPLING INFORMATION

SAMPLING DEVICE: bladder Pump

SAMPLE NUMBER: FTMM-66-GW-886MW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs	12:51	40 mL VOAs	clr	clr	
Lead	12:51	500 ml plastic	clr	clr	
SVOC	12:51	1 Ltr amber	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 MW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985 | **DATE:** 8-22-13

AOC # (AREA): ~~M66~~ FTMM-66 (JC) | **LABORATORY:**

SAMPLIG INSTRUMENTS: Geotech bladder Pump | **SAMPLING PERSONNEL**

PID DETECTOR: MiniRAE (JC) | **NAME:** James Bruins

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 | SCREENED INTERVAL (TOC): 4.41 — 19.41

WELL DEPTH (TOC): 19.41 | PUMP INTAKE DEPTH (ft below TOC): 14.83

FEET OF WATER IN WELL: 9.17 | DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 10.24

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:00	X		6.14	NA	0.114	NA	110.5	NA	3.55	NA	38.7	NA	20.21	NA	100	10.23
10:05	X		5.68	-0.46	0.108	-0.006	125.9	+15.4	1.32	-2.23	32.9	-5.8	20.01	-0.20	100	10.35
10:10	X		5.54	-0.14	0.102	-0.006	138.5	+12.6	0.75	-0.57	24.9	-8.0	19.92	-0.09	100	10.46
10:15	X		5.49	-0.05	0.101	-0.001	149.9	+11.4	0.54	-0.21	20.0	-4.9	19.95	+0.03	100	10.48
10:20	X		5.48	-0.01	0.101	0.0	156.7	+6.8	0.49	-0.05	15.9	-4.1	19.94	-0.01	100	10.51
10:25	X		5.49	+0.01	0.101	0.0	159.4	+2.7	0.40	-0.09	15.3	-0.6	19.94	0.0	100	10.51
10:30	X		5.49	0.0	0.101	0.0	159.6	+0.2	0.37	-0.03	13.4	-1.9	20.02	+0.08	100	10.51
10:35	X		5.49	0.0	0.101	0.0	153.1	-6.5	0.36	-0.01	14.0	+0.6	20.17	+0.15	100	10.51
10:40	X		5.54	+0.05	0.106	+0.005	126.0	-27.1	0.38	+0.02	12.3	-1.7	20.14	-0.03	100	10.51
10:45	X		5.58	+0.04	0.109	+0.003	111.8	-14.2	0.40	+0.02	10.9	-1.4	20.25	+0.11	100	10.51
10:50	X		5.62	+0.04	0.113	+0.004	99.1	-12.7	0.42	+0.02	9.1	-1.8	20.31	+0.06	100	10.51
10:55	X		5.66	+0.04	0.118	+0.005	86.6	-12.5	0.43	+0.01	9.1	0.0	20.24	-0.07	100	10.51

COMMENTS:

Continued

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW05 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOA tics	11:12	40 mL vials	clr	clr	
SVOC	11:12	1Ltr amber	clr	clr	
Lead	11:12	250 mL plastic	clr	clr	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW05 cont. #1

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8-22
AOC # (AREA): 66 FTMM-66 (JC)
LABORATORY:
SAMPLIG INSTRUMENTS: bladder pump
PID DETECTOR:
SAMPLING PERSONNEL
NAME: James Brubs
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	(4)	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):
WELL DEPTH (TOC): see other sheet
FEET OF WATER IN WELL:
SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): See other Sheet
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
				NA		NA		NA		NA		NA		NA		
11:00	X		5.70	+0.04	0.122	+0.004	75.6	-11.0	0.40	-0.03	6.7	-2.4	20.30	+0.06	100	10.51
11:05	X		5.72	+0.02	0.123	+0.001	73.0	-2.6	0.39	-0.01	6.5	-0.2	20.41	+0.11	100	10.51
11:10	X		5.74	+0.02	0.125	+0.002	69.5	-3.5	0.39	0.0	6.4	-0.1	20.40	-0.01	100	10.51
11:12		X	5.75	+0.01	0.125	0.0	67.5	-2.0	0.38	-0.01	6.4	0.0	20.43	+0.03	100	10.51

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: 886MW05

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-66-GW-886MW05

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS

See other sheet

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transferred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 0886RW01

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): 66 FTMM-66 (JC)
SAMPLIG INSTRUMENTS: Geotech bladder pump
PID DETECTOR: MiniRAE (JC)

DATE: 8-23
LABORATORY:

SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	(6)	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 16.20
FEET OF WATER IN WELL: 10.14
SCREENED INTERVAL (TOC): 1.2 – 16.2
PUMP INTAKE DEPTH (ft below TOC): 11.13
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.06

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:00	X		6.47	NA	0.303	NA	-24.0	NA	2.41	NA	358.8	NA	20.06	NA	100	6.05
10:05	X		5.63	-0.84	0.252	-0.051	19.9	+43.9	1.26	-1.15	377.2	+18.4	19.53	-0.53	250	6.16
10:10	X		5.42	-0.21	0.229	-0.029	49.2	+29.3	0.47	-0.79	370.3	-6.9	18.89	-0.64	300	6.20
10:15	X		5.55	+0.13	0.231	+0.002	50.1	+0.9	0.38	-0.09	338.3	-32	18.82	-0.07	300	6.20
10:20	X		5.60	+0.05	0.234	+0.003	49.6	-0.5	0.40	+0.02	334.4	-3.9	18.83	+0.01	300	6.20
10:25	X		5.64	+0.04	0.238	+0.004	48.6	-1.0	0.42	+0.02	335.0	+0.6	18.79	-0.04	300	6.20
10:30	X		5.66	+0.02	0.243	+0.005	46.3	-2.3	0.35	-0.07	310.4	-24.6	18.83	+0.04	300	6.20
10:35	X		5.68	+0.02	0.247	+0.004	44.7	-1.6	0.32	-0.03	302.6	-7.8	18.81	-0.02	300	6.20
10:40	X		5.69	+0.01	0.249	+0.002	43.0	-1.7	0.30	-0.02	301.5	-1.1	18.79	-0.02	300	6.20
10:45	X		5.71	+0.02	0.259	+0.010	41.9	-1.1	0.29	-0.01	299.8	-1.7	18.77	-0.02	300	6.20
10:50	X		5.73	+0.02	0.264	+0.005	39.5	-2.4	0.29	0.0	270.8	-29.0	18.78	+0.01	300	6.20
10:55	X		5.75	+0.02	0.271	+0.007	37.0	-2.5	0.28	-0.01	258.9	-11.9	18.78	0.00	300	6.20

COMMENTS:

Continued →

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886RW01

SAMPLING INFORMATION

SAMPLING DEVICE: bladder pump

SAMPLE NUMBER: FTMM-66-GW-886RW01

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCtics	11:21	40mL vials	tan	turbid	
SVOC	11:21	1LTr amber	tan	turbid	
Lead	11:21	250 mL Plastic	tan	turbid	filtered as per parsons

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 RW01 contd #1

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): 66 FTMM-66 (JC)
SAMPLIG INSTRUMENTS:
PID DETECTOR:

DATE: 8-23
LABORATORY:
SAMPLING PERSONNEL
NAME: James Bruins
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm):
WELL DEPTH (TOC): See other sheet
FEET OF WATER IN WELL:
SCREENED INTERVAL (TOC):
PUMP INTAKE DEPTH (ft below TOC): See other sheet
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC):

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
				NA		NA		NA		NA		NA		NA		
11:00	X		5.76	+0.01	0.276	+0.005	34.7	-2.3	0.27	<0.01	256.1	-2.8	18.82	+0.04	300	6.20
11:05	X		5.78	+0.02	0.281	+0.005	32.3	-2.4	0.27	0.0	244.9	-11.2	18.84	+0.02	300	6.20
11:10	X		5.79	+0.01	0.286	+0.005	30.9	-1.4	0.26	-0.01	229.9	-15.0	18.83	-0.01	300	6.20
11:15	X		5.80	+0.01	0.291	+0.005	28.8	-2.1	0.26	0.0	228.1	-1.8	18.83	0.0	300	6.20
11:20	X		5.81	+0.01	0.296	+0.005	27.1	-1.7	0.25	-0.01	223.9	-4.2	18.83	0.0	300	6.20
11:21		X	5.82	+0.01	0.298	+0.002	26.5	-0.6	0.25	0.0	219.9	-4.0	18.81	-0.02	300	6.20

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886RW01

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS

See other sheet

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon Lonekal

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 - RW02

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/22/13
AOC # (AREA): FTMM - 66
LABORATORY:
SAMPLIG INSTRUMENTS: Bladder Pump
SAMPLING PERSONNEL
PID DETECTOR: PID Mini RAE
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 15.00
WELL DEPTH (TOC): 17.10
PUMP INTAKE DEPTH (ft below TOC): 9.00
FEET OF WATER IN WELL: 10.72
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 6.38

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units)		SPECIFIC CONDUCTIVITY (mS/cm)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/L)		TURBIDITY (NTU)		TEMPERATURE (degrees C)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:45	X		6.26	NA	0.596	NA	-18.4	NA	3.78	NA	240.1	NA	20.87	NA	100	6.42
10:50	X		5.91	0.35	0.589	0.007	-6.6	11.8	1.43	2.35	185.6	54.5	20.07	0.80	100	6.42
10:55	X		5.96	0.05	0.589	0.000	-10.7	4.1	1.07	0.36	200.6	15.0	19.97	0.10	100	6.42
11:00	X		6.01	0.05	0.589	0.000	-14.7	4.0	0.93	0.14	192.8	7.8	19.97	0.00	100	6.43
11:05	X		6.04	0.03	0.589	0.000	-17.9	3.2	0.80	0.13	179.7	13.1	19.97	0.00	100	6.43
11:10	X		6.05	0.01	0.589	0.000	-18.6	0.7	0.75	0.05	178.6	1.1	20.02	0.05	100	6.43
11:15	X		6.03	0.02	0.589	0.000	-18.9	0.03	0.70	0.05	180.2	1.6	20.08	0.06	100	6.43
11:20	X		6.07	0.04	0.589	0.000	-18.9	0.00	0.66	0.04	183.8	3.6	20.11	0.03	100	6.43
11:25	X		6.07	0.00	0.589	0.000	-18.3	0.06	0.64	0.02	175.4	8.4	20.07	0.04	100	6.43
11:30	X		6.07	0.00	0.589	0.000	-18.3	0.00	0.61	0.03	181.5	6.1	20.11	0.04	100	6.43
11:35	X		6.07	0.00	0.589	0.000	-18.6	0.03	0.62	0.01	173.3	8.2	20.09	0.02	100	6.43
11:40	X		6.07	0.00	0.589	0.000	-18.9	0.03	0.60	0.01	175.6	2.3	20.13	0.04	100	6.43
COMMENTS: 11:45		X	6.07	0.00	0.589	0.000	-18.9	0.00	0.60	0.00	180.1	4.5	20.10	0.03	100	6.43

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

Form LFPS -GW.xls Turbidity would not lower - stop purge and sample metals w/ filter

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 RW02

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-66-GW-886RW02

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	10:45	3	TAN	180.1	
SVOCs	10:45	1	TAN	180.1	
lead	11:45	1	TAN	180.1	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/22/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 586RW03

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985 | **DATE:** 8/22/13

AOC # (AREA): FTMM-66 | **LABORATORY:**

SAMPLIG INSTRUMENTS: Bladder pump | **SAMPLING PERSONNEL**

PID DETECTOR: PID minirae | **NAME:** Michael T. Hun

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0 | SCREENED INTERVAL (TOC): 2 - 16.12

WELL DEPTH (TOC): 16.12 | PUMP INTAKE DEPTH (ft below TOC): 10

FEET OF WATER IN WELL: | DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.45

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
855	X		5.70	NA	0.410	NA	204.4	NA	5.13	NA	246	NA	21.34	NA	100	5.50
900	X		5.77	-0.13	0.399	-0.011	212.3	+7.9	4.16	-0.57	23.1	-1.5	21.11	-0.23	100	5.50
905	X		5.79	+0.02	0.398	-0.001	217.1	+4.8	3.94	-0.22	20.4	-2.7	21.11	—	100	"
910	X		5.79	—	0.398	—	222.9	+5.8	3.90	-0.04	18.9	-1.5	21.16	+0.05	100	"
915	X		5.79	—	0.398	—	224.2	+1.3	3.86	-0.04	18.	-0.9	21.17	+0.01	100	"
920	X		5.79	—	0.398	—	228.1	+3.9	3.85	-0.01	17.1	-0.9	21.13	-0.04	100	"
925	X	X	5.79	—	0.398	—	231.1	+3	3.84	-0.01	17.0	-0.1	21.24	+0.11	100	"

COMMENTS: 927 Sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886RW03 (JC)

SAMPLING INFORMATION

SAMPLING DEVICE:

SAMPLE NUMBER:

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	927	40mL	clr	17.0	
SVOC	927	1L	clr	17.0	
Lead	927	1L	clr	17.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME: FTMM-66-GW-886RW03-QA

MATRIX SPIKE SAMPLE COLLECTED: (YES) or NO

FTMM-66-GW-886RW03-MS & " MS/D

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 686RW04

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/22/13
AOC # (AREA): FTMM-66
LABORATORY: HCU
SAMPLIG INSTRUMENTS: Bladder pump
SAMPLING PERSONNEL
PID DETECTOR: PID Minirae
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	(6)	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 2 – 16.75
WELL DEPTH (TOC): 16.75
PUMP INTAKE DEPTH (ft below TOC): 9.5
FEET OF WATER IN WELL:
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.15

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1040	X		6.59	NA	0.637	NA	-93.5	NA	3.22	NA	55.0	NA	21.50	NA	100	5.20
1045	X		6.64	+0.05	0.684	-0.003	-93.6	-0.1	0.68	-2.54	50.3	-4.7	21.03	-0.47	100	5.20
1050	X		6.64	—	0.685	+0.001	-95.0	-1.4	0.38	-.30	43.3	-7.0	20.82	-0.21	100	5.20
1055	X		6.67	+0.03	0.636	+0.001	-97.3	-2.3	0.33	-0.05	39.2	-4.1	20.25	-0.07	100	"
1100	X		6.70	+0.03	0.636	—	-98.0	-0.7	0.29	-0.04	36.8	-2.4	20.27	+0.02	100	"
1105	X		6.70	—	0.637	+0.001	-98.4	-0.4	0.25	-0.04	30.1	-6.7	20.85	+0.58	100	"
1110	X		6.70	-	0.638	+0.001	-98.1	+0.3	0.25	—	30.5	+0.4	20.82	-0.03	100	"
1115	X		6.70	—	0.639	+0.001	-98.2	-0.1	0.24	-0.01	29.9	-0.6	20.85	+0.03	100	"

COMMENTS: 1117 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: 886RW04

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM.66.GW-886RW04

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1117	40mL	clr	29.9	
SVOC	1117	1L	clr	29.9	
Lead	1117	1L	clr	29.9	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

886

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~886~~ RW05

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985

AOC # (AREA): FTMM -66

SAMPLIG INSTRUMENTS: Bladder pump

PID DETECTOR: PID Mini RAE

DATE: 5/22/13

LABORATORY:

SAMPLING PERSONNEL

NAME: Owen Zalm

NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	6	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0

WELL DEPTH (TOC): 15.00

FEET OF WATER IN WELL: 7.79

SCREENED INTERVAL (TOC): 15.00

PUMP INTAKE DEPTH (ft below TOC): 8.50

DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 7.21

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:55	X		5.99	NA	0.397	NA	13.0	NA	1.72	NA	48.2	NA	21.28	NA	100	7.82
9:00	X		5.99	0.00	0.390	0.07	6.9	6.1	1.29	0.43	45.3	2.9	21.21	0.07	100	7.33
9:05	X		6.00	0.01	0.386	0.004	-4.6	11.5	1.03	0.26	41.3	4.0	21.16	0.05	100	7.33
9:10	X		6.07	0.07	0.383	0.003	-13.0	8.4	0.95	0.08	40.3	1.0	21.17	0.01	100	7.33
9:15	X		6.14	0.07	0.381	0.002	-18.6	5.6	0.91	0.04	39.5	0.8	21.22	0.05	100	7.33
9:20	X		6.18	0.04	0.380	0.001	-21.4	2.8	0.88	0.03	39.3	0.2	21.25	0.03	100	7.33
9:25	X		6.20	0.02	0.379	0.001	-24.3	2.9	0.79	0.09	38.5	0.8	21.40	0.15	100	7.33
9:30	X		6.23	0.03	0.379	0.000	-26.5	2.2	0.77	0.02	38.3	0.2	21.44	0.04	100	7.33
9:35	X		6.23	0.00	0.380	0.001	-27.3	0.8	0.76	0.01	38.0	0.3	21.43	0.01	100	7.33
9:38		X	6.24	0.01	0.379	0.001	-28.1	0.8	0.74	0.02	37.7	0.3	21.42	0.01	100	7.33

COMMENTS:

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

886

PARSONS | **CLIENT:** USAESCH | **WELL #:** ~~886~~ RW05

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-66-GW-~~886~~RW05

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TIC	9:38	3	CLR	37.7	
SVOCs	9:38	1	CLR	37.7	
lead	9:38	1	CLR	37.7	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: (YES) or NO

Duplicate Sample Name:

FTMM-66-GW-886RW105 9:43

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): 5/22/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 RW06

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
DATE: 8/22/13
AOC # (AREA): FTMM-66
LABORATORY: HCV
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID minirae
SAMPLING PERSONNEL
NAME: Michael Tilton
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	(6)	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
SCREENED INTERVAL (TOC): 2 – 15.19
WELL DEPTH (TOC): 15.19
PUMP INTAKE DEPTH (ft below TOC): 9
FEET OF WATER IN WELL:
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.35

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1215	X		6.51	NA	0.153	NA	1206	NA	5.45	NA	0.1	NA	21.34	NA	100	5.40
1220	X		5.74	-0.77	0.148	-0.05	177.7	+57.1	4.90	-0.55	0.9	+0.8	20.92	-0.42	100	"
1225	X		5.70	-0.04	0.147	-0.01	185.7	+8.0	4.87	-0.03	0.1	-0.8	21.09	+0.17	100	"
1230	X		5.65	-0.05	0.146	-0.01	199.6	+13.9	4.88	+0.01	0.0	-0.1	21.40	+0.31	100	"
1235	X		5.67	+0.02	0.146	—	207.4	+7.8	4.84	-0.04	0.0	—	20.99	-0.41	100	"
1240	X		5.66	-0.01	0.146	—	213.5	+6.1	4.87	+0.03	0.0	—	20.47	-0.52	100	"
1245	X		5.65	-0.01	0.146	—	219.8	+6.3	4.89	+0.02	0.0	—	20.38	-0.09	100	"
1250	X		5.65	—	0.146	—	220.2	+0.4	4.90	+0.01	0.0		20.16	-0.16	100	"

COMMENTS: 1252 sample time

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886RW06

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-GG-GW-886RW06

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1252	40mL	clr	0.0	
SVOC	1252	1L	clr	0.0	
Lead	1252	1L	clr	0.0	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): Carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886MW07

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-66
SAMPLIG INSTRUMENTS: Bladder pump
PID DETECTOR: PID minirae

DATE: 8/22/13
LABORATORY: ITCU

SAMPLING PERSONNEL
NAME: Michael T. Horn
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	(6)	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 16.00
FEET OF WATER IN WELL:
SCREENED INTERVAL (TOC): 2 – 16.00
PUMP INTAKE DEPTH (ft below TOC): 15
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.55

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1340	X		6.02	NA	0.126	NA	179.5	NA	2.21	NA	314.5	NA	21.31	NA	100	5.60
1345	X		5.73	-0.29	0.109	-0.017	184.1	+4.6	1.09	-1.12	329.2	+14.7	20.14	-1.17	100	"
1350	X		5.72	-0.01	0.108	-0.001	190.5	+6.4	0.53	-0.56	337.3	+8.1	19.28	-0.86	100	"
1355	X		5.74	+0.02	0.108	—	186.4	-4.1	0.39	-0.14	329.1	-8.2	18.98	-0.30	100	"
1400	X		5.79	0.05	0.107	-0.001	181.9	-4.5	0.33	-0.06	290.0	-39.1	18.93	-0.05	100	"
1405	X		5.82	+0.03	0.108	+0.001	177.9	-4.0	0.31	-0.02	230.5	-59.5	19.02	+0.09	100	"
1410	X		5.84	+0.02	0.108	—	174.2	-3.9	0.28	-0.03	255.9	+25.4	19.07	+0.05	100	"
1415	X		5.84	—	0.109	+0.001	173.3	-0.9	0.28	—	318.0	+62.1	18.94	-0.13	100	"
1420	X		5.84	—	0.109	—	172.4	-0.9	0.27	-0.01	308.9	-9.1	18.93	-0.01	100	"
1425	X		5.85	+0.01	0.110	+0.001	170.5	-1.9	0.26	-0.01	296.4	-12.5	18.95	+0.02	100	"
1430	X		5.85	—	0.111	+0.001	168.8	-1.7	0.25	-0.01	293.6	-2.8	18.96	+0.01	100	"
1435	X		5.84	-0.01	0.112	+0.001	166.7	-2.1	0.24	-0.01	289.1	-4.5	18.88	-0.08	100	"
1443	X		5.84	—	0.112	—	165.6	-1.1	0.24	—	290.1	+1.0	18.90	+0.02	100	"

COMMENTS: 1443 sampling

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; +/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886RW07

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder pump

SAMPLE NUMBER: FTMM-66-GW-886RW07

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOC	1443	40mL	brown	290.1	
SVOC	1443	1L	brown	290.1	
Lead	1443	1L	brown	290.1	

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or NO

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or NO

INVESTIGATION DERIVED WASTE (IDW): carbon bucket

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS | **CLIENT:** USAESCH | **WELL #:** 886 RW08

PROJECT (STUDY_ID): W912DY-09-D-0062, Task Order 0012, Project No. 36985
AOC # (AREA): FTMM-66
SAMPLIG INSTRUMENTS: Bladder
PID DETECTOR: PID miniae

DATE: 8/22/13
LABORATORY: HCV

SAMPLING PERSONNEL
NAME: Owen Zalme
NAME:

BOREHOLE DIAMETER FACTORS

DIAMETER (INCHES):	1	1.5	2	3	4	5	(6)	7	8	9	10
GALLONS/FOOT:	0.041	0.092	0.163	0.367	0.654	1.02	1.47	2	2.61	3.3	5.87

WELL HEAD VOC CONCENTRATION (ppm): 0.0
WELL DEPTH (TOC): 15.59
FEET OF WATER IN WELL: 9.78
SCREENED INTERVAL (TOC): 2 – 15.59
PUMP INTAKE DEPTH (ft below TOC): 8.79
DEPTH TO WATER BEFORE PUMP INSTALLATION (ft below TOC): 5.81

PURGING AND SAMPLING WITH A LOW-FLOW PUMP

TIME	PURGING	SAMPLING	pH (pH units) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/L) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
14:00	X		6.03	NA	0.185	NA	34.5	NA	2.63	NA	91.2	NA	19.46	NA	100	5.90
14:05	X		5.95	0.08	0.184	0.001	37.1	2.6	1.62	1.01	86.3	4.9	19.33	0.13	100	5.96
14:10	X		5.95	0.00	0.183	0.001	37.2	0.1	1.30	0.32	83.8	2.5	19.18	0.15	100	5.96
14:15	X		5.95	0.00	0.182	0.001	37.0	0.2	1.11	0.19	88.0	4.2	19.08	0.10	100	5.96
14:20	X		5.97	0.02	0.182	0.000	36.1	0.9	0.87	0.24	81.9	6.1	19.07	0.01	100	5.96
14:25	X		6.00	0.03	0.182	0.000	35.0	1.1	0.71	0.16	84.6	2.7	19.07	0.00	100	5.96
14:30	X		5.98	0.02	0.182	0.000	35.3	0.3	0.67	0.04	82.2	2.4	19.06	0.01	100	5.96
14:35	X		5.99	0.01	0.181	0.001	36.1	0.8	0.58	0.09	80.0	2.2	18.88	0.18	100	5.96
14:40	X		5.98	0.01	0.181	0.000	36.5	0.4	0.55	0.03	79.6	0.4	18.91	0.03	100	5.96
14:45	X		6.00	0.02	0.182	0.001	36.3	0.2	0.50	0.05	81.0	1.4	19.13	0.22	100	5.96
14:50	X		6.02	0.02	0.182	0.000	36.5	0.2	0.45	0.05	79.0	2.0	19.64	0.51	100	5.96
14:55	X		6.02	0.00	0.182	0.000	36.5	0.0	0.44	0.01	80.1	1.1	19.60	0.04	100	5.96
COMMENTS: 15:00		X	6.02	0.00	0.182	0.000	35.4	1.1	0.43	0.01	81.9	1.8	19.51	0.09	100	5.96

*Indicator readings have stabilized when 3 consecutive readings are within: +/- 0.1 for pH; =+/- 3% for Specific Conductivity and Temperature; +/- 10 mv for Redox Potential; and +/- 10% for Dissolved Oxygen and Turbidity

LOW-FLOW SAMPLING RECORD - GROUNDWATER

PARSONS	CLIENT: USAESCH	WELL #: 886 RW08

SAMPLING INFORMATION

SAMPLING DEVICE: Bladder Pump

SAMPLE NUMBER: FTMM-66-GW-886RW08

SAMPLE PARAMETER	TIME	CONTAINER	COLOR	TURBIDITY	COMMENTS
VOCs + TICs	15:00	3	TAN		
SVOCs	15:00	1	TAN		
lead	15:00	1	TAN		

QA\QC:

QA/QC DUPLICATE SAMPLE COLLECTED: YES or (NO)

Duplicate Sample Name:

QA\QC RINSATE SAMPLE NAME:

MATRIX SPIKE SAMPLE COLLECTED: YES or (NO)

INVESTIGATION DERIVED WASTE (IDW): 8/22/13 carbon bucket used - no waste generated

Date:									
Volume Transferred to VBW Tank:									
Volume Transerred to Drum:									

APPENDIX U: FTMM-68 Building 700

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2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT U-1
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2	2013 Baseline Groundwater Analytical Detections
3	Groundwater Sampling Analyte Review

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1	Layout of FTMM-68 (Former Dry Cleaners at Building 700)

LIST OF ATTACHMENTS

Attachment	Title
A	NJDEP PDB Checklists

1.0 FTMM-68 GROUNDWATER MONITORING

Groundwater samples were collected from two monitoring wells located within FTMM-68 as part of the August 2013 Baseline Sampling Event. The groundwater sampling program included measuring the depth to groundwater in monitoring wells prior to sampling and collection of groundwater samples using passive diffusion bags (PDBs) methodology as per the March 2013 Sampling and Analysis Plan (SAP). PDBs were deployed in FTMM-68 monitoring wells on August 13, 2013 and samples were retrieved on August 29, 2013. Groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method SW8260B. Monitoring well locations as well as other site features can be found in **Figure 1**.

In accordance with the New Jersey Department of Environmental Protection (NJDEP) Field Sampling Procedures Manual and the SAP, Quality Assurance/Quality Control (QA/QC) samples were collected. Field blanks, duplicates, matrix spike, matrix spike duplicate and QA split samples were collected for every 5% of samples collected per parameter, per matrix. Trip blanks accompanied each cooler each day in which VOCs were collected for laboratory analysis.

Completed NJDEP PDB checklists for each well sampled can be found in **Attachment A**.

2.0 WATER LEVEL MEASUREMENTS AND ASSESSMENT

Monitoring wells located within FTMM-68 were gauged on August 7, 2013. The depth to groundwater measured from the top of well casing in monitoring wells 565MW01 and 565MW01D was 8.42 and 8.57 feet, respectively. Well details including the top of well casing elevation could not be confirmed at the time of this report writing and therefore groundwater elevation could not be calculated. Groundwater is expected to flow towards the south based on groundwater elevations calculated in nearby monitoring wells (**Figure 1**). Additional details regarding groundwater gauging and sampling can be found in **Table 1**.

Additionally, monitoring wells were inspected for their physical condition during the groundwater gauging. FTMM-68 monitoring wells were found to be in good condition upon inspection.

3.0 HISTORICAL GROUNDWATER SAMPLING RESULTS

The groundwater sampling event conducted in August 2013 was the initial sampling event for monitoring wells 565MW01 and 565MW01D since they have been installed.

4.0 AUGUST 2013 GROUNDWATER RESULTS

Groundwater analytical detections from samples collected for VOC analysis during the August 2013 Baseline Sampling Event are presented in **Table 2**. Cis-1,2-DCE, PCE, TCE, and vinyl chloride were detected in exceedance of their respective NJDEP GWQS in FTMM-68 monitoring well 565MW01. Additionally, PCE and TCE were detected in 565MW01D as exceedances of their respective NJDEP GWQS.

5.0 FINDINGS AND RECOMMENDATIONS

Due to the VOC exceedances observed during the August 2013 Baseline Groundwater Sampling Event, it is recommended that groundwater monitoring for VOCs via PDB sampling methodology be continued in FTMM-68 monitoring wells on a quarterly basis. **Table 3** presents the matrix used to determine the recommendations for this site.

TABLES

Table 1 Groundwater Gauging Data and Sample Summary

Table 2 2013 Baseline Groundwater Analytical Detections

Table 3 Groundwater Sampling Analyte Review

Table 1
Groundwater Gauging and Sampling Summary
Site FTMM-68
Fort Monmouth, New Jersey

															Every 5' of saturated screen requires PDB & its deployed in mid-point of saturated screen interval								
Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Depth	Screen Length	Screen Interval	TOC Elev.	Gauge Date	Gauge Time	PID Reading (ppm)	Gauged DTW (ft) TOC or TPVC	Gauged DTB (ft) TOC or TPVC	GW Elevation (ft.AMSL)	Saturated Screen Length	PDB Interval 1 (ft. below TOC)	PDB Interval 2 (ft. below TOC)	PDB Interval 3 (ft. below TOC)	PDB Interval 4 (ft. below TOC)	PDB Deploy Date	PDB Deploy Time	PDB Sample Date	PDB Sample Time	LFPS Confirmatory Sample Date and Time
				feet																			
M-68, B700																							
565MW01	?	?	?	15.00	10.00	5-15	?	8-7-13	0923	0.2	8.42	17.2	?	9.59	11.99	N/A	N/A	N/A	8/13/2013	1245	8/29/2013	1425	N/A
565MW01D	?	?	?	23.00	5.00	18-23	?	8-7-13	0925	1.4	8.57	25.45	?	5	22.31	N/A	N/A	N/A	8/13/2013	1250	8/29/2013	1430	N/A

Notes:
Information on well permit number, X and Y coordinates, depth, screen length, and TOC elevation were provided by FTMM in a table in June 2013.
DTW = depth to water (measured from the top of well casing)
DTB = depth to bottom of well (measured from the top of well casing)
TOC= Top of Casing
ft. AMSL = feet above means sea level
LFPS = low flow purging and sampling
PDB = Passive Diffusion Bag
N/A = not applicable

Table 2
2013 Baseline Groundwater Analytical Detections
Site FTMM-68
Fort Monmouth, New Jersey

	SAMPLE ID:		STANDARDS VALUES		FTMM-68-GW-565MW01-11.99		FTMM-68-GW-565MW01D-22.31	
	DATE SAMPLED:		NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013	
	LAB SAMPLE ID:				R1306348-024		R1306348-025	
	SAMPLE DEPTH (ft bgs):				11.99		22.31	
	CAS No.	Unit						
Volatile Organics - SW8260C								
1,1,1,2-Tetrachloroethane	630-20-6	µg/L	1	NLE	2.5	U	50	U
1,1,1-Trichloroethane	71-55-6	µg/L	30	200	2.5	U	50	U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	1	NLE	2.5	U	50	U
1,1,2-Trichloroethane	79-00-5	µg/L	3	5	2.5	U	50	U
1,1-Dichloroethane	75-34-3	µg/L	50	NLE	2.5	U	50	U
1,1-Dichloroethene	75-35-4	µg/L	1	7	2.5	U	50	U
1,1-Dichloropropene	563-58-6	µg/L	5 [3]	NLE	2.5	U	50	U
1,2,3-Trichlorobenzene	87-61-6	µg/L	5 [3]	NLE	2.5	U	50	U
1,2,3-Trichloropropane	96-18-4	µg/L	0.03	NLE	2.5	U	50	U
1,2,4-Trichlorobenzene	120-82-1	µg/L	9	70	2.5	U	50	U
1,2,4-Trimethylbenzene	95-63-6	µg/L	100 [3]	NLE	2.5	U	50	U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.02	0.2	2.5	U	50	U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.03	NLE	2.5	U	50	U
1,2-Dichlorobenzene	95-50-1	µg/L	600	NLE	2.5	U	50	U
1,2-Dichloroethane	107-06-2	µg/L	2	NLE	2.5	U	50	U
1,2-Dichloropropane	78-87-5	µg/L	1	NLE	2.5	U	50	U
1,3,5-Trimethylbenzene	108-67-8	µg/L	100 [3]	NLE	2.5	U	50	U
1,3-Dichlorobenzene	541-73-1	µg/L	600	NLE	2.5	U	50	U
1,3-Dichloropropane	142-28-9	µg/L	100 [3]	NLE	2.5	U	50	U
1,4-Dichlorobenzene	106-46-7	µg/L	75	NLE	2.5	U	50	U
2,2-Dichloropropane	594-20-7	µg/L	100 [3]	NLE	2.5	UJ	50	U
2-Butanone (MEK)	78-93-3	µg/L	300	NLE	2.5	U	50	U
2-Chlorotoluene	95-49-8	µg/L	100 [3]	NLE	2.5	U	50	U
2-Hexanone	591-78-6	µg/L	300 [4]	NLE	13	U	250	U
4-Chlorotoluene	106-43-4	µg/L	100 [3]	NLE	2.5	U	50	U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	100 [3]	NLE	2.5	U	50	U
Acetone	67-64-1	µg/L	6,000	NLE	**7.0**	BJ	**200**	J
Benzene	71-43-2	µg/L	1	5	2.5	U	50	U
Bromobenzene	108-86-1	µg/L	100 [3]	NLE	2.5	U	50	U
Bromochloromethane	74-97-5	µg/L	100 [3]	NLE	2.5	U	50	U
Bromodichloromethane	75-27-4	µg/L	1	NLE	2.5	U	50	U
Bromoform	75-25-2	µg/L	4	NLE	2.5	U	50	U
Bromomethane	74-83-9	µg/L	10	NLE	2.5	UJ	50	UJ
Carbon tetrachloride	56-23-5	µg/L	1	NLE	2.5	U	50	U
Chlorobenzene	108-90-7	µg/L	50	100	2.5	U	50	U
Chloroethane	75-00-3	µg/L	5 [3]	NLE	2.5	U	50	U
Chloroform	67-66-3	µg/L	70	NLE	2.5	U	50	U
Chloromethane	74-87-3	µg/L	100 [3]	NLE	2.5	U	50	U
cis-1,2-Dichloroethene	156-59-2	µg/L	70	70	**150**		50	U
cis-1,3-Dichloropropene	10061-01-5	µg/L	5 [3]	NLE	2.5	U	50	U
Dibromochloromethane	124-48-1	µg/L	1	NLE	2.5	U	50	U
Dichlorodifluoromethane (Freon 12)	75-71-8	µg/L	1,000	NLE	2.5	U	50	UJ
Ethylbenzene	100-41-4	µg/L	700	700	2.5	U	50	U
Hexachlorobutadiene	87-68-3	µg/L	1	NLE	2.5	U	50	U
Isopropylbenzene	98-82-8	µg/L	700	NLE	2.5	U	50	U
Methylene chloride	75-09-2	µg/L	3	NLE	2.5	U	50	U
Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	70	NLE	2.5	U	50	U
Naphthalene	91-20-3	µg/L	300	NLE	2.5	U	50	U
n-Butylbenzene	104-51-8	µg/L	100 [3]	NLE	2.5	U	50	U
n-Propylbenzene	103-65-1	µg/L	100 [3]	NLE	2.5	U	50	U
p-Isopropyltoluene	99-87-6	µg/L	100 [3]	NLE	2.5	U	50	U

Table 2
2013 Baseline Groundwater Analytical Detections
Site FTMM-68
Fort Monmouth, New Jersey

			SAMPLE ID:	STANDARDS VALUES		FTMM-68-GW-565MW01-11.99		FTMM-68-GW-565MW01D-22.31	
			DATE SAMPLED:	NJDEP GWQS[1]	USEPA MCL[2]	29-Aug-2013		29-Aug-2013	
			LAB SAMPLE ID:			R1306348-024		R1306348-025	
			SAMPLE DEPTH (ft bgs):			11.99		22.31	
	CAS No.	Unit							
sec-Butylbenzene	135-98-8	µg/L		100 [3]	NLE	2.5	U	50	U
Styrene	100-42-5	µg/L		100	100	2.5	U	50	U
tert-Butylbenzene	98-06-6	µg/L		100 [3]	NLE	2.5	U	50	U
Tetrachloroethene (PCE)	127-18-4	µg/L		1	5	**300**		**4,600**	
Toluene	108-88-3	µg/L		600	1,000	2.5	U	50	U
trans-1,2-Dichloroethene	156-60-5	µg/L		100	100	2.5	U	50	U
trans-1,3-Dichloropropene	10061-02-6	µg/L		5 [3]	NLE	2.5	U	50	U
Trichloroethene (TCE)	79-01-6	µg/L		1	5	**120**		**44**	J
Trichlorofluoromethane (Freon 11)	75-69-4	µg/L		2,000	NLE	2.5	U	50	U
Vinyl chloride	75-01-4	µg/L		1	2	**11**	J	50	U
Xylene (Total)	1330-20-7	µg/L		1,000	10,000	7.5	U	150	U

QA NOTES AND DATA QUALIFIERS:

U - Analyte was not detected above the indicated limit of detection (LOD).
J - Analyte detected, estimated concentration.
UJ - Analyte not detected, reported LOD may be inaccurate or imprecise.
BJ - Analyte detected, estimated concentration. Analyte also found in an associated blank at concentration above one half the LOQ.
D**etections are bolded.**
Detections above the NJDEP GWQS are highlighted.
For Detections above the USEPA MCL, the cell border is bolded.

NOTES:

[1] New Jersey Department of Environmental Protection Ground Water Quality Standards Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels. (http://www.state.nj.us/dep/wms/bwqsa/Appendix_Table_1.htm).
[2] USEPA 2012 Edition of the Drinking Water Standards and Health Advisories, Spring 2012. (http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf).
[3] Interim generic groundwater quality criteria.
[4] Interim specific groundwater quality criteria.
NLE - No screening level established.

Table 3
Groundwater Sampling Analyte Review
Historical and Baseline Groundwater Analytical Data
Site FTMM-68
Fort Monmouth, New Jersey

Site Name/ Well ID	Analyte	Does it Exceed NJDEP GWQS (Yes or No) (If Yes Identify Compound)[1]	Does it Exceed FTMM Background Concentration (metals only) Yes or No (If Yes identify compound)	Exceedance Evaluation				Retain Analyte/Well (Yes or No)	Rational
				Seasonal Effect? (Y/N)[2]	Anomaly? (Y/N)	Exceedance part of overall trend? (Y/N)[3]	Well needed for sentinel purposes? (Y/N)		
M-68, B700									
565MW01	VOC	cis-1,2-DCE, PCE, TCE, VC	N/A	N/A	NO	N/A	YES	YES	No historical data has been collected
565MW01D		PCE, TCE	N/A	N/A	NO	N/A	YES	YES	No historical data has been collected

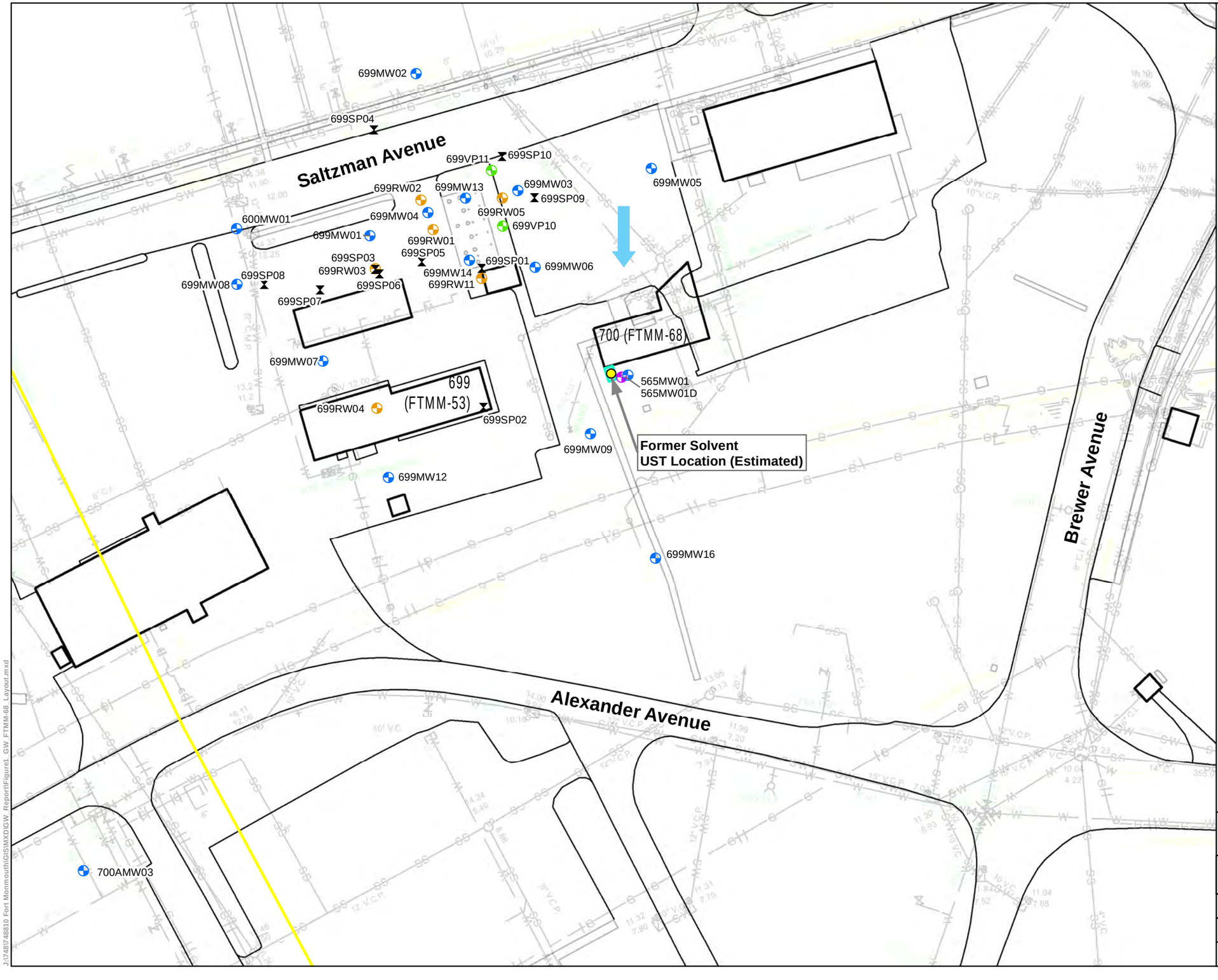
Notes:

1. Has any of the compounds exceeded the NJDEP GWQS in the 2013 data and the 4 previous data rounds? If no then remove this analyte from Long Term Monitoring (LTM) list.
2. Has any of the compounds exceeded the NJDEP GWQS seasonally (winter/spring vs summer/fall) for the 4 previous data rounds?
   If yes then keep analyte in LTM list.
   If no then remove this analyte from LTM list.
3. Groundwater sampling analyte review is based on the August 2013 data since no historical data has been collected.

cis-1,2-DCE - cis-1,2-dichloroethene
PCE - tetrachloroethene
TCE - trichloroethene
VC - vinyl chloride

FIGURES

Figure 1 Layout of FTMM-68 (Former Dry Cleaners at Building 700)



Legend

- Shallow Monitoring Well
- Deep Monitoring Well
- Vapor Monitoring Well
- Recovery Well
- Air Sparge Well
- UST Excavation Footprint
- Municipal Boundary
- W Water Line
- S Sanitary Sewer Line
- SW Storm Sewer Line
- G Gas Line
- Estimated Groundwater Flow Direction

N

1 inch = 70 feet

0 12.5 25 50 75 100 125 Feet

Source: FTMM Supplied CAD

PARSONS 401 Diamond Drive NW, Huntsville AL	**Fort Monmouth** **New Jersey**

Layout of FTMM-68
(Former Dry Cleaners at Building 700)

CREATED BY: TS	REVIEWED BY: IG
DATE: March 2014	FIGURE NUMBER: Figure 1
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ATTACHMENTS

Attachment A NJDEP PDB Checklists

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: Ft. Monmouth
2. Location: M-68
3. Well Designation: S65MW01
4. Well Permit Number: _____

5. Type of Well: [X] Monitoring [ ] Extraction [ ] Residential [ ] Public Supply [ ] Irrigation [ ] Other
6. Well Surface Finish: [X] Stick Up [ ] Flush Mount
7. Location of Measuring Point: [X] Top of Casing [ ] Other (Specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.

   Distance between measuring point and ground surface (ft.) 1.77
9. Total Well Depth (fbgs): 16.79
10. Screened interval/open hole (fbgs): 6.79 - 16.79
11. Well Casing: Diameter 4 Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
12. Well Screen (or open hole diameter): Diameter 4 Material [X] PVC [ ] Carbon Steel [ ] Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/13/13 Time: 1245
15. Depth to Ground Water: Depth to ground water at time of deployment 7.2
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1425
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.32
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: Stainless Steel (stainless steel recommended)
20. Type of PDBS Used:
    - [ ] Lab Filled (Modified Trip Blank must be taken at time of deployment)
    - [X] Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    - [X] Attached to bottom of PDBS and suspended in well
    - [X] Attached to bottom of deployment line and suspended in well
    - [ ] Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
11.99			

5th PDBS	6th PDBS	7th PDBS	8th PDBS

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    - [ ] **No**, this well is being profiled during this sampling round
    - [ ] **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    - [ ] **No**, flow testing has not been conducted in this well
    - [ ] **Yes**, flow testing of this well was conducted. Date of testing: _____
      Type of flow meter used: _____
      Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph [ ] Sunny [X] Overcast [ ] Raining [ ] Snowing
27. Weather Conditions During Retrieval: Temp. 75°F Wind 0-1 mph [X] Sunny [ ] Overcast [ ] Raining [ ] Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiLuna	
Chris Watson	Parsons
Zohar Lavy	

PARSONS

Checklist for the Submission of Sampling Data for Passive Diffusion Bag Samplers (PDBS)

1. Site: A. Monmouth
2. Location: M-68
3. Well Designation: 565 MW01D
4. Well Permit Number: _____

5. Type of Well: ☒ Monitoring ☐ Extraction ☐ Residential ☐ Public Supply ☐ Irrigation ☐ Other
6. Well Surface Finish: ☒ Stick Up ☐ Flush Mount
7. Location of Measuring Point: ☒ Top of Casing ☐ Other (specify) _____
8. **NOTE:** PDBS represent a point sample within the screened interval or open hole of the well. It is critical to know the exact depth within the well where the PDBS is deployed. Well construction specifications, which are typically used to determine where to set the PDBS in the well, are measured in feet below ground surface (fbgs). If the depth interval for PDBS deployment is measured from the reference point identified above, the difference between this reference point and the ground surface must be measured and accounted for to determine the proper depth interval to set the PDBS. Please identify below, any differences between the measuring point identified above and actual ground surface at the well head.
   Distance between measuring point and ground surface (ft.) 1.81
9. Total Well Depth (fbgs): 24.81
10. Screened interval/open hole (fbgs): 19.81
11. Well Casing: Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
12. Well Screen (or open hole diameter): Diameter: 4 Material: ☒ PVC ☐ Carbon Steel ☐ Stainless Steel
13. Screen Size (slot): Screen Slot Size 0.01
14. Date and Time of Deployment: Date: 8/13/13 Time: 1250
15. Depth to Ground Water: Depth to ground water at time of deployment 8.24
16. Date and Time of Retrieval: Date: 8/29/13 Time: 1430
17. Depth to Ground Water: Depth to ground water at time of retrieval 8.52
18. Type of Deployment Line Used: Diameter: 3/16" Material: poly
19. Material and Mass (oz.) of PDBS Weight: stainless steel 20 oz (stainless steel recommended)
20. Type of PDBS Used:
    ☐ Lab Filled (Modified Trip Blank must be taken at time of deployment)
    ☒ Field Filled (Modified equipment blank of fill water must be taken at time of deployment. If PDBS isn't filled at well head, blank must travel with samplers until last sampler is deployed. Blank is then taken.)
21. Dimensions of PDBS: Length (in.) 18 Diameter (in.) 1.5 Filled _____
22. Position of PDBS Weight:
    ☒ Attached to bottom of PDBS and suspended in well
    ☒ Attached to bottom of deployment line and suspended in well
    ☐ Attached to bottom of deployment line and resting on bottom of well (preferred)
23. Position of PDBS in Well Screen (ft. from measuring point to center of PDBS):

1st PDBS	2nd PDBS	3rd PDBS	4th PDBS
22.31			
5th PDBS	**6th PDBS**	**7th PDBS**	**8th PDBS**

24. If the saturated portion of the well screen or open hole is greater than 5 feet, has the well been vertically profiled to assess the potential for contaminant stratification?
    ☐ **No**, this well is being profiled during this sampling round
    ☐ **Yes**, this well was profiled already. Date when well was profiled: _____
25. If the saturated portion of the well screen or open hole is greater than 10 feet, has the well been flow tested to assess the potential for vertical flow to be present within the well?
    ☐ **No**, flow testing has not been conducted in this well
    ☐ **Yes**, flow testing of this well was conducted. Date of testing: _____
    Type of flow meter used: _____
    Measurements taken every _____ feet **[Please Attach Results]**
26. Weather Conditions During Deployment: Temp. 75°F Wind 0-1 mph ☐ Sunny ☒ Overcast ☐ Raining ☐ Snowing
27. Weather Conditions During Retrieval: Temp. 75°F Wind 0-1 mph ☒ Sunny ☐ Overcast ☐ Raining ☐ Snowing
28. Field Sampling Technician Name(s) and Company (please print clearly)

Name	Company
Alex DiDomo	
Chris Watson	

Zohar Lavy

DATA VALIDATION SUMMARY REPORT

for samples collected from

FORT MONMOUTH

OCEANPORT, NEW JERSEY

Data Validation by: Sandra de las Fuentes

Date: October 3, 2013

Parsons - Austin

INTRODUCTION

The following data validation summary report covers water samples and the associated field quality control (QC) samples collected from Fort Monmouth in Oceanport, New Jersey on August 20 and August 22, 2013. Samples were logged in under the following Sample Delivery Groups (SDGs):

R1306058 and R1306152

The samples in these SDGs were analyzed for volatile organic compounds (VOCs) plus tentatively identified compounds (TICs), semivolatile organic compounds (SVOCs) plus TICs, organochlorine pesticides and metals. The field QC samples collected in R1306058 included two field duplicate (FD) samples and two matrix spike/matrix spike duplicate (MS/MSD) pairs. The field QC samples in R1306152 for SVOC analyses included one FD sample and one MS/MSD pair.

This validation report covers all of the analyses in R1306058, plus only the SVOC analyses in R1306152. The following table details the samples included in these SDGs and the associated parameters.

All samples were collected by Parsons and shipped to ALS Environmental in Rochester, New York. There were 2 coolers shipped for R1306058 and four coolers shipped for R1306152. With the exception of two coolers, all other coolers were received by the laboratory at temperatures within the 2-6°C range recommended by the project-specific UFP-QAPP. A cooler for R1306058 was received at 7.6°C and one cooler in R1306152 was received at 8.1°C. During login of the coolers, ALS noted ice was present in the coolers, which indicates the cooling process was ongoing; therefore sample preservation was not compromised.

All samples were prepared and analyzed following the procedures outlined in the Department of Defense (DoD) Quality Systems Manual (QSM) version 4.2, and the procedures outlined in the Standard Subcontract and the project-specific Uniform Federal Policy for Quality Assurance Project Plan (UFP-QAPP).

SAMPLE IDs AND REQUESTED PARAMETERS

Sample ID	SDG	Matrix	VOCs, plus TICS	SVOCs, plus TICs	Pesticides	TAL Metals	Lead only	Comments
FTMM-53-GW-699MW15	R1306058	W	X					MS/MSD
FTMM-53-GW-699MW08	R1306058	W	X					
FTMM-53-GW-699MW108	R1306058	W	X					FD of FTMM-53-GW-699MW08
FTMM-4-GW-M4MW08	R1306058	W	X			X		
FTMM-8-GW-M8MW16	R1306058	W	X		X		X	
FTMM-12-GW-M12MW21	R1306058	W					X	
FTMM-12-GW-M12MW121	R1306058	W					X	FD of FTMM-12-GW-M12MW21
FTMM-12-GW-M12MW26	R1306058	W					X	MS/MSD
FTMM-54-GW-296MW04	R1306058	W	X				X	
FTMM-53-GW-699MW16	R1306058	W	X					
FTMM-53-GW-699MW09	R1306058	W	X					
FTMM-53-GW-699MW06	R1306058	W	X					
FTMM-4-GW-M4MW10	R1306058	W	X			X		
FTMM-4-GW-M4MW06	R1306058	W	X			X		
FTMM-4-GW-M4MW07	R1306058	W	X			X		
FTMM-4-GW-M4MW05	R1306058	W	X			X		
FTMM-4-GW-M4MW09	R1306058	W	X			X		
FTMM-12-GW-M12MW11	R1306058	W					X	
FTMM-EB082013	R1306058	W	X		X	X		Equipment Blank
FTMM-TB082013	R1306058	W	X					Trip Blank
FTMM-53-GW-699RW05	R1306058	W	X					
FTMM-53-GW-699RW03	R1306058	W	X					
FTMM-53-GW-699RW11	R1306058	W	X					
FTMM-53-GW-699MW12	R1306058	W	X					
FTMM-53-GW-699MW05	R1306058	W	X					
FTMM-12-GW-M 12MW20	R1306058	W					X	
FTMM-12-GW-M12MW25	R1306058	W					X	
FTMM-12-GW-M12MW19	R1306058	W					X	
FTM M-66-GW-886RW03	R1306152	W		X				MS/MSD
FTMM-66-GW-886RW05	R1306152	W		X				
FTMM-66-GW-886RW105	R1306152	W		X				FD of FTMM-66-GW-886RW05
FTMM-66-GW-886MW05	R1306152	W		X				
FTMM-66-GW-886RW04	R1306152	W		X				
FTMM-66-GW-886RW06	R1306152	W		X				
FTMM-66-GW-886RW02	R1306152	W		X				
FTMM-66-GW-886MW03	R1306152	W		X				

Sample ID	SDG	Matrix	VOCs, plus TICS	SVOCs, plus TICs	Pesticides	TAL Metals	Lead only	Comments
FTMM-66-GW-886MW04	R1306152	W		X				
FTMM-66-GW-886RW07	R1306152	W		X				
FTMM-66-GW-886MW02	R1306152	W		X				
FTMM-EB082213	R1306152	W		X				Equipment Blank
FTMM-66-GW-886RW08	R1306152	W		X				

W = Water

EXTRACTION AND ANALYTICAL METHODS:

PARAMETER	MATRIX	EXTRACTION METHOD	ANALYTICAL METHOD	UNITS	DRY WT. VS. WET WT
VOCs	W	5035	8260C	µg/L	NA
Metals	W	3010A	6010C	µg/L	NA
Mercury	W	7470A	7470A	µg/L	NA
SVOCs	W	3510C	8270D	µg/L	NA
Pesticides	W	3510C	8081B	µg/L	NA

EVALUATION CRITERIA

The data submitted by the laboratory has been validated following the guidelines outlined in the project-specific UFP-QAPP. A "Level IV" validation was performed and the information reviewed in the data packages included sample results; field and laboratory quality control results; calibrations; case narratives; raw data; cooler receipt forms; and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the UFP-QAPP were met.

The precision criterion for the relative percent difference (RPD) of the field duplicate samples is RPD $\leq$ 40 for water, as per the project-specific UFP-QAPP.

VOLATILE ORGANIC COMPOUNDS

General

The VOC portion of SDG R1306058 consisted of twenty-one water samples, including one equipment blank and one trip blank. The samples were collected on August 20, 2013 and were analyzed for the full list of VOCs as specified in the project-specific UFP-QAPP.

The VOCs analyses were performed according to USEPA SW846 Method 8260C. All samples in this SDG were analyzed following the procedures outlined in the project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method.

The samples for VOCs were analyzed in four batches (#355426, #355636, #355902 and #355905) under a single ICAL. All analyses were performed undiluted, except for the following:

Sample ID	Dilution
FTMM-53-GW-699RW05	5x

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, the MS/MSD samples, and the surrogate spikes.

Four LCSs were analyzed for VOCs, one for each batch. All LCS recoveries were within acceptance criteria, except as follows:

LCS ID	Analyte	%R	Criteria
RQ1310299-04 (8/30/13)	Chloromethane	135	40-125%

No corrective action was necessary since chloromethane recovered high and chloromethane was non-detect in the only two associated samples, FTMM-53-GW-699RW11 and FTMM-53-GW-699MW12.

The MS/MSD recoveries were within acceptance criteria, except for the following:

FTMM-53-GW-699MW15

Analyte	MS %R	MSD %R	Criteria
2,2-Dichloropropane	48	48	70-135

The non-compliant analyte was flagged "UJ" as estimated in the parent sample due to the possible low bias demonstrated by the MS/MSD pair.

All surrogate spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the RPD obtained from the MS/MSD concentrations. Precision was further evaluated by comparing the field duplicate analyte results.

All MS/MSD RPDs were within acceptance criteria.

All target VOCs were non-detect above the Limit of Quantitation (LOQ) in both the parent and field duplicate samples.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating holding times; and
- Examining the laboratory blank for cross contamination of samples during sample analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the QAPP. All samples were prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All SSV criteria were met.
- All instrument performance check criteria were met.
- All CCV criteria were met, with the following exceptions:

Inst / CCV Date	Analyte	%R	Criteria
R-MS-08 / August 27, 2013 (1^{st} run)	2-Butanone (MEK) Acetone Bromomethane	78.6 70.6 77.3	80-120%
R-MS-08 / August 27, 2013 (2^{nd} run)	2-Butanone (MEK) Acetone Bromoform	76.9 68.8 79.8	80-120%
R-MS-08 / August 28, 2013	2-Butanone (MEK) Acetone Chloromethane	78.9 65.8 76.4	80-120%

The CCV indicated a low bias for all non-compliant analytes. No action was taken for the slightly low Bromoform recovery in the associated samples. All other non-compliant analytes were "J/UJ" flagged as estimated in the associated samples, as indicated in the flagging table at the end of this report.

- All internal standard (IS) criteria were met.

- All manual integrations performed by the laboratory were reviewed and verified.
- The MDLs were compliant with the requirements of the DOD QSM Version 4.2.

Four method blanks, one trip blank and one equipment blank were analyzed for VOCs. All method blanks were less than one-half the LOQs, as required by the project-specific UFP-QAPP, so no corrective action was required. The trip blank was non-detect for all target VOCs.

The equipment blank was non-detect for all analytes, except for the following:

Blank ID	Analyte	Conc. (µg/L)	LOQ (µg/L)
FTMM-EB082013	Acetone	2.3	5.0
	Naphthalene	0.86	5.0

All sample results for acetone and naphthalene with concentrations within ten times the amount detected in the equipment blank were "B" flagged by the Parsons data validator. Refer to the flagging table at the end of this report for details.

The source blank (FTMM-PDB SOURCE from SDG R1305972) was non-detect for all target analytes, except for the following:

Blank ID	Analyte	Conc. (µg/L)	LOQ (µg/L)
FTMM-EB082013	Acetone	2.2	5.0
	Naphthalene	0.32	5.0

Since the equipment blank had the same two analytes detected and at slightly higher concentrations than those detected in the source blank sample, flagging of associated sample results for acetone and naphthalene were performed based on the equipment blank as a conservative measure.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All VOC results for the samples in this SDG were considered usable. The completeness for the VOC portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

SEMIVOLATILE ORGANIC COMPOUNDS

General

The SVOC portion of SDG R1306152 consisted of this SDG consisted of thirteen (13) water samples, including one equipment blank sample. The samples were collected on August 22, 2013 and were analyzed for the full list of semivolatiles as listed in the project-specific UFP-QAPP.

The SVOC analyses were performed according to USEPA SW846 Method 8270D. The samples were prepared and analyzed following the procedures outlined in the UFP-

QAPP. The samples were prepared and analyzed within the holding time required by the method.

The samples for SVOCs were extracted in a single batch (#190567) and were analyzed in a single batch (#356585) under one ICAL. All analyses were performed undiluted.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, LCSD, the MS/MSD samples, and the surrogate spikes. Sample FTMM-66-GW-886RW03 was designated for MS/MSD analysis on the COC.

The LCS and LCSD were analyzed for SVOCs and all spike recoveries were within acceptance criteria, except as follows:

LCS ID	Analyte	LCS %R	LCSD %R	Criteria
RQ1310331 (8/30/13)	Benzidine	0	123	10-130%

Benzidine was non-detect in all associated samples; therefore flagged "UJ" due to the non-recovery in the LCS. Refer to the flagging table at the end of this report for details.

All surrogate spike recoveries were within acceptance criteria.

All MS/MSD recoveries were within acceptance criteria, except for the following:

FTMM-66-GW-886RW03

Analyte	MS %R	MSD %R	Criteria
Benzidine	0	0	10-130%

The parent sample result for Benzidine was previously flagged "UJ" due to the non-recovery in the LCS. Therefore, no additional corrective action was necessary.

Precision

Precision was evaluated using the RPD obtained from the MS/MSD concentrations. Precision was further evaluated by comparing the field duplicate analyte values.

All MS/MSD RPDs were within acceptance criteria, except for the following:

FTMM-66-GW-886RW03

Analyte	RPD	Criteria
Benzidine	NC	RPD $\leq$ 30

NC = Not Calculated

RPD calculations for benzidine were not possible since neither the MS nor MSD recovered. Benzidine was previously flagged due to this non-recovery in the LCS; therefore no additional corrective action was necessary.

All target SVOCs were non-detect in sample FTMM-66-GW-886RW05 and the associated field duplicate sample FTMM-66-GW-886RW105.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

All samples were analyzed following the COC and the analytical procedures described in the QAPP. All samples were prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All SSV criteria were met.
- All instrument performance check criteria were met.
- All CCV criteria were met.
- All internal standard criteria were met.
- All manual integrations performed by the laboratory were reviewed and verified.
- The MDLs were compliant with the requirements of the DOD QSM Version 4.2.

One method blank and one equipment blank were analyzed for SVOCs. The method blank was non-detect for all target SVOCs.

The equipment blank was non-detect for all analytes, except for the following:

Blank ID	Analyte	Conc. (µg/L)	LOQ (µg/L)
FTMM-EB082213	Bis(2-ethyl)Phthalate	0.83	9.4
	Naphthalene	1.4	9.4

Neither Bis(2-ethyl)Phthalate nor Naphthalene were detected in any of the associated samples, therefore no corrective action was required.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All SVOC results for the sample in this SDG were considered usable. Thus, the completeness for the SVOC portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

ORGANOCHLORINE PESTICIDES

General

The pesticides portion of SDG R1306058 consisted of this SDG consisted of two (2) water samples, including an equipment blank. The samples were collected on August 20, 2013 and were analyzed for the full list of pesticides as specified in the UFP-QAPP.

The pesticide analyses were performed according to the United States Environmental Protection Agency (USEPA) SW846 Method 8081B. All samples in this SDG were analyzed following the procedures outlined in the project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method.

The samples for pesticide analysis were extracted in a single batch (#355782). The samples were analyzed under a single initial calibration (ICAL). All analyses were performed undiluted.

It should be noted that Toxaphene was not included in the extracted LCS QC sample. Toxaphene is included in the ICAL and CCVs for pattern recognition. Had Toxaphene been detected in any of the field samples, the sample and QC, including toxaphene, would have been re-analyzed. Toxaphene is a multi-peak responding compound and cannot be included in the LCS spike mix without interfering with the other compounds. Spiking Toxaphene in LCS (or MS/MSDs) is not a requirement of SW846. When surrogates and other target compounds have acceptable %Rs in the LCS and when the samples are ND for Toxaphene, is it reasonable to accept all pesticide data, including Toxaphene.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the LCS, laboratory control spike duplicate (LCSD) and the surrogate spikes. There were no samples designated for MS/MSD analysis on the COC.

It should be noted that the pesticide surrogate limits reported by ALS differ from the limits provided in the UFP-QAPP. According to USEPA's Region 2 Quality Assurance for Pesticide Data Validation (SOP No. HW-36 Revision 4), if both surrogate recoveries are greater than or equal to 30%, and less than or equal to 150%, qualification of the data is not necessary. If any surrogate recovery is greater than or equal to 10%, and less than 30%, qualify detected target compounds as biased low (J) and qualify non-detected target compounds as approximated (UJ). For any surrogate recovery less than 10%, the reviewer should examine the sample chromatogram to assess the qualitative validity of the analysis. If sample dilution is not a factor, qualify detected target compounds as biased low (J) and qualify non-detected target compounds as unusable (R).

All LCSs and surrogate spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD concentrations.

All LCS/LCSD RPDs were within acceptance criteria.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating holding times; and
- Examining the laboratory blanks for cross contamination of samples during sample analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the Work Plan. All samples were prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All secondary source verification (SSV) criteria were met.
- All continuing calibration verification (CCV) criteria were met.
- All breakdown criteria were met.
- The MDLs met the requirements listed in the DoD QSM version 4.2.

There was one method blank and one equipment blank associated with the pesticides analyses in this SDG. Both blanks were non-detect for all target pesticides.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All pesticide results for the samples in this SDG were considered usable. The completeness for the pesticide portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

METALS

General

The metals portion of SDG R1306058 consisted of sixteen (16) water samples, including an equipment blank. The samples were collected on August 20, 2013. Nine of the samples were analyzed for lead only, and the rest were analyzed for the full list of metals as specified in the project-specific UFP-QAPP.

The metals analyses were performed using USEPA SW846 Method 6010C. All samples in this SDG were analyzed following the procedures outlined in the project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method.

The samples for metals analyses were digested in a single batch (#190559). The samples were analyzed in two batches under two different ICALs. All samples were performed undiluted.

It should be noted that 4 metals were reported at different LOQs than as stated in the UFP-QAPP. The LOQs for aluminum, arsenic, selenium and zinc were raised due to calibration changes. Some LODs and MDLs also differ from the UFP-QAPP, although this is acceptable since these limits are routinely updated, and generally done so annually. Below is a summary of the LOQ changes:

Metal	UFP-QAPP LOQ (µg/L)	Revised LOQ (µg/L)
Aluminum	20	100
Arsenic	5.0	10
Selenium	5.0	10
Zinc	5.0	20

For each metal, the revised LOQ remains lower than the NJ Groundwater Quality Limits (Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels), with the exception of arsenic, which is 3 µg/L. Note the original UFP-QAPP limit provided for arsenic was also above the NJ Groundwater Quality Limit.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS. There were no samples designated for MS/MSD analysis on the COC.

The LCS was prepared and analyzed for metals and was within acceptance criteria.

Precision

Precision is normally evaluated using the RPD obtained from the LCS/LCSD concentrations, the MS/MSD concentrations and/or the field duplicate sample results. In the absence of these specific QC samples, precision could not be evaluated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating preservation and holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the QAPP. The samples were prepared and analyzed within the holding times required by the method.

- All instrument calibration criteria were met.
- All second source criteria were met. The ICV samples were prepared using a secondary source.
- All continuing calibration verification (CCV) criteria were met.
- All interference check (ICSA/ICSAB) criteria were met.
- The MDLs met the requirements listed in the DoD QSM version 4.2.
- The dilution test (DT) was performed on sample FTMM-12-GW-M12MW26. This sample only required lead to be reported, therefore only lead was evaluated in the DT. The DT was not applicable for lead since the concentration of lead in the parent sample was not greater than 50 times the method detection limit (MDL).
- The post digestion spike (PDS) was performed on the same sample as the DT. The PDS was applicable for lead and met criteria as follows:

Metal	%R	Criteria
Lead	104	75 – 125%

It should be noted that ALS performs DTs and PDS spikes per batch, on samples that QC has been requested, and only reports them when metals are requested on that specific sample. For a batch of samples that includes a mixture of TAL metals and Pb only, if the requested QC was on a Pb only sample, as in this case, the DT/PDS was performed on this sample and Pb was the only metal reported.

There was one method blank, one equipment blank and several calibration blanks associated with the metals analyses in this SDG. All blanks were compliant, except as follows:

The method blank was less than one-half the LOQs, as required by the project-specific UFP-QAPP, with the following exceptions:

Blank ID	Analyte	Conc. (µg/L)	LOQ (µg/L)
Method Blank (9/3/13 16:15)	Antimony	9.5	10
	Zinc	17.3	20

All sample results for zinc, a common lab contaminant, with concentrations within ten times the amount detected in the equipment blank were “B” flagged by the Parsons data validator. All sample results for antimony with concentrations within five times the amount detected in the equipment blank were “B” flagged by the Parsons data validator. Refer to the flagging table at the end of this report for details.

The equipment blank was non-detect for all analytes, except for the following:

Blank ID	Analyte	Conc. (µg/L)	LOQ (µg/L)
FTMM-EB082013	Silver	0.614	10
	Beryllium	0.250	5.0
	Magnesium	5.1	500
	Sodium	127	500
	Antimony	3.7	10
	Zinc	6.5	20

All sample results for the metals listed above with concentrations within ten times the amount detected in the equipment blank were "B" flagged by the Parsons data validator. Refer to the flagging table at the end of this report for details.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All metals results for the samples in this SDG were considered usable. Therefore, the completeness for the metals portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

MERCURY

General

The mercury portion of SDG R1306058 consisted of seven (7) water samples, including one equipment blank. The samples were collected on August 20, 2013. The samples were analyzed for mercury as specified in the project-specific UFP-QAPP.

The mercury analyses were performed using USEPA SW846 Method 7470A. All samples in this SDG were analyzed following the procedures outlined in the project-specific QAPP. All samples were prepared and analyzed within the holding time required by the method.

The samples for mercury were digested in a single batch (#190696). The samples were analyzed in a single batch under one ICAL. All analyses were performed undiluted.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS.

The LCS was prepared and analyzed for mercury and was within acceptance criteria.

Precision

Precision is normally evaluated using the RPD obtained from the LCS/LCSD concentrations, the MS/MSD concentrations and/or the field duplicate sample results. In the absence of these specific QC samples, precision could not be evaluated.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating preservation and holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the QAPP. The samples were prepared and analyzed within the holding times required by the method.

- All instrument calibration criteria were met.
- All second source criteria were met. The ICV samples were prepared using a secondary source.
- All CCV criteria were met.
- The MDLs met the requirements listed in the DoD QSM version 4.2.
- A dilution test was not required for mercury because all sample results for mercury were non-detect.

There was a method blank, an equipment blank and several calibration blanks associated with the metals analyses in this SDG. Mercury was non-detect in the method blanks, the equipment blank and all calibration blanks.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All mercury results for the samples in this SDG were considered usable. Therefore, the completeness for the mercury portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data.

The validated data indicated that the laboratory correctly performed the analyses. Based on the data quality assessment, none of the data were qualified as rejected.

All data in this SDG are considered usable for the purposes of this project. All sample LODs and LOQs met the requirements listed in the project QAPP. All Method Quality Objectives have been met.

DATA VALIDATION QUALIFIERS APPLIED

Lab ID	Field ID	EB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags
R1306058-001	FTMM-53-GW-699MW15			2,2-D	2-But (MEK), Ace, bromomethane	
R1306058-002	FTMM-53-GW-699MW08	Nap			2-But (MEK), Ace, bromomethane	
R1306058-003	FTMM-53-GW-699MW108	Nap			2-But (MEK), Ace, bromomethane	
R1306058-004	FTMM-4-GW-M4MW08	Ag, Sb	Sb		2-But (MEK), Ace, bromoform	
R1306058-005	FTMM-8-GW-M8MW16				2-But (MEK), Ace, bromoform	
R1306058-009	FTMM-54-GW-296MW04				2-But (MEK), Ace, bromoform	
R1306058-010	FTMM-53-GW-699MW16				2-But (MEK), Ace, bromoform	
R1306058-011	FTMM-53-GW-699MW09				2-But (MEK), Ace, bromoform	
R1306058-012	FTMM-53-GW-699MW06	Nap, Toluene			2-But (MEK), Ace, bromoform	
R1306058-013	FTMM-4-GW-M4MW10	Nap, Ag, Zn	Zn		2-But (MEK), Ace, bromoform	
R1306058-014	FTMM-4-GW-M4MW06	Ag, Be, Sb, Zn	Sb, Zn		2-But (MEK), Ace, bromoform	
R1306058-015	FTMM-4-GW-M4MW07	Ag, Sb, Zn	Sb, Zn		2-But (MEK), Ace, bromoform	
R1306058-016	FTMM-4-GW-M4MW05	Ag, Be, Zn	Zn		2-But (MEK), Ace, bromoform	
R1306058-017	FTMM-4-GW-M4MW09	Ag, Sb	Sb		2-But (MEK), Ace, bromoform	
R1306058-021	FTMM-53-GW-699RW05				2-But (MEK), Ace, chloromethane	
R1306058-022	FTMM-53-GW-699RW03	Toluene			2-But (MEK), Ace, chloromethane	
R1306058-023	FTMM-53-GW-699RW11	Nap, Toluene				
R1306058-024	FTMM-53-GW-699MW12	Nap				
R1306058-025	FTMM-53-GW-699MW05	Nap			2-But (MEK), Ace, chloromethane	
R1306152-002	FTM M-66-GW-886RW03			Benzidine		Benzidine
R1306152-004	FTMM-66-GW-886RW05					Benzidine
R1306152-005	FTMM-66-GW-886RW105					Benzidine
R1306152-008	FTMM-66-GW-886MW05					Benzidine
R1306152-010	FTMM-66-GW-886RW04					Benzidine
R1306152-011	FTMM-66-GW-886RW06					Benzidine
R1306152-012	FTMM-66-GW-886RW02					Benzidine
R1306152-013	FTMM-66-GW-886MW03					Benzidine
R1306152-014	FTMM-66-GW-866MW04					Benzidine
R1306152-016	FTMM-66-GW-886RW07					Benzidine
R1306152-017	FTMM-66-GW-886MW02					Benzidine
R1306152-022	FTMM-66-GW-866RW08					Benzidine

2-But (MEK) = 2-Butanone (MEK); Ace = Acetone; Nap = Naphthalene

DATA VERIFICATION SUMMARY REPORT

for samples collected from

FORT MONMOUTH

OCEANPORT, NEW JERSEY

Data Verification by: Sandra de las Fuentes

Date: October 17, 2013

Parsons - Austin

INTRODUCTION

The following data verification summary report covers water samples and the associated field quality control (QC) samples collected from Fort Monmouth in Oceanport, New Jersey over a two week period from August 15 through August 30, 2013. Samples were logged in under the following Sample Delivery Groups (SDGs):

R1305972, R1306020, R1306029, R1306112, R1306152*, R1306198, R1306281, R1306302, R1306348 and R1306380

This verification report covers all of the analyses in the SDGs listed above. A separate validation report was completed for all analyses in R1306058, plus only the SVOC analyses in R1306152*.

The samples in these SDGs were analyzed for volatile organic compounds (VOCs) plus tentatively identified compounds (TICs), semivolatile organic compounds (SVOCs) plus TICs, organochlorine pesticides and metals. The table below lists all QC samples, including parent and field duplicate (FD) pairs, matrix spike/matrix spike duplicate (MS/MSD) pairs, equipment blanks, trip blanks and the source blank.

All samples were collected by Parsons and shipped to ALS Environmental in Rochester, New York. All coolers were received by the laboratory at temperatures within the 2-6°C range recommended by the project-specific UFP-QAPP, with several exceptions. The cooler temperatures of the exceptions were recorded by ALS between 6.3°C and 10°C. During login of the coolers, ALS noted ice was present in the coolers, which indicates the cooling process was ongoing; therefore sample preservation was not compromised. Two coolers were received by ALS three days late and arrived at temperatures of 10.4°C and 15.4°C, due to a FedEx delivery error. ALS noted there was no ice present; therefore, all results for samples contained in these two coolers were flagged as estimated.

All samples were prepared and analyzed following the procedures outlined in the Department of Defense (DoD) Quality Systems Manual (QSM) version 4.2, and the procedures outlined in the Standard Subcontract and the project-specific Uniform Federal Policy for Quality Assurance Project Plan (UFP-QAPP).

QC IDENTIFICATION TABLE:

Lab ID	Field ID	QC Samples
R1305972-004	FTMM-EB081513	Equipment Blank
R1305972-005	FTMM-TB-081513	Trip Blank
R1305972-006	FTMM-PDB SOURCE	Source Blank
R1306020-008	FTMM-TB081613	Trip Blank
R1306020-009	FTMM-EB081613	Equipment Blank
R1306020-011	FTMM-8-GW-M8MW17	MS/MSD
R1306020-015	FTMM-55-GW-290MW01	
R1306020-018	FTMM-8-GW-M8MW14	
R1306020-019	FTMM-8-GW-M8MW114	FD of FTMM-8-GW-M8MW14
R1306020-021	FTMM-55-GW-290MW101	FD of FTMM-55-GW-290MW01
R1306029-001	FTMM-EB081913	Equipment Blank
R1306029-002	FTMM-TB081913	Trip Blank
R1306029-005	FTMM-54-GW-296MW03	MS/MSD
R1306029-006	FTMM-54-GW-296MW06	
R1306029-007	FTMM-54-GW-296MW106	FD of FTMM-54-GW-296MW06
R1306112-002	FTMM-25-GW-CW3AMW04	MS/MSD
R1306112-006	FTMM-25-GW-CW3AMW104	FD of FTMM-25-GW-CW3AMW04
R1306112-021	FTMM-TB082113	Trip Blank
R1306112-022	FTMM-EB082113	Equipment Blank
R1306152-002	FTM M-66-GW-886RW03	MS/MSD
R1306152-004	FTMM-66-GW-886RW05	
R1306152-005	FTMM-66-GW-886RW105	FD of FTMM-66-GW-886RW05
R1306152-019	FTMM-EB082213	Equipment Blank
R1306152-020	FTMM-TB082213	Trip Blank
R1306198-001	FTMM-3-GW-M3MW06	MS/MSD
R1306198-004	FTMM-3-GW-M3MW07A	
R1306198-005	FTMM-3-GW-M3MW17A	FD of FTMM-3-GW-M3MW07A
R1306198-021	FTMM-EB082313	Equipment Blank
R1306198-022	FTMM-TB082313	Trip Blank
R1306281-001	FTMM-14-GW-M14MW124-10.74	FD of FTMM-14-GW-M14MW24-10.74
R1306281-006	FTMM-5-GW-M5MW23-17.02	MS/MSD
R1306281-019	FTMM-14-GW-M14MW24-10.74	
R1306281-036	FTMM-TB082713	Trip Blank
R1306281-039	FTMM-EB082713	Equipment Blank
R1306302-002	FTMM-22-GWCW1MW34-17.17	MS/MSD
R1306302-003	FTMM-22-GW-CW1MW36-11.86	
R1306302-004	FTMM-22-GW-CW1MW136-11	FD of FTMM-22-GW-CW1MW36-11.86
R1306302-024	FTMM-22-GW-CW1MW27-12.63	

Lab ID	Field ID	QC Samples
R1306302-025	FTMM-22-GW-CW1MW127-12	FD of FTMM-22-GW-CW1MW27-12.63
R1306302-029	FTMM-22-GW-CW1MW38-50.18	MS/MSD
R1306302-036	FTMM-TB082813	Trip Blank
R1306302-037	FTMM-EB082813B	Equipment Blank
R1306302-038	FTMM-EB082813A	Equipment Blank
R1306348-003	FTMM-58-GW-2567MW03-5.11	MS/MSD
R1306348-006	FTMM-58-GW-2567MW05-9.65	
R1306348-009	FTMM-58-GW-2567MW105-9	FD of FTMM-58-GW-2567MW05-9.65
R1306348-017	FTMM-59-GW-1122MW105-12	FD of FTMM-59-GW-1122MW05-12.5
R1306348-018	FTMM-59-GW-1122MW05-12.5	
R1306348-019	FTMM-59-GW-1122MW06-10.67	MS/MSD
R1306348-026	FTMM-EB-082913A	Equipment Blank
R1306348-027	FTMM-EB082913B	Equipment Blank
R1306348-028	FTMM-TB082913	Trip Blank
R1306380-006	FTMM-EB083013	Equipment Blank
R1306380-007	FTMM-TB083013	Trip Blank

EXTRACTION AND ANALYTICAL METHODS:

PARAMETER	MATRIX	EXTRACTION METHOD	ANALYTICAL METHOD	UNITS	DRY WT. VS. WET WT
VOCs	W	5035	8260C	µg/L	NA
Metals	W	3010A	6010C	µg/L	NA
Mercury	W	7470A	7470A	µg/L	NA
SVOCs	W	3510C	8270D	µg/L	NA
Pesticides	W	3510C	8081B	µg/L	NA

W = WATER

EVALUATION CRITERIA

The data submitted by the laboratory has been verified following the guidelines outlined in the project-specific UFP-QAPP. A verification was performed and the information reviewed in the data packages included sample results; field and laboratory quality control results; case narratives; cooler receipt forms; and chain-of-custody (COC) forms. The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the UFP-QAPP were met.

This verification report discusses only the non-compliant QC issues that required qualifying the data. All other QC not detailed in this report was either compliant or did not require flagging (i.e. high biased QC associated with non-detected results).

The precision criterion for the relative percent difference (RPD) of the field duplicate samples is RPD $\leq$ 40 for water, as per the project-specific UFP-QAPP.

VOLATILE ORGANIC COMPOUNDS

General

The VOCs analyses were performed according to USEPA SW846 Method 8260C. All samples in this SDG were analyzed following the procedures outlined in the project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS/LCSD, the MS/MSD samples, and the surrogate spikes.

All LCS recoveries were within acceptance criteria, except as follows:

LCS ID	SDG	Analyte	%R	Criteria
RQ1310070-02 (8/23/13)	R1305972	2,2-Dichloropropane	64	70-135%
RQ1310515-02 (8/28/13)	R1306112	2,2-Dichloropropane	61	70-135%
RQ1310516-02 (8/29/13)	R1306152	2,2-Dichloropropane	58	70-135%
RQ1310947-07 (9/5/13)	R1306302	2,2-Dichloropropane	56	70-135%
RQ1310789-04 (9/10/13)	R1306348	2,2-Dichloropropane	63	70-135%

All associated samples were flagged "J" as estimated due to the low recoveries for the LCSs, see flagging table for details. All other non-compliant LCSs (not listed above) did not require flagging since they were only slightly (five percent or less) outside of the acceptance criteria.

The MS/MSD recoveries were within acceptance criteria, except for the following:

Parent Sample	SDG	Analyte	MS %R	MSD %R	Criteria
FTMM-8-GW-M8MW20	R1305972	2,2-Dichloropropane	41	44	70-135%
FTMM-8-GW-M8MW17	R1306020	2,2-Dichloropropane	61	61	70-135%
FTMM-54-GW-296MW03	R1306029	2,2-Dichloropropane	47	46	70-135%
FTMM-66-GW-886RW03	R1306152	2,2-Dichloropropane	50	48	70-135%
FTMM-3-GW-M3MW06	R1306198	2,2-Dichloropropane	55	55	70-135%
FTMM-5-GW-M5MW23-17.02	R1306281	2,2-Dichloropropane	46	46	70-135%
FTMM68-GW-565MW01-11.99	R1306348	2,2-Dichloropropane	(70)	63	70-135%

( ) = indicates criteria met

The non-compliant analyte was flagged "UJ" as estimated in the parent sample due to the possible low bias demonstrated by the MS/MSD pair.

All surrogate spike recoveries were within acceptance criteria for VOCs.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD and MS/MSD concentrations. Precision was further evaluated by comparing the field duplicate analyte results.

All LCS/LCSD RPDs were within acceptance criteria.

All MS/MSD RPDs were within acceptance criteria.

All target VOCs were non-detect above the Limit of Quantitation (LOQ) in both the parent and field duplicate samples in all pairs, except as follows:

Parent	SDG	Analyte	Parent (mg/kg)	FD (mg/kg)	RPD	Criteria
FTMM-54-GW-296MW06	R1306029	Benzene	11	12	8.7	RPD ≤ 40

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating holding times; and
- Examining the laboratory blank for cross contamination of samples during sample analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the QAPP. All samples were prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All SSV criteria were met.
- All instrument performance check criteria were met.
- All CCV criteria were met, with the following exceptions:

Inst #, CCV Date	SDG	Analyte	%R	Criteria
MS#10, 8/23/13	R1305972	2,2-Dichloropropane	65.7	80-120%
MS#8, 8/24/13 (1st run)	R1306020	2,2-Dichloropropane	74.5	
MS#8, 8/24/13 (1st run)	R1306020	2-Butanone (MEK)	76.8	
MS#8, 8/24/13 (1st run)	R1306020	Acetone	70.7	
MS#8, 8/24/13 (2nd run)	R1306020	2-Butanone (MEK)	75.7	

Inst #, CCV Date	SDG	Analyte	%R	Criteria
MS#8, 8/24/13 (2nd run)	R1306020	Acetone	60.1	
MS#8, 8/24/13 (2nd run)	R1306020	Bromomethane	67.6	
MW#10, 8/26/13	R1306029	2,2-Dichloropropane	76.3	
MW#10, 8/27/13	R1306112	2,2-Dichloropropane	76.0	
MW#10, 8/29/13	R1306152	2,2-Dichloropropane	75.6	
MW#10, 8/30/13	R1306281	2,2-Dichloropropane	76.8	
MW#10, 8/30/13	R1306281	Bromomethane	72.0	
MW#10, 9/3/13	R1306281	2,2-Dichloropropane	77.1	
MW#10, 9/3/13	R1306281	Bromoform	77.6	
MW#10, 9/4/13	R1306281	Bromomethane	61.0	
MW#10, 9/4/13	R1306302	Bromomethane	61.0	
MW#10, 9/5/13	R1306302	1,1,2,2-Tetrachloroethane	72.8	
MW#10, 9/5/13	R1306302	2,2-Dichloropropane	68.6	
MW#10, 9/5/13	R1306302	Bromomethane	58.9	
MW#10, 9/5/13	R1306302	Bromomethane	77.6	
MW#10, 9/6/13	R1306302	Acetone	77.6	
MW#10, 9/6/13	R1306302	Bromomethane	77.8	
MW#8, 9/9/13	R1306348	Bromomethane	75.8	
MW#8, 9/10/13	R1306348	Bromomethane	64.9	
MW#8, 9/11/13	R1306348	Dichlorodifluoromethane	75.4	
MW#10, 9/6/13	R1306380	Acetone	77.6	
MW#10, 9/6/13	R1306380	Bromoform	77.8	
MW#10, 9/9/13	R1306380	1,1,2,2-Tetrachloroethane	76.3	
MW#10, 9/9/13	R1306380	Bromomethane	74.0	

Only CCVs with a low biased recovery were listed above since high biased CCV recoveries with associated non-detect results are not qualified. All other non-compliant analytes were "J/UJ" flagged as estimated in the associated samples, as indicated in the flagging table at the end of this report.

- All internal standard (IS) criteria were met.
- All manual integrations performed by the laboratory were reviewed and verified.
- The MDLs were compliant with the requirements of the DOD QSM Version 4.2.

There were method blanks, trip blanks and equipment blanks analyzed for VOCs. All method blanks were less than one-half the LOQs, as required by the project-specific UFP-QAPP, so no corrective action was required. The trip blanks were non-detect for all target VOCs.

Most of the equipment blanks contained acetone, Nap and/or toluene. Since the source blank (see below) also contained similar detects (see below), a comparison was made within each SDG to evaluate whether the EB or source blank contained higher detects. As a conservative measure, "B" flagging of the associated samples was based on the highest contamination reported per analyte. Refer to the table at the end of this report for details.

The source blank (FTMM-PDB SOURCE from SDG R1305972) was non-detect for all target analytes, except for the following:

Blank ID	Analyte	Conc. (µg/L)	LOQ (µg/L)
FTMM-EB082013	Acetone	2.2	5.0
	Naphthalene	0.32	5.0

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All VOC results for the samples in this SDG were considered usable. The completeness for the VOC portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

SEMIVOLATILE ORGANIC COMPOUNDS

General

The SVOC analyses were performed according to USEPA SW846 Method 8270D. The samples were prepared and analyzed following the procedures outlined in the UFP-QAPP. The samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS/LCSD, the MS/MSD samples, and the surrogate spikes.

The LCS and LCSD were analyzed for SVOCs and all spike recoveries were within acceptance criteria, except as follows:

LCS ID	SDG	Analyte	LCS %R	LCSD %R	Criteria
RQ1310331 (8/30/13)	R1306198	Benzidine	0	123	10-130%

All results in SDG R1306198 were flagged as estimated due to the high temperatures

resulting from the late cooler arrival. Benzidine was non-detect in all associated samples; therefore flagged "UJ" due to the non-recovery in the LCS. Refer to the flagging table at the end of this report for details.

All MS/MSD recoveries were within acceptance criteria, except as detailed in the validation report for R1306152.

All surrogate spike recoveries were within acceptance criteria.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD and MS/MSD concentrations. Precision was further evaluated by comparing the field duplicate analyte values.

All LCS/LCSD RPDs were within acceptance criteria

All MS/MSD RPDs were within acceptance criteria, except as detailed in the validation report for R1306152.

All target SVOCs were non-detect above the Limit of Quantitation (LOQ) in both the parent and field duplicate samples in all pairs.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

All samples were analyzed following the COC and the analytical procedures described in the QAPP. All samples were prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All SSV criteria were met.
- All instrument performance check criteria were met.
- All CCV criteria were met.
- All internal standard criteria were met.
- All manual integrations performed by the laboratory were reviewed and verified.
- The MDLs were compliant with the requirements of the DOD QSM Version 4.2.

There were method blanks and equipment blanks analyzed for SVOCs. The method blanks were non-detect for all target SVOCs.

The equipment blanks were non-detect for all analytes, except as detailed in the validation report for R1306152.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All SVOC results for the sample in this SDG were considered usable. Thus, the completeness for the SVOC portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

ORGANOCHLORINE PESTICIDES

General

The pesticide analyses were performed according to the United States Environmental Protection Agency (USEPA) SW846 Method 8081B. All samples in this SDG were analyzed following the procedures outlined in the project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method.

It should be noted that Toxaphene was not included in the extracted LCS QC sample. Toxaphene is included in the ICAL and CCVs for pattern recognition. Had Toxaphene been detected in any of the field samples, the sample and QC, including toxaphene, would have been re-analyzed. Toxaphene is a multi-peak responding compound and cannot be included in the LCS spike mix without interfering with the other compounds. Spiking Toxaphene in LCS (or MS/MSDs) is not a requirement of SW846. When surrogates and other target compounds have acceptable %Rs in the LCS and when the samples are ND for Toxaphene, is it reasonable to accept all pesticide data, including Toxaphene.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the LCS/ LCSD, MS/MSD and the surrogate spikes.

It should be noted that the pesticide surrogate limits reported by ALS differ from the limits provided in the UFP-QAPP. According to USEPA's Region 2 Quality Assurance for Pesticide Data Validation (SOP No. HW-36 Revision 4), if both surrogate recoveries are greater than or equal to 30%, and less than or equal to 150%, qualification of the data is not necessary. If any surrogate recovery is greater than or equal to 10%, and less than 30%, qualify detected target compounds as biased low (J) and qualify non-detected target compounds as approximated (UJ). For any surrogate recovery less than 10%, the reviewer should examine the sample chromatogram to assess the qualitative validity of

the analysis. If sample dilution is not a factor, qualify detected target compounds as biased low (J) and qualify non-detected target compounds as unusable (R).

All LCS and LCSD spike recoveries were within acceptance criteria, except as follows:

LCS ID	SDG	Analyte	LCS %R	LCSD %R	Criteria
RQ1309910	R1306020 & R1306029	Endosulfan I Endrin Ketone	113 (117)	122 128	50-110% 75-125%
RQ1310127	R1306152 & R1306112	Endrin Aldehyde	52	27	55-135

( ) = indicates criteria met

For both Endosulfane I and Endrin Ketone, the recoveries in the LCS and or LCSD recovered high and there were no detects in the associated samples, therefore no corrective action was required. All samples associated with the non-compliant Endrin Aldehyde recoveries in R1306152 and R1306112 were considered estimated and flagged "UJ".

All MS and MSD recoveries were within acceptance criteria.

All surrogate recoveries were within acceptance criteria as noted above, except as follows:

Sample ID	SDG	Surrogate	%R	Criteria
FTMM-2-GW-M2MW04	R1306152	Decachlorobiphenyl	28	See above

Since the surrogate recovery was below criteria, all non-detect pesticide analytes were "UJ" flagged as estimated.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD and the MS/MSD concentrations. Precision was further evaluated by comparing the field duplicate analyte values.

All LCS/LCSD RPDs were within acceptance criteria, except in SDG R1305972 the LCS/LCSD RPD was 45%, with criteria of 30%. No action was taken since the recoveries were within acceptance criteria for both the LCS and the LCSD. For SDG R1306152, the LCS/LCSD RPD for Endirn Aldehyde was 65%, which failed the 30% criteria. No action was required since the associated samples were previously flagged "UJ" due to the non-compliant LCS/LCSD recoveries.

All MS/MSD RPDs were within acceptance criteria.

All target pesticides were non-detect above the LOQ in both the parent and field duplicate samples in all pairs.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating holding times; and
- Examining the laboratory blanks for cross contamination of samples during sample analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the Work Plan. All samples were prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All secondary source verification (SSV) criteria were met.
- All continuing calibration verification (CCV) criteria were met.
- All breakdown criteria were met.
- The MDLs met the requirements listed in the DoD QSM version 4.2.

There were method blanks and equipment blanks analyzed for pesticides. All blanks were non-detect for all target pesticides.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All pesticide results for the samples in this SDG were considered usable. The completeness for the pesticide portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

METALS

General

The metals analyses were performed using USEPA SW846 Method 6010C. All samples in this SDG were analyzed following the procedures outlined in the project-specific UFP-QAPP. All samples were prepared and analyzed within the holding time required by the method.

It should be noted that 4 metals were reported at different LOQs than as stated in the UFP-QAPP. The LOQs for aluminum, arsenic, selenium and zinc were raised due to calibration changes. Some LODs and MDLs also differ from the UFP-QAPP, although this is acceptable since these limits are routinely updated, and generally done so annually. Below is a summary of the LOQ changes:

Metal	UFP-QAPP LOQ (µg/L)	Revised LOQ (µg/L)
Aluminum	20	100
Arsenic	5.0	10
Selenium	5.0	10
Zinc	5.0	20

For each metal, the revised LOQ remains lower than the NJ Groundwater Quality Limits (Specific Ground Water Quality Criteria - Class IIA and Practical Quantitation Levels), with the exception of arsenic, which is 3 µg/L. Note the original UFP-QAPP limit provided for arsenic was also above the NJ Groundwater Quality Limit.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS, LCSD, MS and MSD samples.

All LCS/LCSD recoveries were within acceptance criteria.

The MS/MSD recoveries were within acceptance criteria.

Precision

Precision was evaluated using the RPD obtained from the LCS/LCSD and MS/MSD concentrations. Precision was further evaluated by comparing the field duplicate analyte values.

All LCS/LCSD RPDs were within acceptance criteria.

All MS/MSD RPDs were within acceptance criteria.

All target metals above the LOQ in both the parent and field duplicate samples were evaluated. All RPDs met the criteria, as follows:

Parent	SDG	Analyte	Parent (µg/kg)	FD (µg/kg)	RPD	Criteria
FTMM-55-GW-290MW01	R1306020	Lead	5.3	6.2	16	RPD ≤ 40
FTMM-25-GW-CW3AMW04	R1306112	Barium	161	159	1.3	
		Calcium	51600	51100	1.0	
		Chromium	2.0	1.7	16	
		Iron	43700	43500	0.5	
		Potassium	7190	7250	0.8	
		Magnesium	8130	8120	0.1	
		Manganese	352	351	0.3	
		Sodium	99000	99600	0.6	
FTMM-3-GW-M3MW07A	R1306198	Barium	369	358	3.0	
		Calcium	247000	237000	1.4	
		Iron	58600	57300	2.2	
		Potassium	14800	14700	0.7	
		Magnesium	46000	45000	2.2	
		Manganese	1810	1770	2.2	

		Sodium	338000	331000	2.1	

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating preservation and holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the QAPP. The samples were prepared and analyzed within the holding times required by the method.

- All instrument calibration criteria were met.
- All second source criteria were met. The ICV samples were prepared using a secondary source.
- All continuing calibration verification (CCV) criteria were met.
- All interference check (ICSA/ICSAB) criteria were met.
- The MDLs met the requirements listed in the DoD QSM version 4.2.
- It should be noted that ALS performs DTs and PDS spikes per batch, on samples that QC has been requested, and only reports them when metals are requested on that specific sample. For a batch of samples that includes a mixture of TAL metals and Pb only, if the requested QC was on a Pb only sample, as in this case, the DT/PDS was performed on this sample and Pb was the only metal reported.
- All DT and PDS results provided by the lab for review were within criteria.

There is at least one method blank, one equipment blank and several calibration blanks associated with the metals analyses in each SDG.

All method blanks with results higher than ½ the LOQ were compared to metal results in the samples. If metal results, except zinc, in the samples were less than 5 times the MB detects they were flagged “B” for possible blank contamination. For zinc, a common lab contaminant, the samples with less than ten times the MB detects were flagged “B”.

The same guidelines are used for equipment blank contamination, except all detects, not just those above ½ the LOQ, were evaluated and compared to the metals concentrations in the samples. Refer to the flagging table at the end of this report for details.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All metals results for the samples in this SDG were considered usable. Therefore, the completeness for the metals portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

MERCURY

General

The mercury analyses were performed using USEPA SW846 Method 7470A. All samples in this SDG were analyzed following the procedures outlined in the project-specific QAPP. All samples were prepared and analyzed within the holding time required by the method.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS/LCSD and MS/MSD concentrations.

All LCS and LCSD for mercury were within acceptance criteria.

All MS/MSDs for mercury were within acceptance criteria.

Precision was evaluated using the RPD obtained from the LCS/LCSD and MS/MSD concentrations. Precision was further evaluated by comparing the field duplicate analyte values.

All LCS/LCSD RPDs were within acceptance criteria.

All MS/MSD RPDs were within acceptance criteria.

All target metals above the LOQ in both the parent and field duplicate samples were evaluated. All RPDs met criteria of $\leq$ 40%.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the Work Plan;
- Comparing actual analytical procedures to those described in the Work Plan;
- Evaluating preservation and holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The samples in this SDG were analyzed following the COC and the analytical procedures described in the QAPP. The samples were prepared and analyzed within the holding times required by the method.

- All instrument calibration criteria were met.

- All second source criteria were met. The ICV samples were prepared using a secondary source.
- All CCV criteria were met.
- The MDLs met the requirements listed in the DoD QSM version 4.2.
- A dilution test was not required for mercury in any of the SDGs because all QC samples selected on the COCs for mercury analyses were non-detect.

There is at least one method blank, one equipment blank and several calibration blanks associated with the mercury analyses in each SDG. Mercury was non-detect in the method blanks, the equipment blanks and all calibration blanks.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All mercury results for the samples in this SDG were considered usable. Therefore, the completeness for the mercury portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

COMPARABILITY

All data was generated using contract-specific standard methods and reported with known data quality, type of analysis, units, etc.

DATA USABILITY

The purpose of this data validation report is to ensure the integrity and reliability of analytical laboratory data. The data quality is evaluated based on precision, accuracy, representativeness, comparability, and completeness (PARCC) characteristics of the data. The validated data indicated that the laboratory correctly performed the analyses. Based on the data quality assessment, none of the data were qualified as rejected.
All data in this SDG are considered usable for the purposes of this project. All sample LODs and LOQs met the requirements listed in the project QAPP. All Method Quality Objectives have been met.

DATA VERIFICATION QUALIFIERS APPLIED

Lab ID	Field ID	EB "B" Flags	SB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags	Comments
R1305972-001	FTMM-8-GW-M8MW13	Ace				2,2-D	2,2-D	
R1305972-002	FTMM-64-GW-812MW02					2,2-D	2,2-D	
R1305972-003	FTMM-8-GW-M8MW20				2,2-D	2,2-D	2,2-D	
R1305972-007	FTMM-64-GW-812MW08					2,2-D	2,2-D	
R1305972-008	FTMM-8-GW-M8MW19	Ace				2,2-D	2,2-D	
R1305972-009	FTMM-64-GW-812MW14					2,2-D	2,2-D	
R1305972-010	FTMM-8-GW-M8MW21	Ace				2,2-D	2,2-D	
R1305972-011	FTMM-61-GW-283MW01	Nap				2,2-D	2,2-D	
R1305972-013	FTMM-61-GW-283MW03	Ace				2,2-D	2,2-D	
R1305972-014	FTMM-64-GW-812MW07	Ace				2,2-D	2,2-D	
R1305972-015	FTMM-64-GW-812MW06	Ace						
R1306020-003	FTMM-61-GW-283MW04					2-But (MEK); Ace; Bromomethane		
R1306020-011	FTMM-8-GW-M8MW17	Ace, Nap			2,2-D	2,2-D; 2-But (MEK); Ace		
R1306020-012	FTMM-54-GW-296MW01					2,2-D; 2-But (MEK); Ace		
R1306020-013	FTMM-8-GW-M8MW22	Ace				2,2-D; 2-But (MEK); Ace		
R1306020-014	FTMM-61-GW-283MW02	Ace				2,2-D; 2-But (MEK); Ace		
R1306020-016	FTMM-64-GW-812MW01					2,2-D; 2-But (MEK); Ace		
R1306020-017	FTMM-64-GW-812MW04					2,2-D; 2-But (MEK); Ace		
R1306020-018	FTMM-8-GW-M8MW14	Ace				2,2-D; 2-But (MEK); Ace		
R1306020-019	FTMM-8-GW-M8MW114	Ace				2,2-D; 2-But (MEK); Ace		
R1306020-020	FTMM-8-GW-M8MW12					2,2-D; 2-But (MEK); Ace		
R1306029-003	FTMM-57-GW-108MW02	Ace, Ag, Cu		Zn		2,2-D		
R1306029-004	FTMM-57-GW-108MW03	Ag, Cu, Sb		Sb, Zn		2,2-D		
R1306029-005	FTMM-54-GW-296MW03				2,2-D	2,2-D		
R1306029-006	FTMM-54-GW-296MW06	Ace	Nap			2,2-D		
R1306029-007	FTMM-54-GW-296MW106	Ace	Nap			2,2-D		
R1306029-008	FTMM-53-GW-616MW01	Ace				2,2-D		
R1306029-009	FTMM-53-GW-699MW02	Ace				2,2-D		

Lab ID	Field ID	EB "B" Flags	SB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags	Comments
R1306029-010	FTMM-8-GW-M8MW18	Ace				2,2-D		
R1306029-011	FTMM-8-GW-RM8MW24	Ace				2,2-D		
R1306029-012	FTMM-57-GW-108MW04	Ace, Ag, Cu		Zn		2,2-D		
R1306029-013	FTMM-57-GW-108MW01	Ag, Cu, Sb		Sb, Zn		2,2-D		
R1306029-014	FTMM-54-GW-296MW02	Ace				2,2-D		
R1306029-015	FTMM-54-GW-296MW07	Ace						
R1306029-016	FTMM-54-GW-296MW08	Ace						
R1306029-017	FTMM-8-GW-M8MW15	Ace						
R1306112-002	FTMM-25-GW-CW3AMW04	Ace, Ni, Zn		Co, Cu		2,2-D	2,2-D	
R1306112-006	FTMM-25-GW-CW3AMW104	Ni, Zn		Co		2,2-D	2,2-D	
R1306112-007	FTMM-53-GW-699MW04	Nap				2,2-D	2,2-D	
R1306112-008	FTMM-2-GW-M2MW12	Ace				2,2-D	2,2-D	
R1306112-009	FTMM-53-GW-699MW01	Nap				2,2-D	2,2-D	
R1306112-010	FTMM-2-GW-M2MW03					2,2-D	2,2-D	
R1306112-011	FTMM-25-GW-CW3AMW03			Co, Cu		2,2-D	2,2-D	
R1306112-013	FTMM-2-GW-M2MW11					2,2-D	2,2-D	
R1306112-014	FTMM-2-GW-M2MW09	Ace				2,2-D	2,2-D	
R1306112-018	FTMM-25-GW-CW3AMW01	Ni, Zn		Co, Cu		2,2-D	2,2-D	
R1306112-019	FTMM-2-GW-M2MW06	Ace				2,2-D	2,2-D	
R1306112-020	FTMM-2-GW-M2MW07					2,2-D	2,2-D	
R1306112-024	FTMM-25-GW-CW3AMW02	Ace				2,2-D	2,2-D; End Ald	
R1306112-026	FTMM-2-GW-M2MW08					2,2-D	2,2-D; End Ald	
R1306152-002	FTM M-66-GW-886RW03				2,2-D	2,2-D	2,2-D	
R1306152-003	FTMM-2-GW-M2MW04					2,2-D	2,2-D, End Ald	All Pesticide results "UJ" due to failed surrogate
R1306152-004	FTMM-66-GW-886RW05					2,2-D	2,2-D	
R1306152-005	FTMM-66-GW-886RW105					2,2-D	2,2-D	
R1306152-006	FTMM-2-GW-M2MW10	Ace				2,2-D	2,2-D	

Lab ID	Field ID	EB "B" Flags	SB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags	Comments
R1306152-007	FTMM-2-GW-M2MW02	Ace				2,2-D	2,2-D, End Ald	
R1306152-008	FTMM-66-GW-886MW05	Ace, Nap				2,2-D	2,2-D	
R1306152-009	FTMM-2-GW-M2MW13	Ace				2,2-D	2,2-D, End Ald	
R1306152-010	FTMM-66-GW-886RW04	Ace				2,2-D	2,2-D	
R1306152-011	FTMM-66-GW-886RW06					2,2-D	2,2-D	
R1306152-012	FTMM-66-GW-886RW02	Ace				2,2-D	2,2-D	
R1306152-013	FTMM-66-GW-886MW03	Ace				2,2-D	2,2-D	
R1306152-014	FTMM-66-GW-886MW04	Ace				2,2-D	2,2-D	
R1306152-015	FTMM-2-GW-M2MW05					2,2-D	2,2-D, End Ald	
R1306152-016	FTMM-66-GW-886RW07					2,2-D	2,2-D	
R1306152-018	FTMM-2-GW-M2MW21	Ace					2,2-D, End Ald	
R1306152-021	FTMM-2-GW-M2MW23	Ace					End Ald	
R1306198-001	FTMM-3-GW-M3MW06	Ag, Cu, Zn		Cu, Sb	2,2-D			All results J/UJ due to late cooler arrivals
R1306198-004	FTMM-3-GW-M3MW07A	Ag, Cu, Zn, Ace, Bromomethane		Cu				
R1306198-005	FTMM-3-GW-M3MW17A	Ace, Ag, Cu, Zn		Cu				
R1306198-006	FTMM-66-GW-886MW01	Bromomethane					Benzidine	
R1306198-007	FTMM-3-GW-M3MW08	Ace, Ag, Cu, Zn		Cu				
R1306198-009	FTMM-3-GW-M3MW09	Ace, Zn		Cu				
R1306198-010	FTMM-2-GW-M2MW24	Ace, Nap						
R1306198-011	FTMM-66-GW-886RW01	Ace					Benzidine	
R1306198-013	FTMM-3-GW-M3MW10	Ace, Nap, Zn						
R1306198-014	FTMM-3-GW-M3MW04	Ag, Zn						
R1306198-015	FTMM-3-GW-M3MW12	Ag, Zn						
R1306198-016	FTMM-3-GW-M3MW11	Ace, Cu, Zn		Cu				
R1306198-017	FTMM-3-GW-M3MW13	Ace, Zn						
R1306198-018	FTMM-3-GW-M3MW07	Ace, Ag, Cu, Zn		Cu				

Lab ID	Field ID	EB "B" Flags	SB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags	Comments
R1306198-019	FTMM-3-GW-M3MW14	Ace		Sb				
R1306198-020	FTMM-3-GW-M3MW05	Ace, Ag, Cu, Zn		Cu, Sb				
R1306281-001	FTMM-14-GW-M14MW124-10.74	Ace				2,2-D, bromomethane		
R1306281-003	FTMM-5-GW-M5MW11-9.46	Ace				2,2-D, bromomethane		
R1306281-004	FTMM-5-GW-M5MW11-14.4	Ace				2,2-D, bromomethane		
R1306281-005	FTMM-5-GW-M5MW23-10.82	Ace				2,2-D, bromomethane		
R1306281-006	FTMM-5-GW-M5MW23-17.02	Ace			2,2-D	2,2-D, bromomethane		
R1306281-007	FTMM-5-GW-M5MW11-14.4 LF	Ace				2,2-D, bromomethane		
R1306281-008	FTMM-5-GW-M5MW18-8.6	Ace				2,2-D, bromomethane		
R1306281-009	FTMM-5-GW-M5MW18-16.98	Ace				2,2-D, bromomethane		
R1306281-010	FTMM-14-GW-M14MW19-10.5	Ace				2,2-D, bromomethane		
R1306281-011	FTMM-14-GW-M14MW19-15.5	Ace				2,2-D, bromomethane		
R1306281-012	FTMM-14-GW-M14MW20-11.42	Ace				2,2-D, bromomethane		
R1306281-013	FTMM-14-GW-M14MW21-10.3	Ace				2,2-D, bromomethane		
R1306281-014	FTMM-14-GW-M14MW21-13.5					2,2-D, bromomethane		
R1306281-015	FTMM-14-GW-M14MW22-12.18	Ace				2,2-D, bromomethane		
R1306281-016	FTMM-14-GW-M14MW22-19.13	Ace				2,2-D, bromomethane		
R1306281.017	FTMM-14-GW-M14MW23-9.59	Ace				2,2-D, bromomethane		
R1306281-018	FTMM-14-GW-M14MW23-17.31	Ace				2,2-D, bromomethane		
R1306281-019	FTMM-14-GW-M14MW24-10.74	Ace				bromomethane		
R1306281-020	FTMM-14-GW-M14MW24-14.24	Ace				bromomethane		
Rl.306281-021	FTMM-5-GW-M5MW19-10.34	Ace				2,2-D, bromoform		
R1J06281-022	FTMM-5-GW-M5MW19-16.35	Ace				2,2-D, bromoform		
Rt3P6281-023	FTMM-5-GW-M5MW20-8.65	Ace				2,2-D, bromoform		
R13P6281-024	FTMM-5-GW-M5MW20-13.65	Ace				2,2-D, bromoform		
R1306281-025	FTMM-5-GW-M5MW14-8.63	Ace				2,2-D, bromoform		
R1306281-026	FTMM-5-GW-M5MW14-13.65	Ace				2,2-D, bromoform		
R1306281-027	FTMM-5-GW-M5MW14-18.63	Ace				2,2-D, bromoform		
R1306281-028	FTMM-5-GW-M5MW12-10.4	Ace				2,2-D, bromoform		
R1306281-029	FTMM-5-GW-M5MW12-15.4	Ace				2,2-D, bromoform		
R1306281-030	FTMM-5-GW-M5MW10-9.9	Ace				2,2-D, bromoform		

Lab ID	Field ID	EB "B" Flags	SB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags	Comments
R1306281-031	FTMM-5-GW-M5MW10-14.9	Ace				2,2-D, bromoform		
R1306281-032	FTMM-5-GW-M5MW13-7.87	Ace				2,2-D, bromoform		
R1306281-033	FTMM-5-GW-M5MW13-12.87	Ace				2,2-D, bromoform		
R1306281-034	FTMM-5-GW-M5MW16-8.8	Ace				2,2-D, bromoform		
R1306281-035	FTMM-5-GW-M5MW16-14.57	Ace				2,2-D, bromoform		
R1306302-001	FTMM-22-GW-CW1MW34-11.43	Ace				Bromomethane		
R1306302-002	FTMM-22-GWCW1MW34-17.17	Ace				Bromomethane		
R1306302-003	FTMM-22-GW-CW1MW36-11.86	Ace				Bromomethane		
R1306302-004	FTMM-22-GW-CW1MW136-11	Ace				Bromomethane		
R1306302-005	FTMM-22-GW-CW1MW36-17.29	Ace				Bromomethane		
R1306302-006	FTMM-22-GW-CW1MW35-11.26	Ace				Bromomethane		
R1306302-007	FTMM-22-GW-CW1MW35-17.09	Ace				Bromomethane		
R1306302-008	FTMM-22-GW-CW1MW37-11.66	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-009	FTMM-22-GW-CW1MW37-17.15	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-010	FTMM-22-GW-CW1MW39-33.35	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-011	FTMM-22-GW-CW1MW39-38.35	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-012	FTMM-22-GW-CW1MW39-43.35	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-013	FTMM-22-GW-CW1MW39-48.35	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-014	FTMM-22-GW-CW1MW282-12.62	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-015	FTMM-5-GW-M5MW16-14.5LF	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-016	FTMM-22-GW-CW1MW30-14.27	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	

Lab ID	Field ID	EB "B" Flags	SB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags	Comments
R1306302-017	FTMM-22-GW-CW1MW40-35.17	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-018	FTMM-22-GW-CW1MW40-40.17	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-019	FTMM-22-GW-CW1MW40-45.17	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-020	FTMM-22-GW-CW1MW40-50.17	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-021	FTMM-22-GW-CW1MW31-8.86	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-022	FTMM-22-GW-CW1MW31-18.36	Ace				1,1,2,2-TCE, 2,2-D, Bromomethane	2,2-D	
R1306302-023	FTMM-22-GW-CW1MW291-14.77	Ace				Bromomethane		
R1306302-024	FTMM-22-GW-CW1MW27-12.63	Ace				Bromomethane		
R1306302-025	FTMM-22-GW-CW1MW127-12	Ace				Bromomethane		
R1306302-026	FTMM-22-GW-CW1MW38-35.18	Ace				Bromomethane		
R1306302-027	FTMM-22-GW-CW1MW38-40.18	Ace				Bromomethane		
R1306302-028	FTMM-22-GW-CW1MW38-45.18	Ace				Bromomethane		
R1306302-029	FTMM-22-GW-CW1MW38-50.18	Ace				Bromomethane		
R1306302-030	FTMM-22-GW-CW1MW26-12.79	Ace				Bromomethane		
R1306302-031	FTMM-22-GW-CW1MW29-10.85	Ace				Bromomethane		
R1306302-032	FTMM-22-GW-CW1MW32-14.72	Ace				Bromomethane		
R1306302-033	FTMM-22-GW-CW1MW32-21.55	Ace				Bromomethane		
R1306302-034	FTMM-22-GW-CW1MW33-14.0	Ace				Bromomethane		
R1306302-035	FTMM-22-GW-CW1MW33-19.6	Ace				Bromomethane		
R1306302-039	FTMM-5-GW-M5MW20-13.65LF					Bromomethane		
R1306302-040	FTMM-22-GW-CW1MW27-12.63LF					Bromomethane		
R1306348-001	FTMM-58-GW-2567MW01-8.33	Ace						
R1306348-002	FTMM-58-GW-2567MW02-8.06	Ace						
R1306348-003	FTMM-58-GW-2567MW03-5.11					Bromomethane		
R1306348-004	FTMM-58-GW-2567MW03-10.5	Ace						

Lab ID	Field ID	EB "B" Flags	SB "B" Flags	MB "B" Flags	MS/MSD "J" Flags	CCV "J" Flags	LCS "J" Flags	Comments
R1306348-005	FTMM-58-GW-2567MW04-7.09	Ace						
R1306348-006	FTMM-58-GW-2567MW05-9.65	Ace						
R1306348-007	FTMM-58-GW-2567MW06-11.48	Ace						
R1306348-008	FTMM-58-GW-2567MW07-10.99	Ace						
R1306348-009	FTMM-58-GW-2567MW105-9	Ace						
R1306348-011	FTMM-59-GW-1122MW03-9.72	Ace						
R1306348-012	FTMM-59-GW-1122MW07-15.22	Ace						
R1306348-014	FTMM-59-GW-1122MW02-8.6					Bromomethane		
R1306348-015	FTMM-59-GW-1122MW02-14.6					Bromomethane		
R1306348-016	FTMM-59-GW-1122MW05-7.5					Bromomethane		
R1306348-017	FTMM-59-GW-1122MW105-12					Bromomethane		
R1306348-018	FTMM-59-GW-1122MW05-12.5					Bromomethane		
R1306348-019	FTMM-59-GW-1122MW06-10.67	Ace						
R1306348-020	FTMM-59-GW-1122MW06-18.11					Bromomethane		
R1306348-021	FTMM-59-GW-1122MW04-9.1					Bromomethane		
R1306348-022	FTMM-59-GW-1122MW01-8.25					2,2-D, Bromomethane	2,2-D	
R1306348-023	FTMM-59-GW-1122MW01-14.75					2,2-D, Bromomethane	2,2-D	
R1306348-024	FTMM-68-GW-565MW01-11.99				2,2-D	2,2-D, Bromomethane	2,2-D	
R1306348-025	FTMM-68-GW-565MW01D-22.31					Bromomethane, DCFM		
R1306380-001	FTMM-18-GW-M18MW24-10.9	Ace				Ace; bromoform		
R1306380-002	FTMM-18-GW-M18MW25-8.81	Ace				Ace; bromoform		
R1306380-003	FTMM-18-GW-M18MW25-13.81	Ace				Ace; bromoform		
R1306380-004	FTMM-18-GW-M18MW22-12.33	Ace				Ace; bromoform		
R1306380-005	FTMM-18-GW-M18MW22-18.98	Ace				Ace; bromoform		

2,2-D = 2,2-Dichloropropane; 2-But (MEK) = 2-Butanone (MEK); Ace = Acetone; Nap = Nap; DCFM = Dichlorodifluoromethane; End Ald = Endrin Aldehyde