



US Army Corps of Engineers

2015 Annual Basewide Monitoring Report

**Fort Drum Installation Restoration
Program
Fort Drum, New York**

February 2016

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Prepared For:

**U.S. ARMY CORPS OF ENGINEERS BALTIMORE
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Acronyms and Abbreviations

AAFES	Army and Air Force Exchange Service
AS	Air Sparging
ASL	Airfield Sanitary Landfill
DDT	Dichlorodiphenyltrichloroethane
DO	Dissolved Oxygen
DoD	Department of Defense
DOT	Department of Transportation
DUSR	Data Usability Summary Report
ELAP	Environmental Laboratory Approval Program
ERIS	Environmental Restoration Information System
IDW	Investigation-Derived Waste
ISCO	In-Situ Chemical Oxidation
LNAPL	Light Non-Aqueous Phase Liquid
MIP	Membrane Interface Probe
MNA	Monitored Natural Attenuation
N:P:K	Nitrogen: phosphorous: potassium
NYCRR	New York Codes Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and Maintenance
ORC	Oxygen Release Compound
ORP	Oxidation-Reduction Potential



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OSL	Old Sanitary Landfill
PCBs	Polychlorinated Biphenyls
PDB	Passive Diffusion Bag
POL	Petroleum, oil, and lubricant
PPE	Personal Protective Equipment
PVC	Poly-vinyl Chloride
PWS	Performance Work Statement
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
SOP	Standard Operating Procedures
SVE	Soil Vapor Extraction
SVOCs	Semi-volatile Organic Compounds
TAL	Target Analyte List
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds



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1. Introduction

The PIKA - MP JV, LLC¹ (hereinafter referred to as the JV) has prepared this Basewide Monitoring Report on behalf of the Baltimore District of the US Army Corps of Engineers (USACE) for the Installation Restoration Program (IRP) Basewide Monitoring Program at the Fort Drum Military Installation (Fort Drum), New York. Long-term monitoring is being conducted under a New York State Department of Environmental Conservation (NYSDEC) Order on Consent and Administrative Settlement (Index No. A6-0797-12-10). In accordance with the Basewide Monitoring Plan, submitted as Appendix C of the NYSDEC-approved Work Plan, Installation Restoration Program, Fort Drum, New York (PIKA-MP JV, 2015a) (IRP Work Plan), the purpose of this report is to summarize the data collected during the 2015 monitoring and sampling events in support of ongoing remedial actions.

Field and laboratory activities were conducted in accordance with the Quality Assurance Project Plan (QAPP) and Data Management Plan (DMP) submitted as Appendix A and Appendix B to the IRP Work Plan. Field work followed the health and safety procedures described in the Accident Prevention Plan, Installation Restoration Program, Fort Drum, New York (PIKA-MP JV, 2015b). This work is funded under the USACE Baltimore District Multiple Award Environmental Services (MAES) contract, Award No. W912DR-12-D-0007, Delivery Order 0003.

1.1 Site Description

Fort Drum encompasses approximately 168 square miles and is located approximately 10 miles northeast of Watertown, 80 miles north of Syracuse, and 25 miles southeast of the United States and Canadian border (Figure 1-1). Fort Drum occupies a large portion of northeastern Jefferson County, a portion of western Lewis County, and abuts the southern edge of St. Lawrence County. The Basewide Monitoring Program includes groundwater and surface water sampling and well gauging activities for the Gasoline Alley Areas (Areas 1295, 1595, 1795, 1995, and 3805), the Army and Air Force Exchange Service (AAFES) Station Site (Building P-2140), the Old Sanitary Landfill (OSL), and the Airfield Sanitary Landfill (ASL) (Figure 1-2).

¹ The PIKA-MP JV LLC Joint Venture is comprised of PIKA International, Inc. and its mentor ARCADIS-U.S. Inc.

2. Background

2.1 Gasoline Alley

Gasoline Alley is located in the old Cantonment area in the southwest corner of Fort Drum. This area is approximately 2 miles long, consisting of two parallel one-way streets, Oneida Avenue and Ontario Avenue (currently under construction to create a single two-way street). Previously, fuel dispensing areas were located in or near the median that separated these roads. The former dispensing areas are referred to as Areas 1295, 1595, 1795, 1995, and 3805. Diesel fuel, gasoline, jet fuel, and kerosene were stored and dispensed from multiple underground storage tanks (USTs) located along the north side of Oneida Avenue. The USTs and their associated piping were removed between 1994 and 1995. The general locations of these sites are shown on Figure 2.

2.1.1 Area 1295 (FTD-030A)

Gasoline and diesel fuel were released to the subsurface from USTs formerly located at the site, resulting in LNAPL and dissolved phase contamination in the underlying aquifer (primarily benzene, toluene, ethylbenzene, and xylenes [BTEX]). Previous remedial efforts, including the injection of Oxygen Release Compound (ORC®), in-situ chemical oxidation (ISCO) injection using Fenton's Reaction chemistry, and in-situ bioremediation utilizing ozone-enhanced air sparging have been unsuccessful at treating the entire BTEX groundwater plume (the majority of which is beneath railroad tracks) to achieve site closure. Based on these data, and the results of a membrane interface probe (MIP) investigation conducted in May 2009, there is source mass remaining in the subsurface that is a continuing source of dissolved-phase BTEX contamination. In 2015 the JV installed additional remedial wells and began operating an air sparge (AS) system to perform the physical removal and enhanced aerobic degradation of remaining hydrocarbon mass to achieve site closure.

2.1.2 Area 1595 (FTD-030D)

Contaminants (primarily VOCs, including BTEX) were released to the subsurface from gasoline and diesel USTs formerly located at the site. Previous remedial efforts include an LNAPL recovery system, AS/soil vapor extraction (SVE), an ozone injection system, and a more recent monthly nutrient application program. The recovery well system was decommissioned in 2005 after removing nearly 8,000 gallons of LNAPL from the subsurface. To address persistent contamination in the soil and groundwater

at Area 1595, SVE and AS systems were installed. The SVE and AS systems began operation in December 2005. In 2009, an ozone AS technology was evaluated at this site and was implemented for two months from December 2009 through February 2010. The ozone treatment was determined not to be successful, so a three-month pilot-test application of a N: P: K solution was applied starting in January 2011. The AS/SVE system operation continued throughout the three-month pilot test of nutrient application, but was discontinued due to observed asymptotic vapor recovery. Following the pilot test, a monthly application for an N: P: K solution was completed from December 2011 through April 2012. In 2015 the JV reconfigured the existing remedial infrastructure and began operating a biosparging/bioventing (BV) system to enhance the biodegradation of remaining hydrocarbon mass to achieve site closure.

2.1.3 Area 1795 (FTD-030E)

Unleaded gasoline was released to the subsurface from USTs and dispenser piping formerly located at the site, resulting in LNAPL and dissolved phase contamination in the underlying aquifer (primarily VOCs, including BTEX). Measureable LNAPL is not currently present at the site and BTEX concentration trends are generally stable. Previous remedial efforts at the site have included a bioslurping treatment system, an AS/SVE/MPE system, an ozone injection system, and a more recent monthly nutrient application program. The bioslurping system operated between approximately 1998 and 2000. The AS/SVE/MPE system began operation in 2007. Ozone AAS technology and nutrient injection approaches were evaluated in 2010, but determined not to be effective. In 2015 the JV installed additional remedial wells, reconfigured the existing remedial infrastructure, and began operating an AS/BV system to perform the enhanced biodegradation of remaining dissolved phase mass to achieve site closure.

2.1.4 Area 3805/1995 (FTD-030F)

Jet fuel (JP-4), gasoline, and diesel fuels were stored in former USTs at this area from the 1940s through the early 1990s. Several remedial pilot studies have been conducted at Areas 1995 and 3805, including SVE, groundwater depression/ LNAPL recovery, mobile skimmer/LNAPL recovery, bioslurping, and MPE/AS. In addition to pilot studies, interim corrective measures were implemented. An interim corrective action involving a LNAPL recovery system was installed in 1996 and was decommissioned in April 2003. An MPE/AS system was subsequently installed in the source areas (extent of LNAPL) and started in November 2003 (Systems A and B) and October 2003 (System C). The Area 1995 MPE/AS system (System D) was started in May 2004 and was discontinued by 2008. The AS system was expanded and modified

in 2007 to enhance remediation of the dissolved plume in the down-gradient area of the site and improve the performance of System C. The vertical extraction wells were modified to horizontal extraction wells in March 2012 to treat the shallower impacted soil. Additionally, on December 13, 2011, a five month nutrient injection application trial was completed in conjunction with AS system operations. Beginning in March 2013, AS systems were shut down to conduct a six month bioremediation with bioaugmentation pilot study at Area 3805 with the majority of other remedial systems either not being operated or operated in a reduced capacity. In 2015 the JV installed additional remedial wells, reconfigured the existing remedial infrastructure, and begin operating an AS/SVE/BV system to perform the physical removal and enhanced biodegradation of remaining hydrocarbon mass to achieve site closure.

2.2 AAFES Station Site, Building P-2140 (FTD-091)

Building P-2140 is located in the old Cantonment area of Fort Drum. It is bounded on the north by Nash Boulevard, on the west by First Street, and on the south by a wetland associated with the Black River. Building P-2140 is an active gasoline retail service station. Contaminants (primarily VOCs, including BTEX) were released to the subsurface from gasoline USTs formerly located at the site and removed in 1993. Previous remedial efforts, including MPE, AS, and in-situ bioremediation utilizing ozone-enhanced air sparging beginning in 2002, 2006, and 2009, respectively, have been unsuccessful at reducing the size and magnitude of the BTEX groundwater plume near the source area, although down-gradient BTEX concentrations have been significantly reduced. Additionally, in December 2011, a five month nutrient injection application trial was completed in conjunction with AS system operations. Use of the ozone treatment system was discontinued in 2014 to facilitate a six month bioaugmentation pilot study. In 2015 the JV installed additional remedial wells, reconfigured the existing remedial infrastructure, and began operating an AS/SVE system to perform the physical removal and enhanced biodegradation of remaining hydrocarbon mass to achieve site closure.

2.3 Old Sanitary Landfill (FTD-007)

The OSL is located in the southern portion of Fort Drum, north of the intersection of Route 26 (Great Bend Road) and Oneida Avenue. The OSL occupies approximately 40 to 50 acres and is comprised of two major cells identified as OSL Cell 1 and OSL Cell 2. There is an unnamed stream that is located immediately between OSL Cell 1 and OSL Cell 2 which originates as a seep, groundwater discharge, or a combination

of the two. Subsequently, the unnamed stream flows into the OSL Creek, which is approximately 2.5 miles long.

Operation of the OSL began in 1940 and continued through 1973. During the period of operation, most of the waste generated on the installation was disposed in the landfill (including, but not limited to materials such as, general refuse, containers with residual pesticides and herbicides, unused ammunition, chlorinated solvents, and industrial wastes). The OSL was formally closed in 1981 following placement of a 20-mil polyvinyl chloride (PVC) membrane cap and soil cover over approximately 38 acres to reduce infiltration and minimize leachate generation. The cap was covered with topsoil and grass and approximately 16 gas vents were installed. Cap improvement work has been conducted periodically since then as needed. Annual landfill inspections, surface water, groundwater, and seep sampling are conducted in accordance with the OSL Plan, submitted as Appendix D of the IRP Work Plan. Details of the inspections and sampling are provided in the *2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL*, provided in Appendix A.

In November and December 2015, the JV repaired a failed pipe slope drain (PSD #4) and associated erosional damage to the north slope of Cell 2 of the OSL. Details of the repair will be provided under separate cover in an addendum to the *2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL*.

2.4 Airfield Sanitary Landfill (FTD-008)

The ASL is located adjacent to Wheeler Sack Airfield's northeast boundary and approximately 1,000 feet northwest of the Black River. The landfill occupies approximately 37 acres and is covered with vegetation. The topography of the landfill and the surrounding area is nearly flat.

The ASL began operating in 1973 after closure of the OSL. Solid wastes generated from various locations were placed into trenches in the sandy soil until the landfill was closed in 1987. The types of wastes placed in the ASL included municipal solid waste, paint wastes, solvent containers, triple-rinsed pesticide containers, and petroleum, oil, and lubricant (POL) saturated wastes. The trenches were oriented northwest to southwest approximately 300 feet wide with a maximum length of 1,900 feet. The trenches were approximately 20 feet deep and were unlined. They were covered with native sandy soil and some areas were grassed. The northeast 14 acres of the site (referred to as "Phase I") were covered with an impermeable 20-millimeter PVC liner, 6 inches of soil cover, and re-vegetated. The Phase I area contains thirteen gravel gas



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vents; however the gas vents have silted in and are no longer visible from the surface. Solid waste was also disposed of on the 23 acres southwest of, and adjacent to, the Phase I area until October 1987 (referred to as "Phase II"). In 1990, Phase II was closed by installing a 40-millimeter PVC cover, 18 PVC gas vents, 12 inches of soil cover, and vegetation. Annual landfill inspections and groundwater sampling every five years (last conducted in 2011) is conducted in accordance with the ASL Plan, submitted as Appendix E of the IRP Work Plan. Details of the inspections are provided in the *2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL*, provided in Appendix A.

3. Field Sampling

3.1 Sampling Dates and Methods

Monitoring and sampling was conducted during the spring (April 13 through May 1, 2015) and fall (August 31 through October 7, 2015) of 2015. Well gauging locations, groundwater, surface water, and seep sampling locations, sample analyses, sampling frequency, and sampling methodology for the Basewide Monitoring Plan are listed in Table 3-1. Locations sampled annually are sampled during the fall sampling event and locations sampled semi-annually are sampled during both the spring and fall sampling events. Prior to sampling, water levels and light non-aqueous phase liquid (LNAPL), if present, were measured in each well. Groundwater sampling was conducted according to the USEPA protocol for Low Stress (Low Flow) Purging and Sampling (USEPA, 1998) using peristaltic and bladder pumps. As shown in Table 3-1, each year 68 samples from 55 monitoring wells are collected for analysis of only VOCs. Since these wells could potentially be sampled in the future using passive diffusion bag (PDB) samplers, 16 of these wells were sampled using both traditional low-flow methods and PDB samplers to allow for comparison of the sampling methods.

In accordance with the Basewide Monitoring Plan, samples were analyzed by ALS Environmental, a New York State Department of Health (NYSDOH) and Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. Field parameters, consisting of temperature, pH, specific conductivity, dissolved oxygen, oxidation-reduction potential, and turbidity were measured during purging using a water quality meter equipped with a flow-through cell. Groundwater, surface water, seep, and biomass sampling conducted as part of the long-term maintenance and monitoring for the OSL and ASL are presented in the *2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL*, provided in Appendix A. Sampling methods, specific analytical methods, and sampling locations are discussed in detail in the Basewide Monitoring Plan, OSL Plan, and ASL Plan. Purge logs for the 2015 monitoring event are presented in Appendix B. Analytical laboratory reporting forms for 2015 monitoring event are presented in Appendix C.

3.2 Sampling Summary

In accordance with the Basewide Monitoring Plan, there are a total of 91 groundwater monitoring wells, seven surface water sampling locations, 10 seep sampling locations, and three biomass sampling locations that were scheduled for sampling in 2015. However, some locations either were not sampled or were sampled for limited



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analytical parameters during the monitoring events. Table 3-2 summarizes the monitoring wells that were not sampled for all or some parameters during the 2015 monitoring events. As shown in Table 3-2, three monitoring wells at Gasoline Alley sites and five OSL seep locations were not sampled during the 2015 fall monitoring event.

4. 2015 Results

The spring and fall 2015 groundwater elevation data are presented in Table 4-1. Groundwater, surface water, seep, and biomass analytical results for 2015 are summarized in Tables 4-2 and 4-3.

In accordance with the Basewide Monitoring Plan, data validation was performed for the samples collected during the spring and fall events to ensure that the data generated provide sufficient information to achieve the project objectives. The Data Usability Summary Reports are included in Appendix D. Sample processing was generally conducted in compliance with the analytical protocol requirements and quality criteria. All data were classified as usable with some minor qualification, with the exception of some ferrous iron samples which were analyzed outside of holding time. Additional discussion is provided in the DUSR narratives in Appendix D.

4.1 Area 1295

The average groundwater elevation at Area 1295 was 626.21 feet above mean sea level (amsl) and 625.24 feet amsl during the spring and fall 2015 events, respectively. As illustrated on Figures 4-1 and 4-2, groundwater flow in the vicinity of Area 1295 was generally to the north-northwest. LNAPL was not observed during well gauging or groundwater sampling at Area 1295 in 2015.

There are five groundwater monitoring wells in Area 1295 that are sampled under the Basewide Monitoring Program. Tables 4-2 and 4-3 and Figure 4-3 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2015. Analytes that exceeded NYSDEC Class GA Groundwater Standards generally included petroleum-related VOCs. As shown on Figure 4-3, samples from monitoring wells 1295-MW30 and 1295-MWS27 contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. Samples from 1295-MW30 contained the highest concentrations of BTEX in both the spring and fall sampling events (3,842 micrograms per liter [$\mu\text{g/L}$] and 398 $\mu\text{g/L}$, respectively).

4.2 Area 1595

The average groundwater elevation at Area 1595 was 623.70 feet amsl and 622.69 feet amsl during the spring and fall 2015 events, respectively. As illustrated on Figures 4-4 and 4-5, groundwater flow in the vicinity of Area 1595 was generally to the

northwest. LNAPL was not observed during well gauging or groundwater sampling at Area 1595 in 2015.

There are 10 groundwater monitoring wells and two surface water sampling locations in Area 1595 that are sampled under the Basewide Monitoring Program. Tables 4-2 and 4-3 and Figure 4-6 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2015. Analytes that exceeded NYSDEC Class GA Groundwater Standards generally included petroleum-related VOCs. As shown on Figure 4-6, samples from monitoring wells 1595-MW33, 1595-MWS7, 1595-OBG2, and 1595-PZ12 contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. Samples from 1595-MWS7 contained the highest concentrations of BTEX in both the spring and fall sampling events (3,800 µg/L and 1,504 µg/L, respectively).

As shown on Figure 4-6, none of the surface water samples from Area 1595 contained petroleum-related contaminants of concern at concentrations greater than applicable NYSDEC surface water standards/guidance values.

4.3 Area 1795

The average groundwater elevation at Area 1795 was 633.24 feet above amsl and 631.28 feet amsl during the spring and fall 2015 events, respectively. As illustrated on Figures 4-7 and 4-8, groundwater flow in the vicinity of Area 1795 was generally to the west-northwest. LNAPL was not observed during well gauging or groundwater sampling at Area 1795 in 2015.

There are 16 groundwater monitoring wells and two surface water sampling locations in Area 1795 that are sampled under the Basewide Monitoring Program. Tables 4-2 and 4-3 and Figure 4-9 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2015. Analytes that exceeded NYSDEC Class GA Groundwater Standards included petroleum-related VOCs, iron, and manganese. As shown on Figure 4-9, samples from monitoring wells 1795-MWD13, 1795-MW-S2, 1795-MWS3, 1795-MWS7, 1795-MWS9, 1795-PZ4, 1795-PZ5, 1795-PZ14, and 1795-PZ15 contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. Samples from 1795-MWS7 contained the highest concentrations of BTEX in both the spring and fall sampling events (2,690 µg/L and 5,790 µg/L, respectively).

As shown on Figure 4-9, none of the surface water samples from Area 1795 contained petroleum-related contaminants at concentrations greater than applicable NYSDEC surface water standards/guidance values.

4.4 Area 3805/1995

The average groundwater elevation at Area 3805/1995 was 633.10 feet amsl and 632.30 feet amsl during the spring and fall 2015 events, respectively. As illustrated on Figures 4-10 and 4-11, groundwater flow in the vicinity of Area 3805/1995 was generally to the north. LNAPL was not observed during well gauging or groundwater sampling at Area 3805/1995 during the spring and fall 2015 monitoring events.

There are 43 groundwater monitoring wells in Area 3805/1995 that are sampled under the Basewide Monitoring Program and the overlapping OSL Environmental Monitoring Program. Tables 4-2 and 4-3 and Figures 4-12 and 4-13 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2015. Analytes that exceeded NYSDEC Class GA Groundwater Standards included petroleum-related VOCs, chlorinated VOCs (associated with 3800 PCE Site plume), iron, manganese, and sodium. As shown on Figures 4-12 and 4-13, samples from all monitoring wells except 3805-MWD10, 3805-MWD16, 3805-MWS2, 3805-MWS19, 3805-PZ7, 3805-PZ-12D, 3805-PZ-13I, 3805-PZ-13D, 1995-MW43 contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. The sample from 3805-PZ14 contained the highest concentrations of BTEX in the spring sampling event (23,130 µg/L) while the sample from 3805-PZ12S contained the highest concentrations of BTEX in the fall sampling event (15,632 µg/L).

4.5 P-2140

The average groundwater elevation at Area P-2140 was 610.29 feet amsl and 608.54 feet amsl during the spring and fall 2015 events, respectively. As illustrated on Figures 4-14 and 4-15, groundwater flow in the vicinity of Area P-2140 was generally to the southeast. LNAPL was not observed during well gauging or groundwater sampling at Area P-2140 in 2015.

There are 13 groundwater monitoring wells in Area P-2140 that are sampled under the Basewide Monitoring Program. Tables 4-2 and 4-3 and Figure 4-16 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2015. Analytes that exceeded NYSDEC Class GA Groundwater Standards included petroleum-related VOCs, iron, manganese, and chloride. As shown on Figure

4-16, samples from monitoring wells 2140-MW02, 2140-MW04, 2140-MW06, 2140-MW07, 2140-MW12, 2140-MW19, 2140-MW-27, 2140-MW37 contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. Samples from 2140-MW06 contained the highest concentrations of BTEX in both the spring and fall sampling events (8,550 µg/L and 1,192 µg/L, respectively).

4.6 PDB vs. Low-Flow Sampling

During the fall 2015 sampling event 16 wells that are sampled for only VOCs were selected for sampling using both PDBs and traditional low-flow methods to evaluate data comparability. These wells are listed below and shown on Figures 4-6, 4-9, 4-12, 4-13, and 4-16.

- | | | | |
|-------------|-------------|--------------|-------------|
| • 1595-MWS8 | • 1795-MWS3 | • 3805-002 | • 2140-MW02 |
| • 1595-MW33 | • 1795-MWS7 | • 3805-MW39 | • 2140-MW04 |
| • 1595-PZ11 | • 1795-PZ4 | • 3805-MWI6 | • 2140-MW06 |
| • 1595-PZ13 | • 1795-PZ15 | • 3805-MWS24 | • 2140-MW37 |

Table 4-4 summarizes the results obtained from these wells using PDBs and low-flow sampling. As shown on Table 4-4, with the exception of samples from 1795-PZ15 and 2140-MW06 (PDB data showed non-detect results) and 3805-MW39 (low-flow data showed non-detect results), results from PDBs are correlative with results from low-flow sampling. These three discrepancies are most likely attributable to:

- 1795-PZ15 showed a drop in average water level by over two feet between late summer and fall, which could have resulted in exposure of the PDB to the atmosphere during deployment.
- 2140 remedial systems were off during low-flow sampling but were on during PDB deployment and may have volatilized constituents during PDB sampling.
- Aggressive bubbling from the AS system at 3805-MW39 may have volatilized constituents during low-flow sampling.

5. Summary and Conclusions

A summary of the 2015 Basewide Monitoring Program field observations, measurements, and analytical data are provided below, as they relate to ongoing remedial efforts, conceptual models, and remedial optimization. Site remediation activities during the 2015 reporting period have been summarized in Construction Completion Reports for Areas 1295, 1595, 1795, 3805/1995, and P-2140 (PIKA-MP JV, 2015c-g) and Semi-Annual Reports. Remediation activities during the reporting period generally included the expansion, optimization, operation, and maintenance of the remedial systems. Total VOC concentration trends for each area are provided on Figures 5-1 through 5-6. These figures use 2014 as a baseline because remedial systems/approaches were reconfigured in 2015 by the JV.

5.1 Area 1295

The average groundwater elevation at Area 1295 was 0.97 feet higher during the spring 2015 event than during the fall 2015 event. The average groundwater elevations during the spring and fall 2015 events were 1.65 and 1.04 feet lower than the spring and fall 2014 events, respectively.

Groundwater BTEX concentrations decreased by an order of magnitude between the spring and fall 2015 sampling events and may reflect the impacts of the AS system that was installed and brought online during the summer of 2015. Monitored natural attenuation (MNA) parameter concentrations in 2015 were generally consistent with 2014 concentrations with the exception of sulfate and methane, which were generally lower than 2014 concentrations.

5.2 Area 1595

The average groundwater elevation at Area 1595 was 1.01 feet higher during the spring 2015 event than during the fall 2015 event. The average groundwater elevations during the spring and fall 2015 events were 0.32 feet lower and 0.41 feet higher than the spring and fall 2014 events, respectively.

With the exception of 1595-MWS7 and 1595-PZ12, groundwater BTEX concentrations increased in most Area 1595 wells between the spring and fall 2015 sampling events and may reflect the impacts of the AS/BV system that was brought online during the spring/summer of 2015. It is likely that these increases were associated with the activation of the sparging wells, which may have mobilized areas of residual

contaminant mass. While these increases are expected to be temporary, the system has been optimized by focusing flow to problem areas (and reducing flows in other areas). Coupled with ongoing performance monitoring, the impact of these system changes will be evaluated and the need for additional remedial infrastructure will be considered in the spring of 2016. BTEX concentrations in surface water at 1595-SW01 have also decreased between 2014 and 2015. MNA parameter concentrations in 2015 were generally consistent with 2014 concentrations with the exception of ferrous iron concentrations, which were generally greater than 2014 concentrations.

5.3 Area 1795

The average groundwater elevation at Area 1795 was 1.96 feet higher during the spring 2015 event than during the fall 2015 event. The average groundwater elevations during the spring and fall 2015 events were 1.11 and 2.90 feet lower than the spring and fall 2014 events, respectively.

Groundwater BTEX concentrations generally increased by a factor of two between the spring and fall 2015 sampling events, which prompted the JV to add additional remedial wells and bring AS systems online in the fall/winter of 2015 (in addition to BV systems which were brought online during the spring/summer of 2015). BTEX was not detected in surface water at Area 1795, consistent with 2014 results. MNA parameter concentrations in 2015 were generally consistent with 2014 concentrations with the exception of methane which was generally greater than 2014 concentrations.

5.4 Area 3805/1995

The average groundwater elevation at Area 3805/1995 was 0.80 feet higher during the spring 2015 event than during the fall 2015 event. The average groundwater elevations during the spring and fall 2015 events were 1.53 and 1.98 feet lower than the spring and fall 2014 events, respectively.

Groundwater BTEX concentrations were variable between the spring and fall 2015 sampling events and may reflect the impacts of the AS/SVE/BV system that was brought online during the spring/summer of 2015, expanded in the fall/winter of 2015. Additional optimization to target remedial efforts is ongoing. MNA parameter concentrations in 2015 were generally consistent with 2014 concentrations.



2015 Annual Basewide Monitoring Report

Installation Restoration
Program
Fort Drum, New York

5.5 AAFES Station Site, Building P-2140

The average groundwater elevation at Area P-2140 was 1.75 feet higher during the spring 2015 event than during the fall 2015 event. The average groundwater elevations during the spring and fall 2015 events were 1.29 and 0.95 feet lower than the spring and fall 2014 events, respectively.

Groundwater BTEX concentrations in the source treatment area decreased by one to two orders of magnitude between the spring and fall 2015 sampling events and may reflect the impacts of the AS/SVE system that was augmented and brought online during the summer of 2015. MNA parameter concentrations in 2015 were generally consistent with 2014 concentrations.

5.6 Sanitary Landfills

Details of Sanitary Landfill groundwater, surface water, seep, and biomass sampling, along with annual inspections, maintenance, and repairs conducted during 2015 are provided in the *2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL*, provided in Appendix A.

6. Recommendations

The following modifications to the Basewide Monitoring Program are recommended.

1. Based on consistent water levels and groundwater flow patterns during at least the last 10 years of monitoring, it is recommended that, beginning with the spring 2016 monitoring event, water level measurements be reduced to include only monitoring wells that are sampled under the Basewide Monitoring Program during the respective monitoring events.
2. Based on the comparability of low-flow and PDB VOC results during the fall 2015 monitoring event, it is recommended that, beginning with the spring 2016 monitoring event, PDB samplers be used for all wells that only require analysis of VOCs. Results from on-going remedial performance monitoring sampling, which is conducted separately from the Basewide Monitoring Program using low-flow methods, would be used to regularly evaluate potentially anomalous PDB results.
3. Based on the fact that delineation work is complete, remedial measures are in place, and that sufficient historical data are available to evaluate potentially anomalous data, it is recommended that data validation no longer be required under the Basewide Monitoring Program since anomalous data could be easily identified based on previous results.
4. The current remedial strategies implemented by the JV at the Gasoline Alley and P-2140 sites utilize physical removal and enhanced aerobic degradation of remaining hydrocarbon mass, as opposed to previous efforts to bring the sites to anaerobic conditions. Therefore, it is recommended that MNA parameters for these sites be reduced to only include nitrate, sulfate, and iron(II). MNA parameters for the ASL would remain unchanged.



2015 Annual Basewide Monitoring Report

Installation Restoration
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Fort Drum, New York

7. References

New York State Department of Environmental Conservation, 1998, Ambient Water Quality Standards and Guidance Values, Technical and Operational Guidance Series Number 1.1.1.

PIKA-MP JV, 2015a. Work Plan, Fort Drum Installation Restoration Program, Fort Drum, New York.

PIKA-MP JV, 2015b. Accident Prevention Plan, Fort Drum Installation Restoration Program, Fort Drum, New York.

PIKA-MP JV, 2015c. Area 1295 Remedial Construction Completion Report, Fort Drum Installation Restoration Program, Fort Drum, New York.

PIKA-MP JV, 2015d. Area 1595 Remedial Construction Completion Report, Fort Drum Installation Restoration Program, Fort Drum, New York.

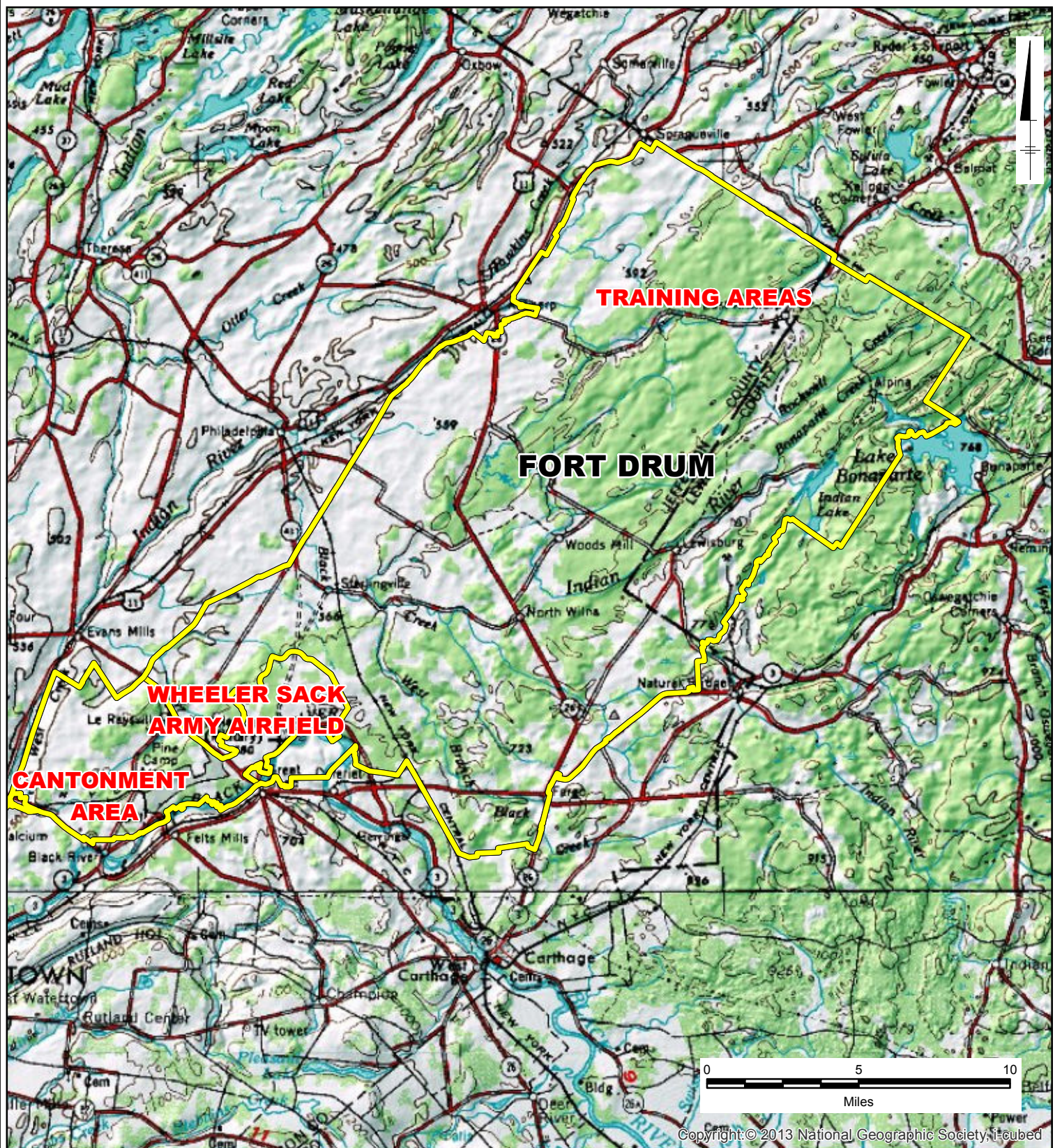
PIKA-MP JV, 2015e. Area 1795 Remedial Construction Completion Report, Fort Drum Installation Restoration Program, Fort Drum, New York.

PIKA-MP JV, 2015f. Area 3805/1995 Remedial Construction Completion Report, Fort Drum Installation Restoration Program, Fort Drum, New York.

PIKA-MP JV, 2015g. P-2140 Remedial Construction Completion Report, Fort Drum Installation Restoration Program, Fort Drum, New York.

United States Environmental Protection Agency (USEPA), Region II, 1998, Ground Water Sampling Procedure, Low Stress (Low Flow) Purging and Sampling Standard Operating Procedure.

Figures



FORT DRUM
FORT DRUM, NEW YORK
BASEWIDE MONITORING REPORT

SITE LOCATION MAP



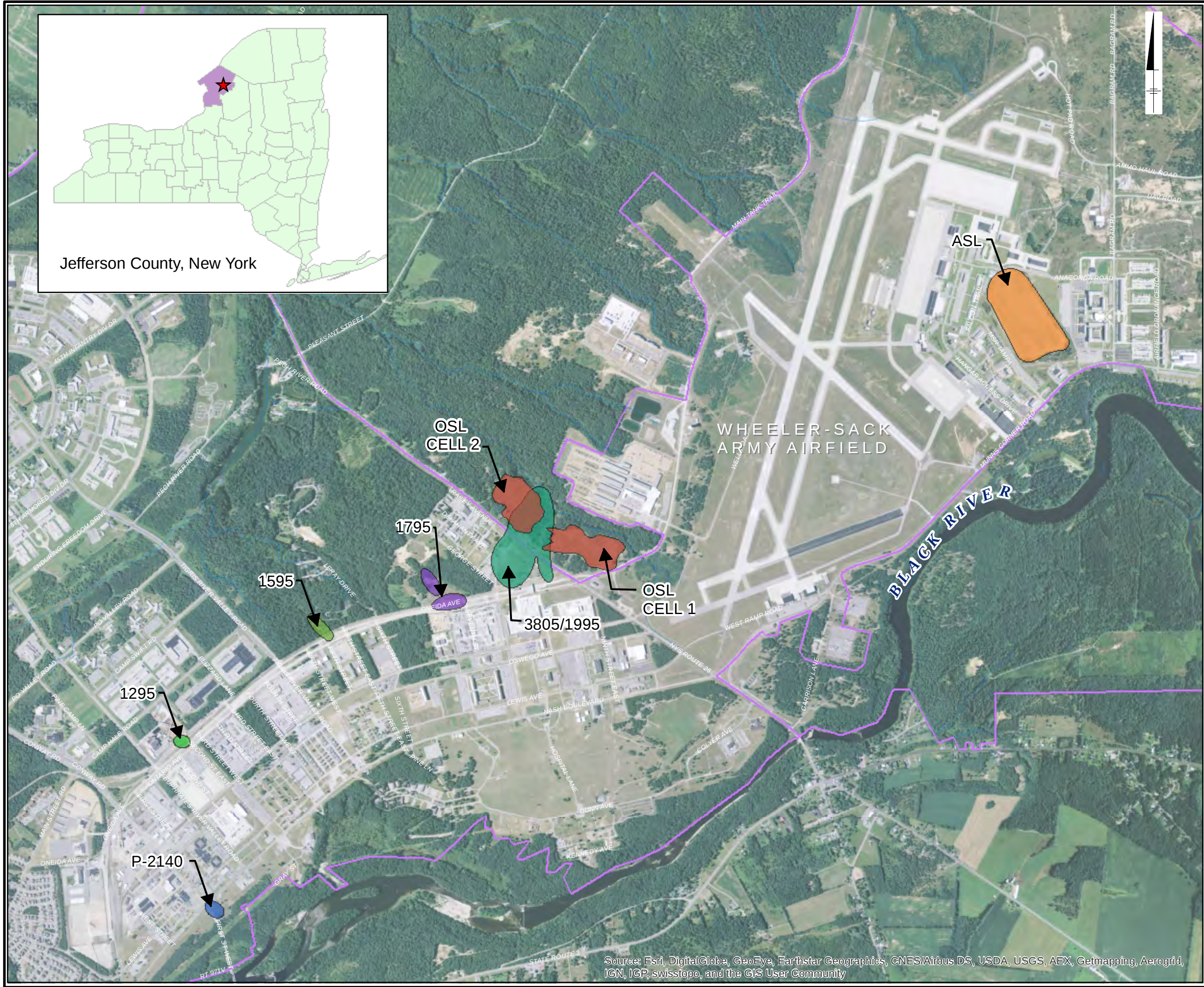
PIKA
INTERNATIONAL, INC.
A JOINT VENTURE

**MALCOLM
PIRNIE**

FIGURE

1-1

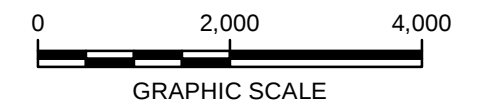
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LEGEND

SITE NAME

- 1295
- 1595
- 1795
- 2140
- 3805/1995
- ASL
- OSL
- INSTALLATION AREA



FORT DRUM
FORT DRUM, NEW YORK
BASEWIDE MONITORING REPORT

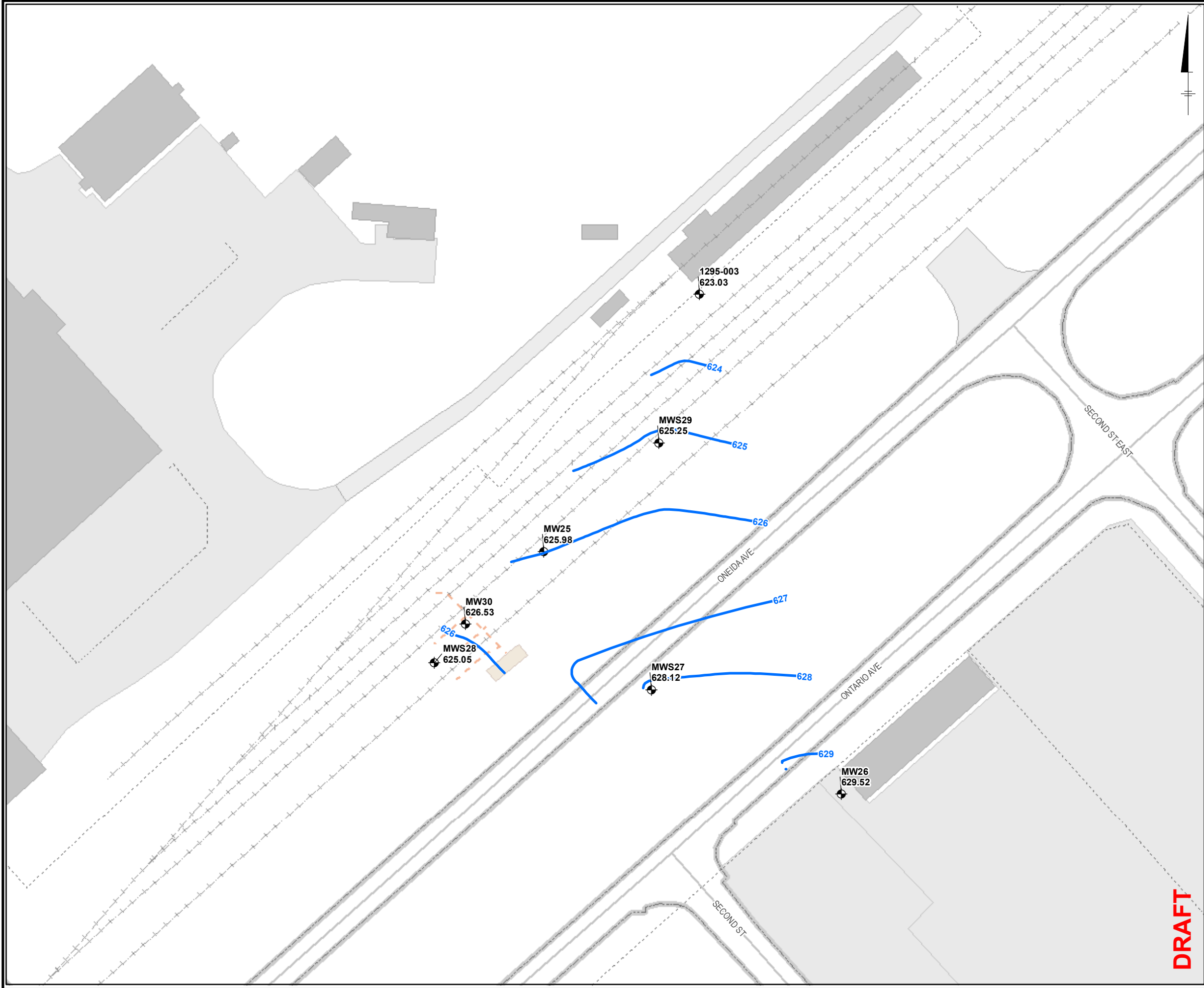
SITE MAP



FIGURE
1-2

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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LEGEND

- GROUNDWATER COUNTOUR (FT. MSL)
- MONITORING WELL
- AIR SPARGE LINE
- FENCE LINE
- RAILROAD TRACK
- ROAD-PAVED
- BUILDING
- REMEDATION SYSTEM
- PAVED AREA

0 70 140

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 1295

GROUNDWATER CONTOUR MAP

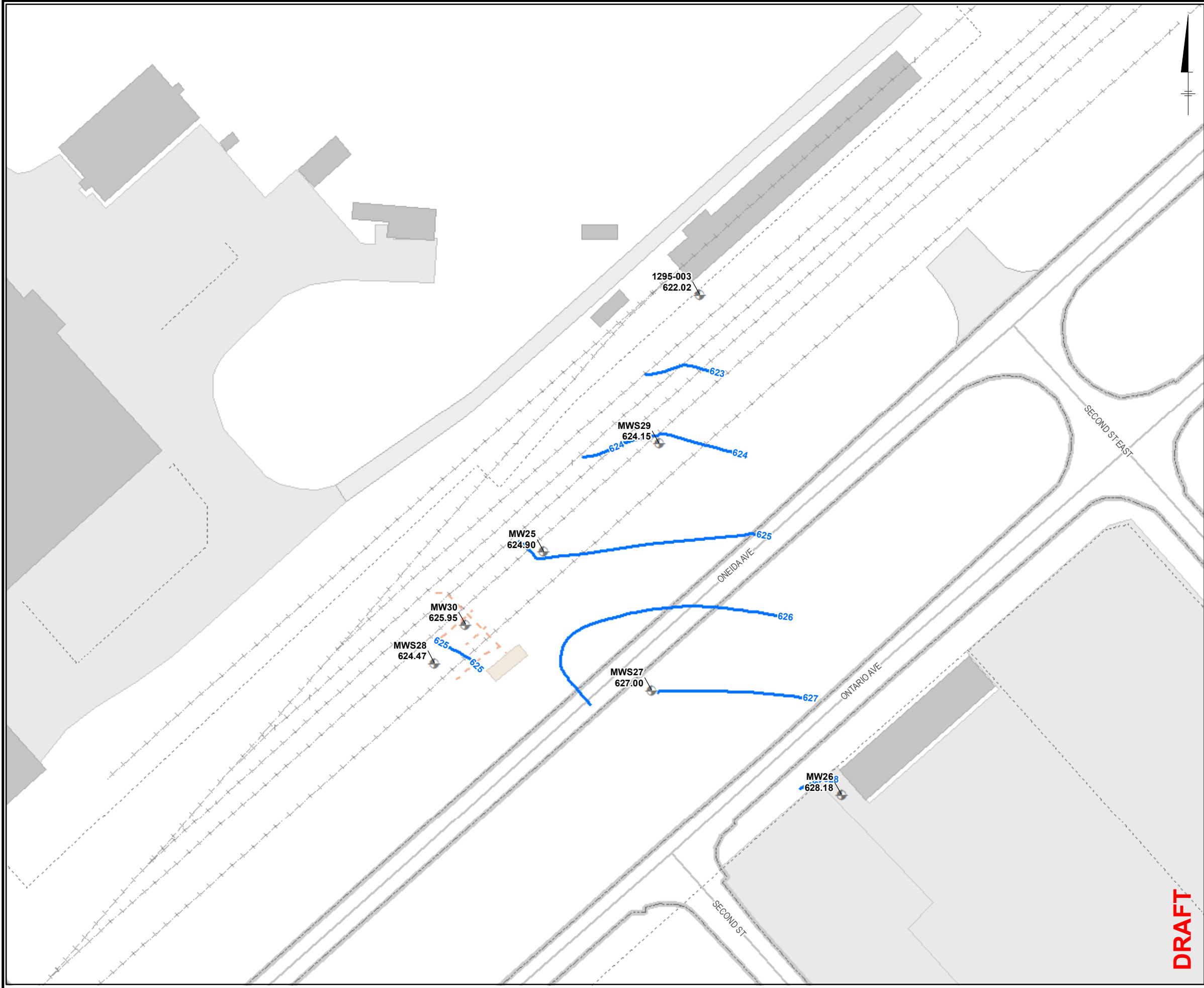
SPRING 2015



FIGURE
4-1

DRAFT

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LEGEND

- MONITORING WELL
- GROUNDWATER COUNTOUR (FT. MSL)
- AIR SPARGE LINE
- FENCE LINE
- RAILROAD TRACK
- ROAD-PAVED
- BUILDING
- REMEDATION SYSTEM
- PAVED

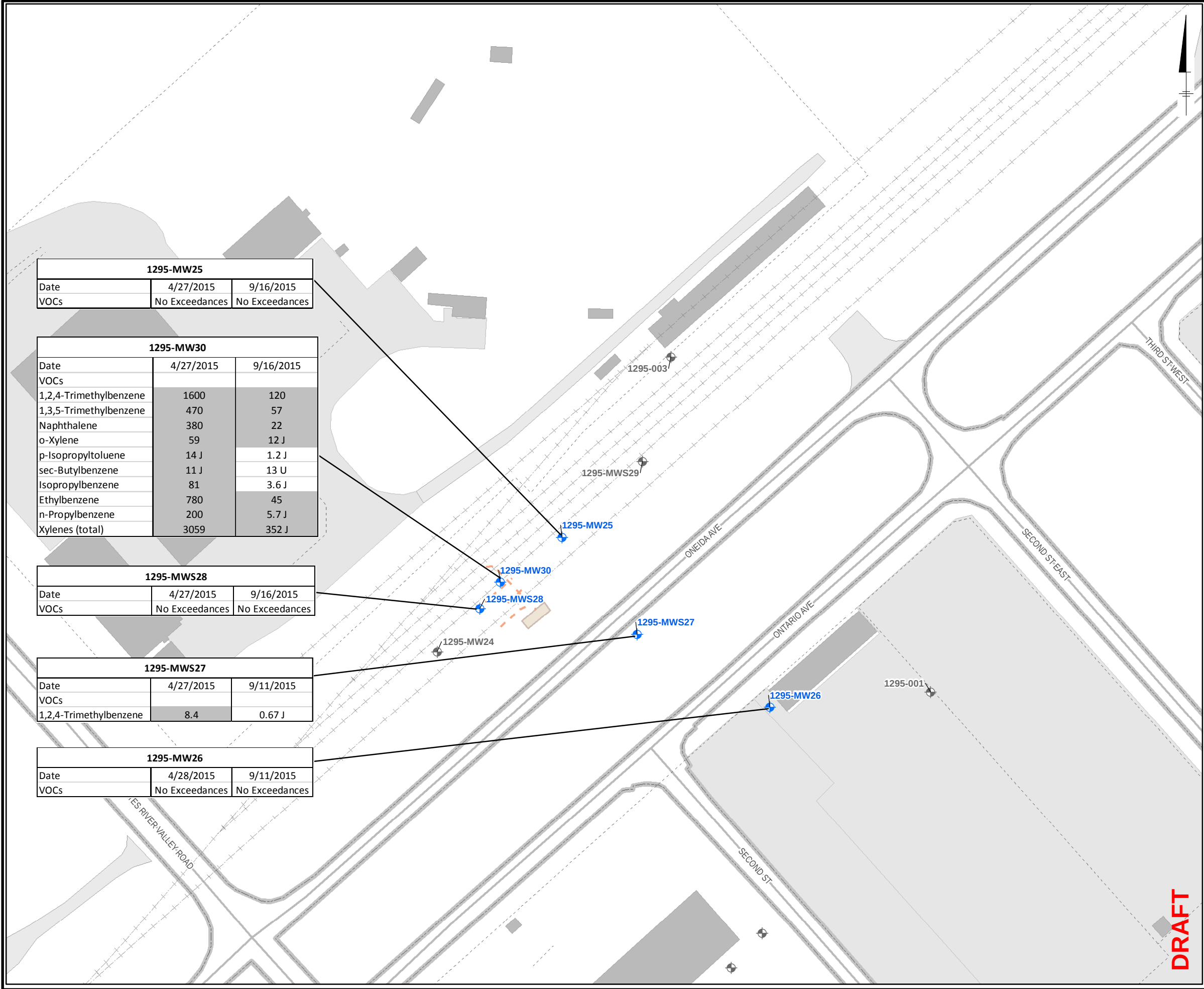
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GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK
BASEWIDE MONITORING REPORT
AREA 1295
GROUNDWATER CONTOUR MAP
FALL 2015

**FIGURE 4-2**

DRAFT

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LEGEND

SAMPLING SUMMARY

- MW-SEMI-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- FENCE LINE
- RAILROAD TRACK
- ROAD-PAVED
- BUILDING
- REMEDIATION SYSTEM
- DRIVEWAY
- PAVED AREA

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
- HIGHLIGHTED CELLS INDICATED CONCENTRATIONS EXCEEDING NYSDEC CLASS GA STANDARDS
- BRACKETED VALUES ARE RESULTS OF DUPLICATE SAMPLES.

NA: NOT ANALYZED.
U: THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
J: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
J-: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION THAT MAY BE BIASED LOW.
D: CONCENTRATION IS A RESULT OF A DILUTION.
E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 80 160

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

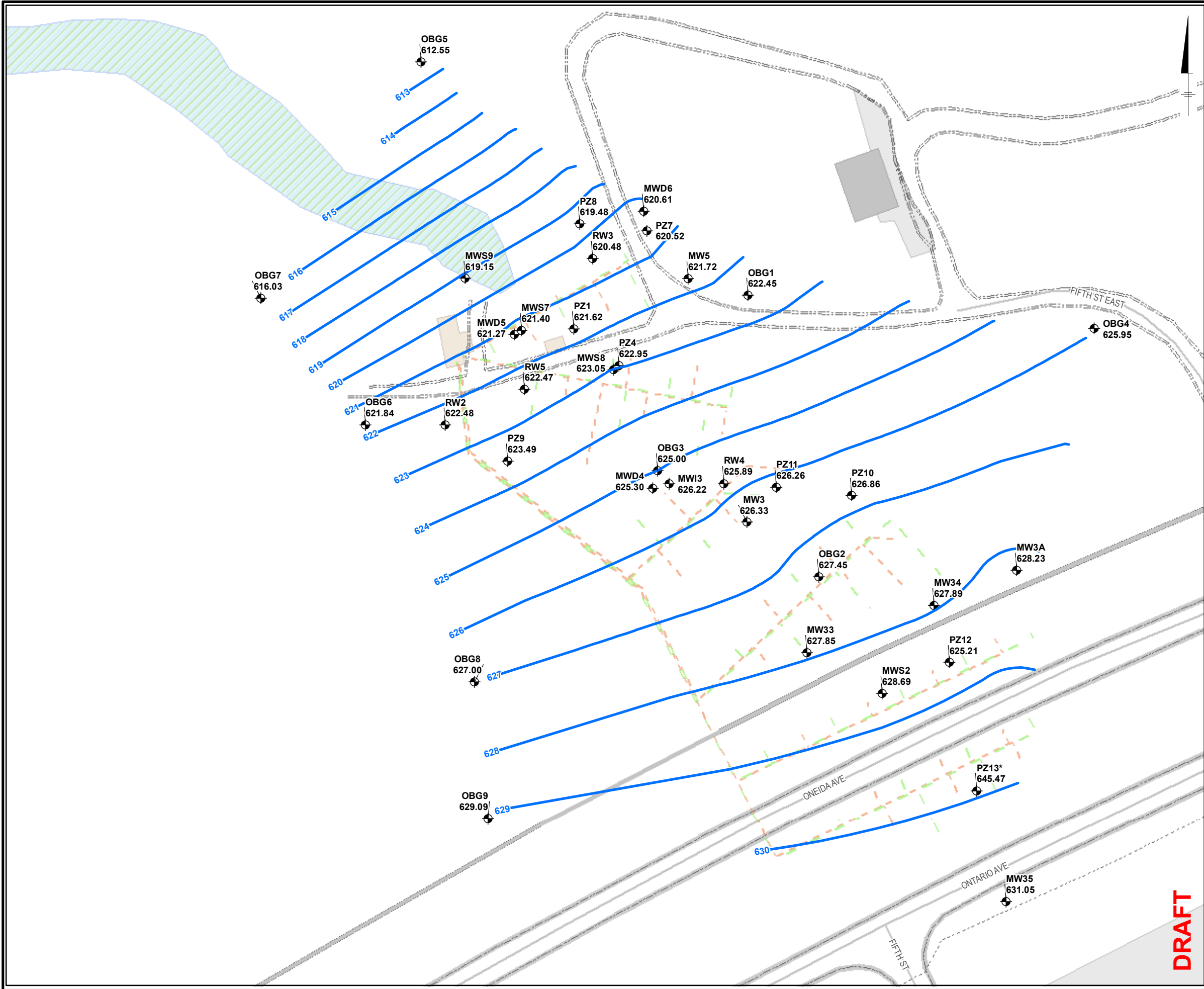
BASEWIDE MONITORING REPORT

AREA 1295
VOC CONCENTRATIONS

A JOINT VENTURE

FIGURE
4-3

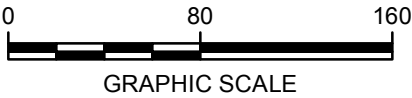
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LEGEND

- GROUNDWATER CONTOUR (FT. MSL)
- MONITORING WELL
- AIR SPARGE LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- PAVED AREA
- WETLANDS

NOTE:
* Denotes elevations not used for contouring.



DRAFT

FORT DRUM
FORT DRUM, NEW YORK

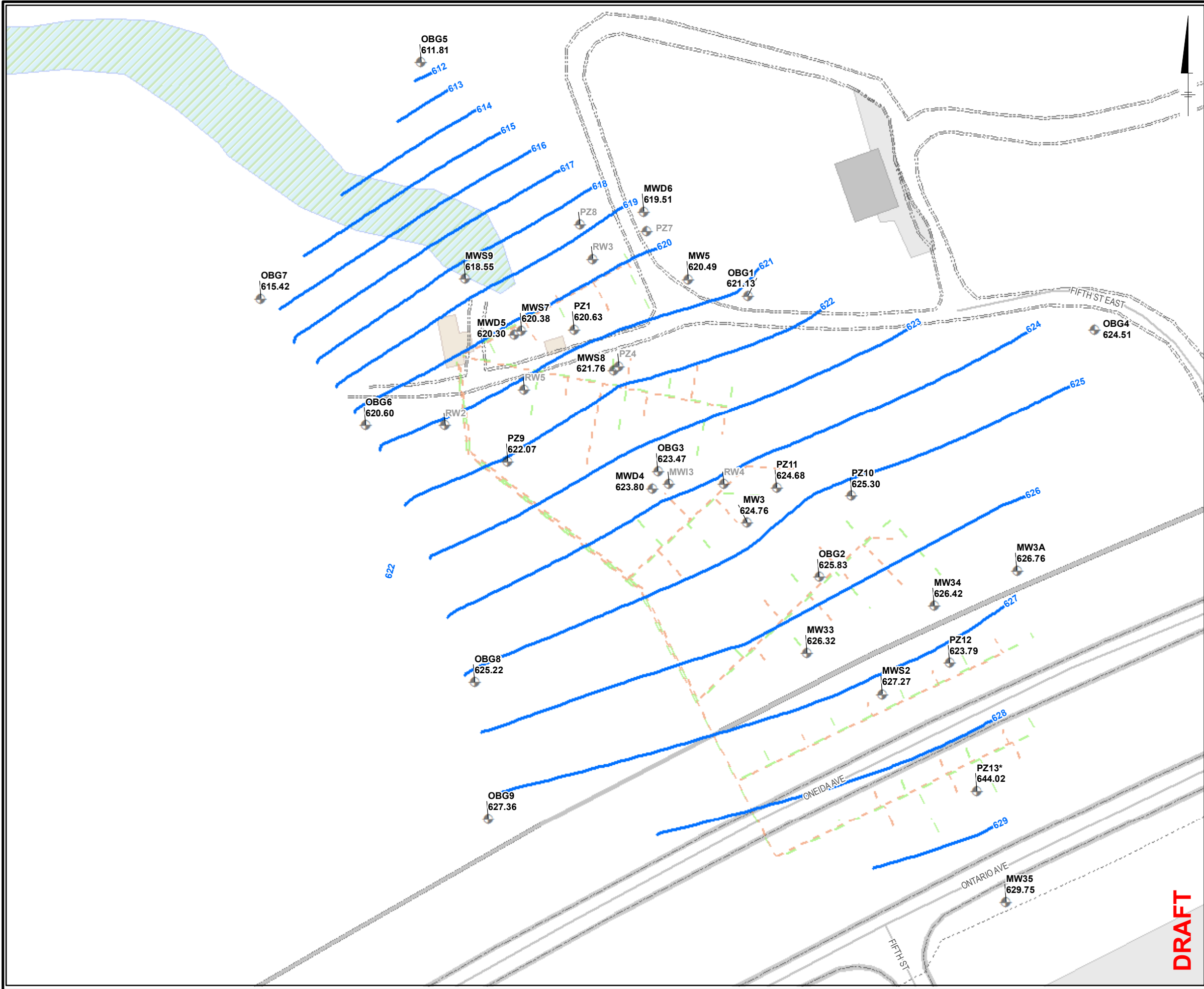
BASEWIDE MONITORING REPORT

AREA 1595
GROUNDWATER CONTOUR MAP
SPRING 2015



FIGURE
4-4

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LEGEND

- MONITORING WELL
- GROUNDWATER COUNTOUR (FT. MSL)
- AIR SPARGE LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- PAVED AREA
- WETLANDS

0 80 160

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

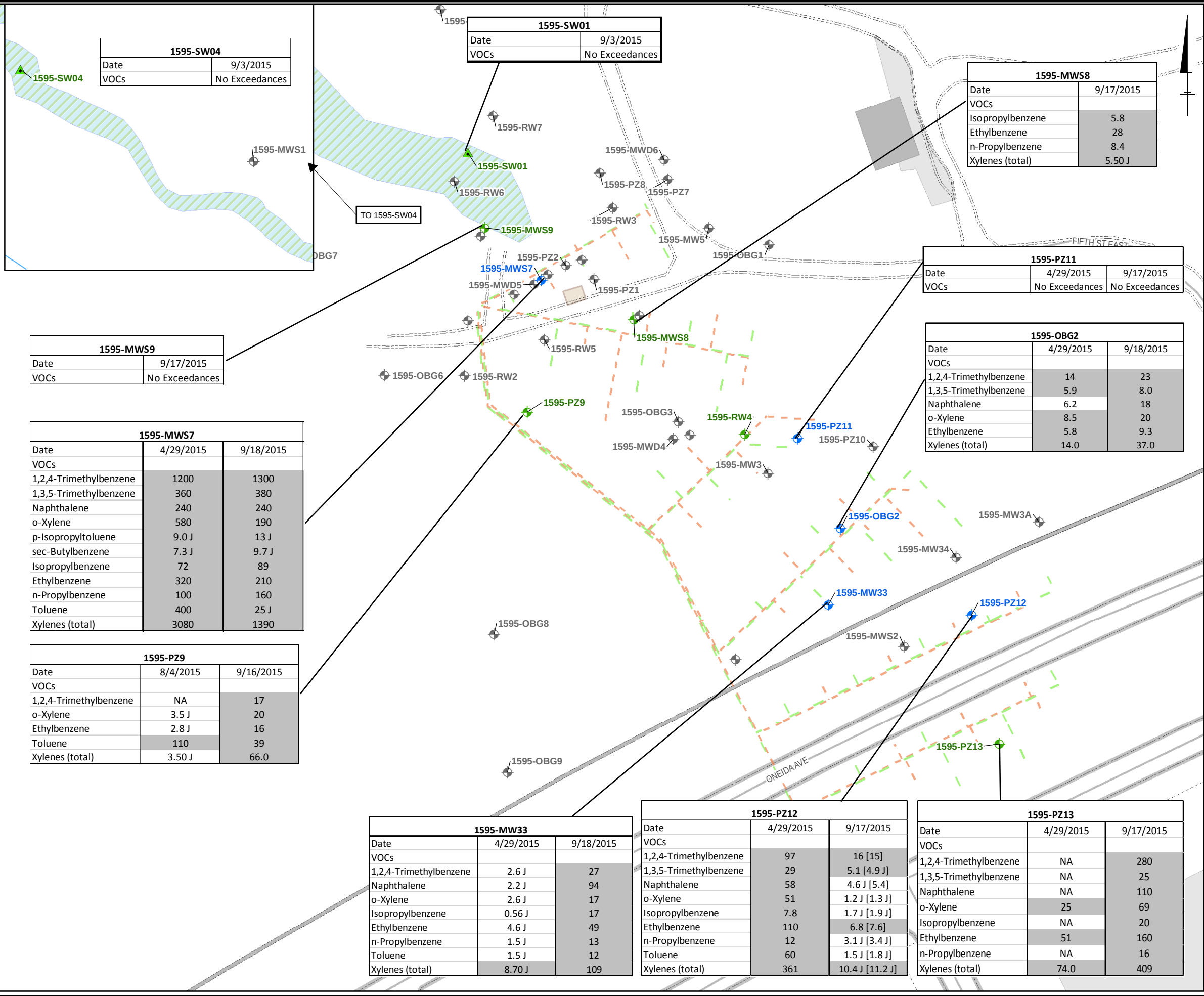
BASEWIDE MONITORING REPORT

AREA 1595
GROUNDWATER CONTOUR MAP
FALL 2015



FIGURE
4-5

DRAFT



LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- MW-SEMI-ANNUAL SAMPLING EVENT
- SW-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- PAVED
- WETLANDS

NOTES:

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- E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

DRAFT

0 80 160

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

1595
VOC CONCENTRATIONS

FIGURE
4-6

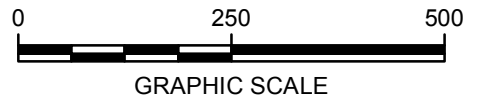
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LEGEND

- GROUNDWATER CONTOUR (FT. MSL)
- MONITORING WELL
- AIR SPARGE LINE
- SOIL VAPOR EXTRACTION LINE
- WATER TREATMENT LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- PAVED AREA
- LANDFILL SITE
- WETLANDS

NOTE:
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FORT DRUM
FORT DRUM, NEW YORK

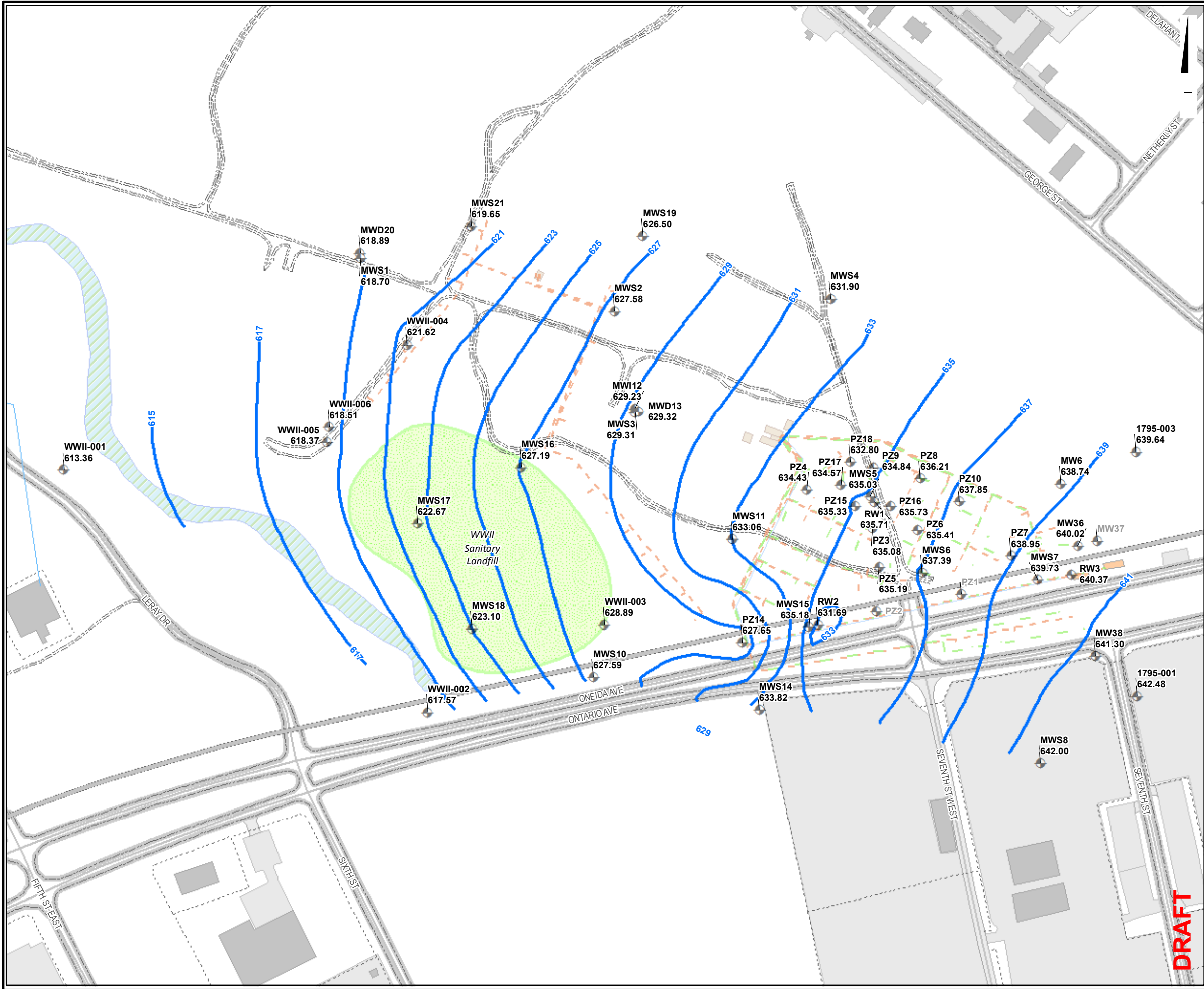
BASEWIDE MONITORING REPORT

AREA 1795
GROUNDWATER CONTOUR MAP
SPRING 2015



FIGURE
4-7

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LEGEND

- MONITORING WELL
- GROUNDWATER COUNTOUR (FT. MSL)
- AIR SPARGE LINE
- SOIL VAPOR EXTRACTION LINE
- WATER TREATMENT LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
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- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- PAVED AREA
- LANDFILL SITE
- WETLANDS

NOTE:
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0 225 450
GRAPHIC SCALE

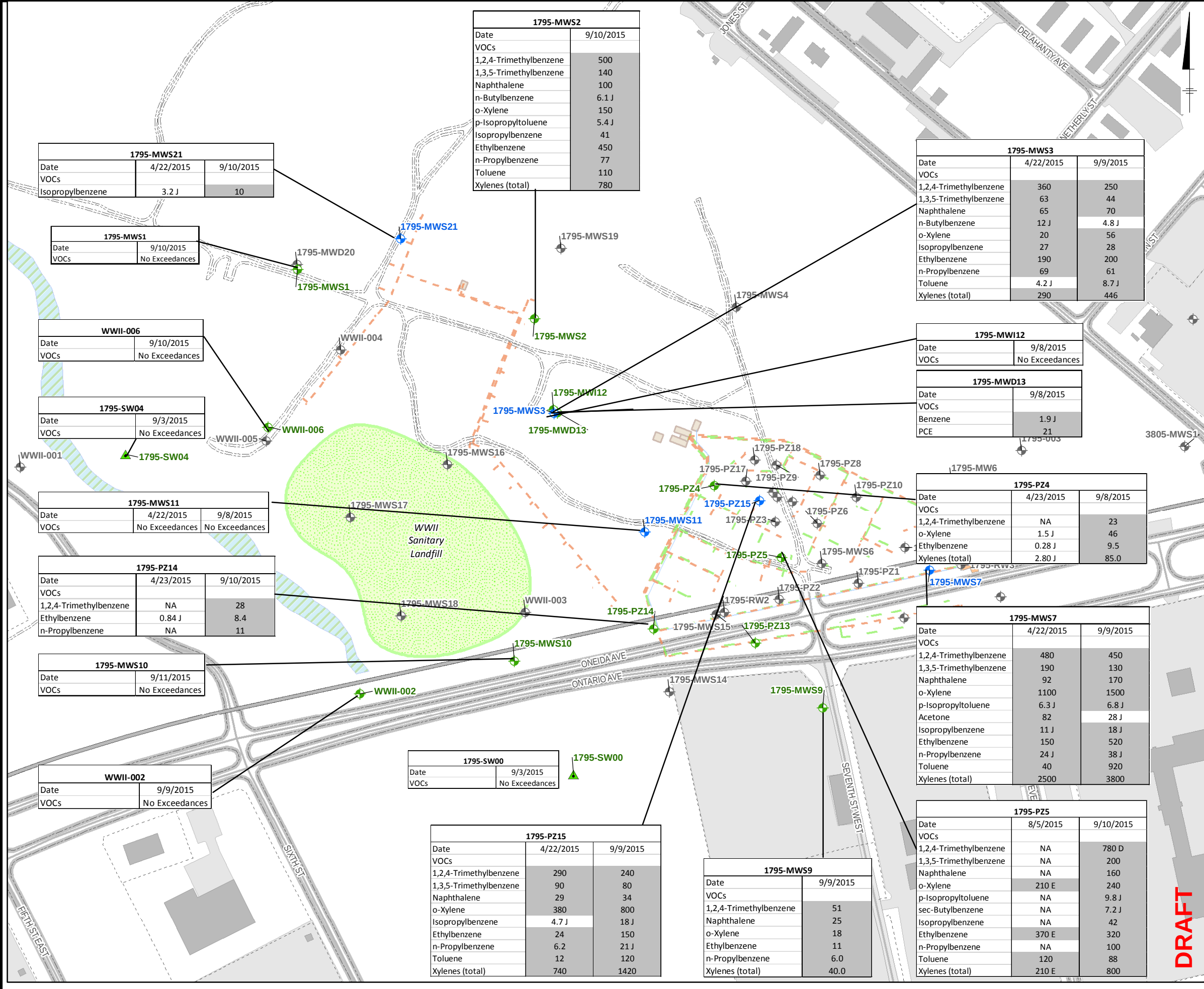
FORT DRUM
FORT DRUM, NEW YORK
BASEWIDE MONITORING REPORT
**AREA 1795
GROUNDWATER CONTOUR MAP
FALL 2015**





FIGURE
4-8

DRAFT



LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- MW-SEMI-ANNUAL SAMPLING EVENT
- SW-ANNUAL SAMPLING EVENT
- MW-NOT PART OF MONITORING PLAN

- AIR SPARGE LINE
- SOIL VAPOR EXTRACTION LINE
- WATER TREATMENT LINE
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIAL SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED
- LANDFILL SITE
- WETLANDS

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E: CONCENTRATION EXCEEDS CALIBRATION RANGE.



FORT DRUM
FORT DRUM, NEW YORK
BASEWIDE MONITORING REPORT

AREA 1795 VOC CONCENTRATIONS

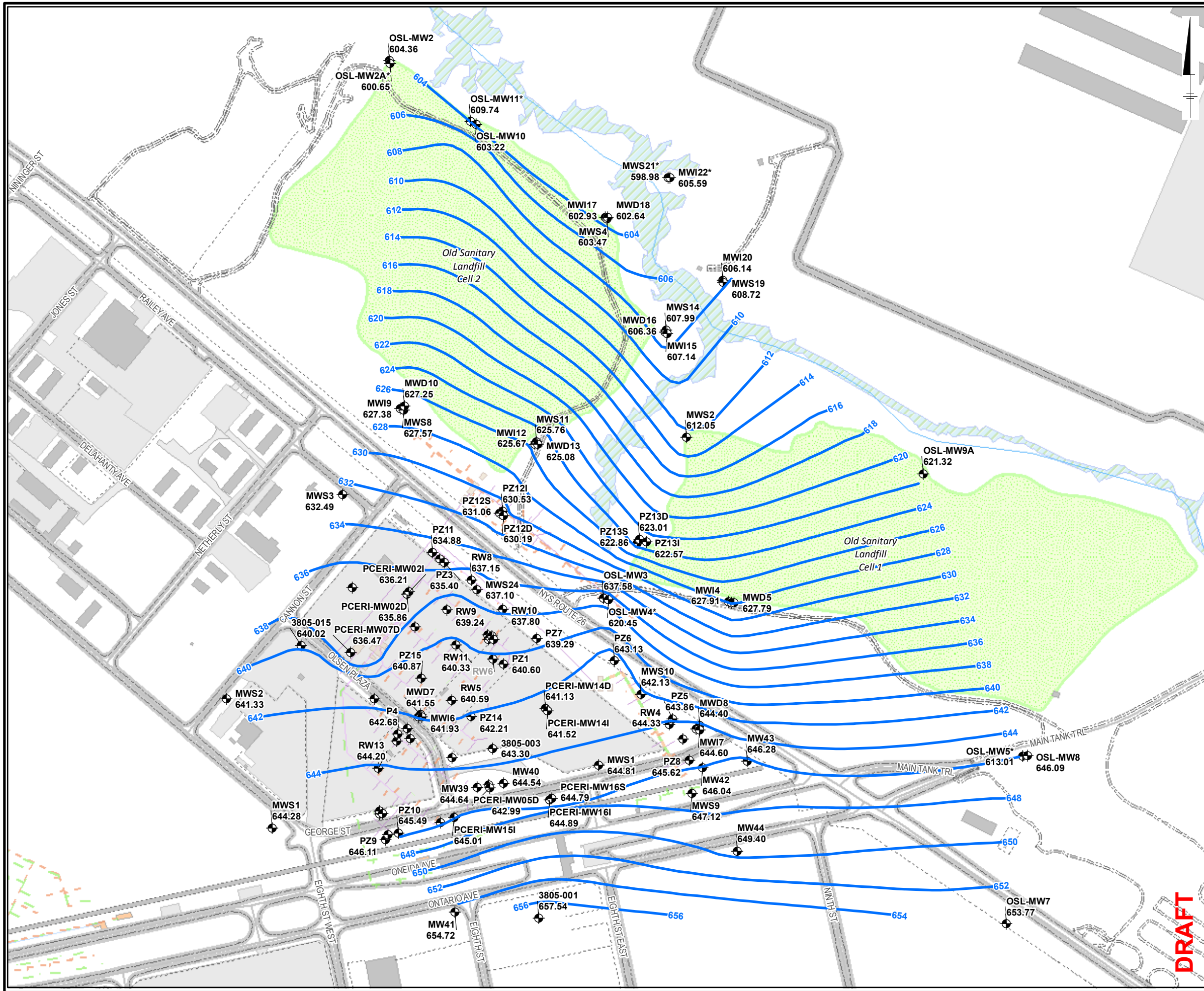


FIGURE

4-9

DRAFT

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LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (FT. MSL)
- AIR SPARGE LINE
- MULTI-PHASE EXTRACTION LINE
- MULTI-PHASE EXTRACTION/AIR SPARGE EXTRACTION LINE
- SOIL VAPOR EXTRACTION LINE
- HORIZONTAL SOIL VAPOR EXTRACTION LINE
- SOIL VAPOR EXTRACTION/AQUIFER AIR SPARGE EXTRACTION LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- PAVED AREA
- LANDFILL SITE
- WETLANDS

NOTE:
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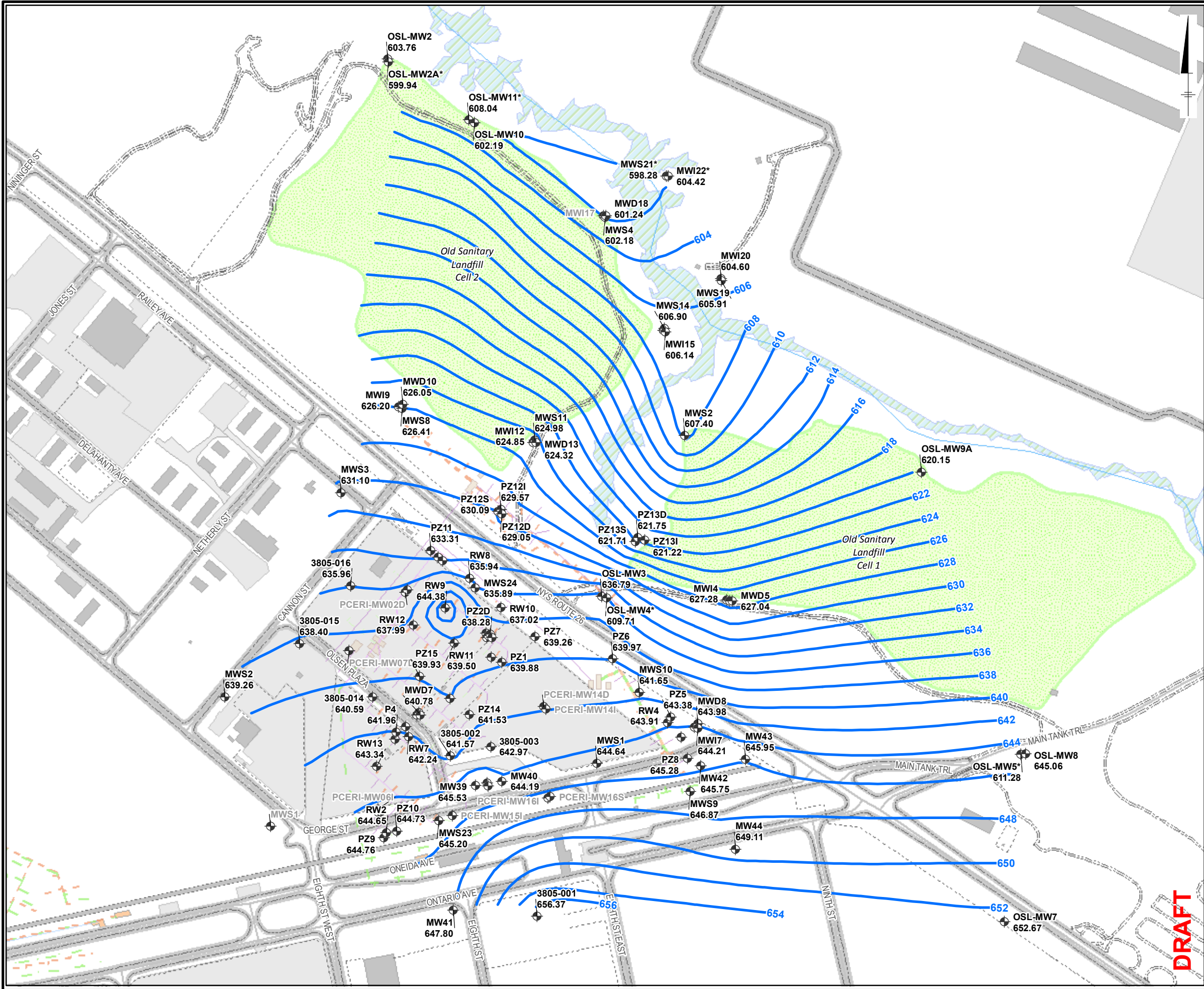
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GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK
BASEWIDE MONITORING REPORT
AREA 3805/1995/OSL
GROUNDWATER CONTOUR MAP
SPRING 2015



FIGURE
4-10

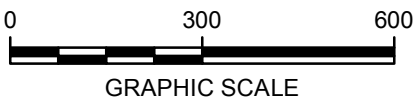
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LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (FT. MSL)
- AIR SPARGE LINE
- MULTI-PHASE EXTRACTION LINE
- MULTI-PHASE EXTRACTION/AIR SPARGE EXTRACTION LINE
- SOIL VAPOR EXTRACTION LINE
- HORIZONTAL SOIL VAPOR EXTRACTION LINE
- SOIL VAPOR EXTRACTION/AQUIFER AIR SPARGE EXTRACTION LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
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- REMEDIAION SYSTEM
- FORMER UST LOCATION
- PAVED AREA
- LANDFILL SITE
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NOTE:
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FORT DRUM
FORT DRUM, NEW YORK

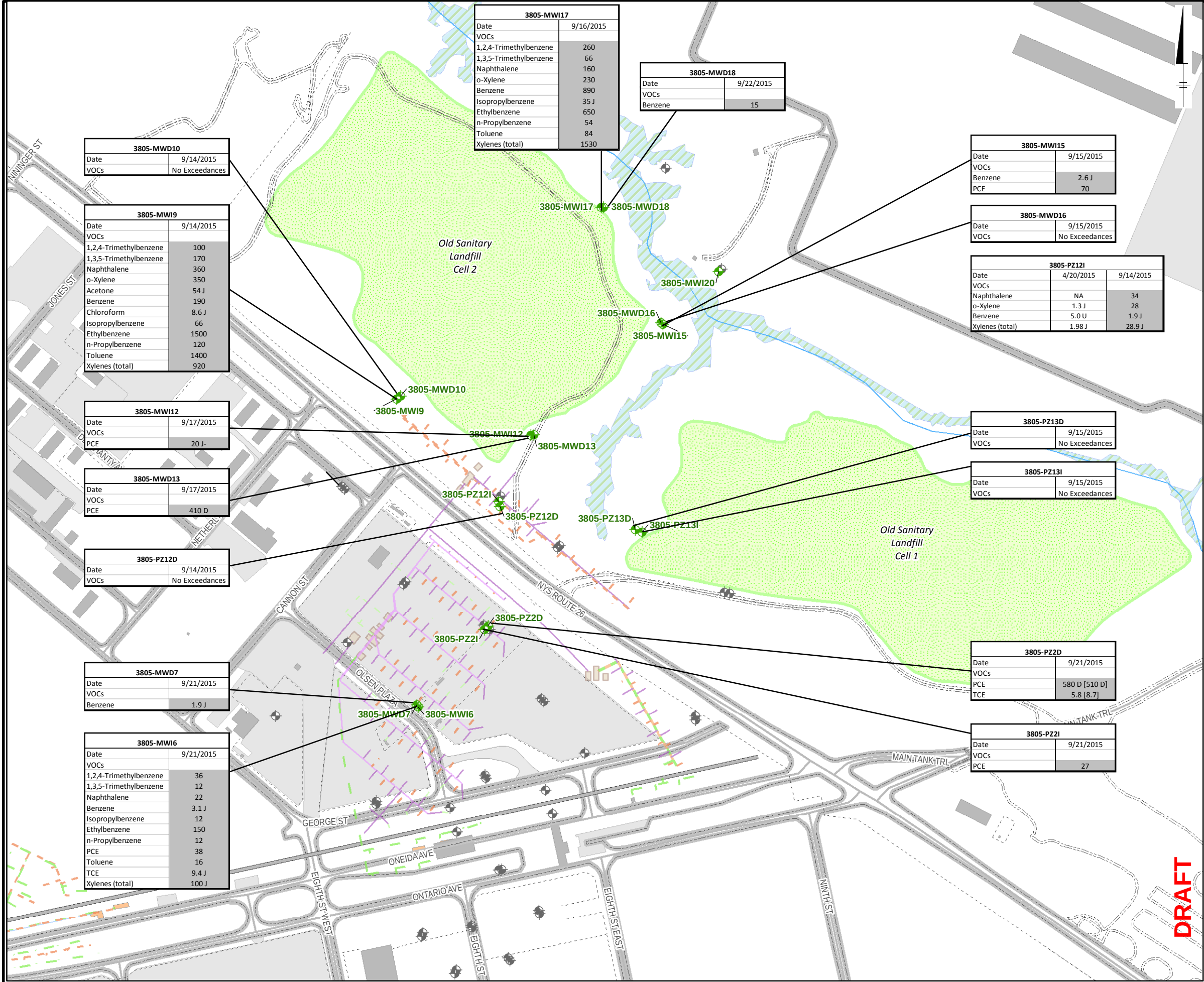
BASEWIDE MONITORING REPORT

**AREA 3805/1995/OSL
GROUNDWATER CONTOUR MAP
FALL 2015**



FIGURE
4-11

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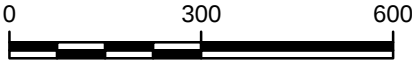


LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- MULTI-PHASE EXTRACTION LINE
- MULTI-PHASE EXTRACTION/AIR SPARGE EXTRACTION LINE
- SOIL VAPOR EXTRACTION LINE
- HORIZONTAL SOIL VAPOR EXTRACTION LINE
- SOIL VAPOR EXTRACTION/AQUIFER AIR SPARGE EXTRACTION LINE
- WATER TREATMENT LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED
- LANDFILL SITE
- WETLANDS

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J-: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION THAT MAY BE BIASED LOW.
D: CONCENTRATION IS A RESULT OF A DILUTION.
E: CONCENTRATION EXCEEDS CALIBRATION RANGE.



GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

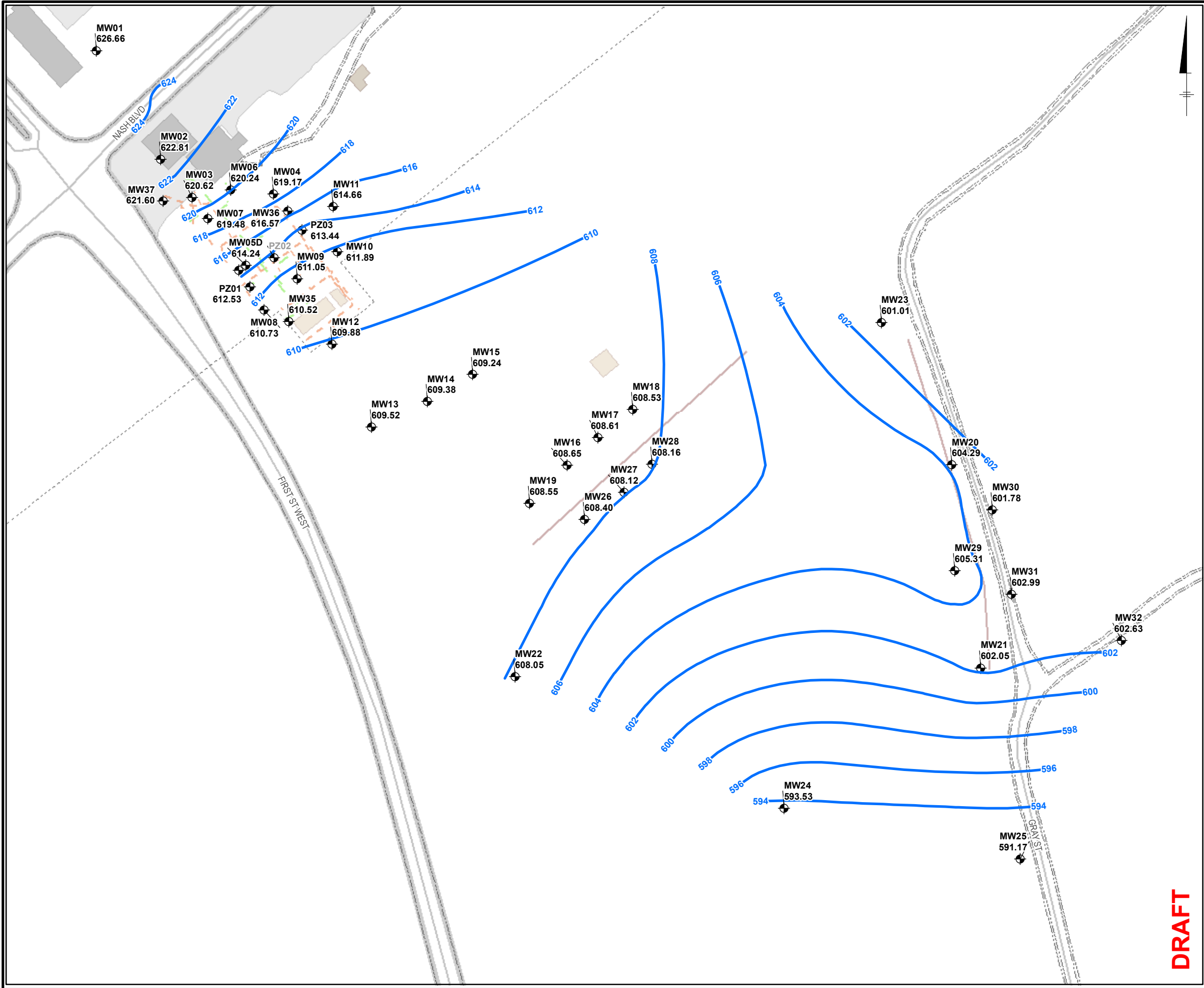
AREA 3805/1995
VOC CONCENTRATIONS
INTERMEDIATE & DEEP ZONES



FIGURE

4-13

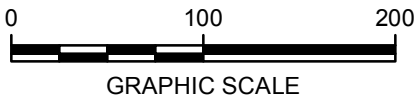
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PROJECT: XX000000.0000.000000 PATH: Z:\GIS\PROJECTS\ENV\ENVY_FORTDRUM_IRP\MXD\2015 BASEWIDE MONITORING REPORT\F4-14_P2140 GROUNDWATER CONTOUR MAP SPRING 2015.mxd Last Saved By: ssutton



DRAFT

LEGEND

- MONITORING WELL
- GROUNDWATER CONTOUR (FT. MSL)
- AIR SPARGE LINE
- OZONE SPARGING LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- PAVED AREA



FORT DRUM
FORT DRUM, NEW YORK

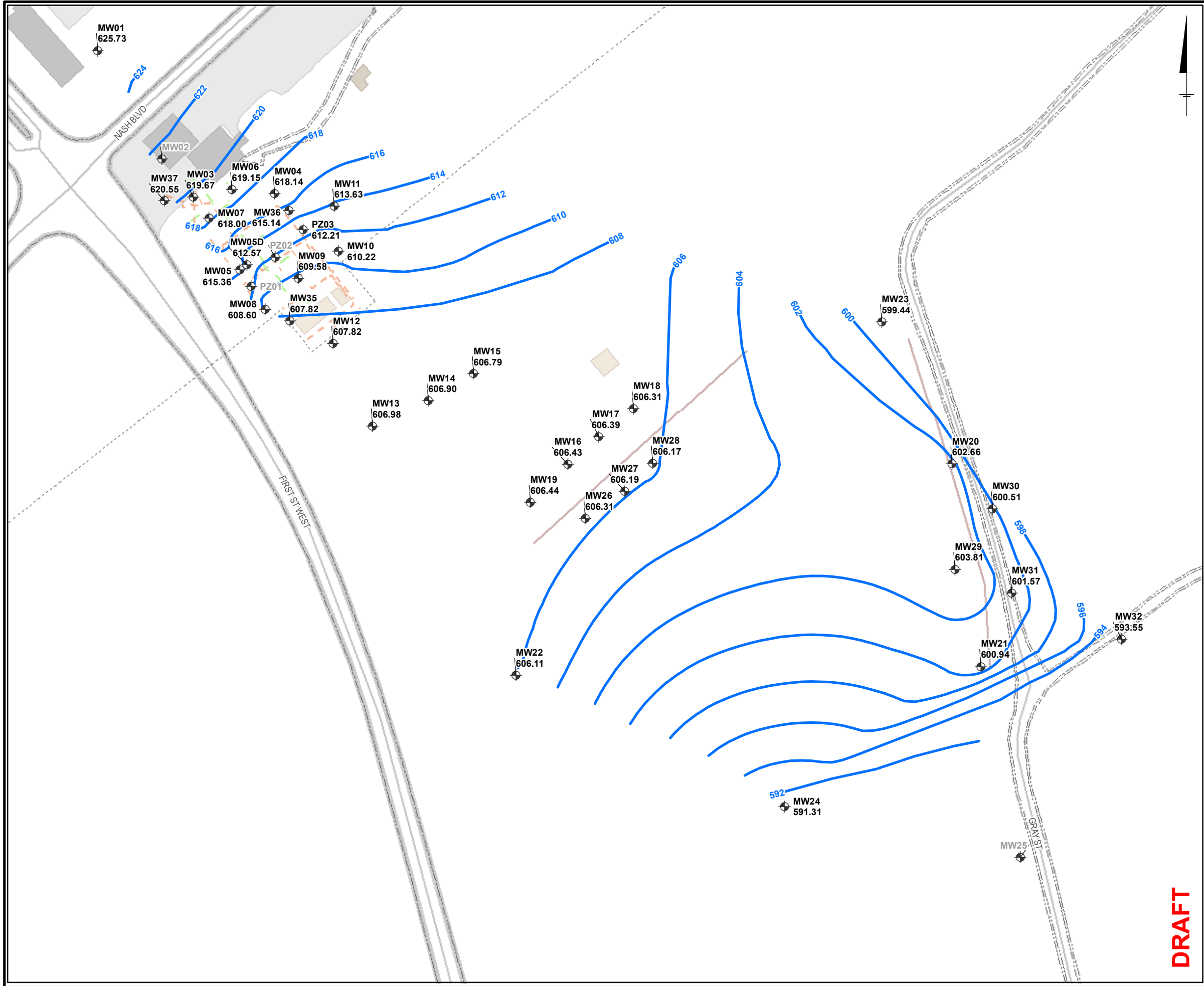
BASEWIDE MONITORING REPORT

AREA P-2140
GROUNDWATER CONTOUR MAP
SPRING 2015



FIGURE
4-14

CITY:(CHARLOTTE) DIV:(GROUP:ENV/GIS) DB: ssutton LD: S.SUTTON PIC: PM: TM: DATE SAVED: 12/23/2015 11:59:45 AM
PROJECT: XX000000.0000.000000 PATH: Z:\GIS\PROJECTS\ENV\ENVY_FORTDRUM_IRPMXD2015 BASEWIDE MONITORING REPORT\F4-15_P2140 GROUNDWATER CONTOUR MAP FALL 2015.mxd Last Saved By: ssutton



LEGEND

- MONITORING WELL
- GROUNDWATER COUNTOUR (FT. MSL)
- AIR SPARGE LINE
- OZONE SPARGING LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- PAVED AREA

NOTE:
* Denotes elevations not used for contouring.

0 100 200
GRAPHIC SCALE

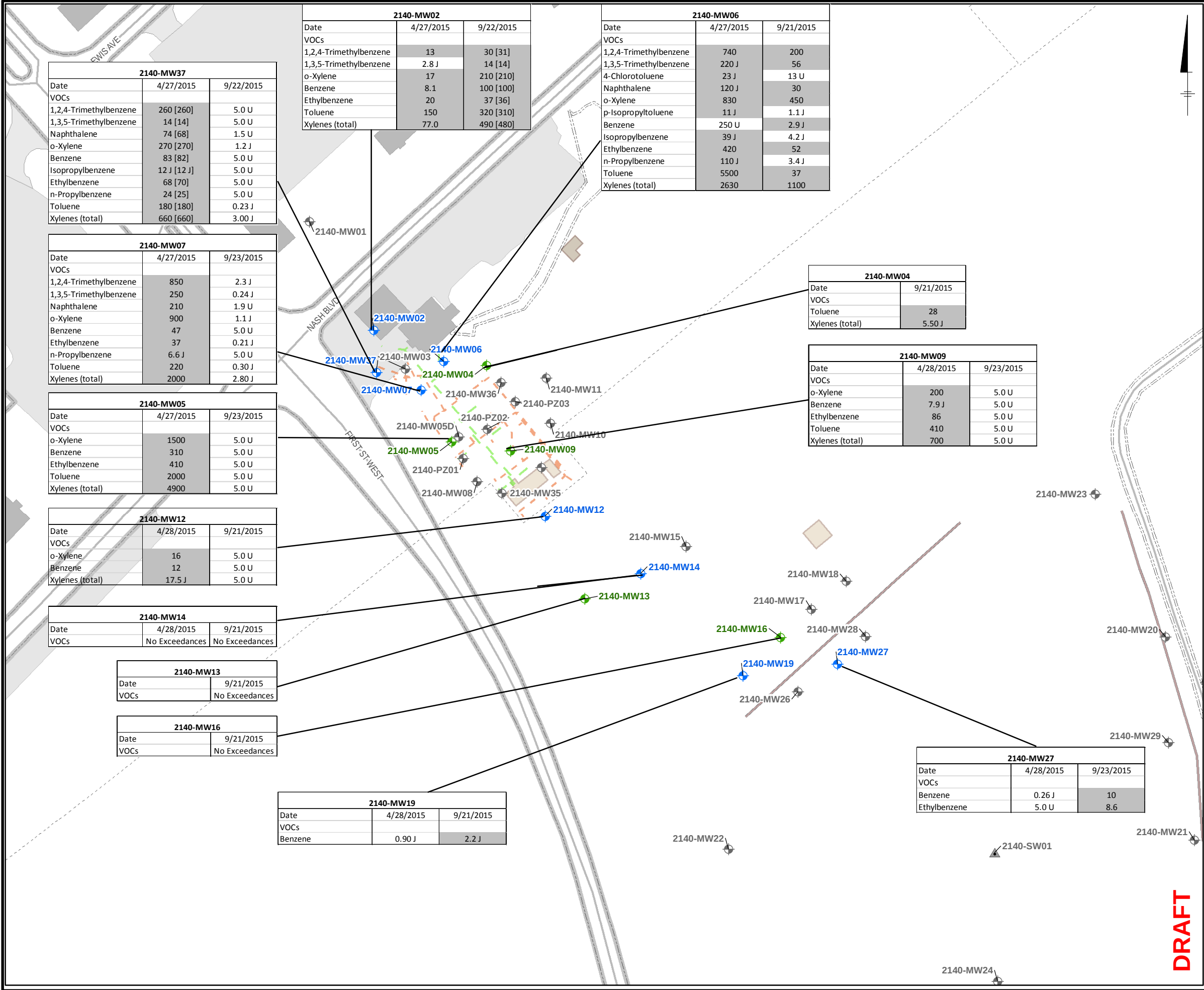
FORT DRUM
FORT DRUM, NEW YORK
BASEWIDE MONITORING REPORT
AREA P-2140
GROUNDWATER CONTOUR MAP
FALL 2015



FIGURE
4-15

DRAFT

CITY:(CHARLOTTE) DIV(GROUP:ENV/GIS) DB: kinsabaugh LD: S.SUTTON PIC: PM: TM: DATE SAVED: 12/29/2015 10:08:03 PM
PROJECT: XX000000.0000.000000 PATH: Z:\GISPROJECTS\ENV\ENV_FORTDRUM_IRPMX\2015 BASEWIDE MONITORING REPORT\F4-16 P2140 VOC CONCENTRATIONS.mxd Last Saved By: kinsabaugh



LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- MW-SEMI-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- SW-NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- OZONE SPARGING LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- DRIVEWAY
- PAVED AREA

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
- HIGHLIGHTED CELLS INDICATED CONCENTRATIONS EXCEEDING NYSDEC CLASS GA STANDARDS
- BRACKETED VALUES ARE RESULTS OF DUPLICATE SAMPLES.

NA: NOT ANALYZED.

U: THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.

J: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

J-: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION THAT MAY BE BIASED LOW.

D: CONCENTRATION IS A RESULT OF A DILUTION.

E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 100 200

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

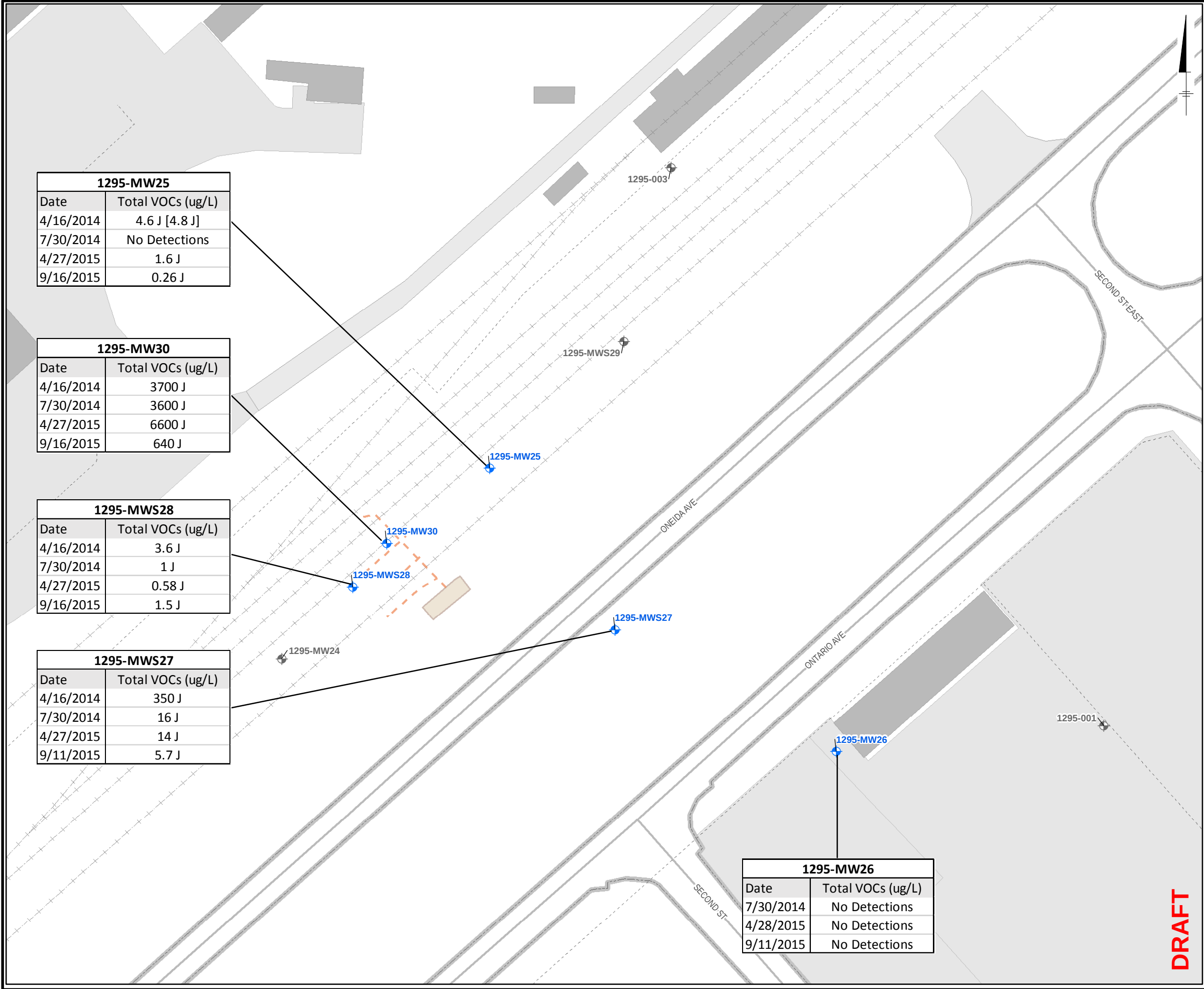
AREA P-2140
VOC CONCENTRATIONS

A JOINT VENTURE

FIGURE
4-16

DRAFT

CITY:(CHARLOTTE) DIV:(GROUP:(ENV/GIS) DB: ssutton LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/4/2016 1:27:16 PM
PROJECT: XX000000.0000.000000 PATH: Z:\GIS\PROJECTS\ENV\ENV_FORTDRUM_IRPMXD2015 BASEWIDE MONITORING REPORT\F5-1.1295 TOTAL VOC TRENDS.mxd Last Saved By: ssutton



LEGEND

SAMPLING SUMMARY

- MW-SEMI-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- FENCE LINE
- RAILROAD TRACK
- ROAD-PAVED
- BUILDING
- REMEDATION SYSTEM
- DRIVEWAY
- PAVED AREA

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
- BRACKETED VALUES ARE RESULTS OF DUPLICATE SAMPLES.
- U: THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
- J: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
- J-: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION THAT MAY BE BIASED LOW.
- D: CONCENTRATION IS A RESULT OF A DILUTION.
- E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 60 120

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

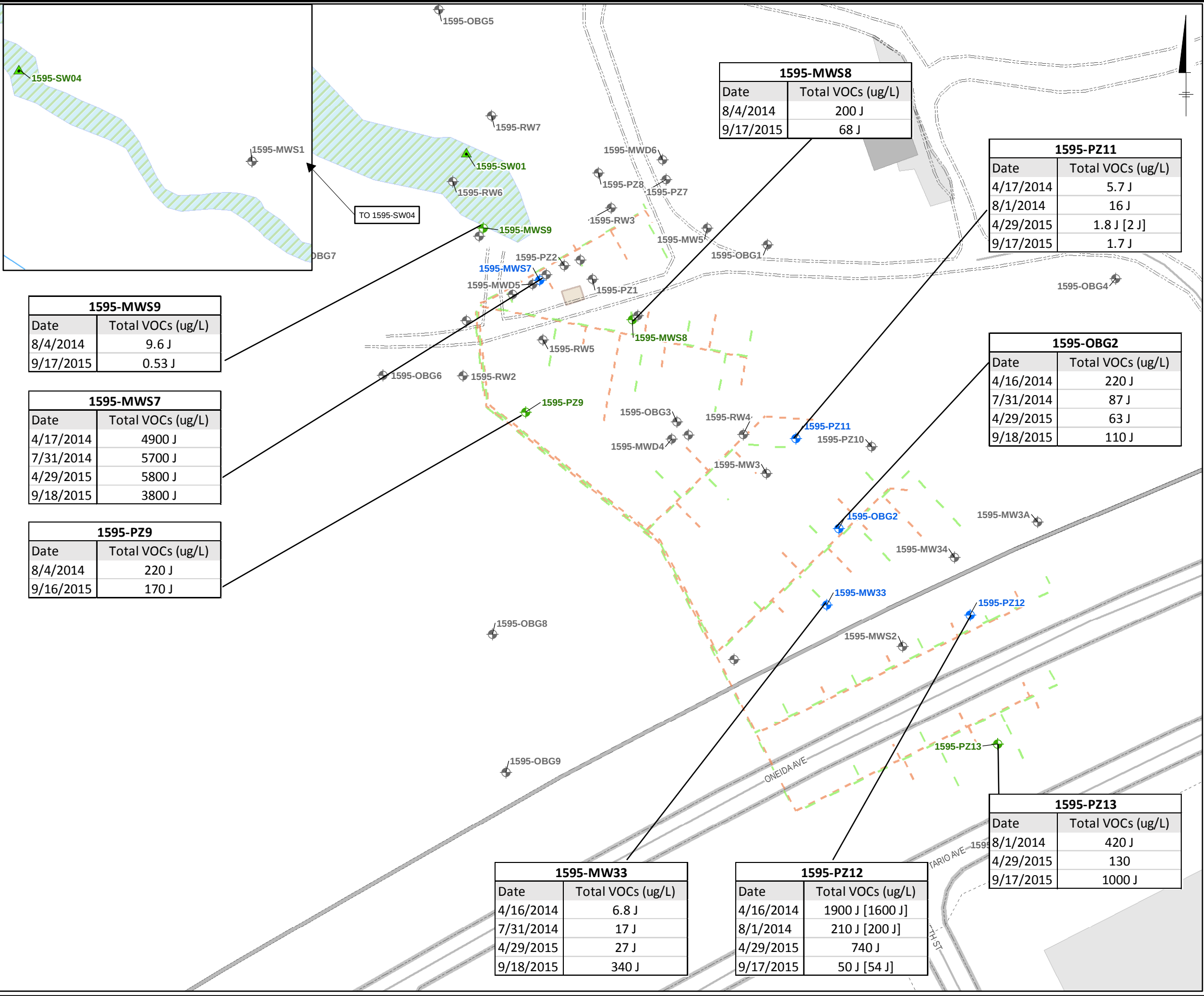
AREA 1295
TOTAL VOC TRENDS

A JOINT VENTURE

FIGURE
5-1

DRAFT

CITY:CHARLOTTE) DIV:GROUP:ENV/GIS) DB: ssutton LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/4/2016 1:26:48 PM PROJECT: XX000000.0000.000000 PATH: Z:\GIS\PROJECTS\ENV\ENV_FORTDRUM_IRP\MD2015 BASEWIDE MONITORING REPORT\F5-2 1595 TOTAL VOC TRENDS.mxd Last Saved By: ssutton



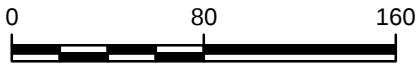
LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- MW-SEMI-ANNUAL SAMPLING EVENT
- SW-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- PAVED
- WETLANDS

NOTES:
- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (ug/L)
- BRACKETED VALUES ARE RESULTS OF DUPLICATE SAMPLES.
U: THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
J: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
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D: CONCENTRATION IS A RESULT OF A DILUTION.
E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

DRAFT



GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

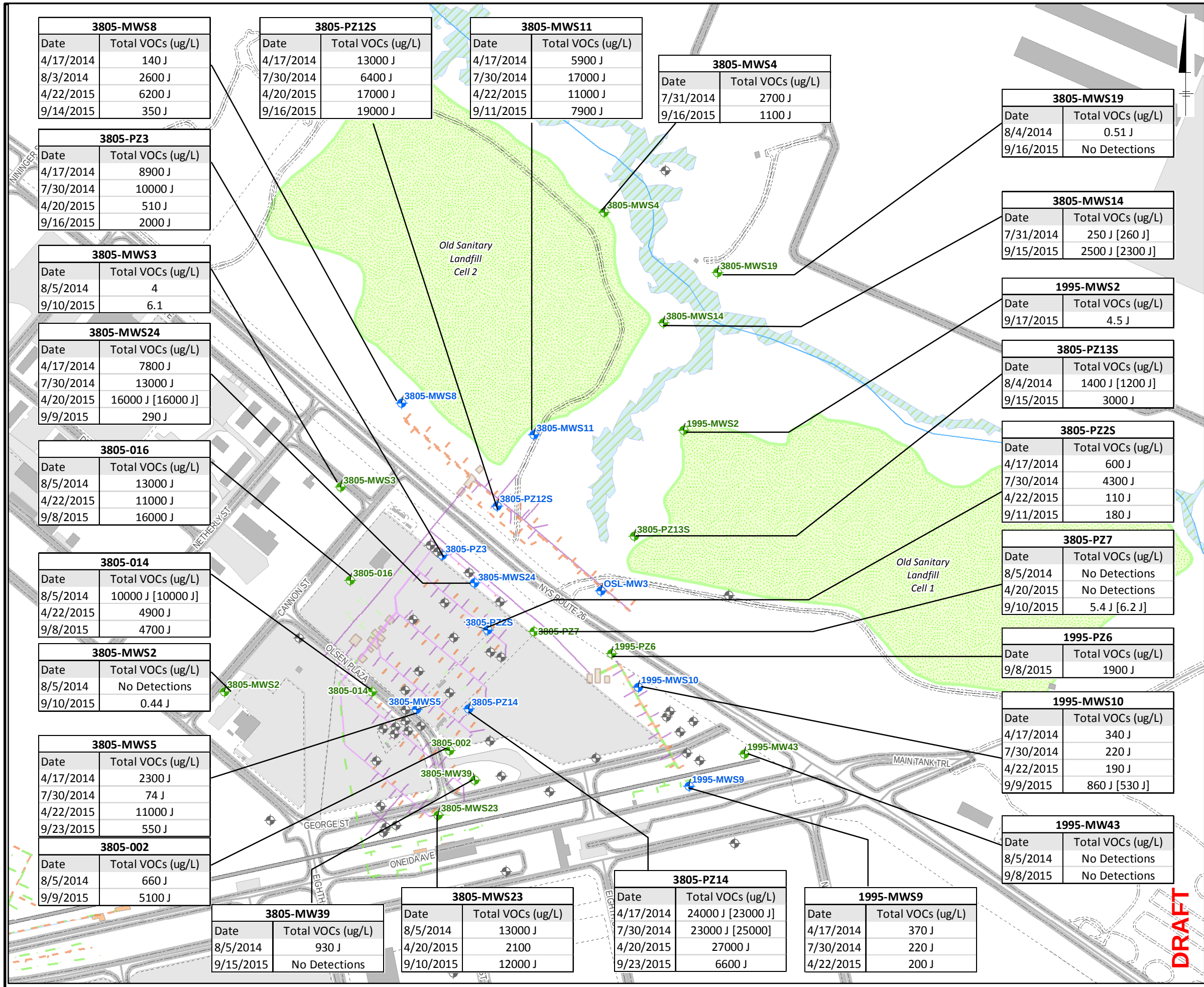
BASEWIDE MONITORING REPORT

AREA 1595
TOTAL VOC TRENDS



FIGURE
5-2

CITY: (CHARLOTTE) DIV: (GROUP) DB: (SUTTON) PM: DATE: 2/4/2016 2:53:27 PM PROJECT: XX000000.0000.000000 PATH: GISPROJECTS\ENV\ENV_FORTDRUM_IRPMX\2015 BASEWIDE MONITORING REPORT\F5-4 3805_1995 TOTAL VOC TRENDS shallow.mxd Last Saved By: ssutton



LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- MW-SEMI-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- MULTI-PHASE EXTRACTION LINE
- MULTI-PHASE EXTRACTION/AIR SPARGE EXTRACTION LINE
- SOIL VAPOR EXTRACTION LINE
- HORIZONTAL SOIL VAPOR EXTRACTION LINE
- SOIL VAPOR EXTRACTION/AQUIFER AIR SPARGE EXTRACTION LINE
- WATER TREATMENT LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED AREA
- LANDFILL SITE
- WETLANDS

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (ug/L)
- BRACKETED VALUES ARE RESULTS OF DUPLICATE SAMPLES.
- U: THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
- J: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
- J-: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION THAT MAY BE BIASED LOW.
- D: CONCENTRATION IS A RESULT OF A DILUTION.
- E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 300 600

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

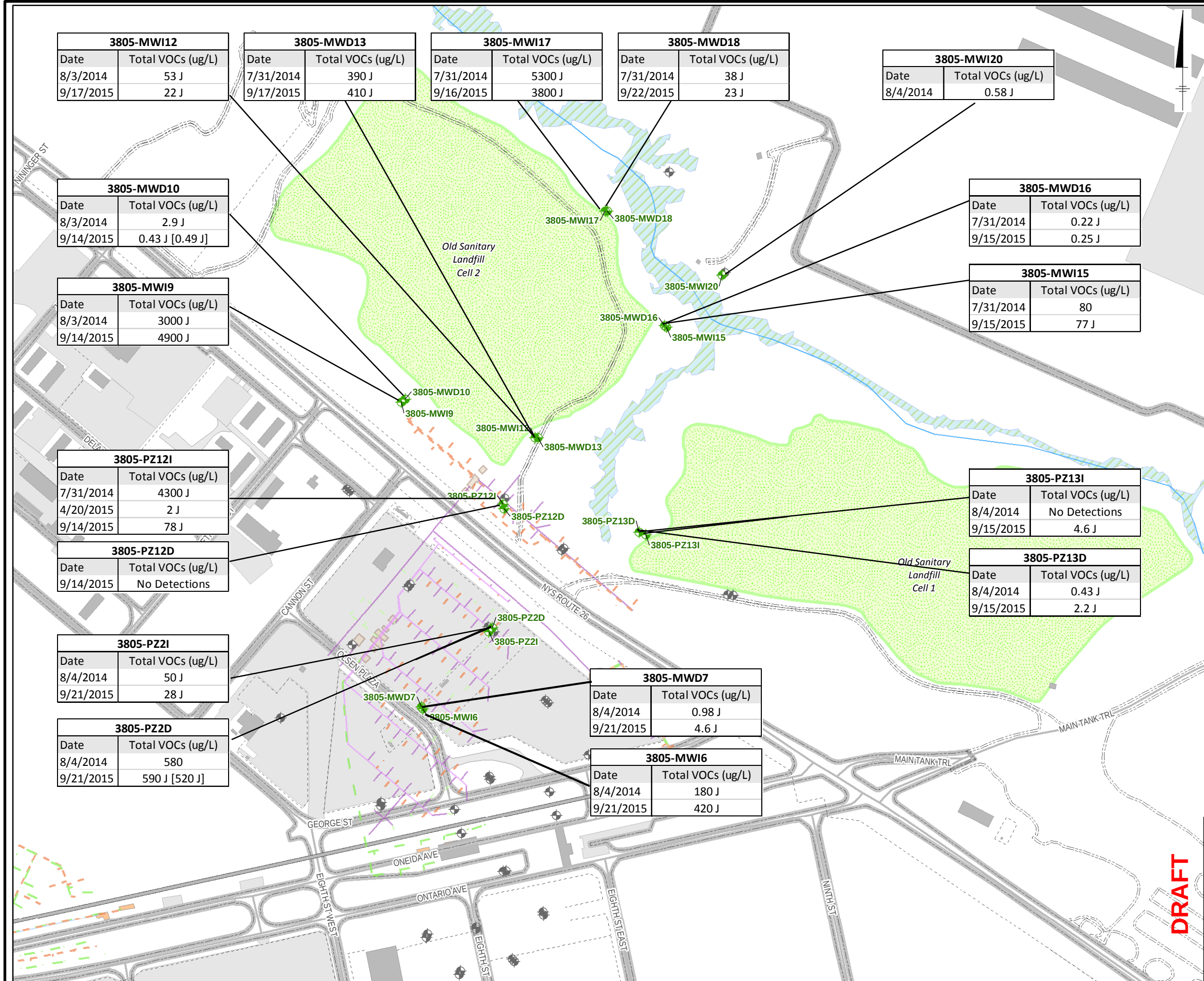
AREA 3805/1995
TOTAL VOC TRENDS
SHALLOW ZONE



FIGURE
5-4

DRAFT

CITY:(CHARLOTTE) DIV:(GROUP:(ENV/GIS) DB: ssutton LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/4/2016 4:25:06 PM
PROJECT: XX000000.0000.000000 PATH:Z:\GIS\PROJECTS\ENV\ENV_FORTDRUM_IRPMXD2015 BASEWIDE MONITORING REPORT\F5-5 3805_1995 TOTAL VOC TRENDS INTER_DEEP.mxd Last Saved By: ssutton



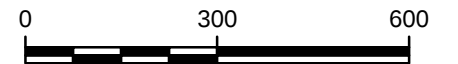
LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- MULTI-PHASE EXTRACTION LINE
- MULTI-PHASE EXTRACTION/AIR SPARGE EXTRACTION LINE
- SOIL VAPOR EXTRACTION LINE
- HORIZONTAL SOIL VAPOR EXTRACTION LINE
- SOIL VAPOR EXTRACTION/AQUIFER AIR SPARGE EXTRACTION LINE
- WATER TREATMENT LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIAL SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED
- LANDFILL SITE
- WETLANDS

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (ug/L)
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GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 3805/1995
TOTAL VOC TRENDS
INTERMEDIATE & DEEP ZONES

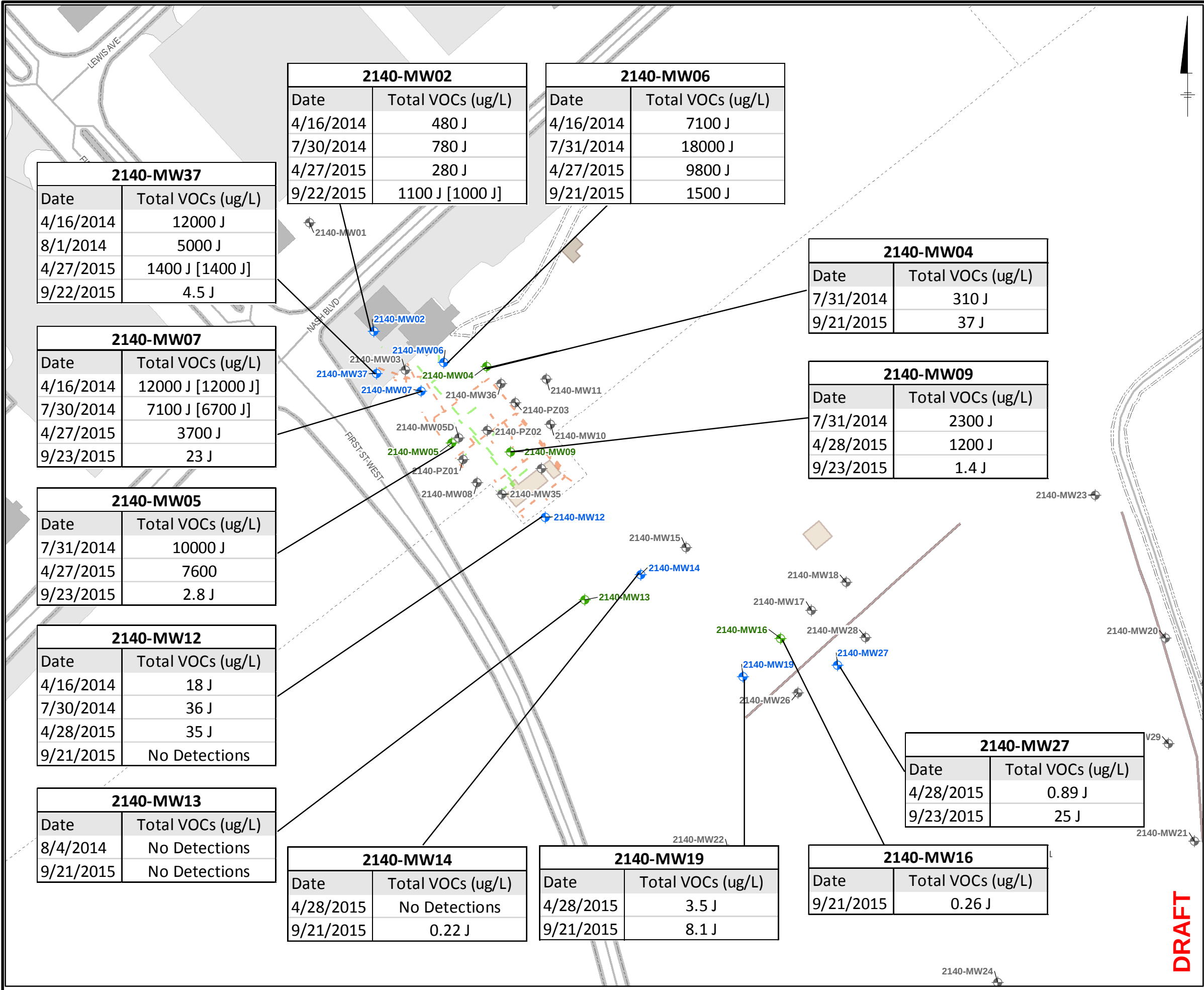


FIGURE

5-5

DRAFT

CITY:(CHARLOTTE) DIV(GROUP) DIV(GROUP) DIV(GROUP) DB: ssutton LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/4/2016 1:21:17 PM
PROJECT: XX000000.0000.000000 PATH: Z:\GISPROJECTS\ENVENV_FORTDRUM\REPORTS\5-6 P2140 TOTAL VOC TRENDS.mxd Last Saved By: ssutton



LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- MW-SEMI-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- SW-NOT PART OF MONITORING PLAN
- AIR SPARGE LINE
- OZONE SPARGING LINE
- SOIL VAPOR EXTRACTION LINE
- FENCE LINE
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDIALATION SYSTEM
- DRIVEWAY
- PAVED AREA

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
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- D: CONCENTRATION IS A RESULT OF A DILUTION.
- E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

GRAPHIC SCALE

0 100 200

**FORT DRUM
FORT DRUM, NEW YORK
BASEWISE MONITORING REPORT**

**AREA P-2140
TOTAL VOC TRENDS**

DRAFT

PIKA INTERNATIONAL, INC.
A JOINT VENTURE
MALCOLM PIRNIE

FIGURE 5-6



Tables

Table 3-1
Basewide Monitoring Summary
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	Water Level	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	MNA	Iron	Lead	Hardness	ASL	Sampling Frequency	Notes
1295-001	1295	Well	X													
1295-003	1295	Well	X													
1295-MW24	1295	Well	X													
1295-MW25	1295	Well	X	X						X					semi-annual	
1295-MW26	1295	Well	X	X						X					semi-annual	
1295-MWS27	1295	Well	X	X						X					semi-annual	
1295-MWS28	1295	Well	X	X						X					semi-annual	
1295-MWS29	1295	Well	X													
1295-MW30	1295	Well	X	X	X (fall)					X					semi-annual	
1595-MW3	1595	Well	X													
1595-MW3A	1595	Well	X													
1595-MW5	1595	Well	X													
1595-MW33	1595	Well	X	X						X					semi-annual	
1595-MW34	1595	Well	X													
1595-MW35	1595	Well	X													
1595-MWD4	1595	Well	X													
1595-MWD5	1595	Well	X													
1595-MWD6	1595	Well	X													
1595-MWS1	1595	Well	X													
1595-MWS2	1595	Well	X													
1595-MWS7	1595	Well	X	X						X					semi-annual	
1595-MWS8	1595	Well	X	X ^(a)											annual	
1595-MWS9	1595	Well	X	X ^(a)											annual	
1595-OBG1	1595	Well	X													
1595-OBG2	1595	Well	X	X						X					semi-annual	
1595-OBG3	1595	Well	X													
1595-OBG4	1595	Well	X													
1595-OBG5	1595	Well	X													
1595-OBG6	1595	Well	X													
1595-OBG7	1595	Well	X													
1595-OBG8	1595	Well	X													
1595-OBG9	1595	Well	X													
1595-PZ1	1595	Well	X													
1595-PZ7	1595	Well	X													
1595-PZ8	1595	Well	X													
1595-PZ9	1595	Well	X	X ^(a)											annual	
1595-PZ10	1595	Well	X													
1595-PZ11	1595	Well	X	X ^(a)											semi-annual	
1595-PZ12	1595	Well	X	X						X (spring)					semi-annual	
1595-2PZ5	1595	Well	X													

Table 3-1
Basewide Monitoring Summary
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	Water Level	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	MNA	Iron	Lead	Hardness	ASL	Sampling Frequency	Notes
1595-2PZ12	1595	Well	X													
1595-PZ13	1595	Well	X	X ^(a)											annual	
1595-RW2	1595	Well	X													
1595-RW3	1595	Well	X													
1595-RW4	1595	Well	X	X ^(a)											annual	abandoned 2015
1595-RW5	1595	Well	X													
1595-RW6	1595	Well	X													
1595-RW7	1595	Well	X													
1595-SW01	1595	Surface Water		X	X						X	X	X		annual	
1595-SW04	1595	Surface Water		X	X						X	X	X		annual	
1795-001	1795	Well	X													
1795-003	1795	Well	X													
1795-MW6	1795	Well	X													
1795-MW36	1795	Well	X													
1795-MW37	1795	Well	X													
1795-MW38	1795	Well	X													
1795-MWD13	1795	Well	X	X ^(a)											annual	
1795-MWD20	1795	Well	X													
1795-MW112	1795	Well	X	X ^(a)											annual	
1795-MWS1	1795	Well	X	X ^(a)											annual	
1795-MWS2	1795	Well	X	X ^(a)											annual	
1795-MWS3	1795	Well	X	X						X					semi-annual	
1795-MWS4	1795	Well	X													
1795-MWS5	1795	Well	X													
1795-MWS6	1795	Well	X													
1795-MWS7	1795	Well	X	X						X					semi-annual	
1795-MWS8	1795	Well	X													
1795-MWS10	1795	Well	X	X ^(a)											annual	
1795-MWS11	1795	Well	X	X ^(a)											semi-annual	
1795-MWS14	1795	Well	X													
1795-MWS15	1795	Well	X													
1795-MWS16	1795	Well	X													
1795-MWS17	1795	Well	X													
1795-MWS18	1795	Well	X													
1795-MWS19	1795	Well	X													
1795-MWS21	1795	Well	X	X ^(a)											semi-annual	
1795-PZ1	1795	Well	X													
1795-PZ2	1795	Well	X													
1795-PZ3	1795	Well	X													
1795-PZ4	1795	Well	X	X ^(a)											annual	

Table 3-1
Basewide Monitoring Summary
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	Water Level	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	MNA	Iron	Lead	Hardness	ASL	Sampling Frequency	Notes
1795-PZ5	1795	Well	X	X ^(a)											annual	
1795-PZ6	1795	Well	X													
1795-PZ7	1795	Well	X													
1795-PZ8	1795	Well	X													
1795-PZ9	1795	Well	X													
1795-PZ10	1795	Well	X													
1795-PZ13	1795	Well	X	X ^(a)											annual	
1795-PZ14	1795	Well	X	X ^(a)											annual	
1795-PZ15	1795	Well	X	X						X					semi-annual	
1795-PZ16	1795	Well	X													
1795-PZ17	1795	Well	X													
1795-PZ18	1795	Well	X													
1795-RW1	1795	Well	X													
1795-RW2	1795	Well	X													
1795-RW3	1795	Well	X													
WWII-001	1795 / WWII LF	Well	X													
WWII-002	1795 / WWII LF	Well	X	X ^(a)											annual	
WWII-003	1795 / WWII LF	Well	X													
WWII-004	1795 / WWII LF	Well	X													
WWII-005	1795 / WWII LF	Well	X													
WWII-006	1795 / WWII LF	Well	X	X ^(a)											annual	
1795-SW00	1795	Surface Water	-	X	X						X	X	X		annual	
1795-SW04	1795	Surface Water	-	X	X						X	X	X		annual	
1995-MW42	1995	Well	X													
1995-MW43	1995	Well	X	X ^(a)											annual	
1995-MW44	1995	Well	X													
1995-MWD5	1995	Well	X													
1995-MWD8	1995	Well	X													
1995-MWI4	1995	Well	X													
1995-MWI7	1995	Well	X													
1995-MWS1	1995	Well	X													
1995-MWS2	1995	Well	X	X	X	X									annual	
1995-MWS3	1995	Well	X													
1995-MWS6	1995	Well	X													
1995-MWS9	1995	Well	X	X						X					semi-annual	
1995-MWS10	1995	Well	X	X						X					semi-annual	
1995-PZ6	1995	Well	X	X ^(a)											annual	
1995-PZ8	1995	Well	X													
1995-RW4	1995	Well	X													
3805-001	3805	Well	X													

Table 3-1
Basewide Monitoring Summary
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	Water Level	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	MNA	Iron	Lead	Hardness	ASL	Sampling Frequency	Notes
3805-002	3805	Well	X	X ^(a)											annual	
3805-003	3805	Well	X													
3805-014	3805	Well	X	X ^(a)											annual	
3805-015	3805	Well	X													
3805-016	3805	Well	X	X ^(a)											annual	
3805-MW39	3805	Well	X	X ^(a)											annual	
3805-MW40	3805	Well	X													
3805-MW41	3805	Well	X													
3805-MWD7	3805	Well	X	X ^(a)											annual	
3805-MWD10	3805	Well	X	X ^(a)											annual	
3805-MWD13	3805	Well	X	X ^(a)											annual	
3805-MWD16	3805 / OSL	Well	X	X	X	X	X	X	X						annual	
3805-MWD18	3805 / OSL	Well	X	X	X	X	X	X	X						annual	
3805-MW16	3805	Well	X	X ^(a)											annual	
3805-MWI9	3805	Well	X	X ^(a)											annual	
3805-MWI12	3805	Well	X	X	X	X	X	X	X						annual	
3805-MWI15	3805 / OSL	Well	X	X	X	X	X	X	X						annual	
3805-MWI17	3805 / OSL	Well	X	X	X	X	X	X	X						annual	
3805-MWI20	3805	Well	X	X ^(a)											annual	
3805-MWI22	3805	Well	X													
3805-MWS1	3805	Well	X													
3805-MWS2	3805	Well	X	X ^(a)											annual	
3805-MWS3	3805	Well	X	X ^(a)											annual	
3805-MWS4	3805 / OSL	Well	X	X	X	X	X	X	X						annual	
3805-MWS5	3805	Well	X	X						X (fall)					semi-annual	
3805-MWS8	3805	Well	X	X ^(a)											semi-annual	
3805-MWS11	3805	Well	X	X ^(a)						X					semi-annual	
3805-MWS14	3805 / OSL	Well	X	X	X	X	X	X	X						annual	
3805-MWS19	3805	Well	X	X											annual	
3805-MWS21	3805	Well	X													
3805-MWS23	3805	Well	X	X											annual	
3805-MWS24	3805	Well	X	X						X					semi-annual	
3805-P1	3805	Well	X													
3805-P4	3805	Well	X													
3805-PZ1	3805	Well	X													
3805-PZ2D	3805	Well	X	X ^(a)											annual	
3805-PZ2I	3805	Well	X	X ^(a)											annual	
3805-PZ2S	3805	Well	X	X						X					semi-annual	
3805-PZ3	3805	Well	X	X						X					semi-annual	
3805-PZ4	3805	Well	X													

Table 3-1
Basewide Monitoring Summary
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	Water Level	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	MNA	Iron	Lead	Hardness	ASL	Sampling Frequency	Notes
3805-PZ5	3805	Well	X													
3805-PZ7	3805	Well	X	X ^(a)											annual	
3805-PZ8	3805	Well	X													
3805-PZ9	3805	Well	X													
3805-PZ10	3805	Well	X													
3805-PZ11	3805	Well	X													
3805-PZ12D	3805	Well	X	X ^(a)											annual	abandoned/destroyed?
3805-PZ12I	3805	Well	X	X ^(a)											annual	
3805-PZ12S	3805	Well	X	X						X					semi-annual	
3805-PZ13D	3805	Well	X	X ^(a)											annual	
3805-PZ13I	3805	Well	X	X ^(a)											annual	
3805-PZ13S	3805	Well	X	X	X	X									annual	
3805-PZ14	3805	Well	X	X						X					semi-annual	
3805-PZ15	3805	Well	X													
3805-RW1	3805	Well	X													
3805-RW2	3805	Well	X													
3805-RW3	3805	Well	X													
3805-RW5	3805	Well	X													
3805-RW7	3805	Well	X													
3805-RW8	3805	Well	X													
3805-RW9	3805	Well	X													
3805-RW10	3805	Well	X													
3805-RW11	3805	Well	X													
3805-RW12	3805	Well	X													
3805-RW13	3805	Well	X													
OSL-MW1	OSL	Well														
OSL-MW2	OSL	Well	X	X	X	X									annual	
OSL-MW2A	OSL	Well	X													
OSL-MW3	3805	Well	X	X ^(a)											semi-annual	
OSL-MW4	OSL	Well	X													
OSL-MW5	OSL	Well	X													
OSL-MW7	OSL	Well	X													
OSL-MW8	OSL	Well	X	X	X	X									annual	
OSL-MW9A	OSL	Well	X	X	X	X									annual	
OSL-MW10	OSL	Well	X	X	X	X									annual	
OSL-MW11	OSL	Well	X													
OSL-MW12	OSL	Well	X													
OSL-SP01	OSL	Seep	-	X	X	X							X		annual	
SP01-EFF	OSL	Seep	-	X							X	X			annual	
OSL-SP03	OSL	Seep	-	X	X	X							X		annual	

Table 3-1
Basewide Monitoring Summary
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	Water Level	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	MNA	Iron	Lead	Hardness	ASL	Sampling Frequency	Notes
SP03-EFF	OSL	Seep	-	X							X	X			annual	
LC009	OSL	Seep	-	X							X	X			annual	
LC009-EFF	OSL	Seep	-	X							X	X			annual	
LS31	OSL	Seep	-	X							X	X			annual	
LS31-EFF	OSL	Seep	-	X							X	X			annual	
LS34	OSL	Seep	-	X							X	X			annual	
LS34-EFF	OSL	Seep	-	X							X	X			annual	
OSL-SW06	OSL	Surface Water	-	X	X	X							X		annual	
OSL-SW09	OSL	Surface Water	-	X	X	X							X		annual	
OSL-SW10	OSL	Surface Water	-	X	X	X							X		annual	
BM-01	OSL	Sapwood Tissue	-	X							X	X			every 3 yrs.	Next in 2018
BM-02	OSL	Sapwood Tissue	-	X							X	X			every 3 yrs.	Next in 2018
BM-03	OSL	Sapwood Tissue	-	X							X	X			every 3 yrs.	Next in 2018
2140-MW01	2140	Well	X													
2140-MW02	2140	Well	X	X ^(a)											semi-annual	
2140-MW03	2140	Well	X													
2140-MW04	2140	Well	X	X ^(a)											annual	
2140-MW05	2140	Well	X	X ^(a)											annual	
2140-MW05D	2140	Well	X													
2140-MW06	2140	Well	X	X ^(a)											semi-annual	
2140-MW07	2140	Well	X	X ^(a)											semi-annual	
2140-MW08	2140	Well	X													
2140-MW09	2140	Well	X	X ^(a)											annual	
2140-MW10	2140	Well	X													
2140-MW11	2140	Well	X													
2140-MW12	2140	Well	X	X ^(a)											semi-annual	
2140-MW13	2140	Well	X	X ^(a)											annual	
2140-MW14	2140	Well	X	X ^(a)											semi-annual	
2140-MW15	2140	Well	X													
2140-MW16	2140	Well	X	X ^(a)											annual	
2140-MW17	2140	Well	X													
2140-MW18	2140	Well	X													
2140-MW19	2140	Well	X	X ^(a)											semi-annual	
2140-MW20	2140	Well	X													
2140-MW21	2140	Well	X													
2140-MW22	2140	Well	X													
2140-MW23	2140	Well	X													
2140-MW24	2140	Well	X													
2140-MW25	2140	Well	X													
2140-MW26	2140	Well	X													

Table 3-1
Basewide Monitoring Summary
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	Water Level	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	MNA	Iron	Lead	Hardness	ASL	Sampling Frequency	Notes
2140-MW27	2140	Well	X	X						X (fall)					semi-annual	
2140-MW28	2140	Well	X													
2140-MW29	2140	Well	X													
2140-MW30	2140	Well	X													
2140-MW31	2140	Well	X													
2140-MW32	2140	Well	X													
2140-MW33	2140	Well														
2140-MW34	2140	Well														
2140-MW35	2140	Well	X													
2140-MW36	2140	Well	X													
2140-MW37	2140	Well	X	X ^(a)											semi-annual	
2140-PZ01	2140	Well	X													
2140-PZ02	2140	Well	X													
2140-PZ03	2140	Well	X													
ASL-MW12A	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016
ASL-MW13	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016
ASL-MW14	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016
ASL-MW941	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016
ASL-MW942	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016
ASL-MW943	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016
ASL-MW944	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016
ASL-MW961	ASL	Well	X			X				X				X	every 5 yrs.	next in 2016

Notes:

MNA - Monitored Natural Attenuation Parameters:
TOC, Nitrate, Sulfate, Iron(II), Iron, Manganese, Ammonia,
Dissolved Gases, & Chloride.

ASL - Airfield Sanitary LF Parameters include:
Alkalinity, Bromide, Nitrate, Nitrite,
Total Kjeldahl Nitrogen, Phenols, TDS, BOD, & COD.

(a) Could potentially be sampled using passive diffusion bags.

Table 3-2
Summary of Incomplete Sampling Locations
2015 Basewide Monitoring
Installation Restoration Program
Ft. Drum, New York

Sampling Location	Spring 2015	Fall 2015
1595		
1595-RW4	-	Abandoned in 2015
1795		
1795-PZ13	-	Well not located, presumed destroyed
3805		
3805-PZ12D	-	Well not located, presumed destroyed
OSL		
OSL-SP01	-	Area is dry
SP01-EFF	-	Area is dry
OSL-SP03	-	Area is dry
LS31	-	Willow boxes in vicinity are damaged
LS31-EFF	-	Willow boxes in vicinity are damaged

Table 4-1
Summary of Groundwater Elevations
2015 Basewide Monitoring
Installation Restoration Program
Ft. Drum, New York

Location	Measuring Point Elevation (feet amsl)	Ground Elevation (feet amsl)	Casing Diameter (inches)	Depth to Bottom (feet)	Spring 2015		Fall 2015	
					Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
1295-003	633.87	632.03	2	17	10.84	623.03	11.85	622.02
1295-MW25	635.85	634.37	4	15	9.87	625.98	10.95	624.90
1295-MW26	639.49	637.20	4	20	9.97	629.52	11.31	628.18
1295-MW30	635.85	634.03	2	15	9.32	626.53	9.90	625.95
1295-MWS27	635.29	635.45	4	18	7.17	628.12	8.29	627.00
1295-MWS28	636.77	634.73	2	15	11.72	625.05	12.30	624.47
1295-MWS29	635.95	633.63	2	22	10.70	625.25	11.80	624.15
1595-2PZ12	637.87	635.43	4	90.1	45.14	592.73	46.10	591.77
1595-2PZ5	637.92	635.29	2	25	9.41	628.51	10.95	626.97
1595-MW3	638.41	636.10	4	17.7	12.08	626.33	13.65	624.76
1595-MW33	637.90	636.10	4	19.5	10.05	627.85	11.58	626.32
1595-MW34	640.92	638.90	4	22.5	13.03	627.89	14.50	626.42
1595-MW35	643.60	641.70	4	23	12.55	631.05	13.85	629.75
1595-MW3A	641.81	639.30	2	18.1	13.58	628.23	15.05	626.76
1595-MW5	636.49	633.70	4	19.3	14.77	621.72	16.00	620.49
1595-MWD4	637.02	634.50	2	35.5	11.72	625.30	13.22	623.80
1595-MWD5	628.79	626.61	2	37	7.52	621.27	8.49	620.30
1595-MWD6	638.31	638.07	2	31.5	17.70	620.61	18.80	619.51
1595-MWI3	637.82	635.19	1	30	11.60	626.22	NM	NM
1595-MWS2	642.18	640.04	2	20	13.49	628.69	14.91	627.27
1595-MWS7	629.00	626.80	2	21.85	7.60	621.40	8.62	620.38
1595-MWS8	630.80	628.90	2	18.8	7.75	623.05	9.04	621.76
1595-MWS9	623.20	621.00	2	21.7	4.05	619.15	4.65	618.55
1595-OBG1	638.75	637.20	2	23	16.30	622.45	17.62	621.13
1595-OBG2	637.98	635.50	2	17.8	10.53	627.45	12.15	625.83
1595-OBG3	636.87	634.63	2	17.5	11.87	625.00	13.40	623.47
1595-OBG4	640.85	639.20	2	22	14.90	625.95	16.34	624.51
1595-OBG5	626.73	625.00	2	19.5	14.18	612.55	14.92	611.81
1595-OBG6	629.01	627.00	2	14	7.17	621.84	8.41	620.60
1595-OBG7	621.85	619.90	2	14	5.82	616.03	6.43	615.42
1595-OBG8	634.00	632.30	2	16.5	7.00	627.00	8.78	625.22
1595-OBG9	637.09	635.30	2	16	8.00	629.09	9.73	627.36
1595-PZ1	631.53	629.70	1.5	18.5	9.91	621.62	10.90	620.63
1595-PZ10	640.33	638.50	2	30	13.47	626.86	15.03	625.30
1595-PZ11	639.63	637.70	2	30	13.37	626.26	14.95	624.68
1595-PZ12	637.87	635.43	2	23	12.66	625.21	14.08	623.79
1595-PZ13	654.40	639.51	2	23	8.93	645.47	10.38	644.02
1595-PZ4	631.50	629.26	1.5	15.9	8.55	622.95	NM	NM
1595-PZ7	637.04	635.50	2	30	16.52	620.52	NM	NM
1595-PZ8	630.29	628.40	2	25.5	10.81	619.48	NM	NM
1595-PZ9	630.77	628.90	2	30	7.28	623.49	8.70	622.07
1595-RW2	628.88	626.86	8	20	6.40	622.48	NM	NM
1595-RW3	628.80	627.20	8	28	8.32	620.48	NM	NM
1595-RW4	638.96	636.90	8	30	13.07	625.89	NM	NM
1595-RW5	630.45	628.50	8	30	7.98	622.47	NM	NM
1795-001	657.12	654.62	2	20	13.88	643.24	14.64	642.48
1795-003	650.82	648.39	2	14	9.12	641.70	11.18	639.64
1795-MW36	651.76	649.30	4	14	10.20	641.56	11.74	640.02
1795-MW37	651.55	649.60	4	14	9.90	641.65	NM	NM
1795-MW38	652.45	650.70	4	14	10.28	642.17	11.15	641.30
1795-MW6	649.66	647.40	4	11.7	9.02	640.64	10.92	638.74
1795-MWD13	644.91	642.36	2	52	14.62	630.29	15.59	629.32
1795-MWD20	640.18	637.73	4	39	21.95	618.23	21.29	618.89
1795-MWI12	644.91	642.62	2	35	14.73	630.18	15.68	629.23
1795-MWS1	640.09	637.78	2	23.5	22.09	618.00	21.39	618.70
1795-MWS10	642.79	640.63			NM	NM	15.20	627.59
1795-MWS11	648.91	646.38	2	20	14.80	634.11	15.85	633.06
1795-MWS14	646.42	643.60	2	15	10.88	635.54	12.60	633.82
1795-MWS15	648.23	645.35	2	15	11.52	636.71	13.05	635.18
1795-MWS16	647.21	644.85	2	24	19.32	627.89	20.02	627.19
1795-MWS17	648.22	646.20	4	38	25.57	622.65	25.55	622.67
1795-MWS18	642.47	640.41	4	38	18.45	624.02	19.37	623.10
1795-MWS19	642.05	639.98	4	25	13.83	628.22	15.55	626.50
1795-MWS2	642.23	639.97	2	20	13.50	628.73	14.65	627.58
1795-MWS21	636.35	633.77	4	25	16.31	620.04	16.70	619.65
1795-MWS3	644.96	642.72	2	22	14.73	630.23	15.65	629.31
1795-MWS4	646.59	644.04	2	20	13.48	633.11	14.69	631.90
1795-MWS5	654.78	652.75	4	24	18.02	636.76	19.75	635.03
1795-MWS6	651.67	649.81	2	17.5	12.68	638.99	14.28	637.39

Table 4-1
Summary of Groundwater Elevations
2015 Basewide Monitoring
Installation Restoration Program
Ft. Drum, New York

Location	Measuring Point Elevation (feet amsl)	Ground Elevation (feet amsl)	Casing Diameter (inches)	Depth to Bottom (feet)	Spring 2015		Fall 2015	
					Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
1795-MWS7	653.24	651.01	2	15	12.14	641.10	13.51	639.73
1795-MWS8	656.85	654.52	2	18	13.64	643.21	14.85	642.00
1795-PZ1	649.60	647.28	2	20.12	10.00	639.60	NM	NM
1795-PZ10	648.25	646.42	2	21	9.12	639.13	10.40	637.85
1795-PZ14	646.15	643.52	2	21.5	11.00	635.15	18.50	627.65
1795-PZ15	651.83	650.06	4	25	15.38	636.45	16.50	635.33
1795-PZ16	654.78	652.49	4	25	17.33	637.45	19.05	635.73
1795-PZ17	648.42	646.53	4	21.22	12.08	636.34	13.85	634.57
1795-PZ18	651.40	649.13	6	20.9	16.83	634.57	18.60	632.80
1795-PZ2	648.88	646.76	2	20.75	10.85	638.03	NM	NM
1795-PZ3	653.33	651.63	4	26.16	16.56	636.77	18.25	635.08
1795-PZ4	647.23	645.42	2	22	11.54	635.69	12.80	634.43
1795-PZ5	650.44	648.24	2	21.76	12.49	637.95	15.25	635.19
1795-PZ6	651.58	649.70	2	24	13.18	638.40	16.17	635.41
1795-PZ7	650.10	648.26	2	20.85	9.62	640.48	11.15	638.95
1795-PZ8	648.51	646.98	2	21	10.55	637.96	12.30	636.21
1795-PZ9	652.82	650.63	4	19	16.25	636.57	17.98	634.84
1795-RW1	653.99	651.36	6	41	16.60	637.39	18.28	635.71
1795-RW2	647.68	645.74	6	38	10.79	636.89	15.99	631.69
1795-RW3	652.57	650.50	6	40	10.90	641.67	12.20	640.37
WWII-001	645.01	643.07	2	37	31.79	613.22	31.65	613.36
WWII-002	640.46	638.36	2	22	18.48	621.98	22.89	617.57
WWII-003	643.61	641.65	2	22	13.41	630.20	14.72	628.89
WWII-004	641.12	638.76	2	25	19.72	621.40	19.50	621.62
WWII-005	640.77	638.35	2	27	22.53	618.24	22.40	618.37
WWII-006	643.46	641.02	2	45	25.11	618.35	24.95	618.51
1995-MW42	670.18	668.60	4	34	24.14	646.04	24.43	645.75
1995-MW43	671.83	669.70	4	34	25.55	646.28	25.88	645.95
1995-MW44	676.17	674.10	4	38	26.77	649.40	27.06	649.11
1995-MWD5	657.92	655.64	2	75	30.13	627.79	30.88	627.04
1995-MWD8	669.36	666.80	2	73	24.96	644.40	25.38	643.98
1995-MWI4	658.12	655.62	2	55	30.21	627.91	30.84	627.28
1995-MWI7	669.15	666.84	2	55	24.55	644.60	24.94	644.21
1995-MWS1	666.76	664.33	2	30	21.95	644.81	22.12	644.64
1995-MWS10	665.94	663.67	4	39.01	23.81	642.13	24.29	641.65
1995-MWS2	645.65	643.34	2	42	33.60	612.05	38.25	607.40
1995-MWS3	658.40	655.91	2	35	30.43	627.97	31.06	627.34
1995-MWS6	669.02	666.70	2	32.5	24.30	644.72	24.86	644.16
1995-MWS9	670.80	668.50	4	38.68	23.68	647.12	23.93	646.87
1995-PZ6	664.48	662.43	2	32.53	21.35	643.13	24.51	639.97
1995-PZ8	669.97	668.07	2	30.9	24.35	645.62	24.69	645.28
1995-RW4	668.31	665.63	6	45.3	23.98	644.33	24.40	643.91
3805-001	671.00	668.99	2	29	13.46	657.54	14.63	656.37
3805-002	661.50	659.36	2	24	17.91	643.59	19.93	641.57
3805-003	662.55	660.25	2	25	19.25	643.30	19.58	642.97
3805-014	656.64	655.17	2	23	14.95	641.69	16.05	640.59
3805-015	654.75	652.56	2	23	14.73	640.02	16.35	638.40
3805-016	653.70	651.51	2	23	16.33	637.37	17.74	635.96
3805-MW39	663.34	661.60	4	30	18.70	644.64	17.81	645.53
3805-MW40	665.23	663.00	4	30	20.69	644.54	21.04	644.19
3805-MW41	665.16	663.30	4	25	10.44	654.72	17.36	647.80
3805-MWD10	654.32	651.81	2	73	27.07	627.25	28.27	626.05
3805-MWD13	654.94	652.30	2	66	29.86	625.08	30.62	624.32
3805-MWD16	636.55	634.37	2	65	30.19	606.36	31.11	605.44
3805-MWD18	633.86	631.36	2	63	31.22	602.64	32.62	601.24
3805-MWD7	659.34	656.67	2	83	17.79	641.55	18.56	640.78
3805-MWI12	655.35	653.00	2	51	29.68	625.67	30.50	624.85
3805-MWI15	635.58	633.24	2	48	28.44	607.14	29.44	606.14
3805-MWI17	634.13	631.50	2	50	31.20	602.93	NM	NM
3805-MWI20	619.63	617.23	2	40	13.49	606.14	15.03	604.60
3805-MWI22	608.37	606.33	2	40.6	2.78	605.59	3.95	604.42
3805-MWI6	659.32	656.79	2	45	17.39	641.93	18.17	641.15
3805-MWI9	653.30	650.82	2	55	25.92	627.38	27.10	626.20
3805-MWS1	656.13	653.97	2	20	11.85	644.28	NM	NM
3805-MWS11	654.66	652.56	2	35	28.90	625.76	29.68	624.98
3805-MWS14	636.01	633.64	2	34	28.02	607.99	29.11	606.90
3805-MWS19	619.74	617.40	2	22.6	11.02	608.72	13.83	605.91
3805-MWS2	652.27	649.97	2	20	10.94	641.33	13.01	639.26
3805-MWS21	608.71	606.47	2	22	9.73	598.98	10.43	598.28

Table 4-1
Summary of Groundwater Elevations
2015 Basewide Monitoring
Installation Restoration Program
Ft. Drum, New York

Location	Measuring Point Elevation (feet amsl)	Ground Elevation (feet amsl)	Casing Diameter (inches)	Depth to Bottom (feet)	Spring 2015		Fall 2015	
					Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
3805-MWS23	662.18	660.85	4	29.28	16.50	645.68	16.98	645.20
3805-MWS24	657.73	655.71	4	32.27	20.63	637.10	21.84	635.89
3805-MWS3	650.22	647.69	2	25	17.73	632.49	19.12	631.10
3805-MWS4	634.98	632.51	2	38	31.51	603.47	32.80	602.18
3805-MWS5	659.24	656.95	2	25	17.11	642.13	11.50	647.74
3805-MWS8	653.90	651.47	2	30	26.33	627.57	27.49	626.41
3805-P1	658.71	656.50	2	33.9	16.15	642.56	16.75	641.96
3805-P4	658.21	656.30	2	32.9	15.53	642.68	16.25	641.96
3805-PZ1	659.19	657.09	2	26.79	18.59	640.60	19.31	639.88
3805-PZ10	659.63	657.65	2	21.57	14.14	645.49	14.90	644.73
3805-PZ11	655.38	653.68	2	28.1	20.50	634.88	22.07	633.31
3805-PZ12D	655.92	654.00	2	67	25.73	630.19	26.87	629.05
3805-PZ12I	656.01	654.27	2	49.5	25.48	630.53	26.44	629.57
3805-PZ12S	655.50	653.83	2	32.5	24.44	631.06	25.41	630.09
3805-PZ13D	645.71	643.95	2	69.9	22.70	623.01	23.96	621.75
3805-PZ13I	647.27	645.79	2	50.7	24.70	622.57	26.05	621.22
3805-PZ13S	645.09	643.28	2	31.1	22.23	622.86	23.38	621.71
3805-PZ14	660.39	658.28	2	31.21	18.18	642.21	18.86	641.53
3805-PZ15	657.61	655.83	2	27.78	16.74	640.87	17.68	639.93
3805-PZ2D	657.93	656.12	2	59.8	18.98	638.95	19.65	638.28
3805-PZ2I	657.87	656.06	2	42	18.80	639.07	19.48	638.39
3805-PZ2S	657.96	656.10	2	25	18.94	639.02	19.64	638.32
3805-PZ3	655.86	654.06	2	30.5	20.46	635.40	22.05	633.81
3805-PZ4	668.55	666.68	2	30.75	23.75	644.80	24.11	644.44
3805-PZ5	667.77	665.96	2	30.8	23.91	643.86	24.39	643.38
3805-PZ7	659.01	657.09	2	30.8	19.72	639.29	19.75	639.26
3805-PZ9	659.08	657.16	2	21.92	12.97	646.11	14.32	644.76
3805-RW1	658.55	656.38	6	31.91	15.69	642.86	16.42	642.13
3805-RW10	657.51	655.26	6	51.3	19.71	637.80	20.49	637.02
3805-RW11	658.74	655.99	6	48.27	18.41	640.33	19.24	639.50
3805-RW12	656.60	654.13	6	48.61	17.45	639.15	18.61	637.99
3805-RW13	658.30	655.85	6	40.59	14.10	644.20	14.96	643.34
3805-RW2	658.44	657.22	6	29.42	12.93	645.51	13.79	644.65
3805-RW3	656.23	653.87	8	49.73	21.10	635.13	22.62	633.61
3805-RW5	658.31	656.96	6	44	17.72	640.59	18.35	639.96
3805-RW6	658.93	656.35	6	43	Dry	Dry	NM	NM
3805-RW7	659.01	657.14	6	41.44	16.16	642.85	16.77	642.24
3805-RW8	657.55	655.41	6	46.2	20.40	637.15	21.61	635.94
3805-RW9	656.33	654.60	6	44.03	17.09	639.24	11.95	644.38
OSL-MW2	639.74	637.40	2	47	35.38	604.36	35.98	603.76
OSL-MW2A	639.45	637.30	2	89	38.80	600.65	39.51	599.94
OSL-MW3	660.28	658.06	2	32	22.70	637.58	23.49	636.79
OSL-MW4	661.25	658.15	2	124	40.80	620.45	51.54	609.71
OSL-MW5	677.25	674.66	2	145	64.24	613.01	65.97	611.28
OSL-MW7	677.00	675.10	4	40	23.23	653.77	24.33	652.67
OSL-MW8	678.02	674.50	4	45.7	31.93	646.09	32.96	645.06
OSL-MW9A	670.00	668.40	4	59.8	48.68	621.32	49.85	620.15
OSL-MW10	644.24	641.70	4	49.3	41.02	603.22	42.05	602.19
OSL-MW11	644.30	642.40	4	138	34.56	609.74	36.26	608.04
2140-MW01	650.60	648.90	2	31	23.94	626.66	24.87	625.73
2140-MW02	647.09	647.65	2	34.5	24.28	622.81	NM	NM
2140-MW03	648.44	646.70	4	34	27.82	620.62	28.77	619.67
2140-MW04	645.87	643.90	2	34	26.70	619.17	27.73	618.14
2140-MW05	642.56	640.80	2	34	27.60	614.96	27.20	615.36
2140-MW05D	642.35	640.60	2	45.75	28.11	614.24	29.78	612.57
2140-MW06	648.98	647.00	2	42.98	28.74	620.24	29.83	619.15
2140-MW07	648.30	646.40	2	40.9	28.82	619.48	30.30	618.00
2140-MW08	637.74	635.80	2	38.94	27.01	610.73	29.14	608.60
2140-MW09	635.73	636.06	2	33.67	24.68	611.05	26.15	609.58
2140-MW10	634.94	635.11	2	33.83	23.05	611.89	24.72	610.22
2140-MW11	637.84	638.03	2	34.81	23.18	614.66	24.21	613.63
2140-MW12	629.03	629.48	4	34	19.15	609.88	21.21	607.82
2140-MW13	616.87	617.39	4	20	7.35	609.52	9.89	606.98
2140-MW14	617.87	618.11	4	20	8.49	609.38	10.97	606.90
2140-MW15	618.61	619.03	4	20	9.37	609.24	11.82	606.79
2140-MW16	615.01	612.64	4	17.37	6.36	608.65	8.58	606.43
2140-MW17	615.09	612.92	4	17.17	6.48	608.61	8.70	606.39
2140-MW18	614.59	612.37	4	17.22	6.06	608.53	8.28	606.31
2140-MW19	616.19	614.22	4	16.97	7.64	608.55	9.75	606.44

Table 4-1
Summary of Groundwater Elevations
2015 Basewide Monitoring
Installation Restoration Program
Ft. Drum, New York

Location	Measuring Point Elevation (feet amsl)	Ground Elevation (feet amsl)	Casing Diameter (inches)	Depth to Bottom (feet)	Spring 2015		Fall 2015	
					Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
2140-MW20	610.09	608.34	4	16.75	5.80	604.29	7.43	602.66
2140-MW21	608.53	606.50	4	17.03	6.48	602.05	7.59	600.94
2140-MW22	621.80	620.74	4	20.06	13.75	608.05	15.69	606.11
2140-MW23	609.04	606.83	4	17.21	8.03	601.01	9.60	599.44
2140-MW24	601.39	599.49	4	16.9	7.86	593.53	10.08	591.31
2140-MW25	596.53	594.66	4	16.87	5.36	591.17	NM	NM
2140-MW26	618.79	619.24	4	16.55	10.39	608.40	12.48	606.31
2140-MW27	617.24	617.72	4	15.52	9.12	608.12	11.05	606.19
2140-MW28	616.28	616.80	4	15.48	8.12	608.16	10.11	606.17
2140-MW29	609.71	607.80	4	15.91	4.40	605.31	5.90	603.81
2140-MW30	608.76	606.69	4	16.07	6.98	601.78	8.25	600.51
2140-MW31	609.57	607.20	4	16.37	6.58	602.99	8.00	601.57
2140-MW32	609.38	607.39	4	16.99	6.75	602.63	15.83	593.55
2140-MW35	633.40	633.40	2	33.14	22.88	610.52	25.58	607.82
2140-MW36	640.57	640.57	2	32.5	24.00	616.57	25.43	615.14
2140-MW37	646.80	646.80	2	34.52	25.20	621.60	26.25	620.55
2140-PZ01	637.37	637.87	2	32.5	24.84	612.53	NM	NM
2140-PZ02	638.80	639.30	2	31.5	Dry	Dry	NM	NM
2140-PZ03	638.39	638.89	2	30.5	24.95	613.44	26.18	612.21
ASL-MW12A	697.25	695.10	2	78	NM	NM	64.88	632.37
ASL-MW13	698.52	695.90	4	67.5	NM	NM	54.85	643.67
ASL-MW14	698.25	696.20	2	79	NM	NM	62.52	635.73
ASL-MW941	696.40	694.07	2	80	NM	NM	70.17	626.23
ASL-MW942	697.36	694.56	2	60	NM	NM	49.92	647.44
ASL-MW943	697.82	695.11	2	70	NM	NM	56.95	640.87
ASL-MW944	695.35	693.05	2	65	NM	NM	55.60	639.75
ASL-MW961	694.45	694.45	2	86	NM	NM	74.49	619.96
PCERI-MW01D	657.93	655.52	2	134.5	49.30	608.63	NM	NM
PCERI-MW02D	654.74	651.86	2	87.3	18.88	635.86	NM	NM
PCERI-MW02I	654.56	652.09	2	60	18.35	636.21	NM	NM
PCERI-MW03D	657.99	655.37	4	87.9	19.68	638.31	NM	NM
PCERI-MW05D	664.41	662.11	2	84	21.42	642.99	NM	NM
PCERI-MW05I	664.05	661.64	2	60	20.48	643.57	NM	NM
PCERI-MW06D	659.83	657.15	2	75.3	15.55	644.28	NM	NM
PCERI-MW06I	659.63	656.95	2	55	15.20	644.43	NM	NM
PCERI-MW06S	659.81	657.14	2	25	15.34	644.47	NM	NM
PCERI-MW07D	655.51	652.96	2	87.3	19.04	636.47	NM	NM
PCERI-MW14D	662.38	659.86	2	89	21.25	641.13	NM	NM
PCERI-MW14I	662.40	660.01	2	60	20.88	641.52	NM	NM
PCERI-MW15I	662.66	660.23	2	50	17.64	645.02	NM	NM
PCERI-MW16I	666.34	663.68	2	50	21.45	644.89	NM	NM
PCERI-MW16S	666.39	663.68	2	30	21.60	644.79	NM	NM

Notes:
ft amsl - feet above mean sea level
NM - not measured

Table 4-2
Summary of Spring 2015 Basewide Monitoring Sampling
Fort Drum IRP



Location ID Date			1295-MW25 4/27/2015	1295-MW26 4/28/2015	1295-MW30 4/27/2015	1295-MWS27 4/27/2015	1295-MWS28 4/27/2015	1595-MW33 4/29/2015	1595-MWS7 4/29/2015	1595-OBG2 4/29/2015
Sample Name			1295-MW25-042715	1295-MW26-042815	1295-MW30-042715	1295-MWS27-042715	1295-MWS28-042715	1595-MW33-042915	1595-MWS7-042915	1595-OBG2-042915
NYSDEC TOGS										
Analyte	1.1.1	Units								
Gen Chem										
Ammonia Nitrogen	2	mg/l	0.1 U	0.1 U	0.631	0.1 U	0.1 U	0.042	1.19	0.197
Chloride	250	mg/l	68.3	29.1	91.7	365	117	72.4	131	67.3
Iron (Ferrous)	--	mg/l	0.1 U	0.05	2.97	0.1 U	0.1 U	0.04	3.37	0.79
Nitrate-N	10	mg/l	2.2	4	0.14	2	0.44	1.2	0.5 U	0.5 U
Sulfate	250	mg/l	35.8	56.7	50	23	23	16.7	1.3 J	4.5 J
Total Organic Carbon	--	mg/l	2.7	2.2	12.4	1.5	2.2	5.2	15.8	15.9
Inorganics										
Iron	300	ug/l	218	100 U	3620	2020	100 U	1380	56600	10400
Manganese	300	ug/l	20.1	76.0	95.8	40.4	8.4 J	287	480	347
Natural Attenuation Parameters										
Ethane	--	ug/l	1.0 U	1.0 U	0.46	1.0 U	1.0 U	1.0 U	4.8	0.25
Ethene	--	ug/l	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.62	1.0 U
Methane	--	ug/l	1.0 U	1.0 U	25	1.3	8.6	330	580	600
VOCs										
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	1600	8.4	5.0 U	2.6 J	1200	14
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	470	1.5 J	5.0 U	5.0 U	360	5.9
2-Butanone (MEK)	50	ug/l	10 U	10 U	100 U	10 U	10 U	10 U	100 U	10 U
4-Chlorotoluene	5	ug/l	5.0 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	50 U	5.0 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	100 U	10 U	10 U	10 U	100 U	10 U
Acetone	50	ug/l	1.6 J	10 U	100 UJ	10 U	10 U	4.7 J	100 U	7.5 J
Benzene	1	ug/l	5.0 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Chloroethane	5	ug/l	5.0 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Chloromethane	5	ug/l	5.0 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	14 J	5.0 U	5.0 U	5.0 U	9.0 J	1.6 J
Ethylbenzene	5	ug/l	5.0 U	5.0 U	780	5.0 U	5.0 U	4.6 J	320	5.8
Isopropylbenzene	5	ug/l	5.0 U	5.0 U	81	0.70 J	5.0 U	0.56 J	72	3.2 J
m,p-Xylene	--	ug/l	5.0 U	5.0 U	3000	5.0 U	5.0 U	6.1	2500	5.5
Naphthalene	10	ug/l	5.0 U	0.22 U	380	0.63 U	5.0 U	2.2 J	240	6.2
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	50 U	0.38 J	5.0 U	0.63 J	50 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	200	2.5 J	5.0 U	1.5 J	100	2.8 J
o-Xylene	5	ug/l	5.0 U	5.0 U	59	5.0 U	5.0 U	2.6 J	580	8.5
sec-Butylbenzene	5	ug/l	5.0 U	5.0 U	11 J	5.0 U	5.0 U	0.40 J	7.3 J	1.4 J
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	50 U	5.0 U	5.0 U	5.0 U	50 U	0.64 U
Toluene	5	ug/l	5.0 U	5.0 U	3.3 J	5.0 U	5.0 U	1.5 J	400	0.37 J
Total Xylenes	5	ug/l	5.00 U	5.00 U	3059	5.00 U	5.00 U	8.70 J	3080	14.0
Trichloroethene	5	ug/l	5.0 U	5.0 U	50 U	0.23 J	0.58 J	5.0 U	50 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-2
Summary of Spring 2015 Basewide Monitoring Sampling
Fort Drum IRP



Location ID	1595-PZ11	1595-PZ11	1595-PZ12	1795-MWS11	1795-MWS21	1795-MWS3	1795-MWS7	1795-PZ15
Date	4/29/2015	4/29/2015	4/29/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015
Sample Name	1595-PZ11-042915	DUP-03-042915	1595-PZ12-042915	1795-MWS11-042215	1795-MWS21-042215	1795-MWS3-042215	1795-MWS7-042215	1795-PZ15-042215
NYSDEC TOGS								
Analyte	1.1.1	Units						
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	--	0.105	--	--	--
Chloride	250	mg/l	--	--	94.4	--	--	--
Iron (Ferrous)	--	mg/l	--	--	0.1 U	--	--	--
Nitrate-N	10	mg/l	--	--	2	--	--	--
Sulfate	250	mg/l	--	--	5 U	--	--	--
Total Organic Carbon	--	mg/l	--	--	3.4	--	--	--
Inorganics								
Iron	300	ug/l	--	--	991	--	15300	7780
Manganese	300	ug/l	--	--	18.8	--	699	598
Natural Attenuation Parameters								
Ethane	--	ug/l	--	--	1.0 U	--	0.44 J	0.31 J
Ethene	--	ug/l	--	--	1.0 U	--	1.0 U	0.11 J
Methane	--	ug/l	--	--	330	--	24	29
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	97	5.0 U	1.2 J	360
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	29	5.0 U	5.0 U	63
2-Butanone (MEK)	50	ug/l	10 U	10 U	4.0 J	10 U	2.2 J	23 J
4-Chlorotoluene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	13 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	10 U	5.1 J	50 U
Acetone	50	ug/l	1.8 J	2.0 J	10 U	1.3 J	10 U	25 U
Benzene	1	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	13 U
Chloroethane	5	ug/l	5.0 U	5.0 U	0.29 J	5.0 U	5.0 U	2.6 J
Chloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	0.38 U	1.5 J
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	1.4 U	5.0 U	5.0 U	4.7 J
Ethylbenzene	5	ug/l	5.0 U	5.0 U	110	5.0 U	1.2 J	190
Isopropylbenzene	5	ug/l	5.0 U	5.0 U	7.8	5.0 U	3.2 J	27
m,p-Xylene	--	ug/l	5.0 U	5.0 U	310	5.0 U	5.0 U	270
Naphthalene	10	ug/l	5.0 U	5.0 U	58	5.0 U	5.0 U	65
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	0.30 J	12 J
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	12	5.0 U	0.73 J	69
o-Xylene	5	ug/l	5.0 U	5.0 U	51	5.0 U	5.0 U	20
sec-Butylbenzene	5	ug/l	5.0 U	5.0 U	0.93 J	5.0 U	0.63 J	4.4 J
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.53 J
Toluene	5	ug/l	5.0 U	5.0 U	60	5.0 U	0.48 J	4.2 J
Total Xylenes	5	ug/l	5.00 U	5.00 U	361	5.00 U	5.00 U	290
Trichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	13 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-2
Summary of Spring 2015 Basewide Monitoring Sampling
Fort Drum IRP



Location ID	Date	1995-MWS10	1995-MWS9	3805-MWS11	3805-MWS24	3805-MWS24	3805-MWS5	3805-MWS8	3805-PZ12S
Sample Name	1995-MWS10-042215	1995-MWS9-042215	3805-MWS11-042215	3805-MWS24-042015	3805-MWS24-042015	3805-MWS5-042215	3805-MWS8-042215	3805-MWS8-042215	3805-PZ12S-042015
NYSDEC TOGS									
Analyte	1.1.1	Units							
Gen Chem									
Ammonia Nitrogen	2	mg/l	--	--	--	0.376	0.313	--	0.629
Chloride	250	mg/l	--	--	--	7.9	8.1	--	82.7
Iron (Ferrous)	--	mg/l	--	--	--	15	15.4	--	33.9
Nitrate-N	10	mg/l	--	--	--	0.2 U	0.2 U	--	0.08 J
Sulfate	250	mg/l	--	--	--	2 U	2 U	--	2.9
Total Organic Carbon	--	mg/l	--	--	--	8.3	8.5	--	11
Inorganics									
Iron	300	ug/l	105000	22100	46300	30700	32300	--	68000
Manganese	300	ug/l	3070	584	11900	8640	9010	--	6540
Natural Attenuation Parameters									
Ethane	--	ug/l	0.89 J	1.0 U	0.59 J	1.2	1.2	--	0.76 J
Ethene	--	ug/l	0.56 J	1.0 U	0.21 J	0.33 J	0.37 J	--	0.14 J
Methane	--	ug/l	5900	3300	50	280	340	--	48
VOCs									
1,2,4-Trimethylbenzene	5	ug/l	8.0	75	1300	1300	1300	1100	1400
1,3,5-Trimethylbenzene	5	ug/l	2.1 J	0.61 J	440	360	360	290	410
2-Butanone (MEK)	50	ug/l	5.3 J	2.6 J	250 U	250 U	250 U	200 U	250 U
4-Chlorotoluene	5	ug/l	5.0 U	5.0 U	130 U	130 U	130 U	100 U	130 U
4-Methyl-2-Pentanone	50	ug/l	1.4 J	10 U	250 U	250 U	250 U	200 U	250 U
Acetone	50	ug/l	10 U	6.7 J	250 U	89 UB	88 UB	57 J	110 UB
Benzene	1	ug/l	0.84 J	5.0 U	27 J	540	540	100 U	71
Chloroethane	5	ug/l	5.0 U	5.0 U	130 U	130 U	130 U	100 U	50 U
Chloromethane	5	ug/l	5.0 U	0.23 J	130 U	130 U	130 U	100 U	50 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	2.5 J	7.8 U	5.3 U	5.8 J	100 U	2.3 U
Ethylbenzene	5	ug/l	75	15	1100	1100	1000	930	640
Isopropylbenzene	5	ug/l	22	8.0	58 J	54 J	53 J	46 J	30 J
m,p-Xylene	--	ug/l	9.7	17	5200	6700	6400	5700	2200
Naphthalene	10	ug/l	19	44	320	430	470	370	240
N-Butylbenzene	5	ug/l	2.5 J	0.87 U	130 U	130 U	130 U	100 U	50 U
N-Propylbenzene	5	ug/l	24	9.8	120 J	85 J	86 J	49 J	66
o-Xylene	5	ug/l	2.5 J	16	1200	2900	2700	1800	700
sec-Butylbenzene	5	ug/l	2.9 J	2.1 J	8.5 J	130 U	130 U	100 U	3.1 J
tert-Butylbenzene	5	ug/l	0.30 J	0.25 J	130 U	130 U	130 U	100 U	50 U
Toluene	5	ug/l	9.5	1.6 J	840	2700	2700	600	1600
Total Xylenes	5	ug/l	12.2 J	33.0	6400	9600	9100	7500	2900
Trichloroethene	5	ug/l	5.0 U	5.0 U	130 U	130 U	130 U	100 U	50 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter

Table 4-2
Summary of Spring 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID		3805-PZ14	3805-PZ2S	3805-PZ3	OSL-MW3	2140-MW02	2140-MW06	2140-MW07	2140-MW12
Date	4/20/2015	4/22/2015	4/20/2015	4/22/2015	4/27/2015	4/27/2015	4/27/2015	4/27/2015	4/28/2015
Sample Name	3805-PZ14-042015	3805-PZ2S-042215	3805-PZ3-042015	OSL-MW3-042215	2140-MW02-042715	2140-MW06-042715	2140-MW07-042715	2140-MW12-042815	
NYSDEC TOGS									
Analyte	1.1.1	Units							
Gen Chem									
Ammonia Nitrogen	2	mg/l	0.53	--	0.041 J	--	--	--	--
Chloride	250	mg/l	5.2	--	0.6 J	--	--	--	--
Iron (Ferrous)	--	mg/l	11.9	--	1.41	--	--	--	--
Nitrate-N	10	mg/l	0.2 U	--	0.38	--	--	--	--
Sulfate	250	mg/l	2 U	--	2.1	--	--	--	--
Total Organic Carbon	--	mg/l	5.7	--	1	--	--	--	--
Inorganics									
Iron	300	ug/l	16500	213	2820	--	--	--	--
Manganese	300	ug/l	2830	161	313	--	--	--	--
Natural Attenuation Parameters									
Ethane	--	ug/l	0.68 J	1.0 U	1.0 U	--	--	--	--
Ethene	--	ug/l	1.0 U	1.0 U	1.0 U	--	--	--	--
Methane	--	ug/l	56	0.27 J	3.3	--	--	--	--
VOCs									
1,2,4-Trimethylbenzene	5	ug/l	2500	51	100	68	13	740	850
1,3,5-Trimethylbenzene	5	ug/l	640	16	26	20	2.8 J	220 J	250
2-Butanone (MEK)	50	ug/l	500 U	10 U	5.4 J	2.5 J	10 U	500 U	4.6 J
4-Chlorotoluene	5	ug/l	250 U	5.0 U	5.0 U	5.0 U	5.0 U	23 J	25 U
4-Methyl-2-Pentanone	50	ug/l	500 U	10 U	10 U	10 U	10 U	500 U	50 U
Acetone	50	ug/l	500 U	3.7 J	16 UB	10 U	10 UJ	500 U	23 J
Benzene	1	ug/l	250 U	5.0 U	5.0 U	0.42 J	8.1	250 U	47
Chloroethane	5	ug/l	250 U	5.0 U	0.61 J	5.0 U	5.0 U	250 U	25 U
Chloromethane	5	ug/l	250 U	5.0 U	0.22 J	0.38 J	5.0 U	250 U	25 U
Cymene (p-Isopropyltoluene)	5	ug/l	250 U	2.7 J	1.4 U	0.82 U	5.0 U	11 J	3.7 U
Ethylbenzene	5	ug/l	2600	0.93 J	76	29	20	420	37
Isopropylbenzene	5	ug/l	140 J	2.2 J	9.9	7.1	0.85 J	39 J	5.0 J
m,p-Xylene	--	ug/l	14000	2.1 J	160	45	60	1800	1100
Naphthalene	10	ug/l	670	1.7 J	35	18	6.5	120 J	210
N-Butylbenzene	5	ug/l	250 U	16	5.0 U	5.0 U	5.0 U	250 U	25 U
N-Propylbenzene	5	ug/l	280	8.7	24	16	2.0 J	110 J	6.6 J
o-Xylene	5	ug/l	5900	0.34 J	62	9.9	17	830	900
sec-Butylbenzene	5	ug/l	250 U	3.5 J	1.6 J	1.3 J	5.0 U	250 U	2.0 J
tert-Butylbenzene	5	ug/l	250 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	25 U
Toluene	5	ug/l	630	5.0 U	4.4 J	23	150	5500	220
Total Xylenes	5	ug/l	19900	2.44 J	222	54.9	77.0	2630	2000
Trichloroethene	5	ug/l	250 U	5.0 U	5.0 U	5.0 U	5.0 U	250 U	25 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-2
Summary of Spring 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID Date		2140-MW14 4/28/2015	2140-MW19 4/28/2015	2140-MW27 4/28/2015	2140-MW37 4/27/2015	2140-MW37 4/27/2015
Sample Name		2140-MW14-042815	2140-MW19-042815	2140-MW27-042815	2140-MW37-042715	DUP-02-042715
NYSDEC TOGS						
Analyte	1.1.1	Units				
Gen Chem						
Ammonia Nitrogen	2	mg/l	--	--	--	--
Chloride	250	mg/l	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--
Sulfate	250	mg/l	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--
Inorganics						
Iron	300	ug/l	--	--	--	--
Manganese	300	ug/l	--	--	--	--
Natural Attenuation Parameters						
Ethane	--	ug/l	--	--	--	--
Ethene	--	ug/l	--	--	--	--
Methane	--	ug/l	--	--	--	--
VOCs						
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	260
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	14
2-Butanone (MEK)	50	ug/l	10 U	1.2 J	10 U	47
4-Chlorotoluene	5	ug/l	5.0 U	5.0 U	5.0 U	1.6 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	2.4 J
Acetone	50	ug/l	1.4 UB	10 U	10 U	25 UJ
Benzene	1	ug/l	5.0 U	0.90 J	0.26 J	83
Chloroethane	5	ug/l	5.0 U	5.0 U	5.0 U	1.1 J
Chloromethane	5	ug/l	5.0 U	0.26 J	5.0 U	0.93 J
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	5.0 U	1.4 U
Ethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	68
Isopropylbenzene	5	ug/l	5.0 U	0.26 J	0.63 J	12 J
m,p-Xylene	--	ug/l	5.0 U	5.0 U	5.0 U	390
Naphthalene	10	ug/l	5.0 U	5.0 U	5.0 U	74
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	1.4 U
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	24
o-Xylene	5	ug/l	5.0 U	5.0 U	5.0 U	270
sec-Butylbenzene	5	ug/l	5.0 U	0.60 J	5.0 U	1.5 J
tert-Butylbenzene	5	ug/l	5.0 U	0.23 J	5.0 U	13 U
Toluene	5	ug/l	5.0 U	5.0 U	5.0 U	180
Total Xylenes	5	ug/l	5.00 U	5.00 U	5.00 U	660
Trichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	13 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP



Analyte	Location ID		1295-MW25	1295-MW26	1295-MW26	1295-MW30	1295-MWS27	1295-MWS27
	Date		9/16/2015	9/11/2015	9/11/2015	9/16/2015	9/11/2015	9/11/2015
	Sample Name		1295-MW25-091615	1295-MW26-091115	1295-MW26-091115	1295-MW30-091615	1295-MWS27-091115	1295-MWS27-091115
NYSDEC TOGS 1.1.1 Units								
Gen Chem								
Ammonia Nitrogen	2	mg/l	0.1 U	0.1 U	--	0.379	0.1 U	--
Chloride	250	mg/l	530	62.8	--	475	530	--
Cyanide	0.2	mg/l	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	1 U	< 0.1 R	--	2.65	< 0.1 R	--
Nitrate-N	10	mg/l	1.7	3.5	--	0.04 J	2.4	--
Sulfate	250	mg/l	27	40.3	--	10 U	30.8	--
Total Organic Carbon	--	mg/l	2.6	2.3	--	18.9	1.9	--
Inorganics								
Aluminum	--	ug/l	--	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--	--
Iron	300	ug/l	275	--	5.9 J	4040	--	477
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	--	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	--
Manganese	300	ug/l	42.2	--	5.4 J	241	--	12.7
Mercury	0.7	ug/l	--	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	1.0 U	--	1.0 U	1.0 U	--	1.0 U
Ethene	--	ug/l	1.0 U	--	1.0 U	1.0 U	--	1.0 U
Methane	--	ug/l	1.0	--	1.0 U	2.5	--	0.21 J
PCBs								
PCBs		ug/l	--	--	--	--	--	--
Pesticides								
Pesticides		ug/l	--	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	--	--	--	70	--	--
2-Methylnaphthalene	--	ug/l	--	--	--	9.4 U	--	--
2-Methylphenol	--	ug/l	--	--	--	9.4 U	--	--
4-Methylphenol	--	ug/l	--	--	--	4.3 J	--	--
Naphthalene	10	ug/l	--	--	--	9.4 U	--	--
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	--	5.0 U	120	--	0.67 J
1,2-Dichloroethane	0.6	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	--	5.0 U	57	--	0.20 J
2-Butanone (MEK)	50	ug/l	10 U	--	10 U	7.6 J	--	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	--	10 U	2.4 J	--	10 U
Acetone	50	ug/l	10 U	--	10 U	18 J	--	10 U
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Bromomethane	5	ug/l	5.0 UJ	--	5.0 U	13 UJ	--	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	--	10 U	25 U	--	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
CFC-12	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Chloroethane	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Chloroform	7	ug/l	5.0 U	--	5.0 U	13 U	--	0.26 J
Chloromethane	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	--	5.0 U	1.2 J	--	5.0 U
Dichloromethane	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	--	5.0 U	45	--	2.9 J
Isopropylbenzene	5	ug/l	5.0 U	--	5.0 U	3.6 J	--	0.26 J
m,p-Xylene	--	ug/l	5.0 U	--	5.0 U	340	--	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	--	10 U	5.6 J	--	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Naphthalene	10	ug/l	5.0 U	--	5.0 U	22	--	0.39 J
N-Butylbenzene	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	--	5.0 U	5.7 J	--	0.35 J
o-Xylene	5	ug/l	5.0 U	--	5.0 U	12 J	--	0.35 J
sec-Butylbenzene	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Tetrachloroethene	5	ug/l	5.0 U	--	5.0 U	13 U	--	5.0 U
Toluene	5	ug/l	5.0 U	--	5.0 U	0.80 J	--	5.0 U
Total Xylenes	5	ug/l	5.00 U	--	5.00 U	352 J	--	0.350 J
Trichloroethene	5	ug/l	0.26 J	--	5.0 U	13 U	--	0.27 J

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ -The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID		1295-MWS28	1595-MW33	1595-MW33	1595-MWS7	1595-OBG2	1595-PZ11
Date		9/16/2015	9/18/2015	10/7/2015	9/18/2015	9/18/2015	9/17/2015
Sample Name		1295-MWS28-091615	1595-MW33-091815	1595-MW33-100715	1595-MWS7-091815	1595-OBG2-091815	1595-PZ11-091715
NYSDEC							
TOGS 1.1.1 Units							
Analyte							
Gen Chem							
Ammonia Nitrogen	2	mg/l	0.167	0.672	--	0.427	0.573
Chloride	250	mg/l	1150	1940	--	111	391
Cyanide	0.2	mg/l	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--
Iron (Ferrous)	--	mg/l	0.1 J	6.0	--	20.2	12.3
Nitrate-N	10	mg/l	0.44	1.0 U	--	1.0 U	0.6 J
Sulfate	250	mg/l	23.2	32.5	--	6.9	3.4
Total Organic Carbon	--	mg/l	1.2	7.1	--	11.3	14.8
Inorganics							
Aluminum	--	ug/l	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--
Iron	300	ug/l	100 U	7080	--	33800	16500
Iron	--	mg/kg	--	--	--	--	--
Lead	25	ug/l	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--
Manganese	300	ug/l	37.8	7150	--	237	713
Mercury	0.7	ug/l	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--
Natural Attenuation Parameters							
Ethane	--	ug/l	1.0 U	10 U	--	100 U	100 U
Ethene	--	ug/l	1.0 U	10 U	--	100 U	100 U
Methane	--	ug/l	91	3200 D	--	6500	5500
PCBs							
PCBs		ug/l	--	--	--	--	--
Pesticides							
Pesticides		ug/l	--	--	--	--	--
SVOCs							
2,4-Dimethylphenol	50	ug/l	--	--	--	--	--
2-Methylnaphthalene	--	ug/l	--	--	--	--	--
2-Methylphenol	--	ug/l	--	--	--	--	--
4-Methylphenol	--	ug/l	--	--	--	--	--
Naphthalene	10	ug/l	--	--	--	--	--
VOCs							
1,2,4-Trimethylbenzene	5	ug/l	0.27 J	27	11	1300	23
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	2.3 J	5.0 U	380	8.0
2-Butanone (MEK)	50	ug/l	10 U	4.3 J	10 U	100 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	100 U	10 U
Acetone	50	ug/l	10 U	6.5 J	1.4 J	15 J	3.7 J
Acetone	--	ug/kg	--	--	--	--	--
Benzene	1	ug/l	5.0 U	5.0 U	5.0 U	50 U	0.71 J
Bromomethane	5	ug/l	5.0 UJ	5.0 U	5.0 U	50 U	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	10 U	10 U	100 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	5.0 U	50 U	5.0 U
CFC-12	5	ug/l	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Chloroethane	5	ug/l	5.0 U	0.82 J	5.0 U	50 U	5.0 U
Chloroform	7	ug/l	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Chloromethane	5	ug/l	5.0 U	0.55 J	5.0 U	30 J	0.31 J
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	0.47 J	0.21 J	13 J	1.6 J
Dichloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	49	26	210	9.3
Isopropylbenzene	5	ug/l	5.0 U	17	7.6	89	2.8 J
m,p-Xylene	--	ug/l	0.39 J	92	4.7 J	1200	17
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	10 U	100 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Naphthalene	10	ug/l	0.47 U	94	22	240	18
N-Butylbenzene	5	ug/l	5.0 U	2.2 J	0.44 J	11 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	13	5.5	160	3.3 J
o-Xylene	5	ug/l	0.23 J	17	7.2	190	20
sec-Butylbenzene	5	ug/l	5.0 U	2.8 J	0.79 J	9.7 J	1.5 J
tert-Butylbenzene	5	ug/l	5.0 U	0.52 J	5.0 U	50 U	0.56 J
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	50 U	5.0 U
Toluene	5	ug/l	5.0 U	12	3.2 J	25 J	1.9 J
Total Xylenes	5	ug/l	0.620 J	109	11.9 J	1390	37.0
Trichloroethene	5	ug/l	0.63 J	5.0 U	5.0 U	50 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

	Location ID		1595-PZ11	1595-PZ12	1595-PZ12	1595-SW01	1595-SW04	1795-MWD13
	Date		10/7/2015	9/17/2015	9/17/2015	9/3/2015	9/3/2015	9/8/2015
	Sample Name		1595-PZ11-100715	1595-PZ12-091715	DUP06-091715	1595-SW01_090315	1595-SW04_090315	1795-MWD13-090815
NYSDEC								
Analyte	TOGS 1.1.1	Units						
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	162	156	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--
Inorganics								
Aluminum	--	ug/l	--	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--	--
Iron	300	ug/l	--	--	--	70700	80.6 J	--
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	--	--	--	10.1	5.0 U	--
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	--
Manganese	300	ug/l	--	--	--	--	--	--
Mercury	0.7	ug/l	--	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	--	--	--	--	--	--
Ethene	--	ug/l	--	--	--	--	--	--
Methane	--	ug/l	--	--	--	--	--	--
PCBs								
PCBs		ug/l	--	--	--	--	--	--
Pesticides								
Pesticides		ug/l	--	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	--	--	--	9.4 U	9.4 U	--
2-Methylnaphthalene	--	ug/l	--	--	--	9.4 U	9.4 U	--
2-Methylphenol	--	ug/l	--	--	--	9.4 U	9.4 U	--
4-Methylphenol	--	ug/l	--	--	--	10 U	10 U	--
Naphthalene	10	ug/l	--	--	--	9.4 U	9.4 U	--
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	16	15	4.0 J	5.0 U	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.1	4.9 J	0.38 J	5.0 U	5.0 U
2-Butanone (MEK)	50	ug/l	10 U	10 U	10 U	3.2 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/l	2.3 J	10 U	10 U	7.7 U	10 U	1.6 J
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	0.51 J	5.0 U	5.0 U	5.0 U	5.0 U	1.9 J
Bromomethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	10 U	10 U	0.29 J	10 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
CFC-12	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	ug/l	5.0 U	5.0 U	5.0 U	0.52 J	5.0 U	5.0 U
Chloroform	7	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	0.42 J	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	0.49 J	0.49 J	0.56 J	5.0 U	5.0 U
Dichloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	6.8	7.6	9.1	5.0 U	5.0 U
Isopropylbenzene	5	ug/l	5.0 U	1.7 J	1.9 J	2.0 J	5.0 U	5.0 U
m,p-Xylene	--	ug/l	5.0 U	9.2	9.9	6.3	5.0 U	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.3 J
Naphthalene	10	ug/l	0.24 J	4.6 J	5.4	10	5.0 U	0.20 J
N-Butylbenzene	5	ug/l	5.0 U	1.2 U	1.1 J	0.32 J	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	3.1 J	3.4 J	1.9 J	5.0 U	5.0 U
o-Xylene	5	ug/l	0.23 J	1.2 J	1.3 J	4.2 J	5.0 U	5.0 U
sec-Butylbenzene	5	ug/l	5.0 U	0.49 J	0.55 J	0.35 J	5.0 U	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	1.1 J	5.0 U	5.0 U	21
Toluene	5	ug/l	5.0 U	1.5 J	1.8 J	3.4 J	5.0 U	5.0 U
Total Xylenes	5	ug/l	0.230 J	10.4 J	11.2 J	4.20 J	5.00 U	5.00 U
Trichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.79 J

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
JJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP



Location ID	Date	Sample Name	1795-MWI12	1795-MWS1	1795-MWS10	1795-MWS11	1795-MWS2	1795-MWS21
			9/8/2015	9/10/2015	9/11/2015	9/8/2015	9/10/2015	9/10/2015
			1795-MWI12-090815	1795-MWS1-091015	1795-MWS10-091115	1795-MWS11-090815	1795-MWS2-091015	1795-MWS21-091015
NYSDEC TOGS 1.1.1 Units								
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--
Inorganics								
Aluminum	--	ug/l	--	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--	--
Iron	300	ug/l	--	--	--	--	--	--
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	--	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	--
Manganese	300	ug/l	--	--	--	--	--	--
Mercury	0.7	ug/l	--	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	--	--	--	--	--	--
Ethene	--	ug/l	--	--	--	--	--	--
Methane	--	ug/l	--	--	--	--	--	--
PCBs								
PCBs	--	ug/l	--	--	--	--	--	--
Pesticides								
Pesticides	--	ug/l	--	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	--	--	--	--	--	--
2-Methylnaphthalene	--	ug/l	--	--	--	--	--	--
2-Methylphenol	--	ug/l	--	--	--	--	--	--
4-Methylphenol	--	ug/l	--	--	--	--	--	--
Naphthalene	10	ug/l	--	--	--	--	--	--
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	0.63 J	5.0 U	5.0 U	5.0 U	500	1.0 J
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	140	5.0 UJ
2-Butanone (MEK)	50	ug/l	10 U	10 U	10 U	10 U	10 J	6.1 J
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	10 U	50 U	10 U
Acetone	50	ug/l	1.6 J	10 U	10 U	10 U	18 J	11
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	0.37 J	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Bromomethane	5	ug/l	5.0 U	5.0 U	5.0 UJ	5.0 U	25 UJ	5.0 UJ
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	10 U	10 U	10 U	50 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
CFC-12	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Chloroethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	1.8 J	0.72 J
Chloroform	7	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Chloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	1.2 J	0.84 J
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.4 J	5.0 U
Dichloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	450	1.2 J
Isopropylbenzene	5	ug/l	0.35 J	5.0 U	5.0 U	5.0 U	41	10
m,p-Xylene	--	ug/l	0.34 J	5.0 U	5.0 U	5.0 U	630	0.37 J
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	10 U	10 U	50 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U
Naphthalene	10	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	100	0.23 U
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	6.1 J	0.70 J
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	77	4.3 J
o-Xylene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	150	0.21 J
sec-Butylbenzene	5	ug/l	0.27 J	5.0 U	5.0 U	5.0 U	4.2 J	1.4 J
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	0.23 J
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	0.46 J
Toluene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	110	2.3 J
Total Xylenes	5	ug/l	0.340 J	5.00 U	5.00 U	5.00 U	780	0.580 J
Trichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 UJ -The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID	1795-MWS3	1795-MWS3	1795-MWS7	1795-MWS7	1795-MWS9	1795-PZ14
Date	9/9/2015	10/7/2015	9/9/2015	10/7/2015	9/9/2015	9/10/2015
Sample Name	1795-MWS3-090915	1795-MWS3-100715	1795-MWS7-090915	1795-MWS7-100715	1795-MWS9-090915	1795-PZ14-091015
NYSDEC TOGS 1.1.1 Units						
Gen Chem						
Ammonia Nitrogen	2	mg/l	--	--	--	--
Chloride	250	mg/l	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--
Sulfate	250	mg/l	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--
Inorganics						
Aluminum	--	ug/l	--	--	--	--
Arsenic	25	ug/l	--	--	--	--
Barium	1000	ug/l	--	--	--	--
Calcium	--	ug/l	--	--	--	--
Chromium	50	ug/l	--	--	--	--
Cobalt	--	ug/l	--	--	--	--
Copper	200	ug/l	--	--	--	--
Iron	300	ug/l	19500	6040	15700	--
Iron	--	mg/kg	--	--	--	--
Lead	25	ug/l	--	--	--	--
Lead	--	mg/kg	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--
Manganese	300	ug/l	664	93.7	499	--
Mercury	0.7	ug/l	--	--	--	--
Nickel	100	ug/l	--	--	--	--
Potassium	--	ug/l	--	--	--	--
Selenium	10	ug/l	--	--	--	--
Silver	50	ug/l	--	--	--	--
Sodium	20000	ug/l	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--
Vanadium	--	ug/l	--	--	--	--
Zinc	2000	ug/l	--	--	--	--
Natural Attenuation Parameters						
Ethane	--	ug/l	0.74 J	0.56 J	50 U	--
Ethene	--	ug/l	1.0 U	0.18 J	50 U	--
Methane	--	ug/l	49	130 E	4200	--
PCBs						
PCBs	--	ug/l	--	--	--	--
Pesticides						
Pesticides	--	ug/l	--	--	--	--
SVOCs						
2,4-Dimethylphenol	50	ug/l	--	--	--	--
2-Methylnaphthalene	--	ug/l	--	--	--	--
2-Methylphenol	--	ug/l	--	--	--	--
4-Methylphenol	--	ug/l	--	--	--	--
Naphthalene	10	ug/l	--	--	--	--
VOCs						
1,2,4-Trimethylbenzene	5	ug/l	250	380	450	420
1,2-Dichloroethane	0.6	ug/l	13 U	25 U	100 U	100 U
1,3,5-Trimethylbenzene	5	ug/l	44	100	130	160
2-Butanone (MEK)	50	ug/l	33	50 U	200 U	200 U
4-Methyl-2-Pentanone	50	ug/l	3.9 J	50 U	200 U	200 U
Acetone	50	ug/l	26	50 U	28 J	200 U
Acetone	--	ug/kg	--	--	--	--
Benzene	1	ug/l	13 U	25 U	100 U	100 U
Bromomethane	5	ug/l	13 U	25 U	100 U	100 U
Bromomethane	--	ug/kg	--	--	--	--
Carbon Disulfide	60	ug/l	25 U	50 U	200 U	200 U
Carbon Tetrachloride	5	ug/l	13 U	25 U	100 U	100 U
CFC-12	5	ug/l	13 U	25 U	100 U	100 U
Chloroethane	5	ug/l	3.6 J	25 U	100 U	100 U
Chloroform	7	ug/l	13 U	1.7 J	100 U	11 J
Chloromethane	5	ug/l	2.4 J	25 U	100 U	100 U
cis-1,2-Dichloroethene	5	ug/l	13 U	25 U	100 U	100 U
Cymene (p-Isopropyltoluene)	5	ug/l	3.4 J	1.8 J	6.8 J	100 U
Dichloromethane	5	ug/l	13 U	25 U	100 U	100 U
Dichloromethane	--	ug/kg	--	--	--	--
Ethylbenzene	5	ug/l	200	320	520	460
Isopropylbenzene	5	ug/l	28	27	18 J	15 J
m,p-Xylene	--	ug/l	390	900	2300	3000
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	4.9 J	50 U	200 U	200 U
Methyl-tert-butylether	10	ug/l	13 U	25 U	100 U	100 U
Naphthalene	10	ug/l	70	74	170	130
N-Butylbenzene	5	ug/l	4.8 J	25 U	100 U	100 U
N-Propylbenzene	5	ug/l	61	48	38 J	22 J
o-Xylene	5	ug/l	56	130	1500	1800
sec-Butylbenzene	5	ug/l	3.4 J	1.5 J	100 U	100 U
tert-Butylbenzene	5	ug/l	13 U	25 U	100 U	100 U
Tetrachloroethene	5	ug/l	13 U	25 U	100 U	100 U
Toluene	5	ug/l	8.7 J	26	920	530
Total Xylenes	5	ug/l	446	1030	3800	4800
Trichloroethene	5	ug/l	13 U	25 U	100 U	100 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Analyte	Location ID		1795-PZ15	1795-PZ15	1795-PZ4	1795-PZ4	1795-PZ5	1795-SW00
	Date		9/9/2015	10/7/2015	9/8/2015	10/7/2015	9/10/2015	9/3/2015
	Sample Name		1795-PZ15-090915	1795-PZ15-100715	1795-PZ04-090815	1795-PZ4-100715	1795-PZ5-091015	1795-SW00_090315
NYSDEC TOGS 1.1.1 Units								
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	196
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--
Inorganics								
Aluminum	--	ug/l	--	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--	--
Iron	300	ug/l	21100	--	--	--	--	100 U
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	--	--	--	--	--	5.0 U
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	--
Manganese	300	ug/l	783	--	--	--	--	--
Mercury	0.7	ug/l	--	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	1.3	--	--	--	--	--
Ethene	--	ug/l	0.71 J	--	--	--	--	--
Methane	--	ug/l	100	--	--	--	--	--
PCBs								
PCBs		ug/l	--	--	--	--	--	--
Pesticides								
Pesticides		ug/l	--	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	--	--	--	--	--	9.4 U
2-Methylnaphthalene	--	ug/l	--	--	--	--	--	9.4 U
2-Methylphenol	--	ug/l	--	--	--	--	--	9.4 U
4-Methylphenol	--	ug/l	--	--	--	--	--	10 U
Naphthalene	10	ug/l	--	--	--	--	--	9.4 U
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	240	5.0 U	23	1.4 J	780 D	5.0 U
1,2-Dichloroethane	0.6	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	80	5.0 U	4.1 J	5.0 U	200	5.0 U
2-Butanone (MEK)	50	ug/l	50 U	10 U	10 U	10 U	8.5 J	10 U
4-Methyl-2-Pentanone	50	ug/l	50 U	10 U	10 U	10 U	25 U	10 U
Acetone	50	ug/l	15 J	10 U	3.0 J	10 U	13 J	10 U
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
Bromomethane	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 UJ	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	50 U	10 U	10 U	10 U	25 U	10 U
Carbon Tetrachloride	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
CFC-12	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
Chloroethane	5	ug/l	1.9 J	5.0 U	5.0 U	5.0 U	2.2 J	5.0 U
Chloroform	7	ug/l	1.8 J	5.0 U	5.0 U	5.0 U	13 U	5.0 U
Chloromethane	5	ug/l	2.2 J	5.0 U	5.0 U	5.0 U	1.2 J	5.0 U
cis-1,2-Dichloroethene	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	2.6 J	5.0 U	1.9 J	5.0 U	9.8 J	5.0 U
Dichloromethane	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	150	5.0 U	9.5	1.9 J	320	5.0 U
Isopropylbenzene	5	ug/l	18 J	5.0 U	1.3 J	5.0 U	42	5.0 U
m,p-Xylene	--	ug/l	620	5.0 U	39	8.8	560	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	50 U	10 U	10 U	10 U	25 U	10 U
Methyl-tert-butylether	10	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
Naphthalene	10	ug/l	34	5.0 U	3.7 J	5.0 U	160	5.0 U
N-Butylbenzene	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	11 U	5.0 U
N-Propylbenzene	5	ug/l	21 J	5.0 U	1.8 J	5.0 U	100	5.0 U
o-Xylene	5	ug/l	800	5.0 U	46	20	240	5.0 U
sec-Butylbenzene	5	ug/l	2.0 J	5.0 U	0.27 J	5.0 U	7.2 J	5.0 U
tert-Butylbenzene	5	ug/l	25 U	5.0 U	0.34 J	5.0 U	13 U	5.0 U
Tetrachloroethene	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U
Toluene	5	ug/l	120	5.0 U	1.1 J	0.84 J	88	5.0 U
Total Xylenes	5	ug/l	1420	5.00 U	85.0	28.8	800	5.00 U
Trichloroethene	5	ug/l	25 U	5.0 U	5.0 U	5.0 U	13 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
JJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID		1795-SW04	WWII-002	WWII-006	1995-MW43	1995-MW43	1995-MWS10
Date		9/3/2015	9/9/2015	9/10/2015	9/8/2015	9/8/2015	9/9/2015
Sample Name		1795-SW04_090315	WWII-002-090915	WWII-006-091015	1995-MW43-090815	DUP01_090815	1995-MWS10-090915
NYSDEC							
TOGS 1.1.1 Units							
Analyte							
Gen Chem							
Ammonia Nitrogen	2	mg/l	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	206	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--
Inorganics							
Aluminum	--	ug/l	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--
Iron	300	ug/l	135	--	--	--	106000
Iron	--	mg/kg	--	--	--	--	--
Lead	25	ug/l	5.0 U	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--
Manganese	300	ug/l	--	--	--	--	2000
Mercury	0.7	ug/l	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--
Natural Attenuation Parameters							
Ethane	--	ug/l	--	--	--	--	100 U
Ethene	--	ug/l	--	--	--	--	100 U
Methane	--	ug/l	--	--	--	--	8500
PCBs							
PCBs	--	ug/l	--	--	--	--	--
Pesticides							
Pesticides	--	ug/l	--	--	--	--	--
SVOCs							
2,4-Dimethylphenol	50	ug/l	9.4 U	--	--	--	--
2-Methylnaphthalene	--	ug/l	9.4 U	--	--	--	--
2-Methylphenol	--	ug/l	9.4 U	--	--	--	--
4-Methylphenol	--	ug/l	10 U	--	--	--	--
Naphthalene	10	ug/l	9.4 U	--	--	--	--
VOCs							
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	0.44 J	5.0 U	5.0 U	99
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	25
2-Butanone (MEK)	50	ug/l	10 U	10 U	10 U	10 U	17
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	10 U	1.4 J
Acetone	50	ug/l	1.8 U	10 U	10 U	10 U	29
Acetone	--	ug/kg	--	--	--	--	--
Benzene	1	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	0.43 J
Bromomethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
CFC-12	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform	7	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	5	ug/l	5.0 U	5.0 U	0.23 J	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	0.69 J
Dichloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	180
Isopropylbenzene	5	ug/l	5.0 U	5.0 U	0.56 J	5.0 U	21
m,p-Xylene	--	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	250
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	10 U	10 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	10	ug/l	5.0 U	0.30 U	5.0 U	5.0 U	82
N-Butylbenzene	5	ug/l	5.0 U	0.21 U	5.0 U	5.0 U	2.3 J
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	0.37 J	5.0 U	28
o-Xylene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	94
sec-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	2.6 J
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	0.27 J
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	40
Total Xylenes	5	ug/l	5.00 U	5.00 U	5.00 U	5.00 U	344
Trichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
JJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID			1995-MWS10	1995-PZ6	3805-002	3805-002	3805-014	3805-016	3805-016
Date			9/9/2015	9/8/2015	9/9/2015	10/7/2015	9/8/2015	9/8/2015	10/8/2015
Sample Name			DUP-02-090915	1995-PZ6-090815	3805-002-090915	3805-002-100715	3805-014-090815	3805-016-090815	3805-16-100815
NYSDEC TOGS 1.1.1 Units									
Analyte									
Gen Chem									
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--	--
Inorganics									
Aluminum	--	ug/l	--	--	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--	--	--
Iron	300	ug/l	104000	--	--	--	--	--	13000
Iron	--	mg/kg	--	--	--	--	--	--	--
Lead	25	ug/l	--	--	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	--	--
Manganese	300	ug/l	1930	--	--	--	--	--	--
Mercury	0.7	ug/l	--	--	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--	--	--
Natural Attenuation Parameters									
Ethane	--	ug/l	0.88 J	--	--	--	--	--	--
Ethene	--	ug/l	0.65 J	--	--	--	--	--	--
Methane	--	ug/l	580 E	--	--	--	--	--	--
PCBs									
PCBs		ug/l	--	--	--	--	--	--	--
Pesticides									
Pesticides		ug/l	--	--	--	--	--	--	--
SVOCs									
2,4-Dimethylphenol	50	ug/l	--	--	--	--	--	--	--
2-Methylnaphthalene	--	ug/l	--	--	--	--	--	--	--
2-Methylphenol	--	ug/l	--	--	--	--	--	--	--
4-Methylphenol	--	ug/l	--	--	--	--	--	--	--
Naphthalene	10	ug/l	--	--	--	--	--	--	--
VOCs									
1,2,4-Trimethylbenzene	5	ug/l	48	320	720	530	1000 E	1200	--
1,2-Dichloroethane	0.6	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
1,3,5-Trimethylbenzene	5	ug/l	9.6 J	60	260	230	320	300	--
2-Butanone (MEK)	50	ug/l	20 J	50 U	100 U	100 U	13 J	250 U	--
4-Methyl-2-Pentanone	50	ug/l	50 U	50 U	100 U	100 U	50 U	250 U	--
Acetone	50	ug/l	35 J	16 J	26 J	100 U	13 J	250 U	--
Acetone	--	ug/kg	--	--	--	--	--	--	--
Benzene	1	ug/l	25 U	2.6 J	9.9 J	50 U	1.2 J	130 U	5.0 U
Bromomethane	5	ug/l	25 U	25 U	50 UJ	50 U	25 U	130 U	--
Bromomethane	--	ug/kg	--	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	50 U	50 U	100 U	100 U	50 U	250 U	--
Carbon Tetrachloride	5	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
CFC-12	5	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
Chloroethane	5	ug/l	2.1 J	1.6 J	50 U	50 U	1.8 J	130 U	--
Chloroform	7	ug/l	25 U	1.5 J	2.7 J	3.0 J	2.2 J	130 U	--
Chloromethane	5	ug/l	1.1 J	25 U	50 U	50 U	25 U	130 U	--
cis-1,2-Dichloroethene	5	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
Cymene (p-Isopropyltoluene)	5	ug/l	25 U	5.5 J	4.6 J	2.2 J	8.4 J	130 U	--
Dichloromethane	5	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
Dichloromethane	--	ug/kq	--	--	--	--	--	--	--
Ethylbenzene	5	ug/l	120	220	210	78	410	1500	190
Isopropylbenzene	5	ug/l	16 J	30	22 J	7.5 J	54	65 J	--
m,p-Xylene	--	ug/l	140	740	2200	1400	2100 E	5700	320
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	50 U	50 U	100 U	100 U	50 U	250 U	--
Methyl-tert-butylether	10	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
Naphthalene	10	ug/l	51	110	100	20 J	170	380	--
N-Butylbenzene	5	ug/l	2.8 J	25 U	50 U	50 U	25 U	130 U	--
N-Propylbenzene	5	ug/l	21 J	46	32 J	7.5 J	130	140	--
o-Xylene	5	ug/l	53	180	930	960	890	2600	170
sec-Butylbenzene	5	ug/l	2.1 J	6.7 J	50 U	50 U	5.3 J	130 U	--
tert-Butylbenzene	5	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
Tetrachloroethene	5	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--
Toluene	5	ug/l	31	210	630	220	570	3800	270 E
Total Xylenes	5	ug/l	193	920	3130	2360	2990	8300	490
Trichloroethene	5	ug/l	25 U	25 U	50 U	50 U	25 U	130 U	--

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP



Location ID		3805-MWI6	3805-MWI9	3805-MWS11	3805-MWS11	3805-MWS14	3805-MWS14
Date		10/7/2015	9/14/2015	9/11/2015	9/11/2015	9/15/2015	9/15/2015
Sample Name		3805-MWI6-100715	3805-MWI9-091415	3805-MWS11-091115	3805-MWS11-091115	3805-MWS14-091515	DUP05-091515
NYSDEC							
TOGS 1.1.1 Units							
Analyte							
Gen Chem							
Ammonia Nitrogen	2	mg/l	--	--	0.26	--	--
Chloride	250	mg/l	--	--	43.4	--	--
Cyanide	0.2	mg/l	--	--	--	0.003 J	0.003 J-
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	9.16	--	--
Nitrate-N	10	mg/l	--	--	0.2 U	--	--
Sulfate	250	mg/l	--	--	2 U	--	--
Total Organic Carbon	--	mg/l	--	--	6.8	--	--
Inorganics							
Aluminum	--	ug/l	--	--	--	100 U	100 U
Arsenic	25	ug/l	--	--	--	5.5 J	6.0 J
Barium	1000	ug/l	--	--	--	74.4	80.6
Calcium	--	ug/l	--	--	--	69000	72000
Chromium	50	ug/l	--	--	--	10.0 U	10.0 U
Cobalt	--	ug/l	--	--	--	50.0 U	50.0 U
Copper	200	ug/l	--	--	--	20.0 U	20.0 U
Iron	300	ug/l	--	--	--	38300	13500
Iron	--	mg/kg	--	--	--	--	14000
Lead	25	ug/l	--	--	--	5.0 U	3.0 J
Lead	--	mg/kg	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	4840	5110
Manganese	300	ug/l	--	--	--	10700	879
Mercury	0.7	ug/l	--	--	--	0.200 U	0.200 U
Nickel	100	ug/l	--	--	--	40.0 U	40.0 U
Potassium	--	ug/l	--	--	--	3130	3420
Selenium	10	ug/l	--	--	--	10.0 U	10.0 U
Silver	50	ug/l	--	--	--	2.0 J	1.8 J
Sodium	20000	ug/l	--	--	--	440000	444000
Thallium	0.5	ug/l	--	--	--	10.0 U	10.0 U
Vanadium	--	ug/l	--	--	--	50.0 U	50.0 U
Zinc	2000	ug/l	--	--	--	20.0 U	20.0 U
Natural Attenuation Parameters							
Ethane	--	ug/l	--	--	--	0.55 J	--
Ethene	--	ug/l	--	--	--	0.17 J	--
Methane	--	ug/l	--	--	--	37	--
PCBs							
PCBs		ug/l	--	--	--	ND	ND
Pesticides							
Pesticides		ug/l	--	--	--	ND	ND
SVOCs							
2,4-Dimethylphenol	50	ug/l	--	--	--	8.4 J	8.0 J
2-Methylnaphthalene	--	ug/l	--	--	--	23	23
2-Methylphenol	--	ug/l	--	--	--	1.4 J	1.3 J
4-Methylphenol	--	ug/l	--	--	--	10 U	10 U
Naphthalene	10	ug/l	--	--	--	110	100
VOCs							
1,2,4-Trimethylbenzene	5	ug/l	15	100	--	830	380
1,2-Dichloroethane	0.6	ug/l	5.0 U	50 U	--	100 U	25 U
1,3,5-Trimethylbenzene	5	ug/l	4.3 J	170	--	260	110
2-Butanone (MEK)	50	ug/l	10 U	24 J	--	200 U	34 J
4-Methyl-2-Pentanone	50	ug/l	10 U	100 U	--	200 U	50 U
Acetone	50	ug/l	10 U	54 J	--	30 J	54
Acetone	--	ug/kg	--	--	--	--	63
Benzene	1	ug/l	2.0 J	190	--	14 J	21 J
Bromomethane	5	ug/l	5.0 U	50 U	--	100 U	25 UJ
Bromomethane	--	ug/kg	--	--	--	--	25 UJ
Carbon Disulfide	60	ug/l	10 U	100 U	--	200 U	50 U
Carbon Tetrachloride	5	ug/l	5.0 U	50 U	--	100 U	25 U
CFC-12	5	ug/l	5.0 U	50 U	--	100 U	25 U
Chloroethane	5	ug/l	5.0 U	3.7 J	--	100 U	2.5 J
Chloroform	7	ug/l	0.50 J	8.6 J	--	100 U	1.9 J
Chloromethane	5	ug/l	5.0 U	50 U	--	100 U	1.5 J
cis-1,2-Dichloroethene	5	ug/l	5.0 U	50 U	--	100 U	25 U
Cymene (p-Isopropyltoluene)	5	ug/l	0.22 J	4.5 J	--	4.8 J	2.9 J
Dichloromethane	5	ug/l	5.0 U	50 U	--	100 U	25 U
Dichloromethane	--	ug/kg	--	--	--	--	--
Ethylbenzene	5	ug/l	64	1500	--	860	310
Isopropylbenzene	5	ug/l	4.4 J	66	--	38 J	27
m,p-Xylene	--	ug/l	58	570	--	4000	1000
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	100 U	--	200 U	50 U
Methyl-tert-butylether	10	ug/l	5.0 U	50 U	--	100 U	25 U
Naphthalene	10	ug/l	9.3	360	--	240	120
N-Butylbenzene	5	ug/l	0.35 J	9.3 U	--	100 U	5.5 J
N-Propylbenzene	5	ug/l	3.5 J	120	--	76 J	57
o-Xylene	5	ug/l	2.4 J	350	--	1200	180
sec-Butylbenzene	5	ug/l	0.32 J	4.9 J	--	100 U	3.0 J
tert-Butylbenzene	5	ug/l	5.0 U	50 U	--	100 U	25 U
Tetrachloroethene	5	ug/l	54	50 U	--	100 U	3.5 J
Toluene	5	ug/l	12	1400	--	310	150
Total Xylenes	5	ug/l	60.4 J	920	--	5200	1180
Trichloroethene	5	ug/l	21	50 U	--	100 U	25 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP



Location ID			3805-MWS19	3805-MWS2	3805-MWS23	3805-MWS24	3805-MWS24	3805-MWS3
Date			9/16/2015	9/10/2015	9/10/2015	9/9/2015	10/7/2015	9/10/2015
Sample Name			3805-MWS19-091615	3805-MWS2-091015	3805-MWS23-091015	3805-MWS24-090915	3805-MWS24-100715	3805-MWS3-091015
NYSDEC								
TOGS 1.1.1 Units								
Analyte								
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--
Inorganics								
Aluminum	--	ug/l	--	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--	--
Iron	300	ug/l	--	--	--	3090	--	--
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	--	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	--
Manganese	300	ug/l	--	--	--	1690	--	--
Mercury	0.7	ug/l	--	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	--	--	--	1.0 U	--	--
Ethene	--	ug/l	--	--	--	1.0 U	--	--
Methane	--	ug/l	--	--	--	14	--	--
PCBs								
PCBs		ug/l	--	--	--	--	--	--
Pesticides								
Pesticides		ug/l	--	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	--	--	--	--	--	--
2-Methylnaphthalene	--	ug/l	--	--	--	--	--	--
2-Methylphenol	--	ug/l	--	--	--	--	--	--
4-Methylphenol	--	ug/l	--	--	--	--	--	--
Naphthalene	10	ug/l	--	--	--	--	--	--
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	950	50	29	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	370	27	26	5.0 U
2-Butanone (MEK)	50	ug/l	10 U	10 U	200 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	200 U	10 U	10 U	10 U
Acetone	50	ug/l	10 U	10 U	200 U	5.5 J	2.2 J	10 U
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	5.0 U	5.0 U	160	5.0 U	5.0 U	5.0 U
Bromomethane	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	10 U	200 U	0.25 J	10 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
CFC-12	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	ug/l	5.0 U	5.0 U	100 U	0.82 J	5.0 U	5.0 U
Chloroform	7	ug/l	5.0 U	5.0 U	9.4 J	5.0 U	5.0 U	5.0 U
Chloromethane	5	ug/l	5.0 U	5.0 U	100 U	0.47 J	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	100 U	0.81 J	0.35 J	5.0 U
Dichloromethane	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	5.0 U	73 J	4.7 J	2.0 J	5.0 U
Isopropylbenzene	5	ug/l	5.0 U	5.0 U	5.4 J	0.64 J	0.27 J	5.0 U
m,p-Xylene	--	ug/l	5.0 U	5.0 U	4800	110	68	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	200 U	10 U	10 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
Naphthalene	10	ug/l	5.0 U	5.0 U	19 U	9.4	5.7	0.22 U
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	5.8 J	0.72 J	5.0 U	5.0 U
o-Xylene	5	ug/l	5.0 U	5.0 U	2900	72	59	5.0 U
sec-Butylbenzene	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	5.0 U	0.44 J	100 U	5.0 U	5.0 U	6.1
Toluene	5	ug/l	5.0 U	5.0 U	2300	4.1 J	3.4 J	5.0 U
Total Xylenes	5	ug/l	0 U	5.00 U	7700	182	127	5.00 U
Trichloroethene	5	ug/l	5.0 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID			3805-MWS4	3805-MWS5	3805-MWS8	3805-PZ12D	3805-PZ12I	3805-PZ12S
Date			9/16/2015	9/23/2015	9/14/2015	9/14/2015	9/14/2015	9/16/2015
Sample Name			3805-MWS4-091615	3805-MWS5-092315	3805-MWS8-091415	3805-PZ12D-091415	3805-PZ12I-091415	3805-PZ12S-091615
NYSDEC								
Analyte	TOGS 1.1.1	Units						
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	0.018 J	--	--	--	0.548
Chloride	250	mg/l	--	1.8 J	--	--	--	135
Cyanide	0.2	mg/l	0.005 U	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	0.09 J	--	--	--	26.2
Nitrate-N	10	mg/l	--	1.0 U	--	--	--	0.2 U
Sulfate	250	mg/l	--	2.5	--	--	--	2 U
Total Organic Carbon	--	mg/l	--	7.9	--	--	--	10.4
Inorganics								
Aluminum	--	ug/l	100 U	--	--	--	--	--
Arsenic	25	ug/l	7.6 J	--	--	--	--	--
Barium	1000	ug/l	43.4	--	--	--	--	--
Calcium	--	ug/l	48000	--	--	--	--	--
Chromium	50	ug/l	0.729 J	--	--	--	--	--
Cobalt	--	ug/l	50.0 U	--	--	--	--	--
Copper	200	ug/l	20.0 U	--	--	--	--	--
Iron	300	ug/l	15900	2100	--	--	--	42200
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	5.0 U	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	2670	--	--	--	--	--
Manganese	300	ug/l	1330	1170	--	--	--	6320
Mercury	0.7	ug/l	0.200 U	--	--	--	--	--
Nickel	100	ug/l	40.0 U	--	--	--	--	--
Potassium	--	ug/l	2670	--	--	--	--	--
Selenium	10	ug/l	10.0 U	--	--	--	--	--
Silver	50	ug/l	2.0 J	--	--	--	--	--
Sodium	20000	ug/l	84000	--	--	--	--	--
Thallium	0.5	ug/l	10.0 U	--	--	--	--	--
Vanadium	--	ug/l	50.0 U	--	--	--	--	--
Zinc	2000	ug/l	20.0 U	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	--	1.0 U	--	--	--	1.0
Ethene	--	ug/l	--	1.0 U	--	--	--	0.22 J
Methane	--	ug/l	--	1.6	--	--	--	49
PCBs								
PCBs		ug/l	ND	--	--	--	--	--
Pesticides								
Pesticides		ug/l	ND	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	2.5 J	--	--	--	--	--
2-Methylnaphthalene	--	ug/l	14	--	--	--	--	--
2-Methylphenol	--	ug/l	9.4 U	--	--	--	--	--
4-Methylphenol	--	ug/l	10 U	--	--	--	--	--
Naphthalene	10	ug/l	71	--	--	--	--	--
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	100	28	17 J	5.0 U	1.3 J	1800
1,2-Dichloroethane	0.6	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
1,3,5-Trimethylbenzene	5	ug/l	17	7.3	3.3 J	5.0 U	1.8 J	490
2-Butanone (MEK)	50	ug/l	15 J	3.6 J	8.2 J	10 U	10 U	250 U
4-Methyl-2-Pentanone	50	ug/l	25 U	3.0 J	1.3 J	10 U	10 U	250 U
Acetone	50	ug/l	35	20	12	10 U	10 U	44 J
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	49	1.6 J	14	5.0 U	1.9 J	32 J
Bromomethane	5	ug/l	13 U	5.0 UJ	5.0 UJ	5.0 U	5.0 U	130 UJ
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	25 U	10 U	10 U	0.22 J	10 U	250 U
Carbon Tetrachloride	5	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
CFC-12	5	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
Chloroethane	5	ug/l	3.2 J	0.49 J	1.3 J	5.0 U	5.0 U	130 U
Chloroform	7	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	8.5 J
Chloromethane	5	ug/l	1.8 J	0.43 J	0.55 J	5.0 U	5.0 U	130 U
cis-1,2-Dichloroethene	5	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
Cymene (p-Isopropyltoluene)	5	ug/l	1.2 J	5.0 U	0.46 J	5.0 U	5.0 U	8.5 J
Dichloromethane	5	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	220	22	110	5.0 U	0.30 J	1700
Isopropylbenzene	5	ug/l	13	0.82 J	5.4	5.0 U	4.8 J	80 J
m,p-Xylene	--	ug/l	440	170	73	5.0 U	0.94 J	7900
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	25 U	21	2.0 J	10 U	10 U	250 U
Methyl-tert-butylether	10	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
Naphthalene	10	ug/l	87	35	46	5.0 U	34	360
N-Butylbenzene	5	ug/l	2.1 J	5.0 U	1.2 J	5.0 U	0.93 J	18 U
N-Propylbenzene	5	ug/l	24	1.0 J	9.8	5.0 U	0.59 J	160
o-Xylene	5	ug/l	12 J	110	19	5.0 U	28	3200
sec-Butylbenzene	5	ug/l	1.0 J	5.0 U	0.69 J	5.0 U	2.6 J	7.5 J
tert-Butylbenzene	5	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
Tetrachloroethene	5	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U
Toluene	5	ug/l	33	150	27	5.0 U	0.44 J	2800
Total Xylenes	5	ug/l	452 J	280	92.0	5.00 U	28.9 J	11100
Trichloroethene	5	ug/l	13 U	5.0 U	5.0 U	5.0 U	5.0 U	130 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID		3805-PZ13D	3805-PZ13I	3805-PZ13S	3805-PZ14	3805-PZ2D	3805-PZ2D
Date		9/15/2015	9/15/2015	9/15/2015	9/23/2015	9/21/2015	9/21/2015
Sample Name		3805-PZ13D-091515	3805-PZ13I-091515	3805-PZ13S-091515	3805-PZ14-092315	3805-PZ2D-092115	DUP07-092115
NYSDEC							
TOGS 1.1.1 Units							
Analyte							
Gen Chem							
Ammonia Nitrogen	2	mg/l	--	--	0.411	--	--
Chloride	250	mg/l	--	--	2.6	--	--
Cyanide	0.2	mg/l	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	5.6	--	--
Nitrate-N	10	mg/l	--	--	1.0 U	--	--
Sulfate	250	mg/l	--	--	3.6	--	--
Total Organic Carbon	--	mg/l	--	--	9.3	--	--
Inorganics							
Aluminum	--	ug/l	--	100 U	--	--	--
Arsenic	25	ug/l	--	2.7 J	--	--	--
Barium	1000	ug/l	--	129	--	--	--
Calcium	--	ug/l	--	47400	--	--	--
Chromium	50	ug/l	--	10.0 U	--	--	--
Cobalt	--	ug/l	--	50.0 U	--	--	--
Copper	200	ug/l	--	20.0 U	--	--	--
Iron	300	ug/l	--	4460	7100	--	--
Iron	--	mg/kg	--	--	--	--	--
Lead	25	ug/l	--	2.7 J	--	--	--
Lead	--	mg/kg	--	--	--	--	--
Magnesium	35000	ug/l	--	4300	--	--	--
Manganese	300	ug/l	--	41.5	454	--	--
Mercury	0.7	ug/l	--	0.200 U	--	--	--
Nickel	100	ug/l	--	40.0 U	--	--	--
Potassium	--	ug/l	--	2190	--	--	--
Selenium	10	ug/l	--	10.0 U	--	--	--
Silver	50	ug/l	--	1.4 J	--	--	--
Sodium	20000	ug/l	--	121000	--	--	--
Thallium	0.5	ug/l	--	10.0 U	--	--	--
Vanadium	--	ug/l	--	50.0 U	--	--	--
Zinc	2000	ug/l	--	7.3 J	--	--	--
Natural Attenuation Parameters							
Ethane	--	ug/l	--	--	1.1	--	--
Ethene	--	ug/l	--	--	0.12 J	--	--
Methane	--	ug/l	--	--	19	--	--
PCBs							
PCBs	--	ug/l	--	--	--	--	--
Pesticides							
Pesticides	--	ug/l	--	--	--	--	--
SVOCs							
2,4-Dimethylphenol	50	ug/l	--	19 U	--	--	--
2-Methylnaphthalene	--	ug/l	--	37	--	--	--
2-Methylphenol	--	ug/l	--	19 U	--	--	--
4-Methylphenol	--	ug/l	--	20 U	--	--	--
Naphthalene	10	ug/l	--	190	--	--	--
VOCs							
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	0.47 J	460	1300	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 U	25 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	0.24 J	150	420	5.0 U
2-Butanone (MEK)	50	ug/l	10 U	10 U	11 J	100 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	50 U	100 U	10 U
Acetone	50	ug/l	1.5 J	10 U	15 J	100 U	1.5 J
Acetone	--	ug/kg	--	--	--	--	--
Benzene	1	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
Bromomethane	5	ug/l	5.0 U	5.0 U	25 UJ	50 UJ	5.0 UJ
Bromomethane	--	ug/kg	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	10 U	50 U	100 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
CFC-12	5	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
Chloroethane	5	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
Chloroform	7	ug/l	0.69 J	5.0 U	25 U	50 U	5.0 U
Chloromethane	5	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	1.5 UJ	6.9 J	5.0 U
Dichloromethane	5	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	0.73 J	520	440	5.0 U
Isopropylbenzene	5	ug/l	5.0 U	5.0 U	34	64	5.0 U
m,p-Xylene	--	ug/l	5.0 U	1.2 J	980	2400	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	50 U	100 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	25 U	50 U	0.46 J
Naphthalene	10	ug/l	5.0 U	0.52 U	260	180	5.0 U
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	7.3 U	9.9 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	91	150	5.0 U
o-Xylene	5	ug/l	5.0 U	0.37 J	370	980	5.0 U
sec-Butylbenzene	5	ug/l	5.0 U	5.0 U	3.6 J	5.7 J	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	25 U	50 U	5.0 U
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	25 U	50 U	580 D
Toluene	5	ug/l	5.0 U	0.23 J	82	640	5.0 U
Total Xylenes	5	ug/l	5.00 U	1.57 J	1350	3380	0 U
Trichloroethene	5	ug/l	5.0 U	1.4 J	25 U	50 U	5.8

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Analyte	Location ID		OSL-MW3	OSL-MW8	OSL-MW9A	OSL-MW10	BM-01	BM-02	BM-03
	Date		9/10/2015	9/17/2015	9/17/2015	9/16/2015	9/4/2015	9/4/2015	9/4/2015
	Sample Name		OSL-MW3-091015	OSL-MW8-091715	OSL-MW9A-091715	OSL-MW10-091615	BM-01-090415	BM-02-090415	BM-03-090415
NYSDEC									
TOGS 1.1.1 Units									
Gen Chem									
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--	--
Inorganics									
Aluminum	--	ug/l	--	100 U	500 U	14.8 J	--	--	--
Arsenic	25	ug/l	--	2.5 J	6.0 J	1.2 J	--	--	--
Barium	1000	ug/l	--	20.7	49.5	16.8 J	--	--	--
Calcium	--	ug/l	--	49400	37200	41900	--	--	--
Chromium	50	ug/l	--	0.348 J	2.2 J	0.337 J	--	--	--
Cobalt	--	ug/l	--	50.0 U	0.851 J	50.0 U	--	--	--
Copper	200	ug/l	--	20.0 U	20.0 U	20.0 U	--	--	--
Iron	300	ug/l	--	98.5 J	4990	2950	--	--	--
Iron	--	mg/kg	--	--	--	--	133	50.9	76.0
Lead	25	ug/l	--	5.0 U	5.0 U	5.0 U	--	--	--
Lead	--	mg/kg	--	--	--	--	0.919 J	0.275 J	0.265 J
Magnesium	35000	ug/l	--	3700	2570	3370	--	--	--
Manganese	300	ug/l	--	4.1 J	5370	127	--	--	--
Mercury	0.7	ug/l	--	0.200 U	0.040 J	0.200 U	--	--	--
Nickel	100	ug/l	--	40.0 U	3.2 J	40.0 U	--	--	--
Potassium	--	ug/l	--	2260	2040	1580 J	--	--	--
Selenium	10	ug/l	--	10.0 U	10.0 U	10.0 U	--	--	--
Silver	50	ug/l	--	1.3 J	2.0 J	1.1 J	--	--	--
Sodium	20000	ug/l	--	155000	174000	64900	--	--	--
Thallium	0.5	ug/l	--	10.0 U	10.0 U	10.0 U	--	--	--
Vanadium	--	ug/l	--	50.0 U	50.0 U	50.0 U	--	--	--
Zinc	2000	ug/l	--	20.0 U	14.1 J	20.0 U	--	--	--
Natural Attenuation Parameters									
Ethane	--	ug/l	--	--	--	--	--	--	--
Ethene	--	ug/l	--	--	--	--	--	--	--
Methane	--	ug/l	--	--	--	--	--	--	--
PCBs									
PCBs		ug/l	--	--	--	--	--	--	--
Pesticides									
Pesticides		ug/l	--	--	--	--	--	--	--
SVOCs									
2,4-Dimethylphenol	50	ug/l	--	9.4 UJ	9.4 UJ	9.4 U	--	--	--
2-Methylnaphthalene	--	ug/l	--	9.4 UJ	9.4 UJ	9.4 U	--	--	--
2-Methylphenol	--	ug/l	--	9.4 UJ	9.4 UJ	9.4 U	--	--	--
4-Methylphenol	--	ug/l	--	10 UJ	10 UJ	10 U	--	--	--
Naphthalene	10	ug/l	--	9.4 UJ	9.4 UJ	9.4 U	--	--	--
VOCs									
1,2,4-Trimethylbenzene	5	ug/l	27	5.0 UJ	5.0 UJ	5.0 U	--	--	--
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
1,3,5-Trimethylbenzene	5	ug/l	8.2	5.0 UJ	5.0 UJ	5.0 U	--	--	--
2-Butanone (MEK)	50	ug/l	7.2 J	10 UJ	10 UJ	10 U	--	--	--
4-Methyl-2-Pentanone	50	ug/l	10 U	10 UJ	10 UJ	10 U	--	--	--
Acetone	50	ug/l	9.5 J	1.5 J-	1.4 J-	10 U	--	--	--
Acetone	--	ug/kg	--	--	--	--	8600 J	7000 J	3200
Benzene	1	ug/l	0.48 J	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Bromomethane	5	ug/l	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	--	--	--
Bromomethane	--	ug/kg	--	--	--	--	13000 U	13000 U	120 J
Carbon Disulfide	60	ug/l	10 U	10 UJ	10 UJ	10 U	--	--	--
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
CFC-12	5	ug/l	5.0 U	5.0 UJ	5.0 UJ	1.8 J	--	--	--
Chloroethane	5	ug/l	2.9 J	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Chloroform	7	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Chloromethane	5	ug/l	1.0 J	5.0 UJ	5.0 UJ	5.0 U	--	--	--
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Cymene (p-Isopropyltoluene)	5	ug/l	1.8 J	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Dichloromethane	5	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Dichloromethane	--	ug/kg	--	--	--	--	13000 U	13000 U	130 J
Ethylbenzene	5	ug/l	51	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Isopropylbenzene	5	ug/l	7.3	5.0 UJ	5.0 UJ	5.0 U	--	--	--
m,p-Xylene	--	ug/l	41	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 UJ	10 UJ	10 U	--	--	--
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Naphthalene	10	ug/l	24	5.0 UJ	5.0 UJ	5.0 U	--	--	--
N-Butylbenzene	5	ug/l	8.6	5.0 UJ	5.0 UJ	5.0 U	--	--	--
N-Propylbenzene	5	ug/l	17	5.0 UJ	5.0 UJ	5.0 U	--	--	--
o-Xylene	5	ug/l	8.5	5.0 UJ	5.0 UJ	5.0 U	--	--	--
sec-Butylbenzene	5	ug/l	4.3 J	5.0 UJ	5.0 UJ	5.0 U	--	--	--
tert-Butylbenzene	5	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Tetrachloroethene	5	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Toluene	5	ug/l	15	5.0 UJ	5.0 UJ	5.0 U	--	--	--
Total Xylenes	5	ug/l	49.5	5.00 UJ	5.00 UJ	5.00 U	--	--	--
Trichloroethene	5	ug/l	5.0 U	5.0 UJ	5.0 UJ	5.0 U	--	--	--

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP



Analyte	Location ID		SP03-EFF	LC009	LC009-EFF	LS34	LS34-EFF	OSL-SW06	OSL-SW09
	Date		9/4/2015	9/4/2015	9/4/2015	9/4/2015	9/4/2015	9/3/2015	9/3/2015
	Sample Name		SP03-EFF-090415	LC009-090415	LC009-EFF-090415	LS34-090415	LS34-EFF-090415	OSL-SW06_090315	OSL-SW09_090315
NYSDEC TOGS 1.1.1 Units									
Gen Chem									
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	140	146
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--	--
Inorganics									
Aluminum	--	ug/l	--	--	--	--	--	79.1 J	18.6 J
Arsenic	25	ug/l	--	--	--	--	--	3.4 J	5.4 J
Barium	1000	ug/l	--	--	--	--	--	37.3	31.2
Calcium	--	ug/l	--	--	--	--	--	46400	47600
Chromium	50	ug/l	--	--	--	--	--	10.0 U	10.0 U
Cobalt	--	ug/l	--	--	--	--	--	50.0 U	50.0 U
Copper	200	ug/l	--	--	--	--	--	2.5 J	20.0 U
Iron	300	ug/l	855	5020000	691	1980000	397	716	835
Iron	--	mg/kg	--	--	--	--	--	--	--
Lead	25	ug/l	3.3 J	191	3.0 J	158	2.6 J	5.0 U	5.0 U
Lead	--	mg/kg	--	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	5450	4900
Manganese	300	ug/l	--	--	--	--	--	88.9	166
Mercury	0.7	ug/l	--	--	--	--	--	0.134 J	0.200 U
Nickel	100	ug/l	--	--	--	--	--	40.0 U	40.0 U
Potassium	--	ug/l	--	--	--	--	--	1330 J	1310 J
Selenium	10	ug/l	--	--	--	--	--	10.0 U	10.0 U
Silver	50	ug/l	--	--	--	--	--	10.0 U	10.0 U
Sodium	20000	ug/l	--	--	--	--	--	62200	67700
Thallium	0.5	ug/l	--	--	--	--	--	10.0 U	10.0 U
Vanadium	--	ug/l	--	--	--	--	--	50.0 U	50.0 U
Zinc	2000	ug/l	--	--	--	--	--	20.0 U	20.0 U
Natural Attenuation Parameters									
Ethane	--	ug/l	--	--	--	--	--	--	--
Ethene	--	ug/l	--	--	--	--	--	--	--
Methane	--	ug/l	--	--	--	--	--	--	--
PCBs									
PCBs		ug/l	--	--	--	--	--	--	--
Pesticides									
Pesticides		ug/l	--	--	--	--	--	--	--
SVOCs									
2,4-Dimethylphenol	50	ug/l	--	--	--	--	--	9.4 U	9.4 U
2-Methylnaphthalene	--	ug/l	--	--	--	--	--	9.4 U	9.4 U
2-Methylphenol	--	ug/l	--	--	--	--	--	9.4 U	9.4 U
4-Methylphenol	--	ug/l	--	--	--	--	--	10 U	10 U
Napthalene	10	ug/l	--	--	--	--	--	9.4 U	9.4 U
VOCs									
1,2,4-Trimethylbenzene	5	ug/l	5.0 UJ	26 J-	5.0 U	240 J-	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 UJ	7.9 J-	5.0 U	26 J-	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	50	ug/l	10 UJ	3.7 J-	10 U	100 UJ	10 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 UJ	10 UJ	10 U	100 UJ	10 U	10 U	10 U
Acetone	50	ug/l	1.7 UJ	14 J-	1.6 J	29 J-	1.6 J	16 U	2.1 U
Acetone	--	ug/kg	--	--	--	--	--	--	--
Benzene	1	ug/l	5.0 UJ	7.0 J-	5.0 U	5.6 J-	5.0 U	5.0 U	0.85 J
Bromomethane	5	ug/l	5.0 UJ	5.0 UJ	5.0 UJ	50 UJ	5.0 UJ	5.0 U	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 UJ	10 UJ	10 U	6.1 J-	10 U	10 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
CFC-12	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Chloroethane	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Chloroform	7	ug/l	5.0 UJ	0.39 UJ	5.0 U	7.6 J-	5.0 U	5.0 U	5.0 U
Chloromethane	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 UJ	0.43 J-	5.0 U	3.0 J-	5.0 U	5.0 U	5.0 U
Dichloromethane	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 UJ	23 J-	0.79 J	160 J-	0.49 J	0.20 J	0.60 J
Isopropylbenzene	5	ug/l	5.0 UJ	1.4 J-	5.0 U	9.4 J-	5.0 U	5.0 U	5.0 U
m,p-Xylene	--	ug/l	5.0 UJ	57 J-	0.80 J	320 J-	0.41 J	5.0 U	0.54 J
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 UJ	10 UJ	10 U	100 UJ	10 U	10 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Naphthalene	10	ug/l	0.36 UJ	8.8 UJ	0.33 UJ	54 UJ	0.28 UJ	5.0 U	0.29 U
N-Butylbenzene	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 UJ	0.86 J-	5.0 U	19 J-	5.0 U	5.0 U	5.0 U
o-Xylene	5	ug/l	5.0 UJ	4.6 J-	5.0 U	8.7 J-	5.0 U	5.0 U	5.0 U
sec-Butylbenzene	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
tert-Butylbenzene	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Toluene	5	ug/l	5.0 UJ	3.2 J-	5.0 U	13 J-	5.0 U	5.0 U	5.0 U
Total Xylenes	5	ug/l	5.00 UJ	61.6 J-	0.800 J	329 J-	0.410 J	5.00 U	5.00 U
Trichloroethene	5	ug/l	5.0 UJ	5.0 UJ	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

	Location ID		OSL-SW10	2140-MW02	2140-MW02	2140-MW02	2140-MW04	2140-MW04
	Date		9/3/2015	9/22/2015	9/22/2015	10/7/2015	9/21/2015	10/7/2015
	Sample Name		OSL-SW10_090315	2140-MW2-092215	DUP08-092215	2140-MW02-100715	2140-MW4-092115	2140-MW04-100715
NYSDEC TOGS 1.1.1 Units								
Analyte								
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	104	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--
Inorganics								
Aluminum	--	ug/l	26.8 J	--	--	--	--	--
Arsenic	25	ug/l	2.4 J	--	--	--	--	--
Barium	1000	ug/l	9.7 J	--	--	--	--	--
Calcium	--	ug/l	35400	--	--	--	--	--
Chromium	50	ug/l	0.366 J	--	--	--	--	--
Cobalt	--	ug/l	50.0 U	--	--	--	--	--
Copper	200	ug/l	2.0 J	--	--	--	--	--
Iron	300	ug/l	45.6 J	--	--	--	--	--
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	5.0 U	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	2860	--	--	--	--	--
Manganese	300	ug/l	5.4 J	--	--	--	--	--
Mercury	0.7	ug/l	0.200 U	--	--	--	--	--
Nickel	100	ug/l	40.0 U	--	--	--	--	--
Potassium	--	ug/l	1300 J	--	--	--	--	--
Selenium	10	ug/l	10.0 U	--	--	--	--	--
Silver	50	ug/l	10.0 U	--	--	--	--	--
Sodium	20000	ug/l	23600	--	--	--	--	--
Thallium	0.5	ug/l	10.0 U	--	--	--	--	--
Vanadium	--	ug/l	50.0 U	--	--	--	--	--
Zinc	2000	ug/l	20.0 U	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	--	--	--	--	--	--
Ethene	--	ug/l	--	--	--	--	--	--
Methane	--	ug/l	--	--	--	--	--	--
PCBs								
PCBs		ug/l	--	--	--	--	--	--
Pesticides								
Pesticides		ug/l	--	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	9.4 U	--	--	--	--	--
2-Methylnaphthalene	--	ug/l	9.4 U	--	--	--	--	--
2-Methylphenol	--	ug/l	9.4 U	--	--	--	--	--
4-Methylphenol	--	ug/l	10 U	--	--	--	--	--
Naphthalene	10	ug/l	9.4 U	--	--	--	--	--
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	30	31	55	0.43 J	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	14	14	8.3 J	0.70 J	5.0 U
2-Butanone (MEK)	50	ug/l	10 U	8.8 J	25 U	25 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	1.8 J	1.8 J	25 U	10 U	10 U
Acetone	50	ug/l	1.6 U	30	32	25 U	1.4 J	10 U
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	5.0 U	100	100	83	5.0 U	5.0 U
Bromomethane	5	ug/l	5.0 U	13 UJ	13 UJ	13 U	5.0 UJ	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	25 U	25 U	25 U	10 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
CFC-12	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
Chloroethane	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
Chloroform	7	ug/l	5.0 U	1.6 J	1.1 J	13 U	5.0 U	5.0 U
Chloromethane	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	0.78 J	0.63 J	13 U	5.0 U	5.0 U
Dichloromethane	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	37	36	53	0.21 J	5.0 U
Isopropylbenzene	5	ug/l	5.0 U	1.3 J	1.4 J	2.5 J	5.0 U	5.0 U
m,p-Xylene	--	ug/l	5.0 U	280	270	280	2.9 J	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	4.6 J	25 U	25 U	10 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
Naphthalene	10	ug/l	5.0 U	9.8 J	8.7 J	12 J	5.0 U	5.0 U
N-Butylbenzene	5	ug/l	5.0 U	2.5 J	2.5 J	0.58 J	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	2.7 J	2.8 J	3.9 J	0.26 J	5.0 U
o-Xylene	5	ug/l	5.0 U	210	210	150	2.6 J	5.0 U
sec-Butylbenzene	5	ug/l	5.0 U	1.3 J	1.4 J	13 U	5.0 U	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U
Toluene	5	ug/l	5.0 U	320	310	290	28	5.0 U
Total Xylenes	5	ug/l	5.00 U	490	480	430	5.50 J	5.00 U
Trichloroethene	5	ug/l	5.0 U	13 U	13 U	13 U	5.0 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Analyte	Location ID		2140-MW13	2140-MW14	2140-MW16	2140-MW19	2140-MW27	2140-MW37
	Date		9/21/2015	9/21/2015	9/21/2015	9/21/2015	9/23/2015	9/22/2015
	Sample Name		2140-MW13-092115	2140-MW14-092115	2140-MW16-092115	2140-MW19-092115	2140-MW27-092315	2140-MW37-092215
NYSDEC								
TOGS 1.1.1		Units						
Gen Chem								
Ammonia Nitrogen	2	mg/l	--	--	--	--	0.050 U	--
Chloride	250	mg/l	--	--	--	--	385	--
Cyanide	0.2	mg/l	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	6.8	--
Nitrate-N	10	mg/l	--	--	--	--	1.0 U	--
Sulfate	250	mg/l	--	--	--	--	10.1	--
Total Organic Carbon	--	mg/l	--	--	--	--	2.0	--
Inorganics								
Aluminum	--	ug/l	--	--	--	--	--	--
Arsenic	25	ug/l	--	--	--	--	--	--
Barium	1000	ug/l	--	--	--	--	--	--
Calcium	--	ug/l	--	--	--	--	--	--
Chromium	50	ug/l	--	--	--	--	--	--
Cobalt	--	ug/l	--	--	--	--	--	--
Copper	200	ug/l	--	--	--	--	--	--
Iron	300	ug/l	--	--	--	--	6930	--
Iron	--	mg/kg	--	--	--	--	--	--
Lead	25	ug/l	--	--	--	--	--	--
Lead	--	mg/kg	--	--	--	--	--	--
Magnesium	35000	ug/l	--	--	--	--	--	--
Manganese	300	ug/l	--	--	--	--	422	--
Mercury	0.7	ug/l	--	--	--	--	--	--
Nickel	100	ug/l	--	--	--	--	--	--
Potassium	--	ug/l	--	--	--	--	--	--
Selenium	10	ug/l	--	--	--	--	--	--
Silver	50	ug/l	--	--	--	--	--	--
Sodium	20000	ug/l	--	--	--	--	--	--
Thallium	0.5	ug/l	--	--	--	--	--	--
Vanadium	--	ug/l	--	--	--	--	--	--
Zinc	2000	ug/l	--	--	--	--	--	--
Natural Attenuation Parameters								
Ethane	--	ug/l	--	--	--	--	1.0 U	--
Ethene	--	ug/l	--	--	--	--	1.0 U	--
Methane	--	ug/l	--	--	--	--	1.9	--
PCBs								
PCBs		ug/l	--	--	--	--	--	--
Pesticides								
Pesticides		ug/l	--	--	--	--	--	--
SVOCs								
2,4-Dimethylphenol	50	ug/l	--	--	--	--	--	--
2-Methylnaphthalene	--	ug/l	--	--	--	--	--	--
2-Methylphenol	--	ug/l	--	--	--	--	--	--
4-Methylphenol	--	ug/l	--	--	--	--	--	--
Naphthalene	10	ug/l	--	--	--	--	--	--
VOCs								
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	50	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/l	10 U	10 U	10 U	3.7 J	2.7 J	1.3 J
Acetone	--	ug/kg	--	--	--	--	--	--
Benzene	1	ug/l	5.0 U	0.22 J	0.26 J	2.2 J	10	5.0 U
Bromomethane	5	ug/l	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
Bromomethane	--	ug/kg	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
CFC-12	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	ug/l	5.0 U	5.0 U	5.0 U	0.39 J	0.28 J	5.0 U
Chloroform	7	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	0.48 J	0.25 J	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	8.6	5.0 U
Isopropylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	0.51 J	1.5 J	5.0 U
m,p-Xylene	--	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.8 J
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	10 U	10 U	10 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Naphthalene	10	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.5 U
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	1.1 J	5.0 U
o-Xylene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.2 J
sec-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	0.51 J	0.36 J	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	0.28 J	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	0.51 J	0.23 J
Total Xylenes	5	ug/l	0 U	0 U	0 U	0 U	0 U	3.00 J
Trichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-3
Summary of Fall 2015 Basewide Monitoring Sampling
Fort Drum IRP

Location ID 2140-MW37			
Date 10/7/2015			
Sample Name 2140-MW37-100715			
NYSDEC			
Analyte	TOGS 1.1.1	Units	
Gen Chem			
Ammonia Nitrogen	2	mg/l	--
Chloride	250	mg/l	--
Cyanide	0.2	mg/l	--
Hardness (as CaCO3)	--	mg/l	--
Iron (Ferrous)	--	mg/l	--
Nitrate-N	10	mg/l	--
Sulfate	250	mg/l	--
Total Organic Carbon	--	mg/l	--
Inorganics			
Aluminum	--	ug/l	--
Arsenic	25	ug/l	--
Barium	1000	ug/l	--
Calcium	--	ug/l	--
Chromium	50	ug/l	--
Cobalt	--	ug/l	--
Copper	200	ug/l	--
Iron	300	ug/l	--
Iron	--	mg/kg	--
Lead	25	ug/l	--
Lead	--	mg/kg	--
Magnesium	35000	ug/l	--
Manganese	300	ug/l	--
Mercury	0.7	ug/l	--
Nickel	100	ug/l	--
Potassium	--	ug/l	--
Selenium	10	ug/l	--
Silver	50	ug/l	--
Sodium	20000	ug/l	--
Thallium	0.5	ug/l	--
Vanadium	--	ug/l	--
Zinc	2000	ug/l	--
Natural Attenuation Parameters			
Ethane	--	ug/l	--
Ethene	--	ug/l	--
Methane	--	ug/l	--
PCBs			
PCBs		ug/l	--
Pesticides			
Pesticides		ug/l	--
SVOCs			
2,4-Dimethylphenol	50	ug/l	--
2-Methylnaphthalene	--	ug/l	--
2-Methylphenol	--	ug/l	--
4-Methylphenol	--	ug/l	--
Naphthalene	10	ug/l	--
VOCs			
1,2,4-Trimethylbenzene	5	ug/l	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U
2-Butanone (MEK)	50	ug/l	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U
Acetone	50	ug/l	10 U
Acetone	--	ug/kg	--
Benzene	1	ug/l	5.0 U
Bromomethane	5	ug/l	5.0 U
Bromomethane	--	ug/kg	--
Carbon Disulfide	60	ug/l	10 U
Carbon Tetrachloride	5	ug/l	5.0 U
CFC-12	5	ug/l	5.0 U
Chloroethane	5	ug/l	5.0 U
Chloroform	7	ug/l	5.0 U
Chloromethane	5	ug/l	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U
Dichloromethane	5	ug/l	5.0 U
Dichloromethane	--	ug/kg	--
Ethylbenzene	5	ug/l	5.0 U
Isopropylbenzene	5	ug/l	5.0 U
m,p-Xylene	--	ug/l	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U
Methyl-tert-butylether	10	ug/l	5.0 U
Naphthalene	10	ug/l	5.0 U
N-Butylbenzene	5	ug/l	5.0 U
N-Propylbenzene	5	ug/l	5.0 U
o-Xylene	5	ug/l	5.0 U
sec-Butylbenzene	5	ug/l	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U
Tetrachloroethene	5	ug/l	5.0 U
Toluene	5	ug/l	5.0 U
Total Xylenes	5	ug/l	5.00 U
Trichloroethene	5	ug/l	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-4
Summary of Low-Flow vs. PDB Sampling Results
Fort Drum IRP

Location ID			1595-MWS8		1595-MW33		1595-PZ11		1595-PZ13	
Date			9/17/2015	10/7/2015	9/18/2015	10/7/2015	9/17/2015	10/7/2015	9/17/2015	10/7/2015
Analyte	NYSDEC TOGS 1.1.1	Units	low-flow	PDB	low-flow	PDB	low-flow	PDB	low-flow	PDB
VOCs										
1,2,4-Trimethylbenzene	5	ug/l	4.7 J	11	27	11	5.0 U	5.0 U	280	370
1,3,5-Trimethylbenzene	5	ug/l	3.4 J	7.9	2.3 J	5.0 U	5.0 U	5.0 U	25	37
2-Butanone (MEK)	50	ug/l	2.2 U	10 U	4.3 J	10 U	10 U	10 U	25 U	50 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	25 U	50 U
Acetone	50	ug/l	6.4 J	1.5 J	6.5 J	1.4 J	1.7 J	2.3 J	25 U	50 U
Benzene	1	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.51 J	13 U	25 U
Carbon Disulfide	60	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	25 U	50 U
Chloroethane	5	ug/l	0.76 J	5.0 U	0.82 J	5.0 U	5.0 U	5.0 U	13 U	25 U
Chloroform	7	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	13 U	2.0 J
Chloromethane	5	ug/l	0.71 J	5.0 U	0.55 J	5.0 U	5.0 U	5.0 U	13 U	25 U
Cymene (p-Isopropyltoluene)	5	ug/l	0.61 J	0.68 J	0.47 J	0.21 J	5.0 U	5.0 U	1.9 J	2.5 J
Ethylbenzene	5	ug/l	28	11	49	26	5.0 U	5.0 U	160	200
Isopropylbenzene	5	ug/l	5.8	1.5 J	17	7.6	5.0 U	5.0 U	20	23 J
m,p-Xylene	--	ug/l	3.0 J	8.6	92	4.7 J	5.0 U	5.0 U	340	490
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	25 U	50 U
Naphthalene	10	ug/l	2.0 U	3.0 J	94	22	0.21 U	0.24 J	110	170
N-Butylbenzene	5	ug/l	0.67 J	5.0 U	2.2 J	0.44 J	5.0 U	5.0 U	13 U	2.1 J
N-Propylbenzene	5	ug/l	8.4	1.4 J	13	5.5	5.0 U	5.0 U	16	17 J
o-Xylene	5	ug/l	2.5 J	8.8	17	7.2	5.0 U	0.23 J	69	100
sec-Butylbenzene	5	ug/l	1.6 J	0.33 J	2.8 J	0.79 J	5.0 U	5.0 U	13 U	25 U
tert-Butylbenzene	5	ug/l	0.39 J	0.22 J	0.52 J	5.0 U	5.0 U	5.0 U	0.55 J	25 U
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	13 U	25 U
Toluene	5	ug/l	0.63 J	1.4 J	12	3.2 J	5.0 U	5.0 U	13 U	25 U
Total Xylenes	5	ug/l	5.50 J	17.4	109	11.9 J	0 U	0.230 J	409	590
Trichloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	13 U	25 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-4
Summary of Low-Flow vs. PDB Sampling Results
Fort Drum IRP

Location ID			1795-MWS3		1795-MWS7		1795-PZ4		1795-PZ15	
Date			9/9/2015	10/7/2015	9/9/2015	10/7/2015	9/8/2015	10/7/2015	9/9/2015	10/7/2015
Analyte	NYSDEC TOGS 1.1.1	Units	low-flow	PDB	low-flow	PDB	low-flow	PDB	low-flow	PDB
VOCs										
1,2,4-Trimethylbenzene	5	ug/l	250	380	450	420	23	1.4 J	240	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	44	100	130	160	4.1 J	5.0 U	80	5.0 U
2-Butanone (MEK)	50	ug/l	33	50 U	200 U	200 U	10 U	10 U	50 U	10 U
4-Methyl-2-Pentanone	50	ug/l	3.9 J	50 U	200 U	200 U	10 U	10 U	50 U	10 U
Acetone	50	ug/l	26	50 U	28 J	200 U	3.0 J	10 U	15 J	10 U
Benzene	1	ug/l	13 U	25 U	100 U	100 U	5.0 U	5.0 U	25 U	5.0 U
Carbon Disulfide	60	ug/l	25 U	50 U	200 U	200 U	10 U	10 U	50 U	10 U
Chloroethane	5	ug/l	3.6 J	25 U	100 U	100 U	5.0 U	5.0 U	1.9 J	5.0 U
Chloroform	7	ug/l	13 U	1.7 J	100 U	11 J	5.0 U	5.0 U	1.8 J	5.0 U
Chloromethane	5	ug/l	2.4 J	25 U	100 U	100 U	5.0 U	5.0 U	2.2 J	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	3.4 J	1.8 J	6.8 J	100 U	1.9 J	5.0 U	2.6 J	5.0 U
Ethylbenzene	5	ug/l	200	320	520	460	9.5	1.9 J	150	5.0 U
Isopropylbenzene	5	ug/l	28	27	18 J	15 J	1.3 J	5.0 U	18 J	5.0 U
m,p-Xylene	--	ug/l	390	900	2300	3000	39	8.8	620	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	4.9 J	50 U	200 U	200 U	10 U	10 U	50 U	10 U
Naphthalene	10	ug/l	70	74	170	130	3.7 J	5.0 U	34	5.0 U
N-Butylbenzene	5	ug/l	4.8 J	25 U	100 U	100 U	5.0 U	5.0 U	25 U	5.0 U
N-Propylbenzene	5	ug/l	61	48	38 J	22 J	1.8 J	5.0 U	21 J	5.0 U
o-Xylene	5	ug/l	56	130	1500	1800	46	20	800	5.0 U
sec-Butylbenzene	5	ug/l	3.4 J	1.5 J	100 U	100 U	0.27 J	5.0 U	2.0 J	5.0 U
tert-Butylbenzene	5	ug/l	13 U	25 U	100 U	100 U	0.34 J	5.0 U	25 U	5.0 U
Tetrachloroethene	5	ug/l	13 U	25 U	100 U	100 U	5.0 U	5.0 U	25 U	5.0 U
Toluene	5	ug/l	8.7 J	26	920	530	1.1 J	0.84 J	120	5.0 U
Total Xylenes	5	ug/l	446	1030	3800	4800	85.0	28.8	1420	5.00 U
Trichloroethene	5	ug/l	13 U	25 U	100 U	100 U	5.0 U	5.0 U	25 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound considered non-detect at the listed value due to associated blank contamination.

ug/mL = micrograms per Liter

mg/mL = milligrams per Liter

Table 4-4
Summary of Low-Flow vs. PDB Sampling Results
Fort Drum IRP

Location ID			3805-002		3805-MW39		3805-MWI6		3805-MWS24	
Date			9/9/2015	10/7/2015	9/15/2015	10/7/2015	9/21/2015	10/7/2015	9/9/2015	10/7/2015
Analyte	NYSDEC TOGS 1.1.1	Units	low-flow	PDB	low-flow	PDB	low-flow	PDB	low-flow	PDB
VOCs										
1,2,4-Trimethylbenzene	5	ug/l	720	530	5.0 U	140	36	15	50	29
1,3,5-Trimethylbenzene	5	ug/l	260	230	5.0 U	40	12	4.3 J	27	26
2-Butanone (MEK)	50	ug/l	100 U	100 U	10 U	10 U	20 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	100 U	100 U	10 U	10 U	20 U	10 U	10 U	10 U
Acetone	50	ug/l	26 J	100 U	10 U	10 U	9.4 J	10 U	5.5 J	2.2 J
Benzene	1	ug/l	9.9 J	50 U	5.0 U	5.0 U	3.1 J	2.0 J	5.0 U	5.0 U
Carbon Disulfide	60	ug/l	100 U	100 U	10 U	10 U	20 U	10 U	0.25 J	10 U
Chloroethane	5	ug/l	50 U	50 U	5.0 U	5.0 U	10 U	5.0 U	0.82 J	5.0 U
Chloroform	7	ug/l	2.7 J	3.0 J	5.0 U	5.0 U	0.70 J	0.50 J	5.0 U	5.0 U
Chloromethane	5	ug/l	50 U	50 U	5.0 U	5.0 U	10 U	5.0 U	0.47 J	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	4.6 J	2.2 J	5.0 U	0.99 J	0.66 J	0.22 J	0.81 J	0.35 J
Ethylbenzene	5	ug/l	210	78	5.0 U	35	150	64	4.7 J	2.0 J
Isopropylbenzene	5	ug/l	22 J	7.5 J	5.0 U	24	12	4.4 J	0.64 J	0.27 J
m,p-Xylene	--	ug/l	2200	1400	5.0 U	120	97	58	110	68
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	100 U	100 U	10 U	10 U	20 U	10 U	10 U	10 U
Naphthalene	10	ug/l	100	20 J	5.0 U	6.6	22	9.3	9.4	5.7
N-Butylbenzene	5	ug/l	50 U	50 U	5.0 U	1.6 J	1.2 J	0.35 J	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	32 J	7.5 J	5.0 U	34	12	3.5 J	0.72 J	5.0 U
o-Xylene	5	ug/l	930	960	5.0 U	9.4	3.1 J	2.4 J	72	59
sec-Butylbenzene	5	ug/l	50 U	50 U	5.0 U	1.0 J	1.1 J	0.32 J	5.0 U	5.0 U
tert-Butylbenzene	5	ug/l	50 U	50 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	50 U	50 U	5.0 U	5.0 U	38	54	5.0 U	5.0 U
Toluene	5	ug/l	630	220	5.0 U	0.38 J	16	12	4.1 J	3.4 J
Total Xylenes	5	ug/l	3130	2360	5.00 U	129	100 J	60.4 J	182	127
Trichloroethene	5	ug/l	50 U	50 U	5.0 U	5.0 U	9.4 J	21	5.0 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter

Table 4-4
Summary of Low-Flow vs. PDB Sampling Results
Fort Drum IRP

Location ID			2140-MW02		2140-MW04		2140-MW06		2140-MW37	
Date			9/22/2015	10/7/2015	9/21/2015	10/7/2015	9/21/2015	10/7/2015	9/22/2015	10/7/2015
Analyte	NYSDEC TOGS 1.1.1	Units	low-flow	PDB	low-flow	PDB	low-flow	PDB	low-flow	PDB
VOCs										
1,2,4-Trimethylbenzene	5	ug/l	30	55	0.43 J	5.0 U	200	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	14	8.3 J	0.70 J	5.0 U	56	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	50	ug/l	8.8 J	25 U	10 U	10 U	25 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	1.8 J	25 U	10 U	10 U	25 U	10 U	10 U	10 U
Acetone	50	ug/l	30	25 U	1.4 J	10 U	13 J	1.5 J	1.3 J	10 U
Benzene	1	ug/l	100	83	5.0 U	5.0 U	2.9 J	5.0 U	5.0 U	5.0 U
Carbon Disulfide	60	ug/l	25 U	25 U	10 U	10 U	25 U	10 U	10 U	10 U
Chloroethane	5	ug/l	13 U	13 U	5.0 U	5.0 U	0.83 J	5.0 U	5.0 U	5.0 U
Chloroform	7	ug/l	1.6 J	13 U	5.0 U	5.0 U	0.75 J	5.0 U	5.0 U	5.0 U
Chloromethane	5	ug/l	13 U	13 U	5.0 U	5.0 U	13 U	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	0.78 J	13 U	5.0 U	5.0 U	1.1 J	5.0 U	5.0 U	5.0 U
Ethylbenzene	5	ug/l	37	53	0.21 J	5.0 U	52	5.0 U	5.0 U	5.0 U
Isopropylbenzene	5	ug/l	1.3 J	2.5 J	5.0 U	5.0 U	4.2 J	5.0 U	5.0 U	5.0 U
m,p-Xylene	--	ug/l	280	280	2.9 J	5.0 U	650	5.0 U	1.8 J	5.0 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	4.6 J	25 U	10 U	10 U	25 U	10 U	10 U	10 U
Naphthalene	10	ug/l	9.8 J	12 J	5.0 U	5.0 U	30	5.0 U	1.5 U	5.0 U
N-Butylbenzene	5	ug/l	2.5 J	0.58 J	5.0 U	5.0 U	13 U	5.0 U	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	2.7 J	3.9 J	0.26 J	5.0 U	3.4 J	5.0 U	5.0 U	5.0 U
o-Xylene	5	ug/l	210	150	2.6 J	5.0 U	450	5.0 U	1.2 J	5.0 U
sec-Butylbenzene	5	ug/l	1.3 J	13 U	5.0 U	5.0 U	0.93 J	5.0 U	5.0 U	5.0 U
tert-Butylbenzene	5	ug/l	13 U	13 U	5.0 U	5.0 U	13 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	13 U	13 U	5.0 U	5.0 U	0.88 J	5.0 U	5.0 U	5.0 U
Toluene	5	ug/l	320	290	28	5.0 U	37	5.0 U	0.23 J	5.0 U
Total Xylenes	5	ug/l	490	430	5.50 J	5.00 U	1100	5.00 U	3.00 J	5.00 U
Trichloroethene	5	ug/l	13 U	13 U	5.0 U	5.0 U	13 U	5.0 U	5.0 U	5.0 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
 J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
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 UB - Compound considered non-detect at the listed value due to associated blank contamination.
 ug/mL = micrograms per Liter
 mg/mL = milligrams per Liter



Appendix A

2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL



US Army Corps of Engineers

2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

Fort Drum Installation Restoration Program Fort Drum, New York

February 2016

Contract No.: W912DR-12-D-0007
Delivery Order No.: 0003

Prepared For:

**U.S. ARMY CORPS OF ENGINEERS BALTIMORE
DISTRICT**

10 South Howard Street
Baltimore, Maryland 21201-2536

Prepared By:

PIKA-MP JV LLC
12723 Capricorn Drive, Suite 500
Stafford, Texas 77477





A blue ink signature of Andy Vitolins, consisting of stylized initials and a long horizontal stroke.

Andy Vitolins, PG
JV Project Manager

A black ink signature of Stefan Bagnato, written in a cursive style.

Stefan Bagnato, PG
Assistant Project Manager

**2015 Annual Post-Closure
Operations and Maintenance
Report for the OSL and ASL**

Installation Restoration Program
Fort Drum, New York

Prepared for:

US Army Corps of Engineers
Contract No. W912DR-12-D-0007
Delivery Order 0003

Prepared by:

PIKA - MP JV LLC
12723 Capricorn Drive, Suite 500
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Our Ref.:

GP14DRUM.RIFS

Date:

February 23, 2016

FOR OFFICIAL USE ONLY

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Installation Restoration Program
Fort Drum, New York

Acronyms and Abbreviations

AAFES	Army and Air Force Exchange Service
AS	Air Sparging
ASL	Airfield Sanitary Landfill
DDT	Dichlorodiphenyltrichloroethane
DO	Dissolved Oxygen
DoD	Department of Defense
DOT	Department of Transportation
DUSR	Data Usability Summary Report
ELAP	Environmental Laboratory Approval Program
ERIS	Environmental Restoration Information System
IDW	Investigation-Derived Waste
ISCO	In-Situ Chemical Oxidation
LNAPL	Light Non-Aqueous Phase Liquid
MIP	Membrane Interface Probe
MNA	Monitored Natural Attenuation
N:P:K	Nitrogen: phosphorous: potassium
NYCRR	New York Codes Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and Maintenance
ORC	Oxygen Release Compound
ORP	Oxidation-Reduction Potential



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OSL	Old Sanitary Landfill
PCBs	Polychlorinated Biphenyls
POL	Petroleum, oil, and lubricant
PPE	Personal Protective Equipment
PVC	Poly-vinyl Chloride
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
SOP	Standard Operating Procedures
SVE	Soil Vapor Extraction
SVOCs	Semi-volatile Organic Compounds
TAL	Target Analyte List
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds



2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

Installation Restoration Program
Fort Drum, New York

1. Introduction

The PIKA - MP JV, LLC¹ (hereinafter referred to as the JV) has prepared this Post-Closure Operations and Maintenance Report on behalf of the Baltimore District of the US Army Corps of Engineers (USACE) for the annual inspections and maintenance activities at the Old Sanitary Landfill (OSL) (FTD-007) and Airfield Sanitary Landfill (ASL) (FTD-008) at the Fort Drum Military Installation (Fort Drum), New York. Long-term maintenance and monitoring is being conducted in accordance with a New York State Department of Environmental Conservation (NYSDEC) Order on Consent and Administrative Settlement (Index No. A6-0797-12-10).

In accordance with the OSL Monitoring and Maintenance Operations Manual and ASL Monitoring and Maintenance Operations Manual, submitted as Appendices D and E respectively, of the of the NYSDEC-approved Work Plan, Installation Restoration Program, Fort Drum, New York (PIKA-MP JV, 2015a) (IRP Work Plan), the purpose of this report is to summarize the data collected during the 2015 inspection, maintenance, and groundwater and surface water monitoring activities.

Field and laboratory activities were conducted in accordance with the Quality Assurance Project Plan (QAPP) and Data Management Plan (DMP) submitted as Appendix A and Appendix B to the IRP Work Plan. Field work followed the health and safety procedures described in the Accident Prevention Plan, Installation Restoration Program, Fort Drum, New York (PIKA-MP JV, 2015b). This work is funded under the USACE Baltimore District Multiple Award Environmental Services (MAES) contract, Award No. W912DR-12-D-0007, Delivery Order 0003.

1.1 Site Description

Fort Drum encompasses approximately 168 square miles and is located approximately 10 miles northeast of Watertown, 80 miles north of Syracuse, and 25 miles southeast of the United States and Canadian border. Fort Drum occupies a large portion of northeastern Jefferson County, a portion of western Lewis County, and abuts the southern edge of St. Lawrence County. The OSL encompasses approximately 50 acres and is located northeast of the 3805 and 1995 Areas near the intersection of

¹ The PIKA-MP JV LLC Joint Venture is comprised of PIKA International, Inc. and its mentor ARCADIS-U.S. Inc.



2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

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Fort Drum, New York

New York State Route 26 and Oneida Avenue. The OSL consists of two landfill cells separated by ravine with an unnamed creek which joins with the OSL Creek to the northeast (Figure 1-1). The ASL encompasses approximately 37 acres and is located adjacent to Wheeler Sack Airfield's northeast boundary and approximately 1,000 feet northwest of the Black River (Figure 1-1).



2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

Installation Restoration Program
Fort Drum, New York

2. Background

2.1 Old Sanitary Landfill

The OSL is located in the southern portion of Fort Drum, north of the intersection of Route 26 (Great Bend Road) and Oneida Avenue. The OSL occupies approximately 40 to 50 acres and is comprised of two major cells identified as OSL Cell 1 and OSL Cell 2. There is an unnamed stream that is located immediately between OSL Cell 1 and OSL Cell 2 which originates as a seep, groundwater discharge, or a combination of the two. Subsequently, the unnamed stream flows into the OSL Creek, which is approximately 2.5 miles long.

Operation of the OSL began in 1940 and continued through 1973. During the period of operation, most of the waste generated on the installation was disposed in the landfill (including, but not limited to materials such as, general refuse, containers with residual pesticides and herbicides, unused ammunition, chlorinated solvents, and industrial wastes). The OSL was closed in 1981 following placement of a 20-mil polyvinyl chloride (PVC) membrane cap and soil cover over approximately 38 acres to reduce infiltration and minimize leachate generation. The cap was covered with topsoil and grass and approximately 16 gas vents were installed. Cap improvement work has been conducted periodically since then as needed. Annual landfill inspections, surface water, groundwater, and seep sampling are conducted in accordance with the OSL Plan (PIKA-MP JV, 2015a), concurrently with the fall Basewide Monitoring sampling event.

2.2 Airfield Sanitary Landfill

The ASL is located adjacent to Wheeler Sack Airfield's northeast boundary and approximately 1,000 feet northwest of the Black River. The landfill occupies approximately 37 acres and is covered with vegetation. The topography of the landfill and the surrounding area is nearly flat.

The ASL began operating in 1973 after closure of the OSL. Solid wastes generated from various locations were placed into trenches in the sandy soil until the landfill was closed in 1987. The types of wastes placed in the ASL included municipal solid waste, paint wastes, solvent containers, triple-rinsed pesticide containers, and petroleum, oil, and lubricant (POL) saturated wastes. The trenches were oriented northwest to southwest approximately 300 feet wide with a maximum length of 1,900 feet. The trenches were approximately 20 feet deep and were unlined. They were covered with



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Fort Drum, New York

native sandy soil and some areas were grassed. The northeast 14 acres of the site (referred to as “Phase I”) were covered with an impermeable 20-millimeter PVC liner, 6 inches of soil cover, and re-vegetated. The Phase I area contains thirteen gravel gas vents; however the gas vents have silted in and are no longer visible from the surface. Solid waste was disposed of on the 23 acres southwest of, and adjacent to, the Phase I area until October 1987 (referred to as “Phase II”). In 1990, Phase II was closed by installing a 40-millimeter PVC cover, 18 PVC gas vents, 12 inches of soil cover, and vegetation. Annual landfill inspections and groundwater sampling every five years (last conducted in 2011) is conducted in accordance with the ASL Plan (PIKA-MP JV, 2015a), concurrently with the with the fall Basewide Monitoring sampling event.



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3. Old Sanitary Landfill

3.1 OSL Inspection

The annual inspection at the OSL is designed to ensure the integrity of the landfill's erosion control measures, drainage control structures, vegetative cover, gas vents, roads, and monitoring points and wells in accordance with the OSL Plan (PIKA-MP JV, 2015a). The JV conducted the annual inspection on September 3, 2015.

3.1.1 OSL Inspection Summary

At the time of the inspection both cells of the OSL were found to be in good condition, with the exception of soil erosion that was observed to be occurring at pipe slope drain #4 of Cell 2 (first noted during site walk in late July 2015), which is discussed in more detail in Section 3.1.2. The gas vents appeared to be in good condition. Drainage features and structures appeared to be unobstructed and functional, with the exception of pipe slope drain #4. Perimeter fences and signage were intact and in good condition. The OSL was mowed on August 13, 2015. Landfill inspection forms are provided in Attachment 1. Landfill inspection photographs are provided in Attachment 2. Landfill inspection results are summarized on Figure 3-1.

3.1.2 OSL Cell 2 Pipe Slope Drain #4 Damage

In July 2015, it was observed that that surface drainage flowing to the inlet of pipe slope drain (PSD) #4 of Cell 2 was partially bypassing the outfall pipe and was instead flowing into a void in the ground surface adjacent to the flared-end section at the pipe inlet. This flow created an eroded zone outside of and directly beneath the buried pipe, which in turn caused dislodgement and migration of the soil surrounding and supporting the pipe. The eroded zone beneath the pipe continues to the north slope of the OSL (to the northwest of the pipe). Surface water flow along the eroded zone led to the formation of a washout ravine and the deposition of slope sediments at the bottom of the slope adjacent to the OSL creek. Temporary mitigation measures to divert surface water away from the inlet were put in place until a permanent repair could be implemented. Preliminary signs of failure were also noted at PSDs #2 and #3.

In November and December 2015 the JV repaired the inlet and initial downchute segment of PSD #4 and refilled and stabilized the washout area. Details of the repair will be provided under separate cover in an addendum to this report.

3.1.3 OSL Inspection Recommendations

The annual landfill inspections should be continued in accordance with the OSL Plan (PIKA-MP JV, 2015a). In addition, it is recommended that inspections of the pipe slope drains be conducted on a monthly basis and following large rain and/or snow melt events. This additional monitoring is already being conducted on an interim basis as part of the PSD #4 mitigation measures.

3.2 OSL Environmental Monitoring

Groundwater, surface water, and seep samples are collected annually from 10 monitoring wells around Cells 1 and 2 of the OSL, three surface water sample locations along the creek that bounds the cells to the north, and two seep locations. Figure 3-1 shows the sampling locations and Table 3-1 summarizes the analyses and sampling frequency. Purge logs for the 2015 monitoring event are presented in Appendix B of the 2015 Annual Basewide Monitoring Report. Analytical laboratory reporting forms for 2015 monitoring event are presented in Appendix C of the 2015 Annual Basewide Monitoring Report. Data Usability Summary Reports (DUSRs) for the 2015 monitoring event are presented in Appendix D of the 2015 Annual Basewide Monitoring Report.

3.2.1 OSL Analytical Results

Groundwater, surface water, and seep, analytical results for 2015 are summarized in Table 3-2 and depicted on Figure 3-2. Groundwater analytes that exceeded applicable NYSDEC standards generally included petroleum-related VOCs, iron, manganese, and sodium, consistent with previous results. Surface water analytes that exceeded applicable NYSDEC standards/guidance values included sodium and iron, consistent with previous results. As discussed in the 2015 Annual Basewide Monitoring Report, samples from seeps SP01, SP01-EFF, and SP03 were not collected in 2015 due to dry conditions in these areas. The sample from SP03-EFF contained only iron at a concentration greater than applicable NYSDEC standards, consistent with previous results.

3.2.2 OSL Environmental Monitoring Recommendations

The environmental monitoring program at the OSL should continue in accordance with the OSL Plan (PIKA-MP JV, 2015a) and remain unchanged for 2016.



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3.3 Phytoremediation Plantation Inspection

The annual inspection at the phytoremediation plantation is designed to assess survivability of the planted willow trees, weed control, and mitigation of insect, animal, and disease problems in accordance with the OSL Plan (PIKA-MP JV, 2015a). The JV conducted the annual inspection on September 3, 2015.

3.3.1 Phytoremediation Plantation Inspection Summary

At the time of the inspection the plantation areas revealed no significant signs of abnormal tree die-off. Some willow tree stands had fallen over, but were left as found after consultation with the Fort Drum environmental program manager as it was determined that these stands had fallen over (and were left in place) previous to 2015. Neither weeds, insect, animal activity, nor disease were not found to have impacted willow tree survivability. Phytoremediation plantation inspection photographs are provided in Attachment 2.

3.3.2 Phytoremediation Plantation Inspection Recommendations

The annual phytoremediation plantation inspections should be continued in accordance with the OSL Plan (PIKA-MP JV, 2015a) and remain unchanged for 2016.

3.4 Phytoremediation Environmental Monitoring

Five landfill seeps and their down-gradient counterparts are sampled annually to monitor the impact of the plantation on water quality as seep waters flow through the plantation. Three willow tree sapwood biomass samples are collected every three years from within plantation zone A2, and were collected in 2015. Figure 3-3 shows the sampling locations and Table 3-1 summarizes the analyses and sampling frequency. Analytical laboratory reporting forms for 2015 monitoring event are presented in Appendix C of the 2015 Annual Basewide Monitoring Report. Data Usability Summary Reports (DUSRs) for the 2015 monitoring event are presented in Appendix D of the 2015 Annual Basewide Monitoring Report.

3.4.1 Phytoremediation Analytical Results

Seep and biomass analytical results for 2015 are summarized in Table 3-2 and depicted on Figure 3-3. As discussed in the 2015 Annual Basewide Monitoring Report, samples from seeps SP01, SP01-EFF, and SP03 were not collected in 2015 due to dry



2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

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conditions in these areas. Additionally, samples from seeps LS31 and LS31-EFF were not collected in 2015 due to previously-existing damage of the willow boxes in this vicinity. Influent seeps to the phytoremediation plantation, LS34 and LC009, generally contained petroleum-related organics and metals (iron and lead) at concentrations that exceeded applicable NYSDEC standards, consistent with previous results. Effluent seeps from the phytoremediation plantation, LS34-EFF, LC009-EFF, and SP03-EFF, contained only iron at concentrations that exceeded applicable NYSDEC standards, demonstrating significant reductions in petroleum-related organic constituents through the phytoremediation plantation. All three biomass samples collected in 2015 contained VOCs, lead, and iron, demonstrating contaminant uptake by the phytoremediation plantation. The number of detections and concentrations of VOCs in the 2015 biomass samples were generally lower than the 2012 sampling event. The concentrations of iron in the 2015 biomass samples was generally lower than the 2012 sampling event, while lead was not detected in the 2012 samples.

3.4.2 Phytoremediation Environmental Monitoring Recommendations

Seep and biomass sample results indicate that the phytoremediation plot is continuing to serve its purpose in reducing contaminant flux from the landfill to the OSL Creek. Therefore, the environmental monitoring program at the phytoremediation plantation should continue in accordance with the OSL Plan (PIKA-MP JV, 2015a) and remain unchanged for 2016. Biomass samples will be collected again in 2018.



2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

Installation Restoration Program
Fort Drum, New York

4. Airfield Sanitary Landfill

4.1 ASL Inspection

The annual inspection at the ASL is designed to ensure the integrity of the landfill's erosion control measures, drainage control structures, vegetative cover, gas vents, roads, and monitoring points and wells in accordance with the ASL Plan (PIKA-MP JV, 2015a). The JV conducted the annual inspection on September 3, 2015.

4.1.1 ASL Inspection Summary

At the time of the inspection the ASL cap was found to be in good condition. The gas vents also appeared to be in good condition. Drainage features and structures appeared to be unobstructed. Perimeter fences and signage were intact and in good condition. Several minor animal burrows were discovered during the September 3, 2015 inspection which were subsequently filled in on September 22, 2015. The ASL was mowed on August 13 and 14, 2015. Landfill inspection forms are provided in Attachment 1. Landfill inspection photographs are provided in Attachment 2. Landfill inspection results are summarized on Figure 4-1.

4.1.2 ASL Inspection Recommendations

The annual landfill inspections should be continued in accordance with the ASL Plan (PIKA-MP JV, 2015a).

4.2 ASL Environmental Monitoring

Groundwater samples are collected every five years from eight monitoring wells at the ASL. Samples were last collected in 2011 and will be collected again in 2016 in accordance with the ASL Plan (PIKA-MP JV, 2015a).



2015 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

Installation Restoration Program
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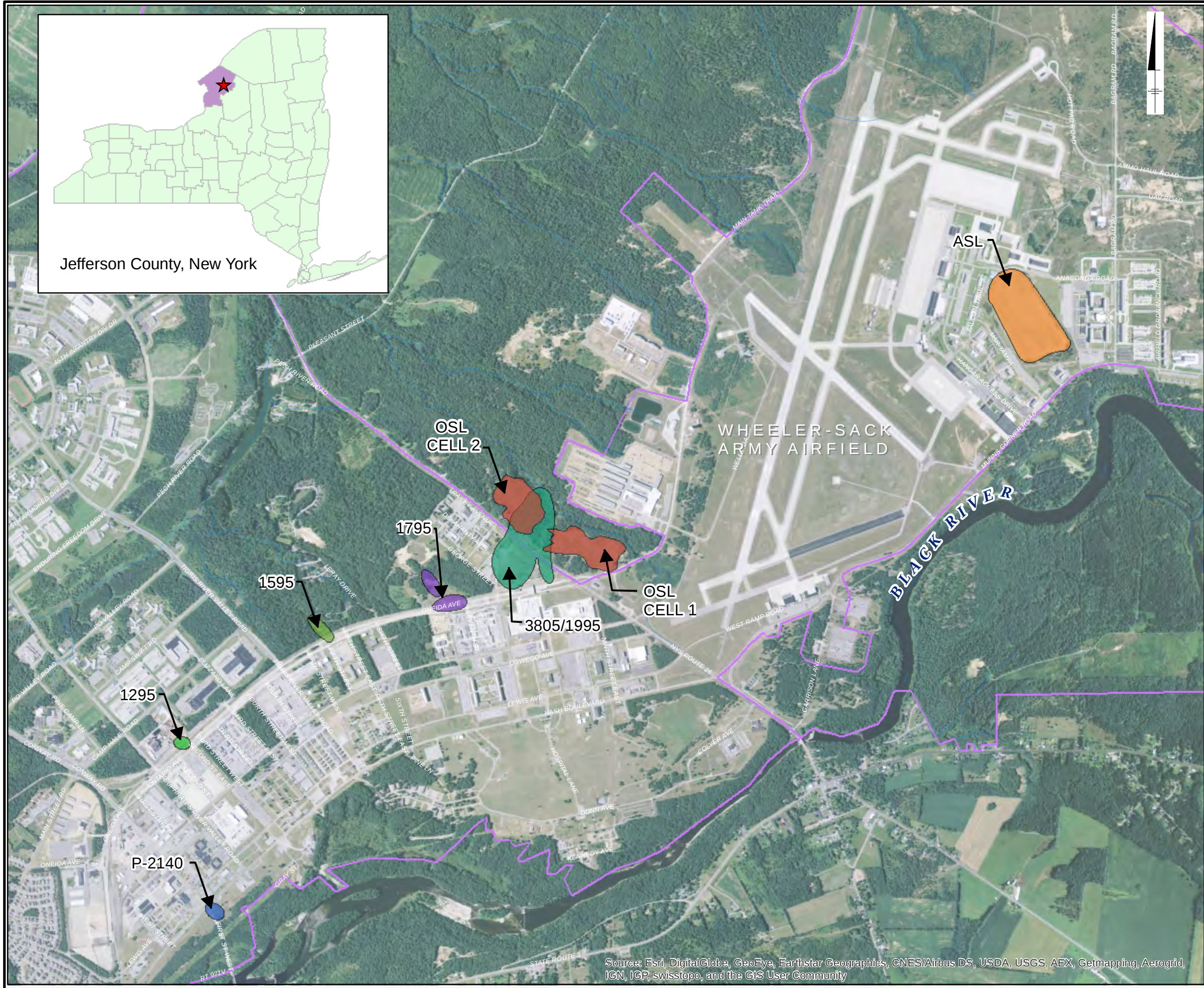
5. References

PIKA-MP JV, 2015a. Work Plan, Fort Drum Installation Restoration Program, Fort Drum, New York.

PIKA-MP JV, 2015b. Accident Prevention Plan, Fort Drum Installation Restoration Program, Fort Drum, New York.

Figures

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LEGEND

SITE NAME

- 1295
- 1595
- 1795
- 2140
- 3805/1995
- ASL
- OSL
- INSTALLATION AREA

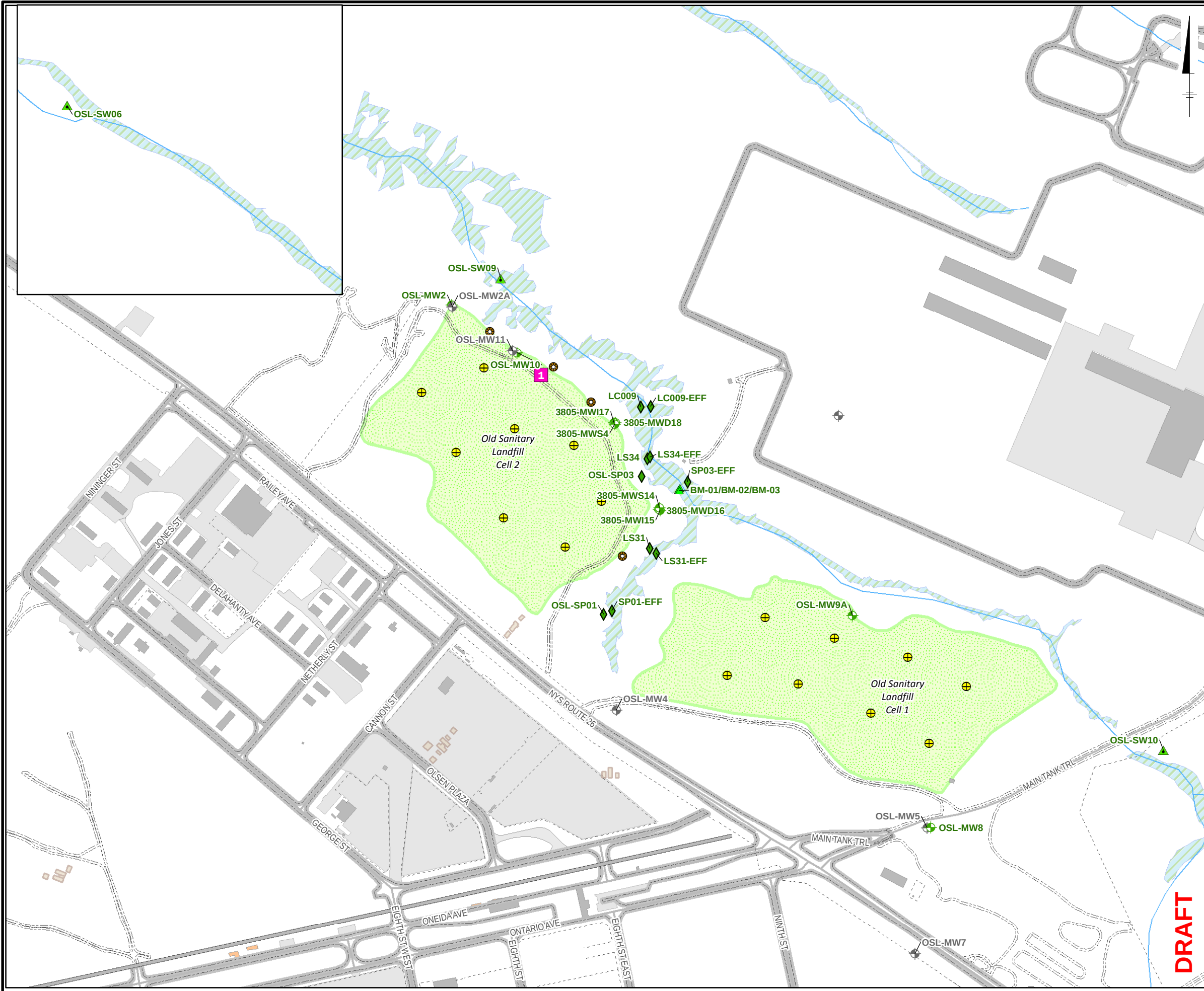
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GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK
POST-CLOSURE OPERATIONS AND
MAINTENANCE REPORT FOR THE OSL AND ASL

SITE MAP



FIGURE
1-1



LEGEND

2015 INSPECTION RESULTS (SEE NOTES BELOW)

MW-ANNUAL SAMPLING EVENT

SW-ANNUAL SAMPLING EVENT

SEEP-ANNUAL SAMPLING EVENT

NOT PART OF MONITORING PLAN

BIOMASS LOCATION

LANDFILL VENTS

RUNOFF DRAINS

STREAM

FENCE LINE

FORMER RAILROAD TRACK/WALKING

ROAD-PAVED

ROAD-UNPAVED

BUILDING

REMEDIATION SYSTEM

FORMER UST LOCATION

DRIVEWAY

PAVED

LANDFILL SITE

WETLANDS

SAMPLING SUMMARY

MW-ANNUAL SAMPLING EVENT

SW-ANNUAL SAMPLING EVENT

SEEP-ANNUAL SAMPLING EVENT

NOT PART OF MONITORING PLAN

BIOMASS LOCATION

LANDFILL VENTS

RUNOFF DRAINS

STREAM

FENCE LINE

FORMER RAILROAD TRACK/WALKING

ROAD-PAVED

ROAD-UNPAVED

BUILDING

REMEDIATION SYSTEM

FORMER UST LOCATION

DRIVEWAY

PAVED

LANDFILL SITE

WETLANDS

INSPECTION ISSUES

1. DRAINAGE EROSION, WASHOUT

0400800

GRAPHIC SCALE

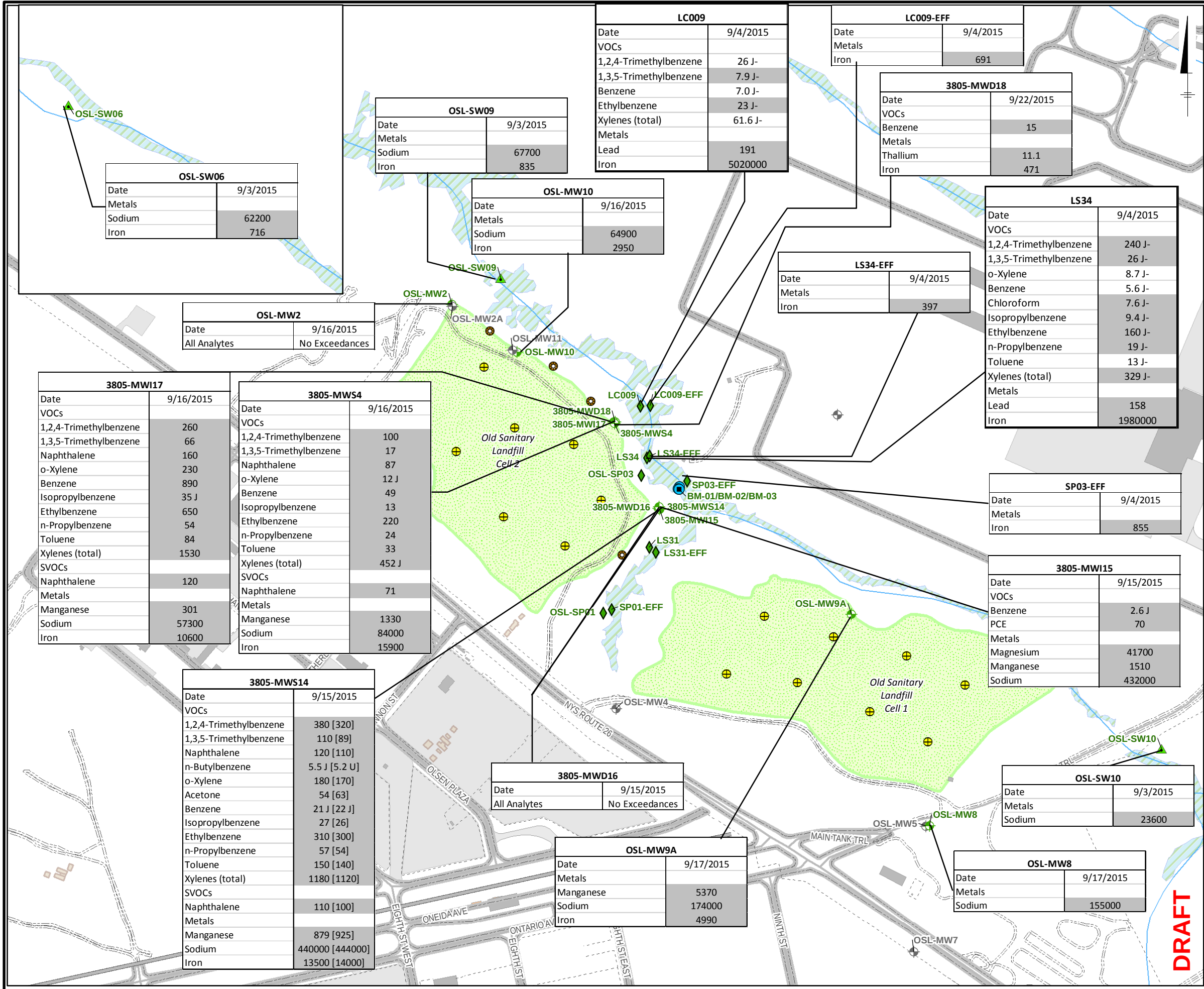
FORT DRUM
FORT DRUM, NEW YORK
POST CLOSURE OPERATIONS AND MAINTENANCE REPORT
FOR THE OSL AND ASL

OSL MONITORING POINTS
AND INSPECTION RESULTS

PIKA
INTERNATIONAL, INC.
A JOINT VENTURE

MALCOLM
PIRRIE

FIGURE
3-1



LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- SW-ANNUAL SAMPLING EVENT
- SEEP-ANNUAL SAMPLING EVENT
- NOT PART OF MONITORING PLAN
- BIOMASS LOCATION
- LANDFILL VENTS
- RUNOFF DRAINS
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
- BUILDING
- REMEDATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED AREA
- LANDFILL SITE
- WETLANDS

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
- HIGHLIGHTED CELLS INDICATED CONCENTRATIONS EXCEEDING NYSDEC CLASS GA STANDARDS
- BRACKETED VALUES ARE RESULTS OF DUPLICATE SAMPLES.
- NA: NOT ANALYZED.
- U: THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
- J: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
- J-: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION THAT MAY BE BIASED LOW.
- D: CONCENTRATION IS A RESULT OF A DILUTION.
- E: CONCENTRATION EXCEEDS CALIBRATION RANGE.



GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK
POST CLOSURE OPERATIONS AND MAINTENANCE REPORT
FOR THE OSL AND ASL

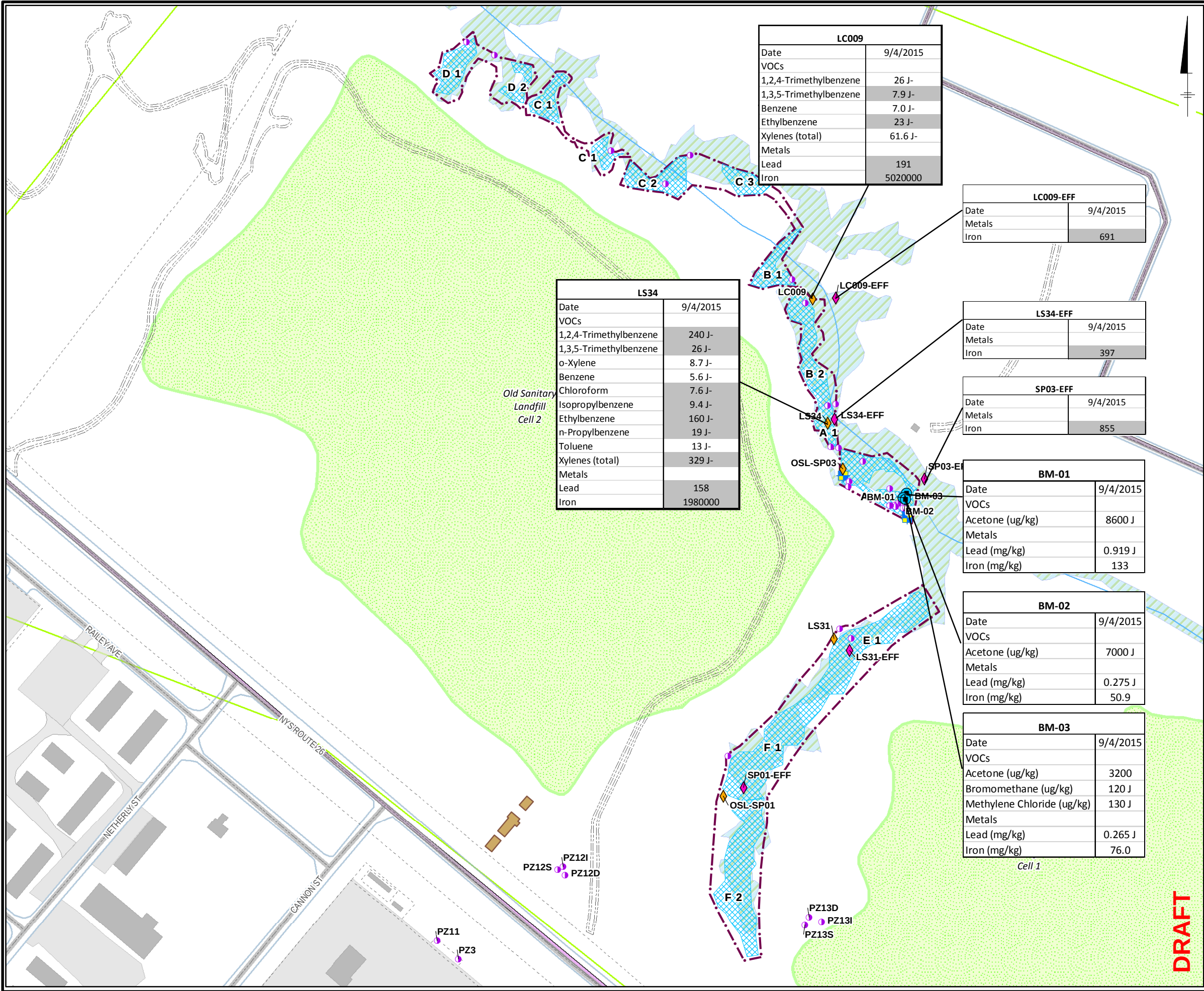
SUMMARY OF OSL SAMPLING RESULTS



FIGURE

3-2

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LEGEND

- BIOMASS
- PIEZOMETER
- INFLUENT SEEP
- EFFLUENT SEEP
- WATER LEVEL MONITORING STATIONS
- ZONE OF PLANTATION
- PLANTATION PERIMETER FENCE
- REMEDATION SYSTEM
- STREAM
- FENCE LINE
- PAVED ROAD
- UNPAVED ROAD
- BUILDING
- DRUM VEHICLE DRIVEWAY
- PAVED AREA
- LANDFILL SITE
- WETLANDS
- INSTALLATION

NOTES:

- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
- HIGHLIGHTED CELLS INDICATED CONCENTRATIONS EXCEEDING NYSDEC CLASS GA STANDARDS
- BRACKETED VALUES ARE RESULTS OF DUPLICATE SAMPLES.
- NA: NOT ANALYZED.
- U: THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE ASSOCIATED VALUE IS THE COMPOUND QUANTITATION LIMIT.
- J: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
- J-: THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION THAT MAY BE BIASED LOW.
- D: CONCENTRATION IS A RESULT OF A DILUTION.
- E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

GRAPHIC SCALE

0 200 400

**FORT DRUM
FORT DRUM, NEW YORK
POST CLOSURE OPERATIONS AND MAINTENANCE REPORT
FOR OSL AND ASL**

PHYTOREMEDIATION SITES OVERVIEW

DRAFT

FIGURE 3-3

PIKA INTERNATIONAL, INC.
A JOINT VENTURE
MALCOLM PIRNIE

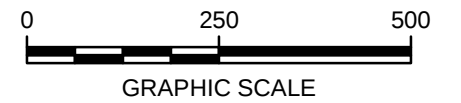
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LEGEND

- 2015 INSPECTION RESULTS (SEE NOTES BELOW)
- SAMPLING SUMMARY
 - MW-SAMPLED EVERY 5 YEARS
 - NOT PART OF MONITORING PLAN
 - LANDFILL VENTS
 - MONITORING WELL
 - DRAINAGE SWALES
 - INSTALLATION
 - FENCE LINE
 - PAVED ROAD
 - WALKING PATH
 - BUILDING
 - PAVED AREA
 - FUEL TANK
 - LANDFILL AREA

INSPECTION ISSUES:
1. GROUNDHOG BURROW LOCATIONS ALONG FENCELINE



FORT DRUM
FORT DRUM, NEW YORK
POST CLOSURE OPERATIONS AND MAINTENANCE REPORT
FOR OSL AND ASL

ASL MONITORING POINTS
AND INSPECTION RESULTS



FIGURE
4-1

DRAFT



Tables

Table 3-1
OSL Monitoring Points & Sampling Schedule
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	VOCs	SVOCs	TAL Metals	Pesticides	PCBs	Cyanide	Iron	Lead	Hardness	Sampling Frequency	Notes
3805-MWD16	3805 / OSL	Well	X	X	X	X	X	X				annual	
3805-MWD18	3805 / OSL	Well	X	X	X	X	X	X				annual	
3805-MWI15	3805 / OSL	Well	X	X	X	X	X	X				annual	
3805-MWI17	3805 / OSL	Well	X	X	X	X	X	X				annual	
3805-MWS4	3805 / OSL	Well	X	X	X	X	X	X				annual	
3805-MWS14	3805 / OSL	Well	X	X	X	X	X	X				annual	
OSL-MW2	OSL	Well	X	X	X							annual	
OSL-MW8	OSL	Well	X	X	X							annual	
OSL-MW9A	OSL	Well	X	X	X							annual	
OSL-MW10	OSL	Well	X	X	X							annual	
OSL-SP01	OSL / Phyto	Seep	X	X	X						X	annual	
SP01-EFF	Phyto	Seep	X						X	X		annual	
OSL-SP03	OSL / Phyto	Seep	X	X	X						X	annual	
SP03-EFF	Phyto	Seep	X						X	X		annual	
LC009	Phyto	Seep	X						X	X		annual	
LC009-EFF	Phyto	Seep	X						X	X		annual	
LS31	Phyto	Seep	X						X	X		annual	
LS31-EFF	Phyto	Seep	X						X	X		annual	
LS34	Phyto	Seep	X						X	X		annual	
LS34-EFF	Phyto	Seep	X						X	X		annual	
OSL-SW06	OSL	Surface Water	X	X	X						X	annual	
OSL-SW09	OSL	Surface Water	X	X	X						X	annual	
OSL-SW10	OSL	Surface Water	X	X	X						X	annual	
BM-01	Phyto	Sapwood	X						X	X		every 3 yrs.	Next in 2018
BM-02	Phyto	Sapwood	X						X	X		every 3 yrs.	Next in 2018
BM-03	Phyto	Sapwood	X						X	X		every 3 yrs.	Next in 2018

Table 3-2
Summary 2015 OSL Analytical Results
Fort Drum IRP

Location ID	3805-MWD16	3805-MWD18	3805-MWI15	3805-MWI17	3805-MWS4	3805-MWS14
Date	9/15/2015	9/22/2015	9/15/2015	9/16/2015	9/16/2015	9/15/2015
Sample Name	3805-MWD16-091515	3805-MWD18-092215	3805-MWI15-091515	3805-MWI17-091615	3805-MWS4-091615	3805-MWS14-091515
Analyte	NYSDEC TOGS 1.1.1	Units				
Gen Chem						
Ammonia Nitrogen	2	mg/l	--	--	--	--
Chloride	250	mg/l	--	--	--	--
Cyanide	0.2	mg/l	0.005 UJ	0.010 U	0.005 UJ	0.003 J
Hardness (as CaCO3)	--	mg/l	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--
Sulfate	250	mg/l	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--
Inorganics						
Aluminum	--	ug/l	100 U	187	100 U	100 U
Arsenic	25	ug/l	2.2 J	10.0 U	3.2 J	7.9 J
Barium	1000	ug/l	10.2 J	25.7	132	44.6
Calcium	--	ug/l	33500	30800	231000	95100
Chromium	50	ug/l	0.496 J	1.9 J	10.0 U	10.0 U
Cobalt	--	ug/l	50.0 U	50.0 U	50.0 U	50.0 U
Copper	200	ug/l	20.0 U	2.7 J	20.0 U	20.0 U
Iron	300	ug/l	36.9 J	471	82.8 J	10600
Iron	--	mg/kg	--	--	--	--
Lead	25	ug/l	5.0 U	5.0 U	2.4 J	5.0 U
Lead	--	mg/kg	--	--	--	--
Magnesium	35000	ug/l	4840	9290	41700	10900
Manganese	300	ug/l	1.3 J	126	1510	301
Mercury	0.7	ug/l	0.200 U	0.200 U	0.200 U	0.200 U
Nickel	100	ug/l	40.0 U	40.0 U	1.0 J	40.0 U
Potassium	--	ug/l	612 J	5690	4390	2890
Selenium	10	ug/l	10.0 U	10.0 U	10.0 U	10.0 U
Silver	50	ug/l	0.627 J	10.0 U	1.0 J	1.3 J
Sodium	20000	ug/l	4050	8490	432000	57300
Thallium	0.5	ug/l	10.0 U	11.1	10.0 U	10.0 U
Vanadium	--	ug/l	1.3 J	0.824 J	50.0 U	50.0 U
Zinc	2000	ug/l	20.0 U	27.1	6.5 J	20.0 U
Natural Attenuation Parameters						
Ethane	--	ug/l	--	--	--	--
Ethene	--	ug/l	--	--	--	--
Methane	--	ug/l	--	--	--	--
PCBs						
PCBs		ug/l	ND	ND	ND	ND
Pesticides						
Pesticides		ug/l	ND	ND	ND	ND
SVOCs						
2,4-Dimethylphenol	50	ug/l	9.4 U	9.4 U	9.4 U	13
2-Methylnaphthalene	--	ug/l	9.4 U	9.4 U	9.4 U	24
2-Methylphenol	--	ug/l	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	--	ug/l	10 U	10 U	10 U	10 U
Naphthalene	10	ug/l	9.4 U	9.4 U	9.4 U	120
VOCs						
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	260
1,2-Dichloroethane	0.6	ug/l	5.0 U	0.43 J	5.0 U	50 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	66
2-Butanone (MEK)	50	ug/l	10 U	10 U	10 U	100 U
4-Methyl-2-Pentanone	50	ug/l	10 U	10 U	10 U	100 U
Acetone	50	ug/l	10 U	6.8 J	2.3 J	29 J
Acetone	--	ug/kg	--	--	--	--
Benzene	1	ug/l	5.0 U	15	2.6 J	890
Bromomethane	5	ug/l	5.0 UJ	5.0 UJ	5.0 UJ	50 U
Bromomethane	--	ug/kg	--	--	--	--
Carbon Disulfide	60	ug/l	10 U	0.32 J	10 U	100 U
Carbon Tetrachloride	5	ug/l	5.0 U	5.0 U	5.0 U	50 U
CFC-12	5	ug/l	5.0 U	5.0 U	5.0 U	50 U
Chloroethane	5	ug/l	5.0 U	5.0 U	5.0 U	50 U
Chloroform	7	ug/l	0.25 J	5.0 U	5.0 U	4.4 J
Chloromethane	5	ug/l	5.0 U	0.27 J	5.0 U	50 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	5.0 U	0.33 J	50 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	5.0 U	5.0 U	2.1 J
Dichloromethane	5	ug/l	5.0 U	5.0 U	5.0 U	50 U
Dichloromethane	--	ug/kg	--	--	--	--
Ethylbenzene	5	ug/l	5.0 U	0.28 J	5.0 U	650
Isopropylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	35 J
m,p-Xylene	--	ug/l	5.0 U	5.0 U	5.0 U	1300
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	10 U	10 U	100 U
Methyl-tert-butylether	10	ug/l	5.0 U	5.0 U	5.0 U	50 U
Naphthalene	10	ug/l	5.0 U	--	0.38 U	160
N-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	3.4 J
N-Propylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	54
o-Xylene	5	ug/l	5.0 U	5.0 U	5.0 U	230
sec-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	50 U
tert-Butylbenzene	5	ug/l	5.0 U	5.0 U	5.0 U	50 U
Tetrachloroethene	5	ug/l	5.0 U	5.0 U	5.0 U	50 U
Toluene	5	ug/l	5.0 U	0.22 J	5.0 U	84
Total Xylenes	5	ug/l	5.00 U	5.00 U	5.00 U	1530
Trichloroethene	5	ug/l	5.0 U	5.0 U	1.9 J	50 U

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Analyte	Location ID Date		3805-MWS14 9/15/2015	OSL-MW2 9/16/2015	OSL-MW8 9/17/2015	OSL-MW9A 9/17/2015	OSL-MW10 9/16/2015	SP03-EFF 9/4/2015	LC009 9/4/2015
	Sample Name	Units	DUP05-091515	OSL-MW2-091615	OSL-MW8-091715	OSL-MW9A-091715	OSL-MW10-091615	SP03-EFF-090415	LC009-090415
NYSDEC TOGS 1.1.1									
Gen Chem									
Ammonia Nitrogen	2	mg/l	--	--	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--	--	--
Cyanide	0.2	mg/l	0.003 J-	--	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	--	--	--	--	--
Iron (Ferrous)	--	mg/l	--	--	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--	--	--
Inorganics									
Aluminum	--	ug/l	100 U	106	100 U	500 U	14.8 J	--	--
Arsenic	25	ug/l	6.0 J	10.0 U	2.5 J	6.0 J	1.2 J	--	--
Barium	1000	ug/l	80.6	5.4 J	20.7	49.5	16.8 J	--	--
Calcium	--	ug/l	72000	23100	49400	37200	41900	--	--
Chromium	50	ug/l	10.0 U	0.599 J	0.348 J	2.2 J	0.337 J	--	--
Cobalt	--	ug/l	50.0 U	50.0 U	50.0 U	0.851 J	50.0 U	--	--
Copper	200	ug/l	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	--	--
Iron	300	ug/l	14000	153	98.5 J	4990	2950	855	5020000
Iron	--	mg/kg	--	--	--	--	--	--	--
Lead	25	ug/l	3.0 J	5.0 U	5.0 U	5.0 U	5.0 U	3.3 J	191
Lead	--	mg/kg	--	--	--	--	--	--	--
Magnesium	35000	ug/l	5110	2140	3700	2570	3370	--	--
Manganese	300	ug/l	925	3.7 J	4.1 J	5370	127	--	--
Mercury	0.7	ug/l	0.200 U	0.200 U	0.200 U	0.040 J	0.200 U	--	--
Nickel	100	ug/l	40.0 U	40.0 U	40.0 U	3.2 J	40.0 U	--	--
Potassium	--	ug/l	3420	666 J	2260	2040	1580 J	--	--
Selenium	10	ug/l	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	--	--
Silver	50	ug/l	1.8 J	0.544 J	1.3 J	2.0 J	1.1 J	--	--
Sodium	20000	ug/l	444000	4320	155000	174000	64900	--	--
Thallium	0.5	ug/l	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	--	--
Vanadium	--	ug/l	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	--	--
Zinc	2000	ug/l	20.0 U	20.0 U	20.0 U	14.1 J	20.0 U	--	--
Natural Attenuation Parameters									
Ethane	--	ug/l	--	--	--	--	--	--	--
Ethene	--	ug/l	--	--	--	--	--	--	--
Methane	--	ug/l	--	--	--	--	--	--	--
PCBs									
PCBs	--	ug/l	ND	--	--	--	--	--	--
Pesticides									
Pesticides	--	ug/l	ND	--	--	--	--	--	--
SVOCs									
2,4-Dimethylphenol	50	ug/l	8.0 J	9.4 U	9.4 UJ	9.4 UJ	9.4 U	--	--
2-Methylnaphthalene	--	ug/l	23	9.4 U	9.4 UJ	9.4 UJ	9.4 U	--	--
2-Methylphenol	--	ug/l	1.3 J	9.4 U	9.4 UJ	9.4 UJ	9.4 U	--	--
4-Methylphenol	--	ug/l	10 U	10 U	10 UJ	10 UJ	10 U	--	--
Naphthalene	10	ug/l	100	9.4 U	9.4 UJ	9.4 UJ	9.4 U	--	--
VOCs									
1,2,4-Trimethylbenzene	5	ug/l	320	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	26 J-
1,2-Dichloroethane	0.6	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
1,3,5-Trimethylbenzene	5	ug/l	89	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	7.9 J-
2-Butanone (MEK)	50	ug/l	40 J	10 U	10 UJ	10 UJ	10 U	10 UJ	3.7 J-
4-Methyl-2-Pentanone	50	ug/l	50 U	10 U	10 UJ	10 UJ	10 U	10 UJ	10 UJ
Acetone	50	ug/l	63	10 U	1.5 J-	1.4 J-	10 U	1.7 UJ	14 J-
Acetone	--	ug/kg	--	--	--	--	--	--	--
Benzene	1	ug/l	22 J	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	7.0 J-
Bromomethane	5	ug/l	25 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
Bromomethane	--	ug/kg	--	--	--	--	--	--	--
Carbon Disulfide	60	ug/l	50 U	10 U	10 UJ	10 UJ	10 U	10 UJ	10 UJ
Carbon Tetrachloride	5	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
CFC-12	5	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	1.8 J	5.0 UJ	5.0 UJ
Chloroethane	5	ug/l	1.9 J	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
Chloroform	7	ug/l	2.8 J	0.30 J	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	0.39 UJ
Chloromethane	5	ug/l	1.4 J	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
cis-1,2-Dichloroethene	5	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
Cymene (p-Isopropyltoluene)	5	ug/l	2.9 J	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	0.43 J-
Dichloromethane	5	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
Dichloromethane	--	ug/kg	--	--	--	--	--	--	--
Ethylbenzene	5	ug/l	300	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	23 J-
Isopropylbenzene	5	ug/l	26	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	1.4 J-
m,p-Xylene	--	ug/l	950	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	57 J-
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	50 U	10 U	10 UJ	10 UJ	10 U	10 UJ	10 UJ
Methyl-tert-butylether	10	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
Naphthalene	10	ug/l	110	5.0 U	5.0 UJ	5.0 UJ	5.0 U	0.36 UJ	8.8 UJ
N-Butylbenzene	5	ug/l	5.2 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
N-Propylbenzene	5	ug/l	54	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	0.86 J-
o-Xylene	5	ug/l	170	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	4.6 J-
sec-Butylbenzene	5	ug/l	3.0 J	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
tert-Butylbenzene	5	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
Tetrachloroethene	5	ug/l	2.7 J	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ
Toluene	5	ug/l	140	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	3.2 J-
Total Xylenes	5	ug/l	1120	5.00 U	5.00 UJ	5.00 UJ	5.00 U	5.00 UJ	61.6 J-
Trichloroethene	5	ug/l	25 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ

Footnotes:

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B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Location ID	LC009-EFF	LS34	LS34-EFF	OSL-SW06	OSL-SW09	OSL-SW10	BM-01
Date	9/4/2015	9/4/2015	9/4/2015	9/3/2015	9/3/2015	9/3/2015	9/4/2015
Sample Name	LC009-EFF-090415	LS34-090415	LS34-EFF-090415	OSL-SW06_090315	OSL-SW09_090315	OSL-SW10_090315	BM-01-090415
Analyte	NYSDEC						
	TOGS 1.1.1	Units					
Gen Chem							
Ammonia Nitrogen	2	mg/l	--	--	--	--	--
Chloride	250	mg/l	--	--	--	--	--
Cyanide	0.2	mg/l	--	--	--	--	--
Hardness (as CaCO3)	--	mg/l	--	--	140	146	104
Iron (Ferrous)	--	mg/l	--	--	--	--	--
Nitrate-N	10	mg/l	--	--	--	--	--
Sulfate	250	mg/l	--	--	--	--	--
Total Organic Carbon	--	mg/l	--	--	--	--	--
Inorganics							
Aluminum	--	ug/l	--	--	79.1 J	18.6 J	26.8 J
Arsenic	25	ug/l	--	--	3.4 J	5.4 J	2.4 J
Barium	1000	ug/l	--	--	37.3	31.2	9.7 J
Calcium	--	ug/l	--	--	46400	47600	35400
Chromium	50	ug/l	--	--	10.0 U	10.0 U	0.366 J
Cobalt	--	ug/l	--	--	50.0 U	50.0 U	50.0 U
Copper	200	ug/l	--	--	2.5 J	20.0 U	2.0 J
Iron	300	ug/l	691	1980000	397	716	835
Iron	--	mg/kg	--	--	--	--	45.6 J
Lead	25	ug/l	3.0 J	158	2.6 J	5.0 U	5.0 U
Lead	--	mg/kg	--	--	--	--	5.0 U
Magnesium	35000	ug/l	--	--	5450	4900	2860
Manganese	300	ug/l	--	--	88.9	166	5.4 J
Mercury	0.7	ug/l	--	--	0.134 J	0.200 U	0.200 U
Nickel	100	ug/l	--	--	40.0 U	40.0 U	40.0 U
Potassium	--	ug/l	--	--	1330 J	1310 J	1300 J
Selenium	10	ug/l	--	--	10.0 U	10.0 U	10.0 U
Silver	50	ug/l	--	--	10.0 U	10.0 U	10.0 U
Sodium	20000	ug/l	--	--	62200	67700	23600
Thallium	0.5	ug/l	--	--	10.0 U	10.0 U	10.0 U
Vanadium	--	ug/l	--	--	50.0 U	50.0 U	50.0 U
Zinc	2000	ug/l	--	--	20.0 U	20.0 U	20.0 U
Natural Attenuation Parameters							
Ethane	--	ug/l	--	--	--	--	--
Ethene	--	ug/l	--	--	--	--	--
Methane	--	ug/l	--	--	--	--	--
PCBs							
PCBs	--	ug/l	--	--	--	--	--
Pesticides							
Pesticides	--	ug/l	--	--	--	--	--
SVOCs							
2,4-Dimethylphenol	50	ug/l	--	--	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	--	ug/l	--	--	9.4 U	9.4 U	9.4 U
2-Methylphenol	--	ug/l	--	--	9.4 U	9.4 U	9.4 U
4-Methylphenol	--	ug/l	--	--	10 U	10 U	10 U
Naphthalene	10	ug/l	--	--	9.4 U	9.4 U	9.4 U
VOCs							
1,2,4-Trimethylbenzene	5	ug/l	5.0 U	240 J-	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
1,3,5-Trimethylbenzene	5	ug/l	5.0 U	26 J-	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	50	ug/l	10 U	100 UJ	10 U	10 U	10 U
4-Methyl-2-Pentanone	50	ug/l	10 U	100 UJ	10 U	10 U	10 U
Acetone	50	ug/l	1.6 J	29 J-	1.6 J	2.1 U	1.6 U
Acetone	--	ug/kg	--	--	--	--	8600 J
Benzene	1	ug/l	5.0 U	5.6 J-	5.0 U	0.85 J	5.0 U
Bromomethane	5	ug/l	5.0 UJ	50 UJ	5.0 UJ	5.0 U	5.0 U
Bromomethane	--	ug/kg	--	--	--	--	13000 U
Carbon Disulfide	60	ug/l	10 U	6.1 J-	10 U	10 U	10 U
Carbon Tetrachloride	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
CFC-12	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Chloroethane	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Chloroform	7	ug/l	5.0 U	7.6 J-	5.0 U	5.0 U	5.0 U
Chloromethane	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Cymene (p-Isopropyltoluene)	5	ug/l	5.0 U	3.0 J-	5.0 U	5.0 U	5.0 U
Dichloromethane	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Dichloromethane	--	ug/kg	--	--	--	--	13000 U
Ethylbenzene	5	ug/l	0.79 J	160 J-	0.49 J	0.20 J	0.60 J
Isopropylbenzene	5	ug/l	5.0 U	9.4 J-	5.0 U	5.0 U	5.0 U
m,p-Xylene	--	ug/l	0.80 J	320 J-	0.41 J	5.0 U	0.54 J
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	10 U	100 UJ	10 U	10 U	10 U
Methyl-tert-butylether	10	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Naphthalene	10	ug/l	0.33 UJ	54 UJ	0.28 UJ	5.0 U	0.29 U
N-Butylbenzene	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
N-Propylbenzene	5	ug/l	5.0 U	19 J-	5.0 U	5.0 U	5.0 U
o-Xylene	5	ug/l	5.0 U	8.7 J-	5.0 U	5.0 U	5.0 U
sec-Butylbenzene	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
tert-Butylbenzene	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U
Toluene	5	ug/l	5.0 U	13 J-	5.0 U	5.0 U	5.0 U
Total Xylenes	5	ug/l	0.800 J	329 J-	0.410 J	5.00 U	5.00 U
Trichloroethene	5	ug/l	5.0 U	50 UJ	5.0 U	5.0 U	5.0 U

Footnotes:

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B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Analyte	Location ID		BM-02	BM-03
	Date		9/4/2015	9/4/2015
	Sample Name		BM-02-090415	BM-03-090415
NYSDEC				
TOGS 1.1.1		Units		
Gen Chem				
Ammonia Nitrogen	2	mg/l	--	--
Chloride	250	mg/l	--	--
Cyanide	0.2	mg/l	--	--
Hardness (as CaCO3)	--	mg/l	--	--
Iron (Ferrous)	--	mg/l	--	--
Nitrate-N	10	mg/l	--	--
Sulfate	250	mg/l	--	--
Total Organic Carbon	--	mg/l	--	--
Inorganics				
Aluminum	--	ug/l	--	--
Arsenic	25	ug/l	--	--
Barium	1000	ug/l	--	--
Calcium	--	ug/l	--	--
Chromium	50	ug/l	--	--
Cobalt	--	ug/l	--	--
Copper	200	ug/l	--	--
Iron	300	ug/l	--	--
Iron	--	mg/kg	50.9	76.0
Lead	25	ug/l	--	--
Lead	--	mg/kg	0.275 J	0.265 J
Magnesium	35000	ug/l	--	--
Manganese	300	ug/l	--	--
Mercury	0.7	ug/l	--	--
Nickel	100	ug/l	--	--
Potassium	--	ug/l	--	--
Selenium	10	ug/l	--	--
Silver	50	ug/l	--	--
Sodium	20000	ug/l	--	--
Thallium	0.5	ug/l	--	--
Vanadium	--	ug/l	--	--
Zinc	2000	ug/l	--	--
Natural Attenuation Parameters				
Ethane	--	ug/l	--	--
Ethene	--	ug/l	--	--
Methane	--	ug/l	--	--
PCBs				
PCBs		ug/l	--	--
Pesticides				
Pesticides		ug/l	--	--
SVOCs				
2,4-Dimethylphenol	50	ug/l	--	--
2-Methylnaphthalene	--	ug/l	--	--
2-Methylphenol	--	ug/l	--	--
4-Methylphenol	--	ug/l	--	--
Naphthalene	10	ug/l	--	--
VOCs				
1,2,4-Trimethylbenzene	5	ug/l	--	--
1,2-Dichloroethane	0.6	ug/l	--	--
1,3,5-Trimethylbenzene	5	ug/l	--	--
2-Butanone (MEK)	50	ug/l	--	--
4-Methyl-2-Pentanone	50	ug/l	--	--
Acetone	50	ug/l	--	--
Acetone	--	ug/kg	7000 J	3200
Benzene	1	ug/l	--	--
Bromomethane	5	ug/l	--	--
Bromomethane	--	ug/kg	13000 U	120 J
Carbon Disulfide	60	ug/l	--	--
Carbon Tetrachloride	5	ug/l	--	--
CFC-12	5	ug/l	--	--
Chloroethane	5	ug/l	--	--
Chloroform	7	ug/l	--	--
Chloromethane	5	ug/l	--	--
cis-1,2-Dichloroethene	5	ug/l	--	--
Cymene (p-Isopropyltoluene)	5	ug/l	--	--
Dichloromethane	5	ug/l	--	--
Dichloromethane	--	ug/kg	13000 U	130 J
Ethylbenzene	5	ug/l	--	--
Isopropylbenzene	5	ug/l	--	--
m,p-Xylene	--	ug/l	--	--
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/l	--	--
Methyl-tert-butylether	10	ug/l	--	--
Naphthalene	10	ug/l	--	--
N-Butylbenzene	5	ug/l	--	--
N-Propylbenzene	5	ug/l	--	--
o-Xylene	5	ug/l	--	--
sec-Butylbenzene	5	ug/l	--	--
tert-Butylbenzene	5	ug/l	--	--
Tetrachloroethene	5	ug/l	--	--
Toluene	5	ug/l	--	--
Total Xylenes	5	ug/l	--	--
Trichloroethene	5	ug/l	--	--

Footnotes:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
B - The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UB - Compound considered non-detect at the listed value due to associated blank contamination.
ug/mL = micrograms per Liter
mg/mL = milligrams per Liter

Table 4-1
ASL Monitoring Points & Sampling Schedule
Installation Restoration Program
Ft. Drum, New York

Well/Sampling Location ID	Area Monitored	Location Type / Matrix	TAL Metals	MNA	ASL	Sampling Frequency	Notes
ASL-MW12A	ASL	Well	X	X	X	every 5 yrs.	Next in 2016
ASL-MW13	ASL	Well	X	X	X	every 5 yrs.	Next in 2016
ASL-MW14	ASL	Well	X	X	X	every 5 yrs.	Next in 2016
ASL-MW941	ASL	Well	X	X	X	every 5 yrs.	Next in 2016
ASL-MW942	ASL	Well	X	X	X	every 5 yrs.	Next in 2016
ASL-MW943	ASL	Well	X	X	X	every 5 yrs.	Next in 2016
ASL-MW944	ASL	Well	X	X	X	every 5 yrs.	Next in 2016
ASL-MW961	ASL	Well	X	X	X	every 5 yrs.	Next in 2016

Notes:

MNA - Monitored Natural Attenuation Parameters:
 TOC, Nitrate, Sulfate, Iron(II), Iron, Manganese, Ammonia,
 Dissolved Gases, & Chloride.

ASL - Airfield Sanitary LF Parameters include:
 Alkalinity, Bromide, Nitrate, Nitrite,
 Total Kjeldahl Nitrogen, Phenols, TDS, BOD, & COD.



Attachment 1
Landfill Inspection Forms

OSL Inspection Worksheet

Date: 9/3/15Inspector: BQ + NG

Item	Conditions	Y/N	Action to be Taken/Comments
Vegetative Layer/Cover Inspections			
General	General Vegetative conditions acceptable?	Y	
	Stressed or damaged vegetation?	N	
	Deep-rooted or woody vegetation?	N	
	Potential hazardous conditions?	N	
Erosion and Surface	Erosion damage, gullies, breaches?	N	
	Areas of subsidence?	N	
	Surface water ponding/accum.?	N	
	Obvious differential settlement?	N	
	Potential hazardous conditions?	N	
Animal Control	Damage due to burrowing animals?	N	
	Obvious presence of animals?	N	
Surface Activities	Unauthorized trespassing?	N	
	Intrusive activities/vehicle use?	N	
	Dumping or disposal?	N	
	Structures?	N	
Fences and Signs	Fence Integrity good?	Y	
	Site Secure?	Y	
	Perimeter signs intact and visible?	Y	
Gas Vent Pipes	Damaged or obstructed?	N	
Drainage Ditches	Drainage features clear/unobstructed?	Y	
	Accumulation of sediment/debris?	N	

Other Notes

Pictures 1-12 taken at OSL Cell 2.
~~Pictures 13-27 taken at OSL Cell 1.~~
 Pictures 28-30 taken at OSL gate.

ASL Inspection Worksheet

Date: 09/03/15

Inspector: M. Kiser, A. Baird

Item	Conditions	Y/N	Action to be Taken/Comments
Vegetative Layer/Cover Inspections			
General	General Vegetative conditions acceptable?	Y	
	Stressed or damaged vegetation?	N	
	Deep-rooted or woody vegetation?	Y	Trees in fence facing buildings 20
	Potential hazardous conditions?	N	335 to 20365
Erosion and Surface	Erosion damage, gullies, breaches?	N	
	Areas of subsidence?	N	
	Surface water ponding/accum.?	N	
	Obvious differential settlement?	N	
	Potential hazardous conditions?	N	
Animal Control	Damage due to burrowing animals?	Y	see picture ground hog burrows
	Obvious presence of animals?	Y	ground hogs
Surface Activities	Unauthorized trespassing?	N	
	Intrusive activities/vehicle use?	N	
	Dumping or disposal?	N	
	Structures?	N	No structures
Fences and Signs	Fence Integrity good?	N	2 areas of damaged fence
	Site Secure?	N	no lock on gate
	Perimeter signs intact and visible?	N	signs are for running truck not landfill
Gas Vent Pipes	Damaged or obstructed?	N	
Drainage Ditches	Drainage features clear/unobstructed?	Y	
	Accumulation of sediment/debris?	N	
Other Notes			
- Trees growing inside fence in landfill (pictures) - ground hog burrows visible along fence line (see pictures) - 2 sections of fence are damaged slightly (see pictures) - only signs are those inside landfill fence (see picture) - drainage ditches are clear (see pictures) * ground hog damage and fence damage shown on figure markup			

ASL Inspection Worksheet

Date: 09/22/2015
 Inspector: M. Kiser, N. Griffith

Item	Conditions	Y/N	Action to be Taken/Comments
Vegetative Layer/Cover Inspections			
General	General Vegetative conditions acceptable?		
	Stressed or damaged vegetation?		
	Deep-rooted or woody vegetation?		
	Potential hazardous conditions?		
Erosion and Surface	Erosion damage, gullies, breaches?		
	Areas of subsidence?		
	Surface water ponding/accum.?		
	Obvious differential settlement?		
	Potential hazardous conditions?		
Animal Control	Damage due to burrowing animals?	N	groundhog holes filled in
	Obvious presence of animals?	Y	groundhogs
Surface Activities	Unauthorized trespassing?		
	Intrusive activities/vehicle use?		
	Dumping or disposal?		
	Structures?		
Fences and Signs	Fence Integrity good?		
	Site Secure?		
	Perimeter signs intact and visible?		
Gas Vent Pipes	Damaged or obstructed?		
Drainage Ditches	Drainage features clear/unobstructed?		
	Accumulation of sediment/debris?		
Other Notes			
see additional pictures			



**Attachment 2
Landfill Inspection
Photographs**

1



2015 Inspection – OSL

9/3/15: Cell 2, facing northeast from southeast corner.

2



2015 Inspection – OSL

9/3/15: Cell 2, facing northwest from southwest corner.



FORT DRUM
2015 POST CLOSURE OPERATIONS & MAINTENANCE REPORT FOR THE OSL & ASL

LANDFILL INSPECTION PHOTOGRAPHS

DECEMBER 2015

ATTACHMENT 2

3



2015 Inspection – OSL

9/3/15: Cell 2, facing northeast from southwest corner.

4



2015 Inspection – OSL

9/3/15: Cell 2, facing southwest from northwest corner.



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LANDFILL INSPECTION PHOTOGRAPHS

DECEMBER 2015

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5



2015 Inspection – OSL

Photo 1: 9/3/15: Cell 2, facing northwest from northwest corner.

6



2015 Inspection – OSL

9/3/15: Cell 1, facing southwest from southwest corner.



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LANDFILL INSPECTION PHOTOGRAPHS

DECEMBER 2015

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7



2015 Inspection – OSL

9/3/15: Cell 1, facing southeast from northwest corner.

8



2015 Inspection – OSL

9/3/15: Cell 1, facing southeast from northeast corner.



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LANDFILL INSPECTION PHOTOGRAPHS

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9



2015 Inspection – OSL

9/3/15: Cell 1, facing southwest from southeast corner.

10



2015 Inspection – OSL

9/3/15: Signs on OSL gate.



11



2015 Inspection – OSL

9/3/15: Sign outside of OSL, near gate.

12



2015 Inspection – OSL

9/3/15: OSL gate.



13



2015 Inspection – OSL

9/4/15 OSL Creek and phytoremediation plantation

14



2015 Inspection - OSL

9/4/15 OSL Creek and phytoremediation plantation



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LANDFILL INSPECTION PHOTOGRAPHS

DECEMBER 2015

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15



2015 Inspection – OSL

9/4/15 OSL Creek and phytoremediation plantation

16



2015 Inspection - OSL

9/4/15 OSL Creek and phytoremediation plantation



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2015 POST CLOSURE OPERATIONS & MAINTENANCE REPORT FOR THE OSL & ASL

LANDFILL INSPECTION PHOTOGRAPHS

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17



2015 Inspection – OSL

9/4/15 OSL Creek and phytoremediation plantation

18



2015 Inspection - OSL

9/4/15 OSL Creek and phytoremediation plantation



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2015 POST CLOSURE OPERATIONS & MAINTENANCE REPORT FOR THE OSL & ASL

LANDFILL INSPECTION PHOTOGRAPHS

DECEMBER 2015

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2015 Inspection – OSL

9/4/15 OSL Creek and phytoremediation plantation



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2015 POST CLOSURE OPERATIONS & MAINTENANCE REPORT FOR THE OSL & ASL

LANDFILL INSPECTION PHOTOGRAPHS

DECEMBER 2015

ATTACHMENT 2

20



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Erosion beneath Cell 2 pipe slope drain

21



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Slope damage at Cell 2



22



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Inlet to Cell 2 pipe slope drain

23



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Cell 2 pipe slope drain



24



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Slope damage at Cell 2

25



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Cell 2 pipe slope drain



26



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Slope damage at Cell 2

27



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Slope damage at Cell 2



28



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Slope damage at Cell 2

29



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Slope damage at Cell 2



30



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Deposition of slope sediments adjacent to OSL Creek

31



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Deposition of slope sediments adjacent to OSL Creek



32



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Slope damage at Cell 2

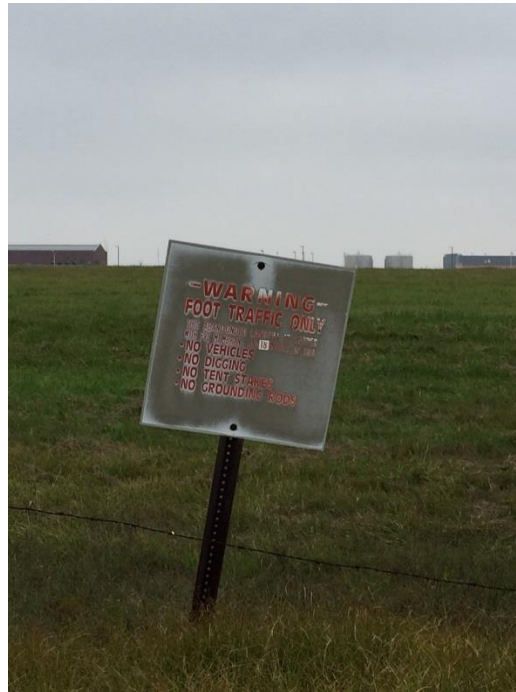
33



2015 Inspection – OSL Pipe Slope Drain #4 Failure
7/8/15 Erosion beneath Cell 2 pipe slope drain



34



2015 Inspection – ASL

9/3/15: Landfill sign located within ASL fence.

35



2015 Inspection – ASL

9/3/15: Groundhog hole along the ASL fence.



36



2015 Inspection – ASL

9/3/15: Damage to ASL fence.

37



2015 Inspection – ASL

9/3/15: Damage to ASL fence.



38



2015 Inspection – ASL

9/3/15: Clear drainage ditch.

39



2015 Inspection – ASL

9/3/15: Clear drainage ditch.



40



2015 Inspection – ASL

9/3/15: Clear drainage ditch.

41



2015 Inspection – ASL

9/3/15: Gate to the ASL with signs for the physical fitness run/walk route on the perimeter.



42



2015 Inspection – ASL

9/3/15: Groundhog hole along the ASL fence.

43



2015 Inspection – ASL

9/3/15: Groundhog hole along the ASL fence.



FORT DRUM
2015 POST CLOSURE OPERATIONS & MAINTENANCE REPORT FOR THE OSL & ASL

LANDFILL INSPECTION PHOTOGRAPHS

DECEMBER 2015

ATTACHMENT 2



Appendix B

Groundwater Purge Logs



Well ID: 3805-PZ3

Date: 4/20/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, no odor. Sampled at 1505 for VOCS and MNA. Purged approximately 1 gallon.

Casing Screenlength (ft) 31.32

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/20/2015	2:35:00 PM	20.52	10.1	6.75	12.2	0.216	22.2	3.68			
4/20/2015	2:40:00 PM	20.51	10.2	6.62	15.9	0.216	4.22	1.93			
4/20/2015	2:45:00 PM	20.51	10.4	6.63	13.6	0.213	3.16	1.49			
4/20/2015	2:50:00 PM	20.51	10.4	6.57	13.9	0.211	3.28	1.41			
4/20/2015	2:55:00 PM	20.51	10.4	6.55	12.0	0.213	2.20	1.38			
4/20/2015	3:00:00 PM	20.51	10.5	6.56	9.7	0.214	1.48	1.32			



Well ID: 3805-PZ14

Date: 4/20/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, strong odor. Sampled at 1100, collected MS/MSD. Purged approximately 1 gallon.

Casing Screenlength (ft) 31.21

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/20/2015	10:35:00 AM	18.25	11.2	6.65	-56.0	0.311	7.20	1.14			
4/20/2015	10:40:00 AM	18.27	9.3	6.66	-64.0	0.296	1.36	0.75			
4/20/2015	10:45:00 AM	18.25	9.3	6.66	-67.6	0.291	1.66	0.66			
4/20/2015	10:50:00 AM	18.25	9.3	6.66	-70.6	0.291	2.00	0.55			
4/20/2015	10:55:00 AM	18.25	9.3	6.65	-72.9	0.287	2.34	0.45			



Well ID: 3805-PZ12S

Date: 4/20/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, strong odor. Sampled at 1250. Purged approximately 1 gallon.

Casing Screenlength (ft) 34.35

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/20/2015	12:20:00 PM	24.43	9.6	6.68	-61.4	1.23	3.11	1.90			
4/20/2015	12:25:00 PM	24.42	9.6	6.70	-47.6	1.24	1.42	1.11			
4/20/2015	12:30:00 PM	24.42	9.6	6.70	-35.9	1.23	2.14	0.59			
4/20/2015	12:35:00 PM	24.43	9.7	6.73	-29.7	1.22	3.14	0.42			
4/20/2015	12:40:00 PM	24.43	9.7	6.74	-26.3	1.22	3.81	0.36			
4/20/2015	12:45:00 PM	24.43	9.7	6.75	-26.0	1.19	4.41	0.33			



Well ID: 3805-PZ7

Date: 4/20/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor.

Casing Screenlength (ft) 28.84

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/20/2015	3:25:00 PM	19.57	10.8	6.80	87.0	1.83	0.36	8.75			
4/20/2015	3:30:00 PM	19.57	10.8	6.81	91.5	1.92	0.26	8.33			
4/20/2015	3:35:00 PM	19.57	10.7	6.81	99.8	1.96	0.33	8.15			
4/20/2015	3:40:00 PM	19.57	10.6	6.80	105.0	1.95	0.33	8.13			
4/20/2015	3:45:00 PM	19.57	10.6	6.79	106.9	1.96	0.11	8.03			



Well ID: 3805-MWS23

Date: 4/20/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled at 1640 for BTEX. Purged approximately 1 gallon.

Casing Screenlength (ft) 29.28

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/20/2015	4:15:00 PM	16.65	10.6	6.57	-37.0	0.616	4.34	0.84			
4/20/2015	4:20:00 PM	16.68	10.8	6.51	-44.8	0.607	2.48	0.44			
4/20/2015	4:25:00 PM	16.68	10.8	6.50	-47.9	0.603	2.47	0.34			
4/20/2015	4:30:00 PM	16.68	10.8	6.47	-51.1	0.602	3.75	0.30			
4/20/2015	4:35:00 PM	16.68	10.4	6.46	-52.1	0.603	4.59	0.31			



Well ID: 3805-PZ12I

Date: 4/20/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, no odor. Sampled at 1340. Purged approximately 1 gallon. Sampled for BTEX.

Casing Screenlength (ft) 37.15

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/20/2015	1:15:00 PM	25.45	10.2	7.25	-15.0	1.15	10.4	0.58			
4/20/2015	1:20:00 PM	25.46	10.2	7.31	-14.0	1.17	2.29	0.40			
4/20/2015	1:25:00 PM	25.46	10.3	7.37	-13.5	1.19	1.72	0.31			
4/20/2015	1:30:00 PM	25.46	10.3	7.39	-9.0	1.20	0.49	0.29			
4/20/2015	1:35:00 PM	25.46	10.3	7.41	-13.8	1.21	1.28	0.27			



Well ID: 3805-MWS24

Date: 4/20/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Strongodor, sheen, black sediment and particles present. Sampled at 0930, sampled for DUP-01-042015. Purged approximately 3 gallons.

Casing Screenlength (ft) 32.27

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/20/2015	8:50:00 AM	20.67	9.2	6.51	-91.5	0.633	7.68	0.28			
4/20/2015	8:55:00 AM	20.67	9.2	6.57	-97.6	0.620	4.93	0.21			
4/20/2015	9:00:00 AM	20.67	9.2	6.57	-97.6	0.520	4.72	0.29			
4/20/2015	9:05:00 AM	20.67	9.4	6.64	-102.9	0.491	2.06	1.26			
4/20/2015	9:10:00 AM	20.67	9.2	6.66	-107.5	0.480	2.80	1.04			
4/20/2015	9:15:00 AM	20.67		6.70	-110.2	0.475	3.44	0.95			
4/20/2015	9:20:00 AM	20.67	9.3	6.72	-111.6	0.474	1.72	0.85			
4/20/2015	9:25:00 AM	20.67	9.3	6.74	-113.9	0.465	1.50	0.77			



Well ID: 1995-MWS10

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for VOCs and MNA at 1240. Purged approximately 2 gallons of water.

Casing Screenlength (ft) 38.97

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	12:00:00 PM	23.72	9.2	6.32	-68.7	0.89	39.2	1.56			
4/22/2015	12:05:00 PM	23.70	9.9	6.49	-77.4	0.89	33.5	1.28			
4/22/2015	12:10:00 PM	23.70	10.0	6.51	-81.8	0.89	30.8	0.71			
4/22/2015	12:15:00 PM	23.70	9.9	6.53	-85.4	0.89	29.4	0.40			
4/22/2015	12:20:00 PM	23.70	9.7	6.53	-85.0	0.89	30.5	0.37			
4/22/2015	12:25:00 PM	23.70	9.8	6.54	-85.3	0.90	26.8	0.28			
4/22/2015	12:30:00 PM	23.70	9.8	6.54	-85.2	0.91	26.3	0.25			
4/22/2015	12:35:00 PM	23.70	9.6	6.54	-83.5	0.91	25.5	0.23			



Well ID: 1795-PZ3

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time:

Casing Screenlength (ft) 26.16 ft; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	4:15:00 PM	16.44	9.40	5.68	111.9	0.224	42.1	1.12	NM	NM	
4/22/2015	4:20:00 PM	16.44	9.30	5.49	110.3	0.223	4.19	1.12	NM	NM	
4/22/2015	4:25:00 PM	16.44	9.30	5.49	105.2	0.226	4.10	1.04	NM	NM	
4/22/2015	4:30:00 PM	16.44	9.30	5.60	88.3	0.229	4.09	1.03	NM	NM	
4/22/2015	4:35:00 PM	16.44	9.30	5.55	87.1	0.230	4.05	1.03	NM	NM	
4/22/2015	4:40:00 PM	16.44	9.30	5.53	86.9	0.230	4.05	1.02	NM	NM	
4/22/2015	4:45:00 PM	16.44	9.30	5.54	86.8	0.230	4.04	1.02	NM	NM	



Well ID: 1795-PZ15

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample collected: 1550

Casing Screenlength (ft) 25.28 ft; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	3:15:00 PM	15.25	10.40	6.91	52.1	0.525	5.3	4.30	NM	NM	
4/22/2015	3:20:00 PM	15.25	10.40	6.89	56.5	0.516	5.0	4.07	NM	NM	
4/22/2015	3:25:00 PM	15.25	10.50	6.88	60.7	0.513	4.0	4.06	NM	NM	
4/22/2015	3:30:00 PM	15.25	10.40	6.87	63.7	0.513	4.0	4.20	NM	NM	
4/22/2015	3:35:00 PM	15.25	10.40	6.87	62.9	0.511	4.0	4.19	NM	NM	
4/22/2015	3:40:00 PM	15.25	10.40	6.86	62.4	0.516	4.0	4.16	NM	NM	
4/22/2015	3:45:00 PM	15.25	10.40	6.86	61.6	0.509	4.0	4.16	NM	NM	



Well ID: 3805-MWS11

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for VOCs and MNA at 1605. Purged approximately 1 gallon of water.

Casing Screenlength (ft) 35.43

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	3:45:00 PM	28.84	10.4	6.75	-97.4	0.684	6.03	1.98			
4/22/2015	3:50:00 PM	28.83	10.2	6.79	-112.7	0.686	8.62	0.59			
4/22/2015	3:55:00 PM	28.82	10.1	6.80	-112.9	0.690	2.76	0.47			
4/22/2015	4:00:00 PM	28.83	10.1	6.81	-114.3	0.692	1.97	0.35			



Well ID: 1795-MWS11

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Sample time: 0945
Casing Screenlength (ft) 21.85 ft; 8.5 to 18.5 ft
Casing Diameter (in): 2 in
Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	8:50:00 AM	14.52	8.10	5.27	173.3	0.110	55.5	3.15	NM	NM	
4/22/2015	8:55:00 AM	14.52	8.00	5.49	137.7	0.111	36.3	2.81	NM	NM	
4/22/2015	9:00:00 AM	14.52	8.10	5.79	123.3	0.110	19.4	2.96	NM	NM	
4/22/2015	9:05:00 AM	14.52	8.20	5.98	94.6	0.112	13.6	2.95	NM	NM	
4/22/2015	9:10:00 AM	14.52	8.10	5.99	99.1	0.111	13.8	3.42	NM	NM	
4/22/2015	9:15:00 AM	14.52	8.10	6.03	88.7	0.112	12.6	3.53	NM	NM	
4/22/2015	9:20:00 AM	14.52	8.00	6.04	96.0	0.110	12.0	4.11	NM	NM	
4/22/2015	9:25:00 AM	14.52	8.30	6.12	92.8	0.109	12.0	4.45	NM	NM	
4/22/2015	9:30:00 AM	14.52	8.40	6.09	90.0	0.110	11.9	4.49	NM	NM	
4/22/2015	9:35:00 AM	14.52	8.50	6.09	91.9	0.109	11.9	4.49	NM	NM	
4/22/2015	9:40:00 AM	14.52	8.50	6.09	93.4	0.108	11.9	4.47	NM	NM	



Well ID: 1795-MWS3

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Sample time: 1335
Casing Screenlength (ft) 21.49 ft; 8.5 ft to 18.5 ft
Casing Diameter (in): 2 in
Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	12:50:00 PM	13.95	7.30	6.94	-172.1	0.281	1.3	1.08	NM	NM	
4/22/2015	12:55:00 PM	13.95	7.20	6.76	-173.8	0.267	1.2	1.02	NM	NM	
4/22/2015	1:00:00 PM	13.95	7.10	6.64	-156.6	0.247	1.0	1.11	NM	NM	
4/22/2015	1:05:00 PM	13.95	7.10	6.56	-139.6	0.239	1.0	1.23	NM	NM	
4/22/2015	1:10:00 PM	13.95	7.10	6.50	-119.5	0.230	1.0	1.51	NM	NM	
4/22/2015	1:15:00 PM	13.95	7.10	6.43	-101.6	0.222	1.0	1.80	NM	NM	
4/22/2015	1:20:00 PM	13.95	7.20	6.41	-95.5	0.219	1.0	1.91	NM	NM	
4/22/2015	1:25:00 PM	13.95	7.10	6.40	-93.3	0.217	1.0	1.93	NM	NM	
4/22/2015	1:30:00 PM	13.95	7.10	6.38	-94.4	0.215	1.0	1.94	NM	NM	



Well ID: 1795-MWS7

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1110

Casing Screenlength (ft) 16.95 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	10:25:00 AM	12.25	7.50	6.23	-118.4	1.33	14.3	1.24	NM	NM	
4/22/2015	10:30:00 AM	12.25	7.70	6.32	-131.7	1.77	12.3	1.04	ND	ND	
4/22/2015	10:35:00 AM	12.25	7.80	6.37	-140.8	2.10	11.5	1.03	NM	NM	
4/22/2015	10:40:00 AM	12.25	7.80	6.43	-175.8	2.76	11.0	1.31	NM	NM	
4/22/2015	10:45:00 AM	12.25	7.70	6.42	-173.4	2.64	11.0	1.12	NM	NM	
4/22/2015	10:50:00 AM	12.25	7.70	6.44	-172.7	2.78	11.0	0.98	NM	NM	
4/22/2015	10:55:00 AM	12.25	7.70	6.43	-167.9	2.99	11.0	1.01	NM	NM	
4/22/2015	11:00:00 AM	12.25	7.70	6.44	-166.1	3.01	11.0	1.01	NM	NM	
4/22/2015	11:05:00 AM	12.25	7.70	6.44	-165.9	3.00	11.0	1.02	NM	NM	



Well ID: 1995-MWS9

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for VOCs and MNA at 1345. Purged approximately 2 gallons of water.

Casing Screenlength (ft) 38.97

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	1:10:00 PM	23.69	9.2	6.25	-0.1	13.48	5.68	2.13			
4/22/2015	1:15:00 PM	23.70	9.5	6.30	-20.6	13.66	4.51	0.73			
4/22/2015	1:20:00 PM	23.71	9.6	6.31	-27.0	13.65	3.97	0.63			
4/22/2015	1:25:00 PM	23.71	9.6	6.33	-37.1	13.66	4.57	0.41			
4/22/2015	1:30:00 PM	23.71	9.7	6.33	-43.3	13.65	5.62	0.36			
4/22/2015	1:35:00 PM	23.71	9.6	6.33	-45.9	13.65	4.31	0.33			
4/22/2015	1:40:00 PM	23.71	9.6	6.34	-49.5	13.65	3.87	0.33			



Well ID: OSL-MW3

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, strong odor. Sampled for VOCs at 1055.
Purged approximately 1 gallon of water.

Casing Screenlength (ft) 34.35

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	10:20:00 AM	22.73	9.9	6.85	-12.1	1.11	24.0	1.65			
4/22/2015	10:25:00 AM	22.72	9.9	6.91	-9.9	1.11	12.4	1.10			
4/22/2015	10:30:00 AM	22.72	9.9	6.90	-5.8	1.15	22.0	1.06			
4/22/2015	10:35:00 AM	22.72	10.1	6.87	-3.0	1.21	19.4	0.99			
4/22/2015	10:40:00 AM	22.72	10.0	6.90	-1.7	1.22	12.9	0.98			
4/22/2015	10:45:00 AM	22.72	10.0	6.90	-0.5	1.23	11.3	0.97			
4/22/2015	10:50:00 AM	22.72	10.1	6.89	0.6	1.23		0.99			



Well ID: 1795-MWS21

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Samples collected: 1445

Casing Screenlength (ft) 26.55 ft; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	2:10:00 PM	15.22	7.90	6.90	-58.7	0.760	54.4	1.22	NM	NM	
4/22/2015	2:15:00 PM	15.22	7.90	6.90	-57.6	0.760	29.0	1.02	NM	NM	
4/22/2015	2:20:00 PM	15.22	7.80	6.90	-58.9	0.760	30.0	0.99	NM	NM	
4/22/2015	2:25:00 PM	15.22	7.80	6.91	-57.1	0.760	30.0	0.95	NM	NM	
4/22/2015	2:30:00 PM	15.22	7.90	6.91	-55.7	0.760	30.0	0.90	NM	NM	
4/22/2015	2:35:00 PM	15.22	7.90	6.91	-55.3	0.760	29.0	0.90	NM	NM	
4/22/2015	2:40:00 PM	15.22	8.00	6.9	-55.0	0.76	29.0	0.90	NM	NM	



Well ID: 3805-PZ2S

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, pdpr, iron precipitation. Sampled for VOCs and MNA at 1440. Purged approximately 1 gallon of water.

Casing Screenlength (ft) 23.70

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	2:15:00 PM	18.94	8.4	6.97	26.0	0.261	13.4	3.37			
4/22/2015	2:20:00 PM	18.96	8.3	6.82	37.6	0.251	24.6	2.93			
4/22/2015	2:25:00 PM	18.96	8.2	6.68	46.7	0.246	2.30	2.56			
4/22/2015	2:30:00 PM	18.96	8.3	6.62	52.6	0.245	3.05	2.54			
4/22/2015	2:35:00 PM	18.96	8.4	6.67	50.7	0.247	1.65	2.50			



Well ID: 3805-016

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for BTEX at 0830. Purged approximately 1 gallon of water.

Casing Screenlength (ft) 22.03

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	8:05:00 AM	16.38	8.9	6.31	-66.0	0.364	3.23	1.51			
4/22/2015	8:10:00 AM	16.40	8.9	6.31	-69.0	0.362	9.60	1.48			
4/22/2015	8:15:00 AM	16.40	9.0	6.38	-77.1	0.353	7.12	0.79			
4/22/2015	8:20:00 AM	16.40	9.0	6.43	-80.1	0.353	3.73	0.66			
4/22/2015	8:25:00 AM	16.40	9.8	6.41	-78.5	0.353	2.15	0.44			



Well ID: 3805-MWS8

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 41.48

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	4:40:00 PM	26.20	9.8	6.90	-61.5	0.72	5.32	2.27			
4/22/2015	4:45:00 PM	26.18	9.9	6.92	-69.6	0.610	1.78	2.43			
4/22/2015	4:50:00 PM	26.14	9.9	6.92	-69.7	0.552	1.50	2.78			
4/22/2015	4:55:00 PM										



Well ID: 3805-014

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for BTEX at 0920. Purged approximately 2 gallons of water.

Casing Screenlength (ft) 24.53

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	8:45:00 AM	14.98	8.5	6.60	-11.4	0.152	8.16	0.41			
4/22/2015	8:50:00 AM	14.99	8.5	6.52	-16.2	0.158	7.44	0.30			
4/22/2015	8:55:00 AM	14.98	8.3	6.51	-24.6	0.162	7.30	0.36			
4/22/2015	9:00:00 AM	14.98	8.3	6.54	-37.2	0.175	6.56	0.40			
4/22/2015	9:05:00 AM	14.98	8.4	6.56	-44.5	0.183	6.19	0.47			
4/22/2015	9:10:00 AM	14.98	8.3	6.59	-51.0	0.187	8.32	0.67			
4/22/2015	9:15:00 AM	14.98	8.3	6.61	-50.2	0.185	4.79	0.53			



Well ID: 3805-MWS5

Date: 4/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Yellow-brown tint, no sheen, strong odor. Sampled for VOCs at 1000. Purged approximately 1 gallon of water.

Casing Screenlength (ft) 25.85

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/22/2015	9:30:00 AM	17.22	9.5	6.52	-36.1	0.245	40.9	0.35			
4/22/2015	9:35:00 AM	17.22	9.5	6.53	-36.9	0.240	26.5	0.32			
4/22/2015	9:40:00 AM	17.22	9.5	6.54	-45.9	0.246	20.4	0.51			
4/22/2015	9:45:00 AM	17.22	9.6	6.56	-52.9	0.251	14.3	0.51			
4/22/2015	9:50:00 AM	17.22	9.5	6.57	-56.7	0.253	13.1	0.42			
4/22/2015	9:55:00 AM	17.22	9.6	6.55	-59.9	0.254	13.3	0.41			



Well ID: 1795-MWS6

Date: 4/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Sample time: 1055
Casing Screenlength (ft) 17.89 ft; 5.5 ft to 15.5 ft
Casing Diameter (in): 2 in
Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/23/2015	10:10:00 AM	12.89	7.9	5.20	21.4	0.162	22.6	1.48	NM	NM	
4/23/2015	10:15:00 AM	13.00	7.6	5.26	8.6	0.166	28.6	1.39	NM	NM	
4/23/2015	10:20:00 AM	13.00	7.5	5.27	2.3	0.166	34.0	1.25	NM	NM	
4/23/2015	10:25:00 AM	13.00	7.5	5.45	-13.2	0.166	34.9	1.23	NM	NM	
4/23/2015	10:30:00 AM	13.0	7.6	5.44	-20.3	0.166	35.8	1.19	NM	NM	
4/23/2015	10:35:00 AM	13.00	7.8	5.49	-26.0	0.166	33.8	1.08	NM	NM	
4/23/2015	10:40:00 AM	13.00	7.5	5.51	-30.2	0.167	35.4	1.14	NM	NM	
4/23/2015	10:45:00 AM	13.00	7.3	5.42	-25.7	0.167	35.8	1.15	NM	NM	
4/23/2015	10:50:00 AM	13.00	7.4	5.48	-34.3	0.167	34.8	1.17	NM	NM	



Well ID: 1795-PZ10

Date: 4/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1325

Casing Screenlength (ft) 20.57 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/23/2015	12:45:00 PM	9.19	7.0	5.16	161.9	0.083	31.7	7.46	NM	NM	
4/23/2015	12:50:00 PM	9.19	7.0	5.04	175.4	0.083	35.4	6.90	NM	NM	
4/23/2015	12:55:00 PM	9.19	6.8	5.13	158.4	0.083	27.5	6.44	NM	NM	
4/23/2015	1:00:00 PM	9.19	6.6	5.19	134.5	0.083	21.5	6.25	NM	NM	
4/23/2015	1:05:00 PM	9.19	6.5	5.31	128.7	0.083	11.8	5.62	NM	NM	
4/23/2015	1:10:00 PM	9.19	6.5	5.30	133.3	0.083	7.79	5.17	NM	NM	
4/23/2015	1:15:00 PM	9.19	6.1	5.33	136.6	0.083	8.67	5.00	NM	NM	
4/23/2015	1:20:00 PM	9.19	6.1	5.32	140.5	0.083	8.12	4.97	NM	NM	



Well ID: 1795-PZ14

Date: 4/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1610

Casing Screenlength (ft) 21.00 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/23/2015	3:20:00 PM	10.95	7.9	6.79	-97.8	1.11	3.64	1.09	NM	NM	
4/23/2015	3:25:00 PM	10.95	7.9	6.82	-109.1	1.26	3.62	1.00	NM	NM	
4/23/2015	3:30:00 PM	10.95	7.7	6.84	-115.6	1.44	4.25	1.01	NM	NM	
4/23/2015	3:35:00 PM	10.95	7.7	6.86	-119.0	1.68	2.96	0.99	NM	NM	
4/23/2015	3:40:00 PM	10.95	7.8	6.87	-121.2	1.60	3.63	0.97	NM	NM	
4/23/2015	3:45:00 PM	10.95	7.9	6.88	-123.7	1.61	2.90	0.94	NM	NM	
4/23/2015	3:50:00 PM	10.95	7.9	6.89	-126.7	1.63	4.26	0.94	NM	NM	
4/23/2015	3:55:00 PM	10.95	8.0	6.90	-128.7	1.65	2.75	0.93	NM	NM	
4/23/2015	4:00:00 PM	10.95	7.9	6.90	-130.8	1.66	3.05	0.93	NM	NM	
4/23/2015	4:05:00 PM	10.95	7.9	6.90	-130.8	1.66	3.05	0.93	NM	NM	



Well ID: 1795-PZ7

Date: 4/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1500

Casing Screenlength (ft) 20.85 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/23/2015	2:00:00 PM	9.67	7.4	6.28	51.6	0.317	14.5	1.18	NM	NM	
4/23/2015	2:05:00 PM	9.67	7.3	6.27	38.1	0.366	38.1	1.07	NM	NM	
4/23/2015	2:10:00 PM	9.67	7.2	6.29	26.6	0.393	18.7	1.04	NM	NM	
4/23/2015	2:15:00 PM	9.67	7.3	6.44	6.4	0.432	10.45	1.00	NM	NM	
4/23/2015	2:20:00 PM	9.67	7.6	6.52	-5.3	0.472	8.88	0.96	NM	NM	
4/23/2015	2:25:00 PM	9.67	7.6	6.55	-14.5	0.524	7.56	0.96	NM	NM	
4/23/2015	2:30:00 PM	9.67	7.9	6.59	-20.8	0.584	5.59	0.93	NM	NM	
4/23/2015	2:35:00 PM	9.67	7.8	6.62	-27.0	0.631	5.85	0.94	NM	NM	
4/23/2015	2:40:00 PM	9.67	7.8	6.63	-30.9	0.661	4.11	0.95	NM	NM	
4/23/2015	2:45:00 PM	9.67	7.9	6.63	-32.8	0.682	4.03	0.93	NM	NM	
4/23/2015	2:50:00 PM	9.67	7.8	6.65	-34.8	0.691	3.96	0.98	NM	NM	
4/23/2015	2:55:00 PM	9.67	7.7	6.64	-35.1	0.700	4.39	0.99	NM	NM	



Well ID: 1795-PZ4

Date: 4/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 0925

Casing Screenlength (ft) 21.40 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/23/2015	8:35:00 AM	11.48	7.9	3.97	330.2	0.082	11.75	9.30	NM	NM	
4/23/2015	8:40:00 AM	11.48	7.8	4.15	330.0	0.083	8.06	9.40	NM	NM	
4/23/2015	8:45:00 AM	11.48	8.0	4.41	323.6	0.087	8.43	8.77	NM	NM	
4/23/2015	8:50:00 AM	11.48	8.0	4.55	320.8	0.088	5.92	8.57	NM	NM	
4/23/2015	8:55:00 AM	11.48	8.0	4.61	322.2	0.090	6.25	8.45	NM	NM	
4/23/2015	9:00:00 AM	11.48	7.9	4.61	324.7	0.094	4.48	8.13	NM	NM	
4/23/2015	9:05:00 AM	11.48	7.6	4.65	308.3	0.098	4.25	8.01	NM	NM	
4/23/2015	9:10:00 AM	11.48	7.8	4.69	296.1	0.104	3.58	7.47	NM	NM	
4/23/2015	9:15:00 AM	11.48	7.7	4.71	294.8	0.106	2.84	7.35	NM	NM	
4/23/2015	9:20:00 AM	11.48	7.6	4.73	289.8	0.107	3.23	6.99	NM	NM	



Well ID: 2140-MW07

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge : Clear, no sheen, trace odor. Sampled for VOCs at 1055.
Purged approximately 1.5 gallons of water.

Casing Screenlength (ft) 41.65

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	10:20:00 AM	29.18	10.6	7.05	-66.5	1.67	5.36	2.19			
4/27/2015	10:25:00 AM	29.40	10.8	6.77	-84.6	1.76	3.96	1.01			
4/27/2015	10:30:00 AM	29.50	10.9	6.74	-96.3	1.74	4.02	1.06			
4/27/2015	10:35:00 AM	29.46	10.9	6.83	-113.4	1.38	4.29	0.83			
4/27/2015	10:40:00 AM	29.60	10.9	6.86	-116.6	1.47	5.46	0.78			
4/27/2015	10:45:00 AM	29.58	10.9	6.86	-116.2	1.43	7.35	0.67			
4/27/2015	10:50:00 AM	29.58	11.0	6.86	-115.7	1.47	7.87	0.68			



Well ID: 1295-MW25

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1115

Casing Screenlength (ft) 16.68 ft; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	10:35:00 AM	10.05	8.2	6.46	159.8	0.76	3.96	4.95	NM	NM	
4/27/2015	10:40:00 AM	10.05	8.1	6.43	160.5	0.78	3.21	4.71	NM	NM	
4/27/2015	10:45:00 AM	10.05	8.1	6.46	159.2	0.80	3.04	4.54	NM	NM	
4/27/2015	10:50:00 AM	10.05	8.1	6.48	158.0	0.81	2.98	4.36	NM	NM	
4/27/2015	10:55:00 AM	10.05	8.1	6.49	158.0	0.79	1.87	4.17	NM	NM	
4/27/2015	11:00:00 AM	10.05	8.2	6.50	156.4	0.79	1.71	4.13	NM	NM	
4/27/2015	11:05:00 AM	10.05	8.2	6.51	155.8	0.80	1.68	4.12	NM	NM	
4/27/2015	11:10:00 AM	10.05	8.2	6.51	156.1	0.80	1.64	4.12	NM	NM	



Well ID: 2140-MW37

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for VOCs at 1300. Purged approximately 2 gallons of water. Collected DUP-02-042715.

Casing Screenlength (ft) 34.52

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	12:15:00 PM	25.43	11.6	6.54	-64.2	14.91	35.8	2.06			
4/27/2015	12:20:00 PM	25.46	11.7	6.54	-66.6	14.94	36.7	0.91			
4/27/2015	12:25:00 PM	25.45	11.7	6.54	-67.9	14.94	38.9	0.84			
4/27/2015	12:30:00 PM	25.43	11.5	6.50	-57.8	15.02	43.1	0.67			
4/27/2015	12:35:00 PM	25.43	11.4	6.49	-61.8	15.09	38.8	0.61			
4/27/2015	12:40:00 PM	25.44	11.4	6.45	-58.2	15.21	34.9	0.49			
4/27/2015	12:45:00 PM	25.44	11.4	6.45	-54.5	15.27	30.1	0.42			
4/27/2015	12:50:00 PM	25.44	11.5	6.45	-52.6	15.31	28.5	0.37			
4/27/2015	12:55:00 PM	25.44	11.4	6.45	-51.3	15.37	27.9	0.35			



Well ID: 2140-MW02

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge : Clear, no sheen, no odor. Sampled for VOCs at 1350.
Purged approximately 1 gallon of water.

Casing Screenlength (ft) 31.29

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	1:20:00 PM	24.44	11.2	7.18	-11.2	2.16	19.5	5.43			
4/27/2015	1:25:00 PM	24.47	11.2	7.12	-6.9	2.10	8.98	4.37			
4/27/2015	1:30:00 PM	24.47	11.2	7.04	-8.6	2.02	10.86	3.96			
4/27/2015	1:35:00 PM	24.47	11.1	7.02	-10.5	1.95	11.70	4.06			
4/27/2015	1:40:00 PM	24.47	11.1	7.00	-12.8	1.93	12.7	4.03			
4/27/2015	1:45:00 PM	24.47	11.1	6.98	-15.7	1.96	11.70	3.76			



Well ID: 2140-MW05

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge : Clear, no sheen, odor. Sampled for BTEX at 1430. Purged approximately 1 gallon of water.

Casing Screenlength (ft) 35.92

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	2:00:00 PM	27.83	11.3	6.72	-106.8	3.44	2.61	0.86			
4/27/2015	2:05:00 PM	27.85	11.3	6.79	-110.9	3.45	1.59	0.72			
4/27/2015	2:10:00 PM	27.85	11.3	6.81	-118.2	3.49	3.42	0.65			
4/27/2015	2:15:00 PM	27.83	11.1	6.83	-120.2	3.50	4.02	0.61			
4/27/2015	2:20:00 PM	27.83	11.2	6.85	-119.9	3.50	3.75	0.48			
4/27/2015	2:25:00 PM	27.83	11.2	6.85	-118.9	3.49	3.82	0.42			



Well ID: 2140-MW06

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Trace black tint, no sheen, clear, odor. Sampled for VOCs at 0945. Purged approximately 2.5 gallons of water.

Casing Screenlength (ft) 42.00

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	8:50:00 AM	29.00	10.9	6.53	-67.5	6.55	6.30	1.26			
4/27/2015	8:55:00 AM	29.02	10.9	6.54	-73.4	6.53	5.96	1.13			
4/27/2015	9:00:00 AM	29.01	11.0	6.60	-91.9	6.43	5.13	0.72			
4/27/2015	9:05:00 AM	29.07	11.0	6.64	-99.4	6.31	3.89	0.55			
4/27/2015	9:10:00 AM	29.04	11.0	6.67	-106.4	6.08	4.05	0.40			
4/27/2015	9:15:00 AM	29.05	10.9	6.72	-111.9	5.86	4.35	0.35			
4/27/2015	9:20:00 AM	29.05	10.9	6.75	-115.8	5.71	4.13	0.35			
4/27/2015	9:25:00 AM	29.09	10.9	6.77	-119.5	5.64	3.63	0.35			
4/27/2015	9:30:00 AM	29.07	10.9	6.81	-125.2	5.59	3.64	0.36			
4/27/2015	9:35:00 AM	29.07	10.9	6.82	-126.9	5.54	3.48	0.36			
4/27/2015	9:40:00 AM	29.11	10.9	6.84	-130.2	5.50	3.50	0.37			



Well ID: 1295-MWS28

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time:

Casing Screenlength (ft) 17.45 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	12:55:00 PM	11.83	8.7	7.51	136.7	1.21	3.38	1.41	NM	NM	
4/27/2015	1:00:00 PM	11.83	8.7	7.44	133.0	1.02	1.64	1.30	NM	NM	
4/27/2015	1:05:00 PM	11.83	8.6	7.53	116.9	0.91	1.63	1.65	NM	NM	
4/27/2015	1:10:00 PM	11.83	8.6	7.59	107.4	0.90	1.62	1.69	NM	NM	
4/27/2015	1:15:00 PM	11.83	8.6	7.60	104.1	0.89	1.62	1.71	NM	NM	
4/27/2015	1:20:00 PM	11.83	8.6	7.64	95.0	0.89	1.61	1.74	NM	NM	
4/27/2015	1:25:00 PM	11.83	8.6	7.64	90.5	0.88	2.02	1.76	NM	NM	
4/27/2015	1:30:00 PM	11.83	8.7	7.66	87.8	0.87	1.09	1.78	NM	NM	
4/27/2015	1:35:00 PM	11.83	8.6	7.67	86.1	0.86	0.86	1.79	NM	NM	
4/27/2015	1:40:00 PM	11.83	8.5	7.67	85.9	0.86	0.84	1.81	NM	NM	
4/27/2015	1:45:00 PM	11.83	8.6	7.67	85.8	0.87	0.81	1.82	NM	NM	



Well ID: 1295-MWS27

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 0950

Casing Screenlength (ft) 19.40; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	8:55:00 AM	7.39	8.1	6.95	97.5	1.55	22.1	1.43	NM	NM	
4/27/2015	9:00:00 AM	7.39	8.5	7.17	87.7	1.55	18.3	1.23	NM	NM	
4/27/2015	9:05:00 AM	7.39	8.5	7.29	82.7	1.55	18.9	1.16	NM	NM	
4/27/2015	9:10:00 AM	7.39	8.2	7.32	82.7	1.56	19.8	1.17	NM	NM	
4/27/2015	9:15:00 AM	7.39	8.2	7.35	80.2	1.56	16.9	1.16	NM	NM	
4/27/2015	9:20:00 AM	7.39	8.1	7.38	68.4	1.56	18.9	1.14	NM	NM	
4/27/2015	9:25:00 AM	7.39	8.1	7.38	64.8	1.56	16.8	1.13	NM	NM	
4/27/2015	9:30:00 AM	7.39	8.2	7.39	62.3	1.56	14.2	1.13	NM	NM	
4/27/2015	9:35:00 AM	7.39	8.2	7.40	58.9	1.57	13.1	1.13	NM	NM	
4/27/2015	9:40:00 AM	7.39	8.2	7.41	58.1	1.57	12.9	1.14	NM	NM	
4/27/2015	9:45:00 AM	7.39	8.2	7.41	57.6	1.57	12.6	1.15	NM	NM	



Well ID: 1295-MW30

Date: 4/27/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time:

Casing Screenlength (ft) 14.23 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2015	2:30:00 PM	9.50	7.9	6.34	50.6	0.688	8.15	1.32	NM	NM	
4/27/2015	2:35:00 PM	9.50	7.9	6.26	17.6	0.687	4.51	1.29	NM	NM	
4/27/2015	2:40:00 PM	9.50	7.7	6.22	-65.4	0.735	3.07	1.19	NM	NM	
4/27/2015	2:45:00 PM	9.50	7.7	6.33	-89.3	0.79	4.21	1.10	NM	NM	
4/27/2015	2:50:00 PM	9.50	7.6	6.33	-91.8	0.80	5.37	1.11	NM	NM	
4/27/2015	2:55:00 PM	9.50	7.6	6.35	-100.2	0.83	5.18	1.09	NM	NM	
4/27/2015	3:00:00 PM	9.50	7.6	6.38	-103.6	0.84	4.55	1.08	NM	NM	
4/27/2015	3:05:00 PM	9.50	7.6	6.39	-105.9	0.84	3.76	1.08	NM	NM	
4/27/2015	3:10:00 PM	9.50	7.6	6.39	-109.5	0.85	3.61	1.09	NM	NM	



Well ID: 2140-MW12

Date: 4/28/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for VOCs at 1350. Purged approximately 1.5 gallons of water.

Casing Screenlength (ft) 33.85

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/28/2015	1:15:00 PM	19.20					13.3				
4/28/2015	1:20:00 PM	19.20	11.7	6.96	-9.5	2.33	2.76	0.33			
4/28/2015	1:25:00 PM	19.20	12.7	6.92	-12.2	2.32	1.42	0.43			
4/28/2015	1:30:00 PM	19.20	11.9	6.92	12.4	2.32	1.29	0.333			
4/28/2015	1:35:00 PM	19.20	12.9	6.86	18.0	2.32	1.95	0.29			
4/28/2015	1:40:00 PM	19.20	12.9	6.93	23.6	2.32	2.08	0.19			
4/28/2015	1:45:00 PM	19.20	12.7	6.96	24.7	2.31	2.31	0.29			



Well ID: 2140-MW14

Date: 4/28/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge : Clear, no sheen, odor. Sampled for VOCs at 1255. Purged approximately 1.5 gallons of water.

Casing Screenlength (ft) 19.83

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/28/2015	12:15:00 PM	8.61	10.6	7.42	-49.9	3.00	4.58	2.74			
4/28/2015	12:20:00 PM	8.61	10.8	7.19	-62.1	2.94	1.41	0.99			
4/28/2015	12:25:00 PM	8.61	10.4	7.08	-45.9	2.84	0.76	0.70			
4/28/2015	12:30:00 PM	8.61	10.1	7.02	-28.0	2.82	1.46	0.56			
4/28/2015	12:35:00 PM	8.61	10.0	6.97	-5.6	2.64	0.95	0.53			
4/28/2015	12:40:00 PM	8.61	9.9	6.92	17.1	2.56	1.36	0.61			
4/28/2015	12:45:00 PM	8.61	10.5	6.86	23.4	2.50	1.73	0.73			
4/28/2015	12:50:00 PM	8.61	10.0	6.89	20.3	2.52	1.54	0.82			



Well ID: 2140-MW27

Date: 4/28/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge : Clear, no sheen, odor. Sampled for VOCs at 1040. Purged approximately 1.5 gallons of water.

Casing Screenlength (ft) 15.66

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/28/2015	10:00:00 AM	9.13	8.1	7.12	-67.1	1.53	22.5	2.12			
4/28/2015	10:05:00 AM	9.13	8.0	7.06	-57.9	1.32	16.9	2.11			
4/28/2015	10:10:00 AM	9.13	8.1	6.93	-40.2	1.07	9.76	2.19			
4/28/2015	10:15:00 AM	9.13	8.0	6.87	-24.2	0.86	5.82	2.48			
4/28/2015	10:20:00 AM	9.13	7.9	6.84	-19.6	0.87	4.66	2.46			
4/28/2015	10:25:00 AM	9.13	7.7	6.82	-12.8	0.76	3.41	2.87			
4/28/2015	10:30:00 AM	9.13	7.9	6.80	-13.0	0.75	4.07	2.97			
4/28/2015	10:35:00 AM	9.13	7.6	6.80	-9.6	0.77	2.73	2.90			



Well ID: 2140-MW19

Date: 4/28/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge : Clear, no sheen, trace odor. Sampled for VOCs at 1120.
Purged approximately 1 gallon of water.

Casing Screenlength (ft) 17.04

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/28/2015	10:55:00 AM	7.64	9.0	7.05	-74.1	6.11	5.21	0.60			
4/28/2015	11:00:00 AM	7.64	9.2	7.15	-97.6	5.98	9.22	0.25			
4/28/2015	11:05:00 AM	7.64	8.8	7.17	-100.9	5.60	8.87	0.24			
4/28/2015	11:10:00 AM	7.64	8.8	7.17	-99.9	5.53	9.71	0.22			
4/28/2015	11:15:00 AM	7.64	8.8	7.17	-99.3	5.46	8.30	0.55			



Well ID: 2140-MW09

Date: 4/28/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge : Cloudy, red-brown color, iron precipitation, no odor.
Sampled for BTEX at 0930. Purged approximately 1.5 gallons of water.

Casing Screenlength (ft) 32.65

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/28/2015	8:50:00 AM	24.68	11.5	7.24	41.1	2.78	over	3.02			
4/28/2015	9:00:00 AM	24.68	11.6	7.28	2.8	2.66	94.8	2.10			
4/28/2015	9:10:00 AM	24.68	11.7	7.24	-42.5	2.67	31.4	2.27			
4/28/2015	9:15:00 AM	24.68	11.9	7.28	-73.5	2.74	7.99	2.64			
4/28/2015	9:20:00 AM	24.68	12.0	7.28	-80.5	2.78	2.73	2.55			
4/28/2015	9:25:00 AM	24.68	11.8	7.26	-80.0	2.76	1.36	2.51			



Well ID: 1295-MW26

Date: 4/28/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 0950

Casing Screenlength (ft) 21.48 ft; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/28/2015	9:15:00 AM	10.22	8.8	6.86	131.7	0.606	5.12	6.52	NM	NM	
4/28/2015	9:20:00 AM	10.22	8.9	6.89	131.8	0.605	3.41	6.55	NM	NM	
4/28/2015	9:25:00 AM	10.22	8.9	6.91	131.6	0.606	1.29	6.58	NM	NM	
4/28/2015	9:30:00 AM	10.22	8.8	6.98	133.6	0.604	1.18	6.59	NM	NM	
4/28/2015	9:35:00 AM	10.22	8.8	7.03	132.2	0.606	1.14	6.59	NM	NM	
4/28/2015	9:40:00 AM	10.22	8.8	7.04	132.6	0.606	1.12	6.58	NM	NM	
4/28/2015	9:45:00 AM	10.22	8.8	7.05	132.6	0.605	1.11	6.57	NM	NM	



Well ID: 1595-MWS7

Date: 4/29/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, odor. Sampled for VOCs and MNA at 0930. Purged approximately 1 gallon of water.

Casing Screenlength (ft) 21.86

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/29/2015	9:00:00 AM	7.61	9.3	5.90	-42.9	0.83	8.80	1.90			
4/29/2015	9:05:00 AM	7.62	10.0	6.43	-71.3	0.84	7.55	1.13			
4/29/2015	9:10:00 AM	7.62	8.7	6.50	-78.9	0.83	7.01	0.67			
4/29/2015	9:15:00 AM	7.62	8.8	6.54	-82.8	0.83	7.38	0.52			
4/29/2015	9:20:00 AM	7.62	8.8	6.57	-86.0	0.82	7.55	0.41			
4/29/2015	9:25:00 AM	7.62	8.9	6.60	-88.2	0.81	5.71	0.34			



Well ID: 1595-PZ11

Date: 4/29/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, no sheen, no odor. Sampled for VOCs and DUP-03-042915 at 1030. Purged approximately 1 gallon of water.

Casing Screenlength (ft) 28.73

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/29/2015	10:05:00 AM	13.40	11.0	7.13	40.3	1.15	12.3	1.31			
4/29/2015	10:10:00 AM	13.40	11.0	7.22	41.6	1.18	5.94	0.51			
4/29/2015	10:15:00 AM	13.40	11.0	7.25	41.7	1.21	7.96	0.34			
4/29/2015	10:20:00 AM	13.40	11.1	7.28	37.1	1.23	2.82	0.28			
4/29/2015	10:25:00 AM	13.40	11.1	7.31	35.0	1.24	2.17	0.25			



Well ID: 1595-PZ13

Date: 4/29/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1440

Casing Screenlength (ft) 17.09 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/29/2015	2:05:00 PM	8.90	9.4	6.67	-111.0	1.28	3.33	1.92	NM	NM	
4/29/2015	2:10:00 PM	8.90	9.8	6.67	-114.4	1.27	2.87	1.89	NM	NM	
4/29/2015	2:15:00 PM	8.90	9.5	6.74	-133.5	1.26	4.11	1.71	NM	NM	
4/29/2015	2:20:00 PM	8.90	9.3	6.76	-134.9	1.26	2.76	1.62	NM	NM	
4/29/2015	2:25:00 PM	8.90	9.5	6.79	-138.4	1.23	2.83	1.62	NM	NM	
4/29/2015	2:30:00 PM	8.90	9.4	6.80	-143.3	1.24	2.56	1.58	NM	NM	
4/29/2015	2:35:00 PM	8.90	9.4	6.84	-141.3	1.21	3.33	1.61	NM	NM	



Well ID: 1595-MW33

Date: 4/29/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1340

Casing Screenlength (ft) 21.54 ft; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/29/2015	1:00:00 PM	10.17	11.3	6.20	125.7	0.317	9.13	1.19	NM	NM	
4/29/2015	1:05:00 PM	10.17	10.8	6.13	123.8	0.314	9.18	1.15	NM	NM	
4/29/2015	1:10:00 PM	10.17	11.2	6.19	103.4	0.318	6.82	1.13	NM	NM	
4/29/2015	1:15:00 PM	10.17	11.2	6.24	101.2	0.318	7.64	1.15	NM	NM	
4/29/2015	1:20:00 PM	10.17	11.0	6.28	92.1	0.325	6.57	1.20	NM	NM	
4/29/2015	1:25:00 PM	10.17	11.1	6.29	82.9	0.331	6.16	1.41	NM	NM	
4/29/2015	1:30:00 PM	10.17	11.1	6.31	83.6	0.332	6.10	1.41	NM	NM	
4/29/2015	1:35:00 PM	10.17	11.2	6.34	81.1	0.331	6.14	1.41	NM	NM	



Well ID: 1595-OBG2

Date: 4/29/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, odor, sheen. Sampled for VOCs and MNA at 1130.
Purged approximately 1.5 gallons of water.

Casing Screenlength (ft) 17.58

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/29/2015	10:50:00 AM	10.58	10.6	6.51	1.0	0.128	22.3	0.70			
4/29/2015	10:55:00 AM	10.58	9.8	6.00	21.0	0.112	24.6	0.57			
4/29/2015	11:00:00 AM	10.58	9.7	5.92	16.4	0.128	28.0	0.44			
4/29/2015	11:05:00 AM	10.58	9.9	5.99	-7.3	0.246	29.0	0.35			
4/29/2015	11:10:00 AM	10.58	10.0	6.11	-27.3	0.320	25.6	0.35			
4/29/2015	11:15:00 AM	10.58	10.0	6.22	-38.8	0.364	25.5	0.31			
4/29/2015	11:20:00 AM	10.58	10.0	6.24	-42.8	0.375	24.3	0.30			
4/29/2015	11:25:00 AM	10.58	10.0	6.21	-47.8	0.372	24.9	0.29			



Well ID: 1595-PZ12

Date: 4/29/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available Sample time: 1115

Casing Screenlength (ft) 25.10 ft; NA

Casing Diameter (in): 2 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/29/2015	10:15:00 AM	12.71	10.0	6.99	11.8	0.75	11.11	2.10	NM	NM	
4/29/2015	10:20:00 AM	12.71	10.1	7.01	6.4	0.74	10.98	2.42	NM	NM	
4/29/2015	10:25:00 AM	12.71	9.9	7.03	-3.9	0.72	3.12	3.31	NM	NM	
4/29/2015	10:30:00 AM	12.71	10.1	7.04	-14.3	0.694	1.91	4.37	NM	NM	
4/29/2015	10:35:00 AM	12.71	10.1	7.04	-19.4	0.673	2.02	5.34	NM	NM	
4/29/2015	10:40:00 AM	12.71	10.2	7.02	-21.7	0.671		5.68	NM	NM	
4/29/2015	10:45:00 AM	12.71	10.1	7.03	-23.1	0.663	2.21	6.30	NM	NM	
4/29/2015	10:50:00 AM	12.71	10.1	7.01	-23.7	0.657	2.06	6.39	NM	NM	
4/29/2015	10:55:00 AM	12.71	10.0	7.01	-23.2	0.651	1.59	7.06	NM	NM	
4/29/2015	11:00:00 AM	12.71	10.2	7.00	-22.2	0.634	1.31	7.62	NM	NM	
4/29/2015	11:05:00 AM	12.71	10.0	7.00	-21.8	0.631	1.27	7.65	NM	NM	
4/29/2015	11:10:00 AM	12.71	10.1	6.99	-20.8	0.631	1.50	7.62	NM	NM	



Well ID: 1795-PZ3

Date: 8/3/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Well diameter changes from 4 inches to 2 inches; Pump Start Time: 1515; Sample Collected @ 1555; Flow rate: 250 mL/min

Casing Screenlength (ft) 25.92; NA

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/3/2015	3:20:00 PM	17.70	12.9	6.42	-84.1	0.284	34	0.64			
8/3/2015	3:25:00 PM	17.70	13.5	6.03	-72.3	0.301	18	0.30			
8/3/2015	3:30:00 PM	17.70	13.2	6.12	-79.4	0.311	16	0.23			
8/3/2015	3:35:00 PM	17.70	13.1	6.23	-87.9	0.317	14	0.18			
8/3/2015	3:40:00 PM	17.70	13.3	6.37	-97.1	0.320	12	0.13			
8/3/2015	3:45:00 PM	17.70	13.1	6.37	-97.0	0.322	12	0.11			
8/3/2015	3:50:00 PM	17.70	13.3	6.37	-97.4	0.322	12	0.10			



Well ID: 1795-PZ15

Date: 8/3/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Pump Start Time: 0920; Sample Collected @ 1000;
DUP-01-080315 collected; Flow rate: 250 mL/min

Casing Screenlength (ft) 25.28; NA

Casing Diameter (in): 4 in

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/3/2015	9:25:00 AM	16.55	12.6	6.57	1.8	0.509	5	2.47			
8/3/2015	9:30:00 AM	16.55	12.6	6.58	-1.8	0.501	5	2.52			
8/3/2015	9:35:00 AM	16.55	12.6	6.59	-3.5	0.497	5	2.66			
8/3/2015	9:40:00 AM	16.55	12.4	6.60	-4.1	0.496	5	2.75			
8/3/2015	9:45:00 AM	16.55	12.6	6.63	-5.0	0.498	5	2.83			
8/3/2015	9:50:00 AM	16.55	12.5	6.68	-8.1	0.497	5	2.90			
8/3/2015	9:55:00 AM	16.55	12.6	6.68	-8.4	0.499	4	2.89			



Well ID: 1795-MWS6

Date: 8/3/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1605;
Sample Collected @ ; Flow rate: 250 mL/min

Casing Screenlength (ft) 17.90; 5.5 ft to 15.5 ft

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/3/2015	4:10:00 PM	14.00	14.8	6.26	-95.5	0.132	32	0.28			
8/3/2015	4:15:00 PM	14.00	15.6	5.88	-101.8	0.133	24	0.10			
8/3/2015	4:20:00 PM	14.00	15.3	5.78	-110.5	0.130	22	0.16			
8/3/2015	4:25:00 PM	14.00	16.5	5.93	-120.8	0.132	22	0.13			
8/3/2015	4:30:00 PM	14.00	16.2	5.92	-125.6	0.133	21	0.12			
8/3/2015	4:35:00 PM	14.00	16.3	5.91	-125.3	0.133	21	0.11			
8/3/2015	4:40:00 PM	14.00	16.2	5.91	-125.2	0.133	21	0.12			



Well ID: 1795-MWS11

Date: 8/3/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Pump Start Time: 1235; Sample Collected @ 1355;
Flow rate: 200 mL/min

Casing Screenlength (ft) 21.55; 8.5 to 18.5 ft

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/3/2015	12:40:00 PM	15.90	14.3	5.75	61.0	0.103	141	1.40			
8/3/2015	12:45:00 PM	15.90	13.3	5.42	94.1	0.098	192	1.62			
8/3/2015	12:50:00 PM	15.90	14.3	5.50	93.2	0.097	174	1.69			
8/3/2015	12:55:00 PM	15.90	14.0	5.69	80.2	0.098	158	1.77			
8/3/2015	1:00:00 PM	15.90	14.2	5.85	54.8	0.099	112	1.56			
8/3/2015	1:05:00 PM	15.90	14.7	5.97	36.4	0.101	99	1.65			
8/3/2015	1:10:00 PM	15.90	14.2	6.05	33.1	0.101	78	1.76			
8/3/2015	1:15:00 PM	15.90	14.4	6.02	30.7	0.101	75	1.83			
8/3/2015	1:20:00 PM	15.90	14.7	6.12	24.5	0.101	68	1.79			
8/3/2015	1:25:00 PM	15.90	15.1	6.23	13.9	0.101	68	1.92			
8/3/2015	1:30:00 PM	15.90	15.0	6.20	25.3	0.100	63.0	2.23			
8/3/2015	1:35:00 PM	15.90	14.9	6.20	28.5	0.101	54	1.92			
8/3/2015	1:40:00 PM	15.90	15.4	6.17	32.8	0.100	49	2.31			
8/3/2015	1:45:00 PM	15.90	15.4	6.22	32.4	0.100	47	2.27			
8/3/2015	1:50:00 PM	15.90	15.7	6.25	31.8	0.100	47	2.28			



Well ID: 1795-PZ4

Date: 8/3/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1035;
Sample Collected @ 1115; MS/MSD collected; Flow rate: 250 mL/min

Casing Screenlength (ft) 21.38; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/3/2015	10:40:00 AM	12.83	14.5	4.86	272.7	0.112	32	4.41			
8/3/2015	10:45:00 AM	12.83	14.9	4.33	301.7	0.110	12	4.84			
8/3/2015	10:50:00 AM	12.83	15.5	4.32	309.4	0.109	10	4.94			
8/3/2015	10:55:00 AM	12.83	15.7	4.66	299.1	0.109	10	4.68			
8/3/2015	11:00:00 AM	12.83	15.4	4.51	303.2	0.109	9	4.77			
8/3/2015	11:05:00 AM	12.83	15.1	4.52	302.1	0.112	9	4.87			
8/3/2015	11:10:00 AM	12.83	15.1	4.57	304.8	0.116	9	4.56			



Well ID: 1795-PZ10

Date: 8/4/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Start Time: 0825; Sample Collected @ 0915; Flow rate: 250 mL/min

Casing Screenlength (ft) 20.60; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/4/2015	8:25:00 AM	10.45	12.9	5.32	130.5	0.098	22	1.33			
8/4/2015	8:30:00 AM	10.45	13.0	5.24	71.0	0.118	78	0.38			
8/4/2015	8:35:00 AM	10.45	13.4	5.33	34.0	0.111	17	0.23			
8/4/2015	8:40:00 AM	10.45	13.4	5.54	20.8	0.126	10	0.19			
8/4/2015	8:45:00 AM	10.45	13.3	5.60	15.6	0.139	7	0.17			
8/4/2015	8:50:00 AM	10.45	13.3	5.75	5.3	0.156	16	0.12			
8/4/2015	8:55:00 AM	10.45	13.3	5.88	-7.9	0.175	10	0.12			
8/4/2015	9:00:00 AM	10.45	13.4	6.01	-8.9	0.202	9	0.12			
8/4/2015	9:05:00 AM	10.45	13.3	6.04	-9.5	0.203	9	0.14			
8/4/2015	9:10:00 AM	10.45	13.3	6.06	-9.4	0.204	9	0.13			



Well ID: 1595-MWS7

Date: 8/4/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1210;
Sample Collected @ 1250 Flow rate: 250 mL/min

Casing Screenlength (ft) 21.88; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/4/2015	12:15:00 PM	8.35	13.9	6.48	-106.5	0.69	16	0.62			
8/4/2015	12:20:00 PM	8.35	14.0	6.45	-107.7	0.70	7	0.19			
8/4/2015	12:25:00 PM	8.35	14.1	6.48	-109.6	0.70	4	0.17			
8/4/2015	12:30:00 PM	8.35	14.3	6.58	-114.6	0.70	4	0.14			
8/4/2015	12:35:00 PM	8.35	14.1	6.65	-116.4	0.70	4	0.12			
8/4/2015	12:40:00 PM	8.35	14.2	6.65	-116.9	0.71	4	0.11			
8/4/2015	12:45:00 PM	8.35	14.1	6.68	-118.6	0.71	4	0.11			



Well ID: 1795-MWS7

Date: 8/4/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1030;
Sample Collected @ 1115 ; Flow rate: 250 mL/min

Casing Screenlength (ft) 16.98; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/4/2015	10:35:00 AM	13.22	16.5	6.39	-9.5	1.98	18	0.60			
8/4/2015	10:40:00 AM	13.22	16.7	6.18	-23.5	1.93	14	0.18			
8/4/2015	10:45:00 AM	13.22	16.9	6.23	-50.3	2.16	11	0.15			
8/4/2015	10:50:00 AM	13.22	16.8	6.35	-75.8	2.63	10	0.13			
8/4/2015	10:55:00 AM	13.22	16.3	6.38	-97.3	2.94	9	0.13			
8/4/2015	11:00:00 AM	13.22	16.3	6.45	-106.1	3.18	9	0.12			
8/4/2015	11:05:00 AM	13.22	16.4	6.49	-107.4	3.21	9	0.11			
8/4/2015	11:10:00 AM	13.22	16.3	6.47	-107.6	3.21	9	0.11			



Well ID: 1595-PZ9

Date: 8/4/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Start Time: 1300; Sample Collected @ 1340; Flow rate: 250 mL/min

Casing Screenlength (ft) 26.00; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/4/2015	1:05:00 PM	8.30	13.8	5.60	-160.9	1.47	17	0.92			
8/4/2015	1:10:00 PM	8.30	13.8	5.54	-162.0	1.39	15	0.50			
8/4/2015	1:15:00 PM	8.30	13.8	5.58	-163.7	1.21	12	0.30			
8/4/2015	1:20:00 PM	8.30	14.3	5.89	-171.1	0.527	11	0.22			
8/4/2015	1:25:00 PM	8.30	14.3	6.07	-160.1	0.499	11	0.35			
8/4/2015	1:30:00 PM	8.30	14.4	6.07	-159.4	0.504	11	0.33			
8/4/2015	1:35:00 PM	8.30	14.4	6.04	-159.3	0.506	11	0.34			



Well ID: 1595-OBG2

Date: 8/4/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1350;
Sample Collected @ 1435; Flow rate: 250 mL/min

Casing Screenlength (ft) 17.60; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/4/2015	1:55:00 PM	11.65	15.3	6.20	-65.7	0.231	9	0.64			
8/4/2015	2:00:00 PM	11.65	14.8	5.64	-51.8	0.231	14	0.21			
8/4/2015	2:05:00 PM	11.65	14.7	5.55	-60.0	0.253	15	0.12			
8/4/2015	2:10:00 PM	11.65	14.5	5.71	-78.5	0.334	19	0.10			
8/4/2015	2:15:00 PM	11.65	14.7	5.85	-98.8	0.462	17	0.08			
8/4/2015	2:20:00 PM	11.65	14.5	6.06	-114.2	0.537	17	0.09			
8/4/2015	2:25:00 PM	11.65	14.4	6.09	-116.2	0.541	17	0.08			
8/4/2015	2:30:00 PM	11.65	14.5	6.08	-114.9	0.538	17	0.08			



Well ID: 1795-PZ7

Date: 8/4/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Start Time: 0925; Sample Collected @ 1010 ; Flow rate: 250 mL/min

Casing Screenlength (ft) 20.72; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/4/2015	9:30:00 AM	10.73	13.9	6.61	-94.6	1.12	29	0.40			
8/4/2015	9:35:00 AM	10.73	13.9	6.33	-77.1	0.90	28	0.22			
8/4/2015	9:40:00 AM	10.73	13.8	6.41	-84.7	0.89	20	0.17			
8/4/2015	9:45:00 AM	10.73	13.9	6.52	-94.8	0.91	13	0.15			
8/4/2015	9:50:00 AM	10.73	13.9	6.57	-100.9	0.94	13	0.14			
8/4/2015	9:55:00 AM	10.73	14.0	6.61	-103.9	0.97	10	0.14			
8/4/2015	10:00:00 AM	10.73	14.0	6.63	-106.6	0.96	9	0.15			
8/4/2015	10:05:00 AM	10.73	14.0	6.59	-104.3	0.93	9	0.14			



Well ID: 1595-PZ12

Date: 8/4/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1505;
Sample Collected @ 1545; Flow rate: 250 mL/min

Casing Screenlength (ft) 25.05; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/4/2015	3:10:00 PM	13.56	13.9	6.74	-27.3	2.95	7	3.40			
8/4/2015	3:15:00 PM	13.56	13.5	6.67	-27.2	3.02	5	2.88			
8/4/2015	3:20:00 PM	13.56	13.5	6.70	-30.5	2.97	4	3.02			
8/4/2015	3:25:00 PM	13.56	13.4	6.77	-33.0	2.85	3	3.14			
8/4/2015	3:30:00 PM	13.56	13.5	6.76	-33.0	2.78	3	3.12			
8/4/2015	3:35:00 PM	13.56	13.7	6.78	-31.8	2.72	3	3.11			
8/4/2015	3:40:00 PM	13.56	13.7	6.79	-33.1	2.75	3	0.313			



Well ID: 1595-PZ13

Date: 8/5/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0750;
Sample Collected 0835; Flow rate: 250 mL/min

Casing Screenlength (ft) 17.10; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/5/2015	7:55:00 AM	9.78	13.8	6.98	-219.7	1.52	5	0.56			
8/5/2015	8:00:00 AM	9.78	13.6	7.00	-233.7	1.51	4	0.38			
8/5/2015	8:05:00 AM	9.78	13.7	7.00	-239.9	1.47	5	0.38			
8/5/2015	8:10:00 AM	9.78	13.7	7.06	-248.4	1.51	4	0.31			
8/5/2015	8:15:00 AM	9.78	13.7	7.06	-246.5	1.50	5	0.38			
8/5/2015	8:20:00 AM	9.78	13.7	7.10	-242.1	1.45	5	0.49			
8/5/2015	8:25:00 AM	9.78	13.9	7.08	-240.1	1.45	5	0.51			
8/5/2015	8:30:00 AM	9.78	13.7	7.10	-237.1	1.45	5	0.54			



Well ID: 3805-PZ14

Date: 8/5/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1250;
Sample Collected @ 1330; Flow rate: 250 mL/min

Casing Screenlength (ft) 31.23; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/5/2015	12:55:00 PM	17.99	13.5	5.84	-1.6	0.237	13	1.42			
8/5/2015	1:00:00 PM	17.99	14.5	5.94	-17.0	0.240	12	0.73			
8/5/2015	1:05:00 PM	17.99	14.3	6.05	-35.8	0.246	11	0.64			
8/5/2015	1:10:00 PM	17.99	14.2	6.14	-43.0	0.249	10	0.56			
8/5/2015	1:15:00 PM	17.99	14.7	6.27	-50.1	0.250	10	0.54			
8/5/2015	1:20:00 PM	17.99	14.6	6.31	-53.1	0.249	10	0.54			
8/5/2015	1:25:00 PM	17.99	14.7	6.32	-56.1	0.251	10	0.53			



Well ID: 3805-016

Date: 8/5/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1515;
Sample Collected @ 1600; Flow rate: 250 mL/min

Casing Screenlength (ft) 22.05; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/5/2015	3:20:00 PM	17.22	13.4	6.28	-108.2	0.374	5	0.53			
8/5/2015	3:25:00 PM	17.22	13.4	6.32	-114.3	0.357	5	0.32			
8/5/2015	3:30:00 PM	17.22	13.3	6.39	-122.8	0.345	4	0.27			
8/5/2015	3:35:00 PM	17.22	13.4	6.43	-119.1	0.342	4	0.30			
8/5/2015	3:40:00 PM	17.22	13.5	6.47	-113.6	0.339	4	0.44			
8/5/2015	3:45:00 PM	17.22	13.4	6.54	-107.5	0.336	4	0.49			
8/5/2015	3:50:00 PM	17.22	13.4	6.52	-103.5	0.332	4	0.50			
8/5/2015	3:55:00 PM	17.22	13.5	6.53	-108.5	0.335	4	0.52			



Well ID: 1795-PZ5

Date: 8/5/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; DTW/DTB measured from top of fitting (above TOC); Pump Start Time: 0855; Sample Collected @ 0935 ; Flow rate: 250 mL/min

Casing Screenlength (ft) 22.57; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/5/2015	9:00:00 AM	14.37	13.4	6.51	-127.6	0.611	18	0.59			
8/5/2015	9:05:00 AM	14.37	13.4	6.17	-130.2	0.559	38	0.32			
8/5/2015	9:10:00 AM	14.37	13.4	6.22	-136.9	0.536	93	0.23			
8/5/2015	9:15:00 AM	14.37	13.8	6.32	-147.4	0.537	5	0.21			
8/5/2015	9:20:00 AM	14.37	13.9	6.32	-153.3	0.538	5	0.19			
8/5/2015	9:25:00 AM	14.37	13.8	6.33	-158.7	0.540	5	0.18			
8/5/2015	9:30:00 AM	14.37	13.8	6.31	-156.8	0.536	4	0.17			



Well ID: 3805-014

Date: 8/5/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1345;
Sample Collected @ 1425; Flow rate: 250 mL/min

Casing Screenlength (ft) 24.50; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/5/2015	1:50:00 PM	15.21	13.7	6.70	-34.5	0.188	4	0.92			
8/5/2015	1:55:00 PM	15.21	13.8	6.18	-21.9	0.187	4	0.37			
8/5/2015	2:00:00 PM	15.21	13.7	6.19	-29.8	0.189	4	0.29			
8/5/2015	2:05:00 PM	15.21	14.0	6.26	-43.5	0.191	4	0.23			
8/5/2015	2:10:00 PM	15.21	13.7	6.41	-61.8	0.195	4	0.19			
8/5/2015	2:15:00 PM	15.21	13.7	6.43	-60.2	0.197	3	0.17			
8/5/2015	2:20:00 PM	15.21	13.8	6.46	-64.8	0.198	3	0.17			



Well ID: 1295-MW30

Date: 8/5/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0955;
Sample Collected @ 1035 ; Flow rate: 250 mL/min

Casing Screenlength (ft) 14.25; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/5/2015	10:00:00 AM	9.92	14.7	6.83	-151.8	1.76	5	0.51			
8/5/2015	10:05:00 AM	9.92	14.8	6.82	-170.2	1.74	5	0.21			
8/5/2015	10:10:00 AM	9.92	14.9	6.80	-169.5	1.74	5	0.22			
8/5/2015	10:15:00 AM	9.92	15.2	6.81	-167.8	1.75	5	0.24			
8/5/2015	10:20:00 AM	9.92	15.5	6.85	-157.3	1.78	5	0.36			
8/5/2015	10:25:00 AM	9.92	15.1	6.85	-157.2	1.75	4	0.31			
8/5/2015	10:30:00 AM	9.92	15.4	6.82	-155.6	1.76	4	0.28			



Well ID: 3805-PZ7

Date: 8/6/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0925; Pump stopped @ 0930 because DO was greater then 10, recalibrated and pump restarted at 0945; Sample Collected @ 1025; Flow rate: 250 mL/min

Casing Screenlength (ft) 28.93; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/6/2015	9:50:00 AM	19.77	12.3	6.79	83.8	1.25	1	8.52			
8/6/2015	9:55:00 AM	19.77	12.1	6.82	79.7	1.31	1	8.34			
8/6/2015	10:00:00 AM	19.77	12.3	6.89	70.4	1.36	1	8.19			
8/6/2015	10:05:00 AM	19.77	13.0	6.93	68.4	1.37	1	8.02			
8/6/2015	10:10:00 AM	19.77	13.4	7.04	58.9	1.34	1	7.38			
8/6/2015	10:15:00 AM	19.77	13.7	7.05	55.5	1.32	1	7.45			
8/6/2015	10:20:00 AM	19.77	13.6	7.03	52.2	1.25	1	7.41			



Well ID: 3805-MWS23

Date: 8/6/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0805;
Sample Collected @ 0900; Flow rate: 250 mL/min

Casing Screenlength (ft) 29.40; NA

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/6/2015	8:10:00 AM	16.41	12.4	6.25	109.2	0.70	4	7.23			
8/6/2015	8:15:00 AM	16.41	12.5	6.51	84.2	0.70	3	7.52			
8/6/2015	8:20:00 AM	16.41	12.6	6.63	71.5	0.70	3	7.62			
8/6/2015	8:25:00 AM	16.41	12.6	6.73	61.3	0.70	3	8.28			
8/6/2015	8:30:00 AM	16.41	12.7	6.79	54.1	0.69	3	8.68			
8/6/2015	8:35:00 AM	16.41	12.5	6.82	52.9	0.69	3	8.79			
8/6/2015	8:40:00 AM	16.41	12.7	6.85	45.8	0.69	3	9.07			
8/6/2015	8:45:00 AM	16.41	12.6	6.88	39.9	0.68	3	9.15			
8/6/2015	8:50:00 AM	16.41	12.8	6.89	31.3	0.68	3	9.10			
8/6/2015	8:55:00 AM	16.41	12.9	6.91	30.6	0.69	3	9.16			



Well ID: 3805-PZ2S

Date: 8/6/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1100;
Sample Collected @ 1140; Flow rate: 250 mL/min

Casing Screenlength (ft) 23.80; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/6/2015	11:05:00 AM	18.99	13.6	7.43	-1.1	0.221	12	3.97			
8/6/2015	11:10:00 AM	18.99	14.1	6.21	1.3	0.216	2	2.28			
8/6/2015	11:15:00 AM	18.99	13.2	6.44	-13.8	0.218	2	2.13			
8/6/2015	11:20:00 AM	18.99	14.4	6.56	-27.8	0.220	2	1.99			
8/6/2015	11:25:00 AM	18.99	14.5	6.68	-32.7	0.220	2	1.93			
8/6/2015	11:30:00 AM	18.99	14.3	6.70	-28.9	0.222	2	1.95			
8/6/2015	11:35:00 AM	18.99	14.2	6.73	-25.3	0.221	2	2.02			



Well ID: 3805-MWS24

Date: 8/6/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1250;
Sample Collected @ 1330; DUP-02-080615 collected; Very strong odor;
DO meter calibrated prior to use but DO remained > 10; Flow rate: 250
mL/min

Casing Screenlength (ft) 32.60; NA

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/6/2015	12:55:00 PM	21.13	11.7	6.59	79.3	0.161	2	11.06			
8/6/2015	1:00:00 PM	21.13	11.7	6.62	84.6	0.160	2	10.84			
8/6/2015	1:05:00 PM	21.13	12.2	6.73	74.5	0.160	2	10.67			
8/6/2015	1:10:00 PM	21.13	12.2	6.96	66.7	0.159	2	10.50			
8/6/2015	1:15:00 PM	21.13	12.1	7.03	67.4	0.160	2	10.65			
8/6/2015	1:20:00 PM	21.13	12.1	7.07	70.6	0.160	2	10.57			
8/6/2015	1:25:00 PM	21.13	12.3	7.07	70.5	0.161	2	10.54			



Well ID: 3805-PZ12S

Date: 8/7/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0940 ;
Sample Collected @ 1025; Flow rate: 250 mL/min

Casing Screenlength (ft) 34.18; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/7/2015	9:45:00 AM	25.03	11.9	6.57	-127.3	1.23	2	1.17			
8/7/2015	9:50:00 AM	25.03	11.9	6.59	-134.8	1.22	8	0.45			
8/7/2015	9:55:00 AM	25.03	12.0	6.62	-138.4	1.21	8	0.25			
8/7/2015	10:00:00 AM	25.03	12.1	6.67	-143.0	1.20	8	0.22			
8/7/2015	10:05:00 AM	25.03	12.1	6.68	-142.9	1.18	8	0.21			
8/7/2015	10:10:00 AM	25.03	12.3	6.69	-142.8	1.12	2	0.21			
8/7/2015	10:15:00 AM	25.03	12.6	6.70	-143.3	1.10	2	0.19			
8/7/2015	10:20:00 AM	25.03	12.6	6.76	-146.7	1.07	2	0.22			



Well ID: 2140-MW09

Date: 8/7/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1250;
Sample Collected @ 1420; Flow rate: 250 mL/min; Turbidity high,
dropped and then started to increase.

Casing Screenlength (ft) 32.25; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/7/2015	12:55:00 PM	25.23	14.6	7.44	56.8	4.41	1899	10.78			
8/7/2015	1:00:00 PM	25.23	15.9	7.71	67.9	4.34	1806	9.69			
8/7/2015	1:05:00 PM	25.23	15.7	7.85	71.1	4.36	1752	9.46			
8/7/2015	1:10:00 PM	25.23	13.4	8.08	40.4	4.34	1703	10.14			
8/7/2015	1:15:00 PM	25.23	13.3	8.02	35.1	4.35	1678	9.73			
8/7/2015	1:20:00 PM	25.23	13.4	8.01	35.9	4.33	1664	9.47			
8/7/2015	1:25:00 PM	25.23	13.5	8.02	38.0	4.43	1808	9.33			
8/7/2015	1:30:00 PM	25.23	13.6	8.06	50.7	4.28	1952	8.58			
8/7/2015	1:35:00 PM	25.23	13.6	8.07	62.5	4.25	1786	8.42			
8/7/2015	1:40:00 PM	25.23	13.8	8.10	72.8	4.30	1568	8.39			
8/7/2015	1:45:00 PM	25.23	13.8	8.11	78.7	4.24	1208	9			
8/7/2015	1:50:00 PM	25.23	13.9	8.43	113.9	4.18	1142	8.32			
8/7/2015	1:55:00 PM	25.23	13.9	8.13	111.2	4.15	765	8.41			
8/7/2015	2:00:00 PM	25.23	13.8	8.13	117.4	4.16	654	8.33			
8/7/2015	2:05:00 PM	25.23	13.9	8.15	123.8	4.15	68	8.34			



Well ID: 3805-PZ12I

Date: 8/7/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0840;
Sample Collected @ 0920; MS/MSD collected Flow rate: 250 mL/min

Casing Screenlength (ft) 37.80; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/7/2015	8:45:00 AM	26.06	11.9	7.14	-8.8	0.93	1	0.51			
8/7/2015	8:50:00 AM	26.06	11.7	7.25	-35.3	0.96	1	0.29			
8/7/2015	8:55:00 AM	26.06	11.9	7.37	-48.6	0.99	1	0.21			
8/7/2015	9:00:00 AM	26.06	11.8	7.44	-50.7	1.01	1	0.19			
8/7/2015	9:05:00 AM	26.06	11.9	7.48	-51.3	1.02	1	0.18			
8/7/2015	9:10:00 AM	26.06	12.0	7.52	-45.6	1.04	1	0.16			
8/7/2015	9:15:00 AM	26.06	12.2	7.54	-44.1	1.03	1	0.15			



Well ID: 2140-MW07

Date: 8/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0815;
Sample Collected @ 0855; Flow rate: 250 mL/min; Strong odor

Casing Screenlength (ft) 41.60; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/10/2015	8:20:00 AM	27.53	13.9	7.13	97.8	2.65	18	8.06			
8/10/2015	8:25:00 AM	27.53	13.5	6.67	98.8	2.68	16	6.87			
8/10/2015	8:30:00 AM	27.53	13.6	6.46	100.9	2.70	15	6.54			
8/10/2015	8:35:00 AM	27.53	13.6	6.36	95.7	2.71	15	6.51			
8/10/2015	8:40:00 AM	27.53	13.6	6.32	100.4	2.69	15	6.57			
8/10/2015	8:45:00 AM	27.53	13.6	6.29	103.3	2.71	15	6.57			
8/10/2015	8:50:00 AM	27.53	13.6	6.29	102.7	2.72	15	6.59			



Well ID: 2140-MW12

Date: 8/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1250;
Sample Collected @ 1330; Flow rate: 250 mL/min

Casing Screenlength (ft) 33.78; NA

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/10/2015	12:55:00 PM	21.23	18.3	7.14	61.7	2.67	6	2.21			
8/10/2015	1:00:00 PM	21.23	16.7	6.96	71.7	2.63	6	2.12			
8/10/2015	1:05:00 PM	21.23	18.0	6.97	69.2	2.67	3	2.19			
8/10/2015	1:10:00 PM	21.23	17.1	7.00	68.8	2.72	3	2.27			
8/10/2015	1:15:00 PM	21.23	16.8	6.99	67.9	2.74	3	2.46			
8/10/2015	1:20:00 PM	21.23	17.3	7.02	67.4	2.72	3	2.43			
8/10/2015	1:25:00 PM	21.23	17.5	7.04	66.9	2.71	3	2.43			



Well ID: 2140-MW37

Date: 8/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1100;
Sample Collected @ 1135; Flow rate: 250 mL/min

Casing Screenlength (ft) 34.11; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/10/2015	11:05:00 AM	24.18	14.2	7.32	-46.6	13.34	45	6.05			
8/10/2015	11:10:00 AM	24.18	14.0	6.88	-39.1	13.39	29	6.79			
8/10/2015	11:15:00 AM	24.18	14.2	7.36	-35.9	13.35	23	6.62			
8/10/2015	11:20:00 AM	24.18	14.5	7.35	-22.8	13.30	22	7.78			
8/10/2015	11:25:00 AM	24.18	14.4	7.39	-18.4	13.25	22	7.81			
8/10/2015	11:30:00 AM	24.18	14.2	7.41	-19.7	13.21	21	7.79			



Well ID: 2140-MW05

Date: 8/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 1000;
Sample Collected @ 1045 ; Flow rate: 250 mL/min

Casing Screenlength (ft) 35.93; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	pH	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/10/2015	10:05:00 AM	27.24	15.3	7.61	58.4	1.63	4	9.42			
8/10/2015	10:10:00 AM	27.24	14.9	7.55	53.8	1.64	4	8.78			
8/10/2015	10:15:00 AM	27.24	15.6	7.55	39.1	1.73	4	7.96			
8/10/2015	10:20:00 AM	27.24	17.3	7.63	30.4	1.74	4	7.11			
8/10/2015	10:25:00 AM	27.24	17.1	7.64	36.4	1.75	4	7.08			
8/10/2015	10:30:00 AM	27.24	17.4	7.67	38.9	1.75	4	7.17			
8/10/2015	10:35:00 AM	27.24	17.4	7.65	36.8	1.79	4	7.21			
8/10/2015	10:40:00 AM	27.24	17.4	7.64	37.1	1.77	4	7.23			



Well ID: 2140-MW06

Date: 8/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Well diameter in inches; Pump Start Time: 0905;
Sample Collected @ 0950; Flow rate: 250 mL/min; Readings fluctuating
because system is causing well to bubble

Casing Screenlength (ft) 39.62; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
8/10/2015	9:10:00 AM	28.22	14.0	7.51	0.5	4.36	37	8.71			
8/10/2015	9:15:00 AM	28.23	13.9	7.70	8.9	4.32	36	8.39			
8/10/2015	9:20:00 AM	28.23	13.9	7.79	8.9	4.28	36	8.41			
8/10/2015	9:25:00 AM	28.23	14.0	7.82	7.2	4.25	36	8.01			
8/10/2015	9:30:00 AM	28.23	14.2	7.84	9.0	4.23	15	8.10			
8/10/2015	9:35:00 AM	28.23	14.2	7.85	10.0	4.21	15	7.76			
8/10/2015	9:40:00 AM	28.23	14.4	7.87	8.4	4.22	15	7.68			
8/10/2015	9:45:00 AM	28.23	14.3	7.88	6.5	4.22	15	7.67			



Well ID: 1795-MWS11

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge: Clear, orange in color, no odor; Final purge:

Casing Screenlength (ft) 21.55; 8.5 to 18.5 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	12:30:00 PM	16.57	14.3	6.11	-2.5	0.111	65.1	1.11	NM	NM	
9/8/2015	12:35:00 PM	16.57	14.2	5.74	18.7	0.106	33.6	1.59	NM	NM	
9/8/2015	12:40:00 PM	16.57	14.2	5.70	34.6	0.102	20.1	2.18	NM	NM	
9/8/2015	12:45:00 PM	16.57	14.3	5.68	39.5	0.101	17.1	2.37	NM	NM	
9/8/2015	12:50:00 PM	16.57	14.2	5.69	45.0	0.100	14.1	2.84	NM	NM	
9/8/2015	12:55:00 PM	16.57	14.3	5.66	48.8	0.100	8.7	3.40	NM	NM	
9/8/2015	1:00:00 PM	16.57	14.3	5.72	50.2	0.100	8.5	3.22	NM	NM	
9/8/2015	1:05:00 PM	16.57	14.7	5.76	48.9	0.099	8.1	3.56	NM	NM	
9/8/2015	1:10:00 PM	16.57	14.8	5.82	48.9	0.100	8.0	3.63	NM	NM	
9/8/2015	1:15:00 PM	16.57	14.6	5.84	48.9	0.101	8.0	3.59	NM	NM	



Well ID: 1795-MWI12

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 34.20; 26.5 to 31.5 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	1:45:00 PM	15.90	12.3	7.17	21.2	1.56	5.37	5.77	NM	NM	
9/8/2015	1:50:00 PM	15.90	12.5	6.99	-84.8	1.99	5.21	2.53	NM	NM	
9/8/2015	1:55:00 PM	15.90	12.0	7.06	-97.8	2.24	2.63	0.97	NM	NM	
9/8/2015	2:00:00 PM	15.90	12.1	7.10	-80.4	2.31	2.58	0.81	NM	NM	
9/8/2015	2:05:00 PM	15.90	12.0	7.15	-80.5	2.36	2.52	0.60	NM	NM	
9/8/2015	2:10:00 PM	15.90	12.0	7.17	-79.5	2.37	2.50	0.58	NM	NM	
9/8/2015	2:15:00 PM	15.90	12.1	7.19	-73.2	2.37	2.48	0.53	NM	NM	



Well ID: 1795-MWD13

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 48.78; 40 to 45 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	2:30:00 PM	15.93	12.2	7.57	-59.8	1.21	10.1	0.41	NM	NM	
9/8/2015	2:35:00 PM	15.93	12.1	7.56	-47.0	1.12	2.0	0.45	NM	NM	
9/8/2015	2:40:00 PM	15.93	12.1	7.56	-31.3	1.10	1.0	0.48	NM	NM	
9/8/2015	2:45:00 PM	15.93	12.0	7.57	-27.3	1.09	1.0	0.46	NM	NM	
9/8/2015	2:50:00 PM	15.93	12.0	7.59	-22.9	1.11	1.0	0.39	NM	NM	
9/8/2015	2:55:00 PM	15.93	11.9	7.60	-31.7	1.10		0.38	NM	NM	



Well ID: 3805-016

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial: clear, black particulate, strong odorfinal: clear,colorless strong odor

Casing Screenlength (ft) 22.05

Casing Diameter (in): 2

Flow (mL/min) 160

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	2:05:00 PM	18.04	16.8	6.74	-119.4	1.13	3.36	1.12			0.3
9/8/2015	2:10:00 PM	18.02	16.2	6.14	-94.9	0.299	3.03	0.86			0.5
9/8/2015	2:15:00 PM	18.03	15.6	6.18	-99.1	0.307	2.20	0.85			.75
9/8/2015	2:20:00 PM	18.05	15.2	6.23	-104.4	0.310	2.82	0.82			1.0
9/8/2015	2:25:00 PM	18.05	15.3	6.28	-105.1	0.312	2.23	0.80			1.4



Well ID: 1995-MW43

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial water: clear , colorless, odorless; final: clear, colorless, odorless
du01-20150908

Casing Screenlength (ft) 36.61

Casing Diameter (in): 4

Flow (mL/min) 135

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	10:30:00 AM	26.02	14.9	7.11	138.7	3.72	1.01	8.91			.3
9/8/2015	10:35:00 AM	26.01	14.0	6.95	152.2	3.81	0.80	9.20			.7
9/8/2015	10:40:00 AM	26.01	13.9	6.94	157.1	3.62	0.50	9.48			1.1
9/8/2015	10:46:00 AM	26.00	14.2	6.94	161.1	3.56	0.44	9.68			
9/8/2015	10:51:00 AM	26.00	14	6.94	162.2	3.56	0.44	9.95			1.6
9/8/2015	10:57:00 AM	26.0	14.2	6.95	164.5	3.56	0.85	9.75			2.3



Well ID: 3805-014

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial: clear, colorless with black particulate, strong odor

Casing Screenlength (ft) 24.51

Casing Diameter (in): 2

Flow (mL/min) 150

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	3:05:00 PM	16.23	17.0	6.62	-112.0	0.183	14.5	1.53			0.3
9/8/2015	3:10:00 PM	16.22	16.5	6.06	-98.6	0.182	7.90	0.68			0.5
9/8/2015	3:15:00 PM	16.22	16.3	6.09	-102.5	0.182	4.81	0.69			0.8
9/8/2015	3:20:00 PM	16.22	16.4	6.15	-106.9	0.182	3.75	0.67			1.1
9/8/2015	3:25:00 PM	16.22	16.1	6.23	-111.0	0.183	3.07	0.66			1.3
9/8/2015	3:30:00 PM	16.22	16.0	6.24	-111.6	0.182	3.03	0.65			1.5



Well ID: 1795-PZ4

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; initial and final purge clear with no odor; Well is in close proximity to running system; MS/MSD collected

Casing Screenlength (ft) 21.40

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	10:15:00 AM	13.67	14.5	4.78	185.1	0.247	29	0.57	NM	NM	
9/8/2015	10:20:00 AM	13.67	14.8	4.77	186.6	0.245	11	0.70	NM	NM	
9/8/2015	10:25:00 AM	13.67	14.6	4.80	188.7	0.239	10	0.86	NM	NM	
9/8/2015	10:30:00 AM	13.67	14.8	4.87	183.2	0.258	11	0.79	NM	NM	
9/8/2015	10:35:00 AM	13.67	14.9	5.03	174.2	0.272	11	1.09	NM	NM	
9/8/2015	10:40:00 AM	13.67	15.0	5.08	172.0	0.277	11	1.32	NM	NM	
9/8/2015	10:45:00 AM	13.67	15.1	5.12	169.4	0.290	11	1.07	NM	NM	
9/8/2015	10:50:00 AM	13.67	15.0	5.22	162.5	0.311	11	1.27	NM	NM	
9/8/2015	10:55:00 AM	13.67	15.1	5.29	158.8	0.313	11	1.30	NM	NM	
9/8/2015	11:00:00 AM	13.67	15.2	5.30	159.7	0.314	11	1.20	NM	NM	



Well ID: 1995-PZ6

Date: 9/8/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial: clear water with black particulate, strong odorfinal: clear, colorless, strong odor

Casing Screenlength (ft) 32.18

Casing Diameter (in): 2

Flow (mL/min) 55

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/8/2015	12:50:00 AM	24.60	16.1	6.23	-98.2	0.70	6.23	0.79			.3
9/8/2015	12:54:00 AM	24.62	14.3	6.24	-101.4	0.63	15.0	0.96			.5
9/8/2015	1:00:00 PM	24.61	13.8	6.25	-90.5	0.548	17.7	1.15			0.75
9/8/2015	1:05:00 PM	24.61	13.5	6.21	63.2	0.459	9.93	1.94			1
9/8/2015	1:10:00 PM	24.61	13.8	6.22	-48.8	0.432	10.19	2.29			1.3
9/8/2015	1:15:00 PM	24.61	14.1	6.22	-42.0	0.422	12.2	2.57			1.6
9/8/2015	1:20:00 PM	24.62	13.3	6.25	-43.6	0.423	8.19	2.91			2.0
9/8/2015	1:25:00 PM	24.61	13.2	6.27	-42.5	0.420	4.23	2.85			2.3
9/8/2015	1:30:00 PM	24.61	13.4	6.28	-42.7	0.427	5.62	2.84			2.5



Well ID: 1995-MWS10

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: orange tint, trace odor, sheen observed. collected dup02_090915

Casing Screenlength (ft) 39.01

Casing Diameter (in): 4

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	9:55:00 AM	24.40	14.5	6.71	-169.9	1.18	48.9	1.13			
9/9/2015	10:00:00 AM	24.44	13.8	6.55	-152.2	0.91	46.1	0.59			0.5
9/9/2015	10:05:00 AM	24.44	13.8	6.39	-138.4	0.91	44.8	0.46			0.75
9/9/2015	10:10:00 AM	24.44	13.8	6.48	-138.3	0.92	42.6	0.42			1.0
9/9/2015	10:15:00 AM	24.44	14.0	6.47	-144.0	0.95	42.4	0.40			1.5
9/9/2015	10:20:00 AM	24.44	14.2	6.51	-146.9	0.97	40.5	0.38			1.75
9/9/2015	10:25:00 AM	24.44	14.1	6.55	-147.7	0.98	39.8	0.38			2.0



Well ID: 1795-PZ15

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not Available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 22.35; NA

Casing Diameter (in): 4

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	11:00:00 AM	19.92	18.0	5.77	-70.3	0.431	10.98	1.09	NM	NM	
9/9/2015	11:05:00 AM	19.93	17.4	5.73	-65.7	0.396	10.61	0.80	NM	NM	
9/9/2015	11:10:00 AM	19.93	17.4	5.73	-60.3	0.369	9.10	0.60	NM	NM	
9/9/2015	11:15:00 AM	19.93	17.2	5.82	-63.1	0.352	9.02	0.52	NM	NM	
9/9/2015	11:20:00 AM	19.93	17.9	5.96	-68.6	0.347	9.00	0.46	NM	NM	
9/9/2015	11:25:00 AM	19.93	17.6	6.01	-71.4	0.345	9.01	0.43	NM	NM	
9/9/2015	11:30:00 AM	19.93	17.7	6.01	-75.6	0.348	9.01	0.42	NM	NM	



Well ID: WWII-002

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 24.54; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	1:50:00 PM	19.33	14.7	6.79	67.0	2.39	1.01	8.59	NM	NM	
9/9/2015	1:55:00 PM	19.33	14.6	6.68	76.4	2.44	1.00	8.39	NM	NM	
9/9/2015	2:00:00 PM	19.33	14.3	6.64	79.9	2.44	1.00	8.35	NM	NM	
9/9/2015	2:05:00 PM	19.33	14.4	6.63	78.4	2.44	1.00	8.34	NM	NM	
9/9/2015	2:10:00 PM	19.33	14.3	6.67	77.1	2.44	1.00	8.33	NM	NM	
9/9/2015	2:15:00 PM	19.33	14.4	6.64	76.8	2.43	1.00	8.34	NM	NM	



Well ID: 1795-MWS3

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, odorless; MS/MSD collected

Casing Screenlength (ft) 21.40; 8.5 to 18.5 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	9:25:00 AM	15.90	12.2	5.47	-40.7	0.218	5.21	2.10	NM	NM	
9/9/2015	9:30:00 AM	15.90	12.1	5.62	-57.1	0.225	5.11	1.16	NM	NM	
9/9/2015	9:35:00 AM	15.90	12.0	5.73	-65.2	0.226	0.90	0.92	NM	NM	
9/9/2015	9:40:00 AM	15.90	12.2	5.83	-75.6	0.227	0.90	0.84	NM	NM	
9/9/2015	9:45:00 AM	15.90	12.1	5.89	-82.5	0.227	0.90	0.80	NM	NM	
9/9/2015	9:50:00 AM	15.90	12.3	5.96	-76.3	0.227	0.90	0.83	NM	NM	
9/9/2015	9:55:00 AM	15.90	12.5	5.97	-78.6	0.228	0.90	0.73	NM	NM	



Well ID: 1795-MWS7

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 17.15; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	12:05:00 PM	13.76	18.6	6.64	-126.1	2.13	7.39	0.51	NM	NM	
9/9/2015	12:10:00 PM	13.76	18.8	6.48	-139.9	2.21	7.11	0.37	NM	NM	
9/9/2015	12:15:00 PM	13.76	18.7	6.53	-155.8	2.20	7.01	0.49	NM	NM	
9/9/2015	12:20:00 PM	13.76	18.7	6.59	-164.8	2.67	6.54	0.60	NM	NM	
9/9/2015	12:25:00 PM	13.76	18.9	6.69	-172.0	2.83	6.50	0.60	NM	NM	
9/9/2015	12:30:00 PM	13.76	18.9	6.72	-176.1	2.86	6.50	0.59	NM	NM	
9/9/2015	12:35:00 PM	13.76	18.9	6.74	-177.1	2.87	6.50	0.58	NM	NM	



Well ID: 1995-MWS9

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: odor present

Casing Screenlength (ft) 37.56

Casing Diameter (in): 4

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	9:00:00 AM	24.16	13.7	6.52	-73.4	6.33	8.39	0.77			0.5
9/9/2015	9:05:00 AM	24.27	13.4	6.66	-154.3	6.28	7.13	0.51			0.75
9/9/2015	9:10:00 AM	24.29	13.5	6.69	-153.1	6.25	7.85	0.46			1.0
9/9/2015	9:15:00 AM	24.30	13.5	6.70	-157.9	6.20	7.87	0.42			1.25
9/9/2015	9:20:00 AM	24.30	13.5	6.72	-165.4	6.13	7.59	0.40			1.5
9/9/2015	9:25:00 AM	24.30	13.6	6.71	-167.3	6.08	8.91	0.38			2.0
9/9/2015	9:30:00 AM	24.30	13.6	6.71	-171.8	5.98	8.78	0.37			2.25



Well ID: 3805-002

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: strong odor

Casing Screenlength (ft) 25.79

Casing Diameter (in): 2

Flow (mL/min) 220

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	2:10:00 PM	19.02	15.5	6.87	-189.4	1.04	3.22	0.92			0.5
9/9/2015	2:15:00 PM	19.02	15.1	6.61	-158.6	1.01	3.33	0.66			0.75
9/9/2015	2:20:00 PM	19.02	16.1	6.63	-188.2	1.00	3.37	0.63			1.0
9/9/2015	2:25:00 PM	19.02	16.2	6.67	-177.6	1.01	3.48	0.77			1.25
9/9/2015	2:30:00 PM	19.02	16.3	6.76	-164.9	0.99	4.55	0.93			1.25
9/9/2015	2:35:00 PM	19.02	16.2	6.77	-157.1	0.97	5.02	0.99			1.5
9/9/2015	2:40:00 PM	19.02	16.2	6.75	-144.1	0.97	5.35	0.94			1.75
9/9/2015	2:45:00 PM	19.02	16.4	6.75	-148.1	0.96	6.43	0.98			2.0
9/9/2015	2:50:00 PM	19.02	15.9	6.76	-146.4	0.97	7.27	0.94			2.25



Well ID: 3805-MWS24

Date: 9/9/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: very strong odor

Casing Screenlength (ft) 32.71

Casing Diameter (in): 4

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2015	11:30:00 AM	21.98	14.2	6.73	-88.7	1.04	2.93	2.38			0.5
9/9/2015	11:35:00 AM	22.00	14.2	6.70	-74.3	0.90	4.62	2.31			0.75
9/9/2015	11:40:00 AM	21.96	14.4	6.71	-70.1	0.82	3.44	2.35			1.0
9/9/2015	11:45:00 AM	21.97	14.5	6.76	-65.2	0.75	4.82	2.49			1.25
9/9/2015	11:50:00 AM	21.97	14.3	6.83	-60.8	0.72	5.53	2.76			1.5
9/9/2015	11:55:00 AM	21.97	14.5	6.88	-55.1	0.71	3.99	2.85			1.75
9/9/2015	12:00:00 PM	21.97	14.6	6.91	-51.2	0.71	2.92	2.95			2.0



Well ID: 1795-MWS1

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 24.82; 12 to 22 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 160

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	10:45:00 AM	21.65	10.7	5.22	166.0	0.029	1.29	4.18	NM	NM	
9/10/2015	10:50:00 AM	21.65	10.6	4.93	194.3	0.028	1.20	4.57	NM	NM	
9/10/2015	10:55:00 AM	21.65	10.6	4.73	229.3	0.028	1.00	4.82	NM	NM	
9/10/2015	11:00:00 AM	21.65	10.5	4.78	232.3	0.028	1.00	4.79	NM	NM	
9/10/2015	11:05:00 AM	21.65	10.5	4.79	233.0	0.028	1.00	4.86	NM	NM	
9/10/2015	11:10:00 AM	21.65	10.6	4.81	235.4	0.028	1.00	4.83	NM	NM	



Well ID: 3805-MWS2

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial:brown tint, cloudy, odorlessfinal: clear, colorless, odorless

Casing Screenlength (ft) 19.48

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	12:41:00 AM	13.39	14.8	7.04	90.4	1.06	93.4	8.04			0.3
9/10/2015	12:45:00 AM	13.39	14.7	6.75	110.4	1.05	24.5	7.61			0.5
9/10/2015	12:50:00 AM	13.39	14.5	6.64	115.5	1.04	12.9	7.82			0.7
9/10/2015	12:55:00 AM	13.39	14.6	6.65	114.4	1.04	6.89	7.58			1.0
9/10/2015	1:00:00 PM	13.39	14.5	6.71	112.8	1.04	4.46	7.74			1.3
9/10/2015	1:05:00 PM	13.39	14.4	6.74	111.1	1.04	4.07	7.78			1.6
9/10/2015	1:10:00 PM	13.39	14.5	6.76	110.5	1.03	3.56	7.94			2.1



Well ID: 1795-PZ14

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 21.05; NA

Casing Diameter (in): 2

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	1:55:00 PM	12.87	15.1	6.90	-113.1	4.88	2.00	1.51	NM	NM	
9/10/2015	2:00:00 PM	12.87	14.8	6.74	-122.1	4.64	2.00	0.63	NM	NM	
9/10/2015	2:05:00 PM	12.87	14.9	6.73	-124.1	4.34	2.00	0.56	NM	NM	
9/10/2015	2:10:00 PM	12.87	15.0	6.73	-123.9	4.32	2.00	0.57	NM	NM	
9/10/2015	2:15:00 PM	12.87	15.0	6.72	-127.1	3.67	2.00	0.55	NM	NM	
9/10/2015	2:20:00 PM	12.87	15.0	6.72	-127.1	3.64	2.00	0.54	NM	NM	
9/10/2015	2:25:00 PM	12.87	15.0	6.73	-126.9	3.63	2.00	0.55	NM	NM	



Well ID: OSL-MW3

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial: clear with some black particulate, colorless, odorless

Casing Screenlength (ft) 34.16

Casing Diameter (in): 2

Flow (mL/min) 220

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	9:15:00 AM	23.67	12.1	6.95	-84.9	1.79	19.2	0.60			0.2
9/10/2015	9:20:00 AM	23.72	11.9	6.85	-107.3	1.48	14.5	0.49			0.6
9/10/2015	9:25:00 AM	23.70	11.7	6.85	-113.9	1.32	11.78	0.50			0.6
9/10/2015	9:30:00 AM	23.70	11.8	6.89	-120.2	1.22	11.36	0.51			1.1
9/10/2015	9:35:00 AM	23.70	12.8	6.85	-125.9	1.33	11.62	0.52			1.25
9/10/2015	9:43:00 AM	23.70	14.0	7.02	-127.0	1.21	11.85	0.65			1.4
9/10/2015	9:45:00 AM	23.70	14.1	7.01	-125.5	1.20	11.79	0.77			1.5
9/10/2015	9:50:00 AM	23.70	14.4	7.04	-113.3	1.18	11.4	0.78			1.5
9/10/2015	9:55:00 AM	23.70	13.5	7.03	-93.1	1.16	10.33	0.84			1.6
9/10/2015	10:00:00 AM	23.70	12.2	7.00	-102.8	1.12	9.82	0.80			1.75
9/10/2015	10:05:00 AM	23.70	12.2	6.94	-112.9	1.10	9.14	0.74			1.9
9/10/2015	10:10:00 AM	23.70	12.6	6.88	-119.4	1.09	7.73	0.69			2.1
9/10/2015	10:15:00 AM	23.70	13.4	6.92	-121.3	1.08	7.91	0.62			2.5
9/10/2015	10:20:00 AM	23.70	14.2	6.94	-124.4	1.05	6.90	0.63			2.5



Well ID: 1795-MWS21

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless;
MS/MSD collected

Casing Screenlength (ft) 26.55; NA

Casing Diameter (in): 4

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	8:05:00 AM	16.98	11.8	6.36	-83.0	0.70	17.6	2.27	NM	NM	
9/10/2015	8:10:00 AM	16.98	11.4	6.35	-102.9	0.70	17.4	1.49	NM	NM	
9/10/2015	8:15:00 AM	16.98	11.4	6.38	-105.8	0.69	17.3	1.35	NM	NM	
9/10/2015	8:20:00 AM	16.98	11.4	6.43	-110.6	0.68	17.2	1.24	NM	NM	
9/10/2015	8:25:00 AM	16.98	11.3	6.48	-114.4	0.68	17.2	1.19	NM	NM	
9/10/2015	8:30:00 AM	16.98	11.5	6.53	-118.2	0.67	17.1	1.13	NM	NM	
9/10/2015	8:35:00 AM	16.98	11.5	6.55	-117.9	0.67	17.1	1.09	NM	NM	



Well ID: 3805-PZ7

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial: clear, colorless, odorlessfinal: clear, colorless, odorlessdup03-091015

Casing Screenlength (ft) 28.83

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	8:05:00 AM	20.47	12.2	6.56	134.0	0.82	2.74	9.98			0.5
9/10/2015	8:10:00 AM	20.47	12.2	6.72	135.1	0.88	2.12	9.61			0.7
9/10/2015	8:15:00 AM	20.47	12.2	6.90	140.5	1.24	1.86	9.21			1.3
9/10/2015	8:20:00 AM	20.47	12.1	6.90	142.4	1.31	1.47	8.13			1.5
9/10/2015	8:25:00 AM	20.47	12.0	6.89	140.9	1.37	1.51	8.23			1.7
9/10/2015	8:30:00 AM	20.47	12.1	6.94	138.5	1.41	1.83	8.21			2.0
9/10/2015	8:35:00 AM	20.47	12.1	6.95	135.6	1.44	1.64	8.11			2.3



Well ID: 3805-MWS23

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial: colorless, slightly milky, strong odorfinal: clear, colorless, odorless

Casing Screenlength (ft) 29.29

Casing Diameter (in): 4

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	1:40:00 PM	17.54	13.6	6.76	-117.6	0.81	7.69	0.91			0.4
9/10/2015	1:45:00 PM	17.60	13.8	6.52	-108.1	0.81	9.45	0.71			0.7
9/10/2015	1:50:00 PM	17.64	13.7	6.46	-104.2	0.82	10.04	0.64			1.1
9/10/2015	1:55:00 PM	17.61	14.4	6.48	-103.1	0.82	11.7	0.62			1.3
9/10/2015	2:00:00 PM	17.60	14.3	6.50	-90.0	0.84	12.9	0.81			1.6
9/10/2015	2:05:00 PM	17.60	14.7	6.51	-77.0	0.86	14.4	1.16			1.8
9/10/2015	2:10:00 PM	17.60	14.6	6.52	-63.0	0.87	14.2	0.87			2.0
9/10/2015	2:15:00 PM	17.60	14.4	6.49	-46.0	0.88	16.6	2.66			2.3
9/10/2015	2:20:00 PM	17.60	14.7	6.48	-35.2	0.90	15.3	3.55			2.6
9/10/2015	2:25:00 PM	17.60	14.7	6.47	-31.9	0.91	15.1	3.97			2.75
9/10/2015	2:30:00 PM	17.60	14.6	6.46	-27.5	0.92	12.9	4.43			3.0
9/10/2015	2:35:00 PM	17.60	14.7	6.44	-24.1	0.94	12.2	4.86			3.3
9/10/2015	2:40:00 PM	17.6	14.6	6.43	-24.0	0.95	11.9	5.06			3.5
9/10/2015	2:45:00 PM	17.60	14.7	6.45	-32.3	0.94	11.1	4.93			3.8



Well ID: 1795-MWS2

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 21.68; 9 to 19 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	12:15:00 PM	14.93	12.3	5.53	32.5	0.247	2.74	1.27	NM	NM	
9/10/2015	12:20:00 PM	14.93	12.4	5.53	42.9	0.227	2.68	1.30	NM	NM	
9/10/2015	12:25:00 PM	14.93	12.4	5.58	43.6	0.220	2.65	1.12	NM	NM	
9/10/2015	12:30:00 PM	14.93	12.3	5.68	45.1	0.206	2.63	0.97	NM	NM	
9/10/2015	12:35:00 PM	14.93	12.5	5.67	50.1	0.199	2.62	0.90	NM	NM	
9/10/2015	12:40:00 PM	14.93	12.3	5.68	52.8	0.199	2.60	0.91	NM	NM	
9/10/2015	12:45:00 PM	14.93	12.3	5.67	53.9	0.198	2.60	0.94	NM	NM	



Well ID: 1795-PZ5

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 22.50; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	1:10:00 PM	15.53	15.0	6.37	-67.0	0.396	4.81	1.84	NM	NM	
9/10/2015	1:15:00 PM	15.53	14.9	6.00	-66.7	0.471	4.67	0.86	NM	NM	
9/10/2015	1:20:00 PM	15.53	14.9	6.02	-67.6	0.515	6.44	0.74	NM	NM	
9/10/2015	1:25:00 PM	15.53	14.7	6.15	-89.0	0.525	4.50	0.71	NM	NM	
9/10/2015	1:30:00 PM	15.53	14.8	6.24	-87.1	0.548	4.48	0.65	NM	NM	
9/10/2015	1:35:00 PM	15.53	14.9	6.30	-91.9	0.552	4.45	0.61	NM	NM	
9/10/2015	1:40:00 PM	15.53	14.8	6.33	-94.8	0.553	4.45	0.61	NM	NM	



Well ID: WWII-006

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 45.97; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	9:30:00 AM	25.15	10.4	7.01	81.3	0.112	7.16	6.56	NM	NM	
9/10/2015	9:35:00 AM	25.15	9.9	6.17	143.9	0.108	7.11	5.64	NM	NM	
9/10/2015	9:40:00 AM	25.15	9.8	5.94	163.3	0.108	3.71	5.55	NM	NM	
9/10/2015	9:45:00 AM	25.15	9.7	5.90	160.7	0.108	3.63	5.45	NM	NM	
9/10/2015	9:50:00 AM	25.15	9.7	5.90	89.4	0.110	3.59	4.93	NM	NM	
9/10/2015	9:55:00 AM	25.15	9.7	5.92	87.1	0.109	3.55	4.88	NM	NM	
9/10/2015	10:00:00 AM	25.15	9.7	5.93	87.6	0.109	3.50	4.91	NM	NM	



Well ID: 3805-MWS3

Date: 9/10/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial:clear, colorless, odorlessfinal: clear, colorless, odorless

Casing Screenlength (ft) 22.55

Casing Diameter (in): 2

Flow (mL/min) 230

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/10/2015	10:45:00 AM	19.39	12.0	7.27	39.6	1.65	8.31	8.43			0.4
9/10/2015	10:50:00 AM	19.39	12.0	7.16	58.1	1.52	3.24	8.29			0.8
9/10/2015	10:55:00 AM	19.39	11.9	7.14	65.6	1.47	3.5	8.25			1.1
9/10/2015	11:00:00 AM	19.39	12.0	7.13	68.6	1.38	3.74	8.32			1.6
9/10/2015	11:05:00 AM	19.39	12.0	7.15	71.1	1.35	1.68	8.33			1.8
9/10/2015	11:10:00 AM	19.39	12.0	7.15	72.6	1.30	1.96	8.26			2.25



Well ID: 1795-MWS10

Date: 9/11/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 16.90; 8 to 18 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 150

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/11/2015	8:00:00 AM	15.45	15.1	5.84	171.8	0.328	1.88	8.17	NM	NM	
9/11/2015	8:05:00 AM	15.45	14.9	5.98	175.0	0.330	1.80	8.06	NM	NM	
9/11/2015	8:10:00 AM	15.45	14.8	5.93	180.8	0.333	1.76	7.97	NM	NM	
9/11/2015	8:15:00 AM	15.45	14.8	5.90	182.4	0.335	1.71	7.45	NM	NM	
9/11/2015	8:20:00 AM	15.45	14.8	5.93	180.7	0.334	1.75	7.23	NM	NM	
9/11/2015	8:25:00 AM	15.45	14.9	6.01	171.1	0.331	1.70	6.71	NM	NM	
9/11/2015	8:30:00 AM	15.45	14.9	6.02	169.1	0.332	1.70	6.79	NM	NM	
9/11/2015	8:35:00 AM	15.45	14.9	6.04	164.7	0.331	1.71	6.79	NM	NM	



Well ID: 3805-MWS11

Date: 9/11/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: odor present

Casing Screenlength (ft) 35.45

Casing Diameter (in): 2

Flow (mL/min) 180

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/11/2015	10:10:00 AM	29.81	12.2	6.80	-142.2	0.566	3.25	1.21			0.25
9/11/2015	10:15:00 AM	29.80	12.2	6.48	-131.8	0.557	2.99	0.85			0.5
9/11/2015	10:20:00 AM	29.80	14.1	6.48	-130.0	0.555	3.66	0.76			0.75
9/11/2015	10:25:00 AM	29.80	14.2	6.46	-136.8	0.558	3.52	0.73			1.0



Well ID: 3805-PZ2S

Date: 9/11/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: iron precipitate and black suspended solids present

Casing Screenlength (ft) 23.80

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/11/2015	8:40:00 AM	19.89	12.3	6.59	-61.2	0.179	20.82	2.05			0.25
9/11/2015	8:45:00 AM	19.92	12.4	6.07	-6.8	0.181	4.58	1.92			0.5
9/11/2015	8:50:00 AM	19.92	12.4	6.12	6.2	0.184	2.20	1.63			0.75
9/11/2015	8:55:00 AM	19.92	12.4	6.18	12.8	0.184	1.95	1.21			1.0
9/11/2015	9:00:00 AM	19.92	12.5	6.25	-30.4	0.183	1.80	0.99			1.25
9/11/2015	9:05:00 AM	19.92	12.5	6.29	-38.4	0.181	1.79	0.88			1.5
9/11/2015	9:10:00 AM	19.92	12.7	6.37	-47.4	0.182	3.33	0.78			1.75
9/11/2015	9:15:00 AM	19.92	12.7	6.41	-53.6	0.181	1.79	0.76			2.0
9/11/2015	9:20:00 AM	19.92	12.7	6.43	-58.8	0.179	2.00	0.75			2.25
9/11/2015	9:25:00 AM	19.92	12.7	6.46	-62.4	0.178	1.87	0.73			2.5



Well ID: 1295-MW26

Date: 9/11/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 13.11; NA

Casing Diameter (in): 4

Flow (mL/min)

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/11/2015	9:10:00 AM	11.67	15.9	6.62	152.6	0.69	3.09	5.70	NM	NM	
9/11/2015	9:15:00 AM	11.67	15.7	6.60	139.9	0.70	3.00	5.56	NM	NM	
9/11/2015	9:20:00 AM	11.67	15.7	6.65	133.6	0.70	3.00	5.62	NM	NM	
9/11/2015	9:25:00 AM	11.67	15.8	6.71	127.2	0.71	2.06	5.68	NM	NM	
9/11/2015	9:30:00 AM	11.67	15.8	6.78	121.5	0.71	2.01	5.63	NM	NM	
9/11/2015	9:35:00 AM	11.67	15.8	6.78	118.9	0.72	2.00	5.69	NM	NM	
9/11/2015	9:40:00 AM	11.67	15.8	6.82	117.5	0.72	2.00	5.63	NM	NM	



Well ID: 1295-MWS27

Date: 9/11/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 19.35; NA

Casing Diameter (in): 4

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/11/2015	10:15:00 AM	8.63	17.0	7.28	121.2	1.96	15.7	2.15	NM	NM	
9/11/2015	10:20:00 AM	8.63	16.6	7.08	119.5	1.98	8.31	1.88	NM	NM	
9/11/2015	10:25:00 AM	8.63	16.6	7.11	114.2	2.00	8.29	1.76	NM	NM	
9/11/2015	10:30:00 AM	8.63	16.5	7.16	105.4	2.02	7.45	1.70	NM	NM	
9/11/2015	10:35:00 AM	8.63	16.4	7.16	102.0	2.03	6.13	1.69	NM	NM	
9/11/2015	10:40:00 AM	8.63	16.4	7.17	98.7	2.03	6.04	1.66	NM	NM	
9/11/2015	10:45:00 AM	8.63	16.4	7.19	91.1	2.06	6.02	1.61	NM	NM	
9/11/2015	10:50:00 AM	8.63	16.3	7.19	89.1	2.10	6.00	1.58	NM	NM	
9/11/2015	10:55:00 AM	8.63	16.4	7.18	87.8	2.10	6.00	1.57	NM	NM	



Well ID: 3805-PZ12D

Date: 9/14/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Let Pump cycle for 10 minutes prior to first reading; Initial and final purge cloudy, light brown, odorless; Turbidity was not dropping

Casing Screenlength (ft) 89.39; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2015	2:35:00 PM	27.55	13.5	8.68	-45.7	0.191	1863	1.86	NM	NM	
9/14/2015	2:40:00 PM	27.55	13.5	8.32	-50.0	0.181	1675	1.14	NM	NM	
9/14/2015	2:45:00 PM	27.55	13.7	7.92	-40.9	0.179	1320	0.90	NM	NM	
9/14/2015	2:50:00 PM	27.55	13.6	8.01	-51.7	0.183	945	1.19	NM	NM	
9/14/2015	2:55:00 PM	27.55	12.2	8.19	-57.6	0.179	905	0.91	NM	NM	
9/14/2015	3:00:00 PM	27.55	12.2	8.01	-54.1	0.104	845	0.87	NM	NM	
9/14/2015	3:05:00 PM	27.55	12.2	7.97	-58.7	0.177	848	0.81	NM	NM	
9/14/2015	3:10:00 PM	27.55	11.8	8.07	-90.6	0.176	835	0.76	NM	NM	
9/14/2015	3:15:00 PM	27.55	11.7	8.10	-94.0	0.176	703	0.74	NM	NM	
9/14/2015	3:20:00 PM	27.55	11.8	8.12	-99.6	0.176	653	0.75	NM	NM	
9/14/2015	3:25:00 PM	27.55	11.8	8.19	-113.6	0.175	628	0.74	NM	NM	
9/14/2015	3:30:00 PM	27.55	11.8	8.19	-117.0	0.174	78.0	0.75	NM	NM	
9/14/2015	3:35:00 PM	27.55	11.8	8.17	-117.8	0.175	65.0	0.75	NM	NM	
9/14/2015	3:40:00 PM	27.55	11.7	8.14	-119.0	0.175	64.0	0.75	NM	NM	
9/14/2015	3:45:00 PM	27.55	11.7	8.14	-118.7	0.175	61.0	0.74	NM	NM	



Well ID: 3805-MWI9

Date: 9/14/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: 2" bladder Pump won't fit down well due to an obstruction; tubing found in well; initial and final purge clear, colorless, slight odor

Casing Screenlength (ft) 52.30; 45 to 50 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 135

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2015	12:20:00 PM	27.34	12.6	7.07	-135.6	1.29	31.8	1.62	NM	NM	
9/14/2015	12:25:00 PM	27.41	12.5	6.93	-130.6	1.33	14.9	1.16	NM	NM	
9/14/2015	12:30:00 PM	27.41	12.6	6.90	-129.4	1.34	10.58	0.98	NM	NM	
9/14/2015	12:35:00 PM	27.39	12.5	6.92	-130.2	1.35	7.95	0.95	NM	NM	
9/14/2015	12:40:00 PM	27.39	12.5	6.93	-130.8	1.36	7.68	0.89	NM	NM	
9/14/2015	12:45:00 PM	27.39	12.4	6.95	-131.9	1.36	6.98	0.87	NM	NM	



Well ID: 3805-MWD10

Date: 9/14/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: 2" bladder Pump won't fit down well due to obstruction; attempted to bail and tubing was removed from well that had fallen down; sampled using 2 inch bladder pump; Flow rate lowered due to water level dropping and turbidity to 65 mL/min; DUP04-091415 coll

Casing Screenlength (ft) 70.07; 65 to 70 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 65

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2015	11:00:00 AM	28.60	14.6	7.69	-79.2	0.70	60.5	7.35	NM	NM	
9/14/2015	11:05:00 AM	28.98	14.3	7.81	-107.9	0.68	18.0	4.30	NM	NM	
9/14/2015	11:10:00 AM	29.11	14.3	7.87	-101.6	0.68	46.0	1.34	NM	NM	
9/14/2015	11:15:00 AM	29.32	13.1	7.84	-101.9	0.69	85.8	0.97	NM	NM	
9/14/2015	11:20:00 AM	29.61	12.9	7.80	-98.4	0.69	87.4	0.85	NM	NM	
9/14/2015	11:25:00 AM	29.55	13.0	7.83	-95.1	0.70	77.4	0.80	NM	NM	
9/14/2015	11:30:00 AM	29.86	12.6	7.91	-103.7	0.71	69.0	0.80	NM	NM	
9/14/2015	11:35:00 AM	29.83	12.7	7.88	-102.5	0.71	66.1	0.78	NM	NM	
9/14/2015	11:40:00 AM	30.04	12.6	7.88	-102.1	0.71	63.4	0.77	NM	NM	



Well ID: 3805-MWS8

Date: 9/14/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: MS/MSD collected; Initial and final purge clear, colorless, odorless with small black particulates visible

Casing Screenlength (ft) 31.81; 18.5 to 28.5 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2015	9:30:00 AM	27.79	11.5	6.97	-119.4	3.43	5.86	1.47	NM	NM	
9/14/2015	9:35:00 AM	27.73	11.4	6.91	-129.0	3.50	4.41	1.59	NM	NM	
9/14/2015	9:40:00 AM	27.73	11.4	6.94	-117.3	3.47	3.12	1.37	NM	NM	
9/14/2015	9:45:00 AM	27.73	11.8	6.97	-112.3	3.42	3.34	1.23	NM	NM	
9/14/2015	9:50:00 AM	27.73	11.6	6.99	-118.9	3.33	2.70	1.24	NM	NM	
9/14/2015	9:55:00 AM	27.73	11.6	7.00	-118.4	3.40	2.65	1.25	NM	NM	
9/14/2015	10:00:00 AM	27.73	11.5	7.02	-118.5	3.35	2.71	1.26	NM	NM	



Well ID: 3805-PZ12I

Date: 9/14/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 37.20; NA

Casing Diameter (in): 2

Flow (mL/min) 280

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2015	4:25:00 PM	26.72	12.6	8.06	-47.3	0.569	21.7	1.13	NM	NM	
9/14/2015	4:30:00 PM	26.69	12.2	7.62	-58.7	0.583	11.17	0.89	NM	NM	
9/14/2015	4:35:00 PM	26.69	12.1	7.52	-60.5	0.597	6.26	0.84	NM	NM	
9/14/2015	4:40:00 PM	26.69	12.1	7.51	-61.7	0.625	3.89	0.82	NM	NM	
9/14/2015	4:45:00 PM	26.69	11.9	7.54	-62.2	0.628	3.91	0.81	NM	NM	
9/14/2015	4:50:00 PM	26.69	11.8	7.57	-62.8	0.627	3.79	0.80	NM	NM	



Well ID: 3805-PZ13S

Date: 9/15/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge clear, colorless with black and orange particulate, odorless;
Final purge clear, colorless, odorless

Casing Screenlength (ft) 32.86; 21 to 31 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/15/2015	2:40:00 PM	23.60	11.9	6.06	-45.8	0.89	11.19	1.84	NM	NM	
9/15/2015	2:45:00 PM	23.61	11.7	6.18	-54.7	0.90	2.88	1.72	NM	NM	
9/15/2015	2:50:00 PM	23.61	11.6	6.26	-64.7	0.91	3.36	2.35	NM	NM	
9/15/2015	2:55:00 PM	23.61	11.8	6.38	-77.3	0.92	3.17	1.22	NM	NM	
9/15/2015	3:00:00 PM	23.61	11.7	6.40	-82.2	0.90	2.40	1.20	NM	NM	
9/15/2015	3:05:00 PM	23.61	11.7	6.42	-79.1	0.90	1.86	1.19	NM	NM	



Well ID: 3805-MWI15

Date: 9/15/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 45.70

Casing Diameter (in): 2

Flow (mL/min) 220

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/15/2015	2:35:00 PM	29.57	15.8	7.50	11.0	2.91	10.59	5.57			0.25
9/15/2015	2:40:00 PM	29.64	12.9	7.46	12.4	3.88	5.29	1.32			0.5
9/15/2015	2:45:00 PM	29.63	12.4	7.49	9.2	3.94	4.47	1.15			0.75
9/15/2015	2:50:00 PM	29.64	12.3	7.52	6.7	3.94	3.83	1.02			1.0



Well ID: 3805-MW39

Date: 9/15/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Well bubbling due to system running; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 31.27; NA

Casing Diameter (in): 4

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/15/2015	4:10:00 PM	19.60	13.6	7.31	79.2	0.488	2.18	10.04	NM	NM	
9/15/2015	4:15:00 PM	19.60	13.7	7.29	81.6	0.489	0.85	10.10	NM	NM	
9/15/2015	4:20:00 PM	19.60	13.8	7.45	80.3	0.494	0.64	10.00	NM	NM	
9/15/2015	4:25:00 PM	19.60	13.9	7.63	75.3	0.494	0.49	10.04	NM	NM	
9/15/2015	4:30:00 PM	19.60	13.8	7.80	75.3	0.505	0.57	9.93	NM	NM	
9/15/2015	4:35:00 PM	19.60	13.9	7.81	76.1	0.508	0.56	9.89	NM	NM	
9/15/2015	4:40:00 PM	19.60	13.9	7.86	75.1	0.512	0.55	9.66	NM	NM	
9/15/2015	4:45:00 PM	19.60	13.8	7.90	73.7	0.512	0.55	9.65	NM	NM	



Well ID: 3805-MWD16

Date: 9/15/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, odorless; MS/MSD collected

Casing Screenlength (ft) 61.69; 55 to 60 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 170

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/15/2015	9:05:00 AM	31.61	13.2	7.15	85.6	0.253	5.23	2.00	NM	NM	
9/15/2015	9:10:00 AM	31.61	13.1	7.40	72.4	0.252	5.07	1.60	NM	NM	
9/15/2015	9:15:00 AM	31.61	13.2	7.67	58.2	0.253	4.54	1.29	NM	NM	
9/15/2015	9:20:00 AM	31.61	13.3	7.68	56.9	0.253	4.18	1.30	NM	NM	
9/15/2015	9:25:00 AM	31.61	13.5	7.77	51.0	0.253	3.99	1.22	NM	NM	
9/15/2015	9:30:00 AM	31.61	13.4	7.87	45.0	0.254	3.95	1.22	NM	NM	
9/15/2015	9:35:00 AM	31.61	13.6	7.98	35.1	0.255	3.44	1.21	NM	NM	
9/15/2015	9:40:00 AM	31.61	13.6	7.94	37.1	0.255	3.41	1.22	NM	NM	



Well ID: 3805-MWS14

Date: 9/15/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial purge cloudy, brownish green, strong odor; final purge clear, colorless, strong odor; DUP05-091515 collected

Casing Screenlength (ft) 34.56; 22 to 32 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 280

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/15/2015	11:10:00 AM	29.11	12.2	6.66	-110.1	1.79	51.7	1.71	NM	NM	
9/15/2015	11:15:00 AM	29.11	14.7	6.56	-112.3	1.74	45.5	1.07	NM	NM	
9/15/2015	11:20:00 AM	29.11	12.6	6.58	-114.0	1.91	31.1	1.07	NM	NM	
9/15/2015	11:25:00 AM	29.11	12.6	6.60	-116.9	2.07	27.8	0.97	NM	NM	
9/15/2015	11:30:00 AM	29.11	12.7	6.64	-120.0	2.16	21.8	0.91	NM	NM	
9/15/2015	11:35:00 AM	29.11	12.6	6.67	-124.1	2.21	16.6	0.82	NM	NM	
9/15/2015	11:40:00 AM	29.11	12.6	6.68	-128.1	2.17	12.4	0.81	NM	NM	
9/15/2015	11:45:00 AM	29.11	12.8	6.75	-132.7	2.21	9.61	0.78	NM	NM	
9/15/2015	11:50:00 AM	29.11	12.8	6.78	-135.2	2.26	9.98	0.74	NM	NM	
9/15/2015	11:55:00 AM	29.11	12.7	6.81	-137.3	2.28	7.12	0.74	NM	NM	



Well ID: 3805-PZ13I

Date: 9/15/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 52.03

Casing Diameter (in): 2

Flow (mL/min) 210

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/15/2015	4:05:00 PM	26.50	12.2	7.86	37.7	2.02	7.54	2.22			0.25
9/15/2015	4:10:00 PM	26.51	11.2	7.60	16.0	1.98	5.94	1.27			0.5
9/15/2015	4:15:00 PM	26.50	11.1	7.58	8.0	1.98	4.34	1.17			0.75
9/15/2015	4:20:00 PM	26.50	10.9	7.59	-1.5	1.99	3.93	1.13			1.0
9/15/2015	4:25:00 PM	26.50	10.9	7.61	-4.8	1.99	4.14	1.12			1.25
9/15/2015	4:30:00 PM	26.50	11.0	7.62	-8.1	1.99	3.50	1.13			1.5



Well ID: 3805-PZ13D

Date: 9/15/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 71.58

Casing Diameter (in): 2

Flow (mL/min) 220

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/15/2015	4:55:00 PM	24.24	13.0	8.55	29.1	0.251	21.9	8.57			0.25
9/15/2015	5:00:00 PM	24.24	12.9	8.55	30.5	0.246	18.5	8.34			0.5
9/15/2015	5:05:00 PM	24.24	12.0	8.52	36.2	0.236	6.6	8.49			0.75
9/15/2015	5:10:00 PM	24.24	11.5	8.55	38.4	0.235	8.57	8.41			1.0
9/15/2015	5:15:00 PM	24.24	11.5	8.56	42.8	0.234	7.54	8.37			1.25



Well ID: 1295-MW25

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial: clear, colorless, odorless; final: clear, colorless, odorless

missed a reading, had to restart tablet

Casing Screenlength (ft)

Casing Diameter (in): 4

Flow (mL/min) 210

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	12:35:00 PM	11.01	16.0	6.74	7.9	2.14	1.53	2.28			0.4
9/16/2015	12:40:00 PM	11.01	16.1	6.76	10.5	2.11	1.56	1.84			0.8
9/16/2015	12:50:00 PM	11.01	16.2	6.82	3.4	2.10	1.16	1.70			1.5
9/16/2015	12:55:00 PM	11.01	16.2	6.84	-3.2	2.12	1.30	1.68			2.1
9/16/2015	1:00:00 PM	11.01	16.2	6.86	-6.0	2.11	1.46	1.67			



Well ID: 3805-MWS4

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: odor, black suspended solids, brown color

Casing Screenlength (ft) 38.19

Casing Diameter (in): 2

Flow (mL/min) 175

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	11:50:00 AM	32.93	17.0	6.84	-145.1	0.84	1369	1.15			0.25
9/16/2015	11:55:00 AM	32.93	16.9	6.81	-142.2	0.84	601	1.06			0.5
9/16/2015	12:00:00 PM	32.93	16.7	6.68	-116.5	0.78	44.3	0.89			0.75
9/16/2015	12:05:00 PM	32.93	17.0	6.60	-107.1	0.78	22.9	0.81			1.0
9/16/2015	12:10:00 PM	32.93	16.6	6.60	-106.5	0.78	16.0	0.80			1.25
9/16/2015	12:15:00 PM	32.93	16.3	6.59	-107.3	0.78	15.6	0.78			1.5
9/16/2015	12:20:00 PM	32.93	16.8	6.58	-109.7	0.77	15.2	0.72			1.75



Well ID: OSL-MW10

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: black suspended solids

Casing Screenlength (ft) 51.59

Casing Diameter (in): 4

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	9:30:00 AM	42.25	13.9	7.09	-47.7	0.544	16.4	2.99			0.25
9/16/2015	9:35:00 AM	42.25	13.6	7.06	-58.2	0.539	12.0	1.99			0.5
9/16/2015	9:40:00 AM	42.25	13.9	7.07	-67.8	0.535	11.32	1.79			0.75
9/16/2015	9:45:00 AM	42.25	14.1	7.09	-69.9	0.533	12.6	1.73			1.0
9/16/2015	9:50:00 AM	42.25	14.4	7.12	-76.9	0.535	11.9	1.63			1.25



Well ID: 3805-MWI20

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 38.10

Casing Diameter (in): 2

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	1:45:00 PM	16.41	11.2	8.04	16.8	0.151	54.5	5.65			0.25
9/16/2015	1:50:00 PM	17.26	10.6	7.71	38.6	0.150	35.7	5.10			0.5
9/16/2015	1:55:00 PM	17.65	10.6	7.68	28.7	0.149	26.5	5.16			0.75
9/16/2015	2:00:00 PM	18.00	10.5	7.74	19.0	0.145	14.3	5.32			1.0
9/16/2015	2:05:00 PM	18.05	10.5	7.81	17.6	0.143	11.8	5.49			1.25
9/16/2015	2:10:00 PM	18.20	10.4	7.91	17.2	0.141	9.37	5.56			1.5
9/16/2015	2:15:00 PM	18.24	10.4	7.99	17.1	0.139	8.12	5.64			1.75
9/16/2015	2:20:00 PM	18.13	10.3	7.96	17.5	0.138	8.97	5.70			2.0



Well ID: 3805-MWI17

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: black suspended solids, odor.

Casing Screenlength (ft) 50.11

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	10:45:00 AM	33.15	14.4	7.18	-148.6	0.88	11.49	1.94			0.25
9/16/2015	10:50:00 AM	33.35	14.1	6.97	-144.5	0.88	10.27	1.24			0.5
9/16/2015	10:55:00 AM	33.42	14.1	6.89	-142.2	0.87	8.03	1.14			0.75
9/16/2015	11:00:00 AM	33.42	14.0	6.88	-141.9	0.87	4.29	1.06			1.0
9/16/2015	11:05:00 AM	33.46	13.8	6.90	-143.7	0.87	3.71	1.02			1.25



Well ID: 3805-PZ12S

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, yellowish tint, strong

Casing Screenlength (ft) 33.85; NA

Casing Diameter (in): 2

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	8:15:00 AM	25.81	11.9	6.50	-108.2	0.618	0.65	1.76	NM	NM	
9/16/2015	8:20:00 AM	25.75	12.0	6.37	-89.5	0.72	0.77	1.41	NM	NM	
9/16/2015	8:25:00 AM	27.75	11.9	6.39	-108.2	0.76	0.59	1.23	NM	NM	
9/16/2015	8:30:00 AM	25.75	12.0	6.46	-115.5	0.82	0.64	1.19	NM	NM	
9/16/2015	8:35:00 AM	25.75	12.0	6.53	-122.4	0.86	1.18	1.13	NM	NM	
9/16/2015	8:40:00 AM	25.75	12.1	6.57	-125.1	0.86	1.01	1.12	NM	NM	
9/16/2015	8:45:00 AM	25.75	12.1	6.58	-126.1	0.86	1.20	1.09	NM	NM	



Well ID: 3805-MWS19

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft)

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	3:25:00 PM	14.00	11.4	7.33	107.8	0.059	6.23	3.29			0.25
9/16/2015	3:30:00 PM	14.00	11.4	5.82	177.7	0.057	6.33	2.96			0.5
9/16/2015	3:35:00 PM	14.00	11.6	5.31	185.0	0.060	5.13	3.16			0.75
9/16/2015	3:40:00 PM	14.00	11.8	5.36	180.8	0.060	5.22	2.93			1.0
9/16/2015	3:45:00 PM	14.00	11.9	5.34	178.5	0.060	5.82	3.03			1.25



Well ID: 1595-PZ9

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, yellowish tint, strong

Casing Screenlength (ft) 26.05; NA

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	3:20:00 PM	8.84	15.3	5.79	-26.6	0.548	4.83	2.40	NM	NM	
9/16/2015	3:25:00 PM	8.86	15.4	5.81	-40.0	0.64	3.97	2.25	NM	NM	
9/16/2015	3:30:00 PM	8.87	15.0	5.93	-46.7	0.69	3.30	2.35	NM	NM	
9/16/2015	3:35:00 PM	8.81	16.0	6.00	-50.1	0.70	3.13	2.28	NM	NM	
9/16/2015	3:40:00 PM	8.81	16.0	6.07	-51.7	0.72	3.26	2.40	NM	NM	
9/16/2015	3:45:00 PM	8.81	15.9	6.17	-53.6	0.77	3.14	2.51	NM	NM	
9/16/2015	3:50:00 PM	8.81	15.8	6.18	-53.5	0.78	3.05	2.59	NM	NM	



Well ID: 1295-MWS28

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 17.40; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	10:50:00 AM	12.41	14.9	7.06	28.2	3.82	2.82	1.36	NM	NM	
9/16/2015	10:55:00 AM	12.45	15.1	7.16	24.8	3.83	1.58	1.37	NM	NM	
9/16/2015	11:00:00 AM	12.39	15.0	7.19	24.1	3.84	1.28	1.36	NM	NM	
9/16/2015	11:05:00 AM	12.39	15.0	7.23	22.5	3.85	1.32	1.37	NM	NM	
9/16/2015	11:10:00 AM	12.39	15.0	7.26	19.8	4.06	0.90	1.40	NM	NM	
9/16/2015	11:15:00 AM	12.39	15.1	7.26	18.0	3.91	0.91	1.34	NM	NM	



Well ID: 3805-P3
Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Initial and final purge clear, colorless, strong odor; orange particulates in purge bucket

Casing Screenlength (ft) 31.34; 15 to 30 ft bgs

Casing Diameter (in): 2

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	9:30:00 AM	22.30	12.9	6.23	-54.1	0.187	12.7	1.32	NM	NM	
9/16/2015	9:35:00 AM	22.30	12.8	5.97	-48.1	0.195	4.04	1.06	NM	NM	
9/16/2015	9:40:00 AM	22.30	12.8	6.04	-47.7	0.208	1.97	0.88	NM	NM	
9/16/2015	9:45:00 AM	22.30	12.9	6.17	-50.0	0.236	2.42	2.42	NM	NM	
9/16/2015	9:50:00 AM	22.30	12.8	6.29	-55.0	0.239	2.07	0.86	NM	NM	
9/16/2015	9:55:00 AM	22.30	12.9	6.41	-62.6	0.237	2.30	0.81	NM	NM	
9/16/2015	10:00:00 AM	22.30	12.9	6.35	-61.5	0.236	2.25	0.80	NM	NM	



Well ID: OSL-MW2

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 56.11

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	8:35:00 AM	36.20	10.0	7.07	167.8	0.160	22.6	10.35			0.25
9/16/2015	8:40:00 AM	36.25	9.7	6.48	176.2	0.151	11.34	10.06			0.5
9/16/2015	8:45:00 AM	36.25	9.6	6.39	173.4	0.151	9.38	9.88			0.75
9/16/2015	8:50:00 AM	36.25	9.5	6.43	167.8	0.156	6.47	9.96			1.0
9/16/2015	8:55:00 AM	36.25	9.5	6.41	170.1	0.153	4.95	10.02			1.25



Well ID: 1295-MW30

Date: 9/16/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 14.23; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/16/2015	11:40:00 AM	10.47	17.8	7.21	-52.1	2.07	4.18	2.92	NM	NM	
9/16/2015	11:45:00 AM	10.53	17.8	7.10	-64.6	2.23	4.10	2.38	NM	NM	
9/16/2015	11:50:00 AM	10.53	17.9	6.65	-85.8	2.39	4.01	2.02	NM	NM	
9/16/2015	11:55:00 AM	10.53	17.6	6.66	-100.8	2.43	3.98	1.64	NM	NM	
9/16/2015	12:00:00 PM	10.53	17.7	6.66	-107.2	2.44	3.82	1.52	NM	NM	
9/16/2015	12:05:00 PM	10.53	17.7	6.66	-112.5	2.44	3.39	1.48	NM	NM	
9/16/2015	12:10:00 PM	10.53	17.8	6.65	-114.7	2.44	3.07	1.51	NM	NM	



Well ID: 3805-MWD13

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 64.74

Casing Diameter (in): 2

Flow (mL/min) 210

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	10:25:00 AM	31.27	12.1	7.23	117.3	1.59	18.4	2.04			0.25
9/17/2015	10:30:00 AM	31.33	11.8	7.58	99.1	1.95	11.39	1.66			0.5
9/17/2015	10:35:00 AM	32.37	11.7	7.70	87.8	1.88	9.83	1.57			0.75
9/17/2015	10:40:00 AM	32.38	11.8	7.79	78.9	1.92	8.10	1.53			1.0
9/17/2015	10:45:00 AM	32.34	11.6	7.85	71.6	1.91	7.26	1.54			1.25
9/17/2015	10:50:00 AM	32.36	11.9	7.90	65.0	1.92	6.61	1.50			1.5
9/17/2015	10:55:00 AM	32.37	11.7	7.94	58.9	1.94	7.30	1.52			1.75
9/17/2015	11:00:00 AM	32.37	11.7	7.98	55.2	1.91	5.90	1.52			2.0



Well ID: 1595-PZ11

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 28.15; NA

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	9:55:00 AM	15.11	13.1	6.81	-9.7	1.30	20.6	1.62	NM	NM	
9/17/2015	10:00:00 AM	15.20	13.0	6.46	-12.6	1.23	11.4	1.23	NM	NM	
9/17/2015	10:05:00 AM	15.19	13.4	6.59	-40.5	1.14	10.8	1.15	NM	NM	
9/17/2015	10:10:00 AM	15.19	13.2	6.75	-61.5	1.06	10.1	1.09	NM	NM	
9/17/2015	10:15:00 AM	15.19	13.4	6.77	-63.9	1.06	6.99	1.08	NM	NM	
9/17/2015	10:20:00 AM	15.19	13.4	6.82	-66.7	1.07	5.60	1.04	NM	NM	
9/17/2015	10:25:00 AM	15.19	13.4	6.84	-65.6	1.05	6.32	1.01	NM	NM	



Well ID: 1595-PZ13

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless;
MS/MSD collected

Casing Screenlength (ft) 17.00; NA

Casing Diameter (in): 2

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	7:45:00 AM	10.61	14.9	6.62	-129.2	2.65	2.29	1.15	NM	NM	
9/17/2015	7:50:00 AM	10.63	14.9	6.81	-182.2	2.52	2.07	0.92	NM	NM	
9/17/2015	7:55:00 AM	10.63	15.0	6.86	194.6	2.46	1.99	0.79	NM	NM	
9/17/2015	8:00:00 AM	10.61	14.9	6.90	-197.1	2.37	2.53	0.76	NM	NM	
9/17/2015	8:05:00 AM	10.61	14.9	6.93	-196.8	2.23	2.51	0.75	NM	NM	
9/17/2015	8:15:00 AM	10.61	15.0	6.95	-195.3	2.18	2.45	0.71	NM	NM	
9/17/2015	8:20:00 AM	10.61	15.0	6.96	-194.	2.05	2.47	0.70	NM	NM	



Well ID: OSL-MW8

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 48.40

Casing Diameter (in): 4

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	1:00:00 PM	33.20	13.1	7.53	92.2	1.14	5.17	11.19			0.25
9/17/2015	1:05:00 PM	33.27	12.0	7.28	98.2	1.17	4.74	9.48			0.5
9/17/2015	1:10:00 PM	33.25	11.9	7.18	97.8	1.17	3.88	9.38			0.75
9/17/2015	1:15:00 PM	33.29	11.5	7.18	95.4	1.18	4.40	9.40			1.0
9/17/2015	1:20:00 PM	33.28	11.8	7.21	93.2	1.20	4.36	9.30			1.25



Well ID: 1595-MWS8

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial purge clear with black particulate, yellowish tint, strong odor; Final purge clear, colorless, strong odor

Casing Screenlength (ft) 18.79; NA

Casing Diameter (in): 2

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	12:50:00 PM	9.10	14.8	6.67	-71.2	0.91	7.55	3.12	NM	NM	
9/17/2015	12:55:00 PM	9.13	14.6	6.05	-55.2	0.80	6.10	1.33	NM	NM	
9/17/2015	1:00:00 PM	9.13	17.6	6.08	-55.3	0.90	6.15	1.95	NM	NM	
9/17/2015	1:05:00 PM	9.13	17.0	6.08	-55.8	0.89	4.83	1.89	NM	NM	
9/17/2015	1:10:00 PM	9.13	14.8	6.27	-61.6	0.96	4.17	1.39	NM	NM	
9/17/2015	1:15:00 PM	9.13	14.7	6.32	-63.0	1.02	3.85	1.43	NM	NM	
9/17/2015	1:20:00 PM	9.13	14.7	6.31	-64.5	0.96	3.67	1.41	NM	NM	



Well ID: 3805-MWI12

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 52.60

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	11:20:00 AM	31.11	12.1	7.11	98.3	0.529	6.54	9.76			0.25
9/17/2015	11:25:00 AM	31.10	11.9	7.01	102.5	0.521	6.33	7.69			0.5
9/17/2015	11:30:00 AM	31.08	11.8	6.87	109.5	0.518	4.04	7.31			0.75
9/17/2015	11:35:00 AM	31.05	11.7	6.81	112.2	0.517	5.63	7.28			1.0
9/17/2015	11:40:00 AM	31.06	11.8	6.80	112.4	0.518	6.18	7.11			1.25



Well ID: 1595-PZ12

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; 0.1 inches of product in well; Initial and final purge clear, colorless, strong odor; DUP06-091715 collected

Casing Screenlength (ft) 25.11; NA

Casing Diameter (in): 2

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	8:45:00 AM	14.35	15.2	7.38	-55.3	1.08	3.38		NM	NM	
9/17/2015	8:50:00 AM	14.37	14.1	6.80	-30.0	1.05	1.55	6.02	NM	NM	
9/17/2015	8:55:00 AM	14.37	13.9	6.79	-34.0	1.04	1.98	5.81	NM	NM	
9/17/2015	9:00:00 AM	14.34	13.9	6.80	-34.6	1.01	1.54	5.69	NM	NM	
9/17/2015	9:05:00 AM	14.34	13.9	6.83	-35.3	0.97	1.62	5.63	NM	NM	
9/17/2015	9:10:00 AM	14.34	13.8	6.85	-38.1	0.95	1.52	5.64	NM	NM	



Well ID: OSL-MW9A

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: brown color, black suspended solids

Casing Screenlength (ft) 62.44

Casing Diameter (in): 4

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	9:05:00 AM	50.10	10.4	6.95	141.9	1.10	49.2	5.79			0.25
9/17/2015	9:10:00 AM	50.15	10.0	6.93	139.1	1.11	30.9	5.12			0.5
9/17/2015	9:15:00 AM	50.15	10.0	6.87	139.0	1.11	24.6	4.90			0.75
9/17/2015	9:20:00 AM	50.15	10.0	6.84	135.9	1.11	19.1	4.88			1.0
9/17/2015	9:25:00 AM	50.15	9.9	6.84	131.8	1.11	17.6	4.86			1.25
9/17/2015	9:30:00 AM	50.15	10.0	6.85	128.4	1.11	18.8	4.85			1.5



Well ID: 1595-MWS9

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 21.69; NA

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	12:00:00 PM	4.64	15.0	6.81	51.3	1.62	8.79	3.86	NM	NM	
9/17/2015	12:05:00 PM	4.64	14.7	6.75	52.6	1.52	8.65	3.78	NM	NM	
9/17/2015	12:10:00 PM	4.64	14.4	6.76	51.3	1.52	2.26	3.82	NM	NM	
9/17/2015	12:15:00 PM	4.64	14.4	6.76	49.1	1.52	2.19	3.88	NM	NM	
9/17/2015	12:20:00 PM	4.64	14.4	6.78	45.4	1.49	1.57	3.93	NM	NM	
9/17/2015	12:25:00 PM	4.64	14.4	6.79	43.4	1.49	1.76	3.91	NM	NM	



Well ID: 1995-MWS2

Date: 9/17/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 40.13

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/17/2015	8:15:00 AM	38.49	8.8	5.91	176.8	0.156	67.3	10.48			0.25
9/17/2015	8:20:00 AM	38.61	8.3	6.01	174.1	0.162	21.5	10.45			0.5
9/17/2015	8:25:00 AM	38.73	8.6	6.11	170.7	0.170	14.5	10.32			0.75
9/17/2015	8:30:00 AM	38.74	8.3	6.13	169.6	0.171	13.3	10.15			1.0
9/17/2015	8:35:00 AM	38.77	8.1	6.15	168.6	0.172	13.0	10.00			1.25



Well ID: 1595-MWS7

Date: 9/18/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 21.85; NA

Casing Diameter (in): 2

Flow (mL/min) 270

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/18/2015	9:45:00 AM	8.65	12.8	6.74	-105.3	0.535	2.83	3.06	NM	NM	
9/18/2015	9:50:00 AM	8.66	12.9	6.31	-111.1	0.534	1.56	1.53	NM	NM	
9/18/2015	9:55:00 AM	8.66	13.2	6.41	-119.1	0.544	1.00	0.93	NM	NM	
9/18/2015	10:00:00 AM	8.68	13.3	6.53	-128.5	0.579	1.36	0.87	NM	NM	
9/18/2015	10:05:00 AM	8.65	13.5	6.60	-133.3	0.606	1.23	0.84	NM	NM	
9/18/2015	10:10:00 AM	8.65	13.6	6.63	-134.7	0.607	1.66	0.83	NM	NM	
9/18/2015	10:15:00 AM	8.65	13.8	6.66	-136.3	0.607	1.34	0.82	NM	NM	



Well ID: 1595-MW33

Date: 9/18/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge cloudy with black particulate, brownish/black, strong odor

Casing Screenlength (ft) 21.48; NA

Casing Diameter (in): 4

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/18/2015	7:45:00 AM	11.92	12.9	6.17	-27.5	4.94	6.67	2.93	NM	NM	
9/18/2015	7:50:00 AM	11.91	13.0	6.29	-62.7	5.41	4.59	1.65	NM	NM	
9/18/2015	7:55:00 AM	11.91	13.1	6.31	-65.4	5.75	2.78	1.43	NM	NM	
9/18/2015	8:00:00 AM	11.91	12.9	6.33	-59.3	5.94	1.64	1.32	NM	NM	
9/18/2015	8:05:00 AM	11.91	13.1	6.34	-58.7	5.97	2.38	1.19	NM	NM	
9/18/2015	8:10:00 AM	11.91	13.3	6.36	-60.9	5.96	1.53	0.98	NM	NM	
9/18/2015	8:15:00 AM	11.91	13.2	6.37	-61.5	5.95	1.36	0.96	NM	NM	
9/18/2015	8:20:00 AM	11.91	13.4	6.38	-63.8	5.91	1.16	0.89	NM	NM	



Well ID: 1595-OBG2

Date: 9/18/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA= Not available; DTP: 12.30 inches; Initial and final purge clear, colorless, slight odor

Casing Screenlength (ft) 17.59; NA

Casing Diameter (in): 2

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/18/2015	8:50:00 AM	12.38	13.6	6.44	-89.6	1.63	4.51	1.60	NM	NM	
9/18/2015	8:55:00 AM	12.38	13.5	6.38	-95.0	1.62	5.40	1.06	NM	NM	
9/18/2015	9:00:00 AM	12.38	13.4	6.40	-103.1	1.56	6.78	0.98	NM	NM	
9/18/2015	9:05:00 AM	12.38	13.4	6.41	-105.3	1.54	6.02	0.97	NM	NM	
9/18/2015	9:10:00 AM	12.38	13.4	6.42	-107.1	1.53	6.23	0.89	NM	NM	
9/18/2015	9:15:00 AM	12.38	13.4	6.43	-107.9	1.53	6.24	0.86	NM	NM	
9/18/2015	9:20:00 AM	12.38	13.4	6.44	-108.1	1.52	5.00	0.85	NM	NM	



Well ID: 2140-MW12

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial purge clear, yellowish tint, odorless; Final purge clear, colorless, odorless; MS/MSD collected

Casing Screenlength (ft) 33.89; NA

Casing Diameter (in): 4

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	11:35:00 AM	21.96	12.7	6.72	122.8	3.57	3.92	7.81	NM	NM	
9/21/2015	11:40:00 AM	21.96	12.5	6.82	112.4	3.57	2.43	4.63	NM	NM	
9/21/2015	11:45:00 AM	21.98	12.4	6.93	104.2	3.58	2.23	4.39	NM	NM	
9/21/2015	11:50:00 AM	21.98	13.4	7.03	92.8	3.56	2.14	3.93	NM	NM	
9/21/2015	11:55:00 AM	21.80	15.1	7.03	86.1	3.55	2.40	3.56	NM	NM	
9/21/2015	12:00:00 PM	21.78	15.2	7.18	77.3	3.56	2.06	3.61	NM	NM	
9/21/2015	12:05:00 PM	21.80	14.6	7.18	76.4	3.56	2.15	3.65	NM	NM	
9/21/2015	12:10:00 PM	21.80	14.2	7.17	77.0	3.56	2.11	3.83	NM	NM	
9/21/2015	12:15:00 PM	21.80	14.1	7.18	77.2	3.55	2.31	4.03	NM	NM	
9/21/2015	12:20:00 PM	21.80	14.1	7.20	76.8	3.52	1.96	4.03	NM	NM	
9/21/2015	12:25:00 PM	21.80	14.6	7.24	75.0	3.51	1.88	4.09	NM	NM	



Well ID: 3805-PZ2I

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: battery died on MP-50 during 1015 reading. went off side to buy batteries.

Casing Screenlength (ft) 43.79

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	10:10:00 AM	19.84	11.7	7.52	132.3	7.29	15.6	8.00			0.25
9/21/2015	10:15:00 AM										0.5
9/21/2015	10:40:00 AM	19.87	13.0	7.61	135.6	7.45	6.77	8.50			0.5
9/21/2015	10:45:00 AM	19.85	11.3	7.30	175.0	7.31	5.03	8.10			0.75
9/21/2015	10:50:00 AM	19.86	11.3	7.61	185.9	7.28	5.18	8.01			1.0
9/21/2015	10:55:00 AM	19.85	11.3	7.62	193.7	7.33	3.49	8.04			1.25
9/21/2015	11:00:00 AM	19.85	11.3	7.63	199.6	7.29	3.19	8.08			1.5
9/21/2015	11:05:00 AM	19.85	11.3	7.64	200.7	7.29	3.42	8.04			1.75



Well ID: 3805-MWD7

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations:

Casing Screenlength (ft) 81.33

Casing Diameter (in): 2

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	12:40:00 PM	19.60	12.8	7.75	-99.7	1.55	27.5	2.40			0.25
9/21/2015	12:45:00 PM	19.99	12.6	7.94	-93.0	1.43	15.5	2.58			0.5
9/21/2015	12:50:00 PM	20.09	12.6	8.06	-52.0	1.40	10.43	2.43			0.75
9/21/2015	12:55:00 PM	20.15	12.3	8.14	-28.4	1.44	9.63	2.02			1.0
9/21/2015	1:00:00 PM	20.15	12.6	8.13	-26.0	1.63	10.73	1.81			1.25
9/21/2015	1:05:00 PM	20.15	12.6	8.20	-24.8	1.59	10.66	1.67			1.5
9/21/2015	1:10:00 PM	20.15	12.4	8.22	-26.6	1.60	10.82	1.57			1.75
9/21/2015	1:15:00 PM	20.15	12.3	8.24	-26.9	1.62	10.08	1.48			2.0



Well ID: 2140-MW14

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial purge clear with sand, colorless, odorless;
Final purge clear, colorless, odorless

Casing Screenlength (ft) 19.80; NA

Casing Diameter (in): 4

Flow (mL/min) 180

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	2:10:00 PM	10.98	12.5	6.96	-65.5	4.35	2.60	1.78	NM	NM	
9/21/2015	2:15:00 PM	10.98	12.7	6.95	-67.6	4.32	3.19	1.26	NM	NM	
9/21/2015	2:20:00 PM	10.98	12.6	6.94	-62.6	4.24	2.73	1.10	NM	NM	
9/21/2015	2:25:00 PM	10.98	12.6	6.90	-47.4	3.95	2.08	1.01	NM	NM	
9/21/2015	2:30:00 PM	10.98	12.8	6.83	-35.2	3.68	2.87	1.05	NM	NM	
9/21/2015	2:35:00 PM	10.98	12.6	6.81	-34.5	3.63	2.84	1.08	NM	NM	
9/21/2015	2:40:00 PM	10.98	12.7	6.78	-37.5	3.61	2.67	1.09	NM	NM	



Well ID: 3805-MWI6

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: black suspended solids

Casing Screenlength (ft) 42.91

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	2:00:00 PM	18.36	13.5	7.63	-128.9	1.53	26.2	1.05			0.25
9/21/2015	2:05:00 PM	18.56	13.0	7.51	-110.9	1.57	7.14	0.94			0.5
9/21/2015	2:10:00 PM	18.49	13.0	7.50	-116.3	1.65	4.72	0.85			0.75
9/21/2015	2:15:00 PM	18.49	13.1	7.51	-118.6	1.56	4.72	0.83			1.0
9/21/2015	2:20:00 PM	18.51	13.1	7.52	-122.1	1.58	3.75	0.82			1.25
9/21/2015	2:25:00 PM	18.52	12.9	7.52	-127.8	1.58	4.55	0.83			1.5



Well ID: 3805-PZ2D

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: collected DUP07_092115

Casing Screenlength (ft) 61.08

Casing Diameter (in): 2

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	9:20:00 AM	20.56	11.4	7.15	141.4	2.40	3.45	2.17			0.25
9/21/2015	9:25:00 AM	20.70	11.3	7.36	131.8	2.46	16.3	1.58			0.5
9/21/2015	9:30:00 AM	20.65	11.4	7.47	128.4	2.53	15.5	1.42			0.75
9/21/2015	9:35:00 AM	20.69	11.3	7.54	125.7	2.56	12.6	1.32			1.0
9/21/2015	9:40:00 AM	20.70	11.3	7.57	124.9	2.57	11.6	1.31			1.25



Well ID: 2140-MW16

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial purge clear with black and white particulate, yellowish tint, strong odor; Final purge clear, colorless, slight odor

Casing Screenlength (ft) 16.91; NA

Casing Diameter (in): 4

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	4:40:00 PM	8.58	11.2	6.79	12.4	1.41	41.8	1.98	NM	NM	
9/21/2015	4:45:00 PM	8.60	11.2	6.62	47.8	1.07	6.17	2.12	NM	NM	
9/21/2015	4:50:00 PM	8.60	11.8	6.97	99.7	5.60	9.70	1.58	NM	NM	
9/21/2015	4:55:00 PM	8.60	11.1	6.45	80.1	0.90	6.20	2.11	NM	NM	
9/21/2015	5:00:00 PM	8.60	11.2	6.43	84.0	0.87	4.76	2.09	NM	NM	
9/21/2015	5:05:00 PM	8.60	11.2	6.42	81.7	0.84	3.37	2.08	NM	NM	



Well ID: 2140-MW06

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: yellow tint, strong odor

Casing Screenlength (ft) 39.44

Casing Diameter (in): 2

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	3:10:00 PM	28.85	12.9	7.52	-127.6	4.47	13.8	1.50			0.25
9/21/2015	3:15:00 PM	28.96	12.6	7.45	-139.2	4.45	9.33	1.12			0.5
9/21/2015	3:20:00 PM	28.94	12.5	7.43	-138.2	3.11	5.95	1.49			0.75
9/21/2015	3:25:00 PM	28.95	12.6	7.42	-141.6	4.11	6.82	1.61			1.0
9/21/2015	3:30:00 PM	28.95	12.5	7.42	-141.5	4.03	5.92	1.78			1.25
9/21/2015	3:35:00 PM	28.95	12.9	7.41	-140.6	3.90	8.97	1.96			1.5
9/21/2015	3:40:00 PM	28.95	13.1	7.40	-138.8	3.83	7.05	2.05			1.75
9/21/2015	3:45:00 PM	28.95	12.8	7.39	-135.1	3.79	9.80	2.08			2.0



Well ID: 2140-MW19

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless

Casing Screenlength (ft) 17.04; NA

Casing Diameter (in): 4

Flow (mL/min) 240

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	3:35:00 PM	9.71	11.6	6.91	-113.3	7.68	3.46	2.41	NM	NM	
9/21/2015	3:40:00 PM	9.71	11.7	6.98	-111.6	5.67	4.09	1.58	NM	NM	
9/21/2015	3:45:00 PM	9.71	11.8	6.97	-109.6	5.60	5.76	1.55	NM	NM	
9/21/2015	3:50:00 PM	9.71	11.6	6.96	-104.8	5.53	5.13	1.58	NM	NM	
9/21/2015	3:55:00 PM	9.71	11.6	6.96	-99.8	5.49	4.98	1.54	NM	NM	
9/21/2015	4:00:00 PM	9.71	11.7	6.96	-97.5	5.47	5.83	1.50	NM	NM	



Well ID: 2140-MW04

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: iron precipitate in initial purge

Casing Screenlength (ft) 35.97

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	4:45:00 PM	26.42	13.2	7.87	42.2	3.94	9.0	8.11			0.25
9/21/2015	4:50:00 PM	26.45	13.2	7.86	45.5	3.88	55.3	8.03			0.5
9/21/2015	4:55:00 PM	26.57	12.8	7.85	47.5	3.73	45.9	7.74			0.75
9/21/2015	5:00:00 PM	26.59	12.9	7.83	47.0	3.68	43.2	7.52			0.75
9/21/2015	5:05:00 PM	26.57	12.8	7.80	46.9	3.60	41.8	7.65			1.0



Well ID: 2140-MW13

Date: 9/21/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial purge clear with black particulate, colorless, odorless

Casing Screenlength (ft) 18.86; NA

Casing Diameter (in): 4

Flow (mL/min) 260

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/21/2015	12:55:00 PM	9.95	13.0	7.23	-55.6	4.80	3.75	3.62	NM	NM	
9/21/2015	1:00:00 PM	9.95	12.8	7.21	-36.5	4.81	3.89	3.53	NM	NM	
9/21/2015	1:10:00 PM	9.95	12.7	7.23	-25.7	4.83	3.16	3.71	NM	NM	
9/21/2015	1:15:00 PM	9.95	12.6	7.24	-29.0	4.83	2.93	3.72	NM	NM	
9/21/2015	1:20:00 PM	9.95	13.0	7.26	-25.5	4.85	2.99	3.65	NM	NM	
9/21/2015	1:25:00 PM	9.95	13.0	7.26	-11.8	4.78	2.42	4.42	NM	NM	
9/21/2015	1:30:00 PM	9.95	13.0	7.27	-8.4	4.74	2.12	4.49	NM	NM	
9/21/2015	1:35:00 PM	9.95	13.1	7.28	-6.8	4.71	2.18	4.73	NM	NM	
9/21/2015	1:40:00 PM	9.95	13.1	7.30	-4.1	4.69	2.14	4.74	NM	NM	



Well ID: 2140-MW37

Date: 9/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: 0855: dtw below pump, depth to top of pump 32.91. well purged dry at 0859, will let recharge then sample. AS system was off during sampling. 0907, dtw was 32.02.

Casing Screenlength (ft) 34.20

Casing Diameter (in): 2

Flow (mL/min) 150

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/22/2015	8:45:00 AM	31.90	12.8	7.15	-88.8	6.51	24.6	7.20			0.25
9/22/2015	8:50:00 AM	32.83	12.7	7.35	-74.3	6.49	13.1	8.20			0.5
9/22/2015	8:55:00 AM		12.7	7.39	-61.0	6.46	12.5	9.13			0.75



Well ID: 2140-MW02

Date: 9/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: initial purge, brown tint, black suspended solids. collected
DUP08_092215. AS system was off during sampling.

Casing Screenlength (ft) 31.30

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/22/2015	7:50:00 AM	26.44	12.0	6.45	-71.9	5.87	18.6	4.25			0.25
9/22/2015	7:55:00 AM	26.48	11.8	6.54	-76.5	5.55	8.96	2.13			0.5
9/22/2015	8:00:00 AM	26.52	11.8	6.58	-74.5	4.89	9.31	2.62			0.75
9/22/2015	8:05:00 AM	26.52	11.7	6.59	-72.7	4.69	8.10	2.84			1.0
9/22/2015	8:10:00 AM	26.54	11.7	6.59	-71.0	4.29	4.79	3.10			1.25
9/22/2015	8:15:00 AM	26.42	11.7	6.59	-70.1	4.21	4.54	3.21			1.5
9/22/2015	8:20:00 AM	26.	11.7	6.60	-69.2	4.26	4.22	3.29			1.75



Well ID: 3805-MWD18

Date: 9/22/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: pulled out dead mice from well, obstructing pump. battery died during purge (1050).

Casing Screenlength (ft) 62.72

Casing Diameter (in): 2

Flow (mL/min) 270

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/22/2015	10:40:00 AM	34.31	13.8	7.07	-184.2	0.596	36.7	0.97			0.25
9/22/2015	10:45:00 AM	34.32	16.2	6.95	-203.3	0.564	37.2	0.82			0.5
9/22/2015	10:50:00 AM										0.6
9/22/2015	11:10:00 AM	34.30	18.9	6.89	-244.4	0.544	36.2	0.65			0.6
9/22/2015	11:15:00 AM	34.32	14.4	6.93	-247.3	0.554	32.1	0.77			0.75
9/22/2015	11:20:00 AM	34.32	14.8	6.82	-251.0	0.547	22.6	0.73			1.0
9/22/2015	11:25:00 AM	34.32	14.3	6.76	-254.1	0.525	17.9	0.74			1.25
9/22/2015	11:30:00 AM	34.32	14.0	6.75	-251.2	0.509	19.7	0.75			1.5
9/22/2015	11:35:00 AM	34.32	15.1	6.75	-251.5	0.500	19.8	0.70			1.75
9/22/2015	11:40:00 AM	34.32	15.6	6.76	-254.9	0.508	19.3	0.69			2.0



Well ID: 2140-MW07

Date: 9/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: Sampled with bailer following discussion with PM; MS/MSD collected

Casing Screenlength (ft) 41.67

Casing Diameter (in): 2

Flow (mL/min) 150

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/23/2015	10:20:00 AM	35.68	13.8	6.83	-47.4	4.49	2261	1.38			0.25
9/23/2015	10:25:00 AM	36.47	13.5	6.78	-57.0	3.81	939	1.60			0.5
9/23/2015	10:30:00 AM		13.6	6.77	-56.8	3.79		1.95			0.75



Well ID: 2140-MW27

Date: 9/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: NA = Not available; Initial purge clear with black particulate, colorless, strong odor; Final purge clear, colorless, slight odor

Casing Screenlength (ft) 15.69; NA

Casing Diameter (in): 4

Flow (mL/min) 200

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/23/2015	8:10:00 AM	11.11	10.9	6.31	-37.6	2.84	2.76	2.75	NM	NM	
9/23/2015	8:15:00 AM	11.12	10.9	6.60	-104.4	2.50	2.30	1.66	NM	NM	
9/23/2015	8:20:00 AM	11.12	10.9	6.68	-89.5	1.90	2.21	1.32	NM	NM	
9/23/2015	8:25:00 AM	11.12	11.0	6.68	-74.8	1.61	2.31	1.29	NM	NM	
9/23/2015	8:30:00 AM	11.12	11.1	6.65	-77.9	1.59	1.54	1.28	NM	NM	
9/23/2015	8:35:00 AM	11.12	11.0	6.64	-75.8	1.64	1.47	1.28	NM	NM	



Well ID: 3805-PZ14

Date: 9/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: sheen and odor present.

Casing Screenlength (ft) 31.54

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/23/2015	7:40:00 AM	16.57	12.7	5.80	-44.6	0.163	4.91	1.34			0.25
9/23/2015	7:45:00 AM	16.56	12.8	5.90	-62.9	0.162	3.84	1.32			0.5
9/23/2015	7:50:00 AM	16.56	12.8	5.97	-75.7	0.164	4.32	1.19			0.75
9/23/2015	7:55:00 AM	16.56	12.9	6.04	-85.2	0.166	6.92	1.10			1.0
9/23/2015	8:00:00 AM	16.56	13.0	6.14	-91.4	0.167	5.56	1.10			1.25
9/23/2015	8:05:00 AM	16.56	13.0	6.22	-98.3	0.169	5.59	1.09			1.5
9/23/2015	8:10:00 AM	16.56	13.2	6.28	-104.1	0.170	7.10	1.08			1.75
9/23/2015	8:15:00 AM	16.56	13.2	6.35	-109.6	0.171	7.64	1.07			2.0
9/23/2015	8:20:00 AM	16.56	13.2	6.37	-113.0	0.172	9.25	1.06			2.25



Well ID: 3805-MWS5

Date: 9/23/2015

Purge Log Fort Drum Installation Restoration

Notes/Observations: suds made it difficult to measure dtw. odor present.

Casing Screenlength (ft) 25.79

Casing Diameter (in): 2

Flow (mL/min) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/23/2015	8:50:00 AM		14.0	7.01	-40.8	0.208	13.6	9.24			0.25
9/23/2015	8:55:00 AM		14.0	7.17	-3.6	0.209	11.7	9.40			0.5
9/23/2015	9:00:00 AM		14.0	7.24	15.8	0.211	10.99	9.83			0.75
9/23/2015	9:05:00 AM		14.1	7.29	24.5	0.211	10.32	9.96			1.0
9/23/2015	9:10:00 AM		14.1	7.29	26.0	0.211	9.81	9.98			1.25
9/23/2015	9:15:00 AM		14.1	7.29	29.9	0.212	8.25	9.92			1.5
9/23/2015	9:20:00 AM		14.1	7.30	30.2	0.212	8.62	9.93			1.75



Appendix C

Analytical Laboratory Reporting Forms



Appendix D

Data Usability Summary Reports

Data Validation Services

120 Cobble Creek Road P.O. Box 208

North Creek, NY 12853

Phone 518-251-4429

harry@frontiernet.net

July 3, 2015

Stefan Bagnato
ARCADIS
855 Route 146
Suite 210
Clifton Park, NY 12065

RE: Fort Drum Installation Restoration Program (IRP), Basewide Monitoring Program
Data Usability Summary Report (DUSR) Validation of Analytical Data Packages
ALS SDG Nos. R1502843 and R1503071

Dear Mr. Bagnato:

Review has been completed for the data packages generated by ALS Environmental (ALS) that pertain to samples collected between 04/20/15 and 04/29/15 at the Fort Drum IRP, Basewide Monitoring Program site. Twenty aqueous samples and a field duplicate were processed for project-specific volatile analytes, methane, ethane, ethane, total iron, total manganese, ammonia, chloride, sulfate, nitrate, ferrous iron, and TOC. Fourteen additional aqueous samples, two field duplicates, and five trip blanks were processed for project-specific volatile analytes.

Validation of the analytical data was performed in accordance with the project Quality Assurance Project Plan (QAPP) dated January 2015, which utilizes the following documents and professional judgment:

- DoD Quality Systems Manual for Environmental Laboratories V. 4.2 dated June 5, 2003 (QSM)
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999)
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004)
- USEPA Region 2 Data Validation Standard Operating Procedures (SOPs) HW-2a, HW-2c, HW-33, HW-34, HW-35, HW-36, and HW-37

The following items were reviewed:

- * Data Completeness
- * Case Narrative
- * Custody Documentation
- * Holding Times
- * Surrogate and Internal Standard Recoveries
- * Trip/Method Blanks
- * Laboratory Control Sample (LCS)
- * Field Duplicate Correlations
- * Matrix Spike Recoveries and Duplicate Correlations
- * Field Duplicate Correlations

- * Instrumental Tunes
- * Calibration Standards
- * ICP Serial Dilution Evaluations
- * ICP Interference Check Samples
- * Method Compliance
- * Sample Result Verification

The data review includes evaluation of the specific items noted in The NYS DER-10 Appendix B section 2.0 (c) DUSR description. The items listed above that show deficiencies are discussed within the text of this narrative. The laboratory QC forms illustrating the excursions can be found within the laboratory data package.

In summary, results are usable either as reported or with minor qualification/edit, with the exception of the following:

- The ferrous iron result in 1595-PZ12-042915 is rejected due to extended holding time, but can be considered not to exceed the total iron value of 991 ug/L. The detected values for four other samples processed with the same timeframe are qualified as estimated, and may have a significant low bias.
- Nitrate, sulfate, chloride, and ferrous iron are reported with laboratory Limits of Quantitation (LOQ) that are above those noted in the project QAPP
- Detected results for nitrate in five samples are qualified as estimated, and may have a significant bias due to outlying holding time.
- Numerous volatile low level detections are edited to be non-detection due to failure to meet identification criteria.

More specifics of these issues are discussed in the text below.

Accuracy, precision, comparability, representativeness, and data sensitivity are acceptable. With the exception of the reporting limits of the four wet chemistry analytes noted above, sensitivity is also acceptable.

Sample identifications and validation qualifier definitions are attached to this narrative. Also included in this submission are the client results tables, with recommended qualifiers/edits applied in red.

Chain-of-Custody/Sample Receipt

The individual relinquishing the samples in the interim transfer is different than the individual who initially received the samples. They are both laboratory employees and the samples were in a secure location.

Field Duplicate Correlations

Blind field duplicates were collected at locations 3805-MWS24-042015, 2140-MW37-042715, and 1595-PZ11-042915. All correlations are within validation action limits.

Volatile Analyses by EPA8260C

The following detections are edited to nondetection due to very poor mass spectral quality, indicating poor or uncertain identification:

- p-isopropyltoluene (cymene) in 3805-MWS24-042015, 3805-PZ12S-042015, OSL-MW3-042215, 3805-MWS11-042215, 3805-MWS8-042215, 2140-MW07-042315, and 1595-PZ12-042915
- 2-hexanone in 1795-MWS3-042215 and 1795-MWS7-042215
- chloromethane in 1795-MWS21-042215
- n-butylbenzene in 1995-MWS9-042215
- n-butylbenzene, 4-chlorotoluene, 2-hexanone, and p-isopropyltoluene in 2140-MW37-042715
- n-butylbenzene and p-isopropyltoluene in DUP-02-042715
- t-butylbenzene in 1595-OBG2-042915

Due to presence in the associated trip and/or method blanks, the following detections are within the validation action levels to be considered external contamination, and are edited to reflect non-detection:

- acetone in 3805-MWS24-42015, 3805-PZ12S-042015, 3805-PZ3-42015, DUP-01-042015, 2140-MW14-042815
- naphthalene in 1295-MW26-042815, and 2140-MW27-042815

Results for analytes initially reported with the laboratory “E” flag are derived from dilution analyses, thus reflecting responses within the established linear range of the instruments. They are the following:

- o-xylene in 1795-MWS7-042215
- o-xylene and 1,2,4-trimethylbenzene in 1795-PZ15-042215

The matrix spikes of 3805-PZ14-042015, 1295-MWS27-042715, and 1295-MW30-042715 show recoveries and correlations that are within the QAPP referenced QSM limits, with the exception of one slightly low recovery. The acceptance ranges/limits in the data package for LCS and matrix spikes are laboratory in-house limits, and are stricter than those of the QSM. Therefore the laboratory cites three other recovery outliers that are actually within project limits.

Holding times were met. LCS recoveries are compliant. Blanks show no detections that are above one half of the LOQ or that affect sample reported results.

Calibration standards show acceptable responses, with the following exceptions, results for which are qualified as estimated in the indicated samples:

- bromomethane (21%D to 33%D) in all samples except 1595-MWS7-042915, 1595-OBG2-042915, and 1595-PZ12-042915
- 1,2-dibromo-3-chloropropane in 1795-MWS3-042215

Some of the samples were processed at initial dilution due to high target analyte concentrations, thereby producing elevated reporting limits.

Methane, Ethane, and Ethene Analyses by RSK-175

Results for methane initially reported with the laboratory “E” flag are derived from dilution analyses, thus reflecting responses within the established linear range of the instruments. They are the following: 1995-MWS10-042215, 1995-MWS9-042215, 3805-MWS24-042215, DUP-01-042015, 1595-MW33-042915, 1595-MWS7-042815, 1595-OBG2-042915, and 1595-P12-042915

Matrix spikes of 3805-PZ14-042015 and 1295-MWS27-042715 show acceptable recoveries and duplicate correlations.

Holding times were met. LCS recoveries for those analytes are compliant. Blanks show no detections that are above one half of the LOQ or that affect sample reported results. Calibration standards show acceptable responses.

Total Iron and Manganese Analyses by EPA 6010C

Matrix spikes and laboratory duplicate evaluations were performed on 3805-PZ14-042015 and 1295-MWS27-042715, and show acceptable recoveries and correlations.

Calibration standard responses are compliant. Blanks show no detections that are above one half of the LOQ or that affect sample reported results.

The ICP serial dilution evaluations were performed on 3805-PZ14-042015 and 1295-MWS27-042715X. Correlations are within validation guidelines.

Wet Chemistry—Chloride, Sulfate, Nitrate, Ammonia, Ferrous iron, and Total Organic Carbon

The following samples were processed for ferrous iron beyond the allowable QAPP holding time of 48 hours, at six days from collection: 1595-PZ12-042915, 1595-MWS7-042915, 1595-OBG2-042915, 1595-PZ11-042915, and 1595-MW33-042915. 1595-PZ12-042915 shows no detection, and that result is therefore rejected, and not usable. The results for the other four samples are qualified as estimated, with a possible significant bias. The direction of bias would be low unless the samples were a reducing medium.

The following samples were processed for nitrate beyond the allowable QAPP holding time of 48 hours, at seven and eight days from collection: 1295-MWS27-042715, 1295-MW25-042715, 1295-MWS28-042715, 1295-MW30-042715, and 1295-MWS26-042815. These samples show detection, and the results qualified as estimated, with a possible significant bias. The direction of bias would be low unless the samples were an oxidizing medium.

The following laboratory reporting limits are above those of the QAPP. The number of samples showing no detection at the laboratory limits is also indicated:

<u>Analyte</u>	<u>QAPP LOQ</u>	<u>Reported LOQ</u>	<u>Number of Nondetects</u>
Ammonia	0.01	0.1	0
Chloride	1	2	0
Nitrate	0.1	0.5	7
Sulfate	1	2	4

Calibration standard responses are compliant. Blanks show no detections that are above one half of the reported LOQs.

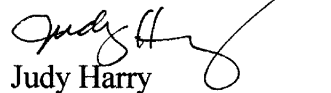
Matrix spikes/duplicates of 3805-PZ14-042015 and 1295-MWS27-042715 show acceptable recoveries/correlations, with the exception of one elevated recovery each for chloride and sulfate in the

former. No qualification to the data is made. An additional set of matrix spikes was evaluated for ferrous iron in 1795-MWS3-042215, with acceptable accuracy and precision.

The laboratory acceptance ranges/limits used for TOC LCS and matrix spike are 85% to 115%, whereas the project (SQM) limits are 90% to 110%. Actual recoveries are within both ranges, and data are unaffected.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Judy Harry", with a long, sweeping flourish extending from the end of the signature.

Judy Harry

Att: Validation Qualifier Definitions
Sample Identifications and Analytical Requirements
Qualified Client Results EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

- J** Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
- U** The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
- UB** Blank contamination: The analyte was found in an associated blank above one half the LOQ, as well as in the sample.
- UJ** The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
- R** The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.

CLIENT and LABORATORY SAMPLE IDs

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM.0001	Batch Complete: Yes	Date Revised:
Submission: R1502843	Diskette Requested: No	Date Due: 5/14/15
Client: ARCADIS U.S., Inc.	Date: 5/4/15	Protocol: ASTM
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: 3805-MWS24-042015

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1502843-001	3805-MWS24-042015	Water	ASTM D6919-09, 8260C, 300.0, 6010C, SM 5310 B, RSK 175, SM 3500-Fe B.4.c	4/20/15	4/21/15			
R1502843-001.R01	3805-MWS24-042015	Water	RSK 175	4/20/15	4/21/15			
R1502843-002QC	3805-PZ14-042015	Water	ASTM D6919-09, 300.0, 8260C, RSK 175, SM 3500-Fe B.4.c, 6010C, SM 5310 B	4/20/15	4/21/15			
R1502843-003	3805-PZ12S-042015	Water	RSK 175, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, SM 5310 B, 300.0	4/20/15	4/21/15			
R1502843-004	3805-PZ3-042015	Water	300.0, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	4/20/15	4/21/15			
R1502843-005	DUP-01-042015	Water	300.0, ASTM D6919-09, 6010C, SM 5310 B, 8260C, RSK 175, SM 3500-Fe B.4.c	4/20/15	4/21/15			
R1502843-005.R01	DUP-01-042015	Water	RSK 175	4/20/15	4/21/15			
R1502843-006	TRIP BLANK 1	Water	8260C	4/20/15	4/21/15			
R1502843-007	1795-MWS3-042215	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, 8260C, ASTM D6919-09	4/22/15	4/23/15			
R1502843-008	1795-MWS7-042215	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, ASTM D6919-09, 6010C, 8260C	4/22/15	4/23/15			
R1502843-008.R01	1795-MWS7-042215	Water	8260C	4/22/15	4/23/15			
R1502843-009	1795-MWS11-042215	Water	8260C	4/22/15	4/23/15			
R1502843-010	1795-MWS21-042215	Water	8260C	4/22/15	4/23/15			
R1502843-011	1795-PZ15-042215	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, 8260C, ASTM D6919-09	4/22/15	4/23/15			
R1502843-011.R01	1795-PZ15-042215	Water	8260C	4/22/15	4/23/15			
R1502843-012	3805-MWS5-042215	Water	8260C	4/22/15	4/23/15			
R1502843-013	OSL-MW3-042215	Water	8260C	4/22/15	4/23/15			
R1502843-014	1995-MWS10-042215	Water	300.0, SM 5310 B, RSK 175, 6010C, 8260C, ASTM D6919-09, SM 3500-Fe B.4.c	4/22/15	4/23/15			
R1502843-014.R01	1995-MWS10-042215	Water	RSK 175	4/22/15	4/23/15			

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1502843-015	1995-MWS9-042215	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, 8260C, ASTM D6919-09	4/22/15	4/23/15			
R1502843-015.R01	1995-MWS9-042215	Water	RSK 175	4/22/15	4/23/15			
R1502843-016	3805-PZ2S-042215	Water	SM 5310 B, 300.0, SM 3500-Fe B.4.c, 6010C, 8260C, ASTM D6919-09, RSK 175	4/22/15	4/23/15			
R1502843-017	3805-MWS11-042215	Water	SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, 300.0, ASTM D6919-09, 8260C	4/22/15	4/23/15			
R1502843-018	3805-MWS8-042215	Water	8260C	4/22/15	4/23/15			
R1502843-019	TRIP BLANK 2	Water	8260C	4/22/15	4/23/15			

50000

Folder Comments: DOD

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CLP Batching Form

Page 2

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: Basewide Monitoring - GP14DRUI	Batch Complete: Yes	Date Revised:
Submission: R1503071	Diskette Requested: No	Date Due: 5/22/15
Client: ARCADIS U.S., Inc.	Date: 5/5/15	Protocol: EPA
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY	Chain of Custody: Present/Absent:	SDG #: 1295-MWS27-042715

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1503071-001QC	1295-MWS27-042715	Water	300.0, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	4/27/15	4/29/15			
R1503071-002	1295-MW25-042715	Water	300.0, 8260C, 6010C, ASTM D6919-09, RSK 175, SM 5310 B, SM 3500-Fe B.4.c	4/27/15	4/29/15			
R1503071-003	1295-MWS28-042715	Water	300.0, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	4/27/15	4/29/15			
R1503071-004	1295-MW30-042715	Water	300.0, 6010C, 8260C, ASTM D6919-09, SM 5310 B, RSK 175, SM 3500-Fe B.4.c	4/27/15	4/29/15			
R1503071-005	2140-MW06-042715	Water	8260C	4/27/15	4/29/15			
R1503071-006	2140-MW07-042715	Water	8260C	4/27/15	4/29/15			
R1503071-007	2140-MW37-042715	Water	8260C	4/27/15	4/29/15			
R1503071-008	2140-MW02-042715	Water	8260C	4/27/15	4/29/15			
R1503071-009	DUP-02-042715	Water	8260C	4/27/15	4/29/15			
R1503071-010	TRIP BLANK 1	Water	8260C	4/27/15	4/29/15			
R1503071-011	1295-MW26-042815	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, 8260C, ASTM D6919-09	4/28/15	4/30/15			
R1503071-012	2140-MW27-042815	Water	8260C	4/28/15	4/30/15			
R1503071-013	2140-MW19-042815	Water	8260C	4/28/15	4/30/15			
R1503071-014	2140-MW14-042815	Water	8260C	4/28/15	4/30/15			
R1503071-015	2140-MW12-042815	Water	8260C	4/28/15	4/30/15			
R1503071-016	TRIP BLANK 2	Water	8260C	4/28/15	4/30/15			
R1503071-017	1595-MWS7-042915	Water	300.0, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	4/29/15	5/1/15			
R1503071-018	1595-PZ11-042915	Water	8260C	4/29/15	5/1/15			
R1503071-019	1595-OBG2-042915	Water	300.0, 8260C, 6010C, ASTM D6919-09, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	4/29/15	5/1/15			
R1503071-020	DUP-03-042915	Water	8260C	4/29/15	5/1/15			
R1503071-021	1595-PZ12-042915	Water	300.0, SM 5310 B, ASTM D6919-09, SM 3500-Fe B.4.c, 6010C, 8260C, RSK 175	4/29/15	5/1/15			

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1503071-022	1595-MW33-042915	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, 8260C, ASTM D6919-09	4/29/15	5/1/15			
R1503071-023	TRIP BLANK	Water	8260C	4/29/15	5/1/15			

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CLP Batching Form

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Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

December 9, 2015

Stefan Bagnato
ARCADIS US
855 Route 146 Suite 210
Clifton Park, NY 12065

RE: Fort Drum Installation Restoration Program (IRP) 3800 PCE Site
Data Usability Summary Report (DUSR) Validation of Analytical Data Packages
ALS SDG Nos. R1507407, R1507446, R1507461, R1507527, R1507588, R1507736, R1507738,
R1507860, R1507965, R1507970, R1508476, and R1508557

Dear Mr. Bagnato:

Review has been completed for the data packages generated by ALS Environmental (ALS) that pertain to samples collected between 09/03/15 and 10/07/15 at the Fort Drum IRP 3800 PCE site. Eighty six aqueous samples and six field duplicates were processed for project-specific volatile analytes; ten of those samples and one of the field duplicates were also processed for TAL metals, and five others for total iron and lead. Twenty one aqueous samples and a field duplicate were processed for project-specific volatile analytes, methane, ethane, ethane, chloride, sulfate, nitrate as N, ammonia, TOC, ferrous iron, and total iron and manganese; one of these was also processed for TCL semivolatiles. Seven aqueous samples and one field duplicate were processed for project-specific volatile analytes, TCL semivolatiles, TCL pesticides, TCL PCBs, TAL metals, and total cyanide. Nine aqueous samples were processed for project-specific volatile analytes, TCL semivolatiles, and TAL metals; three are also processed for total hardness. Four aqueous samples were processed for project-specific volatile analytes, TCL semivolatiles, total iron and lead, and total hardness. Three soil samples were processed for project-specific volatile analytes and total iron and lead. The analytical methodologies that were utilized are those of the USEPA SW846 methods 8260C, 8270D, 8081B, 8082A, 6010C, 7470A, and 9012, and Standard Methods.

Validation of the analytical data was performed in accordance with the project Quality Assurance Project Plan (QAPP) dated January 2015, which utilizes the following documents and professional judgment:

- DoD Quality Systems Manual for Environmental Laboratories V. 4.2 dated June 5, 2003 (QSM)
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999)
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004)
- USEPA Region 2 Data Validation Standard Operating Procedures (SOPs) HW-2a, HW-2c, HW-33, HW-35, HW-36, and HW-37

The following items were reviewed:

- * Data Completeness
- * Case Narrative
- * Custody Documentation
- * Holding Times
- * Surrogate and Internal Standard Recoveries
- * Trip/Method Blanks
- * Laboratory Control Sample (LCS)
- * Field Duplicate Correlations
- * Matrix Spike Recoveries and Duplicate Correlations
- * Field Duplicate Correlations
- * Instrumental Tunes
- * Calibration Standards
- * ICP Serial Dilution Evaluations
- * ICP Interference Check Samples
- * Method Compliance
- * Sample Result Verification

The data review includes evaluation of the specific items noted in The NYS DER-10 Appendix B section 2.0 (c) DUSR description. The items listed above that show deficiencies are discussed within the text of this narrative. The laboratory QC forms illustrating the excursions can be found within the laboratory data package.

In summary, most samples were processed primarily in compliance with project requirements, and are usable either as reported or with minor qualification/edit. The exception is that the results for ferrous iron in three samples are not usable due to outlying holding time to analysis.

Accuracy, precision, comparability, representativeness, sensitivity, and data completeness are acceptable.

Sample identifications and validation qualifier definitions are attached to this narrative. Also included in this submission are the client results tables, with recommended qualifiers/edits applied in red.

Chain-of-Custody/Sample Receipt

Some of the sample identifications that include the “MWS” designation were reported by one or both of the laboratory locations as being “MW5”.

1995-MW52-091715, OSL-MW9A-091715, 3805-MWI12-091715, and OSL-MW8-091715 were received at elevated temperature. Therefore results for all analytes except the metals have been qualified as estimated in these four samples. Although qualified, the bias in the PCB results is expected to be minimal. Other of the coolers received at elevated temperature contain samples collected the same day as laboratory receipt that were in the processing of cooling, and no qualification is made.

Although the login form associated with SDG L1507965 states that the trip blank was not received, but it was logged in and reported.

The analytical requirements for DUP-100715-01 were not specified on the custody form.

The Trip Blank associated with the samples reported in R1508476 was not entered onto the custody form, but was received.

The custody for samples reported in SDG R1507407 does not include laboratory receipt entries.

Field Duplicate Correlations

Blind field duplicates were collected at locations 1995-MWS10-090915, 1995-MW43-090815, 3805-PZ7-091015, 3805-MWD10-091415, 1595-PZ12-091715, 3805-PZ2D-092115, 2140-MW02-092215, and PCERI-IMW-25I-100715. All correlations are within validation action limits, with the following exceptions, results for which have been qualified as estimated in the indicated parent sample and its duplicate:

- 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, o-xylene, m,p-xylene, and naphthalene in 1995-MWS10-090915
- aluminum in PCERI-IMW-25I-100715

Volatile Analyses by EPA8260C

The results for SP03-EFF-090415 are qualified as estimated, with a low bias, due to low surrogate standard d8-toluene recoveries, indicating a matrix effect.

LC009-090415 and LS34-090415 were received at elevated pH above 2, indicating inadequate preservation. The samples were processed beyond the allowable holding time for unpreserved samples, and the results are therefore qualified as estimated in value, with a possible low bias. As the vials are certified for preservative, there may be a buffering effect from the matrix.

Many of the laboratory blanks and some of the trip blanks show low level contamination of 1,2,4-trichlorobenzene, naphthalene, and hexachlorobutadiene. Detections of these compounds in the associated samples that are within the level for consideration as contamination have been edited to reflect non-detection at either the reporting limit, or original reported concentration, whichever is greater. The laboratory applied the "B" flag (indicating co-presence in the associated method blank) only sporadically).

The following detections are edited to non-detection due to very poor mass spectral quality:

- acetone in 1795-SW00-090315, 1795-SW04-090315, and SP03-EFF-090415
- 2-butanone in 1595-SW01-090315, 3805-PZ2S-091115, and 1595-MWS8-091715
- chloroform in LC009-090415
- chloromethane in 1795-MWS9-090915
- 2-butanone in DUP-02-090915
- n-butylbenzene in 1995-MWS10-090915, 3805-PZ2S-091115, WWII-002-090915, 1795-PZ5-091015, 3805-PZ12S-091615, 3805-MWI9-091415, DUP05-091515, 3805-PZ13S-091515, 3805-MWI17-091615, 3805-PZ14-092315, 1595-MWS7-091815, 1595-PZ9-091615, and 1595-PZ12-091715
- p-isopropyltoluene in 3805-014-090815 and 3805-PZ13S-091515

The matrix spikes of 1795-MWS3-090915, 1795-PZ04-090815, 3805-014-090815, 3805-MWS8-0910415, 1795-MWS21-091015, 3805-MWD16-091515, DUP07-092115, 2140-MW12-092115, 1995-PZ13-091715, 2140-MW07-092315, 3805-MWD18-092215, PCERI-IMW-05, and 3805-002-100715 show recoveries and correlations that are within the QAPP referenced QSM limits, with the following exceptions, results for which are qualified as estimated in the indicated parent sample:

- 1,2,4-trimethylbenzene and m,p-xylene (153% to 238%) in 1795-MWS3-090915
- 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and styrene (11% to 71%) in 3805-MWS8-0910415 and 2140-MW07-092315
- 1,3,5-trimethylbenzene and styrene (43% to 61%) in 1795-MWS21-091015
- dibromochloromethane, dichlorobromomethane, and bromoform (21% to 58%) in PCERI-IMW-05
- styrene (34% and 46%) in 3805-MWD18-092215

Results for analytes initially reported by the laboratory with the “E” flag are therefore derived from the dilution analyses of the samples, thus reflecting responses within the established linear range of the instrument.

Holding times were met. LCS recoveries are compliant. Internal standards are compliant.

Calibration standards show acceptable responses, with the exception of those for bromomethane (26%D to 37%D) in the samples reported in SDGs R1507461, R1507527, R1507965, and R1508476, in all samples reported in SDG R1507738 except 3805-MWI17-091615, 3805-MWS4-091615, 3805-MWS2-091615, 3805-MW9A-091615, OSL-MW8-091715, and the trip blanks, and in DUP-100-715-01, PCERI-IMW-04, and Trip Blank 2, results for which are qualified as estimated in those associated samples.

Some of the samples were processed at dilution due to target analyte concentrations. This results in elevated reporting limits proportional to the level of dilution. The three soil samples reported in SDG R1507446 were processed at dilution due to foaming.

Semivolatile Analyses by EPA8270D

The detection of 4-chloroaniline in 1295-MW-3D0-091515 is edited to non-detection due to very poor quality, non-definitive, mass spectral quality.

The matrix spikes of 3805-MWD16-091515 show acceptable recoveries and correlations. LCS recoveries are compliant.

Holding times were met. Blanks show no contamination. Calibration standards show acceptable responses. Surrogate and internal standards are compliant.

Methane, Ethane, Analyses by RSK175

Results for analytes initially reported by the laboratory with the “E” flag are therefore derived from the dilution analyses of the samples, thus reflecting responses within the established linear range of the instrument.

The matrix spikes of 1795-MWS3-090915 show acceptable recoveries and correlations. LCS recoveries are compliant.

Holding times were met. Blanks show no contamination. Calibration standards show acceptable responses.

Pesticide and PCB Analyses by EPA8081A and 8082

Due to a low surrogate DCB recovery, the results for pesticides and PCBs in 3805-MWS14-091515 are qualified as estimated in value, with a possible low bias. The sample was re-extracted successfully, but just beyond the allowable holding time. Although those results are qualified, the field duplicate taken at this location did not require qualification, and can be used to indicate characterization at that location.

The pesticide and Aroclor 1016 and 1260 matrix spikes of 3805-MWD16-091515 show outlying recoveries for endrin aldehyde (28% and 37%). The associated LCSs also show one low recovery and an elevated correlation for that compound. Therefore, results for that analyte have been qualified as estimated in the samples reported in SDG L1507738.

Blanks show no contamination. Calibration standards show acceptable responses.

TAL Metals by EPA 6010C and 7470C

Matrix spikes and laboratory duplicate evaluations were performed on 1595-SW04-090315, 1795-MWS3-090415, 1295-MWS27-091115, PCERI-IMW-05, and 3805-MWD16-091515, and show acceptable recoveries and correlations.

Calibration and low level standard responses are compliant. Blanks show no detections that are above one half of the LOQ or that affect sample reported results.

The ICP serial dilution evaluations were performed on 1595-SW04-090315, 1595-SW01-090315, BM-03-090415, 1795-MWS3-090415, LC009-EFF-090415, 1295-MWS27-091115, 1295-MWS25-091615, PCERI-IMW-25I, PCERI-IMW-05, 3805-MW18-092215, 3805-MWD16-091515, 1595-MWS7-091815, and 3805-MWS5-092315. Correlations are within validation guidelines.

Wet Chemistry Analyses—Total Cyanide, Total Hardness, Chloride, Nitrate as N, Sulfate, TOC, Ammonia, and Ferrous Iron

Review was conducted for method compliance, transcription, calculations, standard and blank acceptability, accuracy and precision, etc., as applicable to each procedure. All were found acceptable unless noted specifically within this text.

1795-MWS3-090915, 1295-MW26-091115, 1295-MW27-091115, and 3805-PZ-2S-091115 were analyzed at between six and eight days from collection, so far beyond the 48 hour required holding time as to warrant non-detected results rejected, and detected results as qualified as estimated with a likely significant low bias.

The samples reported in R1507527 were also analyzed for ferrous iron beyond the holding time, and have been qualified as estimated in value, with a low bias.

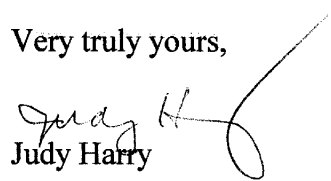
Total cyanide results for the samples reported in SDG R1507738 are qualified as estimated, with a low bias, due to outlying holding time for analysis. The samples were originally processed within the required time, but were reprocessed due to initial QC failure.

Matrix spike recovery/duplicate correlation evaluations were performed as follows, with acceptable accuracy and precision:

- chloride, nitrate, sulfate, ammonia, ferrous iron, and TOC in 1795-MWS3-090915
- total cyanide (single matrix spike) on 3805-MWD16-091515
- ferrous iron, nitrate, and sulfate in 2140-MW27-09315
- ferrous iron (laboratory duplicate) on 2140-MW27-092314
- total hardness (laboratory duplicate) on OSL-SW09-090315
- chloride, nitrate, and sulfate in 1295-MW26-091115

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,


Judy Harry

Att: Validation Qualifier Definitions
Sample Identifications and Analytical Requirements
Qualified Client Results EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

SAMPLE IDENTIFICATIONS AND ANALYTICAL REQUIREMENTS

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: Basewide Monitoring	Batch Complete: Yes	Date Revised:
Submission: R1507407	Diskette Requested: No	Date Due: 9/25/15
Client: ARCADIS U.S., Inc.	Date: 9/4/15	Protocol: SW846
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY	Chain of Custody: Present/Absent:	SDG #:

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507407-001	OSL-SW06_090315	Water	7470A, 6010C, 8260C, 8270D, SM 2340 C-1997(2011)	9/3/15	9/4/15			
R1507407-002	OSL-SW09_090315	Water	7470A, 6010C, 8260C, 8270D, SM 2340 C-1997(2011)	9/3/15	9/4/15			
R1507407-003	OSL-SW10_090315	Water	7470A, 6010C, 8260C, 8270D, SM 2340 C-1997(2011)	9/3/15	9/4/15			
R1507407-004	1795-SW00_090315	Water	6010C, 8260C, 8270D, SM 2340 C-1997(2011)	9/3/15	9/4/15			
R1507407-005	1795-SW04_090315	Water	6010C, 8260C, 8270D, SM 2340 C-1997(2011)	9/3/15	9/4/15			
R1507407-006	1595-SW04_090315	Water	6010C, 8260C, 8270D, SM 2340 C-1997(2011)	9/3/15	9/4/15			
R1507407-007	1595-SW01_090315	Water	6010C, 8260C, 8270D, SM 2340 C-1997(2011)	9/3/15	9/4/15			
R1507407-008	TRIP BLANK 1	Water	8260C	9/3/15	9/4/15			
R1507407-009	TRIP BLANK 2	Water	8260C	9/3/15	9/4/15			

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ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: Basewide Monitoring	Batch Complete: Yes	Date Revised:
Submission: R1507446	Diskette Requested: No	Date Due: 9/29/15
Client: ARCADIS U.S., Inc.	Date: 9/9/15	Protocol: CAS/SOP/Misc
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY	Chain of Custody: Present/Absent:	SDG #: BM-01-090415

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507446-001	BM-01-090415	Soil	Grind, 6010C, 8260C	9/4/15	9/8/15			
R1507446-002	BM-02-090415	Soil	Grind, 6010C, 8260C	9/4/15	9/8/15			
R1507446-003	BM-03-090415	Soil	Grind, 6010C, 8260C	9/4/15	9/8/15			

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Folder Comments: DOD

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM - RIFS	Batch Complete: Yes	Date Revised:
Submission: R1507461	Diskette Requested: No	Date Due: 9/30/15
Client: ARCADIS U.S., Inc.	Date: 9/11/15	Protocol: SW846
Client Rep: JJAEGGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: LS34-090415

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507461-001	LS34-090415	Water	6010C, 8260C	9/4/15	9/5/15			
R1507461-002	SP03-EFF-090415	Water	8260C, 6010C	9/4/15	9/5/15			
R1507461-003	LS34-EFF-090415	Water	6010C, 8260C	9/4/15	9/5/15			
R1507461-004	LC009-EFF-090415	Water	6010C, 8260C	9/4/15	9/5/15			
R1507461-005	LC009-090415	Water	6010C, 8260C	9/4/15	9/5/15			
R1507461-006	TRIP BLANK	Water	8260C	9/4/15	9/5/15			

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Folder Comments: DOD

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM.RIFS	Batch Complete: Yes	Date Revised:
Submission: R1507527	Diskette Requested: No	Date Due: 9/30/15
Client: ARCADIS U.S., Inc.	Date: 9/14/15	Protocol: SW846
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: 1795-MW53-090915

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507527-001QC	1795-MWS3-090915	Water	8260C, 6010C, SM 3500-Fe B.4.c, ASTM D6919-09, SM 5310 B, 300.0, RSK 175	9/9/15	9/9/15			
R1507527-002	1795-MWS9-090915	Water	8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B, 300.0, ASTM D6919-09	9/9/15	9/9/15			
R1507527-003	DUP-02-090915	Water	300.0, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	9/9/15	9/9/15			
R1507527-004	1995-MWS10-090915	Water	300.0, 8260C, 6010C, ASTM D6919-09, RSK 175, SM 5310 B, SM 3500-Fe B.4.c	9/9/15	9/9/15			
R1507527-005	1795-PZ15-090915	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, 8260C, ASTM D6919-09	9/9/15	9/9/15			
R1507527-006	3805-MWS24-090915	Water	RSK 175, SM 5310 B, 300.0, ASTM D6919-09, SM 3500-Fe B.4.c, 6010C, 8260C	9/9/15	9/9/15			
R1507527-007	1795-MW57-090915	Water	RSK 175, SM 5310 B, 300.0, SM 3500-Fe B.4.c, ASTM D6919-09, 8260C, 6010C	9/9/15	9/9/15			
R1507527-008	TRIP BLANK 1	Water	8260C	9/9/15	9/9/15			
R1507527-009	TRIP BLANK 2	Water	8260C	9/9/15	9/9/15			
R1507527-010QC	1795-PZ04-090815	Water	8260C	9/8/15	9/9/15			
R1507527-011	1795-MWS11-090815	Water	8260C	9/8/15	9/9/15			
R1507527-012	1795-MWI12-090815	Water	8260C	9/8/15	9/9/15			
R1507527-013	1795-MWD13-090815	Water	8260C	9/8/15	9/9/15			
R1507527-014	1995-MW43-090815	Water	8260C	9/8/15	9/9/15			
R1507527-015	1995-PZ6-090815	Water	8260C	9/8/15	9/9/15			
R1507527-016	3805-016-090815	Water	8260C	9/8/15	9/9/15			
R1507527-017	3805-014-090815	Water	8260C	9/8/15	9/9/15			
R1507527-018	DUP01 090815	Water	8260C	9/8/15	9/9/15			

Folder Comments: DOD

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM.RIFS	Batch Complete: Yes	Date Revised:
Submission: R1507588	Diskette Requested: No	Date Due: 10/2/15
Client: ARCADIS U.S., Inc.	Date: 9/29/15	Protocol: SW846
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: 1295-MW26-091115

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507588-001	1295-MW26-091115	Water	6010C, ASTM D6919-09, 8260C, 300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c	9/11/15	9/11/15			
R1507588-002	1295-MWS27-091115	Water	300.0, 8260C, 6010C, ASTM D6919-09, RSK 175, SM 5310 B, SM 3500-Fe B.4.c	9/11/15	9/11/15			
R1507588-003	3805-PZ2S-091115	Water	6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B, 300.0, 8260C, ASTM D6919-09	9/11/15	9/11/15			
R1507588-004	3805-MWS11-091115	Water	300.0, SM 5310 B, RSK 175, SM 3500-Fe B.4.c, 6010C, ASTM D6919-09, 8260C	9/11/15	9/11/15			
R1507588-005	WWII-002-090915	Water	8260C	9/9/15	9/11/15			
R1507588-006	3805-002-090915	Water	8260C	9/9/15	9/11/15			
R1507588-007QC	1795-MWS21-091015	Water	8260C	9/10/15	9/11/15			
R1507588-009	WWII-006-091015	Water	8260C	9/10/15	9/11/15			
R1507588-010	1795-MW51-091015	Water	8260C	9/10/15	9/11/15			
R1507588-011	1795-MW52-091015	Water	8260C	9/10/15	9/11/15			
R1507588-012	1795-PZ5-091015	Water	8260C	9/10/15	9/11/15			
R1507588-012.R01	1795-PZ5-091015	Water	8260C	9/10/15	9/11/15			
R1507588-013	1795-PZ14-091015	Water	8260C	9/10/15	9/11/15			
R1507588-014	3805-MWS3-091015	Water	8260C	9/10/15	9/11/15			
R1507588-015	3805-MWS2-091015	Water	8260C	9/10/15	9/11/15			
R1507588-016	3805-PZ7-091015	Water	8260C	9/10/15	9/11/15			
R1507588-017	OSL-MW3-091015	Water	8260C	9/10/15	9/11/15			
R1507588-018	3805-MWS23-091015	Water	8260C	9/10/15	9/11/15			
R1507588-019	DUP03-091015	Water	8260C	9/10/15	9/11/15			
R1507588-020	1795-MWS10-091115	Water	8260C	9/11/15	9/11/15			
R1507588-021	TRIP BLANK	Water	8260C	9/9/15	9/11/15			

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ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM RIFS	Batch Complete: Yes	Date Revised:
Submission: R1507736	Diskette Requested: No	Date Due: 10/8/15
Client: ARCADIS U.S., Inc.	Date: 9/23/15	Protocol: STD METHODS
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: 3805-PZ12S-091615

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507736-001	3805-PZ12S-091615	Water	SM 5310 B, 300.0, ASTM D6919-09, SM 3500-Fe B.4.c, 6010C, 8260C, RSK 175	9/16/15	9/16/15	-		
R1507736-002	3805-PZ3-091615	Water	SM 5310 B, 300.0, RSK 175, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c	9/16/15	9/16/15			
R1507736-003	1295-MWS28-091615	Water	300.0, SM 5310 B, ASTM D6919-09, 6010C, SM 3500-Fe B.4.c, RSK 175, 8260C	9/16/15	9/16/15			
R1507736-004	1295-MW30-091615	Water	300.0, ASTM D6919-09, 8270D, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	9/16/15	9/16/15			
R1507736-005	1295-MW25-091615	Water	300.0, SM 5310 B, ASTM D6919-09, SM 3500-Fe B.4.c, 6010C, 8260C, RSK 175	9/16/15	9/16/15			
R1507736-006QC	3805-MWS8-091415	Water	8260C	9/14/15	9/16/15			
R1507736-007	3805-MWD10-091415	Water	8260C	9/14/15	9/16/15			
R1507736-008	3805-MWI9-091415	Water	8260C	9/14/15	9/16/15			
R1507736-009	3805-PZ12D-091415	Water	8260C	9/14/15	9/16/15			
R1507736-010	3805-PZ12I-091415	Water	8260C	9/14/15	9/16/15			
R1507736-011	DUP04-091415	Water	8260C	9/14/15	9/16/15			
R1507736-012	3805-PZ13I-091515	Water	8260C	9/15/15	9/16/15			
R1507736-013	3805-MW39-091515	Water	8260C	9/15/15	9/16/15			
R1507736-014	3805-PZ13D-091515	Water	8260C	9/15/15	9/16/15			
R1507736-015	TRIP BLANK 9/14	Water	8260C	9/14/15	9/16/15			
R1507736-016	TRIP BLANK 9/15	Water	8260C	9/15/15	9/16/15			
R1507736-017	TRIP BLANK 9/16	Water	8260C	9/16/15	9/16/15			

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ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM RIFS	Batch Complete: Yes	Date Revised:
Submission: R1507738	Diskette Requested: No	Date Due: 10/9/15
Client: ARCADIS U.S., Inc.	Date: 9/21/15	Protocol: SW846
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: 3805-MWD16-091515

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507738-001QC	3805-MWD16-091515	Water	7470A, 6010C, 8081B, 8082A, 8260C, 8270D, 9012B	9/15/15	9/16/15			
R1507738-002	3805-MWS14-091515	Water	7470A, 6010C, 8081B, 8082A, 8260C, 8270D, 9012B	9/15/15	9/16/15			
R1507738-003	3805-MWI15-091515	Water	7470A, 6010C, 8081B, 8082A, 8260C, 8270D, 9012B	9/15/15	9/16/15			
R1507738-004	DUP05-091515	Water	7470A, 6010C, 8081B, 8082A, 8260C, 8270D, 9012B	9/15/15	9/16/15			
R1507738-005	3805-PZ13S-091515	Water	7470A, 6010C, 8260C, 8270D	9/15/15	9/16/15			
R1507738-006	OSL-MW2-091615	Water	7470A, 6010C, 8260C, 8270D	9/16/15	9/16/15			
R1507738-007	OSL-MW10-091615	Water	7470A, 6010C, 8260C, 8270D	9/16/15	9/16/15			
R1507738-008	3805-MWI17-091615	Water	7470A, 6010C, 8081B, 8082A, 8260C, 8270D, 9012B	9/16/15	9/16/15			
R1507738-009	3805-MWS4-091615	Water	7470A, 9012B, 6010C, 8081B, 8082A, 8260C, 8270D	9/16/15	9/16/15			
R1507738-010	TRIP BLANK 1	Water	8260C	9/15/15	9/16/15			
R1507738-011	TRIP BLANK 2	Water	8260C	9/15/15	9/16/15			
R1507738-012	TRIP BLANK 3	Water	8260C	9/15/15	9/16/15			
R1507738-013	TRIP BLANK 4	Water	8260C	9/15/15	9/16/15			
R1507738-014	TRIP BLANK 5	Water	8260C	9/15/15	9/16/15			
R1507738-015	1995-MW52-091715	Water	6010C, 7470A, 8270D, 8260C	9/17/15	9/18/15			
R1507738-016	OSL-MW9A-091715	Water	7470A, 8270D, 6010C, 8260C	9/17/15	9/18/15			
R1507738-017	3805-MWI12-091715	Water	6010C, 8081B, 8082A, 8260C, 8270D, 9012B, 7470A	9/17/15	9/18/15			
R1507738-018	OSL-MW8-091715	Water	7470A, 8270D, 6010C, 8260C	9/17/15	9/18/15			

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ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: Basewide Monitoring	Batch Complete: Yes	Date Revised:
Submission: R1507860	Diskette Requested: No	Date Due: 10/9/15
Client: ARCADIS U.S., Inc.	Date: 9/21/15	Protocol: EPA
Client Rep: JJAEGGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY	Chain of Custody: Present/Absent:	SDG #: 1595-MW33-091815

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507860-001	1595-MW33-091815	Water	300.0, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	9/18/15	9/18/15			
R1507860-002	1595-OBG2-091815	Water	300.0, 8260C, 6010C, ASTM D6919-09, RSK 175, SM 5310 B, SM 3500-Fe B.4.c	9/18/15	9/18/15			
R1507860-003	1595-MW57-091815	Water	300.0, ASTM D6919-09, 8260C, 6010C, SM 3500-Fe B.4.c, RSK 175, SM 5310 B	9/18/15	9/18/15			
R1507860-004	3805-MWI2D-091615	Water	8260C	9/16/15	9/18/15			
R1507860-005	3805-MWS19-091615	Water	8260C	9/16/15	9/18/15			
R1507860-006	1595-PZ9-091615	Water	8260C	9/16/15	9/18/15			
R1507860-007QC	1595-PZ13-091715	Water	8260C	9/17/15	9/18/15			
R1507860-008	1595-PZ12-091715	Water	8260C	9/17/15	9/18/15			
R1507860-009	1595-PZ11-091715	Water	8260C	9/17/15	9/18/15			
R1507860-010	1595-MWS9-091715	Water	8260C	9/17/15	9/18/15			
R1507860-011	1595-MWS8-091715	Water	8260C	9/17/15	9/18/15			
R1507860-012	3805-MWD13-091715	Water	8260C	9/17/15	9/18/15			
R1507860-013	DUP06-091715	Water	8260C	9/17/15	9/18/15			
R1507860-014	Trip Blank	Water	8260C	9/17/15	9/21/15			

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ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM.RIFS	Batch Complete: Yes	Date Revised:
Submission: R1507965	Diskette Requested: No	Date Due: 10/16/15
Client: ARCADIS U.S., Inc.	Date: 9/28/15	Protocol: EPA
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: 3805-PZ14-092315

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507965-001	3805-PZ14-092315	Water	RSK 175, 300.0, ASTM D6919-09, SM 5310 C-2000(2011), 8260C, 6010C, SM 3500-Fe B.4.c	9/23/15	9/23/15			
R1507965-002	2140-MW27-092315	Water	300.0, SM 5310 C-2000(2011), 8260C, 6010C, ASTM D6919-09, SM 3500-Fe B.4.c, RSK 175	9/23/15	9/23/15			
R1507965-003	3805-MW55-092315	Water	RSK 175, 300.0, SM 3500-Fe B.4.c, ASTM D6919-09, SM 5310 C-2000(2011), 8260C, 6010C	9/23/15	9/23/15			
R1507965-004	TRIP BLANK 1	Water	8260C	9/23/15	9/23/15			
R1507965-005QC	2140-MW12-092115	Water	8260C	9/21/15	9/23/15			
R1507965-006	2140-MW13-092115	Water	8260C	9/21/15	9/23/15			
R1507965-007	2140-MW14-092115	Water	8260C	9/21/15	9/23/15			
R1507965-008	2140-MW19-092115	Water	8260C	9/21/15	9/23/15			
R1507965-009	2140-MW16-092115	Water	8260C	9/21/15	9/23/15			
R1507965-010	3805-PZ2D-092115	Water	8260C	9/21/15	9/23/15			
R1507965-011	3805-PZ2I-092115	Water	8260C	9/21/15	9/23/15			
R1507965-012	3805-MWD7-092115	Water	8260C	9/21/15	9/23/15			
R1507965-013	3805-MWI6-092115	Water	8260C	9/21/15	9/23/15			
R1507965-014	DUP07-092115	Water	8260C	9/21/15	9/23/15			
R1507965-015	2140-MW6-092115	Water	8260C	9/21/15	9/23/15			
R1507965-016	2140-MW4-092115	Water	8260C	9/21/15	9/23/15			
R1507965-017	2140-MW2-092215	Water	8260C	9/22/15	9/23/15			
R1507965-018	2140-MW37-092215	Water	8260C	9/22/15	9/23/15			
R1507965-019	DUP08-092215	Water	8260C	9/22/15	9/23/15			
R1507965-020QC	2140-MW07-092315	Water	8260C	9/23/15	9/23/15			
R1507965-021	2140-MW05-092315	Water	8260C	9/23/15	9/23/15			
R1507965-022	2140-MW09-092315	Water	8260C	9/23/15	9/23/15			

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Client Proj #: GP14DRUM.RIFS	Batch Complete: Yes	Date Revised:
Submission: R1507970	Diskette Requested: No	Date Due: 10/16/15
Client: ARCADIS U.S., Inc.	Date: 9/28/15	Protocol: SW846
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY IRP Basewide	Chain of Custody: Present/Absent:	SDG #: 3805-MWD18-092215

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1507970-001	3805-MWD18-092215	Water	7470A, 9012B, 6010C, 8081B, 8082A, 8260C, 8270D	9/22/15	9/23/15			
R1507970-002	TRIP BLANK	Water	8260C	9/22/15	9/23/15			

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CLP Batching Form

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM.RIFS.G3800	Batch Complete: Yes	Date Revised:
Submission: R1508476	Diskette Requested: No	Date Due: 10/29/15
Client: ARCADIS U.S., Inc.	Date: 10/9/15	Protocol: SW846
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum, NY PCE Site	Chain of Custody: Present/Absent:	SDG #: PCERI-IMW-01

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1508476-001	PCERI-IMW-01	Water	7470A, 6010C, 8260C	10/5/15	10/7/15			
R1508476-002	PCERI-IMW-02	Water	7470A, 6010C, 8260C	10/6/15	10/7/15			
R1508476-003	PCERI-MW19I	Water	7470A, 6010C, 8260C	10/6/15	10/7/15			
R1508476-004	PCERI-MW19S	Water	7470A, 6010C, 8260C	10/6/15	10/7/15			
R1508476-005	PCERI-IMW-04	Water	7470A, 6010C, 8260C	10/6/15	10/7/15			
R1508476-006	PCERI-IMW-03	Water	7470A, 6010C, 8260C	10/6/15	10/7/15			
R1508476-007	PCERI-IMW-06	Water	7470A, 6010C, 8260C	10/6/15	10/7/15			
R1508476-008	TRIP BLANK 1	Water	8260C	10/6/15	10/7/15			
R1508476-009QC	PCERI-IMW-05	Water	7470A, 6010C, 8260C	10/7/15	10/8/15			
R1508476-010	PCERI-IMW-25I	Water	7470A, 6010C, 8260C	10/7/15	10/8/15			
R1508476-011	PCERI-IMW-25S	Water	7470A, 8260C, 6010C	10/7/15	10/8/15			
R1508476-013	DUP-100715-01	Water	6010C, 8260C, 7470A	10/7/15	10/8/15			
R1508476-014	TRIP BLANK 2	Water	8260C	10/7/15	10/8/15			

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Folder Comments: DOD

ALS ASP/CLP Batching Form/Login Sheet

Client Proj #: GP14DRUM.RIFS	Batch Complete: Yes	Date Revised:
Submission: R1508557	Diskette Requested: No	Date Due: 10/29/15
Client: ARCADIS U.S., Inc.	Date: 10/9/15	Protocol: SW846
Client Rep: JJAEGGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Fort Drum IRP	Chain of Custody: Present/Absent:	SDG #: 1595-MW33-100715

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R1508557-001	1595-MW33-100715	Water	8260C	10/7/15	10/8/15			
R1508557-002	1595-PZ11-100715	Water	8260C	10/7/15	10/8/15			
R1508557-003	1595-PZ13-100715	Water	8260C	10/7/15	10/8/15			
R1508557-004	1595-MWS8-100715	Water	8260C	10/7/15	10/8/15			
R1508557-005	1795-MWS3-100715	Water	8260C	10/7/15	10/8/15			
R1508557-006	1795-PZ4-100715	Water	8260C	10/7/15	10/8/15			
R1508557-007	1795-PZ15-100715	Water	8260C	10/7/15	10/8/15			
R1508557-008	1795-MWS7-100715	Water	8260C	10/7/15	10/8/15			
R1508557-009	3805-MWS24-100715	Water	8260C	10/7/15	10/8/15			
R1508557-010	3805-MWI6-100715	Water	8260C	10/7/15	10/8/15			
R1508557-011	3805-002-100715	Water	8260C	10/7/15	10/8/15			
R1508557-012	3805-MW39-100715	Water	8260C	10/7/15	10/8/15			
R1508557-013	2140-MW02-100715	Water	8260C	10/7/15	10/8/15			
R1508557-014	2140-MW37-100715	Water	8260C	10/7/15	10/8/15			
R1508557-015	2140-MW06-100715	Water	8260C	10/7/15	10/8/15			
R1508557-016	2140-MW04-100715	Water	8260C	10/7/15	10/8/15			
R1508557-017	TRIP BLANK 1	Water	8260C	10/7/15	10/8/15			

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