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2016 Annual Basewide Monitoring Report

Fort Drum Installation Restoration Program
Fort Drum, New York

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2016 Annual Basewide Monitoring Report

Installation Restoration Program
Fort Drum, New York



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Acronyms and Abbreviations

AAFES	Army and Air Force Exchange Service
AS	Air Sparging
ASL	Airfield Sanitary Landfill
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BV	Bioventing
DDT	Dichlorodiphenyltrichloroethane
DMP	Data Management Plan
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
MAES	Multiple Award Environmental Services
MIP	Membrane Interface Probe
MNA	Monitored Natural Attenuation
MPE	Multi-Phase Extraction
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
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
SSDS	Sub-Slab Depressurization System
SVE	Soil Vapor Extraction
SVOCs	Semi-volatile Organic Compounds
TAL	Target Analyte List
TVOC	Total Volatile Organic Compounds
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank

VOCs	Volatile Organic Compounds

1. Introduction

The PIKA - MP JV, LLC[1] (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 2016 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 1-2.

2.1.1 Area 1295 (FTD-030A)

Unleaded gasoline and diesel fuel were released to the subsurface (Plexus, 2014) 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 seven additional air sparge (AS) wells and began operating an AS system to perform the physical removal and enhanced aerobic degradation of remaining hydrocarbon mass to achieve site closure. In 2016 the JV added additional AS capacity by connecting former ozone wells to the AS system to increase treatment effectiveness.

2.1.2 Area 1595 (FTD-030D)

Contaminants (primarily VOCs, including BTEX) were released to the subsurface from diesel USTs (Plexus, 2014) 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 nitrogen : phosphorous : potassium (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. In 2016 the JV, drilled nine soil borings to improve site characterization, added 24 additional AS wells, and connected former ozone wells to the AS system to increase treatment effectiveness.

2.1.3 Area 1795 (FTD-030E)

Unleaded gasoline was released to the subsurface from USTs and dispenser piping formerly located at the site (Plexus, 2014), resulting in LNAPL and dissolved phase contamination in the underlying aquifer (primarily VOCs, including BTEX). Measurable LNAPL was noted in some of the extraction wells for the new directed groundwater recirculation system 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 12 additional AS 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. In 2016 the JV drilled 12 soil borings and installed five observation wells to improve site characterization, added 11 additional AS wells, and connected former ozone wells to the AS system to increase treatment effectiveness. Additionally, a directed groundwater recirculation system was constructed and operated in 2016 to address petroleum impacts between the existing source area and down-gradient treatment areas that were not previously covered by the remedial system well networks.

2.1.4 Area 3805/1995 (FTD-030F)

Jet fuel (JP-4) and diesel fuels were stored in former USTs at this area from the 1940s through the early 1990s (Plexus, 2014). 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 36 additional AS 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. In 2016 the JV drilled 11 soil borings and installed one observation well to improve site characterization, and added 33 additional AS wells and blower capacity to increase treatment effectiveness. Additionally, in 2016 the JV installed two additional borehole heat exchangers (BHEs) and three additional thermocouples (TCs) to expand the Thermal In-Situ Sustainable Remediation (TISR) system, designed to increase biological activity.

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 (Plexus, 2014). 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 five additional AS wells and one additional SVE well, 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. In 2016 the JV connected former ozone wells to the AS system to increase treatment effectiveness. The AS/SVE system was shut down in November 2016 based on the results of performance monitoring. Additional rebound monitoring will be conducted in 2017 in accordance with the IRP Work Plan.

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 *2016 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL*, provided in Appendix A.

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 southeast 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 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-millimeiter PVC cover, 18 PVC gas vents, 12 inches of soil cover, and vegetation. Annual landfill inspections and groundwater sampling every five years (conducted in 2016) 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 *2016 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 19 through 29, 2016) and fall (September 6 through 21, 2016) of 2016. 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. In accordance with the NYSDEC's April 8, 2016 approval, monitoring wells that are sampled only for analysis of VOCs (Table 3-1) were sampled using passive diffusion bag (PDB) samplers. In accordance with the NYSDEC's May 5, 2016 approval, data validation is no longer required under the Basewide Monitoring Program, but will be continued for OSL and ASL samples.

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, and seep sampling conducted as part of the long-term maintenance and monitoring for the OSL and ASL are presented in the *2016 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 2016 monitoring event are presented in Appendix B. Analytical laboratory reporting forms for 2016 monitoring event are presented in Appendix C.

3.2 Sampling Summary

In accordance with the Basewide Monitoring Plan, there are a total of 90 groundwater monitoring wells, seven surface water sampling locations, and 10 seep sampling locations that were scheduled for sampling in 2016. However, some locations either were not sampled or were sampled for limited analytical parameters during the

monitoring events. Table 3-2 summarizes the monitoring wells that were not sampled for all or some parameters during the 2016 monitoring events. As shown in Table 3-2, four monitoring wells at Gasoline Alley sites were not sampled during the 2016 fall monitoring event. Two monitoring wells in Area 1795 were not located and are presumed destroyed, while two monitoring wells in Area 3805 were dry.

4. 2016 Results and Conclusions

The spring and fall 2016 groundwater elevation data, for those wells sampled in the BWM Program, are presented in Table 4-1. Groundwater, surface water, and seep analytical results for 2016 are summarized in Tables 4-2 and 4-3. Analytical results for 2016 and total VOC (TVOC) concentration trends for each area are depicted on Figures 4-1 through 4-12. These figures use 2014 as a baseline because remedial systems/approaches were reconfigured in 2015 by the JV. A summary of the 2016 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 2016 reporting period have been summarized in Quarterly Reports submitted to the Army, Construction Completion Report Addenda (PIKA-MP JV, 2016a; PIKA-MP JV, 2016b; PIKA-MP JV, 2016c) and will be described in further detail in forthcoming Construction Completion Report Addenda. Remediation activities during the reporting period generally included the expansion, optimization, operation, and maintenance of the remedial systems.

4.1 Area 1295

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 4-1 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2016. Analytes that exceeded NYSDEC Class GA Groundwater Standards generally included petroleum-related VOCs and iron. As shown on Figure 4-1, samples from monitoring well 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 (1290 micrograms per liter [µg/L] and 473 µg/L, respectively). LNAPL was not observed during well gauging or groundwater sampling at Area 1295 in 2016.

As shown on Figure 4-2, groundwater TVOC concentrations have decreased by approximately half between the fall 2014 and fall 2016 sampling events and likely reflects the impacts of the AS system that was installed and brought online during the summer of 2015. Monitored natural attenuation (MNA) parameter concentrations in 2016 were generally consistent with 2015 concentrations with the exception of sulfate, which increased in 1295-MW30.

4.2 Area 1595

There are nine 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 4-3 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2016. Analytes that exceeded NYSDEC Class GA Groundwater Standards generally included petroleum-related VOCs and iron. As shown on Figure 4-2, samples from monitoring wells 1595-MWS7, 1595-MWS8, 1595-OBG2, 1595-PZ9, 1595-PZ12, and 1595-PZ13 contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. Samples from 1595-PZ12 and 1595-PZ13 contained the highest concentrations of BTEX in the spring and fall sampling events (144 µg/L and 207 µg/L, respectively). LNAPL was not observed during well gauging or groundwater sampling at Area 1595 in 2016.

As shown on Figure 4-3, 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.

As shown on Figure 4-4, with the exception of 1595-OBG2 and 1595-PZ13, groundwater TVOC concentrations decreased by an order of magnitude in most Area 1595 wells between the fall 2014 and fall 2016 sampling events and likely reflects the impacts of the AS/BV system that was brought online during the spring/summer of 2015. Additional remedial infrastructure was added and existing ozone wells were added to the AS system to increase treatment effectiveness. Coupled with ongoing performance monitoring, the impact of these system changes will be evaluated during 2017. TVOC concentrations in surface water have also decreased between 2014 and 2016. MNA parameter concentrations in 2016 were generally consistent with 2015 concentrations.

4.3 Area 1795

There are 15 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 4-5 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2016. Analytes that exceeded NYSDEC Class GA Groundwater Standards included petroleum-related VOCs and iron. As shown on Figure 4-3, samples from monitoring wells 1795-MW-S2, 1795-MWS3, 1795-MWS7, 1795-MWS21, 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 (2,253 µg/L and 1,086 µg/L, respectively). LNAPL was not observed during well gauging or groundwater sampling at Area 1795 in 2016, however, measurable LNAPL was noted in up to four of the extraction wells for the new directed groundwater recirculation system.

As shown on Figure 4-5, none of the surface water samples from Area 1795 contained petroleum-related contaminants at concentrations greater than applicable NYSDEC surface water standards/guidance values.

As shown on Figure 4-6, groundwater TVOC concentrations have been stable or decreasing in the source area between the fall 2014 and fall 2016 sampling events and likely reflects the impacts of the AS/BV system that was brought online during the spring/summer of 2015 and enhanced with additional remedial infrastructure in the fall/winter of 2015. Elevated/increasing TVOC concentrations between the A/B and C remediation systems prompted the JV to begin construction on a directed groundwater recirculation system in the fall/winter of 2016 to address down-gradient impacts. Coupled with ongoing performance monitoring, the impact of the recirculation system will be evaluated during 2017. TVOCs were not detected at concentrations greater than reporting limits in surface water at Area 1795, consistent with 2015 results. MNA parameter concentrations in 2016 were generally consistent with 2015 concentrations.

4.4 Area 3805/1995

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 4-7 and 4-8 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2016. 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 4-4 and 4-5, samples from all monitoring wells except 3805-MW39, 3805-MWD7, 3805-MWD10, 3805-MWD16, 3805-MWI20, 3805-MWS2, 3805-MWS3, 3805-MWS19, 3805-PZ7, 3805-PZ12I, 3805-PZ12D, 3805-PZ-13I, and 3805-PZ-13D contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. Sample from 3805-PZ12S contained the highest concentrations of BTEX in both the spring and fall sampling events (9,420 µg/L and 14,410 µg/L, respectively). LNAPL was not observed during well gauging or groundwater sampling at Area 3805/1995 during the spring and fall 2016 monitoring events.

As shown on Figures 4-9 and 4-10, groundwater TVOC concentrations have decreased by an order of magnitude or more in many 3805 Area wells within the primary plume area south of Route 26 between 2014 and 2016. This likely reflects the impacts of the AS/SVE/BV system that was brought online during the spring/summer of 2015, and expanded in the fall/winter of 2015 and spring/summer of 2016. Coupled with ongoing performance monitoring, additional optimization to target remedial efforts is ongoing. MNA parameter concentrations in 2016 were generally consistent with 2015 concentrations.

4.5 P-2140

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 4-11 summarize exceedances of NYSDEC Class GA Groundwater Standards for samples collected during 2016. Analytes that exceeded NYSDEC Class GA Groundwater Standards generally included petroleum-related VOCs. As shown on Figure 4-6, samples from monitoring wells 2140-MW06, 2140-MW07, and 2140-MW37 contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. The sample from 2140-MW06 contained the highest concentrations of BTEX in the spring sampling event (1,110 µg/L). None of the samples from the fall sampling event contained VOCs at concentrations greater than the corresponding NYSDEC Class GA Groundwater Standards. LNAPL was not observed during well gauging or groundwater sampling at Area P-2140 in 2016.

As shown on Figure 4-12, groundwater TVOC concentrations have decreased by one to two orders of magnitude between 2014 and 2016 and reflects the impacts of the AS/SVE system that was augmented and brought online during the summer of 2015 and the addition of former ozone wells to the AS system. As of the fall 2016 sampling event, contaminant concentrations in all P-2140 wells are less than NYSDEC Class GA Groundwater Standards and the site is currently being evaluated for rebound/closure monitoring. MNA parameter concentrations in 2016 were generally consistent with 2015 concentrations.

4.6 Sanitary Landfills

Details of Sanitary Landfill groundwater, surface water, and seep sampling, along with annual inspections, maintenance, and repairs conducted during 2016 are provided in the *2016 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL*, provided in Appendix A.

5. Planned Remedial Activities and BWM Program Recommendations

5.1 Planned Remedial Activities

- The 1295 AS system will continue to operate through the winter with the addition of the former ozone wells, and the site will be evaluated for rebound/closure monitoring in late winter/early spring.
- The 1595 AS/BV system will continue to operate and additional balancing/optimization will be conducted in 2017.
- The 1795 BV system and new groundwater recirculation system will continue to operate and additional balancing/optimization will be conducted in 2017.
- The P-2140 AS/SVE system is currently shut down for rebound/closure evaluation sampling. The rebound monitoring period will be conducted for a period of one year, unless rebound is noted and the system is re-started before that time.
- The 3805 AS/BV/SVE system will continue to operate and additional balancing/optimization will be conducted in 2017. Vapor intrusion into Building 3829 will be mitigated through installation of a sub-slab depressurization system (SSDS).

5.2 BWM Program Recommendations

No modifications to the Basewide Monitoring Program are recommended.

6. 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, 2016a. IRP 1595 Construction Completion Report Addendum, Installation of Additional Air Sparging Wells and Remedial Equipment Upgrades, Fort Drum Installation Restoration Program, Fort Drum, New York.

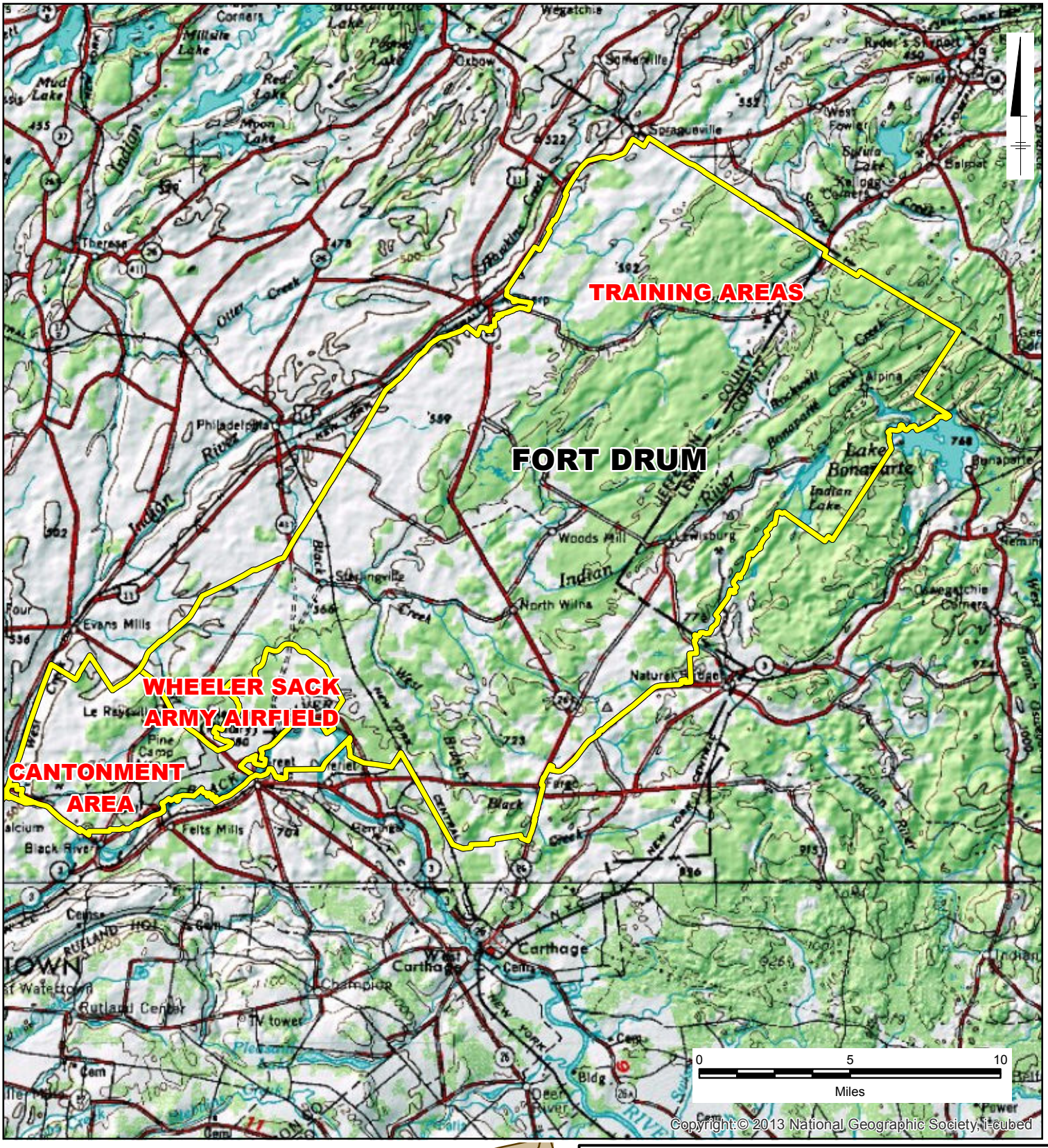
PIKA-MP JV, 2016b. IRP 1795 Construction Completion Report Addendum, Activation of Air Sparging Systems at Area 1795, Fort Drum Installation Restoration Program, Fort Drum, New York.

PIKA-MP JV, 2016c. IRP 3805 Construction Completion Report Addendum, Installation of Additional Air Sparging Wells and Remedial Equipment Upgrades, Fort Drum Installation Restoration Program, Fort Drum, New York.

Plexus, 2014. 2014 Annual Basewide Monitoring Report, 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

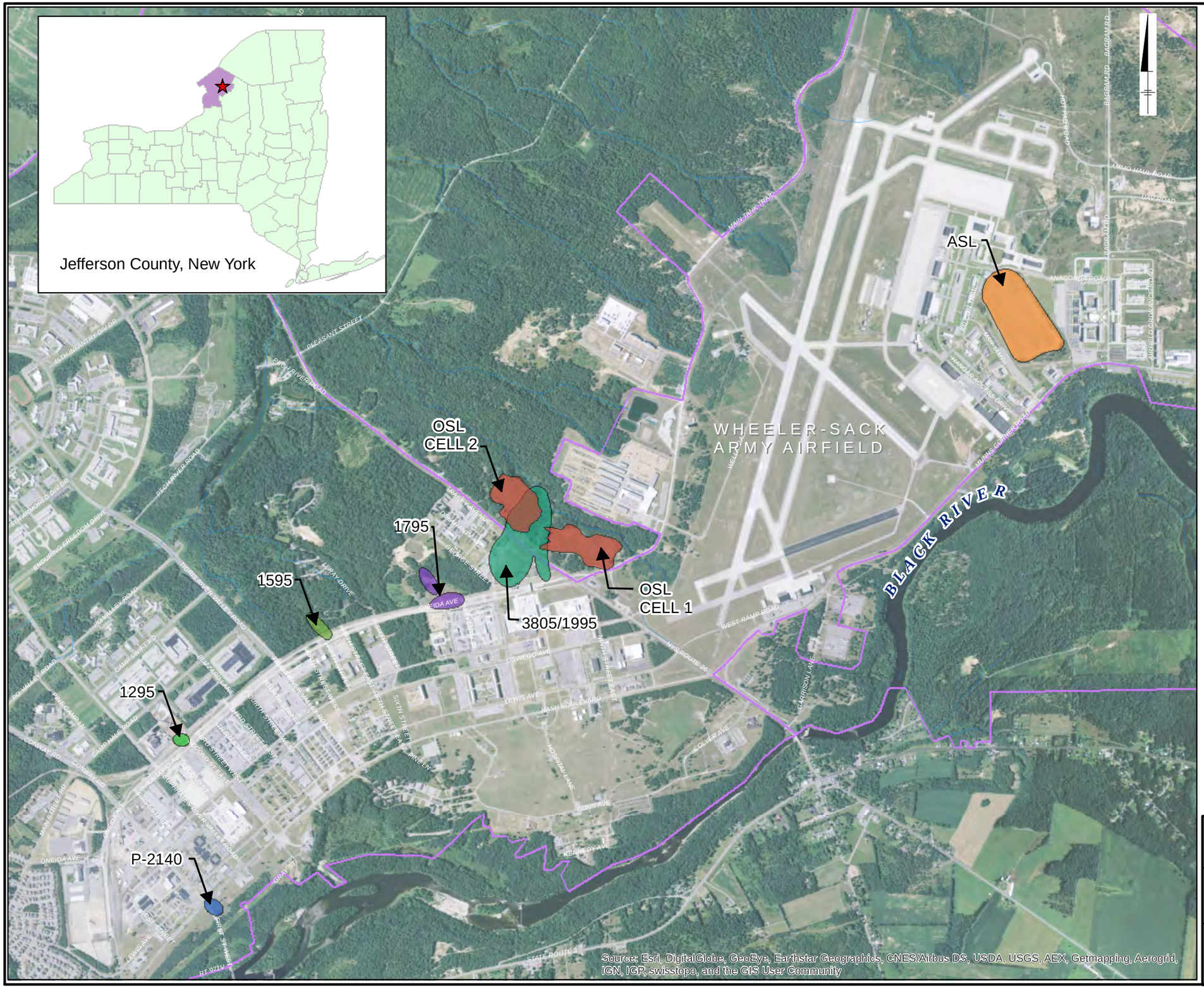
BASEWIDE MONITORING REPORT

SITE LOCATION MAP

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE
1-1

CITY: MPLS DIV/GROUP: IM DB: MG LD: CK MADISON-KIPP
Z:\GISPROJECTS_ENV\ENV_FORTDRUM_IRP\MXD\BASEWIDE MONITORING PLAN 2015\F1-1_SITE_LOCATION.mxd



LEGEND

SITE NAME

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

0 2,000 4,000

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

SITE MAP

FIGURE
1-2

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: akens LD: S.SUTTON PIC: PM: TM:
PROJECT: XX000000.0000.00000 PATH: Z:\GIS\PROJECTS_ENV\ENV_FORTDRUM_IRP\MXD\CCRIF1-2_IRPCCR_BasewideMonitoringSITE PLAN11_2015.mxd

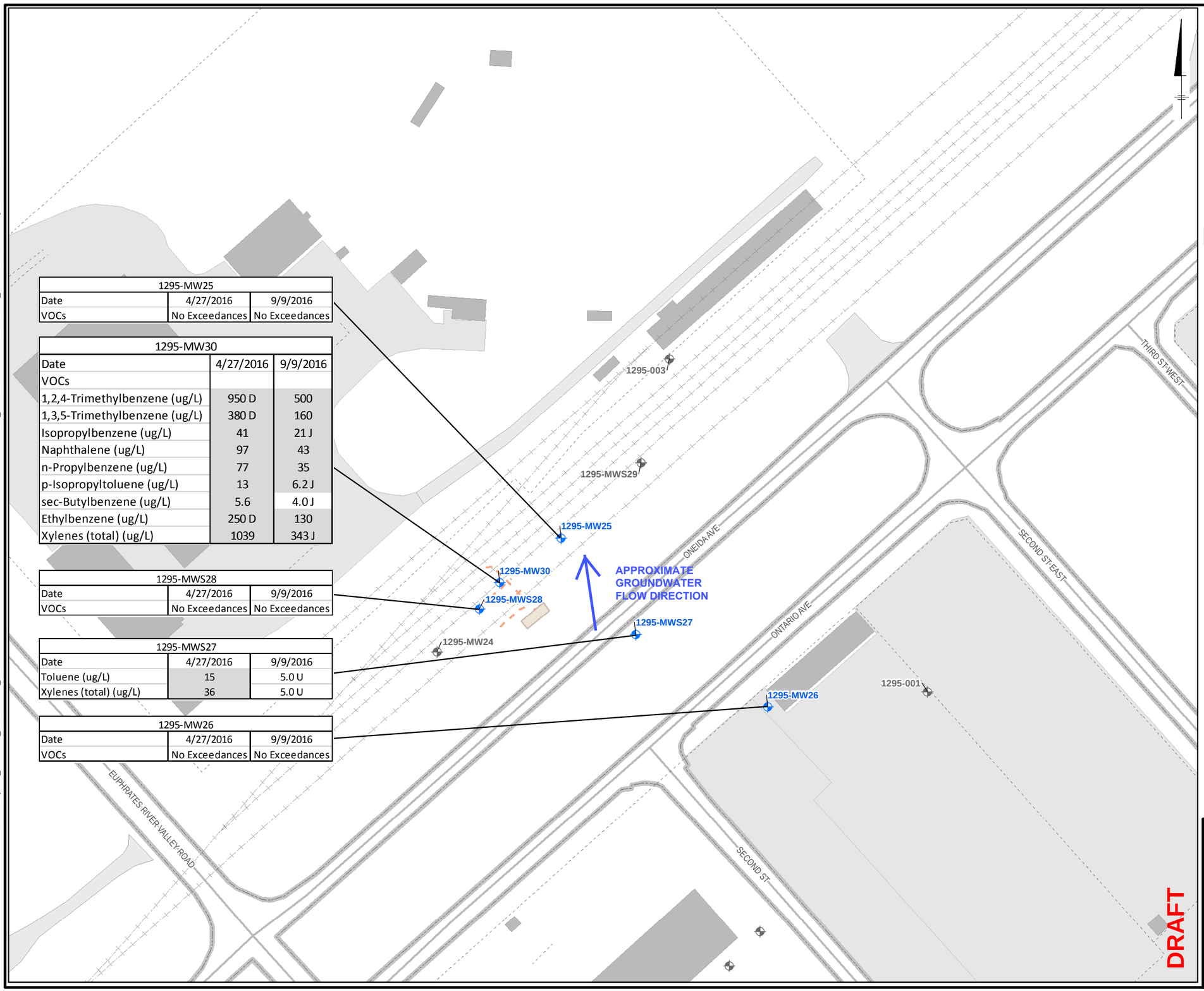
1295-MW25		
Date	4/27/2016	9/9/2016
VOCs	No Exceedances	No Exceedances

1295-MW30		
Date	4/27/2016	9/9/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	950 D	500
1,3,5-Trimethylbenzene (ug/L)	380 D	160
Isopropylbenzene (ug/L)	41	21 J
Naphthalene (ug/L)	97	43
n-Propylbenzene (ug/L)	77	35
p-Isopropyltoluene (ug/L)	13	6.2 J
sec-Butylbenzene (ug/L)	5.6	4.0 J
Ethylbenzene (ug/L)	250 D	130
Xylenes (total) (ug/L)	1039	343 J

1295-MWS28		
Date	4/27/2016	9/9/2016
VOCs	No Exceedances	No Exceedances

1295-MWS27		
Date	4/27/2016	9/9/2016
Toluene (ug/L)	15	5.0 U
Xylenes (total) (ug/L)	36	5.0 U

1295-MW26		
Date	4/27/2016	9/9/2016
VOCs	No Exceedances	No Exceedances



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

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE
4-1

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: msl00950 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 1/31/2017 4:35:12 PM
PROJECT: XX000000.0000.00000 PATH: Z:\GISProjects_ENVIENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\TGEC\20160131\F4-1_1295 VOC CONCENTRATIONS_v1.mxd Last Saved By: msl00950

1295-MW25	
Date	Total VOCs (ug/L)
7/30/2014	10 U [10 U]
9/16/2015	0.26 J
9/9/2016	1.7 J

1295-MW30	
Date	Total VOCs (ug/L)
7/30/2014	3600 J
9/16/2015	640 J
9/9/2016	1300 J

1295-MW28	
Date	Total VOCs (ug/L)
7/30/2014	1 J
9/16/2015	1.5 J
9/9/2016	1.7 J

1295-MWS27	
Date	Total VOCs (ug/L)
7/30/2014	16 J
9/11/2015	5.7 J
9/9/2016	3.5 J

1295-MW26	
Date	Total VOCs (ug/L)
7/30/2014	10 U
9/11/2015	10 U
9/9/2016	1.3 J

1295-003
1295-MWS29
1295-MW25
1295-MW30
1295-MWS28
1295-MWS27
1295-MW24
1295-MW26
1295-001
APPROXIMATE GROUNDWATER FLOW DIRECTION
SECOND ST EAST
ONEIDA AVE
ONTARIO AVE
SECOND ST

DRAFT

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:
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E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 60 120

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 1295 TOTAL VOC CONCENTRATION TRENDS

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE
4-2

CITY:(CHARLOTTE) DIVGROUP:(ENV/GIS) DB:Mkapoor LD:S.SUTTON PIC: PM: TM: DATE SAVED: 11/4/2016 2:52:20 PM
PROJECT: XX000000.0000.00000 PATH: Z:\GIS\PROJECTS_ENVIENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20161104F5-1 1295 TOTAL VOC TRENDS1.mxd Last Saved By: Mkapoor

1595-SW04	
Date	9/13/2016
VOCs	No Exceedances

1595-SW01	
Date	9/13/2016
VOCs	No Exceedances

1595-MWS8	
Date	9/20/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	8.4
1,3,5-Trimethylbenzene (ug/L)	15
Xylenes (total) (ug/L)	15.3

1595-PZ11		
Date	4/28/2016	9/20/2016
VOCs	No Exceedances	No Exceedances

1595-MWS9	
Date	9/20/2016
VOCs	No Exceedances

1595-OBG2		
Date	4/26/2016	9/14/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	12 [13]	20
1,3,5-Trimethylbenzene (ug/L)	13 [13]	16
Ethylbenzene (ug/L)	3.4 J [3.2 J]	5.1
Xylenes (total) (ug/L)	14.9 [15.1]	58

1595-MWS7		
Date	4/26/2016	9/14/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	11	4.4 J
1,3,5-Trimethylbenzene (ug/L)	7.7	50 U
Xylenes (total) (ug/L)	18.4	9.8 J

1595-PZ9	
Date	9/20/2016
Xylenes (total) (ug/L)	5.70 J

1595-MW33		
Date	4/26/2016	9/14/2016
VOCs	No Exceedances	No Exceedances

1595-PZ12		
Date	4/26/2016	9/20/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	90	5.0 U
1,3,5-Trimethylbenzene (ug/L)	25	0.24 J
Isopropylbenzene (ug/L)	7.4	5.0 U
Naphthalene (ug/L)	23	5.0 U
n-Propylbenzene (ug/L)	9.5	5.0 U
Toluene (ug/L)	9.2	5.0 U
Ethylbenzene (ug/L)	36	5.0 U
Xylenes (total) (ug/L)	99	5 U

1595-PZ13	
Date	9/20/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	190
1,3,5-Trimethylbenzene (ug/L)	61
Isopropylbenzene (ug/L)	7.4
Naphthalene (ug/L)	79
n-Propylbenzene (ug/L)	8.5
Ethylbenzene (ug/L)	34
Xylenes (total) (ug/L)	173

1595-SW04
1595-OBG5
1595-SW01
1595-RW7
1595-MWS1
1595-MWD6
1595-PZ8
1595-PZ7
1595-SW01
1595-RW6
1595-RW3
TO 1595-SW04
1595-MWS9
1595-MW5
1595-OBG1
1595-PZ2
1595-MWS7
1595-MWD5
1595-PZ1
1595-MWS8
1595-RW5
1595-OBG6
1595-RW2
APPROXIMATE GROUNDWATER FLOW DIRECTION
1595-PZ9
1595-OBG3
1595-PZ11
1595-PZ10
1595-MWD4
1595-MW3
1595-OBG2
1595-MW3A
1595-MW34
1595-MW33
1595-PZ12
1595-OBG8
1595-MWS2
1595-PZ13
1595-OBG9
ONEIDA AVE
ONTARIO AVE
1595-MW35
FIFTH ST

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 AREA
- 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

AREA 1595
VOC CONCENTRATIONS

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE
4-3

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: msi00950 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/8/2017 5:31:27 PM
PROJECT: XX000000.0000.00000 PATH: Z:\GISProjects_ENVIENV_FORTDRUM_RPM\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20170208\F4-2_1595 VOC CONCENTRATIONS.mxd Last Saved By: msi00950

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: Mkapoor LD: S.SUTTON PIC: PM: TM: DATE SAVED: 11/4/2016 8:20:13 PM
PROJECT: XX000000.0000.00000 PATH: Z:\GIS\PROJECTS_ENV\ENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20161104\F5-2 1595 TOTAL VOC TRENDS1.mxd Last Saved By: Mkapoor

1595-SW04
1595-MWS1
TO 1595-SW04
1595-RW7
1595-SW01
1595-RW6
1595-MWS9
1595-OBG5
1595-MWD6
1595-PZ8
1595-PZ7
1595-RW3
1595-MW5
1595-OBG1
1595-PZ2
1595-MWS7
1595-MWD5
1595-PZ1
1595-OBG4
1595-MWS8
1595-RW5
1595-OBG6
1595-RW2
1595-PZ9
1595-OBG3
1595-MWD4
1595-PZ11
1595-PZ10
1595-MW3
1595-OBG2
1595-MW3A
1595-MW34
1595-MW33
1595-PZ12
1595-MWS2
1595-OBG8
1595-PZ13
1595-OBG9
ONEIDA AVE
ONTARIO AVE
FIFTH ST

APPROXIMATE GROUNDWATER FLOW DIRECTION

1595-MWS8	
Date	Total VOCs (ug/L)
8/4/2014	200 J
9/17/2015	68 J
9/20/2016	49 J

1595-PZ11	
Date	Total VOCs (ug/L)
8/1/2014	16 J
9/17/2015	1.7 J
9/20/2016	2.4 J

1595-MWS9	
Date	Total VOCs (ug/L)
8/4/2014	9.6 J
9/17/2015	0.53 J
9/20/2016	10 U

1595-OBG2	
Date	Total VOCs (ug/L)
7/31/2014	87 J
9/18/2015	110 J
9/14/2016	120 J

1595-MWS7	
Date	Total VOCs (ug/L)
7/31/2014	5700 J
9/18/2015	3800 J
9/14/2016	19 J

1595-PZ9	
Date	Total VOCs (ug/L)
8/4/2014	220 J
9/16/2015	170 J
9/20/2016	17 J

1595-MW33	
Date	Total VOCs (ug/L)
7/31/2014	17 J
9/18/2015	340 J
9/14/2016	1.3 J

1595-PZ12	
Date	Total VOCs (ug/L)
8/1/2014	210 J [200 J]
9/17/2015	50 J [54 J]
9/20/2016	2.1 J

1595-PZ13	
Date	Total VOCs (ug/L)
8/1/2014	420 J
9/17/2015	1000 J
9/20/2016	570 J

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 AREA
- WETLANDS

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

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E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

DRAFT

0 80 160

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 1595 TOTAL VOC CONCENTRATION TRENDS

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE
4-4

1795-MWS21		
Date	4/28/2016	9/20/2016
VOCs		
Isopropylbenzene (ug/L)	18	5.0 U
n-Propylbenzene (ug/L)	11	5.0 U

1795-MWS1	
Date	9/20/2016
VOCs	No Exceedances

1795-WWII-006	
Date	9/20/2016
VOCs	No Exceedances

1795-SW04	
Date	9/13/2016
VOCs	No Exceedances

1795-MWS11		
Date	4/28/2016	9/20/2016
VOCs	No Exceedances	No Exceedances

1795-PZ14	
Date	9/20/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	5.7

1795-MWS10	
Date	9/20/2016
VOCs	No Exceedances

1795-WWII-002	
Date	9/20/2016
VOCs	No Exceedances

1795-MWS2	
Date	9/20/2016
VOCs	
1,3,5-Trimethylbenzene (ug/L)	5.3
Xylenes (total) (ug/L)	13.61 J

1795-MWS3		
Date	4/29/2016	9/19/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	440	680 D
1,3,5-Trimethylbenzene (ug/L)	130	170
Isopropylbenzene (ug/L)	24 J	39
Naphthalene (ug/L)	27	76
n-Propylbenzene (ug/L)	52	88
p-Isopropyltoluene (ug/L)	4.2 J	8.6 J
sec-Butylbenzene (ug/L)	3.6 J	7.8 J
Toluene (ug/L)	7.8 J	4.4 J
Ethylbenzene (ug/L)	120	140
Xylenes (total) (ug/L)	542	531

1795-MWD13	
Date	9/20/2016
VOCs	No Exceedances

1795-PZ4	
Date	9/20/2016
VOCs	No Exceedances

1795-SW00	
Date	9/13/2016
VOCs	No Exceedances

1795-PZ5	
Date	9/20/2016
VOCs	No Exceedances

1795-PZ15		
Date	4/29/2016	9/19/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	3.7 J	11
1,3,5-Trimethylbenzene (ug/L)	1.1 J	22
Xylenes (total) (ug/L)	3.2 J	50

1795-MWS7		
Date	4/22/2016	9/21/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	300	130
1,3,5-Trimethylbenzene (ug/L)	170	130
Naphthalene (ug/L)	15 J	2.6 J
p-Isopropyltoluene (ug/L)	5.1 J	2.5 J
Toluene (ug/L)	5.8 J	0.95 J
Ethylbenzene (ug/L)	47 J	5.2
Xylenes (total) (ug/L)	2200	1080

1795-MWS21 1795-MWS19 1795-MWD20 1795-MWS1 1795-MWS2 1795-MWS4 1795-OW5 WWII-004 System C System A/B 1795-MWS3 1795-MWD13 1795-OW4 1795-OW3 1795-MWS16 WWII-001 WWII-005 WWII-006 1795-SW04 1795-PZ18 1795-PZ17 1795-PZ9 1795-PZ8 1795-OW1 1795-PZ4 1795-PZ15 1795-PZ10 1795-PZ3 1795-PZ6 1795-MW6 1795-MW36 1795-MW37 1795-PZ7 1795-RW3 1795-MWS6 1795-PZ5 1795-PZ2 1795-PZ1 1795-MWS7 1795-RW2 1795-MWS15 1795-PZ14 1795-PZ13 1795-MWS10 1795-MWS14 1795-MW38 1795-001 1795-MWS9 1795-MWS8 1795-MWS17 1795-OW2 1795-MWS11 1795-MWS18 WWII-003 WWII-002 1795-SW00 1795-003 3805-MWS2 3805-MWS1

WWII Sanitary Landfill

APPROXIMATE GROUNDWATER FLOW DIRECTION

DELAHANTY AVE NETHERLY ST GEORGE ST CANNON ST ONEIDA AVE ONTARIO AVE SIXTH ST FIFTH ST EAST NTH ST WEST SEVENTH

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
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED AREA
- LANDFILL SITE
- WETLANDS

NOTES:
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E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 250 500

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 1795
VOC CONCENTRATIONS

PIKA INTERNATIONAL, INC. A JOINT VENTURE | MALCOLM PIRNIE

FIGURE
4-5

CITY:(CHARLOTTE) DIVGROUP:(ENV/GIS) DB: msi00950 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/8/2017 5:45:03 PM
PROJECT: XX0000000.0000.00000 PATH: Z:\GISProjects_ENVIENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\2017020\F4-3_1795 VOC CONCENTRATIONS.mxd Last Saved By: msi00950

1795-MWS21	
Date	Total VOCs (ug/L)
8/5/2014	17 J [24 J]
9/10/2015	41 J
9/20/2016	1.9 J

1795-MWS1	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/10/2015	10 U
9/20/2016	3 J

1795-WWII-006	
Date	Total VOCs (ug/L)
8/5/2014	1 J
9/10/2015	1.2 J
9/20/2016	2.9 J

1795-MWS11	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/8/2015	10 U
9/20/2016	4.5 J

1795-MWS10	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/11/2015	10 U
9/20/2016	1.6 J

1795-WWII-002	
Date	Total VOCs (ug/L)
8/4/2014	10 U
9/9/2015	0.44 J
9/20/2016	1.6 J

1795-MWS2	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/10/2015	2200 J
9/20/2016	29 J

1795-PZ14	
Date	Total VOCs (ug/L)
8/5/2014	400 J
9/10/2015	76 J
9/20/2016	17 J

1795-PZ15	
Date	Total VOCs (ug/L)
7/31/2014	1 J
9/9/2015	2100 J
9/19/2016	85 J

1795-PZ13	
Date	Total VOCs (ug/L)
8/5/2014	81 J

1795-MWD13	
Date	Total VOCs (ug/L)
8/5/2014	30 J
9/8/2015	28 J
9/20/2016	1.1 J

1795-MWS3	
Date	Total VOCs (ug/L)
7/31/2014	830 J
9/9/2015	1200 J
9/19/2016	1700 J

1795-PZ4	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/8/2015	130 J
9/20/2016	3.1 J

1795-MWS7	
Date	Total VOCs (ug/L)
7/31/2014	7500 J
9/9/2015	6100 J
9/21/2016	1400 J

1795-PZ5	
Date	Total VOCs (ug/L)
8/5/2014	710 J [750 J]
9/10/2015	2500 J
9/20/2016	2.3 J

1795-MWS9	
Date	Total VOCs (ug/L)
9/9/2015	150 J

APPROXIMATE GROUNDWATER FLOW DIRECTION

1795-MWS21 1795-MWD20 1795-MWS1 System C 1795-MWS19 1795-MWS2 WWII-004 1795-OW5 1795-MWS4 System A/B 1795-MWS3 1795-MWD13 1795-OW4 1795-OW3 WWII-001 1795-SW04 WWII-005 WWII-006 1795-MWS16 1795-PZ18 1795-PZ17 1795-PZ8 1795-PZ9 1795-PZ10 1795-OW1 1795-PZ15 1795-MW6 1795-MWS17 1795-OW2 1795-MWS11 1795-PZ3 1795-PZ6 1795-MW36 1795-MW37 WWII Sanitary Landfill 1795-PZ5 1795-MWS6 1795-PZ7 1795-RW3 1795-PZ1 1795-MWS7 1795-MWS18 WWII-003 1795-PZ14 1795-RW2 1795-PZ2 1795-MWS15 1795-PZ13 1795-MWS10 ONEIDA AVE ONTARIO AVE 1795-MWS14 1795-MWS9 WWII-002 1795-SW00 1795-MWS8 SEVENTH ST WEST FIFTH ST EAST JONES ST DELAHANTY AVE GEORGE ST CANNON ST 3805-MWS1

DRAFT

LEGEND

SAMPLING SUMMARY

- A — MW-ANNUAL SAMPLING EVENT
- A — MW-SEMI-ANNUAL SAMPLING EVENT
- 0 — SW-ANNUAL SAMPLING EVENT
- A — 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
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED AREA
- LANDFILL SITE
- WETLANDS

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.

0 250 500

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 1795 TOTAL VOC CONCENTRATION TRENDS

PIKA INTERNATIONAL, INC. | MALCOLM PIRNIE

FIGURE **4-6**

CITY:(CHARLOTTE) DIVGROUP:(ENVGIS) DB: MAI00749 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/2/2017 4:37:46 PM
PROJECT: XX000000.0000.00000 PATH: Z:\GISProjects_ENVIENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20170131\F5-3 1795 TOTAL VOC TRENDS_10.2.mxd Last Saved By: MAI00749

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: MSI00950 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/9/2017 11:13:51 AM
PROJECT: XX00000.0000.00000 PATH:Z:\GISProjects_ENV\ENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20170208\F4-4_AREA_3805_1995 VOC CONCENTRATIONS S_v1.mxd Last Saved By: MSI00950

3805-MWS8		
Date	4/28/2016	9/20/2016
PCE (ug/L)	5.0 U	22

3805-PZ12S		
Date	4/22/2016	9/12/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	1100	1700
1,3,5-Trimethylbenzene (ug/L)	340	490
2-Hexanone (ug/L)	92 J	200 U
Isopropylbenzene (ug/L)	55 J	85 J
Naphthalene (ug/L)	160	410
n-Propylbenzene (ug/L)	100	180
p-Isopropyltoluene (ug/L)	6.0 J	7.6 J
sec-Butylbenzene (ug/L)	5.6 J	8.8 J
Benzene (ug/L)	20 J	9.6 J
Toluene (ug/L)	1700	2400
Ethylbenzene (ug/L)	1000	1500
Xylenes (total) (ug/L)	6700	10500

3805-MWS11		
Date	4/22/2016	9/12/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	670	1400 D
1,3,5-Trimethylbenzene (ug/L)	240	380
Isopropylbenzene (ug/L)	34 J	49
Naphthalene (ug/L)	110	220
n-Propylbenzene (ug/L)	65	100
p-Isopropyltoluene (ug/L)	3.1 J	7.3 J
sec-Butylbenzene (ug/L)	4.0 J	7.6 J
Benzene (ug/L)	3.4 J	11 J
Toluene (ug/L)	160	60
Ethylbenzene (ug/L)	330	450
Xylenes (total) (ug/L)	2460	3360

3805-MWS19	
Date	9/20/2016
VOCs	No Exceedances

1995-MWS2	
Date	9/15/2016
VOCs	No Exceedances

3805-PZ13S	
Date	9/15/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	450
1,3,5-Trimethylbenzene (ug/L)	120
Acetone (ug/L)	420
Isopropylbenzene (ug/L)	37
Naphthalene (ug/L)	220
n-Propylbenzene (ug/L)	100
p-Isopropyltoluene (ug/L)	6.0 J
sec-Butylbenzene (ug/L)	8.8 J
Toluene (ug/L)	210
Ethylbenzene (ug/L)	540
Xylenes (total) (ug/L)	2960

3805-PZ3		
Date	4/19/2016	9/12/2016
Xylenes (total) (ug/L)	34	1.79 J

3805-PZ2S		
Date	4/19/2016	9/14/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	17	220
1,3,5-Trimethylbenzene (ug/L)	15	75
Isopropylbenzene (ug/L)	5.0 U	8.6 J
Naphthalene (ug/L)	0.55 J	13
n-Propylbenzene (ug/L)	0.55 J	24
Toluene (ug/L)	0.45 J	26
Ethylbenzene (ug/L)	1.1 J	13
Xylenes (total) (ug/L)	15.2	56

OSL-MW3		
Date	4/28/2016	9/20/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	5.0 U	320 D
1,3,5-Trimethylbenzene (ug/L)	5.0 U	67 D
Isopropylbenzene (ug/L)	5.0 U	11 DJ
Naphthalene (ug/L)	5.0 U	20 DJ
n-Propylbenzene (ug/L)	5.0 U	27 D
Toluene (ug/L)	5.0 U	27 D
Ethylbenzene (ug/L)	5.0 U	77 D
Xylenes (total) (ug/L)	5 U	195

3805-MWS24		
Date	4/19/2016	9/14/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	46	16
1,3,5-Trimethylbenzene (ug/L)	25	6.5
Toluene (ug/L)	8.7	1.6 J
Ethylbenzene (ug/L)	14	3.4 J
Xylenes (total) (ug/L)	120	28.6

3805-MWS3	
Date	9/20/2016
VOCs	No Exceedances

3805-PZ7	
Date	9/20/2016
VOCs	No Exceedances

1995-PZ6	
Date	9/20/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	860
1,3,5-Trimethylbenzene (ug/L)	240
Isopropylbenzene (ug/L)	61
Naphthalene (ug/L)	140
n-Propylbenzene (ug/L)	110
p-Isopropyltoluene (ug/L)	10 J
sec-Butylbenzene (ug/L)	13 J
Benzene (ug/L)	5.9 J
Toluene (ug/L)	380
Ethylbenzene (ug/L)	300
Xylenes (total) (ug/L)	1510

3805-016		
Date	4/5/2016	9/20/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	NA	7.6
Benzene (ug/L)	3.2 J	0.33 J
Toluene (ug/L)	410	7.2
Ethylbenzene (ug/L)	160	2.6 J
Xylenes (total) (ug/L)	1140	28

3805-MWS2	
Date	9/20/2016
VOCs	No Exceedances

3805-014		
Date	4/21/2016	9/20/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	1200 D	850
1,3,5-Trimethylbenzene (ug/L)	450	300
Isopropylbenzene (ug/L)	48	32
Naphthalene (ug/L)	84	93
n-Propylbenzene (ug/L)	100	48
p-Isopropyltoluene (ug/L)	6.6 J	2.8 J
sec-Butylbenzene (ug/L)	5.8 J	2.0 J
Toluene (ug/L)	76	65
Ethylbenzene (ug/L)	180	210
Xylenes (total) (ug/L)	1870	2140

1995-MWS10		
Date	4/19/2016	9/14/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	74 [64]	59
1,3,5-Trimethylbenzene (ug/L)	13 [13]	8.5
Acetone (ug/L)	70 [17 J]	3.6 J
Isopropylbenzene (ug/L)	38 [33]	18
Naphthalene (ug/L)	52 [39]	43
n-Propylbenzene (ug/L)	39 [34]	22
Toluene (ug/L)	82 [74]	86
Ethylbenzene (ug/L)	220 D [210]	95
Xylenes (total) (ug/L)	290 [260]	143

3805-MWS5		
Date	4/28/2016	9/21/2016
VOCs		
1,3,5-Trimethylbenzene (ug/L)	7.5	0.28 J
Xylenes (total) (ug/L)	14.8 J	3 J

3805-MWS39	
Date	9/20/2016
VOCs	No Exceedances

3805-MWS23		
Date	4/21/2016	9/20/2016
Benzene (ug/L)	37 DJ	5.0 U
Toluene (ug/L)	230 D	5.0 U
Ethylbenzene (ug/L)	20 DJ	5.0 U
Xylenes (total) (ug/L)	2000 D	5.0 U

3805-002	
Date	9/20/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	150
1,3,5-Trimethylbenzene (ug/L)	160
Isopropylbenzene (ug/L)	5.1 J
Ethylbenzene (ug/L)	15 J
Xylenes (total) (ug/L)	850

3805-PZ14		
Date	4/19/2016	9/14/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	390	460
1,3,5-Trimethylbenzene (ug/L)	160	180
Isopropylbenzene (ug/L)	5.6 J	8.2 J
Naphthalene (ug/L)	130	130
n-Propylbenzene (ug/L)	8.2 J	12 J
Toluene (ug/L)	32	29 J
Ethylbenzene (ug/L)	66	140
Xylenes (total) (ug/L)	2780	3400

1995-MWS9		
Date	4/22/2016	9/14/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	55	130
Isopropylbenzene (ug/L)	5.9	12
Naphthalene (ug/L)	29	110
n-Propylbenzene (ug/L)	7.2	15
Ethylbenzene (ug/L)	21	66
Xylenes (total) (ug/L)	40	142

Old Sanitary Landfill Cell 2

Old Sanitary Landfill Cell 1

APPROXIMATE GROUNDWATER FLOW DIRECTION

3805-MWS4, 3805-MWS19, 3805-MWS14, 3805-MWS8, 3805-MWS11, 1995-MWS2, 3805-MWS3, 3805-PZ12S, 3805-PZ13S, 3805-PZ3, 3805-MWS24, OSL-MW3, 3805-016, 3805-PZ2S, 3805-PZ7, 1995-PZ6, 1995-MWS10, 3805-MWS2, 3805-014, 3805-MWS5, 3805-PZ14, 3805-002, 1995-MW43, 3805-MW39, 1995-MWS9, 3805-MWS23

NININGER ST, JONES ST, RAILEY AVE, NETHERLY ST, CANNON ST, NYS ROUTE 26, OLSEN PLAZA, GEORGE ST, ONTARIO, EIGHTH ST WEST, EIGHTH ST EAST, MAIN TANK TRL

DRAFT

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 (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.

0 300 600

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 3805/1995 VOC CONCENTRATIONS SHALLOW ZONE

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE
4-7

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: MAI00749 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 2/2/2017 4:46:28 PM
PROJECT: XX000000.0000.00000 PATH:Z:\GIS\Projects_ENV\ENV_FORTDRUM_R\PMXD\2016 BASEWIDE MONITORING REPORTING\GEC\20170131\F4-5_AREA_3805_1995 VOC CONCENTRATIONS D10.2.mxd Last Saved By: MAI00749

3805-MWD10	
Date	9/20/2016
VOCs	No Exceedances

3805-MWI9	
Date	9/20/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	43
1,3,5-Trimethylbenzene (ug/L)	170
Isopropylbenzene (ug/L)	37
Naphthalene (ug/L)	250
n-Propylbenzene (ug/L)	76
Benzene (ug/L)	45
Toluene (ug/L)	690
Ethylbenzene (ug/L)	830
Xylenes (total) (ug/L)	580

3805-MWI12	
Date	9/8/2016
PCE (ug/L)	24

3805-MWD13	
Date	9/20/2016
Ethylbenzene (ug/L)	10

3805-PZ12I	
Date	9/20/2016
VOCs	No Exceedances

3805-PZ12D	
Date	9/20/2016
VOCs	No Exceedances

3805-MWD7	
Date	9/20/2016
VOCs	No Exceedances

3805-MWI6	
Date	9/20/2016
PCE (ug/L)	8.7

3805-MWI17	
Date	9/7/2016
VOCs	
1,2,4-Trimethylbenzene (ug/L)	290
1,3,5-Trimethylbenzene (ug/L)	83
Isopropylbenzene (ug/L)	34
Naphthalene (ug/L)	140
n-Propylbenzene (ug/L)	57
Benzene (ug/L)	670
Toluene (ug/L)	76
Ethylbenzene (ug/L)	580
Xylenes (total) (ug/L)	1220

3805-PZ13D	
Date	9/20/2016
VOCs	No Exceedances

3805-PZ13I	
Date	9/20/2016
VOCs	No Exceedances

3805-PZ2D	
Date	9/20/2016
PCE (ug/L)	130

3805-PZ2I	
Date	9/20/2016
PCE (ug/L)	26

3805-MWI17 3805-MWD18 3805-MWI20 3805-MWD16 3805-MWI15 3805-MWD10 3805-MWI9 3805-MWI12 3805-MWD13 3805-PZ12I 3805-PZ12D 3805-PZ13D 3805-PZ13I 3805-PZ2D 3805-PZ2I 3805-MWD7 3805-MWI6

Old Sanitary Landfill Cell 2

Old Sanitary Landfill Cell 1

APPROXIMATE GROUNDWATER FLOW DIRECTION

WININGER ST JONES ST DAUGHANTY AVE NETHERLAND AVE CANNON ST NYS ROUTE 26 OLSEN PLAZA GEORGE ST ONEIDA AVE ONTARIO AVE EIGHTH ST WEST EIGHTH ST EIGHTH ST EAST NINTH ST MAIN TANK TRL MAIN TANK TRL

DRAFT

LEGEND

SAMPLING SUMMARY

- A MW-ANNUAL SAMPLING EVENT
- A 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
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- WATER TREATMENT LINE
- STREAM
- FENCE LINE
- FORMER RAILROAD TRACK/WALKING PATH
- ROAD-PAVED
- ROAD-UNPAVED
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- REMEDIATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
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- LANDFILL SITE
- WETLANDS

NOTES:
- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
- HIGHLIGHTED CELLS INDICATED CONCENTRATIONS EXCEEDING NYSDEC CLASS GA STANDARDS
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E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 300 600

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 3805/1995
VOC CONCENTRATIONS
INTERMEDIATE & DEEP ZONES

PIKA INTERNATIONAL, INC. A JOINT VENTURE MALCOLM PIRNIE

FIGURE
4-8

3805-PZ3	
Date	Total VOCs (ug/L)
7/30/2014	10000 J
9/16/2015	2000 J
9/12/2016	8.6 J

3805-MWS8	
Date	Total VOCs (ug/L)
8/3/2014	2600 J
9/14/2015	350 J
9/20/2016	23 J

3805-PZ12S	
Date	Total VOCs (ug/L)
7/30/2014	6400 J
9/16/2015	19000 J
9/12/2016	17000 J

3805-MWS11	
Date	Total VOCs (ug/L)
7/30/2014	17000 J
9/11/2015	7900 J
9/12/2016	6100 J

3805-MWS4	
Date	Total VOCs (ug/L)
7/31/2014	2700 J
9/16/2015	1100 J

3805-MWS19	
Date	Total VOCs (ug/L)
8/4/2014	0.51 J
9/16/2015	10 U
9/20/2016	3 J

3805-MWS3	
Date	Total VOCs (ug/L)
8/5/2014	4
9/10/2015	6.1
9/20/2016	2.5 J

3805-MWS14	
Date	Total VOCs (ug/L)
7/31/2014	250 J [260 J]
9/15/2015	2500 J [2300 J]

3805-MWS24	
Date	Total VOCs (ug/L)
7/30/2014	13000 J
9/9/2015	290 J
9/14/2016	64 J

1995-MWS2	
Date	Total VOCs (ug/L)
9/17/2015	4.5 J
9/15/2016	4.2 J

3805-016	
Date	Total VOCs (ug/L)
8/5/2014	13000 J
9/8/2015	16000 J
9/20/2016	58 J

3805-PZ13S	
Date	Total VOCs (ug/L)
8/4/2014	1400 J
9/15/2015	3000 J
9/15/2016	5100 J

3805-014	
Date	Total VOCs (ug/L)
8/5/2014	10000 J [10000 J]
9/8/2015	7300 J
9/20/2016	3700 J

3805-PZ2S	
Date	Total VOCs (ug/L)
7/30/2014	4300 J
9/11/2015	180 J
9/14/2016	440 J

3805-MWS2	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/10/2015	0.44 J
9/20/2016	3.2 J

3805-PZ7	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/10/2015	5.4 J [6.2 J]
9/20/2016	2.2 J

3805-MWS5	
Date	Total VOCs (ug/L)
7/30/2014	74 J
9/23/2015	550 J
9/21/2016	9.5 J

1995-PZ6	
Date	Total VOCs (ug/L)
9/8/2015	1900 J
9/20/2016	3600 J

3805-002	
Date	Total VOCs (ug/L)
8/5/2014	660 J
9/9/2015	5100 J
9/20/2016	1200 J

1995-MWS10	
Date	Total VOCs (ug/L)
7/30/2014	220 J
9/9/2015	860 J [530 J]
9/14/2016	490 J

3805-MW39	
Date	Total VOCs (ug/L)
8/5/2014	930 J
9/15/2015	10 U
9/20/2016	10 U

3805-MWS23	
Date	Total VOCs (ug/L)
8/5/2014	13000 J
9/10/2015	12000 J
9/20/2016	10 U

3805-PZ14	
Date	Total VOCs (ug/L)
7/30/2014	23000 J [25000]
9/23/2015	6600 J
9/14/2016	4400 J

1995-MWS9	
Date	Total VOCs (ug/L)
7/30/2014	220 J
9/14/2016	490 J

1995-MW43	
Date	Total VOCs (ug/L)
8/5/2014	10 U
9/8/2015	10 U [10 U]
9/20/2016	4.4 J

Old Sanitary Landfill Cell 2

Old Sanitary Landfill Cell 1

APPROXIMATE GROUNDWATER FLOW DIRECTION

DRAFT

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
- LANDFILL SITE
- WETLANDS

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.

0 300 600

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 3805/1995 TOTAL VOC CONCENTRATION TRENDS SHALLOW ZONE

PIKA INTERNATIONAL, INC. A JOINT VENTURE | MALCOLM PIRNIE

FIGURE **4-9**

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: Mkapoor LD: S.SUTTON PIC: PM: TM: DATE SAVED: 11/4/2016 8:17:07 PM
PROJECT: XX000000.0000.00000 PATH: Z:\GISPROJECTS_ENV\ENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEO\20161104\F5-4 3805_1995 TOTAL VOC TRENDS shallow.mxd Last Saved By: Mkapoor

3805-MWI12	
Date	Total VOCs (ug/L)
8/3/2014	53 J
9/17/2015	22 J
9/8/2016	29 J

3805-MWD13	
Date	Total VOCs (ug/L)
7/31/2014	390 J
9/17/2015	410 J
9/20/2016	23 J

3805-MWI17	
Date	Total VOCs (ug/L)
7/31/2014	5300 J
9/16/2015	3800 J
9/7/2016	3200 J

3805-MWD18	
Date	Total VOCs (ug/L)
7/31/2014	38 J
9/22/2015	23 J
9/7/2016	13

3805-MWI20	
Date	Total VOCs (ug/L)
8/4/2014	0.58 J
9/20/2016	2.6 J

3805-MWD10	
Date	Total VOCs (ug/L)
8/3/2014	2.9 J
9/14/2015	0.43 J [0.49 J]
9/20/2016	10 U

3805-MWD16	
Date	Total VOCs (ug/L)
7/31/2014	0.22 J
9/15/2015	0.25 J
9/8/2016	0.25 J

3805-MWI9	
Date	Total VOCs (ug/L)
8/3/2014	3000 J
9/14/2015	4900 J
9/20/2016	2700 J

3805-MWI15	
Date	Total VOCs (ug/L)
7/31/2014	80
9/15/2015	77 J
9/7/2016	66 J

3805-PZ13D	
Date	Total VOCs (ug/L)
8/4/2014	0.43 J [1200 J]
9/15/2015	2.2 J
9/20/2016	3.3 J

3805-PZ12I	
Date	Total VOCs (ug/L)
7/31/2014	4300 J
9/14/2015	78 J
9/20/2016	10 U

3805-PZ12D	
Date	Total VOCs (ug/L)
9/14/2015	10 U
9/20/2016	1.8 J

3805-PZ13I	
Date	Total VOCs (ug/L)
8/4/2014	10 U
9/15/2015	4.6 J
9/20/2016	10 U

3805-PZ2D	
Date	Total VOCs (ug/L)
8/4/2014	580
9/21/2015	590 J [520 J]
9/20/2016	130 J

3805-PZ2I	
Date	Total VOCs (ug/L)
8/4/2014	50 J
9/21/2015	28 J
9/20/2016	30 J

3805-MWD7	
Date	Total VOCs (ug/L)
8/4/2014	0.98 J
9/21/2015	4.6 J
9/20/2016	2.6 J

3805-MWI6	
Date	Total VOCs (ug/L)
8/4/2014	180 J
9/21/2015	420 J
9/20/2016	12 J

3805-MWI17 3805-MWD18 3805-MWI20 3805-MWD16 3805-MWI15 3805-MWD10 3805-MWI9 3805-MWI12 3805-MWD13 3805-PZ12I 3805-PZ12D 3805-PZ13D 3805-PZ13I 3805-PZ2D 3805-PZ2I 3805-MWD7 3805-MWI6

Old Sanitary Landfill Cell 2

Old Sanitary Landfill Cell 1

APPROXIMATE GROUNDWATER FLOW DIRECTION

NINNGER ST CANNON ST NYS ROUTE 26 OLSEN PLAZA GEORGE ST ONEIDA AVE ONTARIO AVE EIGHTH ST WEST EIGHTH ST EIGHTH ST EAST NINTH ST MAIN TANK TRL MAIN TANK TRL

DRAFT

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
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED
- LANDFILL SITE
- WETLANDS

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.

0 300 600

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA 3805/1995
TOTAL VOC TRENDS
INTERMEDIATE & DEEP ZONES

FIGURE **4-10**

PIKA INTERNATIONAL, INC. A JOINT VENTURE MALCOLM PIRNIE

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: AVI00815 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 12/14/2016 6:22:10 PM
PROJECT: XX000000.0000.00000 PATH:Z:\GIS\Projects_ENV\ENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20161214\F5-5 3805_1995 TOTAL VOC TRENDS INTER_DEEP1.mxd Last Saved By: AVI00815

2140-MW02		
Date	4/28/2016	9/20/2016
VOCs	No Exceedances	No Exceedances

2140-MW06		
Date	4/28/2016	9/20/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	59	5.0 U
1,3,5-Trimethylbenzene (ug/L)	29	5.0 U
Benzene (ug/L)	5.9	5.0 U
Toluene (ug/L)	210 D	5.0 U
Ethylbenzene (ug/L)	10	5.0 U
Xylenes (total) (ug/L)	890	5 U

2140-MW37		
Date	4/28/2016	9/20/2016
VOCs		
1,2,4-Trimethylbenzene (ug/L)	48	5.0 U
1,3,5-Trimethylbenzene (ug/L)	40	5.0 U
Xylenes (total) (ug/L)	13.3	5 U

2140-MW04	
Date	9/20/2016
VOCs	No Exceedances

2140-MW07		
Date	4/28/2016	9/20/2016
Xylenes (total) (ug/L)	5.50 J	5.0 U

2140-MW09	
Date	9/20/2016
VOCs	No Exceedances

2140-MW05	
Date	9/20/2016
VOCs	No Exceedances

2140-MW12		
Date	4/28/2016	9/20/2016
VOCs	No Exceedances	No Exceedances

2140-MW14		
Date	4/28/2016	9/20/2016
VOCs	No Exceedances	No Exceedances

2140-MW13	
Date	9/20/2016
VOCs	No Exceedances

2140-MW16	
Date	9/20/2016
VOCs	No Exceedances

2140-MW19		
Date	4/28/2016	9/20/2016
VOCs	No Exceedances	No Exceedances

2140-MW27		
Date	4/28/2016	9/21/2016
VOCs	No Exceedances	No Exceedances

LEWIS AVE
FIRST ST WEST
NASH BLVD
2140-MW01
2140-MW02
2140-MW03
2140-MW37
2140-MW06
2140-MW04
2140-MW07
2140-MW36
2140-MW11
2140-PZ03
2140-MW05D
2140-PZ02
2140-MW10
2140-MW05
2140-MW09
2140-PZ01
2140-MW08
2140-MW35
APPROXIMATE GROUNDWATER FLOW DIRECTION
2140-MW12
2140-MW15
2140-MW14
2140-MW13
2140-MW18
2140-MW17
2140-MW16
2140-MW28
2140-MW27
2140-MW19
2140-MW26
2140-MW23
2140-MW20
2140-MW29
2140-MW22
2140-SW01
2140-MW21
2140-MW24

DRAFT

LEGEND

SAMPLING SUMMARY

- A MW-ANNUAL SAMPLING EVENT
- A MW-SEMI-ANNUAL SAMPLING EVENT
- A NOT PART OF MONITORING PLAN
- 0 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.
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0 100 200
GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

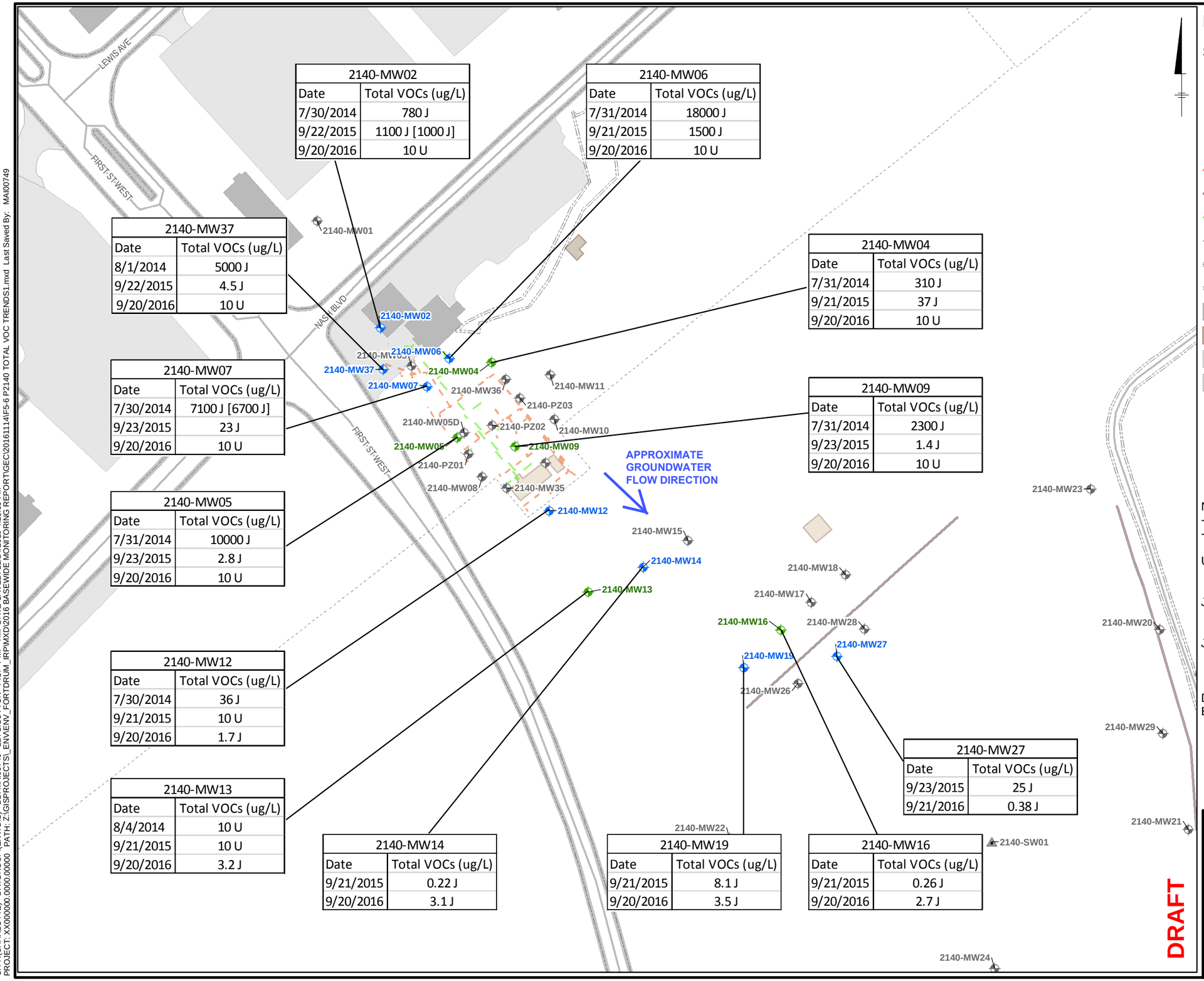
BASEWIDE MONITORING REPORT

AREA P-2140
VOC CONCENTRATIONS

FIGURE
4-11

PIKA INTERNATIONAL, INC. A JOINT VENTURE | MALCOLM PIRNIE

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: msi00950 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 1/31/2017 12:22:32 PM
PROJECT: XX00000.0000.00000 PATH: Z:\GISProjects_ENVIENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20160131\F4-6 P2140 VOC CONCENTRATIONS.mxd Last Saved By: msi00950



2140-MW02	
Date	Total VOCs (ug/L)
7/30/2014	780 J
9/22/2015	1100 J [1000 J]
9/20/2016	10 U

2140-MW06	
Date	Total VOCs (ug/L)
7/31/2014	18000 J
9/21/2015	1500 J
9/20/2016	10 U

2140-MW37	
Date	Total VOCs (ug/L)
8/1/2014	5000 J
9/22/2015	4.5 J
9/20/2016	10 U

2140-MW04	
Date	Total VOCs (ug/L)
7/31/2014	310 J
9/21/2015	37 J
9/20/2016	10 U

2140-MW07	
Date	Total VOCs (ug/L)
7/30/2014	7100 J [6700 J]
9/23/2015	23 J
9/20/2016	10 U

2140-MW09	
Date	Total VOCs (ug/L)
7/31/2014	2300 J
9/23/2015	1.4 J
9/20/2016	10 U

2140-MW05	
Date	Total VOCs (ug/L)
7/31/2014	10000 J
9/23/2015	2.8 J
9/20/2016	10 U

2140-MW12	
Date	Total VOCs (ug/L)
7/30/2014	36 J
9/21/2015	10 U
9/20/2016	1.7 J

2140-MW13	
Date	Total VOCs (ug/L)
8/4/2014	10 U
9/21/2015	10 U
9/20/2016	3.2 J

2140-MW14	
Date	Total VOCs (ug/L)
9/21/2015	0.22 J
9/20/2016	3.1 J

2140-MW19	
Date	Total VOCs (ug/L)
9/21/2015	8.1 J
9/20/2016	3.5 J

2140-MW16	
Date	Total VOCs (ug/L)
9/21/2015	0.26 J
9/20/2016	2.7 J

2140-MW27	
Date	Total VOCs (ug/L)
9/23/2015	25 J
9/21/2016	0.38 J

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:
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0 100 200

GRAPHIC SCALE

FORT DRUM
FORT DRUM, NEW YORK

BASEWIDE MONITORING REPORT

AREA P-2140 TOTAL VOC CONCENTRATION TRENDS

FIGURE
4-12

DRAFT

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: MAI00749 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 11/14/2016 4:18:55 PM
PROJECT: XX00000.0000.00000 PATH: Z:\GIS\PROJECTS_ENVIENV_FORTDRUM_IRP\MXD\2016 BASEWIDE MONITORING REPORT\GEC\20161114\F5-6 P2140 TOTAL VOC TRENDS1.mxd Last Saved By: MAI00749

PIKA INTERNATIONAL, INC. A JOINT VENTURE MALCOLM PIRNIE

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-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-MW30	1295	Well	X	X	X (fall)					X					semi-annual	
1595-MW33	1595	Well	X	X						X					semi-annual	
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-OBG2	1595	Well	X	X						X					semi-annual	
1595-PZ9	1595	Well	X	X[(a)]											annual	
1595-PZ11	1595	Well	X	X[(a)]											semi-annual	
1595-PZ12	1595	Well	X	X						X (spring)					semi-annual	
1595-PZ13	1595	Well	X	X[(a)]											annual	
1595-SW01	1595	Surface Water		X	X						X	X	X		annual	
1595-SW04	1595	Surface Water		X	X						X	X	X		annual	
1795-MWD13	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-MWS7	1795	Well	X	X						X					semi-annual	
1795-MWS10	1795	Well	X	X[(a)]											annual	
1795-MWS11	1795	Well	X	X[(a)]											semi-annual	
1795-MWS21	1795	Well	X	X[(a)]											semi-annual	
1795-PZ4	1795	Well	X	X[(a)]											annual	
1795-PZ5	1795	Well	X	X[(a)]											annual	
1795-PZ14	1795	Well	X	X[(a)]											annual	
1795-PZ15	1795	Well	X	X						X					semi-annual	
WWII-002	1795 / WWII LF	Well	X	X[(a)]											annual	
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	

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
1995-MW43	1995	Well	X	X[(a)]											annual	
1995-MWS2	1995	Well	X	X	X	X									annual	
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	
3805-002	3805	Well	X	X[(a)]											annual	
3805-014	3805	Well	X	X[(a)]											annual	
3805-016	3805	Well	X	X[(a)]											annual	
3805-MW39	3805	Well	X	X[(a)]											annual	
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-MWI6	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-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						X					semi-annual	
3805-MWS14	3805 / OSL	Well	X	X	X	X	X	X	X						annual	
3805-MWS19	3805	Well	X	X[(a)]											annual	
3805-MWS23	3805	Well	X	X[(a)]											annual	
3805-MWS24	3805	Well	X	X						X					semi-annual	
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-PZ7	3805	Well	X	X[(a)]											annual	
3805-PZ12D	3805	Well	X	X[(a)]											annual	
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	
OSL-MW2	OSL	Well	X	X	X	X									annual	
OSL-MW3	3805	Well	X	X[(a)]											semi-annual	
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-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	-	X							X	X			every 3 yrs.	Next in 2018
BM-02	OSL	Sapwood	-	X							X	X			every 3 yrs.	Next in 2018
BM-03	OSL	Sapwood	-	X							X	X			every 3 yrs.	Next in 2018
2140-MW02	2140	Well	X	X[(a)]											semi-annual	
2140-MW04	2140	Well	X	X[(a)]											annual	
2140-MW05	2140	Well	X	X[(a)]											annual	
2140-MW06	2140	Well	X	X[(a)]											semi-annual	
2140-MW07	2140	Well	X	X[(a)]											semi-annual	
2140-MW09	2140	Well	X	X[(a)]											annual	
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-MW16	2140	Well	X	X[(a)]											annual	
2140-MW19	2140	Well	X	X[(a)]											semi-annual	
2140-MW27	2140	Well	X	X						X (fall)					semi-annual	
2140-MW37	2140	Well	X	X[(a)]											semi-annual	
ASL-MW12A	ASL	Well	X			X								X	every 5 yrs.	next in 2021
ASL-MW13	ASL	Well	X			X								X	every 5 yrs.	next in 2021
ASL-MW14	ASL	Well	X			X								X	every 5 yrs.	next in 2021
ASL-MW941	ASL	Well	X			X								X	every 5 yrs.	next in 2021
ASL-MW942	ASL	Well	X			X								X	every 5 yrs.	next in 2021
ASL-MW943	ASL	Well	X			X								X	every 5 yrs.	next in 2021
ASL-MW944	ASL	Well	X			X								X	every 5 yrs.	next in 2021
ASL-MW961	ASL	Well	X			X								X	every 5 yrs.	next in 2021

Notes:
semi-annual = spring & fall
annual = fall only

MNA - Monitored Natural Attenuation Parameters:
Nitrate, Sulfate, Iron(II)

ASL - Airfield Sanitary LF Parameters include:
Alkalinity, Bromide, Nitrate, Nitrite,
Total Kjeldahl Nitrogen, Phenols, TDS, BOD, & COD.
TOC, Sulfate, Iron(II), Iron, Manganese, Ammonia,
Dissolved Gases, & Chloride.

(a) Sampled using passive diffusion bags.

Table 3-2
Summary of Incomplete Sampling Locations
2016 Basewide Monitoring
Installation Restoration Program
Ft. Drum, New York

Sampling Location	Spring 2016	Fall 2016
1795		
1795-MWI12	-	Well not located, presumed destroyed
1795-PZ13	-	Well not located, presumed destroyed
3805		
3805-MWS4	-	Well dry
3805-MWS14	-	Well dry

Table 4-1
Summary of Groundwater Elevations
2016 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 2016		Fall 2016	
					Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
1295-MW25	635.85	634.37	4	15	10.38	625.47	11.46	624.39
1295-MW26	639.49	637.20	4	20	10.35	629.14	11.28	628.21
1295-MW30	635.85	634.03	2	15	10.24	625.61	10.65	625.20
1295-MWS27	635.29	635.45	4	18	7.65	627.64	8.44	626.85
1295-MWS28	636.77	634.73	2	15	12.15	624.62	10.50	626.27
1595-MW33	637.90	636.10	4	19.5	10.55	627.35	12.62	625.28
1595-MWS7	629.00	626.80	2	21.85	8.01	620.99	9.20	619.80
1595-MWS8	630.80	628.90	2	18.8	NM	NM	9.95	620.85
1595-MWS9	623.20	621.00	2	21.7	NM	NM	5.18	618.02
1595-OBG2	637.98	635.50	2	17.8	11.11	626.87	13.12	624.86
1595-PZ9	630.77	628.90	2	30	7.90	622.87	10.00	620.77
1595-PZ11	639.63	637.70	2	30	13.67	625.96	16.15	623.48
1595-PZ12	637.87	635.43	2	23	13.13	624.74	15.79	622.08
1595-PZ13	654.40	639.51	2	23	9.85	644.55	14.10	640.30
1795-MWD13	644.91	642.36	2	52	NM	NM	16.95	627.96
1795-MWS1	640.09	637.78	2	23.5	NM	NM	22.85	617.24
1795-MWS2	642.23	639.97	2	20	NM	NM	16.14	626.09
1795-MWS3	644.96	642.72	2	22	14.33	630.63	17.26	627.70
1795-MWS7	653.24	651.01	2	15	12.88	640.36	14.50	638.74
1795-MWS10	642.79	640.63	4	39	NM	NM	15.75	627.04
1795-MWS11	648.91	646.38	2	20	15.01	633.90	17.55	631.36
1795-MWS21	636.35	633.77	4	25	16.03	620.32	18.30	618.05
1795-PZ4	647.23	645.42	2	22	NM	NM	14.73	632.50
1795-PZ5	650.44	648.24	2	21.76	NM	NM	16.05	634.39
1795-PZ14	646.15	643.52	2	21.5	NM	NM	13.33	632.82
1795-PZ15	651.83	650.06	4	25	4.68	647.15	18.40	633.43
WWII-002	640.46	638.36	2	22	NM	NM	19.34	621.12
WWII-006	643.46	641.02	2	45	NM	NM	26.00	617.46
1995-MW43	671.83	669.70	4	34	NM	NM	27.50	644.33
1995-MWS2	645.65	643.34	2	42	NM	NM	39.39	606.26
1995-MWS9	670.80	668.50	4	38.68	23.78	647.02	25.64	645.16
1995-MWS10	665.94	663.67	4	39.01	23.82	642.12	25.85	640.09
1995-PZ6	664.48	662.43	2	32.53	NM	NM	26.85	637.63
3805-002	661.50	659.36	2	24	NM	NM	19.40	642.10
3805-014	656.64	655.17	2	23	16.25	640.39	17.21	639.43
3805-016	653.70	651.51	2	23	NM	NM	19.34	634.36
3805-MW39	663.34	661.60	4	30	NM	NM	20.25	643.09
3805-MWD7	659.34	656.67	2	83	NM	NM	19.66	639.68
3805-MWD10	654.32	651.81	2	73	NM	NM	29.61	624.71
3805-MWD13	654.94	652.30	2	66	NM	NM	31.35	623.59
3805-MWD16	636.55	634.37	2	65	NM	NM	31.30	605.25
3805-MWD18	633.86	631.36	2	63	NM	NM	33.42	600.44
3805-MWI6	659.32	656.79	2	45	NM	NM	19.35	639.97
3805-MWI9	653.30	650.82	2	55	NM	NM	28.50	624.80
3805-MWI12	655.35	653.00	2	51	NM	NM	31.70	623.65
3805-MWI15	635.58	633.24	2	48	NM	NM	29.80	605.78
3805-MWI17	634.13	631.50	2	50	NM	NM	33.20	NM
3805-MWI20	619.63	617.23	2	40	NM	NM	15.46	604.17
3805-MWS2	652.27	649.97	2	20	NM	NM	14.35	637.92
3805-MWS3	650.22	647.69	2	25	NM	NM	20.72	629.50
3805-MWS4	634.98	632.51	2	38	NM	NM	DRY	DRY
3805-MWS5	659.24	656.95	2	25	16.75	642.49	19.00	640.24
3805-MWS8	653.90	651.47	2	30	26.71	627.19	28.83	625.07
3805-MWS11	654.66	652.56	2	35	29.11	625.55	30.54	624.12
3805-MWS14	636.01	633.64	2	34	NM	NM	DRY	DRY
3805-MWS19	619.74	617.40	2	22.6	NM	NM	14.91	604.83
3805-MWS23	662.18	660.85	4	29.28	NM	NM	17.25	644.93
3805-MWS24	657.73	655.71	4	32.27	24.96	632.77	22.88	634.85
3805-PZ2D	657.93	656.12	2	59.8	NM	NM	21.04	636.89
3805-PZ2I	657.87	656.06	2	42	NM	NM	20.89	636.98
3805-PZ2S	657.96	656.10	2	25	21.26	636.70	20.97	636.99
3805-PZ3	655.86	654.06	2	30.5	22.06	633.80	21.79	634.07
3805-PZ7	659.01	657.09	2	30.8	NM	NM	21.61	637.40
3805-PZ12D	655.92	654.00	2	67	NM	NM	27.72	628.20
3805-PZ12I	656.01	654.27	2	49.5	NM	NM	27.48	628.53
3805-PZ12S	655.50	653.83	2	32.5	25.00	630.50	26.65	628.85
3805-PZ13D	645.71	643.95	2	69.9	NM	NM	24.94	620.77
3805-PZ13I	647.27	645.79	2	50.7	NM	NM	26.99	620.28
3805-PZ13S	645.09	643.28	2	31.1	NM	NM	24.50	620.59
3805-PZ14	660.39	658.28	2	31.21	19.78	640.61	20.40	639.99
OSL-MW2	639.74	637.40	2	47	NM	NM	36.82	602.92
OSL-MW3	660.28	658.06	2	32	23.03	637.25	24.70	635.58

Table 4-1
Summary of Groundwater Elevations
2016 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 2016		Fall 2016	
					Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
OSL-MW8	678.02	674.50	4	45.7	NM	NM	34.75	643.27
OSL-MW9A	670.00	668.40	4	59.8	NM	NM	50.78	619.22
OSL-MW10	644.24	641.70	4	49.3	NM	NM	42.75	601.49
2140-MW02	647.09	647.65	2	34.5	23.98	623.11	25.75	621.34
2140-MW04	645.87	643.90	2	34	NM	NM	29.25	616.62
2140-MW05	642.56	640.80	2	34	NM	NM	28.37	614.19
2140-MW06	648.98	647.00	2	42.98	28.72	620.26	30.44	618.54
2140-MW07	648.30	646.40	2	40.9	29.21	619.09	30.54	617.76
2140-MW09	635.73	636.06	2	33.67	NM	NM	25.95	609.78
2140-MW12	629.03	629.48	4	34	19.45	609.58	21.95	607.08
2140-MW13	616.87	617.39	4	20	NM	NM	10.22	606.65
2140-MW14	617.87	618.11	4	20	8.82	609.05	11.32	606.55
2140-MW16	615.01	612.64	4	17.37	NM	NM	8.95	606.06
2140-MW19	616.19	614.22	4	16.97	7.78	608.41	10.05	606.14
2140-MW27	617.24	617.72	4	15.52	9.25	607.99	11.40	605.84
2140-MW37	646.80	646.80	2	34.52	25.20	621.60	26.75	620.05
ASL-MW12A	697.25	695.10	2	78	NM	NM	66.75	630.50
ASL-MW13	698.52	695.90	4	67.5	NM	NM	56.62	641.90
ASL-MW14	698.25	696.20	2	79	NM	NM	64.20	634.05
ASL-MW941	696.40	694.07	2	80	NM	NM	71.29	625.11
ASL-MW942	697.36	694.56	2	60	NM	NM	51.80	645.56
ASL-MW943	697.82	695.11	2	70	NM	NM	58.60	639.22
ASL-MW944	695.35	693.05	2	65	NM	NM	57.40	637.95
ASL-MW961	694.45	694.45	2	86	NM	NM	75.65	618.80

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

Table 4-2
Summary of Spring 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1	Units	1295-MW25 04/27/16	1295-MW26 04/27/16	1295-MW30 04/27/16	1295-MWS27 04/27/16	1295-MWS28 04/27/16	1595-MW33 04/26/16	1595-MWS7 04/26/16	1595-OBG2 04/26/16	1595-PZ11 04/28/16
Volatile Organics											
1,2,4-Trimethylbenzene	5	ug/L	<5.0	<5.0	**950 D**	2.6 J	<5.0	<5.0	**11**	**12 [13]**	<5.0
1,3,5-Trimethylbenzene	5	ug/L	<5.0	<5.0	**380 D**	0.72 J	<5.0	<5.0	**7.7**	**13 [13]**	<5.0
4-Chlorotoluene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5]	<5.0
m,p-Xylene	- -	ug/L	<5.0	<5.0	1,000 D	23	<5.0	<5.0	13	5.5 [5.6]	<5.0
Naphthalene	10	ug/L	<5.0	<5.0	**97**	<5.0	<5.0	<5.0	0.26 J	4.0 J [4.5 J]	<5.0
n-Butylbenzene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5]	<5.0
o-Xylene	5	ug/L	<5.0	<5.0	**39**	**13**	<5.0	<5.0	**5.4**	**9.4 [9.5]**	<5.0
p-Isopropyltoluene	5	ug/L	<5.0	<5.0	**13**	<5.0	<5.0	<5.0	0.34 J	1.6 J [1.6 J]	<5.0
sec-Butylbenzene	5	ug/L	<5.0	<5.0	**5.6**	<5.0	<5.0	<5.0	<5.0	1.8 J [1.7 J]	<5.0
tert-Butylbenzene	5	ug/L	<5.0	<5.0	1.1 J	<5.0	<5.0	<5.0	<5.0	0.95 J [0.97 J]	<5.0
2-Butanone	50	ug/L	<10	<10	2.8 J	<10	<10	<10	<10	1.3 J [1.4 J]	<10
2-Hexanone	50	ug/L	<10	<10	<10	<10	<10	<10	<10	<10 [<10]	<10
4-Methyl-2-pentanone	- -	ug/L	<10	<10	<10	<10	<10	<10	<10	<10 [<10]	<10
Acetone	50	ug/L	<10	<10	6.6 J	<10	<10	<10	<10	<10 [<10]	1.4 J
Benzene	1	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5]	<5.0
Bromomethane	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5]	<5.0
Carbon Disulfide	60	ug/L	<10	<10	0.95 J	<10	<10	<10	<10	4.6 J [4.5 J]	<10
Chloroethane	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0 [<5]	<5.0
Chloromethane	5	ug/L	<5.0	<5.0	0.24 J	<5.0	<5.0	<5.0	<5.0	<5.0 [<5]	<5.0
Isopropylbenzene	5	ug/L	<5.0	<5.0	**41**	<5.0	<5.0	<5.0	0.29 J	2.3 J [2.5 J]	<5.0
Ethylbenzene	5	ug/L	<5.0	<5.0	**250 D**	4.5 J	<5.0	<5.0	0.92 J	3.4 J [3.2 J]	<5.0
n-Propylbenzene	5	ug/L	<5.0	<5.0	**77**	0.26 J	<5.0	<5.0	0.22 J	2.8 J [3 J]	<5.0
Toluene	5	ug/L	<5.0	<5.0	1.2 J	**15**	<5.0	<5.0	0.27 J	0.36 J [0.33 J]	<5.0
Trichloroethene	5	ug/L	<5.0	<5.0	<5.0	0.24 J	0.53 J	<5.0	<5.0	<5.0 [<5]	<5.0
Xylenes (total)	5	ug/L	<5.00	<5.00	**1039**	**36.0**	<5.00	<5.00	**18.4**	**14.9 [15.1]**	<5.00
Total VOCs	- -	ug/L	<10	<10	2,900 J	59 J	0.53 J	<10	39 J	58 J [60 J]	1.4 J
Metals											
Manganese	300	ug/L	22	3 J	57	18	23	32	20	287 [276]	NA
Iron	300	ug/L	120	<100	**33,400**	**630**	20 J	40 J	300	**14,400 [13,100]**	NA
Dissolved Gases											
Ethane	- -	ug/L	<1.0	<1.0	0.34 J	<1.0	<2.0	<1.0	<1.0	<100 [<100]	NA
Ethene	- -	ug/L	<1.0	<1.0	0.14 J	<1.0	<2.0	<1.0	<1.0	<100 [<100]	NA
Methane	- -	ug/L	<1.0	<1.0	1.5	1.4	56	0.43 J	0.48 J	4,200 [3,700]	NA
General Chemistry											
Iron (Ferrous)	- -	mg/L	<0.10 *	<0.10 *	30.5 *	<0.10 *	<0.10 *	<0.10 *	<0.10 *	8.1 * [10.5]	NA
Nitrate	- -	mg/L	1.9	2.6	<1.0	1.9	0.7 J	2.0	0.5 J	0.9 J [0.8 J]	NA
Total Organic Carbon	- -	mg/L	4.0	1.9	14.5	1.3	1.9	4.8	10.5	33.8 [28.3]	NA
Ammonia Nitrogen	- -	mg/L	<0.050	<0.050	0.303	<0.050	<0.050	<0.050	0.218	0.233 [0.267]	NA
Chloride	- -	mg/L	108	43.4	149	617	253	108	174	127 [98]	NA
Sulfate	250	mg/L	70.1	47.4	187	22.5	34.4	23.2	7.9	20.1 [16.8]	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:
U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J Indicates an estimated value.
* Laboratory duplicate analysis was outside control limits.
D Compound quantitated using a secondary dilution.
E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L milligrams per liter.

Table 4-2
Summary of Spring 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1	Units	1595-PZ12 04/26/16	1795-MWS3 04/29/16	1795-MWS7 04/22/16	1795-MWS11 04/28/16	1795-MWS21 04/28/16	1795-PZ15 04/29/16	1995-MWS9 04/22/16	1995-MWS10 04/19/16	2140-MW02 04/28/16
Volatile Organics											
1,2,4-Trimethylbenzene	5	ug/L	**90**	**440**	**300**	<5.0	2.0 J	3.7 J	**55**	**74 [64]**	<5.0
1,3,5-Trimethylbenzene	5	ug/L	**25**	**130**	**170**	<5.0	<5.0	1.1 J	<5.0	**13 [13]**	<5.0
4-Chlorotoluene	5	ug/L	<5.0	<25	<50	<5.0	<5.0	<5.0	<5.0	<5.0 [<10]	<5.0
m,p-Xylene	- -	ug/L	81	450	1,100	<5.0	0.46 J	2.7 J	24	170 [150]	<5.0
Naphthalene	10	ug/L	**23**	**27**	**15 J**	<5.0	<5.0	<5.0	**29**	**52 [39]**	<5.0
n-Butylbenzene	5	ug/L	<5.0	3.9 J	2.6 J	<5.0	1.1 J	<5.0	0.64 J	3.0 J [2.4 J]	<5.0
o-Xylene	5	ug/L	**18**	**92**	**1,100**	<5.0	0.30 J	0.50 J	**16**	**120 [110]**	<5.0
p-Isopropyltoluene	5	ug/L	0.56 J	4.2 J	**5.1 J**	<5.0	<5.0	<5.0	1.5 J	0.56 J [0.46 J]	<5.0
sec-Butylbenzene	5	ug/L	0.52 J	3.6 J	<50	<5.0	2.3 J	<5.0	1.7 J	4.5 J [4 J]	<5.0
tert-Butylbenzene	5	ug/L	<5.0	<25	<50	<5.0	0.30 J	<5.0	<5.0	0.39 J [<10]	<5.0
2-Butanone	50	ug/L	<10	<50	<100	<10	<10	<10	<10	45 [8.4 J]	<10
2-Hexanone	50	ug/L	<10	<50	<100	<10	<10	<10	<10	<10 [<20]	<10
4-Methyl-2-pentanone	- -	ug/L	<10	<50	<100	<10	<10	<10	<10	0.67 J [<20]	<10
Acetone	50	ug/L	1.9 J	<50	18 J	1.3 J	1.8 J	<10	1.9 J	**70 [17 J]**	<10
Benzene	1	ug/L	<5.0	<25	<50	<5.0	0.24 J	<5.0	<5.0	0.29 J [<10]	<5.0
Bromomethane	5	ug/L	<5.0	<25	<50	<5.0	<5.0	<5.0	<5.0	<5.0 [<10]	<5.0
Carbon Disulfide	60	ug/L	<10	<50	<100	<10	<10	<10	2.3 J	<10 [<20]	<10
Chloroethane	5	ug/L	<5.0	<25	<50	<5.0	<5.0	<5.0	<5.0	<5.0 [<10]	<5.0
Chloromethane	5	ug/L	<5.0	<25	2.8 J	<5.0	<5.0	<5.0	<5.0	0.21 J [<10]	<5.0
Isopropylbenzene	5	ug/L	**7.4**	**24 J**	3.9 J	<5.0	**18**	<5.0	**5.9**	**38 [33]**	<5.0
Ethylbenzene	5	ug/L	**36**	**120**	**47 J**	<5.0	4.3 J	1.6 J	**21**	**220 D [210]**	<5.0
n-Propylbenzene	5	ug/L	**9.5**	**52**	4.3 J	<5.0	**11**	0.35 J	**7.2**	**39 [34]**	<5.0
Toluene	5	ug/L	**9.2**	**7.8 J**	**5.8 J**	<5.0	2.3 J	<5.0	1.2 J	**82 [74]**	<5.0
Trichloroethene	5	ug/L	<5.0	<25	<50	<5.0	<5.0	<5.0	<5.0	<5.0 [<10]	<5.0
Xylenes (total)	5	ug/L	**99.0**	**542**	**2,200**	<5.00	0.760 J	3.20 J	**40.0**	**290 [260]**	<5.00
Total VOCs	- -	ug/L	300 J	1,400 J	2,800 J	1.3 J	44 J	10 J	170 J	930 J [760 J]	<10
Metals											
Manganese	300	ug/L	16	**611**	50	NA	NA	29	**602**	**3,160 [3,430]**	NA
Iron	300	ug/L	**380**	**19,900**	**11,700**	NA	NA	**580**	**44,800**	**26,700 [28,300]**	NA
Dissolved Gases											
Ethane	- -	ug/L	<10	0.71 J	0.26 J	NA	NA	<1.0	<50	<100 [0.93 J]	NA
Ethene	- -	ug/L	1.7 J	<1.0	0.16 J	NA	NA	<1.0	<50	<100 [0.25 J]	NA
Methane	- -	ug/L	220	67	9.4	NA	NA	<1.0	860	6,200 [5,500]	NA
General Chemistry											
Iron (Ferrous)	- -	mg/L	0.19 *	17.6 *	4.48 *	NA	NA	<0.10 *	50.3 *	19.7 * [19.5]	NA
Nitrate	- -	mg/L	2.0	<1.0	1.8	NA	NA	1.2	<1.0	<1.0 [<1]	NA
Total Organic Carbon	- -	mg/L	2.8	6.0	19.6	NA	NA	5.2	8.1	6.2 [6.4]	NA
Ammonia Nitrogen	- -	mg/L	0.026 J	0.223	0.762	NA	NA	<0.050	2.04	1.03 [1.06]	NA
Chloride	- -	mg/L	80.5	8.9	340	NA	NA	59.6	4,120	500 [487]	NA
Sulfate	250	mg/L	16.6	6.9	41.9	NA	NA	42.1	4.6	1.2 J [1.1 J]	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:
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E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L milligrams per liter.

Table 4-2
Summary of Spring 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1	Units	2140-MW06 04/28/16	2140-MW07 04/28/16	2140-MW12 04/28/16	2140-MW14 04/28/16	2140-MW19 04/28/16	2140-MW27 04/28/16	2140-MW37 04/28/16	3805-MWS5 04/28/16	3805-MWS8 04/28/16
Volatile Organics											
1,2,4-Trimethylbenzene	5	ug/L	**59**	1.2 J	<5.0	<5.0	<5.0	<5.0	**48**	0.63 J	<5.0
1,3,5-Trimethylbenzene	5	ug/L	**29**	0.46 J	<5.0	<5.0	<5.0	<5.0	**40**	**7.5**	<5.0
4-Chlorotoluene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
m,p-Xylene	- -	ug/L	350	2.7 J	<5.0	<5.0	<5.0	<5.0	7.9	1.8 J	<5.0
Naphthalene	10	ug/L	4.0 J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o-Xylene	5	ug/L	**540 D**	2.8 J	<5.0	<5.0	<5.0	<5.0	**5.4**	**13**	0.35 J
p-Isopropyltoluene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
sec-Butylbenzene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
tert-Butylbenzene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Butanone	50	ug/L	0.97 J	<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	50	ug/L	<10	<10	<10	<10	<10	<10	<10	4.3 J	<10
4-Methyl-2-pentanone	- -	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	50	ug/L	1.7 J	2.3 J	<10	<10	<10	1.5 J	<10	<10	<10
Benzene	1	ug/L	**5.9**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Bromomethane	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon Disulfide	60	ug/L	0.29 BJ	<10	<10	<10	<10	<10	0.24 BJ	<10	<10
Chloroethane	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloromethane	5	ug/L	<5.0	0.21 J	<5.0	<5.0	<5.0	<5.0	0.29 BJ	<5.0	<5.0
Isopropylbenzene	5	ug/L	0.92 J	<5.0	<5.0	<5.0	<5.0	<5.0	0.68 J	<5.0	<5.0
Ethylbenzene	5	ug/L	**10**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.36 J
n-Propylbenzene	5	ug/L	0.98 J	<5.0	<5.0	<5.0	<5.0	<5.0	1.4 J	<5.0	<5.0
Toluene	5	ug/L	**210 D**	0.77 J	<5.0	<5.0	<5.0	<5.0	0.33 J	0.29 J	<5.0
Trichloroethene	5	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	5	ug/L	**890 D**	**5.50 J**	<5.00	<5.00	<5.00	<5.00	**13.3**	**14.8 J**	<0.350
Total VOCs	- -	ug/L	1,200 J	10 J	<10	<10	<10	1.5 J	100 J	23 J	0.36 J
Metals											
Manganese	300	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases											
Ethane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry											
Iron (Ferrous)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:
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E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L milligrams per liter.

Table 4-2
Summary of Spring 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1	Units	3805-MWS11 04/22/16	3805-MWS24 04/19/16	3805-PZ2S 04/19/16	3805-PZ3 04/19/16	3805-PZ12S 04/22/16
Volatile Organics							
1,2,4-Trimethylbenzene	5	ug/L	**670**	**46**	**17**	**20**	**1,100**
1,3,5-Trimethylbenzene	5	ug/L	**240**	**25**	**15**	**12**	**340**
4-Chlorotoluene	5	ug/L	<50	<5.0	<5.0	<5.0	<100
m,p-Xylene	- -	ug/L	1,800	82	8.5	20	4,800
Naphthalene	10	ug/L	**110**	5.6	0.55 J	1.2 J	**160**
n-Butylbenzene	5	ug/L	<50	<5.0	<5.0	1.4 J	<100
o-Xylene	5	ug/L	**660**	**38**	**6.7**	**14**	**1,900**
p-Isopropyltoluene	5	ug/L	3.1 J	0.68 J	0.30 J	0.22 J	**6.0 J**
sec-Butylbenzene	5	ug/L	4.0 J	0.59 J	<5.0	<5.0	**5.6 J**
tert-Butylbenzene	5	ug/L	<50	<5.0	<5.0	<5.0	<100
2-Butanone	50	ug/L	<100	1.4 J	22	1.7 J	37 J
2-Hexanone	50	ug/L	<100	<10	2.1 J	<10	**92 J**
4-Methyl-2-pentanone	- -	ug/L	<100	<10	1.4 J	1.1 J	<200
Acetone	50	ug/L	<100	2.9 J	4.0 J	6.1 J	27 J
Benzene	1	ug/L	**3.4 J**	<5.0	<5.0	<5.0	**20 J**
Bromomethane	5	ug/L	<50	<5.0	<5.0	<5.0	<100
Carbon Disulfide	60	ug/L	<100	<10	<10	<10	<200
Chloroethane	5	ug/L	<50	<5.0	<5.0	<5.0	<100
Chloromethane	5	ug/L	<50	0.27 J	0.21 J	<5.0	<100
Isopropylbenzene	5	ug/L	**34 J**	2.1 J	<5.0	<5.0	**55 J**
Ethylbenzene	5	ug/L	**330**	**14**	1.1 J	3.1 J	**1,000**
n-Propylbenzene	5	ug/L	**65**	4.0 J	0.55 J	0.46 J	**100**
Toluene	5	ug/L	**160**	**8.7**	0.45 J	1.4 J	**1,700**
Trichloroethene	5	ug/L	<50	0.28 J	<5.0	<5.0	<100
Xylenes (total)	5	ug/L	**2,460**	**120**	**15.2**	**34.0**	**6,700**
Total VOCs	- -	ug/L	4,100 J	230 J	78 J	83 J	11,000 J
Metals							
Manganese	300	ug/L	**4,030**	15	113	**848**	**2,630**
Iron	300	ug/L	**20,400**	120	140	**1,440**	**30,800**
Dissolved Gases							
Ethane	- -	ug/L	0.26 J	<1.0	<1.0	<1.0	0.38 J
Ethene	- -	ug/L	0.13 J	<1.0	<1.0	<1.0	0.21 J
Methane	- -	ug/L	31	2.8	0.66 J	1.3	29
General Chemistry							
Iron (Ferrous)	- -	mg/L	9.9 *	<0.10 *	0.07 J*	0.72 *	26.0 *
Nitrate	- -	mg/L	<1.0	0.8 J	<1.0	1.8	<1.0
Total Organic Carbon	- -	mg/L	5.4	2.9	4.5	10.2	17.3
Ammonia Nitrogen	- -	mg/L	0.329	<0.050	0.020 J	0.370	0.569
Chloride	- -	mg/L	60.4	696	3.3	3.2	37.9
Sulfate	250	mg/L	3.4	41.8	4.6	49.9	2.4

Highlighted cell exceed corresponding NYSDEC Standards

Notes:
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J Indicates an estimated value.
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E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L milligrams per liter.

Table 4-2
Summary of Spring 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1	Units	3805-PZ14 04/19/16	OSL-MW3 04/28/16
Volatile Organics				
1,2,4-Trimethylbenzene	5	ug/L	**390**	<5.0
1,3,5-Trimethylbenzene	5	ug/L	**160**	<5.0
4-Chlorotoluene	5	ug/L	<10	<5.0
m,p-Xylene	- -	ug/L	1,900 D	<5.0
Naphthalene	10	ug/L	**130**	<5.0
n-Butylbenzene	5	ug/L	<10	<5.0
o-Xylene	5	ug/L	**880 D**	<5.0
p-Isopropyltoluene	5	ug/L	1.6 J	<5.0
sec-Butylbenzene	5	ug/L	0.74 J	<5.0
tert-Butylbenzene	5	ug/L	<10	<5.0
2-Butanone	50	ug/L	9.6 J	<10
2-Hexanone	50	ug/L	8.6 J	<10
4-Methyl-2-pentanone	- -	ug/L	3.5 J	<10
Acetone	50	ug/L	7.4 J	<10
Benzene	1	ug/L	<10	<5.0
Bromomethane	5	ug/L	<10	<5.0
Carbon Disulfide	60	ug/L	5.1 J	<10
Chloroethane	5	ug/L	<10	<5.0
Chloromethane	5	ug/L	<10	<5.0
Isopropylbenzene	5	ug/L	**5.6 J**	<5.0
Ethylbenzene	5	ug/L	**66**	<5.0
n-Propylbenzene	5	ug/L	**8.2 J**	<5.0
Toluene	5	ug/L	**32**	<5.0
Trichloroethene	5	ug/L	<10	<5.0
Xylenes (total)	5	ug/L	**2,780 D**	<5.00
Total VOCs	- -	ug/L	3,600 J	<10
Metals				
Manganese	300	ug/L	**1,110**	NA
Iron	300	ug/L	**22,900**	NA
Dissolved Gases				
Ethane	- -	ug/L	0.52 J	NA
Ethene	- -	ug/L	0.16 J	NA
Methane	- -	ug/L	90	NA
General Chemistry				
Iron (Ferrous)	- -	mg/L	21.6 *	NA
Nitrate	- -	mg/L	<1.0	NA
Total Organic Carbon	- -	mg/L	17.2	NA
Ammonia Nitrogen	- -	mg/L	0.357	NA
Chloride	- -	mg/L	67.1	NA
Sulfate	250	mg/L	2.4	NA

Highlighted cell exceed corresponding NYSDEC Standards

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ug/L micrograms per liter.
mg/L milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1295-MW25 09/09/16	1295-MW26 09/09/16	1295-MW30 09/09/16	1295-MWS27 09/09/16	1295-MWS28 09/09/16	1595-MW33 09/14/16
Volatile Organics								
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U	**500**	1.2 J	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	**160**	5 U	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	50 U	10 U	1.1 J	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	50 U	10 U	10 U	10 U
Acetone	50	ug/L	1.5 J	1.3 J	23 J	1.6 J	10 U	1.3 J
Bromomethane	5	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	50 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	6.2 J	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	**21 J**	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	5 U	5 U	330	5 U	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	50 U	10 U	10 U	10 U
Naphthalene	10	ug/L	5 U	5 U	**43**	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	4.5 J	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	35	0.38 J	5 U	5 U
o-Xylene	- -	ug/L	5 U	5 U	13 J	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	4 J	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	1.6 J	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	0.24 J	5 U	25 U	0.3 J	0.61 J	5 U
Benzene	1	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Toluene	5	ug/L	5 U	5 U	25 U	5 U	5 U	5 U
Ethylbenzene	5	ug/L	5 U	5 U	**130**	5 U	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	5 U	5 U	**343 J**	5 U	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	1.7 J	1.3 J	1,300 J	3.5 J	1.7 J	1.3 J
Semivolatile Organics								
2,4-Dimethylphenol	50	ug/L	NA	NA	9.6	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	12	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	9.4 U	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	5 J	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	**26**	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	**56**	NA	NA	NA
Phenol	1	ug/L	NA	NA	9.4 U	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

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D	Compound quantitated using a secondary dilution.
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ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1295-MW25 09/09/16	1295-MW26 09/09/16	1295-MW30 09/09/16	1295-MWS27 09/09/16	1295-MWS28 09/09/16	1595-MW33 09/14/16
Metals								
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA
Dissolved Gases								
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA
PCBs								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Pesticides								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Wet Chemistry								
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.1 U,*	0.1 U,*	69.4 *	0.1 U,*	0.1 U,*	0.1 U,*
Nitrate-N	- -	mg/L	1.2	3.9	1 U	1.5	1 U	1.5
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	22.8	42.5	**259**	21.1	8	34.6
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1595-MWS7 09/14/16	1595-MWS8 09/20/16	1595-MWS9 09/20/16	1595-OBG2 09/14/16	1595-PZ9 09/20/16	1595-PZ11 09/20/16	1595-PZ12 09/20/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	4.4 J	**8.4**	5 U	**20**	0.83 J	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	50 U	**15**	5 U	**16**	4.1 J	5 U	0.24 J
1,4-Dichlorobenzene	3	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	100 U	0.97 J	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	100 U	10 U	10 U	1.4 J	2.3 J	10 U	10 U
Acetone	50	ug/L	100 U	4.4 J	10 U	4.2 J	2.2 J	2.4 J	1.9 J
Bromomethane	5	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	60	ug/L	100 U	0.22 J	10 U	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	50 U	0.65 J	5 U	1.7 J	0.26 J	5 U	5 U
Isopropylbenzene	5	ug/L	50 U	0.24 J	5 U	1 J	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	7.5 J	8.7	5 U	26	1.7 J	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	100 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	4.8 J	1.9 J	5 U	8.9	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	50 U	5 U	5 U	1.2 J	5 U	5 U	5 U
o-Xylene	- -	ug/L	2.3 J	6.6	5 U	32	4 J	5 U	5 U
sec-Butylbenzene	- -	ug/L	50 U	5 U	5 U	0.69 J	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	50 U	0.28 J	5 U	0.55 J	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	50 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	ug/L	50 U	5 U	5 U	0.32 J	5 U	5 U	5 U
Toluene	5	ug/L	50 U	5 U	5 U	1.9 J	0.21 J	5 U	5 U
Ethylbenzene	5	ug/L	50 U	2.2 J	5 U	**5.1**	0.95 J	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	**9.8 J**	**15.3**	5 U	**58**	**5.7 J**	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	19 J	49 J	10 U	120 J	17 J	2.4 J	2.1 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1595-MWS7 09/14/16	1595-MWS8 09/20/16	1595-MWS9 09/20/16	1595-OBG2 09/14/16	1595-PZ9 09/20/16	1595-PZ11 09/20/16	1595-PZ12 09/20/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.1 U,*	NA	NA	8.04 *	NA	NA	NA
Nitrate-N	- -	mg/L	0.6 J	NA	NA	1 U	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	26.8	NA	NA	97	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1595-PZ13 09/20/16	1595-SW01 09/13/16	1595-SW04 09/13/16	1795-MWD13 09/20/16	1795-MWS1 09/20/16	1795-MWS2 09/20/16	1795-MWS3 09/19/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	**190**	0.44 J	5 U	5 U	5 U	2.7 J	**680 D**
1,3,5-Trimethylbenzene	5	ug/L	**61**	5 U	5 U	5 U	5 U	**5.3**	**170**
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
2-Butanone (MEK)	50	ug/L	3.4 J	10 U	10 U	10 U	0.98 J	10 U	3.2 J
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	25 U
Acetone	50	ug/L	5.9 J	3.1 J	3.2 J	10 U	2 J	1.9 J	25 U
Bromomethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	25 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
Chloroethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
Cymene (p-Isopropyltoluene)	- -	ug/L	2.1 J	5 U	5 U	5 U	5 U	5 U	8.6 J
Isopropylbenzene	5	ug/L	**7.4**	5 U	5 U	5 U	5 U	0.75 J	**39**
m&p-Xylenes	- -	ug/L	150	0.37 BJ	5 U	5 U	5 U	13	460
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	25 U
Naphthalene	10	ug/L	**79**	5 U	5 U	5 U	5 U	2.6 J	**76**
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	0.29 J	13 U
N-Propylbenzene	- -	ug/L	8.5	5 U	5 U	5 U	5 U	1 J	88
o-Xylene	- -	ug/L	23	5 U	5 U	5 U	5 U	0.61 J	71
sec-Butylbenzene	- -	ug/L	1.2 J	5 U	5 U	5 U	5 U	5 U	7.8 J
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	0.93 J
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	1.1 J	5 U	5 U	13 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
Benzene	1	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	13 U
Toluene	5	ug/L	5 U	5 U	5 U	5 U	5 U	0.54 J	4.4 J
Ethylbenzene	5	ug/L	**34**	5 U	5 U	5 U	5 U	0.59 J	**140**
Total Xylenes (Max DL)	5	ug/L	**173**	0.37 J	5 U	5 U	5 U	**13.61 J**	**531**
Total VOCs (Max DL)	- -	ug/L	570 J	3.9 J	3.2 J	1.1 J	3 J	29 J	1,700 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	9.4 U	9.4 U	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	9.4 U	9.4 U	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	1 J	9.4 U	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	19 U	19 U	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	9.4 U	9.4 U	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	47 U	47 U	NA	NA	NA	NA
Phenol	1	ug/L	NA	**6 J**	9.4 U	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1595-PZ13 09/20/16	1595-SW01 09/13/16	1595-SW04 09/13/16	1795-MWD13 09/20/16	1795-MWS1 09/20/16	1795-MWS2 09/20/16	1795-MWS3 09/19/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	45.2	64.4	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	**41.5**	**19.4**	NA	NA	NA	NA
Lead	0.025	mg/L	NA	0.011	**0.052**	NA	NA	NA	NA
Magnesium	35	mg/L	NA	3.2	5.3	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA	NA	44.8 *
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA	NA	1 U
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA	2.6
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	126	183	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1795-MWS7 09/21/16	1795-MWS10 09/20/16	1795-MWS11 09/20/16	1795-MWS21 09/20/16	1795-PZ4 09/20/16	1795-PZ5 09/20/16	1795-PZ14 09/20/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	**130**	5 U	5 U	5 U	5 U	5 U	**5.7**
1,3,5-Trimethylbenzene	5	ug/L	**130**	5 U	5 U	5 U	5 U	5 U	0.43 J
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	3.3 J	10 U	0.82 J	10 U	0.82 J	10 U	1.4 J
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/L	3.2 J	1.6 J	3.7 J	1.9 J	2.3 J	2.3 J	2.9 J
Bromomethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	60	ug/L	0.22 J	10 U	10 U	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	2.5 J	5 U	5 U	5 U	5 U	5 U	0.26 J
Isopropylbenzene	5	ug/L	0.65 J	5 U	5 U	5 U	5 U	5 U	0.92 J
m&p-Xylenes	- -	ug/L	550 D	5 U	5 U	5 U	5 U	5 U	0.99 J
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	2.6 J	5 U	5 U	5 U	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	0.77 J
N-Propylbenzene	- -	ug/L	0.41 J	5 U	5 U	5 U	5 U	5 U	0.79 J
o-Xylene	- -	ug/L	530 D	5 U	5 U	5 U	5 U	5 U	0.22 J
sec-Butylbenzene	- -	ug/L	0.78 J	5 U	5 U	5 U	5 U	5 U	0.78 J
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	0.25 J
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5	ug/L	0.95 J	5 U	5 U	5 U	5 U	5 U	0.33 J
Ethylbenzene	5	ug/L	**5.2**	5 U	5 U	5 U	5 U	5 U	1 J
Total Xylenes (Max DL)	5	ug/L	**1,080**	5 U	5 U	5 U	5 U	5 U	1.21 J
Total VOCs (Max DL)	- -	ug/L	1,400 J	1.6 J	4.5 J	1.9 J	3.1 J	2.3 J	17 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1795-MWS7 09/21/16	1795-MWS10 09/20/16	1795-MWS11 09/20/16	1795-MWS21 09/20/16	1795-PZ4 09/20/16	1795-PZ5 09/20/16	1795-PZ14 09/20/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.09 J,*	NA	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	1 J	NA	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	14.2	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1795-PZ15 09/19/16	1795-WWII-002 09/20/16	1795-WWII-006 09/20/16	1795-SW00 09/13/16	1795-SW04 09/13/16	2140-MW02 09/20/16
Volatile Organics								
1,2,4-Trimethylbenzene	5	ug/L	**11**	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	**22**	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/L	1.9 J	1.6 J	2.9 J	10 U	2.1 J	10 U
Bromomethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	25	5 U	5 U	0.37 BJ	0.34 BJ	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
o-Xylene	- -	ug/L	25	5 U	5 U	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5	ug/L	0.21 J	5 U	5 U	5 U	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	**50**	5 U	5 U	0.37 J	0.34 J	5 U
Total VOCs (Max DL)	- -	ug/L	85 J	1.6 J	2.9 J	0.37 J	2.4 J	10 U
Semivolatile Organics								
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	19 U	19 U	NA
Naphthalene	10	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	47 U	47 U	NA
Phenol	1	ug/L	NA	NA	NA	9.4 U	9.4 U	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1795-PZ15 09/19/16	1795-WWII-002 09/20/16	1795-WWII-006 09/20/16	1795-SW00 09/13/16	1795-SW04 09/13/16	2140-MW02 09/20/16
Metals								
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	69.1	74.2	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	0.022 U	0.23	NA
Lead	0.025	mg/L	NA	NA	NA	0.0022 U	0.0022 U	NA
Magnesium	35	mg/L	NA	NA	NA	4.9	5.2	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA
Dissolved Gases								
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA
PCBs								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Pesticides								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Wet Chemistry								
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.1 U,*	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	1 U	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	22.1	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	193	207	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

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E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		2140-MW04 09/20/16	2140-MW05 09/20/16	2140-MW06 09/20/16	2140-MW07 09/20/16	2140-MW09 09/20/16	2140-MW12 09/20/16	2140-MW13 09/20/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/L	10 U	10 U	10 U	10 U	10 U	1.7 J	3.2 J
Bromomethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
o-Xylene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	10 U	10 U	10 U	10 U	10 U	1.7 J	3.2 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
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E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		2140-MW04 09/20/16	2140-MW05 09/20/16	2140-MW06 09/20/16	2140-MW07 09/20/16	2140-MW09 09/20/16	2140-MW12 09/20/16	2140-MW13 09/20/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		2140-MW14 09/20/16	2140-MW16 09/20/16	2140-MW19 09/20/16	2140-MW27 09/21/16	2140-MW37 09/20/16	1995-MW43 09/20/16	1995-MWS2 09/15/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	0.21 J	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/L	2.9 J	2.7 J	3.5 J	10 U	10 U	4.4 J	4.2 J
Bromomethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
o-Xylene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5	ug/L	5 U	5 U	5 U	0.38 J	5 U	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	3.1 J	2.7 J	3.5 J	0.38 J	10 U	4.4 J	4.2 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA	9.4 U
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA	9.4 U
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	9.4 U
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	19 U
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA	9.4 U
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA	47 U
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA	9.4 U

Highlighted cell exceed corresponding NYSDEC Standards

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E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		2140-MW14 09/20/16	2140-MW16 09/20/16	2140-MW19 09/20/16	2140-MW27 09/21/16	2140-MW37 09/20/16	1995-MW43 09/20/16	1995-MWS2 09/15/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	0.26
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	0.001 U
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	0.0093
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA	24.9
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	0.0013 J
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	0.0019 U
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA	**0.43**
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA	0.00074 U
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA	1.6
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	0.0091
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	0.0019 U
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	1.2
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	0.00074 U
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	4.6
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	0.00074 U
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	0.0025 J
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	1.02 *	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	1 U	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	32.4	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1995-MWS9 09/14/16	1995-MWS10 09/14/16	1995-PZ6 09/20/16	3805-002 09/20/16	3805-014 09/20/16	3805-016 09/20/16	3805-MW39 09/20/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	**130**	**59**	**860**	**150**	**850**	**7.6**	5 U
1,3,5-Trimethylbenzene	5	ug/L	0.52 J	**8.5**	**240**	**160**	**300**	0.85 J	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	25 U	25 U	25 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	1.2 J	1.9 J	50 U	50 U	50 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	50 U	50 U	50 U	10 U	10 U
Acetone	50	ug/L	3.3 J	3.6 J	50 U	50 U	50 U	9.4 J	10 U
Bromomethane	5	ug/L	5 U	5 U	25 U	25 U	25 U	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	50 U	50 U	50 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	25 U	25 U	25 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	25 U	25 U	25 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	25 U	25 U	25 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	25 U	25 U	25 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	3.1 J	0.68 J	10 J	1.5 J	2.8 J	5 U	5 U
Isopropylbenzene	5	ug/L	**12**	**18**	**61**	**5.1 J**	**32**	5 U	5 U
m&p-Xylenes	- -	ug/L	89	93	1,100	350	1,600	16	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	50 U	50 U	50 U	10 U	10 U
Naphthalene	10	ug/L	**110**	**43**	**140**	25 U	**93**	0.91 J	5 U
N-Butylbenzene	- -	ug/L	1.6 J	3.8 J	25 U	25 U	25 U	5 U	5 U
N-Propylbenzene	- -	ug/L	15	22	110	4.1 J	48	0.2 J	5 U
o-Xylene	- -	ug/L	53	50	410	500	540	12	5 U
sec-Butylbenzene	- -	ug/L	3.2 J	3.4 J	13 J	25 U	2 J	5 U	5 U
Styrene (Monomer)	5	ug/L	1.7 J	1.7 J	25 U	25 U	25 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	0.3 J	25 U	25 U	25 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	25 U	25 U	25 U	0.62 J	5 U
Trichloroethene	5	ug/L	5 U	5 U	25 U	25 U	25 U	5 U	5 U
Benzene	1	ug/L	5 U	0.53 J	**5.9 J**	25 U	25 U	0.33 J	5 U
Toluene	5	ug/L	4.5 J	**86**	**380**	2.7 J	**65**	**7.2**	5 U
Ethylbenzene	5	ug/L	**66**	**95**	**300**	**15 J**	**210**	2.6 J	5 U
Total Xylenes (Max DL)	5	ug/L	**142**	**143**	**1,510**	**850**	**2,140**	**28**	5 U
Total VOCs (Max DL)	- -	ug/L	490 J	490 J	3,600 J	1,200 J	3,700 J	58 J	10 U
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		1995-MWS9 09/14/16	1995-MWS10 09/14/16	1995-PZ6 09/20/16	3805-002 09/20/16	3805-014 09/20/16	3805-016 09/20/16	3805-MW39 09/20/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	6.13 *	78.8 *	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	1 U	1 U	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	0.8 J	2 U	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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*	Laboratory duplicate analysis was outside control limits.
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E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWD7 09/20/16	3805-MWD10 09/20/16	3805-MWD13 09/20/16	3805-MWD16 09/08/16	3805-MWD18 09/07/16	3805-MWI6 09/20/16
Volatile Organics								
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U	1.2 J	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	0.25 J	5 U	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/L	2.6 J	10 U	1.6 J	10 U	2 U	10 U
Bromomethane	5	ug/L	5 U	5 U	5 U	5 UJ	5 UJ	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	0.25 J	5 U	0.29 J
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	0.21 J	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	1 J	5 U	5 U	0.58 J
m&p-Xylenes	- -	ug/L	5 U	5 U	0.44 J	5 U	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	5 U	5 U	2 J	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	1.6 J	5 U	5 U	5 U
o-Xylene	- -	ug/L	5 U	5 U	3.7 J	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	**8.7**
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U	1.4 J
Benzene	1	ug/L	5 U	5 U	0.94 J	5 U	**13**	5 U
Toluene	5	ug/L	5 U	5 U	0.39 J	5 U	5 U	0.42 J
Ethylbenzene	5	ug/L	5 U	5 U	**10**	5 U	5 U	0.91 J
Total Xylenes (Max DL)	5	ug/L	5 U	5 U	4.14 J	5 U	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	2.6 J	10 U	23 J	0.25 J	13	12 J
Semivolatile Organics								
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	19 U	19 U	NA
Naphthalene	10	ug/L	NA	NA	NA	9.4 U	9.4 U	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	47 U	47 U	NA
Phenol	1	ug/L	NA	NA	NA	9.4 U	9.4 U	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWD7 09/20/16	3805-MWD10 09/20/16	3805-MWD13 09/20/16	3805-MWD16 09/08/16	3805-MWD18 09/07/16	3805-MWI6 09/20/16
Metals								
Aluminum	- -	mg/L	NA	NA	NA	0.03 U	0.03 U	NA
Arsenic	0.025	mg/L	NA	NA	NA	0.001 U	0.001 U	NA
Barium	1	mg/L	NA	NA	NA	0.011	0.018	NA
Calcium	- -	mg/L	NA	NA	NA	34.5	33	NA
Chromium	0.05	mg/L	NA	NA	NA	0.0011 J	0.0012 J	NA
Copper	0.2	mg/L	NA	NA	NA	0.0019 U	0.0019 U	NA
Iron	0.3	mg/L	NA	NA	NA	0.033 J	0.18	NA
Lead	0.025	mg/L	NA	NA	NA	0.00074 U	0.00074 U	NA
Magnesium	35	mg/L	NA	NA	NA	5.4	11.4	NA
Manganese	0.3	mg/L	NA	NA	NA	0.0019 U	0.14	NA
Nickel	0.1	mg/L	NA	NA	NA	0.0019 U	0.0019 U	NA
Potassium	- -	mg/L	NA	NA	NA	0.67	1.1	NA
Silver	0.05	mg/L	NA	NA	NA	0.00074 U	0.00074 U	NA
Sodium	20	mg/L	NA	NA	NA	4.3	9.8	NA
Vanadium	- -	mg/L	NA	NA	NA	0.0018 J	0.00074 U	NA
Zinc	2	mg/L	NA	NA	NA	0.0019 U	0.0061	NA
Dissolved Gases								
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA
PCBs								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Pesticides								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Wet Chemistry								
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	0.01 U	0.01 U	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWI9 09/20/16	3805-MWI12 09/08/16	3805-MWI15 09/07/16	3805-MWI17 09/07/16	3805-MWI20 09/20/16	3805-MWS2 09/20/16
Volatile Organics								
1,2,4-Trimethylbenzene	5	ug/L	**43**	5 U	5 U	**290**	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	**170**	5 U	5 U	**83**	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	25 U	5 U	5 U	25 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	50 U	10 U	10 U	50 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	50 U	10 U	10 U	50 U	10 U	10 U
Acetone	50	ug/L	50 U	3.1 J	1.8 U	7.5 U	2.1 J	2.8 J
Bromomethane	5	ug/L	25 U	5 U	5 UJ	25 UJ	5 U	5 U
Carbon Disulfide	60	ug/L	50 U	10 U	10 U	50 U	10 U	10 U
CFC-12	5	ug/L	25 U	5 U	5 U	25 U	5 U	5 U
Chloroethane	5	ug/L	25 U	5 U	5 U	25 U	5 U	5 U
Chloroform	7	ug/L	25 U	1.4 J	5 U	25 U	5 U	5 U
Chloromethane	5	ug/L	25 U	5 U	0.21 J	25 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	2.5 J	5 U	5 U	2.2 J	5 U	5 U
Isopropylbenzene	5	ug/L	**37**	5 U	5 U	**34**	5 U	5 U
m&p-Xylenes	- -	ug/L	110	5 U	5 U	1,100	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	50 U	10 U	10 U	50 U	10 U	10 U
Naphthalene	10	ug/L	**250**	5 U	5 U	**140**	5 U	5 U
N-Butylbenzene	- -	ug/L	25 U	5 U	5 U	2.8 J	5 U	5 U
N-Propylbenzene	- -	ug/L	76	5 U	5 U	57	5 U	5 U
o-Xylene	- -	ug/L	470	5 U	5 U	120	5 U	5 U
sec-Butylbenzene	- -	ug/L	2.8 J	5 U	5 U	3.1 J	5 U	5 U
Styrene (Monomer)	5	ug/L	25 U	5 U	5 U	25 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	25 U	5 U	5 U	25 U	5 U	5 U
Tetrachloroethene	5	ug/L	25 U	**24**	**63**	25 U	5 U	0.36 J
Trichloroethene	5	ug/L	25 U	5 U	1.4 J	25 U	0.47 J	5 U
Benzene	1	ug/L	**45**	5 U	**1.4 J**	**670**	5 U	5 U
Toluene	5	ug/L	**690**	5 U	5 U	**76**	5 U	5 U
Ethylbenzene	5	ug/L	**830**	5 U	5 U	**580**	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	**580**	5 U	5 U	**1,220**	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	2,700 J	29 J	66 J	3,200 J	2.6 J	3.2 J
Semivolatile Organics								
2,4-Dimethylphenol	50	ug/L	NA	9.4 U	9.4 U	9.4 J	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	9.4 U	9.4 U	15	NA	NA
2-Methylphenol	- -	ug/L	NA	9.4 U	9.4 U	9.4 U	NA	NA
4-Methylphenol	- -	ug/L	NA	19 U	19 U	19 U	NA	NA
Naphthalene	10	ug/L	NA	9.4 U	9.4 U	**86**	NA	NA
Pentachlorophenol	1	ug/L	NA	47 U	47 U	47 U	NA	NA
Phenol	1	ug/L	NA	9.4 U	9.4 U	**3.3 J**	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

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D	Compound quantitated using a secondary dilution.
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mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWI9 09/20/16	3805-MWI12 09/08/16	3805-MWI15 09/07/16	3805-MWI17 09/07/16	3805-MWI20 09/20/16	3805-MWS2 09/20/16
Metals								
Aluminum	- -	mg/L	NA	NA	0.03 U	0.03 U	NA	NA
Arsenic	0.025	mg/L	NA	NA	0.001 U	0.0031	NA	NA
Barium	1	mg/L	NA	NA	0.12	0.049	NA	NA
Calcium	- -	mg/L	NA	NA	199	92.3	NA	NA
Chromium	0.05	mg/L	NA	0.0018 J	0.0011 J	0.0019 J	NA	NA
Copper	0.2	mg/L	NA	0.022	0.011	0.002 J	NA	NA
Iron	0.3	mg/L	NA	NA	0.077	**9**	NA	NA
Lead	0.025	mg/L	NA	0.00074 U	0.00074 U	0.00074 U	NA	NA
Magnesium	35	mg/L	NA	NA	**43.7**	12	NA	NA
Manganese	0.3	mg/L	NA	NA	**1.2**	**0.31**	NA	NA
Nickel	0.1	mg/L	NA	0.0019 U	0.0026 J	0.0019 U	NA	NA
Potassium	- -	mg/L	NA	NA	3.1	2.8	NA	NA
Silver	0.05	mg/L	NA	NA	0.00074 U	0.00074 U	NA	NA
Sodium	20	mg/L	NA	NA	**602**	**65.7**	NA	NA
Vanadium	- -	mg/L	NA	NA	0.00074 U	0.00074 U	NA	NA
Zinc	2	mg/L	NA	0.0021 J	0.0088	0.0097	NA	NA
Dissolved Gases								
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA
PCBs								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Pesticides								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Wet Chemistry								
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	0.018	0.003 J	0.01 U	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWS3 09/20/16	3805-MWS5 09/21/16	3805-MWS8 09/20/16	3805-MWS11 09/12/16	3805-MWS19 09/20/16	3805-MWS23 09/20/16
Volatile Organics								
1,2,4-Trimethylbenzene	5	ug/L	5 U	0.48 J	5 U	**1,400 D**	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	0.28 J	5 U	**380**	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	10 U	50 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	4 J	10 U	10 U
Acetone	50	ug/L	1.4 J	3.3 J	10 U	8.1 J	3 J	10 U
Bromomethane	5	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	50 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	0.62 J	25 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	7.3 J	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	**49**	5 U	5 U
m&p-Xylenes	- -	ug/L	5 U	1.7 J	5 U	2,800 D	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	50 U	10 U	10 U
Naphthalene	10	ug/L	5 U	5 U	5 U	**220**	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	11 J	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	100	5 U	5 U
o-Xylene	- -	ug/L	5 U	1.3 J	5 U	560	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	7.6 J	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
Tetrachloroethene	5	ug/L	1.1 J	5 U	**22**	25 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	25 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U	5 U	**11 J**	5 U	5 U
Toluene	5	ug/L	5 U	2.2 J	5 U	**60**	5 U	5 U
Ethylbenzene	5	ug/L	5 U	0.22 J	5 U	**450**	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	5 U	3 J	5 U	**3,360**	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	2.5 J	9.5 J	23 J	6,100 J	3 J	10 U
Semivolatile Organics								
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWS3 09/20/16	3805-MWS5 09/21/16	3805-MWS8 09/20/16	3805-MWS11 09/12/16	3805-MWS19 09/20/16	3805-MWS23 09/20/16
Metals								
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA
Dissolved Gases								
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA
PCBs								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Pesticides								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Wet Chemistry								
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	0.06 J,*	NA	30.3 *	NA	NA
Nitrate-N	- -	mg/L	NA	0.7 J	NA	1 U	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	1.1 J	NA	7.6	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWS24 09/14/16	3805-PZ2D 09/20/16	3805-PZ2I 09/20/16	3805-PZ2S 09/14/16	3805-PZ3 09/12/16	3805-PZ7 09/20/16	3805-PZ12D 09/20/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	**16**	5 U	5 U	**220**	2 J	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	**6.5**	5 U	5 U	**75**	3 J	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	10 U	20 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	20 U	10 U	10 U	10 U
Acetone	50	ug/L	2.5 J	1.4 J	2.7 J	20 U	1.3 J	2.2 J	1.8 J
Bromomethane	5	ug/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	20 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	0.81 J	10 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	0.25 J	5 U	5 U	3.8 J	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	0.6 J	5 U	5 U	**8.6 J**	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	19	5 U	5 U	36	1.1 J	5 U	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	20 U	10 U	10 U	10 U
Naphthalene	10	ug/L	1.8 J	5 U	5 U	**13**	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	0.61 J	5 U	5 U	10 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	1.6 J	5 U	5 U	24	5 U	5 U	5 U
o-Xylene	- -	ug/L	9.6	5 U	5 U	20	0.69 J	5 U	5 U
sec-Butylbenzene	- -	ug/L	0.27 J	5 U	5 U	3.3 J	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	0.72 J	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	**130**	**26**	10 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	3 J	5 U	10 U	5 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U	5 U	10 U	5 U	5 U	5 U
Toluene	5	ug/L	1.6 J	5 U	5 U	**26**	5 U	5 U	5 U
Ethylbenzene	5	ug/L	3.4 J	5 U	5 U	**13**	0.48 J	5 U	5 U
Total Xylenes (Max DL)	5	ug/L	**28.6**	5 U	5 U	**56**	1.79 J	5 U	5 U
Total VOCs (Max DL)	- -	ug/L	64 J	130 J	30 J	440 J	8.6 J	2.2 J	1.8 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

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J	Indicates an estimated value.
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D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWS24 09/14/16	3805-PZ2D 09/20/16	3805-PZ2I 09/20/16	3805-PZ2S 09/14/16	3805-PZ3 09/12/16	3805-PZ7 09/20/16	3805-PZ12D 09/20/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Lead	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	NA
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.1 U,*	NA	NA	0.49 *	0.1 U,*	NA	NA
Nitrate-N	- -	mg/L	1.7	NA	NA	1 U	1 U	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	16.1	NA	NA	2 U	23	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-PZ12I 09/20/16	3805-PZ12S 09/12/16	3805-PZ13D 09/20/16	3805-PZ13I 09/20/16	3805-PZ13S 09/15/16	3805-PZ14 09/14/16	OSL-MW2 09/08/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	5 U	**1,700**	5 U	5 U	**450**	**460**	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	**490**	5 U	5 U	**120**	**180**	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	100 U	5 U	5 U	25 U	50 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	200 U	10 U	10 U	50 U	100 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	200 U	10 U	10 U	50 U	100 U	10 U
Acetone	50	ug/L	10 U	36 J	2.8 J	10 U	**420**	100 U	10 U
Bromomethane	5	ug/L	5 U	100 U	5 U	5 U	1.6 BJ	50 U	5 UJ
Carbon Disulfide	60	ug/L	10 U	200 U	10 U	10 U	50 U	100 U	10 U
CFC-12	5	ug/L	5 U	100 U	5 U	5 U	25 U	50 U	5 U
Chloroethane	5	ug/L	5 U	100 U	5 U	5 U	5 J	50 U	5 U
Chloroform	7	ug/L	5 U	100 U	0.54 J	5 U	25 U	50 U	0.4 J
Chloromethane	5	ug/L	5 U	100 U	5 U	5 U	2.9 J	50 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	7.6 J	5 U	5 U	6 J	2.6 J	5 U
Isopropylbenzene	5	ug/L	5 U	**85 J**	5 U	5 U	**37**	**8.2 J**	5 U
m&p-Xylenes	- -	ug/L	5 U	7,500	5 U	5 U	2,300 D	2,100	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	200 U	10 U	10 U	50 U	100 U	10 U
Naphthalene	10	ug/L	5 U	**410**	5 U	5 U	**220**	**130**	5 U
N-Butylbenzene	- -	ug/L	5 U	12 J	5 U	5 U	21 J	13 J	5 U
N-Propylbenzene	- -	ug/L	5 U	180	5 U	5 U	100	12 J	5 U
o-Xylene	- -	ug/L	5 U	3,000	5 U	5 U	660	1,300	5 U
sec-Butylbenzene	- -	ug/L	5 U	8.8 J	5 U	5 U	8.8 J	50 U	5 U
Styrene (Monomer)	5	ug/L	5 U	100 U	5 U	5 U	25 U	50 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	100 U	5 U	5 U	25 U	50 U	5 U
Tetrachloroethene	5	ug/L	5 U	100 U	5 U	5 U	25 U	50 U	5 U
Trichloroethene	5	ug/L	5 U	100 U	5 U	5 U	25 U	50 U	5 U
Benzene	1	ug/L	5 U	**9.6 J**	5 U	5 U	25 U	50 U	5 U
Toluene	5	ug/L	5 U	**2,400**	5 U	5 U	**210**	**29 J**	5 U
Ethylbenzene	5	ug/L	5 U	**1,500**	5 U	5 U	**540**	**140**	5 U
Total Xylenes (Max DL)	5	ug/L	5 U	**10,500**	5 U	5 U	**2,960**	**3,400**	5 U
Total VOCs (Max DL)	- -	ug/L	10 U	17,000 J	3.3 J	10 U	5,100 J	4,400 J	0.4 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	9.4 U	NA	9.4 U
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	31	NA	9.4 U
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	9.4 U	NA	9.4 U
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	11 J	NA	19 U
Naphthalene	10	ug/L	NA	NA	NA	NA	**140**	NA	9.4 U
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	47 U	NA	47 U
Phenol	1	ug/L	NA	NA	NA	NA	9.4 U	NA	9.4 U

Highlighted cell exceed corresponding NYSDEC Standards

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ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-PZ12I 09/20/16	3805-PZ12S 09/12/16	3805-PZ13D 09/20/16	3805-PZ13I 09/20/16	3805-PZ13S 09/15/16	3805-PZ14 09/14/16	OSL-MW2 09/08/16
Metals									
Aluminum	- -	mg/L	NA	NA	NA	NA	0.03 U	NA	0.03 U
Arsenic	0.025	mg/L	NA	NA	NA	NA	0.0011 J	NA	0.001 U
Barium	1	mg/L	NA	NA	NA	NA	0.19	NA	0.008
Calcium	- -	mg/L	NA	NA	NA	NA	58	NA	37.4
Chromium	0.05	mg/L	NA	NA	NA	NA	0.00092 J	NA	0.0013 J
Copper	0.2	mg/L	NA	NA	NA	NA	0.0058	NA	0.0019 U
Iron	0.3	mg/L	NA	NA	NA	NA	**39.2**	NA	0.043 J
Lead	0.025	mg/L	NA	NA	NA	NA	0.0057	NA	0.00074 U
Magnesium	35	mg/L	NA	NA	NA	NA	3.6	NA	3.8
Manganese	0.3	mg/L	NA	NA	NA	NA	**0.53**	NA	0.002 J
Nickel	0.1	mg/L	NA	NA	NA	NA	0.0019 U	NA	0.0019 U
Potassium	- -	mg/L	NA	NA	NA	NA	1.3	NA	0.94
Silver	0.05	mg/L	NA	NA	NA	NA	0.00074 U	NA	0.00074 U
Sodium	20	mg/L	NA	NA	NA	NA	**135**	NA	4.9
Vanadium	- -	mg/L	NA	NA	NA	NA	0.00074 U	NA	0.00074 U
Zinc	2	mg/L	NA	NA	NA	NA	0.077	NA	0.0019 U
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	20 *	NA	NA	NA	10 *	NA
Nitrate-N	- -	mg/L	NA	1 U	NA	NA	NA	1 U	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	2.7	NA	NA	NA	1.8 J	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		OSL-MW3 09/20/16	OSL-MW8 09/13/16	OSL-MW9A 09/13/16	OSL-MW10 09/13/16	OSL-SP01 09/08/16	SP01-EFF 09/08/16	OSL-SP03 09/13/16
Volatile Organics									
1,2,4-Trimethylbenzene	5	ug/L	**320 D**	5 U	5 U [5 U]	5 U	1.3 J	0.93 J	5 U
1,3,5-Trimethylbenzene	5	ug/L	**67 D**	5 U	5 U [5 U]	5 U	0.28 J	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	50 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	50 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U
Acetone	50	ug/L	50 U	10 U	10 U [2.2 J]	10 U	2.3 U	4.5 U	4.7 J
Bromomethane	5	ug/L	25 U	5 U	5 U [5 U]	5 U	5 UJ	5 UJ	5 U
Carbon Disulfide	60	ug/L	50 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	25 U	5 U	5 U [5 U]	1.3 J	5 U	5 U	5 U
Chloroethane	5	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	2.6 DJ	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	**11 DJ**	5 U	5 U [5 U]	5 U	0.3 J	5 U	5 U
m&p-Xylenes	- -	ug/L	160 D	5 U	5 U [5 U]	5 U	1.4 J	1.2 J	5 U
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	50 U	10 U	10 U [10 U]	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	**20 DJ**	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	2.1 DJ	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	27 D	5 U	5 U [5 U]	5 U	0.37 J	0.21 J	5 U
o-Xylene	- -	ug/L	35 D	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	2.3 DJ	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	1.3 DJ	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	5 U
Benzene	1	ug/L	25 U	5 U	5 U [5 U]	5 U	5 U	5 U	0.23 J
Toluene	5	ug/L	**27 D**	5 U	5 U [5 U]	5 U	5 U	5 U	0.22 J
Ethylbenzene	5	ug/L	**77 D**	5 U	5 U [5 U]	5 U	0.57 J	0.37 J	5 U
Total Xylenes (Max DL)	5	ug/L	**195**	5 U	5 U [5 U]	5 U	1.4 J	1.2 J	5 U
Total VOCs (Max DL)	- -	ug/L	750 J	10 U	10 U [2.2 J]	1.3 J	4.2 J	2.7 J	5.2 J
Semivolatile Organics									
2,4-Dimethylphenol	50	ug/L	NA	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA	9.4 U
2-Methylnaphthalene	- -	ug/L	NA	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA	9.4 U
2-Methylphenol	- -	ug/L	NA	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA	9.4 U
4-Methylphenol	- -	ug/L	NA	19 U	19 U [19 U]	19 U	19 U	NA	19 U
Naphthalene	10	ug/L	NA	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA	9.4 U
Pentachlorophenol	1	ug/L	NA	47 U	47 U [47 U]	47 U	47 U	NA	47 U
Phenol	1	ug/L	NA	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA	9.4 U

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		OSL-MW3 09/20/16	OSL-MW8 09/13/16	OSL-MW9A 09/13/16	OSL-MW10 09/13/16	OSL-SP01 09/08/16	SP01-EFF 09/08/16	OSL-SP03 09/13/16
Metals									
Aluminum	- -	mg/L	NA	0.03 U	0.03 U [0.03 U]	0.14	0.03 U	NA	5.6
Arsenic	0.025	mg/L	NA	0.001 UJ	0.0014 J- [0.0014 J-]	0.001 U	0.001 U	NA	0.012
Barium	1	mg/L	NA	0.019	0.027 [0.031]	0.023	0.079	NA	0.66
Calcium	- -	mg/L	NA	42.6	22.9 [23.5]	46.3	52.6	NA	98.2
Chromium	0.05	mg/L	NA	0.0014 J	0.00074 U [0.0017 J]	0.0015 J	0.0011 J	NA	0.0093
Copper	0.2	mg/L	NA	0.0052 J	0.0059 [0.0073]	0.0027 J	0.0064	NA	0.026
Iron	0.3	mg/L	NA	0.026 J	**2.7 [2.8]**	**3.1**	**9.7**	**9.5**	**379**
Lead	0.025	mg/L	NA	0.00074 U	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00078 J	**0.028**
Magnesium	35	mg/L	NA	3.4	1.8 [1.9]	4.1	4.5	NA	8
Manganese	0.3	mg/L	NA	0.0019 U	**1.1 [1.1]**	0.26	**0.92**	NA	**20.2**
Nickel	0.1	mg/L	NA	0.0019 U	0.0019 U [0.0026 J]	0.0019 U	0.0019 U	NA	0.0067 J
Potassium	- -	mg/L	NA	2.2	1.2 [1.2]	1.3	1.9	NA	3.1
Silver	0.05	mg/L	NA	0.00074 U	0.00074 U [0.00095 J]	0.00074 U	0.00074 U	NA	0.0022 U
Sodium	20	mg/L	NA	**137**	**157 [151]**	**58.9**	**306**	NA	**292**
Vanadium	- -	mg/L	NA	0.00074 U	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	NA	0.014
Zinc	2	mg/L	NA	0.0048 J	0.0019 U [0.0059]	0.0054 J	0.0019 U	NA	0.07
Dissolved Gases									
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA
PCBs									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Pesticides									
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry									
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	165	NA	277
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

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D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		SP03-EFF 09/13/16	LC009 09/13/16	LC009-EFF 09/13/16	LS31 09/08/16	LS31-EFF 09/08/16	LS34 09/13/16	LS34-EFF 09/13/16	OSL-SW06 09/15/16
Volatile Organics										
1,2,4-Trimethylbenzene	5	ug/L	5 U	1.4 J	1.3 J	1.7 J	3.1 J	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	0.33 J	0.53 J	5 U	5 U	5 U
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50	ug/L	1.4 J	1.5 J	1.6 J	3 U	10 U	1.4 J	1.8 J	5.8 UJ
Bromomethane	5	ug/L	5 U	5 U	5 U	5 UJ	5 UJ	5 UJ	5 U	5 U
Carbon Disulfide	60	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	5 U	0.32 J	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	5 U	2.1 J	2 J	1.7 J	2.7 J	0.48 U	5 U	0.52 J
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	ug/L	5 U	5 U	5 U	5 U	1.4 J	5 U	5 U	0.41 J
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	0.32 J	0.53 J	5 U	5 U	5 U
o-Xylene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene (Monomer)	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
tert-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	0.85 J	0.46 J	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	0.24 J	5 U	5 U	5 U	5 U
Benzene	1	ug/L	5 U	0.3 J	0.25 J	5 U	5 U	5 U	5 U	0.81 J
Toluene	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5	ug/L	5 U	1.5 J	1.3 J	0.44 J	0.92 J	5 U	5 U	0.61 J
Total Xylenes (Max DL)	5	ug/L	5 U	2.1 J	2 J	1.7 J	2.7 J	5 U	5 U	0.52 J
Total VOCs (Max DL)	- -	ug/L	1.4 J	6.8 J	6.5 J	5.6 J	10 J	1.4 J	1.8 J	2.4 J
Semivolatile Organics										
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA	NA	NA	NA	9.4 U
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	9.4 U
2-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	9.4 U
4-Methylphenol	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	19 U
Naphthalene	10	ug/L	NA	NA	NA	NA	NA	NA	NA	9.4 U
Pentachlorophenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA	47 U
Phenol	1	ug/L	NA	NA	NA	NA	NA	NA	NA	9.4 U

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D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		SP03-EFF 09/13/16	LC009 09/13/16	LC009-EFF 09/13/16	LS31 09/08/16	LS31-EFF 09/08/16	LS34 09/13/16	LS34-EFF 09/13/16	OSL-SW06 09/15/16
Metals										
Aluminum	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	0.03 U
Arsenic	0.025	mg/L	NA	NA	NA	NA	NA	NA	NA	0.001 U
Barium	1	mg/L	NA	NA	NA	NA	NA	NA	NA	0.03
Calcium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	46.8
Chromium	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA	0.00074 U
Copper	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA	0.0019 U
Iron	0.3	mg/L	NA	**0.52**	**0.43**	**4.1**	**1.2**	**0.92**	**1.3**	**1.1**
Lead	0.025	mg/L	NA	0.00074 U	0.00074 U	0.00074 U	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Magnesium	35	mg/L	NA	NA	NA	NA	NA	NA	NA	5.1
Manganese	0.3	mg/L	NA	NA	NA	NA	NA	NA	NA	0.19
Nickel	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	0.0019 U
Potassium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	1.3
Silver	0.05	mg/L	NA	NA	NA	NA	NA	NA	NA	0.00074 U
Sodium	20	mg/L	NA	NA	NA	NA	NA	NA	NA	**76.8**
Vanadium	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	0.00074 U
Zinc	2	mg/L	NA	NA	NA	NA	NA	NA	NA	0.0019 U
Dissolved Gases										
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA	NA	NA
PCBs										
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides										
None Detected	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA
Wet Chemistry										
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	145
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

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ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		OSL-SW09 09/15/16	OSL-SW10 09/15/16	ASL-MW12A 09/12/16	ASL-MW13 09/12/16	ASL-MW14 09/12/16	ASL-MW941 09/16/16
Volatile Organics								
1,2,4-Trimethylbenzene	5	ug/L	0.25 J	5 U	NA	NA	NA	NA
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	NA	NA	NA	NA
1,4-Dichlorobenzene	3	ug/L	5 U	5 U	NA	NA	NA	NA
2-Butanone (MEK)	50	ug/L	10 U	10 U	NA	NA	NA	NA
4-Methyl-2-Pentanone	- -	ug/L	10 U	10 U	NA	NA	NA	NA
Acetone	50	ug/L	3.8 UJ	1.5 UJ	NA	NA	NA	NA
Bromomethane	5	ug/L	5 U	5 U	NA	NA	NA	NA
Carbon Disulfide	60	ug/L	10 U	10 UJ	NA	NA	NA	NA
CFC-12	5	ug/L	5 U	5 U	NA	NA	NA	NA
Chloroethane	5	ug/L	5 U	5 U	NA	NA	NA	NA
Chloroform	7	ug/L	5 U	0.31 J	NA	NA	NA	NA
Chloromethane	5	ug/L	5 U	5 U	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	NA	NA	NA	NA
Isopropylbenzene	5	ug/L	5 U	5 U	NA	NA	NA	NA
m&p-Xylenes	- -	ug/L	0.94 J	5 U	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	10 U	10 U	NA	NA	NA	NA
Naphthalene	10	ug/L	0.51 J	5 U	NA	NA	NA	NA
N-Butylbenzene	- -	ug/L	5 U	5 U	NA	NA	NA	NA
N-Propylbenzene	- -	ug/L	0.22 J	5 U	NA	NA	NA	NA
o-Xylene	- -	ug/L	5 U	5 U	NA	NA	NA	NA
sec-Butylbenzene	- -	ug/L	5 U	5 U	NA	NA	NA	NA
Styrene (Monomer)	5	ug/L	5 U	5 U	NA	NA	NA	NA
tert-Butylbenzene	- -	ug/L	5 U	5 U	NA	NA	NA	NA
Tetrachloroethene	5	ug/L	5 U	5 U	NA	NA	NA	NA
Trichloroethene	5	ug/L	5 U	5 U	NA	NA	NA	NA
Benzene	1	ug/L	0.99 J	5 U	NA	NA	NA	NA
Toluene	5	ug/L	5 U	5 U	NA	NA	NA	NA
Ethylbenzene	5	ug/L	0.95 J	5 U	NA	NA	NA	NA
Total Xylenes (Max DL)	5	ug/L	0.94 J	5 U	NA	NA	NA	NA
Total VOCs (Max DL)	- -	ug/L	3.9 J	0.31 J	NA	NA	NA	NA
Semivolatile Organics								
2,4-Dimethylphenol	50	ug/L	9.4 U	9.4 U	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	9.4 U	9.4 U	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	9.4 U	9.4 U	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	19 U	19 U	NA	NA	NA	NA
Naphthalene	10	ug/L	9.4 U	9.4 U	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	47 U	47 U	NA	NA	NA	NA
Phenol	1	ug/L	9.4 U	9.4 U	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		OSL-SW09 09/15/16	OSL-SW10 09/15/16	ASL-MW12A 09/12/16	ASL-MW13 09/12/16	ASL-MW14 09/12/16	ASL-MW941 09/16/16
Metals								
Aluminum	- -	mg/L	0.03 U	0.03 U	0.03 U [0.03 U]	0.03 U	0.03 U	0.03 U
Arsenic	0.025	mg/L	0.001 U	0.001 U	0.001 U [0.001 U]	0.001 U	0.001 U	0.001 U
Barium	1	mg/L	0.029	0.021	0.021 J [0.011 J]	0.011	0.025	0.02
Calcium	- -	mg/L	47.6	34.8	55.5 J [61.9 J]	61.7	122	66.4
Chromium	0.05	mg/L	0.00075 J	0.0035	0.0016 J [0.0016 J]	0.0015 J	0.002 J	0.0017 J
Copper	0.2	mg/L	0.0019 U	0.0023 J	0.013 J [0.0019 UJ]	0.0019 U	0.0019 U	0.0019 U
Iron	0.3	mg/L	**0.58**	0.1	0.019 U [0.061]	0.055 J	0.028 J	0.13
Lead	0.025	mg/L	0.00074 U	0.00074 U	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00074 U
Magnesium	35	mg/L	5.1	2.8	4.9 [5.6]	5.5	6.2	6.9
Manganese	0.3	mg/L	0.19	0.0067	0.0019 U [0.0019 U]	0.0019 U	0.13	0.002 J
Nickel	0.1	mg/L	0.0019 U	0.0026 J	0.0019 U [0.0019 U]	0.0019 U	0.0019 U	0.0019 U
Potassium	- -	mg/L	1.4	1.3	2.3 J [1 J]	1	1.7	1.2
Silver	0.05	mg/L	0.00074 U	0.00074 U	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00074 U
Sodium	20	mg/L	**77.5**	**22.7**	**198 J [46.2 J]**	**46.3**	16	**117**
Vanadium	- -	mg/L	0.00074 U	0.00074 U	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00074 U
Zinc	2	mg/L	0.0019 U	0.012	0.0019 J [0.0019 U]	0.0019 U	0.0019 U	0.0019 U
Dissolved Gases								
Methane	- -	ug/L	NA	NA	1 U [1 U]	1 U	1 U	1 U
PCBs								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Pesticides								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Wet Chemistry								
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	172 J [154]	152	285	140
Ammonia Nitrogen	- -	mg/L	NA	NA	0.05 U [0.05 U]	0.05 U	0.05 U	0.05 U
Chemical Oxygen Demand	- -	mg/L	NA	NA	6.5 [5 U]	5 U	5 U	5 U
Chloride	- -	mg/L	NA	NA	NA	NA	NA	188
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	0.1 U,* [0.1 U]	0.1 U,*	0.1 U,*	0.1 U
Nitrate-N	- -	mg/L	NA	NA	4.2 [4.4]	4.3	2.2	4.1
Nitrogen	- -	mg/L	NA	NA	0.2 J [0.37 J]	0.34 J	0.2 J	0.14 J
Phenolics	- -	mg/L	NA	NA	0.005 U [0.005 U]	0.005 U	0.005 U	0.005 U
Sulfate	250	mg/L	NA	NA	31.8 J [14.9 J]	14.7	8.3	37.9
Total Dissolved Solids	- -	mg/L	NA	NA	666 J [318 J]	318	404	526
Total Hardness	- -	mg/L	145	95.8	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	1.5 [0.9 BJ]	1 U	1 U	1.4 U

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		ASL-MW942 09/16/16	ASL-MW943 09/16/16	ASL-MW944 09/16/16	ASL-MW961 09/12/16
Volatile Organics						
1,2,4-Trimethylbenzene	5	ug/L	NA	NA	NA	NA
1,3,5-Trimethylbenzene	5	ug/L	NA	NA	NA	NA
1,4-Dichlorobenzene	3	ug/L	NA	NA	NA	NA
2-Butanone (MEK)	50	ug/L	NA	NA	NA	NA
4-Methyl-2-Pentanone	- -	ug/L	NA	NA	NA	NA
Acetone	50	ug/L	NA	NA	NA	NA
Bromomethane	5	ug/L	NA	NA	NA	NA
Carbon Disulfide	60	ug/L	NA	NA	NA	NA
CFC-12	5	ug/L	NA	NA	NA	NA
Chloroethane	5	ug/L	NA	NA	NA	NA
Chloroform	7	ug/L	NA	NA	NA	NA
Chloromethane	5	ug/L	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	- -	ug/L	NA	NA	NA	NA
Isopropylbenzene	5	ug/L	NA	NA	NA	NA
m&p-Xylenes	- -	ug/L	NA	NA	NA	NA
Methyl N-Butyl Ketone (2-Hexanone)	50	ug/L	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA
N-Butylbenzene	- -	ug/L	NA	NA	NA	NA
N-Propylbenzene	- -	ug/L	NA	NA	NA	NA
o-Xylene	- -	ug/L	NA	NA	NA	NA
sec-Butylbenzene	- -	ug/L	NA	NA	NA	NA
Styrene (Monomer)	5	ug/L	NA	NA	NA	NA
tert-Butylbenzene	- -	ug/L	NA	NA	NA	NA
Tetrachloroethene	5	ug/L	NA	NA	NA	NA
Trichloroethene	5	ug/L	NA	NA	NA	NA
Benzene	1	ug/L	NA	NA	NA	NA
Toluene	5	ug/L	NA	NA	NA	NA
Ethylbenzene	5	ug/L	NA	NA	NA	NA
Total Xylenes (Max DL)	5	ug/L	NA	NA	NA	NA
Total VOCs (Max DL)	- -	ug/L	NA	NA	NA	NA
Semivolatile Organics						
2,4-Dimethylphenol	50	ug/L	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	NA	NA	NA	NA
2-Methylphenol	- -	ug/L	NA	NA	NA	NA
4-Methylphenol	- -	ug/L	NA	NA	NA	NA
Naphthalene	10	ug/L	NA	NA	NA	NA
Pentachlorophenol	1	ug/L	NA	NA	NA	NA
Phenol	1	ug/L	NA	NA	NA	NA

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
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*	Laboratory duplicate analysis was outside control limits.
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mg/L	milligrams per liter.

Table 4-3
Summary of Fall 2016 Basewide Monitoring Sampling
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		ASL-MW942 09/16/16	ASL-MW943 09/16/16	ASL-MW944 09/16/16	ASL-MW961 09/12/16
Metals						
Aluminum	- -	mg/L	0.03 U	0.14	0.17	0.066 J
Arsenic	0.025	mg/L	0.001 U	0.001 U	0.001 U	0.001 U
Barium	1	mg/L	0.049	0.046	0.11	0.024
Calcium	- -	mg/L	120	109	71.1	62.2
Chromium	0.05	mg/L	0.0015 J	0.0018 J	0.0014 J	0.0021 J
Copper	0.2	mg/L	0.0019 U	0.0029 J	0.0058	0.0061
Iron	0.3	mg/L	0.052 J	0.3	0.23	0.2
Lead	0.025	mg/L	0.00074 U	0.00079 J	0.00074 U	0.00074 U
Magnesium	35	mg/L	8.5	8.1	3	7.2
Manganese	0.3	mg/L	0.0019 U	0.0084	0.073	0.021
Nickel	0.1	mg/L	0.0019 U	0.0019 U	0.0019 U	0.0019 U
Potassium	- -	mg/L	1.7	2	4.5	1.3
Silver	0.05	mg/L	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Sodium	20	mg/L	**150**	**383**	**897**	**218**
Vanadium	- -	mg/L	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Zinc	2	mg/L	0.0019 U	0.0076	0.0033 J	0.0019 U
Dissolved Gases						
Methane	- -	ug/L	1 U	0.22 J	1 U	1 U
PCBs						
None Detected	- -	- -	NA	NA	NA	NA
Pesticides						
None Detected	- -	- -	NA	NA	NA	NA
Wet Chemistry						
Alkalinity (as CaCO3)	- -	mg/L	295	202 J	155	207
Ammonia Nitrogen	- -	mg/L	0.05 U	0.025 J	0.078	0.05 U
Chemical Oxygen Demand	- -	mg/L	6.5	8.1	13.1	5 U
Chloride	- -	mg/L	204	645	1,280	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.1 U	0.05 J	0.37	0.1 U,*
Nitrate-N	- -	mg/L	5	4.3	3.5	4.1
Nitrogen	- -	mg/L	0.26 J	0.25 J	0.3 J	0.27 J
Phenolics	- -	mg/L	0.005 U	0.005 U	0.0041 J	0.005 U
Sulfate	250	mg/L	24.8	37.4	93	29.2
Total Dissolved Solids	- -	mg/L	680	1,290	2,110	738
Total Hardness	- -	mg/L	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	2	1.4 U	2.8	1.4 B

Highlighted cell exceed corresponding NYSDEC Standards

Notes:

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J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Appendix A

2016 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

US Army Corps of Engineers

2016 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

Fort Drum Installation Restoration Program
Fort Drum, New York

February 2017

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

Prepared For:

U.S. ARMY CORPS OF ENGINEERS BALTIMORE DISTRICT
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2016 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL

Installation Restoration Program
Fort Drum, New York



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Our Ref.:
GP14DRUM.RIFS

Date:
February 9, 2017

FOR OFFICIAL USE ONLY

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Table 3-1 OSL Monitoring Points & Sampling Schedule

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Table 4-1 ASL Monitoring Points & Sampling Schedule

Table 4-2 Summary of 2016 ASL Analytical Results

Attachments

Attachment 1 Landfill Inspection Forms

Attachment 2 Landfill Inspection Photographs

Attachment 3 Data Usability Summary Report

Acronyms and Abbreviations

AAFES	Army and Air Force Exchange Service
AS	Air Sparging
ASL	Airfield Sanitary Landfill
CCR	Construction Completion Report
DDT	Dichlorodiphenyltrichloroethane
DMP	Data Management Plan
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
MAES	Multiple Award Environmental Services
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
OSL	Old Sanitary Landfill
PCBs	Polychlorinated Biphenyls
POL	Petroleum, oil, and lubricant
PPE	Personal Protective Equipment
PSD	Pipe Slope Drain
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

1. Introduction

The PIKA - MP JV, LLC[1] (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 2016 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.

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).

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 southeast 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 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-millimeiter PVC cover, 18 PVC gas vents, 12 inches of soil cover, and vegetation. Annual landfill inspections, and groundwater sampling every five years, (conducted in 2016) are conducted in accordance with the ASL Plan (PIKA-MP JV, 2015a), concurrently with the with the fall Basewide Monitoring sampling event.

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 7, 2016.

3.1.1 OSL Inspection Summary

At the time of the inspection both cells of the OSL were found to be in good condition. The gas vents appeared to be in good condition. Drainage features and structures appeared to be unobstructed and functional. Perimeter fences and signage were intact and in good condition. Three old pitted empty drums were identified in the vicinity of OSL-MW9A during the inspection and were assumed to potentially have contained purge water at one time. The drums were subsequently picked up and taken to the Ft. Drum recycling station. The OSL was mowed on August 10, 2016. 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

The Construction Completion Report (CCR) for OSL Cell 2 Pipe Slope Drain (PSD) #4 Repair work was issued in February 2016 (PIKA-MP JV, 2016), documenting repair work and recommendations for ongoing inspections and evaluation of PSDs #1, 2, and 3.

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 continue to be conducted on a monthly basis and following large rain and/or snow melt events.

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 of the five seep locations. Figure 3-1 shows the sampling locations and Table 3-1 summarizes the analyses and sampling frequency. Purge logs for the 2016 monitoring event are presented in Appendix B of the 2016 Annual Basewide Monitoring Report. Analytical laboratory reporting forms for 2016 monitoring event are presented in Appendix C of the 2016 Annual Basewide Monitoring Report.

In accordance with the OSL Monitoring and Maintenance Operations Manual, data validation was performed for the samples collected during fall event to ensure that the data generated provide sufficient information to achieve the project objectives. The Data Usability Summary Reports (DUSRs) are included in Attachment 3. 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. Additional discussion is provided in the DUSR narratives in Attachment 3.

3.2.1 OSL Analytical Results

Groundwater, surface water, and seep analytical results for 2016 are summarized in Table 3-2 and depicted on Figure 3-2. Groundwater analytes that exceeded applicable NYSDEC standards generally included petroleum-related VOCs, chlorinated VOCs, iron, manganese, and sodium, consistent with previous results. Seep and surface water analytes that exceeded applicable NYSDEC standards/guidance values generally included iron, manganese, and sodium, 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 2017.

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 7, 2016.

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. Willow tree stands were in similar conditions to those noted in 2015. Neither weeds, insect, animal activity, nor disease were found to have impacted willow tree survivability. Phytoremediation plantation inspection photographs are provided in Attachment 2.

In consultation with Ft. Drum and the State University of New York (SUNY) Environmental Science and Forestry (ESF), coppicing of the willow trees in the phytoremediation plantation began on December 12, 2016 and continued into 2017 to promote additional growth and generation of new stems from the bases. Willow trees were cut between the soil line and six inches above the root collar. Cut branches were passed through a portable wood chipper and chips were spread on the landfill slope above the plantation. Phytoremediation plantation coppicing photographs are provided in Attachment 2. Additional details will be provided in the 2017 Annual Post-Closure Operations and Maintenance Report for the OSL and ASL.

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 2017. Re-sprouting/re-growth of the willow trees should be monitored through the 2017 growing season.

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 will be collected again in 2018. Figure 3-3 shows the sampling locations and Table 3-1 summarizes the analyses and sampling frequency. Analytical laboratory reporting forms for 2016 monitoring event are presented in Appendix C of the 2016 Annual Basewide Monitoring Report. DUSRs for the 2016 monitoring event are presented in Attachment 3.

3.4.1 Phytoremediation Analytical Results

Seep analytical results for 2016 are summarized in Table 3-2 and depicted on Figure 3-3. Influent seeps to the phytoremediation plantation, OSL-SP01, OSL-SP03, LS31, LS34 and LC009, generally contained petroleum-related organics and metals (iron, manganese, sodium, and lead), consistent with previous results; concentrations of metals generally exceeded applicable NYSDEC standards. Effluent seeps from the phytoremediation plantation, OSL-SP01-EFF, OSL-SP03-EFF, LS31-EFF, LS34-EFF, and LC009-EFF, generally contained only iron at concentrations that exceeded applicable NYSDEC standards, demonstrating reductions in petroleum-related organic constituents through the phytoremediation plantation.

3.4.2 Phytoremediation Environmental Monitoring Recommendations

Seep 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 2017. Biomass samples will be collected again in 2018.

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 7, 2016.

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, with the exception of one vent near the southern end of the landfill, which was observed to have a broken PVC coupler near ground surface. This vent was repaired on October 26, 2016. 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 7, 2016 inspection and were subsequently backfilled. The ASL was mowed on August 10, 2016. 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. Figure 4-1 shows the sampling locations and Table 4-1 summarizes the analyses and sampling frequency. Samples were collected in 2016 and will be collected again in 2021. Purge logs for the 2016 monitoring event are presented in Appendix B of the 2016 Annual Basewide Monitoring Report. Analytical laboratory reporting forms for 2016 monitoring event are presented in Appendix C of the 2016 Annual Basewide Monitoring Report.

In accordance with the ASL Monitoring and Maintenance Operations Manual, data validation was performed for the samples collected during 2016 event to ensure that the data generated provide sufficient information to achieve the project objectives. The DUSRs are included in Attachment 3. 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. Additional discussion is provided in the DUSR narratives in Attachment 3.

4.2.1 ASL Analytical Results

Groundwater analytical results for 2016 are summarized in Table 4-2 and depicted on Figure 4-2. All samples except that from ASL-MW14 contained sodium at concentrations exceeded the applicable NYSDEC standard. None of the other analytes were detected at concentrations exceeding applicable NYSDEC standards.

4.2.2 ASL Environmental Monitoring Recommendations

The environmental monitoring program at the ASL should continue in accordance with the ASL Plan (PIKA-MP JV, 2015a) and remain unchanged for 2021.

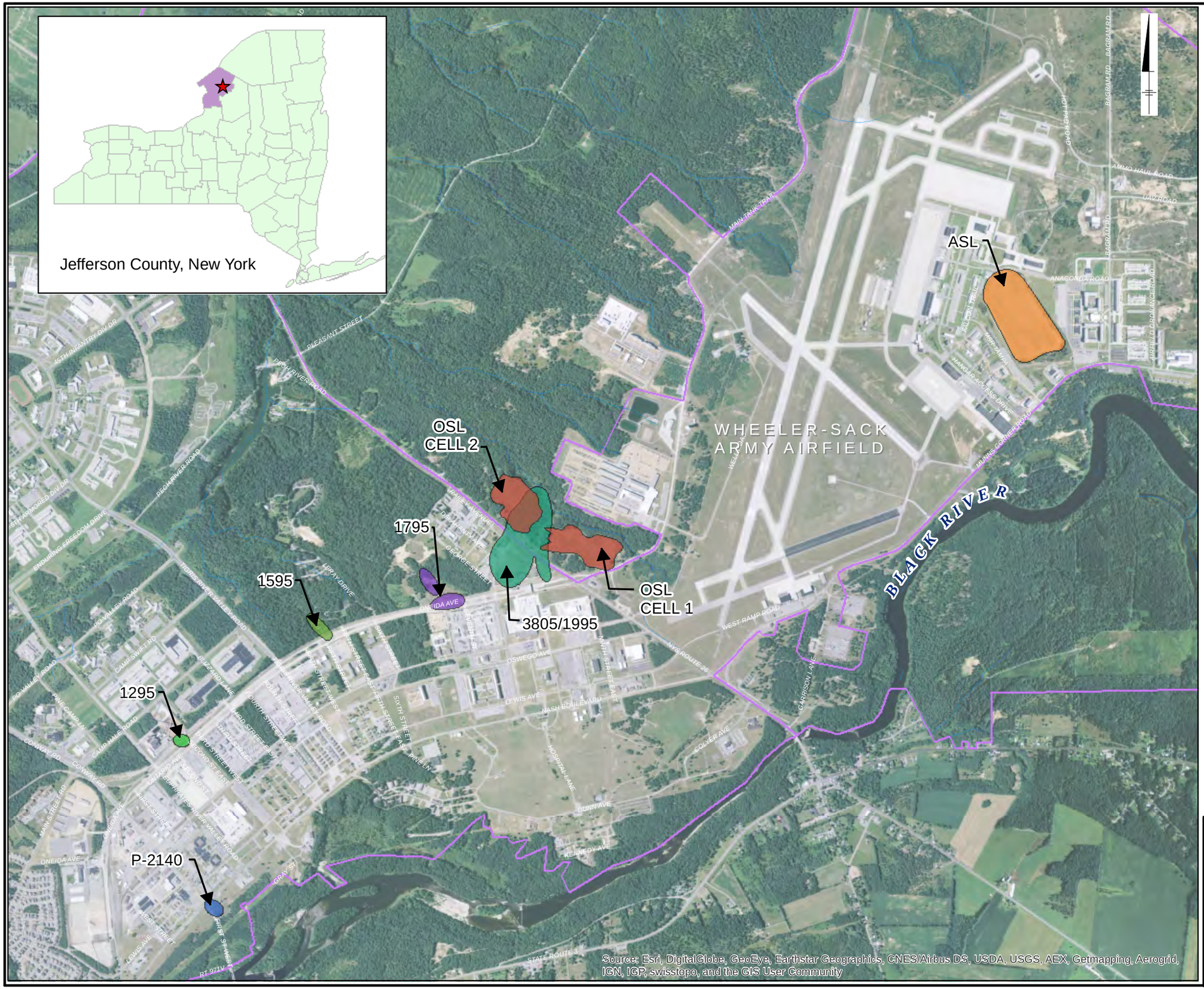
5. References

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.

PIKA-MP JV, 2016. Construction Completion Report, Old Sanitary Landfill – Pipe Slope Drain #4 Repairs, Fort Drum Installation Restoration Program, Fort Drum, New York.

Figures



LEGEND

SITE NAME

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

0 2,000 4,000

GRAPHIC SCALE

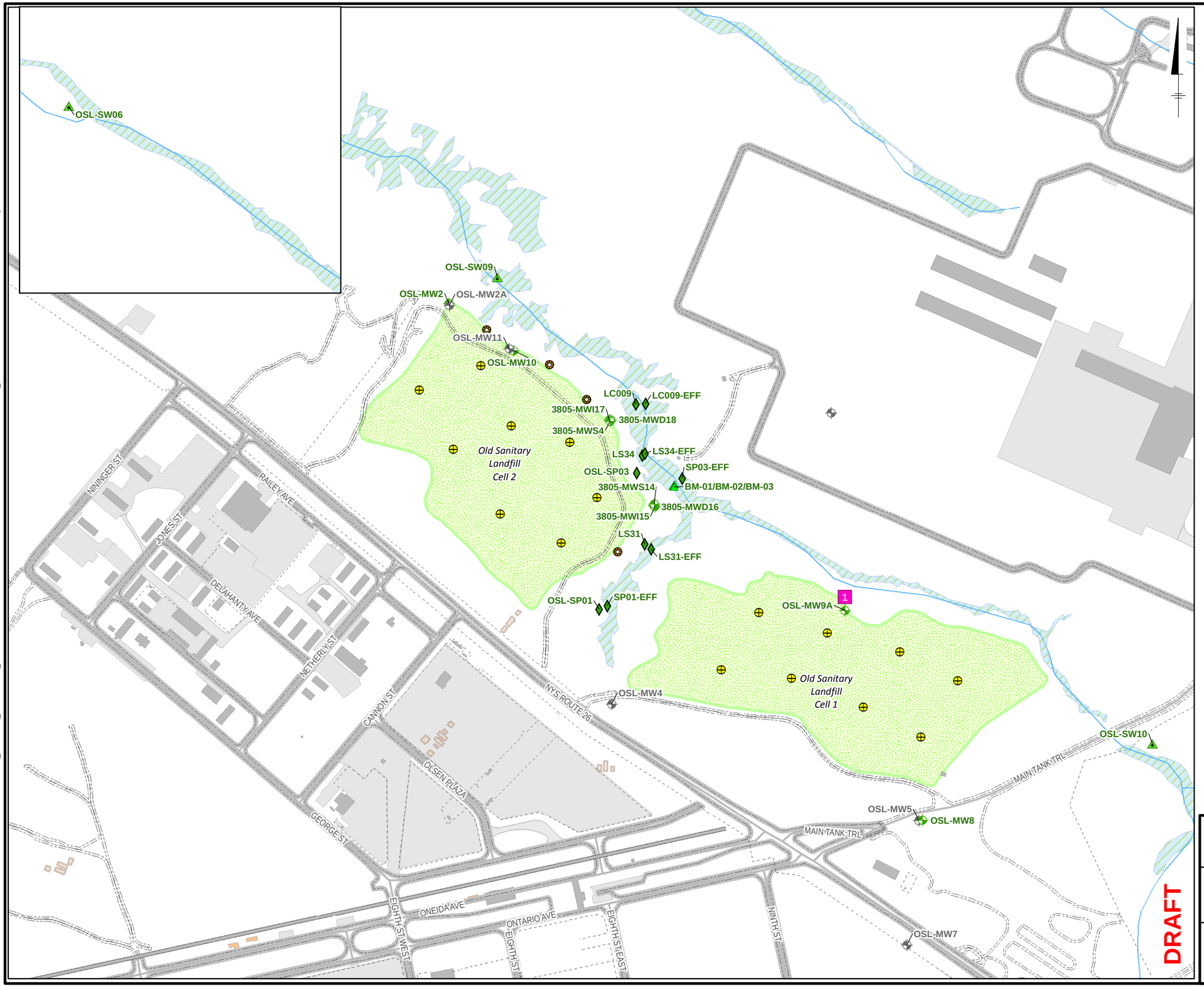
FORT DRUM
FORT DRUM, NEW YORK
POST-CLOSURE OPERATIONS AND MAINTENANCE REPORT FOR THE OSL AND ASL

SITE MAP

PIKA INTERNATIONAL, INC. | MALCOLM PIRNIE

FIGURE 1-1

CITY:(CHARLOTTE) DIVGROUP:(ENV/GIS) DB: akens LD: S.SUTTON PIC: PM: TM:
PROJECT: XX000000.0000.00000 PATH: Z:\GIS\PROJECTS_ENV\ENV_FORTDRUM_IRP\MXD\CCR\F1-1_IRPCCR_PostClosureSITE PLAN11_2015.mxd



LEGEND

- 2016 INSPECTION RESULTS (SEE NOTES BELOW)

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
- REMEDIATION SYSTEM
- FORMER UST LOCATION
- DRIVEWAY
- PAVED
- LANDFILL SITE
- WETLANDS

INSPECTION ISSUES
1.EMPTY DRUMS IDENTIFIED

0 400 800

GRAPHIC SCALE

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

OSL MONITORING POINTS AND 2016 INSPECTION RESULTS

PIKA INTERNATIONAL, INC. A JOINT VENTURE | MALCOLM PIRNIE

FIGURE 3-1

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: MSI00950 LD: S.SUTTON PIC: PM: TM: DATE SAVED: 10/28/2016 1:19:38 PM
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CITY:(CHARLOTTE) DIV/GROUP (ENV/GIS) DB: MAI00749 LD: S SUTTON PIC: PM: TM: DATE SAVED: 12/15/2016 10:48:43 AM
PROJECT: XX00000.0000.00000 PATH: Z:\GISProjects_ENVIENV_FORTDRUM_IRP\MXD\2016 POST CLOSURE AND MAINT REPORT\GEC\20161215\F3-2_OSL SUMMARY_SAMPLING_RESULTS.mxd Last Saved By: MAI00749

OSL-SW06

OSL-SW06	
Date	9/15/2016
All Analytes	No Exceedances

OSL-SW09	
Date	9/15/2016
All Analytes	No Exceedances

LC009-EFF	
Date	9/13/2016
Iron	0.43

LC009	
Date	9/13/2016
All Analytes	No Exceedances

3805-MWD18	
Date	9/7/2016
VOCs	
Benzene (ug/L)	13

OSL-MW10	
Date	9/13/2016
All Analytes	No Exceedances

OSL-SW09
OSL-MW2
OSL-MW2A
OSL-MW11
OSL-MW10
LC009
LC009-EFF
3805-MWD18
3805-MWI17
3805-MWS4
LS34-EFF
LS34
OSL-SP03
SP03-EFF
3805-MWD16
BM-01/BM-02/BM-03
3805-MWS14
3805-MWI15
LS31
LS31-EFF
OSL-SP01
SP01-EFF
OSL-MW9A
OSL-MW4
OSL-SW10
OSL-MW8
OSL-MW5
OSL-MW7

OSL-MW2	
Date	9/8/2016
All Analytes	No Exceedances

LS34-EFF	
Date	9/13/2016
All Analytes	No Exceedances

3805-MWI17	
Date	9/7/2016
VOCs	
Isopropylbenzene (ug/L)	34
Naphthalene (ug/L)	140
Benzene (ug/L)	670
Toluene (ug/L)	76
Ethylbenzene (ug/L)	580
Xylenes (total) (ug/L)	1220

LS34	
Date	9/13/2016
All Analytes	No Exceedances

OSL-SP03	
Date	9/13/2016
All Analytes	No Exceedances

SP03-EFF	
Date	9/13/2016
All Analytes	No Exceedances

3805-MWD16	
Date	9/8/2016
All Analytes	No Exceedances

LS31	
Date	9/8/2016
All Analytes	No Exceedances

OSL-SP01	
Date	9/8/2016
All Analytes	No Exceedances

3805-MWI15	
Date	9/7/2016
VOCs	
PCE (ug/L)	63
Benzene (ug/L)	1.4 J

OSL-MW9A	
Date	9/13/2016
All Analytes	No Exceedances

SP01-EFF	
Date	9/8/2016
All Analytes	No Exceedances

OSL-MW3		
Date	4/28/2016	9/20/2016
VOCs		
Isopropylbenzene (ug/L)	5.0 U	11 DJ
Naphthalene (ug/L)	5.0 U	20 DJ
Toluene (ug/L)	5.0 U	27 D
Ethylbenzene (ug/L)	5.0 U	77 D
Xylenes (total) (ug/L)	5 U	195

OSL-SW10	
Date	9/15/2016
All Analytes	No Exceedances

LS31-EFF	
Date	9/8/2016
All Analytes	No Exceedances

OSL-MW8	
Date	9/13/2016
All Analytes	No Exceedances

Old Sanitary Landfill Cell 2
Old Sanitary Landfill Cell 1

RAILEY AVE
NINIVAH ST
ONEIDA AVE
ONTARIO AVE
EIGHTH ST WEST
EIGHTH ST
EIGHTH ST EAST
NINTH ST
NETHERLY ST
CANNON ST
GEORGE ST
NYS ROUTE 26
MAIN TANK TRL

DRAFT

LEGEND

SAMPLING SUMMARY

- MW-ANNUAL SAMPLING EVENT
- MW-SEMI-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
- REMEDIATION 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.

0 400 800

GRAPHIC SCALE

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

SUMMARY OF OSL SAMPLING RESULTS

PIKA INTERNATIONAL, INC. A JOINT VENTURE MALCOLM PIRNIE

FIGURE
3-2

CITY:(CHARLOTTE) DIVGROUP:(ENVGIS) DB: MAI00749 LD: S SUTTON PIC: PM: TM: DATE SAVED: 12/15/2016 10:34:45 AM
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D 1
D 2
C 1
C 1
C 2
C 3
B 1
LC009
B 2
A 1
OSL-SP03
A 2
BM-01
BM-03
BM-02
LS34
LS34-EFF
LC009-EFF
SP03-EFF
LS31
LS31-EFF
E 1
F 1
SP01-EFF
OSL-SP01
F 2
PZ12S
PZ12I
PZ12D
PZ13S
PZ13D
PZ13I
PZ11
PZ3

LC009	
Date	9/13/2016
All Analytes	No Exceedances

LC009-EFF	
Date	9/13/2016
Iron	0.43

LS34-EFF	
Date	9/13/2016
All Analytes	No Exceedances

LS34	
Date	9/13/2016
All Analytes	No Exceedances

SP03-EFF	
Date	9/13/2016
All Analytes	No Exceedances

OSL-SP03	
Date	9/13/2016
All Analytes	No Exceedances

LS31	
Date	9/8/2016
All Analytes	No Exceedances

LS31-EFF	
Date	9/8/2016
All Analytes	No Exceedances

SP01-EFF	
Date	9/8/2016
All Analytes	No Exceedances

OSL-SP01	
Date	9/8/2016
All Analytes	No Exceedances

Old Sanitary Landfill Cell 2

Old Sanitary Landfill Cell 1

RAILEY AVE
NY STATE ROUTE 26
NETHERLY ST
CANNON ST

DRAFT

LEGEND

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

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.

0 200 400
GRAPHIC SCALE

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

PHYTOREMEDIATION SITES OVERVIEW

PIKA INTERNATIONAL, INC. — MALCOLM PIRNIE — A JOINT VENTURE

FIGURE
3-3

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: Amohammad LD: S.SUTTON PIC: PM: TM: DATE SAVED: 10/28/2016 1:33:32 PM
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DRAFT

LEGEND

- 2016 INSPECTION RESULTS (SEE NOTES BELOW)

SAMPLING SUMMARY

- A MW-SAMPLED EVERY 5
- A NOT PART OF MONITORING PLAN
- LANDFILL VENTS
- A MONITORING WELL
- DRAINAGE SWALES
- INSTALLATION
- FENCE LINE
- PAVED ROAD
- WALKING PATH
- BUILDING
- PAVED
- FUEL TANK
- LANDFILL

INSPECTION ISSUES;
1. GROUNDHOG BURROWS

2. BROKEN VENT PIPE

0 250 500

GRAPHIC SCALE

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

ASL MONITORING POINTS AND 2016 INSPECTION RESULTS

PIKA INTERNATIONAL, INC. — A JOINT VENTURE — MALCOLM PIRNIE

FIGURE **4-1**

ASL-MW12A	
Date	9/12/2016
Inorganics	
Sodium (mg/L)	198 J [46.2 J]

ASL-MW944	
Date	9/16/2016
Inorganics	
Sodium (mg/L)	897

ASL-MW13	
Date	9/12/2016
Inorganics	
Sodium (mg/L)	46.3

ASL-MW943	
Date	9/16/2016
Inorganics	
Sodium (mg/L)	383

ASL-MW961	
Date	9/12/2016
Inorganics	
Sodium (mg/L)	218

ASL-MW941	
Date	9/16/2016
Inorganics	
Sodium (mg/L)	117

ASL-MW942	
Date	9/16/2016
Inorganics	
Sodium (mg/L)	150

ASL-MW14	
Date	9/12/2016
All Analytes	No Exceedances

LEGEND

SAMPLING SUMMARY

- MW-SAMPLED EVERY 5 YEARS
- NOT PART OF MONITORING PLAN
- LANDFILL VENTS
- MONITORING WELL
- DRAINAGE SWALES
- INSTALLATION AREA
- FENCE LINE
- PAVED ROAD
- WALKING PATH
- BUILDING
- PAVED AREA
- FUEL TANK
- LANDFILL AREA

NOTES:
- RESULTS ARE SHOWN IN MICROGRAMS PER LITER (µg/L)
- HIGHLIGHTED CELLS INDICATED CONCENTRATIONS EXCEEDING NYSDEC CLASS GA STANDARDS
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E: CONCENTRATION EXCEEDS CALIBRATION RANGE.

0 250 500

GRAPHIC SCALE

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

SUMMARY OF ASL SAMPLING RESULTS

PIKA INTERNATIONAL, INC. A JOINT VENTURE MALCOLM PIRNIE

FIGURE 4-2

DRAFT

CITY:(CHARLOTTE) DIV/GROUP:(ENV/GIS) DB: AVI00815 LD:S.SUTTON PIC: PM: TM: DATE SAVED: 12/14/2016 6:17:44 PM
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PIKA INTERNATIONAL, INC. A JOINT VENTURE MALCOLM PIRNIE

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 of Fall 2016 OSL Analytical Results
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		3805-MWD16 09/08/16	3805-MWD18 09/07/16	3805-MWI15 09/07/16	3805-MWI17 09/07/16	OSL-MW2 09/08/16
Volatile Organics							
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	**290**	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	**83**	5 U
Acetone	50	ug/L	10 U	2 U	1.8 U	7.5 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	25 U	5 U
Chloroform	7	ug/L	0.25 J	5 U	5 U	25 U	0.4 J
Chloromethane	5	ug/L	5 U	5 U	0.21 J	25 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	2.2 J	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	**34**	5 U
m&p-Xylenes	- -	ug/L	5 U	5 U	5 U	1,100	5 U
Naphthalene	10	ug/L	5 U	5 U	5 U	**140**	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	2.8 J	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	57	5 U
o-Xylene	- -	ug/L	5 U	5 U	5 U	120	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	3.1 J	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	**63**	25 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	1.4 J	25 U	5 U
Benzene	1	ug/L	5 U	**13**	**1.4 J**	**670**	5 U
Toluene	5	ug/L	5 U	5 U	5 U	**76**	5 U
Ethylbenzene	5	ug/L	5 U	5 U	5 U	**580**	5 U
Total Xylenes (Max DL)	5	ug/L	5 U	5 U	5 U	**1,220**	5 U
Total VOCs (Max DL)	- -	ug/L	0.25 J	13	66 J	3,200 J	0.4 J
Semivolatile Organics							
2,4-Dimethylphenol	50	ug/L	9.4 U	9.4 U	9.4 U	9.4 J	9.4 U
2-Methylnaphthalene	- -	ug/L	9.4 U	9.4 U	9.4 U	15	9.4 U
Naphthalene	10	ug/L	9.4 U	9.4 U	9.4 U	**86**	9.4 U
Phenol	1	ug/L	9.4 U	9.4 U	9.4 U	**3.3 J**	9.4 U
Metals							
Aluminum	- -	mg/L	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Arsenic	0.025	mg/L	0.001 U	0.001 U	0.001 U	0.0031	0.001 U
Barium	1	mg/L	0.011	0.018	0.12	0.049	0.008
Calcium	- -	mg/L	34.5	33	199	92.3	37.4
Chromium	0.05	mg/L	0.0011 J	0.0012 J	0.0011 J	0.0019 J	0.0013 J
Copper	0.2	mg/L	0.0019 U	0.0019 U	0.011	0.002 J	0.0019 U
Iron	0.3	mg/L	0.033 J	0.18	0.077	**9**	0.043 J
Lead	0.025	mg/L	0.00074 U	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Magnesium	35	mg/L	5.4	11.4	**43.7**	12	3.8
Manganese	0.3	mg/L	0.0019 U	0.14	**1.2**	**0.31**	0.002 J
Nickel	0.1	mg/L	0.0019 U	0.0019 U	0.0026 J	0.0019 U	0.0019 U
Potassium	- -	mg/L	0.67	1.1	3.1	2.8	0.94
Silver	0.05	mg/L	0.00074 U	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Sodium	20	mg/L	4.3	9.8	**602**	**65.7**	4.9
Vanadium	- -	mg/L	0.0018 J	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Zinc	2	mg/L	0.0019 U	0.0061	0.0088	0.0097	0.0019 U
Dissolved Gases							
Methane	- -	ug/L	NA	NA	NA	NA	NA
PCBs							
None Detected	- -	- -	ND	ND	ND	ND	NA
Pesticides							
None Detected	- -	- -	ND	ND	ND	ND	NA
Wet Chemistry							
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	0.01 U	0.01 U	0.003 J	0.01 U	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA

Highlighted cells exceed corresponding NYSDEC Standards

Notes:
U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J Indicates an estimated value.
* Laboratory duplicate analysis was outside control limits.
D Compound quantitated using a secondary dilution.
E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L milligrams per liter.

Table 3-2
Summary of Fall 2016 OSL Analytical Results
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		OSL-MW8 09/13/16	OSL-MW9A 09/13/16	OSL-MW10 09/13/16	OSL-SP01 09/08/16	SP01-EFF 09/08/16
Volatile Organics							
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U [5 U]	5 U	1.3 J	0.93 J
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U [5 U]	5 U	0.28 J	5 U
Acetone	50	ug/L	10 U	10 U [2.2 J]	10 U	2.3 U	4.5 U
CFC-12	5	ug/L	5 U	5 U [5 U]	1.3 J	5 U	5 U
Chloroform	7	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U [5 U]	5 U	0.3 J	5 U
m&p-Xylenes	- -	ug/L	5 U	5 U [5 U]	5 U	1.4 J	1.2 J
Naphthalene	10	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U [5 U]	5 U	0.37 J	0.21 J
o-Xylene	- -	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Toluene	5	ug/L	5 U	5 U [5 U]	5 U	5 U	5 U
Ethylbenzene	5	ug/L	5 U	5 U [5 U]	5 U	0.57 J	0.37 J
Total Xylenes (Max DL)	5	ug/L	5 U	5 U [5 U]	5 U	1.4 J	1.2 J
Total VOCs (Max DL)	- -	ug/L	10 U	10 U [2.2 J]	1.3 J	4.2 J	2.7 J
Semivolatile Organics							
2,4-Dimethylphenol	50	ug/L	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA
2-Methylnaphthalene	- -	ug/L	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA
Naphthalene	10	ug/L	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA
Phenol	1	ug/L	9.4 U	9.4 U [9.4 U]	9.4 U	9.4 U	NA
Metals							
Aluminum	- -	mg/L	0.03 U	0.03 U [0.03 U]	0.14	0.03 U	NA
Arsenic	0.025	mg/L	0.001 UJ	0.0014 J- [0.0014 J-]	0.001 U	0.001 U	NA
Barium	1	mg/L	0.019	0.027 [0.031]	0.023	0.079	NA
Calcium	- -	mg/L	42.6	22.9 [23.5]	46.3	52.6	NA
Chromium	0.05	mg/L	0.0014 J	0.00074 U [0.0017 J]	0.0015 J	0.0011 J	NA
Copper	0.2	mg/L	0.0052 J	0.0059 [0.0073]	0.0027 J	0.0064	NA
Iron	0.3	mg/L	0.026 J	**2.7 [2.8]**	**3.1**	**9.7**	**9.5**
Lead	0.025	mg/L	0.00074 U	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00078 J
Magnesium	35	mg/L	3.4	1.8 [1.9]	4.1	4.5	NA
Manganese	0.3	mg/L	0.0019 U	**1.1 [1.1]**	0.26	**0.92**	NA
Nickel	0.1	mg/L	0.0019 U	0.0019 U [0.0026 J]	0.0019 U	0.0019 U	NA
Potassium	- -	mg/L	2.2	1.2 [1.2]	1.3	1.9	NA
Silver	0.05	mg/L	0.00074 U	0.00074 U [0.00095 J]	0.00074 U	0.00074 U	NA
Sodium	20	mg/L	**137**	**157 [151]**	**58.9**	**306**	NA
Vanadium	- -	mg/L	0.00074 U	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	NA
Zinc	2	mg/L	0.0048 J	0.0019 U [0.0059]	0.0054 J	0.0019 U	NA
Dissolved Gases							
Methane	- -	ug/L	NA	NA	NA	NA	NA
PCBs							
None Detected	- -	- -	NA	NA	NA	NA	NA
Pesticides							
None Detected	- -	- -	NA	NA	NA	NA	NA
Wet Chemistry							
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	NA	165	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA

Highlighted cells exceed corresponding NYSDEC Standards

Notes:
U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J Indicates an estimated value.
* Laboratory duplicate analysis was outside control limits.
D Compound quantitated using a secondary dilution.
E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L milligrams per liter.

Table 3-2
Summary of Fall 2016 OSL Analytical Results
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		OSL-SP03 09/13/16	SP03-EFF 09/13/16	LC009 09/13/16	LC009-EFF 09/13/16	LS31 09/08/16	LS31-EFF 09/08/16
Volatile Organics								
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U	1.4 J	1.3 J	1.7 J	3.1 J
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	5 U	0.33 J	0.53 J
Acetone	50	ug/L	4.7 J	1.4 J	1.5 J	1.6 J	3 U	10 U
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U	0.32 J
m&p-Xylenes	- -	ug/L	5 U	5 U	2.1 J	2 J	1.7 J	2.7 J
Naphthalene	10	ug/L	5 U	5 U	5 U	5 U	5 U	1.4 J
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	0.32 J	0.53 J
o-Xylene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	5 U	0.85 J	0.46 J
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	0.24 J	5 U
Benzene	1	ug/L	0.23 J	5 U	0.3 J	0.25 J	5 U	5 U
Toluene	5	ug/L	0.22 J	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5	ug/L	5 U	5 U	1.5 J	1.3 J	0.44 J	0.92 J
Total Xylenes (Max DL)	5	ug/L	5 U	5 U	2.1 J	2 J	1.7 J	2.7 J
Total VOCs (Max DL)	- -	ug/L	5.2 J	1.4 J	6.8 J	6.5 J	5.6 J	10 J
Semivolatile Organics								
2,4-Dimethylphenol	50	ug/L	9.4 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	ug/L	9.4 U	NA	NA	NA	NA	NA
Naphthalene	10	ug/L	9.4 U	NA	NA	NA	NA	NA
Phenol	1	ug/L	9.4 U	NA	NA	NA	NA	NA
Metals								
Aluminum	- -	mg/L	5.6	NA	NA	NA	NA	NA
Arsenic	0.025	mg/L	0.012	NA	NA	NA	NA	NA
Barium	1	mg/L	0.66	NA	NA	NA	NA	NA
Calcium	- -	mg/L	98.2	NA	NA	NA	NA	NA
Chromium	0.05	mg/L	0.0093	NA	NA	NA	NA	NA
Copper	0.2	mg/L	0.026	NA	NA	NA	NA	NA
Iron	0.3	mg/L	**379**	NA	**0.52**	**0.43**	**4.1**	**1.2**
Lead	0.025	mg/L	**0.028**	NA	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Magnesium	35	mg/L	8	NA	NA	NA	NA	NA
Manganese	0.3	mg/L	**20.2**	NA	NA	NA	NA	NA
Nickel	0.1	mg/L	0.0067 J	NA	NA	NA	NA	NA
Potassium	- -	mg/L	3.1	NA	NA	NA	NA	NA
Silver	0.05	mg/L	0.0022 U	NA	NA	NA	NA	NA
Sodium	20	mg/L	**292**	NA	NA	NA	NA	NA
Vanadium	- -	mg/L	0.014	NA	NA	NA	NA	NA
Zinc	2	mg/L	0.07	NA	NA	NA	NA	NA
Dissolved Gases								
Methane	- -	ug/L	NA	NA	NA	NA	NA	NA
PCBs								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Pesticides								
None Detected	- -	- -	NA	NA	NA	NA	NA	NA
Wet Chemistry								
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	277	NA	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA	NA

Highlighted cells exceed corresponding NYSDEC Standards

Notes:
U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J Indicates an estimated value.
* Laboratory duplicate analysis was outside control limits.
D Compound quantitated using a secondary dilution.
E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L milligrams per liter.

Table 3-2
Summary of Fall 2016 OSL Analytical Results
Fort Drum IRP

Location ID: / Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		LS34 09/13/16	LS34-EFF 09/13/16	OSL-SW06 09/15/16	OSL-SW09 09/15/16	OSL-SW10 09/15/16
Volatile Organics							
1,2,4-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	0.25 J	5 U
1,3,5-Trimethylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U
Acetone	50	ug/L	1.4 J	1.8 J	5.8 UJ	3.8 UJ	1.5 UJ
CFC-12	5	ug/L	5 U	5 U	5 U	5 U	5 U
Chloroform	7	ug/L	5 U	5 U	5 U	5 U	0.31 J
Chloromethane	5	ug/L	5 U	5 U	5 U	5 U	5 U
Cymene (p-Isopropyltoluene)	- -	ug/L	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene	5	ug/L	5 U	5 U	5 U	5 U	5 U
m&p-Xylenes	- -	ug/L	0.48 U	5 U	0.52 J	0.94 J	5 U
Naphthalene	10	ug/L	5 U	5 U	0.41 J	0.51 J	5 U
N-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U
N-Propylbenzene	- -	ug/L	5 U	5 U	5 U	0.22 J	5 U
o-Xylene	- -	ug/L	5 U	5 U	5 U	5 U	5 U
sec-Butylbenzene	- -	ug/L	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	ug/L	5 U	5 U	5 U	5 U	5 U
Benzene	1	ug/L	5 U	5 U	0.81 J	0.99 J	5 U
Toluene	5	ug/L	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5	ug/L	5 U	5 U	0.61 J	0.95 J	5 U
Total Xylenes (Max DL)	5	ug/L	5 U	5 U	0.52 J	0.94 J	5 U
Total VOCs (Max DL)	- -	ug/L	1.4 J	1.8 J	2.4 J	3.9 J	0.31 J
Semivolatile Organics							
2,4-Dimethylphenol	50	ug/L	NA	NA	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	- -	ug/L	NA	NA	9.4 U	9.4 U	9.4 U
Naphthalene	10	ug/L	NA	NA	9.4 U	9.4 U	9.4 U
Phenol	1	ug/L	NA	NA	9.4 U	9.4 U	9.4 U
Metals							
Aluminum	- -	mg/L	NA	NA	0.03 U	0.03 U	0.03 U
Arsenic	0.025	mg/L	NA	NA	0.001 U	0.001 U	0.001 U
Barium	1	mg/L	NA	NA	0.03	0.029	0.021
Calcium	- -	mg/L	NA	NA	46.8	47.6	34.8
Chromium	0.05	mg/L	NA	NA	0.00074 U	0.00075 J	0.0035
Copper	0.2	mg/L	NA	NA	0.0019 U	0.0019 U	0.0023 J
Iron	0.3	mg/L	**0.92**	**1.3**	**1.1**	**0.58**	0.1
Lead	0.025	mg/L	0.00074 U	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Magnesium	35	mg/L	NA	NA	5.1	5.1	2.8
Manganese	0.3	mg/L	NA	NA	0.19	0.19	0.0067
Nickel	0.1	mg/L	NA	NA	0.0019 U	0.0019 U	0.0026 J
Potassium	- -	mg/L	NA	NA	1.3	1.4	1.3
Silver	0.05	mg/L	NA	NA	0.00074 U	0.00074 U	0.00074 U
Sodium	20	mg/L	NA	NA	**76.8**	**77.5**	**22.7**
Vanadium	- -	mg/L	NA	NA	0.00074 U	0.00074 U	0.00074 U
Zinc	2	mg/L	NA	NA	0.0019 U	0.0019 U	0.012
Dissolved Gases							
Methane	- -	ug/L	NA	NA	NA	NA	NA
PCBs							
None Detected	- -	- -	NA	NA	NA	NA	NA
Pesticides							
None Detected	- -	- -	NA	NA	NA	NA	NA
Wet Chemistry							
Alkalinity (as CaCO3)	- -	mg/L	NA	NA	NA	NA	NA
Ammonia Nitrogen	- -	mg/L	NA	NA	NA	NA	NA
Chemical Oxygen Demand	- -	mg/L	NA	NA	NA	NA	NA
Chloride	- -	mg/L	NA	NA	NA	NA	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA	NA
Ferrous iron	- -	mg/L	NA	NA	NA	NA	NA
Nitrate-N	- -	mg/L	NA	NA	NA	NA	NA
Nitrogen	- -	mg/L	NA	NA	NA	NA	NA
Phenolics	- -	mg/L	NA	NA	NA	NA	NA
Sulfate	250	mg/L	NA	NA	NA	NA	NA
Total Dissolved Solids	- -	mg/L	NA	NA	NA	NA	NA
Total Hardness	- -	mg/L	NA	NA	145	145	95.8
Total Organic Carbon	- -	mg/L	NA	NA	NA	NA	NA

Highlighted cells exceed corresponding NYSDEC Standards

Notes:
U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J Indicates an estimated value.
* Laboratory duplicate analysis was outside control limits.
D Compound quantitated using a secondary dilution.
E Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L micrograms per liter.
mg/L 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 2021
ASL-MW13	ASL	Well	X	X	X	every 5 yrs.	Next in 2021
ASL-MW14	ASL	Well	X	X	X	every 5 yrs.	Next in 2021
ASL-MW941	ASL	Well	X	X	X	every 5 yrs.	Next in 2021
ASL-MW942	ASL	Well	X	X	X	every 5 yrs.	Next in 2021
ASL-MW943	ASL	Well	X	X	X	every 5 yrs.	Next in 2021
ASL-MW944	ASL	Well	X	X	X	every 5 yrs.	Next in 2021
ASL-MW961	ASL	Well	X	X	X	every 5 yrs.	Next in 2021

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.

Table 4-2
Summary of 2016 ASL Analytical Results
Fort Drum IRP

Location ID: Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		ASL-MW12A 09/12/16	ASL-MW13 09/12/16	ASL-MW14 09/12/16	ASL-MW941 09/16/16
Metals						
Aluminum	- -	mg/L	0.03 U [0.03 U]	0.03 U	0.03 U	0.03 U
Arsenic	0.025	mg/L	0.001 U [0.001 U]	0.001 U	0.001 U	0.001 U
Barium	1	mg/L	0.021 J [0.011 J]	0.011	0.025	0.02
Calcium	- -	mg/L	55.5 J [61.9 J]	61.7	122	66.4
Chromium	0.05	mg/L	0.0016 J [0.0016 J]	0.0015 J	0.002 J	0.0017 J
Copper	0.2	mg/L	0.013 J [0.0019 UJ]	0.0019 U	0.0019 U	0.0019 U
Iron	0.3	mg/L	0.019 U [0.061]	0.055 J	0.028 J	0.13
Lead	0.025	mg/L	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00074 U
Magnesium	35	mg/L	4.9 [5.6]	5.5	6.2	6.9
Manganese	0.3	mg/L	0.0019 U [0.0019 U]	0.0019 U	0.13	0.002 J
Nickel	0.1	mg/L	0.0019 U [0.0019 U]	0.0019 U	0.0019 U	0.0019 U
Potassium	- -	mg/L	2.3 J [1 J]	1	1.7	1.2
Silver	0.05	mg/L	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00074 U
Sodium	20	mg/L	**198 J [46.2 J]**	**46.3**	16	**117**
Vanadium	- -	mg/L	0.00074 U [0.00074 U]	0.00074 U	0.00074 U	0.00074 U
Zinc	2	mg/L	0.0019 J [0.0019 U]	0.0019 U	0.0019 U	0.0019 U
Dissolved Gases						
Methane	- -	ug/L	1 U [1 U]	1 U	1 U	1 U
Wet Chemistry						
Alkalinity (as CaCO3)	- -	mg/L	172 J [154]	152	285	140
Ammonia Nitrogen	- -	mg/L	0.05 U [0.05 U]	0.05 U	0.05 U	0.05 U
Chemical Oxygen Demand	- -	mg/L	6.5 [5 U]	5 U	5 U	5 U
Chloride	- -	mg/L	NA	NA	NA	188
Cyanide	0.2	mg/L	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.1 U,* [0.1 U]	0.1 U,*	0.1 U,*	0.1 U
Nitrate-N	- -	mg/L	4.2 [4.4]	4.3	2.2	4.1
Nitrogen	- -	mg/L	0.2 J [0.37 J]	0.34 J	0.2 J	0.14 J
Phenolics	- -	mg/L	0.005 U [0.005 U]	0.005 U	0.005 U	0.005 U
Sulfate	250	mg/L	31.8 J [14.9 J]	14.7	8.3	37.9
Total Dissolved Solids	- -	mg/L	666 J [318 J]	318	404	526
Total Hardness	- -	mg/L	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	1.5 [0.9 BJ]	1 U	1 U	1.4 U

Highlighted cells exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Table 4-2
Summary of 2016 ASL Analytical Results
Fort Drum IRP

Location ID: Date Collected:	NYSDEC TOGS 1.1.1 Water Guidance Values		ASL-MW942 09/16/16	ASL-MW943 09/16/16	ASL-MW944 09/16/16	ASL-MW961 09/12/16
Metals						
Aluminum	- -	mg/L	0.03 U	0.14	0.17	0.066 J
Arsenic	0.025	mg/L	0.001 U	0.001 U	0.001 U	0.001 U
Barium	1	mg/L	0.049	0.046	0.11	0.024
Calcium	- -	mg/L	120	109	71.1	62.2
Chromium	0.05	mg/L	0.0015 J	0.0018 J	0.0014 J	0.0021 J
Copper	0.2	mg/L	0.0019 U	0.0029 J	0.0058	0.0061
Iron	0.3	mg/L	0.052 J	0.3	0.23	0.2
Lead	0.025	mg/L	0.00074 U	0.00079 J	0.00074 U	0.00074 U
Magnesium	35	mg/L	8.5	8.1	3	7.2
Manganese	0.3	mg/L	0.0019 U	0.0084	0.073	0.021
Nickel	0.1	mg/L	0.0019 U	0.0019 U	0.0019 U	0.0019 U
Potassium	- -	mg/L	1.7	2	4.5	1.3
Silver	0.05	mg/L	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Sodium	20	mg/L	**150**	**383**	**897**	**218**
Vanadium	- -	mg/L	0.00074 U	0.00074 U	0.00074 U	0.00074 U
Zinc	2	mg/L	0.0019 U	0.0076	0.0033 J	0.0019 U
Dissolved Gases						
Methane	- -	ug/L	1 U	0.22 J	1 U	1 U
Wet Chemistry						
Alkalinity (as CaCO3)	- -	mg/L	295	202 J	155	207
Ammonia Nitrogen	- -	mg/L	0.05 U	0.025 J	0.078	0.05 U
Chemical Oxygen Demand	- -	mg/L	6.5	8.1	13.1	5 U
Chloride	- -	mg/L	204	645	1,280	NA
Cyanide	0.2	mg/L	NA	NA	NA	NA
Ferrous iron	- -	mg/L	0.1 U	0.05 J	0.37	0.1 U,*
Nitrate-N	- -	mg/L	5	4.3	3.5	4.1
Nitrogen	- -	mg/L	0.26 J	0.25 J	0.3 J	0.27 J
Phenolics	- -	mg/L	0.005 U	0.005 U	0.0041 J	0.005 U
Sulfate	250	mg/L	24.8	37.4	93	29.2
Total Dissolved Solids	- -	mg/L	680	1,290	2,110	738
Total Hardness	- -	mg/L	NA	NA	NA	NA
Total Organic Carbon	- -	mg/L	2	1.4 U	2.8	1.4 B

Highlighted cells exceed corresponding NYSDEC Standards

Notes:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	Indicates an estimated value.
*	Laboratory duplicate analysis was outside control limits.
D	Compound quantitated using a secondary dilution.
E	Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
ug/L	micrograms per liter.
mg/L	milligrams per liter.

Attachment 1
Landfill Inspection Forms

ASL Inspection Worksheet

Date: 7 SEP 2016
Inspector: A. Baird | N Griffith

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?	Y	5 groundhog holes around perimeter, all backfilled
	Obvious presence of animals?	Y	
Surface Activities	Unauthorized tresspassing?	N	
	Intrusive activities/vehicle use?	N	
	Dumping or disposal?	N	
	Structures?		
Fences and Signs	Fence Integrity good?	Y	
	Site Secure?	Y	
	Perimeter signs intact and visible?	Y	
Gas Vent Pipes	Damaged or obstructed?	Y	vent pipe broke @ ground surface
Drainage Ditches	Drainage features clear/unobstructed?	Y	
	Accumulation of sediment/debris?	N	

Other Notes

Vent pipe broken

OSL Inspection Worksheet

Date: 9/7/16

Inspector: J. Lemessurier + LPitman

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?	Y	Porcupine / Deer trails
Surface Activities	Unauthorized tresspassing?	N	
	Intrusive activities/vehicle use?	N	
	Dumping or disposal?	X	Drums by MW-9 - OSL 1
	Structures?	N	
Fences and Signs	Fence Integrity good?	Y	
	Site Secure?	Y	
	Perimeter signs intact and visible?	N	- 1 sign on OSL1 burned - pick up - Placed near fence
Gas Vent Pipes	Damaged or obstructed?	N	
Drainage Ditches	Drainage features clear/unobstructed?	Y	
	Accumulation of sediment/debris?	N	

Other Notes

Vent pipes - good condition - Standing upright

Photos taken of OSL1 and OSL2.

One porkupine walking near OSL1 ~~walking in~~ driveway - Not normal for daytime. Porkupines are nocturnal.

Attachment 2
Landfill Inspection
Photographs



Photo 1: 2016 Inspection – OSL.

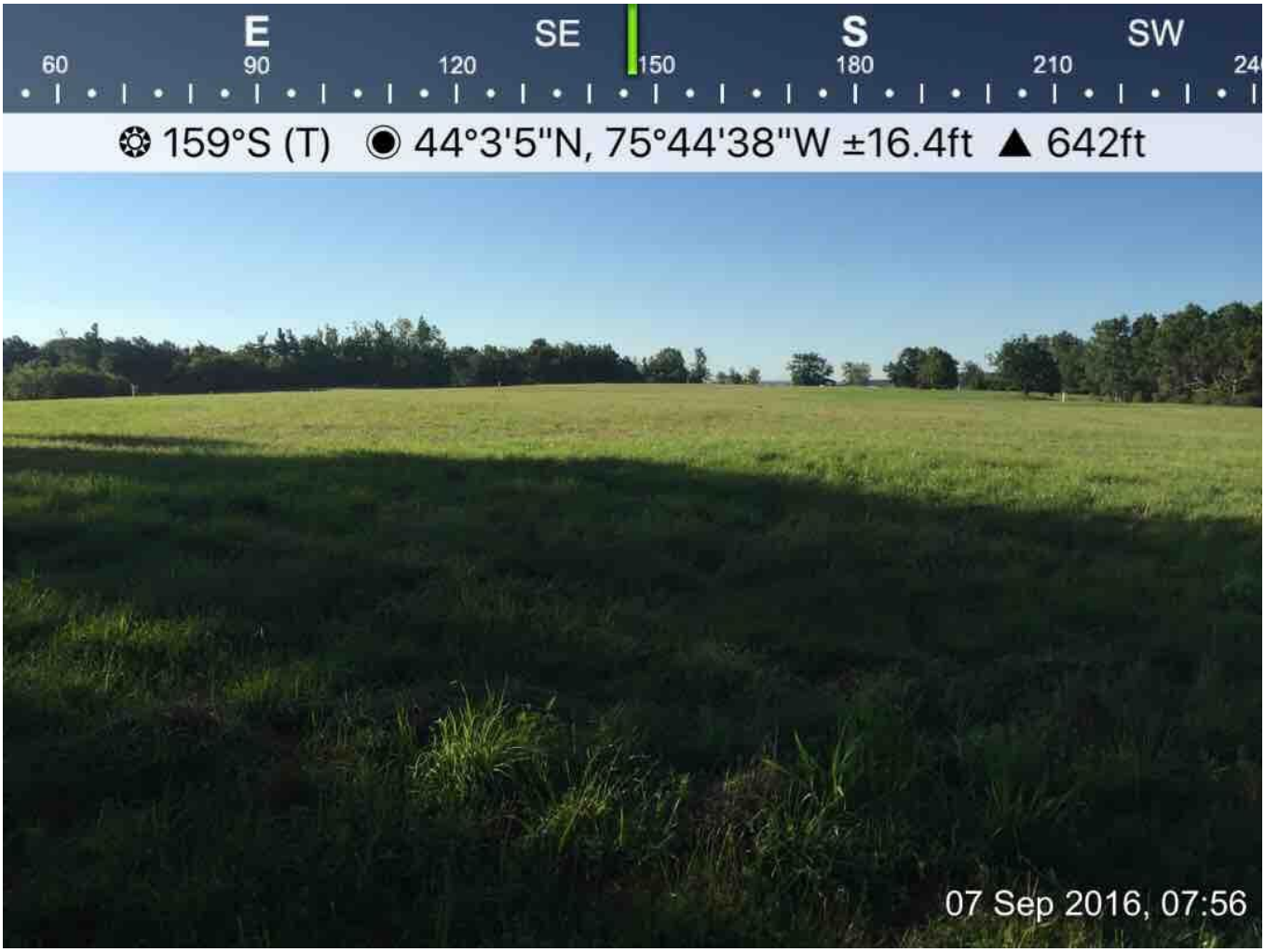


Photo 2: 2016 Inspection – OSL

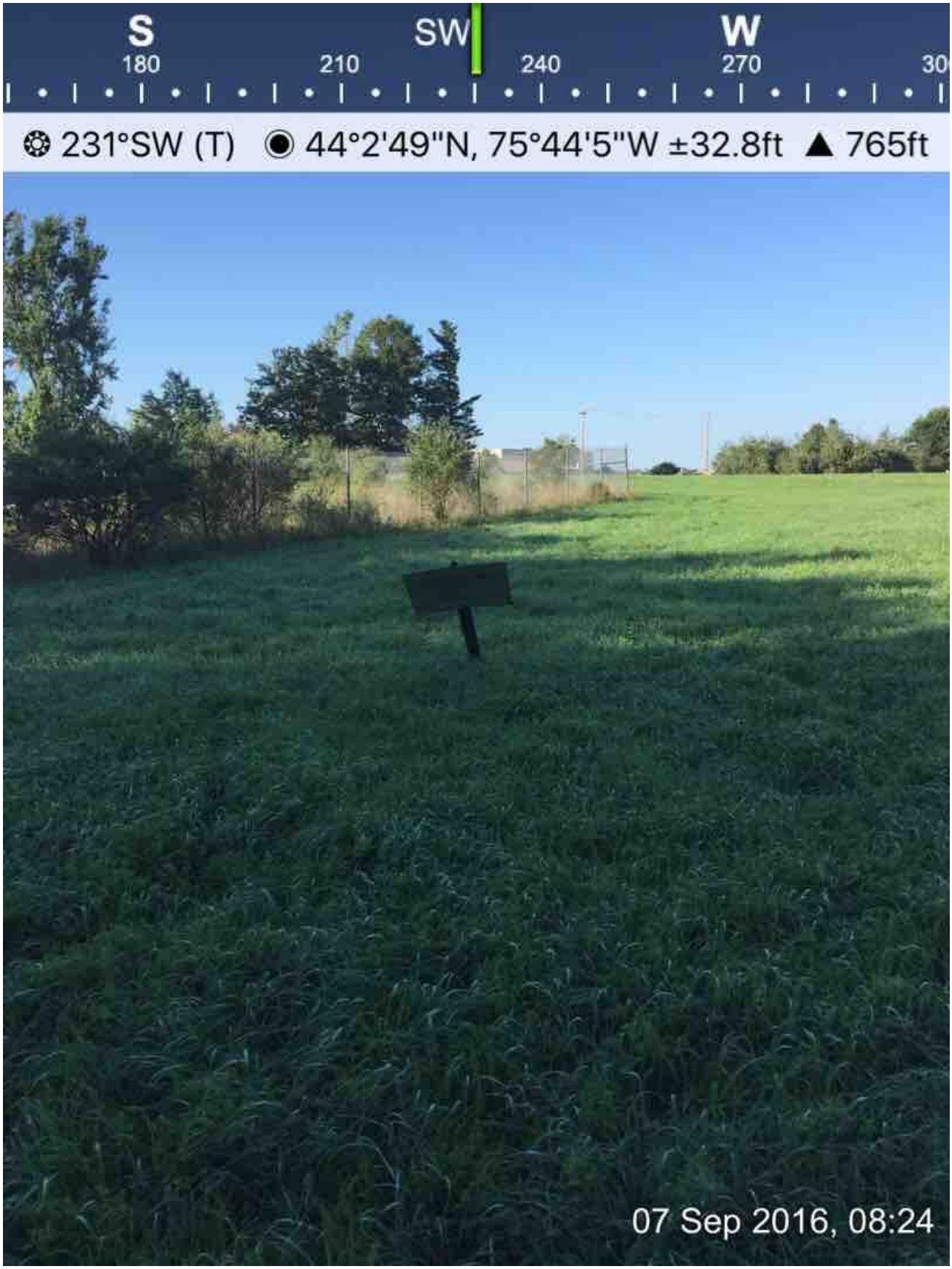


Photo 3: 2016 Inspection – OSL



Photo 4: 2016 Inspection – OSL
Empty drums identified near OSL-MW9A



Photo 5: 2016 Inspection – ASL
NW view of ASL



Photo 6: 2016 Inspection – ASL
N view of ASL and broken vent pipe



Photo 7: 2016 Inspection – ASL
E view of ASL



Photo 8: 2016 Inspection – ASL
W view of ASL



Photo 9: 2016 Inspection – ASL
W view of ASL



Photo 10: 2016 Inspection – ASL
View of broken vent pipe at ASL



Photo 11: 2016 Inspection – ASL
Repair of broken coupler on vent pipe



Photo 12: 2016 Inspection – ASL
Repaired vent pipe following restoration



Photo 13: 2016 Willow Coppicing



Photo 14: 2016 Willow Coppicing



Photo 15: 2016 Willow Coppicing



Photo 16: 2016 Willow Coppicing



Photo 17: 2016 Willow Coppicing



Photo 18: 2016 Willow Coppicing

Attachment 3

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

December 3, 2016

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. R1609583, R1609732, and R1609843

Dear Mr. Bagnato:

Review has been completed for the data package generated by ALS Environmental (ALS) that pertains to aqueous samples collected between 09/07/16 and 09/16/16 at the Fort Drum IRP 3800 PCE site. Four samples were processed for project-specific volatiles, TCL semivolatiles, TCL pesticides. Aroclor PCBs, TAL metals, and total cyanide. Eight samples and a field duplicate were processed for methane, ethane, ethane, TAL metals, and thirteen wet chemistry analytes; four of these were also processed for chloride. Nine samples and a field duplicate were processed for project-specific volatiles, semivolatiles, and TAL metals; five of these were also processed for total hardness. Seven samples were processed for project-specific volatiles, iron and lead, and one sample was processed for project-specific volatiless. Trip blanks were also processed. The analytical methodologies that were utilized are those of the USEPA SW846 methods 8260C, 8270D, 8081B, 8082A, 6010C, 6020A, 7470A, and various ASTM/ST.

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, samples were processed primarily in compliance with project requirements, and are usable either as reported or with minor qualification.

Accuracy, precision, comparability, representativeness, sensitivity, and data completeness are acceptable, with the exception that matrix spikes and field duplicate correlations were not processed for the semivolatile, pesticide, or PCB fractions. The effect of the sample matrix on those analytes has not been ascertained.

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

Custody/Sample Receipt

Some of the coolers were received at elevated temperature, but either pertaining to samples collected the same day in the process of cooling, or to analyses that do not have temperature preservation.

Uninitialed edits were made to the collection time for two samples reported in SDG R1609583.

Preservation entries were omitted on the custody forms for samples reported in SDG R1609843 and for the iron and lead fractions on the custody for samples reported in SDG R1609732

The analytical request entries for the samples reported in SG R1609843 were not complete as regards metals, dissolved gases, and certain of the wet chemistry analyses.

Field Duplicate Correlations

The blind field duplicates were collected at locations ASL-MW12A-091216 and OSL-MW9A-091316. All correlations are within validation action limits, with the following exceptions, results for which are qualified as estimated in the indicated parent sample:
barium, calcium, copper, potassium, sodium, TDS, and sulfate in ASL-MW12A-091216

Volatile Analyses by EPA8260C

The following detections are considered external contamination and edited to reflect non-detection due to presence in associated trip or method blanks:

- acetone in samples reported in SDGs R1609583 and R1609843
- m,p-xylene in LS34-091316

The trip blanks were filled months before associated sample collection and therefore do not properly reflect potential external contamination. Contaminants that may have been present in vials or the preservative would likely have degraded in the interim.

The matrix spikes (MSs) of OSL-SW10-091516 show recoveries and correlations that are within the QAPP referenced QSM limits, with the exception of those for carbon disulfide (57% and 57%). The result for that compound is qualified as estimated in the parent sample. The laboratory utilized their own method acceptance ranges for MSs and LCSs (per the methodology); validation reviewed utilized the QSM limits.

Surrogate and internal standard recoveries are compliant.

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

- bromomethane (30%D) in the samples reported in SDG R1609583
- 2,2-dichloropropane (23%D) and bromomethane (30%D) in the samples reported in SDG R1609583 and R1609732

Methane, Ethane, and Ethene Analyses by RSK-175

Matrix spikes of ASL-MW943-091616 show acceptable recoveries and duplicate correlations.

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.

TCL Semivolatiles by EPA8270D

Holding times were met. Blanks show no contamination. Surrogate and internal standard recoveries are acceptable. Instrument tunes are compliant and calibration standards show acceptable responses.

LCS recoveries are within QAPP ranges. No matrix spike evaluation was performed.

TCL Pesticides and Aroclor PCBs by EPA Methods 8081B and 8082A

Holding times were met. Blanks show no contamination affecting sample reported results. Surrogate recoveries are acceptable.

LCS recoveries are within QAPP ranges. No matrix spike evaluation was performed.

Calibration standards show acceptable responses. Analytes reporting no sample detections show compliant responses on at least one of the analytical columns.

TAL Metals by EPA 6010C, 6020A, and 7470A

Matrix spikes and laboratory duplicate evaluations were performed for TAL metals on ASL-MW943-091616, and for mercury in 3805-MW115-090716 and OSL-MW9A-091316 show acceptable recoveries and correlations.

The results for antimony in ASL-MW12A-091216 is considered external contamination and edited to reflect non-detection due to presence in associated initial calibration blank.

The results for arsenic in OSL-MW8-091316, OSL-MW9A-091316, and DUP-091316 are qualified as estimated due to low recovery in the associated initial calibration standard.

The ICP serial dilution evaluations were performed on ASL-MW12A-091216, OSL-MW9A-091316, and ASL-SW09-091516. Correlations are within validation guidelines.

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

Although flagged by the laboratory as holding time exceedance, the ferrous iron analyses were conducted within the holding time outlined in the QAPP, and those results are therefore not qualified.

The following matrix spike and/or duplicate evaluations were performed:

- Alkalinity, ferrous iron, nitrite, nitrate, bromide, and sulfate in ASL-MW12A-091216
- TDS in ASL-MW12A-091216
- Alkalinity, COD, ferrous iron, TKN, COD, nitrate, and nitrite on ASL-MW943-091616
- COD in ASL-MW943-091616

The following analytes show outlying recoveries, and are qualified in the indicated parent sample:

- Alkalinity (70%) in ASL-MW961-091216
- Ferrous iron (64%) and nitrite (63% and 64%) in ASL-MW943-091616

The results for total organic carbon (TOC) up to 1 mg/L are considered external contamination and edited to reflect non-detection due to presence in associated method blank.

Calibration standard responses are compliant.

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
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.

CLIENT and LABORATORY SAMPLE IDs

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609583-001	3805-MWI17-090716	9/7/2016	1320
R1609583-002	3805-MWD18-090716	9/7/2016	1110
R1609583-003	TRIP BLANK 1	9/8/2016	
R1609583-004	3805-MWI15-090716	9/7/2016	1330
R1609583-005	3805-MWD16-090816	9/8/2016	0910
R1609583-006	OSL-MW2-090816	9/8/2016	1100
R1609583-007	OSL-SP01-090816	9/8/2016	0830
R1609583-008	SP01-EFF-090816	9/8/2016	0915
R1609583-009	LS31-EFF-090816	9/8/2016	1030
R1609583-010	LS31-090816	9/8/2016	1000
R1609583-011	ASL-MW12A-091216	9/12/2016	0910
R1609583-012	ASL-MW13-091216	9/12/2016	1030
R1609583-013	ASL-MW14-091216	9/12/2016	1140
R1609583-014	ASL-MW961-091216	9/12/2016	1300
R1609583-015	BD-091216	9/12/2016	

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609732-001	OSL-MW8-091316	9/13/2016	1300
R1609732-002	OSL-MW10-091316	9/13/2016	1500
R1609732-003	SP03-EFF-091316	9/13/2016	0845
R1609732-004	OSL-MW9A-091316	9/13/2016	1050
R1609732-005	LS34-091316	9/13/2016	0945
R1609732-006	LS34-EFF-091316	9/13/2016	0915
R1609732-007	LC009-EFF-091316	9/13/2016	1015
R1609732-008	DUP-091316	9/13/2016	
R1609732-009	OSL-SP03-091316	9/13/2016	0800
R1609732-010	LC009-091316	9/13/2016	1030
R1609732-011	TRIP BLANK	9/13/2016	0845

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609843-001	OSL-SW09-091516	9/15/2016	0820
R1609843-002	OSL-SW06-091516	9/15/2016	0845
R1609843-003	OSL-SW10-091516	9/15/2016	0920
R1609843-004	ASL-MW944-091616	9/16/2016	0830
R1609843-005	ASL-MW943-091616	9/16/2016	1000
R1609843-006	ASL-MW942-091616	9/16/2016	1240
R1609843-007	ASL-MW941-091616	9/16/2016	1130
R1609843-008	TRIP BLANK	9/15/2016	

Appendix B

Groundwater Purge Logs

Well ID: 1995-MWS10
Date: 4/19/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless; DUP01-041916 collected
Casing Screenlength (ft) 38.90; 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
4/19/2016	11:50:00 AM	23.90	12.8	6.48	-57.1	1.86	51.6	2.24	NM	NM	
4/19/2016	11:55:00 AM	23.90	12.6	6.37	-51.5	1.90	15.4	2.43	NM	NM	
4/19/2016	12:00:00 PM	23.89	12.5	6.40	-47.8	1.89	12.0	2.34	NM	NM	
4/19/2016	12:05:00 PM	23.90	12.5	6.40	-47.0	1.91	12.2	2.38	NM	NM	
4/19/2016	12:10:00 PM	23.90	12.6	6.41	-46.2	1.93	11.2	2.31	NM	NM	
4/19/2016	12:15:00 PM	23.90	12.7	6.39	-49.5	1.94	10.79	2.37	NM	NM	

Well ID: 3805-PZ3
Date: 4/19/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: Initial and final purge clear with orange particulate, colorless, slight odor
Casing Screenlength (ft) 31.40; 15 ft to 30 ft
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
4/19/2016	7:25:00 AM	22.10	9.9	6.31	96.9	0.206	25.0	10.51	NM	NM	
4/19/2016	7:30:00 AM	22.10	10.3	5.48	64.6	0.193	3.95	6.12	NM	NM	
4/19/2016	7:35:00 AM	22.02	9.7	5.53	48.0	0.194	4.35	5.91	NM	NM	
4/19/2016	7:40:00 AM	22.02	9.7	5.57	43.4	0.196	6.00	5.95	NM	NM	
4/19/2016	7:45:00 AM	22.02	9.5	5.65	41.6	0.195	7.07	5.79	NM	NM	
4/19/2016	7:50:00 AM	22.02	9.6	5.63	39.7	0.196	8.20	5.79	NM	NM	
4/19/2016	7:55:00 AM	22.02	9.7	5.59	38.5	0.196	7.57	5.82	NM	NM	

Well ID: 3805-PZ14
Date: 4/19/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: Initial and final purge clear with black particulate, colorless, strong odor
Casing Screenlength (ft) 31.28; 19.5 ft to 29.5 ft
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
4/19/2016	9:35:00 AM	19.93	10.4	6.37	-82.9	0.321	4.36	4.63	NM	NM	
4/19/2016	9:40:00 AM	19.93	10.3	6.37	-92.6	0.287	2.90	1.27	NM	NM	
4/19/2016	9:45:00 AM	19.92	10.3	6.35	-103.4	0.294	1.84	1.34	NM	NM	
4/19/2016	9:50:00 AM	19.92	10.2	6.35	-111.0	0.317	2.34	1.54	NM	NM	
4/19/2016	9:55:00 AM	19.92	10.2	6.38	-112.8	0.332	3.13	1.53	NM	NM	
4/19/2016	10:00:00 AM	19.92	10.3	6.40	-117.9	0.343	2.67	1.55	NM	NM	
4/19/2016	10:05:00 AM	19.92	10.4	6.40	-117.8	0.347	2.00	1.57	NM	NM	

Well ID: 3805-PZ2S
Date: 4/19/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: Initial and final purge clear with orange particulate, colorless, slight odor
Casing Screenlength (ft) 23.80; 15 ft to 25 ft
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
4/19/2016	8:35:00 AM	20.79	8.8	6.32	74.8	0.176	6.00	8.32	NM	NM	
4/19/2016	8:40:00 AM	20.88	8.5	6.37	79.5	0.181	1.09	7.95	NM	NM	
4/19/2016	8:45:00 AM	20.88	8.6	6.42	50.2	0.188	1.71	6.12	NM	NM	
4/19/2016	8:50:00 AM	20.88	8.9	6.45	35.8	0.191	0.98	6.05	NM	NM	
4/19/2016	8:55:00 AM	20.85	8.9	6.49	27.6	0.191	0.00	5.94	NM	NM	
4/19/2016	9:00:00 AM	20.85	8.7	6.50	25.9	0.192	0.00	5.90	NM	NM	

Well ID: 3805-MWS24
Date: 4/19/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, strong odor
Casing Screenlength (ft) 32.72; 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
4/19/2016	10:40:00 AM	23.41	11.7	6.86	5.2	2.17	0.85	7.81	NM	NM	
4/19/2016	10:45:00 AM	23.40	11.9	7.04	12.8	2.21	0.98	7.23	NM	NM	
4/19/2016	10:50:00 AM	23.40	11.9	7.11	18.1	2.22	0.84	7.06	NM	NM	
4/19/2016	10:55:00 AM	23.40	11.8	7.17	25.0	2.24	0.86	6.77	NM	NM	
4/19/2016	11:00:00 AM	23.38	12.0	7.19	25.6	2.25	0.88	7.22	NM	NM	
4/19/2016	11:05:00 AM	23.38	12.2	7.19	31.2	2.26	1.23	7.31	NM	NM	

Well ID: 1795-MWS6
Date: 4/21/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: Initial and final purge clear, colorless, slight odor
Casing Screenlength (ft) 17.92; 5 ft to 15 ft
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
4/21/2016	2:55:00 PM	13.35	13.8	6.25	-46.0	0.135	9.64	0.59	NM	NM	
4/21/2016	3:00:00 PM	13.48	14.2	6.17	-48.1	0.132	7.19	0.55	NM	NM	
4/21/2016	3:05:00 PM	13.51	14.6	6.19	-58.5	0.138	7.40	0.55	NM	NM	
4/21/2016	3:10:00 PM	13.52	14.2	6.19	-68.0	0.141	7.64	0.49	NM	NM	
4/21/2016	3:15:00 PM	13.52	14.1	6.19	-76.6	0.143	9.79	0.40	NM	NM	
4/21/2016	3:20:00 PM	13.52	13.9	6.24	-77.8	0.145	0.61	0.40	NM	NM	

Well ID: 3805-MWS23

Date: 4/21/2016

Purge Log
Fort Drum
Installation Restoration Program

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

Casing Screenlength (ft) 29.31; 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
4/21/2016	9:40:00 AM	18.35	12.7	6.82	-69.9	0.581	7.25	0.62	NM	NM	
4/21/2016	9:45:00 AM	18.42	13.3	6.83	-75.8	0.589	19.5	0.48	NM	NM	
4/21/2016	9:50:00 AM	18.42	13.4	6.83	-79.1	0.591	6.32	0.49	NM	NM	
4/21/2016	9:55:00 AM	18.42	13.5	6.83	-80.8	0.598	6.25	0.42	NM	NM	
4/21/2016	10:00:00 AM	18.42	13.7	6.84	-82.1	0.606	6.25	0.40	NM	NM	
4/21/2016	10:05:00 AM	18.41	13.8	7.39	-84.0	0.613	7.39	0.38	NM	NM	

Well ID: 3805-OW1
Date: 4/21/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: Initial purge clear, colorless, strong odor; Final purge clear, colorless, slight odor
Casing Screenlength (ft) 29.53; 15 ft to 30 ft
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
4/21/2016	12:50:00 PM	13.18	15.0	6.37	-70.7	0.363	34.6	1.09	NM	NM	
4/21/2016	12:55:00 PM	13.19	15.7	6.36	-70.8	0.362	25.0	0.66	NM	NM	
4/21/2016	1:00:00 PM	13.19	15.6	6.39	-76.6	0.371	13.7	0.53	NM	NM	
4/21/2016	1:05:00 PM	13.19	16.1	6.38	-77.9	0.371	9.09	0.52	NM	NM	
4/21/2016	1:10:00 PM	13.19	15.5	6.39	-77.5	0.367	8.72	0.60	NM	NM	
4/21/2016	1:15:00 PM	13.20	15.2	6.39	-78.1	0.366	9.58	0.60	NM	NM	
4/21/2016	1:20:00 PM	13.20	15.2	6.40	-79.3	0.370	8.09	0.62	NM	NM	

Well ID: 3805-014
Date: 4/21/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, strong odor
Casing Screenlength (ft) 24.55; 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
4/21/2016	8:45:00 AM	16.25	10.7	6.58	-137.2	0.131	1.22	1.26	NM	NM	
4/21/2016	8:50:00 AM	16.25	10.7	6.52	-142.7	0.137	0.91	1.23	NM	NM	
4/21/2016	8:55:00 AM	16.25	10.7	6.49	-141.8	0.144	0.72	1.08	NM	NM	
4/21/2016	9:00:00 AM	16.25	10.8	6.49	-139.8	0.147	0.72	1.06	NM	NM	
4/21/2016	9:05:00 AM	16.25	10.8	6.49	-136.0	0.150	0.46	1.14	NM	NM	
4/21/2016	9:10:00 AM	16.25	10.8	6.49	-136.6	0.155	0.30	0.97	NM	NM	

Well ID: 3805-MWS11
Date: 4/22/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: Initial and final purge clear, yellow tint, slight odor
Casing Screenlength (ft) 35.98; 23 ft to 33 ft
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
4/22/2016	8:45:00 AM	29.19	11.8	6.71	-121.0	0.520	2.39	0.77	NM	NM	
4/22/2016	8:50:00 AM	29.19	12.8	6.70	-130.0	0.551	2.14	0.61	NM	NM	
4/22/2016	8:55:00 AM	29.19	13.1	6.71	-131.5	0.556	3.31	0.61	NM	NM	
4/22/2016	9:00:00 AM	29.19	14.0	6.72	-130.1	0.561	3.24	0.61	NM	NM	
4/22/2016	9:05:00 AM	29.19	14.2	6.72	-124.1	0.553	2.56	0.58	NM	NM	
4/22/2016	9:10:00 AM	29.19	14.2	6.72	-130.8	0.558	2.75	0.57	NM	NM	

Well ID: 1795-MWS7
Date: 4/22/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, light brown tint, strong odor
Casing Screenlength (ft) 17.00; 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
4/22/2016	11:35:00 AM	12.88	11.3	6.82	-108.4	2.30	6.63	2.15	NM	NM	
4/22/2016	11:40:00 AM	12.84	11.3	6.82	-100.9	2.13	4.17	2.54	NM	NM	
4/22/2016	11:45:00 AM	12.86	11.2	6.76	-98.3	1.69	3.38	2.24	NM	NM	
4/22/2016	11:50:00 AM	12.87	11.0	6.72	-95.5	1.58	3.71	2.37	NM	NM	
4/22/2016	11:55:00 AM	12.86	10.9	6.70	-89.5	1.49	3.80	2.32	NM	NM	
4/22/2016	12:00:00 PM	12.86	11.0	6.71	-86.1	1.52	3.80	2.29	NM	NM	

Well ID: 1995-MWS9
Date: 4/22/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless
Casing Screenlength (ft) 37.65; 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
4/22/2016	7:25:00 AM	23.93	12.4	6.07	-87.7	11.43	5.62	0.60	NM	NM	
4/22/2016	7:30:00 AM	23.93	12.3	6.09	-97.8	11.36	5.07	0.44	NM	NM	
4/22/2016	7:35:00 AM	23.93	12.4	6.09	-105.6	11.41	4.77	0.36	NM	NM	
4/22/2016	7:40:00 AM	23.93	12.4	6.10	-109.5	11.43	5.31	0.33	NM	NM	
4/22/2016	7:45:00 AM	23.93	12.4	6.10	-113.2	11.47	5.16	0.32	NM	NM	
4/22/2016	7:50:00 AM	23.93	12.4	6.10	-115.4	11.43	5.57	0.30	NM	NM	

Well ID: 3805-PZ12S
Date: 4/22/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, strong odor
Casing Screenlength (ft) 33.91; 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
4/22/2016	10:30:00 AM	25.15	12.5	6.46	-77.5	0.46	5.17	0.89	NM	NM	
4/22/2016	10:35:00 AM	25.15	12.8	6.52	-94.6	0.477	5.46	0.58	NM	NM	
4/22/2016	10:40:00 AM	25.16	12.9	6.54	-100.6	0.491	4.06	0.52	NM	NM	
4/22/2016	10:45:00 AM	25.14	12.7	6.54	-109.6	0.495	3.33	0.50	NM	NM	
4/22/2016	10:50:00 AM	25.14	12.7	6.53	-111.7	0.490	3.92	0.48	NM	NM	
4/22/2016	10:55:00 AM	25.14	12.6	6.55	-113.9	0.492	3.38	0.47	NM	NM	

Well ID: 1795-MWS5
Date: 4/25/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Bubbling loudly; DUP01-042516
Casing Screenlength (ft) 22.20; 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
4/25/2016	10:20:00 AM	14.04	10.9	6.70	68.8	0.577	1.22	9.18	NM	NM	
4/25/2016	10:25:00 AM	14.11	11.3	6.76	55.4	0.579	1.15	9.03	NM	NM	
4/25/2016	10:30:00 AM	14.16	11.4	6.86	34.5	0.581	0.80	8.9	NM	NM	
4/25/2016	10:35:00 AM	14.24	11.1	6.89	30.0	0.580	3.27	8.85	NM	NM	
4/25/2016	10:40:00 AM	14.24	11.5	6.96	18.5	0.578	1.37	8.06	NM	NM	
4/25/2016	10:45:00 AM	14.20	11.0	6.97	16.3	0.581	1.50	7.93	NM	NM	
4/25/2016	10:50:00 AM	14.20	11.3	6.97	13.3	0.579	1.74	7.97	NM	NM	

Well ID: 1595-PZ13
Date: 4/25/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, strong odor
Casing Screenlength (ft) 17.23; NA
Casing Diameter (in): 2
Flow (mL/min) 190

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/25/2016	4:05:00 PM	9.85	9.4	6.46	-89.9	1.22	6.29	0.74	NM	NM	
4/25/2016	4:10:00 PM	9.85	9.4	6.44	-99.2	1.16	4.91	0.87	NM	NM	
4/25/2016	4:15:00 PM	9.85	9.3	6.43	-100.6	1.11	3.23	0.91	NM	NM	
4/25/2016	4:20:00 PM	9.86	9.3	6.44	-101.4	1.07	2.79	0.98	NM	NM	
4/25/2016	4:25:00 PM	9.86	9.3	6.44	-101.6	1.03	2.42	0.97	NM	NM	
4/25/2016	4:30:00 PM	9.86	9.3	6.45	-102.2	1.03	2.27	0.93	NM	NM	

Well ID: 1595-MW3
Date: 4/25/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear with orange particulate, colorless, slight odor
Casing Screenlength (ft) 20.74; NA
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
4/25/2016	1:50:00 PM	12.84	10.1	6.42	12.8	0.212	38.3	8.04	NM	NM	
4/25/2016	1:55:00 PM	12.84	10.3	6.35	11.7	0.210	50.0	6.63	NM	NM	
4/25/2016	2:00:00 PM	12.84	10.3	6.29	6.0	0.210	51.4	6.17	NM	NM	
4/25/2016	2:05:00 PM	12.84	10.2	6.24	2.7	0.207	23.6	5.85	NM	NM	
4/25/2016	2:10:00 PM	12.84	10.2	6.28	-1.4	0.207	21.7	5.50	NM	NM	
4/25/2016	2:15:00 PM	12.84	10.3	6.34	-8.7	0.207	20.4	5.17	NM	NM	
4/25/2016	2:20:00 PM	12.84	10.3	6.32	-10.0	0.210	19.9	5.18	NM	NM	

Well ID: 1595-PZ9
Date: 4/25/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, strong odor
Casing Screenlength (ft) 26.12; 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
4/25/2016	2:45:00 PM	7.90	10.3	5.88	-19.3	0.190	25.3	0.86	NM	NM	
4/25/2016	2:50:00 PM	7.94	10.2	5.86	-23.8	0.231	18.5	0.90	NM	NM	
4/25/2016	2:55:00 PM	7.95	10.2	5.95	-31.7	0.313	19.4	0.91	NM	NM	
4/25/2016	3:00:00 PM	7.91	10.0	5.95	-37.5	0.406	16.2	1.02	NM	NM	
4/25/2016	3:05:00 PM	7.91	10.1	5.98	-45.2	0.411	15.8	1.02	NM	NM	
4/25/2016	3:10:00 PM	7.91	9.9	6.04	-40.9	0.410	14.2	1.03	NM	NM	

Well ID: 1595-MWS7
Date: 4/26/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, slight odor
Casing Screenlength (ft) 21.87; NA
Casing Diameter (in): 2
Flow (mL/min) 215

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/26/2016	7:20:00 AM	8.01	8.9	6.78	86.5	0.84	12.2	9.58	NM	NM	
4/26/2016	7:25:00 AM	8.01	8.9	6.97	79.4	0.84	2.41	9.15	NM	NM	
4/26/2016	7:30:00 AM	8.01	8.8	6.99	79.5	0.81	4.47	8.93	NM	NM	
4/26/2016	7:35:00 AM	8.01	8.8	6.99	80.7	0.81	2.09	8.80	NM	NM	
4/26/2016	7:40:00 AM	8.01	8.8	6.99	78.9	0.82	2.30	8.71	NM	NM	
4/26/2016	7:45:00 AM	8.01	8.8	7.00	78.6	0.80	2.45	8.70	NM	NM	

Well ID: 1595-MW33
Date: 4/26/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear with orange & black particulate, colorless, odorless; MS / MSD collected
Casing Screenlength (ft) 21.51; 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
4/26/2016	8:45:00 AM	10.55	9.4	6.23	120.1	0.535	1.02	6.01	NM	NM	
4/26/2016	8:50:00 AM	10.55	9.4	6.21	122.7	0.542	1.00	5.96	NM	NM	
4/26/2016	8:55:00 AM	10.55	9.6	6.29	123.2	0.669	0.74	6.31	NM	NM	
4/26/2016	9:00:00 AM	10.55	9.6	6.29	123.7	0.600	0.44	6.21	NM	NM	
4/26/2016	9:05:00 AM	10.56	9.5	6.24	128.9	0.78	0.65	5.82	NM	NM	
4/26/2016	9:10:00 AM	10.56	9.8	6.24	125.3	0.87	0.69	5.67	NM	NM	
4/26/2016	9:15:00 AM	10.56	9.8	6.25	120.9	0.79	0.73	5.57	NM	NM	

Well ID: 1595-OBG2
Date: 4/26/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, strong odor; DUP02-042616 collected
Casing Screenlength (ft) 17.63; 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
4/26/2016	9:50:00 AM	11.11	9.0	5.80	-60.4	0.164	43.1	1.60	NM	NM	
4/26/2016	9:55:00 AM	11.10	8.9	5.80	-63.1	0.180	44.40	1.78	NM	NM	
4/26/2016	10:00:00 AM	11.10	8.9	5.83	-67.2	0.212	43.2	1.84	NM	NM	
4/26/2016	10:05:00 AM	11.11	8.9	5.93	-76.3	0.288	39.3	1.96	NM	NM	
4/26/2016	10:10:00 AM	11.11	8.9	6.02	-81.4	0.350	30.0	2.13	NM	NM	
4/26/2016	10:15:00 AM	11.11	8.9	6.02	-80.5	0.319	30.0	2.04	NM	NM	
4/26/2016	10:20:00 AM	11.11	9.0	6.09	-85.5	0.333	28.7	2.14	NM	NM	

Well ID: 1595-PZ12
Date: 4/26/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless
Casing Screenlength (ft) 25.06; 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
4/26/2016	11:50:00 AM	13.13	8.8	6.91	-41.6	0.451	4.37	5.83	NM	NM	
4/26/2016	11:55:00 AM	13.11	8.8	6.99	-49.7	0.448	1.28	6.28	NM	NM	
4/26/2016	12:00:00 PM	13.11	9.0	7.00	-52.2	0.456	0.28	6.12	NM	NM	
4/26/2016	12:05:00 PM	13.11	9.0	7.01	-55.9	0.458	0.88	6.27	NM	NM	
4/26/2016	12:10:00 PM	13.11	9.1	7.02	-60.8	0.478	0.70	6.04	NM	NM	
4/26/2016	12:15:00 PM	13.11	9.0	7.01	-60.3	0.477	0.38	6.19	NM	NM	

Well ID: 1295-MW25
Date: 4/27/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless
Casing Screenlength (ft) 16.80; NA
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
4/27/2016	8:50:00 AM	10.38	7.9	6.51	21.9	0.90	0.75	6.43	NM	NM	
4/27/2016	8:55:00 AM	10.39	8.0	6.53	35.8	0.90	0.38	6.50	NM	NM	
4/27/2016	9:00:00 AM	10.39	7.9	6.54	46.0	0.90	0.25	6.31	NM	NM	
4/27/2016	9:05:00 AM	10.40	8.2	6.56	51.8	0.92	0.14	6.32	NM	NM	
4/27/2016	9:10:00 AM	10.40	8.2	6.56	60.2	0.94	0.20	5.69	NM	NM	
4/27/2016	9:15:00 AM	10.40	8.3	6.56	62.6	0.97	0.16	5.67	NM	NM	
4/27/2016	9:20:00 AM	10.40	8.2	6.56	64.9	0.98	0.25	5.49	NM	NM	

Well ID: 1295-MWS28
Date: 4/27/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless
Casing Screenlength (ft) 17.46; NA
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
4/27/2016	7:40:00 AM	12.15	7.4	7.26	94.0	1.50	17.8	2.83	NM	NM	
4/27/2016	7:45:00 AM	12.21	7.7	7.44	73.4	1.38	4.61	2.32	NM	NM	
4/27/2016	7:50:00 AM	12.24	7.3	7.52	66.1	1.35	3.84	2.18	NM	NM	
4/27/2016	7:55:00 AM	12.23	7.2	7.56	62.3	1.31	2.83	2.20	NM	NM	
4/27/2016	8:00:00 AM	12.23	7.3	7.61	56.0	1.29	2.21	2.18	NM	NM	
4/27/2016	8:05:00 AM	12.23	7.3	7.65	53.2	1.27	1.88	2.21	NM	NM	
4/27/2016	8:10:00 AM	12.23	7.3	7.68	51.9	1.26	1.80	2.22	NM	NM	

Well ID: 1295-MW26
Date: 4/27/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear, colorless, odorless
Casing Screenlength (ft) 13.19; 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
4/27/2016	10:25:00 AM	10.35	8.0	7.14	13.2	0.470	0.23	11.13	NM	NM	
4/27/2016	10:30:00 AM	10.35	8.1	7.14	20.1	0.490	0.32	10.89	NM	NM	
4/27/2016	10:35:00 AM	10.35	8.2	7.13	26.4	0.512	0.44	10.46	NM	NM	
4/27/2016	10:40:00 AM	10.35	8.0	7.08	32.4	0.570	1.16	9.52	NM	NM	
4/27/2016	10:45:00 AM	10.35	8.4	7.04	39.1	0.598	0.74	8.48	NM	NM	
4/27/2016	10:50:00 AM	10.35	8.0	7.02	43.7	0.610	0.57	8.21	NM	NM	
4/27/2016	10:55:00 AM	10.35	8.4	7.03	45.0	0.613	0.60	8.12	NM	NM	

Well ID: 1295-MWS27
Date: 4/27/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear with orange particulate; colorless, odorless
Casing Screenlength (ft) 19.41; NA
Casing Diameter (in): 4
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
4/27/2016	9:00:00 AM	7.65	8.6	7.20	67.8	1.99	5.82	4.26	NM	NM	
4/27/2016	9:05:00 AM	7.65	8.4	7.21	70.3	2.02	4.53	4.11	NM	NM	
4/27/2016	9:10:00 AM	7.65	8.6	7.22	74.7	2.34	4.65	3.91	NM	NM	
4/27/2016	9:15:00 AM	7.65	8.6	7.22	74.9	2.40	4.31	3.89	NM	NM	
4/27/2016	9:20:00 AM	7.65	8.6	7.22	75.4	2.49	4.12	3.87	NM	NM	
4/27/2016	9:25:00 AM	7.65	8.6	7.24	74.8	2.44	3.88	3.87	NM	NM	

Well ID: 1295-MW30
Date: 4/27/2016

Purge Log
Fort Drum
Installation Restoration Program

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) 250

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
4/27/2016	7:30:00 AM	10.24	6.6	5.73	50.4	0.88	8.91	2.08	NM	NM	
4/27/2016	7:35:00 AM	10.29	6.5	5.97	15.3	0.85	10.08	1.39	NM	NM	
4/27/2016	7:40:00 AM	10.33	6.8	6.13	-14.8	0.90	6.86	1.15	NM	NM	
4/27/2016	7:45:00 AM	10.35	7.0	6.27	-40.4	0.95	2.79	1.07	NM	NM	
4/27/2016	7:50:00 AM	10.34	6.9	6.34	-49.8	0.97	2.60	1.04	NM	NM	
4/27/2016	7:55:00 AM	10.35	7.3	6.38	-54.9	0.98	2.25	0.96	NM	NM	
4/27/2016	8:00:00 AM	10.34	6.9	6.40	-56.4	0.99	2.15	0.96	NM	NM	
4/27/2016	8:05:00 AM	10.34	6.9	6.40	-56.4	0.99	2.13	1.01	NM	NM	

Well ID: 1795-PZ15
Date: 4/29/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Bubbling loudly; Initial and final purge clear, colorless, slight odor; water level fluctuating due to system running

Casing Screenlength (ft) 22.65; 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
4/29/2016	9:15:00 AM	4.68	10.6	6.98	-48.3	373	5.96	13.58	NM	NM	
4/29/2016	9:20:00 AM	4.80	11.0	7.65	-46.4	0.378	5.22	13.09	NM	NM	
4/29/2016	9:25:00 AM	4.58	11.0	7.70	-37.4	0.379	5.00	13.09	NM	NM	
4/29/2016	9:30:00 AM	4.75	11.2	7.75	-29.2	0.379	4.45	12.93	NM	NM	
4/29/2016	9:35:00 AM	4.95	11.2	7.78	-18.6	0.379	3.94	12.84	NM	NM	
4/29/2016	9:40:00 AM	4.90	11.2	7.80	-14.7	0.378	3.38	12.72	NM	NM	
4/29/2016	9:45:00 AM	4.88	11.2	7.80	-13.0	0.378	3.38	12.82	NM	NM	

Well ID: 1795-MWS3
Date: 4/29/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: NA = Not available; Initial and final purge clear with black particulate, colorless, strong odor; MS / MSD collected

Casing Screenlength (ft) 21.53

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
4/29/2016	7:30:00 AM	14.33	6.8	5.79	-60.3	0.140	3.02	1.66	NM	NM	
4/29/2016	7:35:00 AM	14.33	6.7	5.94	-97.3	0.178	4.17	1.57	NM	NM	
4/29/2016	7:40:00 AM	14.33	6.8	6.11	-102.2	0.176	3.99	1.52	NM	NM	
4/29/2016	7:45:00 AM	14.33	6.7	6.16	-102.9	0.174	3.51	1.76	NM	NM	
4/29/2016	7:50:00 AM	14.33	6.7	6.20	-96.2	0.168	2.85	1.80	NM	NM	
4/29/2016	7:55:00 AM	14.33	6.7	6.18	-94.7	0.172	2.92	1.83	NM	NM	

Well ID: 3805-MWI15
Date: 9/7/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: clear, colorless, odorless.final purge: S.A.A
Casing Screenlength (ft) 45.7
Casing Diameter (in): 2
Flow (mL/min) 100 ml/min

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/7/2016	12:45:00 PM	29.8	19.8	7.61	-33.1	3.06	3.39	0.82			
9/7/2016	12:50:00 PM	29.76	22.4	7.60	-21.8	3.73	1.73	0.66			
9/7/2016	12:55:00 PM	29.73	22.2	7.64	-3.3	4.13	1.31	0.65			
9/7/2016	1:00:00 PM	29.76	22.5	7.65	20.5	4.20	1.33	0.56			
9/7/2016	1:05:00 PM	29.71	22.4	7.66	45.2	4.28	1.01	0.52			
9/7/2016	1:10:00 PM	29.71	22.7	7.67	55.1	4.28	0.90	0.51			
9/7/2016	1:15:00 PM	29.71	23.0	7.66	61.5	4.63	0.89	0.73			
9/7/2016	1:20:00 PM	29.73	23.9	7.7	70.1	4.35	0.5	0.65			
9/7/2016	1:25:00 PM	29.65	24.0	7.66	70.6	4.34	0.55	0.71			

Well ID: 3805-MWI17
Date: 9/7/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: initial: clear, colorless, odorlessfinal: saa
Casing Screenlength (ft)
Casing Diameter (in): 2
Flow (mL/min) 120

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/7/2016	12:45:00 AM	33.20	16.4	7.04	-130.0	.89	19.6	2.04			.1
9/7/2016	12:50:00 AM	33.23	15.9	7.11	-131.1	.92	14.6	1.03			.2
9/7/2016	12:55:00 AM	33.23	15.8	7.13	-128.1	0.93	3.57	0.68			.3
9/7/2016	1:00:00 AM	33.24	15.7	7.13	-127.4	0.93	3.23	0.60			0.4
9/7/2016	1:05:00 PM	33.25	15.2	7.13	-126.7	0.93	3.08	0.52			0.5
9/7/2016	1:10:00 PM	33.25	15.4	7.14	-126.8	0.94	3.28	0.49			0.7
9/7/2016	1:10:00 PM	33.25	15.5	7.14	-126.7	0.94	3.45	0.50			0.6
9/7/2016	1:15:00 PM	33.25	15.4	7.14	-126.7	0.94	3.17	0.50			0.8

Well ID: 3805-MWD18
Date: 9/7/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: initial: slightly turbid, black tint, slight odorfinal: clear, colorless, odorless
Casing Screenlength (ft)
Casing Diameter (in): 2
Flow (mL/min) 140

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/7/2016	10:10:00 AM	33.42	14.3	6.64	-76	.312	37.7	2.33			.1
9/7/2016	10:15:00 AM	34.16	13.3	6.75	-78.7	.260	24	1.40			.2
9/7/2016	10:20:00 AM	34.45	14.6	6.82	-77.9	.249	24	1.26			.3
9/7/2016	10:25:00 AM	35.09	13.0	6.83	-77.0	.238		.99	24		.4
9/7/2016	10:30:00 AM	35.71	12.5	6.87	-81.4	.235	16	.89			.5
9/7/2016	10:34:00 AM	36.56	12.3	6.91	-88.8	.227	16	0.73			.6
9/7/2016	10:40:00 AM	37.65	11.8	6.95	-89.8	.225	16	.65			.7
9/7/2016	10:44:00 AM	38.76	11.6	6.97	-94.6	.228	16	.58			.7
9/7/2016	10:49:00 AM	38.92	13.1	7.04	-98.7	.236	16	.50			.8
9/7/2016	10:54:00 AM	38.90	13.1	7.04	-101.9	.236	15	.49			.8
9/7/2016	11:00:00 AM	38.95	13.2	7.06	-101.8	.236	16	.50			.9

Well ID: 3805-MWD16
Date: 9/8/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 61.70initial: colorless with black particulate, slightly cloudy, odorfinal: saa

Casing Screenlength (ft)

Casing Diameter (in):

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
9/8/2016	8:30:00 AM	31.30	12.6	8.40	16.5	0.270	27.9	3.69			0.2
9/8/2016	8:34:00 AM	31.30	12.5	8.29	29.8	0.264	5.24	3.19			0.5
9/8/2016	8:40:00 AM	32.30	12.3	8.27	23.2	0.265	2.98	2.56			1.0
9/8/2016	8:45:00 AM	32.30	12.5	8.32	22.1	0.266	1.86	1.83			1.2
9/8/2016	8:50:00 AM	32.30	12.4	8.33	21.1	0.266	1.18	1.76			1.4
9/8/2016	8:55:00 AM	32.30	12.4	8.36	22.3	0.267	1.22	1.75			1.6
9/8/2016	9:01:00 AM	32.30	12.4	8.36	22.8	0.267	1.31	1.73			1.8
9/8/2016	9:05:00 AM	32.30	12.3	8.39	21.7	0.267	2.27	1.70			2.0

Well ID: 3805-MWI12
Date: 9/8/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 52.90initial: colorles, odorless, cloudy
Casing Screenlength (ft)
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
9/8/2016	1:10:00 PM	31.70	15.4	7.42	38.6	5.01	92	7.12			0.2
9/8/2016	1:15:00 PM	31.70	15.4	7.40	59.9	5.01	22.2	6.85			0.4
9/8/2016	1:20:00 PM	31.70	15.0	7.5	78.9	5.02	20.0	7.06			0.7
9/8/2016	1:25:00 PM	31.70	15.1	7.47	82.1	5.10	15.4	7.02			0.9
9/8/2016	1:30:00 PM	31.70	15.4	7.52	97.7	5.24	10.2	6.99			1.1
9/8/2016	1:35:00 PM	31.70	15.1	7.55	105.1	5.29	9.4	6.95			1.2
9/8/2016	1:40:00 PM	31.70	15.4	7.59	103.9	5.37	8.42	6.94			1.4
9/8/2016	1:45:00 PM	31.70	15.6	7.59	103.3	5.38	6.67	6.91			1.5
9/8/2016	1:50:00 PM	31.70	15.6	7.59	110.9	5.40	5.91	6.89			1.7
9/8/2016	1:55:00 PM	31.70	15.7	7.61	99.2	5.31	6.23	7.04			1.9
9/8/2016	2:00:00 PM	31.70	15.9	7.61	98.2	5.28	4.99	7.01			1.9
9/8/2016	2:06:00 PM	31.70	15.9	7.60	96.3	5.30	4.89	6.99			2.5
9/8/2016	2:10:00 PM	31.70	15.7	7.59	91.9	5.29	4.89	6.98			2.7

Well ID: OSL-MW2
Date: 9/8/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 48.40initial: clear, colorless, odorlessfinal: saapurged with bladder pump

Casing Screenlength (ft)

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
9/8/2016	10:20:00 AM	36.82	12.4	7.16	134.6	0.232	57.7	8.68			0.2
9/8/2016	10:25:00 AM	36.80	12.1	7.05	134.6	0.240	7.42	8.42			0.8
9/8/2016	10:30:00 AM	36.80	12.1	7.05	134.7	0.242	5.06	8.45			1.1
9/8/2016	10:35:00 AM	36.80	12.0	7.05	134.8	0.240	5.60	8.33			1.3
9/8/2016	10:40:00 AM	36.80	11.9	7.04	135.8	0.242	4.97	8.40			1.5
9/8/2016	10:45:00 AM	35.80	11.9	7.02	137.2	0.239	5.05	8.42			1.8
9/8/2016	10:50:00 AM	36.80	12.0	6.99	138.6	0.239	5.21	8.40			2.0
9/8/2016	10:55:00 AM	36.80	11.8	7.00	143.9	0.240	5.14	8.15			2.5

Well ID: 1295-MW25
Date: 9/9/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb:16.76initial: clear, colorless, odorlessfinal: saa
Casing Screenlength (ft)
Casing Diameter (in): 4
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
9/9/2016	9:16:00 AM	11.46	18.2	6.65	141.7	1.71	3.63	1.38			0.1
9/9/2016	9:20:00 AM	11.46	18.3	6.65	140.6	1.74	0.89	1.88			0.3
9/9/2016	9:25:00 AM	11.46	18.5	6.65	140.2	1.74	0.88	1.95			0.6
9/9/2016	9:30:00 AM	11.46	19.2	6.67	146.7	1.74	0.30	1.54			0.8
9/9/2016	9:35:00 AM	11.46	19.3	6.68	147.4	1.75	0.35	1.35			1.0
9/9/2016	9:40:00 AM	11.46	19.1	6.71	138.8	1.73	0.32	1.29			1.3
9/9/2016	9:45:00 AM	11.46	19.3	6.77	138.0	1.89	0.38	1.09			1.6
9/9/2016	9:50:00 AM	11.46	19.0	6.78	141.0	1.68	0.48	1.04			1.9
9/9/2016	9:55:00 AM	11.46	18.8	6.82	141.5	1.66	0.41	0.98			1.8
9/9/2016	10:00:00 AM	11.46	19.0	6.84	146.3	1.65	0.29	0.99			2.3
9/9/2016	10:05:00 AM	11.46	19.0	6.85	143.9	1.65	0.29	0.98			2.1

Well ID: 1295-MW28
Date: 9/9/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 17.43'initial: colorless, slightly cloudy, odorlessfinal: clear, colorless, odorless

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
9/9/2016	12:00:00 AM	10.50	21.4	7.49	34.1	3.36	3.28	0.50			2.1
9/9/2016	11:25:00 AM	12.50	19.4	7.29	-25.7	3.23	26.8	0.36			0.5
9/9/2016	11:30:00 AM	10.65	21.9	7.41	-1.3	3.32	10.0	0.37			0.7
9/9/2016	11:35:00 AM	10.50	21.8	7.41	0.9	3.33	5.44	0.37			1.0
9/9/2016	11:40:00 AM	10.50	22.1	7.45	9.0	3.35	4.06	0.41			1.2
9/9/2016	11:45:00 AM	10.50	21.1	7.47	14.8	3.31	2.24	0.47			1.4
9/9/2016	11:50:00 AM	10.50	22.0	7.47	28.1	3.36	2.46	0.51			1.8
9/9/2016	11:54:00 AM	10.50	21.1	7.47	34.3	3.39	3.83	0.50			1.9
9/9/2016	12:05:00 PM	10.50	21.2	7.48	33.8	3.35	3.21	0.51			2.5

Well ID: 1295-MW26
Date: 9/9/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 13.17initial: clear, colorless, odorless
Casing Screenlength (ft)
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
9/9/2016	8:25:00 AM	11.28	17.2	7.17	130.0	0.75	1.79	4.90			0.1
9/9/2016	8:30:00 AM	11.25	17.0	7.05	130.7	0.76	1.16	4.69			0.4
9/9/2016	8:35:00 AM	11.25	16.8	7.00	131.1	0.77	0.65	4.56			0.7
9/9/2016	8:40:00 AM	11.25	17.6	6.98	129.7	0.77	0.82	4.19			0.8
9/9/2016	8:45:00 AM	11.25	17.8	6.99	128.6	0.77	0.65	4.17			1.1
9/9/2016	8:50:00 AM	11.25	18.0	7.03	125.5	0.77	0.60	4.13			1.2

Well ID: 1295-MWS27
Date: 9/9/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 19.34initial: clear, colorless with orange particulate, odorless
Casing Screenlength (ft)
Casing Diameter (in): 4
Flow (mL/min) 190

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2016	7:26:00 AM	8.44	17.3	7.30	89.4	2.27	6.17	2.31			0.3
9/9/2016	7:30:00 AM	8.45	17.3	7.26	91.8	2.28	7.41	2.27			0.5
9/9/2016	7:34:00 AM	8.5	17.2	7.25	91.1	2.26	6.50	2.19			0.8
9/9/2016	7:40:00 AM	8.45	17.2	7.26	85.2	2.26	3.76	2.09			1.0
9/9/2016	7:45:00 AM	8.45	17.2	7.27	79.6	2.26	3.35	2.06			1.3
9/9/2016	7:50:00 AM	8.45	17.2	7.28	75.6	2.26	3.20	2.02			1.6
9/9/2016	7:55:00 AM	8.45	17.3	7.29	73.9	2.27	3.14	1.95			1.8

Well ID: 1295-MW30
Date: 9/9/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 14.10initial: clear, colorless, odor
Casing Screenlength (ft)
Casing Diameter (in): 2
Flow (mL/min) 140

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/9/2016	10:20:00 AM	10.65	21.3	6.51	-97.5	1.38	5.65	0.16			0.1
9/9/2016	10:25:00 AM	10.65	21.1	6.54	-106.5	1.41	5.77	0.13			0.5
9/9/2016	10:30:00 AM	10.65	21.9	6.58	-113.4	1.42	3.30	0.13			0.8
9/9/2016	10:35:00 AM	10.65	22.2	6.61	-118.0	1.44	3.90	0.14			1.0
9/9/2016	10:40:00 AM	10.65	21.8	6.63	-120.6	1.45	3.37	0.13			1.1
9/9/2016	10:45:00 AM	10.65	21.8	6.63	-121.1	1.46	3.19	0.13			1.3
9/9/2016	10:50:00 AM	10.65	22.8	6.64	-125.9	1.48	333	0.13			1.3
9/9/2016	10:55:00 AM	10.65	23.0	6.67	-126.1	1.48	3.34	0.13			1.9

Well ID: 3805-MWS11
Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: Clear, colorless, slight organic - like odorfinal purge:same as above
Casing Screenlength (ft) 35.44
Casing Diameter (in): 2
Flow (mL/min) 125 ml/min

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/12/2016	8:10:00 AM	30.54	11.4	6.28	-62.3	0.671	2.28	0.92			
9/12/2016	8:15:00 AM	30.55	11.2	6.52	-77.9	0.681	1.70	0.63			
9/12/2016	8:20:00 AM	30.55	11.2	6.61	-83.8	0.685	1.84	0.53			
9/12/2016	8:25:00 AM	30.55	11.2	6.64	-86.3	0.689	1.85	0.52			
9/12/2016	8:30:00 AM	30.55	11.2	6.66	-88.4	0.691	1.90	0.50			
9/12/2016	8:35:00 AM	30.55	11.2	6.68	-90.5	0.694		0.49	1.85		
9/12/2016	8:40:00 AM	30.55	11.2	6.71	-92.8	0.696	1.85	0.48			
9/12/2016	8:45:00 AM	30.55	11.2	6.72	-92.8	0.697	1.88	0.47			
9/12/2016	8:50:00 AM	30.55	11.2	6.73	-94.2	0.698	1.83	0.46			
9/12/2016	8:55:00 AM	30.55	11.2	6.74	-94.8	0.699	1.84	0.46			

Well ID: 3805-PZ3

Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 108.4 ppmInitial purge: initial brown floc, odorless, and brown to red in colorFinal purge: water color is cloudy.

Casing Screenlength (ft) 31.34

Casing Diameter (in): 2

Flow (mL/min) 125

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/12/2016	11:15:00 AM	21.79	13.9	6.99	60.3	1.19	22.0	11.74			
9/12/2016	11:20:00 AM	21.79	13.9	7.10	93.9	1.14	4.17	11.79			
9/12/2016	11:25:00 AM	21.79	13.6	7.13	99.7	1.03	4.59	11.96			
9/12/2016	11:30:00 AM	21.80	13.9	7.19	50.4	1.02	5.10	11.91			
9/12/2016	11:35:00 AM	21.79	13.7	7.07	21.5	1.01	2.75	11.96			
9/12/2016	11:40:00 AM	21.79	12.7	7.26	13.5	1.00	4.80	12.05			
9/12/2016	11:45:00 AM	21.79	13.4	7.21	1.00	0.98	2.78	12.10			
9/12/2016	11:50:00 AM	21.79	13.7	7.21	-8.6	0.96	2.11	11.88			
9/12/2016	11:55:00 AM	21.79	13.7	7.25	-17.5	0.93	1.75	11.97			
9/12/2016	12:00:00 PM	21.76	13.6	7.24	20.5	0.91	1.50	12.04			
9/12/2016	12:05:00 PM	21.76	13.8	7.21							

Well ID: ASL-MW12A
Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 79.00initial: clear, colorless, odorlessfinal: saa
Casing Screenlength (ft)
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
9/12/2016	8:27:00 AM	66.75	11.2	7.85		74.6	1.21	11.09			0.1
9/12/2016	8:33:00 AM	66.75	11.2	7.63	88.9	1.24	1.11	10.80			0.4
9/12/2016	8:40:00 AM	66.75	11.1	7.64	92.4	1.25	0.58	10.76			0.7
9/12/2016	8:45:00 AM	66.75	11.3	7.66	94.3	1.25	0.72	10.72			1.0
9/12/2016	8:50:00 AM	66.75	11.1	7.70	96.8	1.26	0.65	10.68			1.2
9/12/2016	8:55:00 AM	66.75	11.1	7.70	97.1	1.27	0.64	10.78			1.6
9/12/2016	9:00:00 AM	66.75	11.2	7.71	97.4	1.27	0.64	10.75			1.8
9/12/2016	9:05:00 AM	66.75	11.2	7.72	98.1	1.27	0.68	10.67			1.8

Well ID: 3805-PZ12S
Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 10.3 ppmInitial purge: chemical like odor, and colorlessFinal purge: same as above
Casing Screenlength (ft) 34.18
Casing Diameter (in): 2
Flow (mL/min) 145

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/12/2016	9:20:00 AM	26.65	12.9	6.65	-65.4	0.677	1.82	0.56			
9/12/2016	9:25:00 AM	26.66	12.9	6.60	-78.8	0.672	0.66	0.39			
9/12/2016	9:30:00 AM	26.66	12.8	6.63	-85.7	0.668	0.67	0.31			
9/12/2016	9:35:00 AM	26.66	12.9	6.65	-87.3	0.660	0.70	0.29			
9/12/2016	9:40:00 AM	26.66	12.9	6.66	-88.6	0.665	0.70	0.28			
9/12/2016	9:45:00 AM	26.66	12.8	6.67	-89.0	0.636	0.70	0.26			
9/12/2016	9:50:00 AM	26.66	12.8	6.68	-90.6	0.634	0.68	0.25			
9/12/2016	9:55:00 AM	26.66	12.8	6.68	-88.5	0.623	0.65	0.25			
9/12/2016	10:00:00 AM	26.66	12.8	6.69	-86.8	0.624	0.67	0.26			
9/12/2016	10:05:00 AM	26.66	12.9	6.70	-82.4	0.619	0.64	0.25			
9/12/2016	10:15:00 AM	26.66	12.8	6.70	-76.4	0.610	0.67	0.25			
9/12/2016	10:20:00 AM	26.66	12.8	6.70	-73.1	0.611	0.67	0.24			
9/12/2016	10:25:00 AM	26.66	12.8	6.71	-73.8	0.611	0.67	0.67			

Well ID: ASL-MW13
Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 68.00initial: clear, slight orange tint, odorlessfinal: clear, colorless, odorless

Casing Screenlength (ft)

Casing Diameter (in):

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
9/12/2016	9:42:00 AM	56.62	12.9	7.70	107.8	0.595	3.64	9.29			0.1
9/12/2016	9:50:00 AM	56.62	11.9	7.43	109.0	0.599	3.21	9.15			0.5
9/12/2016	9:55:00 AM	56.62	11.8	7.41	108.8	0.598	3.29	9.26			0.8
9/12/2016	9:59:00 AM	56.62	11.7	7.42	108.5	0.603	0.66	9.23			1.3
9/12/2016	10:05:00 AM	56.62	11.8	7.44	108.3	0.606	0.72	9.35			11.8
9/12/2016	10:10:00 AM	56.62	11.8	7.45	108.2	0.605	0.49	9.21			1.9
9/12/2016	10:15:00 AM	56.62	11.9	7.45	108.1	0.602	0.58	9.23			2.3
9/12/2016	10:20:00 AM	56.62	12.0	7.46	107.9	0.601	0.44	9.29			2.5
9/12/2016	10:25:00 AM	56.62	11.8	7.46	108.1	0.601	0.50	9.29			2.7

Well ID: ASL-MW14
Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 76.30initial: clear, colorless, odorlessfinal: saa
Casing Screenlength (ft)
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
9/12/2016	11:05:00 AM	64.20	16.3	6.94	122.0	0.64	1.40	6.01			0.2
9/12/2016	11:10:00 AM	64.20	15.4	6.91	120.5	0.64	0.90	5.94			0.3
9/12/2016	11:15:00 AM	64.20	15.1	6.90	120.5	0.65	0.88	5.88			0.6
9/12/2016	11:20:00 AM	64.20	15.4	6.90	120.6	0.66	0.96	5.89			0.7
9/12/2016	11:25:00 AM	64.20	15.4	6.91	120.6	0.67	0.84	5.89			1.0
9/12/2016	11:30:00 AM	64.20	15.7	6.91	120.7	0.68	0.84	5.85			1.2
9/12/2016	11:35:00 AM	64.21	15.2	6.91	121.5	0.68	0.93	5.64			1.3

Well ID: 3805-PZ3

Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 110.6ppminitial purge: cloudy with brown floc, red-orange in color, no noticeable odor.final purge: clear, colorless, odorless

Casing Screenlength (ft)

Casing Diameter (in): 2

Flow (mL/min) 125 ml/min

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/12/2016	12:00:00 PM	21.80	12.89	7.15	3.56	1.03	22.0	12.43			
9/12/2016	12:05:00 PM	21.76	13.7	7.21	10.8	0.87	4.29	12.56			
9/12/2016	12:10:00 PM	21.76	13.7	7.22	10.8	0.87	4.29	11.88			
9/12/2016	12:15:00 PM	21.76	13.5	7.20	11.9	0.85	4.35	11.95			
9/12/2016	12:20:00 PM	21.76	13.9	7.2	12.0	0.81	4.35	12.10			
9/12/2016	12:25:00 PM	21.76	13.8	7.18	12.0	0.80	4.32	12.25			

Well ID: ASL-MW961
Date: 9/12/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 85.55initial: colorless, clear, odorlessfinal: saa
Casing Screenlength (ft)
Casing Diameter (in): 2
Flow (mL/min) 120

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/12/2016	12:25:00 AM	75.65	16.1	7.89	119.2	1.38	39.1	8.90			0.1
9/12/2016	12:30:00 AM	75.65	12.8	7.81	113.2	1.42	38.2	8.88			0.5
9/12/2016	12:30:00 AM	75.65	13.1	7.82	115.1	1.41	47.0	8.71			0.3
9/12/2016	12:35:00 AM	75.65	12.6	7.78	110.3	1.42	34.6	8.77			0.7
9/12/2016	12:40:00 AM	75.65	12.7	7.77	109.3	1.41	18.8	8.84			0.8
9/12/2016	12:45:00 AM	75.65	12.6	7.75	108.6	1.40	18.1	8.84			1.0
9/12/2016	12:50:00 AM	75.65	12.6	7.74	107.1	1.40	18.2	8.88			1.2
9/12/2016	12:55:00 AM	75.65	12.6	7.74	106.7	1.40	18.0	8.84			1.4

Well ID: 1795-OW5
Date: 9/13/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 22.78initial: clear, colorless, odor
Casing Screenlength (ft)
Casing Diameter (in):
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
9/13/2016	10:55:00 AM	15.96	16.1	6.90	-62.5	0.346	15.7	0.73			0.1
9/13/2016	11:00:00 AM	15.96	14.2	6.27	-40.6	0.251	7.39	0.38			0.4
9/13/2016	11:05:00 AM	15.96	14.2	6.26	-42.8	0.253	5.33	0.40			0.7
9/13/2016	11:10:00 AM	15.96	14.3	6.30	-50.8	0.259	4.40	0.44			1.1
9/13/2016	11:15:00 AM	15.96	14.5	6.35	-55.9	0.264	3.58	0.48			1.4
9/13/2016	11:20:00 AM	15.96	14.4	6.39	-60.6	0.264	2.62	0.48			1.7
9/13/2016	11:25:00 AM	15.96	14.8	6.41	-61.4	0.264	2.65	0.48			2.0

Well ID: 1795-OW4
Date: 9/13/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 22.92initial: cloudy, yellow tint, odorlessfinal: saa
Casing Screenlength (ft)
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
9/13/2016	9:51:00 AM	16.91	14.9	7.15	-85.8	1.44	31.8	0.49			0.1
9/13/2016	9:56:00 AM	16.91	14.7	7.09	-84.4	1.32	38.8	0.42			0.3
9/13/2016	10:00:00 AM	16.91	14.7	7.10	-86.6	1.17	30.0	0.62			0.5
9/13/2016	10:05:00 AM	16.91	14.6	7.11	-87.6	1.14	27.6	0.71			0.7
9/13/2016	10:10:00 AM	16.91	14.7	7.12	-83.3	1.08	30.4	0.56			0.9
9/13/2016	10:15:00 AM	16.91	14.2	7.13	-86.6	1.07	30.9	0.45			1.2
9/13/2016	10:20:00 AM	16.91	15.0	7.13	-87.5	0.99	29.9	0.36			1.5
9/13/2016	10:25:00 AM	16.91	14.6	7.20	-84.5	1.04	30.3	0.39			1.7
9/13/2016	10:30:00 AM	16.91	14.5	7.19	-84.9	1.04	30.1	0.36			2.0
9/13/2016	10:35:00 AM	16.91	14.4	7.18	-87.8	1.03	30.7	0.37			2.3

Well ID: OSL-MW10
Date: 9/13/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: clear, slight orange tint, odorlessfinal purge: s.a.a
Casing Screenlength (ft) 51.51
Casing Diameter (in): 4
Flow (mL/min) 350 ml/min

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/13/2016	2:05:00 PM	42.75	12.5	7.61	156.7	0.82	56.3	1.65			
9/13/2016	2:10:00 PM	42.85	11.8	7.4	115.9	0.82	43.7	0.95			
9/13/2016	2:15:00 PM	42.89	11.6	7.30	69.9	0.82	26.7	0.89			
9/13/2016	2:20:00 PM	42.86	11.7	7.26	20.6	0.81	25.3	0.87			
9/13/2016	2:25:00 PM	42.86	11.7	7.29	2.3	0.79	20.4	0.82			
9/13/2016	2:30:00 PM	42.86	11.6	7.31	-3.9	0.79	16.6	0.84			
9/13/2016	2:35:00 PM	42.86	11.4	7.32	-15.9	0.78	15.6	0.86			
9/13/2016	2:40:00 PM	42.86	11.7	7.31	-23.9	0.77	14.8	0.91			
9/13/2016	2:45:00 PM	42.86	11.4	7.31	-30.6	0.76	13.8	0.93			
9/13/2016	2:50:00 PM	42.86	11.4	7.29	-35.8	0.76	14.2	0.95			
9/13/2016	2:55:00 PM	42.86	11.4	7.28	-37.6	0.76	13.8	0.99			

Well ID: OSL-MW8
Date: 9/13/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: clear, colorless, odorlessfinal purge: s.a.a
Casing Screenlength (ft) 48.70
Casing Diameter (in): 4
Flow (mL/min) 500

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/13/2016	12:35:00 AM	34.75	11.7	7.23	152.4	0.78	0.00	9.89			
9/13/2016	12:45:00 AM	34.75	11.6	7.22	152.0	0.82	0.08	9.88			
9/13/2016	12:25:00 PM	34.75	11.8	7.35	171.2	0.73		9.90			
9/13/2016	12:30:00 PM	34.73	11.7	7.25	153.4	0.77	0.00	9.92			
9/13/2016	12:40:00 PM	34.75	11.9	7.22	152.7	0.80	0.12	9.90			
9/13/2016	12:50:00 PM	34.75	11.7	7.22	151.1	0.84	0.05	9.76			
9/13/2016	12:55:00 PM	34.75	11.9	7.23	150.3	0.87	0.00	9.96			

Well ID: 1795-OW3
Date: 9/13/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 22.60
Casing Screenlength (ft)
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
9/13/2016	1:30:00 PM	12.72	13.4	6.65	-109.5	0.369	4.67	0.38			0.4
9/13/2016	1:35:00 PM	12.72	13.2	6.68	-110.6	0.403	3.72	0.37			0.6
9/13/2016	1:40:00 PM	12.72	13.2	6.67	-112.5	0.420	4.15	0.37			1.0
9/13/2016	1:45:00 PM	12.72	13.0	6.68	-114.0	0.426	4.01	0.40			1.3
9/13/2016	1:50:00 PM	12.72	13.1	6.65	-112.4	0.427	4.22	0.40			1.5
9/13/2016	1:55:00 PM	12.72	13.1	6.65	-111.7	0.427	4.17	0.40			1.9

Well ID: OSL-MW9A
Date: 9/13/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: slightly cloudy and brown, and no odorfinal purge: clear, colorless, odorlessduplicate sample: Dup-091316

Casing Screenlength (ft) 61.55

Casing Diameter (in): 4

Flow (mL/min) 500

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/13/2016	10:15:00 AM	50.78	10.4	7.25	145.1	0.76	57.2	3.09			
9/13/2016	10:20:00 AM	50.78	10.4	7.05	147.1	0.76	44.3	2.99			
9/13/2016	10:25:00 AM	50.78	10.4	7.02	147.0	0.77	31.9	2.95			
9/13/2016	10:30:00 AM	50.78	10.4	7.02	146.3	0.78	27.5	2.90			
9/13/2016	10:35:00 AM	50.78	10.4	7.03	145.5	0.79	17.3	2.91			
9/13/2016	10:40:00 AM	50.78	10.5	7.04	144.4	0.80	15.5	2.90			
9/13/2016	10:45:00 AM	50.78	10.4	7.05	142.8	0.81	15.1	2.87			

Well ID: 1995-MWS10
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: clear, colorless, petroleum - like odorfinal purge: s.a.a.
Casing Screenlength (ft) 39.70
Casing Diameter (in): 2
Flow (mL/min) 125

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2016	10:05:00 AM	25.85	13.0	6.31	-60.6	0.77	4.47	1.79			
9/14/2016	10:10:00 AM	25.85	12.5	6.12	-63.1	0.77	4.22	0.82			
9/14/2016	10:15:00 AM	25.85	12.3	6.19	-68.1	0.78	4.25	0.60			
9/14/2016	10:20:00 AM	25.85	12.3	6.26	-73.4	0.80	4.58	0.53			
9/14/2016	10:25:00 AM	25.85	12.3	6.29	-75.7	0.82	4.60	0.51			
9/14/2016	10:30:00 AM	25.85	12.3	6.32	-77.7	0.83	4.62	0.50			
9/14/2016	10:35:00 AM	25.85	12.3	6.33	-79.0	0.83	4.61	0.52			

Well ID: 1595-MWS7
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb:21.85initial: black, odorlessfinal: clear, colorless, odorless
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
9/14/2016	7:21:00 AM	9.20	15.5	6.94	-22.3	0.79	1033	6.73			0.2
9/14/2016	7:25:00 AM	9.20	15.8	6.99	1.0	0.78	12.9	6.90			0.7
9/14/2016	7:31:00 AM	9.20	15.7	7.02	5.8	0.78	11.6	6.80			0.9
9/14/2016	7:35:00 AM	9.20	15.9	7.05	13.2	0.78	11.10	6.74			1.1
9/14/2016	7:41:00 AM	9.20	16.0	7.10	18.90	0.82	7.33	6.55			1.5
9/14/2016	7:45:00 AM	9.20	15.9	7.13	18.5	0.84	6.16	6.89			1.7
9/14/2016	7:50:00 AM	9.20	15.9	7.16	20.0	0.86	6.04	6.70			2.0
9/14/2016	7:55:00 AM	9.20	16.0	7.17	20.4	0.87	4.15	6.54			2.3
9/14/2016	8:00:00 AM	9.20	15.8	7.18	20.9	0.87	4.14	6.55			2.6
9/14/2016	8:05:00 AM	9.20	15.8	7.19	21.3	0.87	4.20	0.52			2.3

Well ID: 3805-PZ14
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: clear, colorless, rotten - egg like odorfinal purge: s.a.a.Bee spray needed to get rid of bees and hive.

Casing Screenlength (ft) 31.24

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
9/14/2016	12:40:00 PM	20.4	12.7	6.60	-48.6	0.85	3.97	2.78			
9/14/2016	12:45:00 PM	20.4	12.7	6.46	-63.1	0.71	5.71	0.67			
9/14/2016	12:50:00 PM	20.4	12.7	6.37	-57.9	0.68	3.96	0.66			
9/14/2016	12:55:00 PM	20.4	12.7	6.38	-59.9	0.69	1.73	0.52			
9/14/2016	1:00:00 PM	20.4	12.8	6.39	-65.1	0.70	1.60	0.50			
9/14/2016	1:05:00 PM	20.4	12.9	6.39	-67.2	0.72	1.62	0.47			
9/14/2016	1:10:00 PM	20.4	12.9	6.40	-69.1	0.73	1.59	0.47			

Well ID: 1995-MWS9
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: clear, colorless, petroleum like odor. final purge: s.a.a
Casing Screenlength (ft) 37.90
Casing Diameter (in): 4
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
9/14/2016	7:40:00 AM	25.64	15.1	6.67	-61.4	1.62	2.48	0.95			
9/14/2016	7:45:00 AM	25.64	15.3	6.63	-64.0	1.57	1.85	0.61			
9/14/2016	7:50:00 AM	25.64	15.2	6.32	-66.4	1.51	1.50	0.44			
9/14/2016	7:55:00 AM	25.64	15.0	6.32	-67.0	1.53	1.25	0.43			
9/14/2016	8:00:00 AM	25.64	14.9	6.33	-61.7	1.53	1.12	0.40			
9/14/2016	8:05:00 AM	25.64	15.0	6.34	-64.3	1.53	1.08	0.40			

Well ID: 1595-MW33
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 21.55initial: clear, colorless, odorlessfinal: saa
Casing Screenlength (ft)
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
9/14/2016	8:35:00 AM	12.62	15.3	6.81	74.9	1.49	3.51	9.49			0.4
9/14/2016	8:40:00 AM	12.63	15.1	6.68	80.2	1.47	4.80	8.49			0.8
9/14/2016	8:45:00 AM	12.63	15.0	6.64	75.3	1.48	4.69	8.32			1.3
9/14/2016	8:51:00 AM	12.63	15.1	6.64	69.5	1.49	4.43	8.03			1.5
9/14/2016	8:55:00 AM	12.63	15.0	6.63	66.0	1.49	3.23	8.25			1.7
9/14/2016	9:00:00 AM	12.63	15.1	6.63	59.2	1.50	3.03	7.57			2.0
9/14/2016	9:05:00 AM	12.63	14.9	6.62	53.3	1.51	3.03	7.55			2.3
9/14/2016	9:10:00 AM	12.63	15.0	6.63	49.4	1.52	3.23	7.58			2.5
9/14/2016	9:15:00 AM	12.63	15.1	6.63	45.9	1.54	3.33	7.58			3.0
9/14/2016	9:20:00 AM	12.63	15.0	6.64	45.3	1.54	3.08	7.57			3.2
9/14/2016	9:25:00 AM	12.63	15.0	6.64	47.0	1.54	3.17	7.53			3.4

Well ID: 3805-PZ2S
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 75 ppminitial purge: colorless, floating organic - like material, slight organic - like odorfinal purge: clear, colorless, slight organic -like odorHad to use bee spray to get rid of bees and nest

Casing Screenlength (ft) 23.55

Casing Diameter (in): 2

Flow (mL/min) 125

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2016	10:55:00 AM	20.97	13.4	6.47	17.8	0.221	20.5	28.3			
9/14/2016	11:00:00 AM	20.97	13.4	6.47	26.0	0.219	3.30	25.3			
9/14/2016	11:05:00 AM	20.97	13.4	6.40	30.2	0.219	1.79	2.25			
9/14/2016	11:10:00 AM	20.97	13.3	6.39	31.0	0.215	1.52	1.99			
9/14/2016	11:15:00 AM	20.97	13.3	6.38	30.1	0.212	1.52	1.75			
9/14/2016	11:20:00 AM	20.97	13.3	6.38	27.8	0.208	1.49	1.60			
9/14/2016	11:25:00 AM	20.97	13.2	6.38	27.4	0.206	1.50	1.53			
9/14/2016	11:30:00 AM	20.97	13.2	6.37	25.0	0.205	1.51	1.43			
9/14/2016	11:35:00 AM	20.97	13.2	6.37	25.5	0.206	1.31	1.42			
9/14/2016	11:40:00 AM	20.97	13.2	6.36	25.0	0.206	1.32	1.44			

Well ID: 1595-OBG2
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 17.59initial: brownish tint w black particulate, slightly cloudy, odorlessfinal: saa

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
9/14/2016	9:40:00 AM	13.12	15.7	6.43	-119.2	0.56	25.9	0.57			0.1
9/14/2016	9:45:00 AM	13.12	15.7	6.36	-107.0	1.22	23.3	0.76			0.3
9/14/2016	9:50:00 AM	13.12	15.3	6.32	-95.2	1.33	18.7	1.32			0.5
9/14/2016	9:55:00 AM	13.12	15.2	6.30	-91.3	1.37	18.8	1.18			0.7
9/14/2016	10:00:00 AM	13.12	15.0	6.28	-80.8	1.45	14.6	1.37			1.2
9/14/2016	10:05:00 AM	13.12	15.0	6.29	-78.4	1.45	14.9	1.42			1.5
9/14/2016	10:10:00 AM	13.12	14.9	6.30	-73.8	1.69	14.0	1.60			1.6
9/14/2016	10:15:00 AM	13.12	15.0	6.29	-72.4	1.71	13.8	1.59			1.9
9/14/2016	10:20:00 AM	13.12	15.0	6.30	-67.6	1.70	13.6	1.80			2.3
9/14/2016	10:25:00 AM	13.12	15.0	6.30	-66.4	1.70	13.8	1.85			2.5
9/14/2016	10:30:00 AM	13.12	15.2	6.31	-63.8	1.72	12.9	1.85			2.7
9/14/2016	10:35:00 AM	13.12	15.3	6.31	-62.5	1.72	12.7	1.85			3.1

Well ID: 3805-MWS24
Date: 9/14/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 360.0ppminitial purge: clear, colorless, petroleum like odorfinal purge: s.a.a.
Casing Screenlength (ft) 32.60
Casing Diameter (in): 4
Flow (mL/min) 225

Date	Time	Depth to Water (ft)	Temperature (C)	ph	REDOX (mV)	Conductivity (mohm/cm)	Turbidity	Dissolved Oxygen	TDS	Salinity	Gallons Purged
9/14/2016	8:55:00 AM	22.88	13.9	6.58	108.2	0.431	2.53	10.19			
9/14/2016	9:00:00 AM	22.88	13.4	6.71	114.8	0.442	3.71	7.92			
9/14/2016	9:05:00 AM	22.88	13.5	6.80	117.5	0.442	1.5	7.19			
9/14/2016	9:10:00 AM	22.88	13.5	6.83	118.0	0.438	1.3	6.99			
9/14/2016	9:15:00 AM	22.88	13.4	6.87	118.2	0.443	1.1	6.94			
9/14/2016	9:20:00 AM	22.88	13.5	6.92	118.4	0.446	1.0	6.78			
9/14/2016	9:25:00 AM	22.88	13.5	6.94	117.5	0.445	1.0	6.77			
9/14/2016	9:30:00 AM	22.88	13.4	6.95	117.5	0.448	1.0	6.75			

Well ID: 3805-PZ13S
Date: 9/15/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: PID: 0.0ppminitial purge: colorless, black floc material, slight petroleum-like odor.final purge: s.a.a.
Casing Screenlength (ft) 32.83
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
9/15/2016	9:45:00 AM	24.50	10.7	6.38	-63.4	0.87	1.78	1.67			
9/15/2016	9:50:00 AM	24.50	10.7	6.39	-73.9	0.89	2.13	1.16			
9/15/2016	9:55:00 AM	24.50	10.6	6.40	-80.6	0.92	1.89	0.91			
9/15/2016	10:00:00 AM	24.50	10.7	6.40	-84.6	0.95	1.56	0.80			
9/15/2016	10:05:00 AM	24.5	10.7	6.41	-88.4	1.00	1.24	0.69			
9/15/2016	10:10:00 AM	24.50	10.6	6.41	-90.5	1.03	1.17	0.67			
9/15/2016	10:20:00 AM	24.50	10.6	6.42	-92.5	1.06	1.17	0.67			

Well ID: 1995-MWS2
Date: 9/15/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: bladder pumpdtb: 43.02initial: slightly cloudy, colorless, odorlessfinal: saa
Casing Screenlength (ft) screen 30-40'
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
9/15/2016	10:35:00 AM	39.39	8.1	6.18	160.8	0.175	31	9.59			0.2
9/15/2016	10:40:00 AM	39.50	7.4	6.12	161.4	0.165	64.1	9.70			0.5
9/15/2016	10:45:00 AM	39.50	7.5	6.14	159.0	0.163	39.4	9.39			0.7
9/15/2016	10:50:00 AM	39.50	7.5	6.16	157.8	0.161	36.9	9.34			0.9
9/15/2016	10:55:00 AM	39.50	7.5	6.20	156.7	0.160	30.6	9.39			1.1
9/15/2016	11:00:00 AM	39.50	7.5	6.25	153.5	0.158	20.5	9.36			1.3
9/15/2016	11:05:00 AM	39.60	7.5	6.26	151.5	0.158	19.9	9.23			1.5
9/15/2016	11:10:00 AM	39.50	7.6	6.28	148.6	0.157	20.4	9.21			1.6

Well ID: ASL-MW941
Date: 9/16/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 82.82initial: clear, colorless, odorlessfinal: saa
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
9/16/2016	10:50:00 AM	71.29	13.4	8.04	97.5	0.88	10.67	9.81			0.1
9/16/2016	10:55:00 AM	71.31	12.2	7.84	99.4	0.86	4.90	9.80			0.6
9/16/2016	11:00:00 AM	71.31	12.2	7.81	100.8	0.87	4.77	9.73			0.8
9/16/2016	11:05:00 AM	71.31	12.1	7.78	102.0	0.90	4.22	9.67			1.0
9/16/2016	11:10:00 AM	71.31	12.1	7.78	101.0	0.92	4.01	9.74			1.4
9/16/2016	11:15:00 AM	71.31	12.1	7.80	99.3	0.94	4.11	9.64			1.8
9/16/2016	11:20:00 AM	71.31	12.1	7.80	98.8	0.94	4.04	9.46			1.9
9/16/2016	11:25:00 AM	71.31	12.2	7.80	98.4	0.95	4.01	9.37			2.1

Well ID: ASL-MW944
Date: 9/16/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 67.75initial: cloudy, yellow tint, odorless
Casing Screenlength (ft)
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
9/16/2016	7:45:00 AM	57.40	10.9	7.25	123.3	4.38		10.59			0.1
9/16/2016	7:50:00 AM	57.40	10.9	7.32	91.9	4.46	35.80	10.62			0.5
9/16/2016	7:55:00 AM	57.40	11.2	7.40	92.9	4.53	32.9	10.52			0.8
9/16/2016	8:00:00 AM	57.40	11.3	7.42	89.0	4.52	29.9	10.39			1.0
9/16/2016	8:05:00 AM	57.40	11.4	7.46	84.7	4.53	28.7	10.47			1.3
9/16/2016	8:10:00 AM	57.40	11.6	7.47	83.5	4.51	25.4	10.38			1.5
9/16/2016	8:15:00 AM	57.40	11.6	7.49	81.6	4.47	26.7	10.54			1.8
9/16/2016	8:20:00 AM	57.40	11.9	7.50	80.2	4.43	26.0	10.59			2.1
9/16/2016	8:25:00 AM	37.40	12.2	7.51	79.5	4.40	26.4	10.48			2.4

Well ID: ASL-MW942
Date: 9/16/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 59.89initial: clear, colorless, odorlessfinal: saa
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
9/16/2016	12:01:00 AM	51.80	15.1	7.21	113.3	1.28	31.8	8.20			0.5
9/16/2016	12:05:00 AM	51.80	14.6	7.19	114.1	1.28	11.2	8.12			0.8
9/16/2016	12:10:00 AM	51.80	14.6	7.18	114.3	1.27	10.9	8.26			1.0
9/16/2016	12:15:00 AM	51.80	14.8	7.17	114.5	1.28	6.07	8.13			1.2
9/16/2016	12:20:00 AM	51.80	14.7	7.18	114.3	1.28	4.74	8.24			1.3
9/16/2016	12:30:00 AM	51.80	14.7	7.19	113.8	1.28	4.09	8.10			2.0
9/16/2016	12:35:00 AM	51.80	14.9	7.19	113.1	1.27	4.15	8.15			2.1
9/16/2016	11:55:00 AM	51.80	15.5	7.35	110.1	1.23	21.4	8.26			0.1
9/16/2016	12:25:00 PM	51.80	14.9	7.18	114.3	1.26	4.21	8.15			1.7

Well ID: ASL-MW943
Date: 9/16/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 68.20; ms/msdinitial: black tint, cloudy, odorless
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
9/16/2016	9:15:00 AM	58.60	12.8	7.65	109.6	2.95	746	8.43			0.1
9/16/2016	9:20:00 AM	58.60	12.3	7.67	109.7	2.72	77.9	8.62			0.4
9/16/2016	9:25:00 AM	58.60	12.3	7.67	109.3	2.69	70.1	8.40			0.7
9/16/2016	9:30:00 AM	58.60	12.3	7.68	108.8	2.64	48.3	8.51			1.0
9/16/2016	9:35:00 AM	58.60	12.2	7.69	109.0	2.28	23.2	8.53			1.3
9/16/2016	9:40:00 AM	58.60	12.2	7.69	107.6	2.44	3.75	8.46			1.5
9/16/2016	9:45:00 AM	58.60	12.2	7.69	107.2	2.45	3.13	8.49			1.7
9/16/2016	9:50:00 AM	58.60	12.2	7.69	106.4	2.44	3.20	8.48			2.1
9/16/2016	9:55:00 AM	58.60	12.2	7.69	106.3	2.44	3.17	8.47			2.3

Well ID: 1795-PZ15
Date: 9/19/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 23.04initial: clear, sandy, colorless, odorlessfinal: clear, colorless, odorless

Casing Screenlength (ft)

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
9/19/2016	12:35:00 AM	18.40	15.5	7.00	150.3	0.429	1.68	5.42			0.5
9/19/2016	12:40:00 AM	18.44	15.6	6.61	140.8	0.431	1.15	6.01			0.8
9/19/2016	12:45:00 AM	18.44	15.3	6.37	129.4	0.432	0.66	6.14			1.2
9/19/2016	12:50:00 AM	18.44	15.4	6.44	106.0	0.435	0.50	5.83			1.4
9/19/2016	12:55:00 AM	18.44	15.5	6.52	70.7	0.381	0.49	5.70			1.6
9/19/2016	1:00:00 PM	18.44	15.2	6.55	52.9	0.423	0.50	5.93			2.0
9/19/2016	1:05:00 PM	18.44	15.3	6.54	47.8	0.424	0.53	5.77			2.4
9/19/2016	1:10:00 PM	18.44	15.4	6.55	44.7	0.424	0.44	5.76			2.3

Well ID: 1795-MWS3
Date: 9/19/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: DTB 21.39initial purge: black particulate slight odorfinal purge clear with slight odor

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
9/19/2016	12:47:00 AM	17.26	11.9	6.37	-88.8	.351	5.48	.42	NM		NM
9/19/2016	12:32:00 PM	17.26	12.3	6.10	-104.4	0.449	5.64	0.69	NM	NM	NM
9/19/2016	12:37:00 PM	17.26	11.9	6.31	-107.6	.411	3.6	.64	NM		NM
9/19/2016	12:42:00 PM	17.26	11.8	6.34	-100.0	.376	4.88	.49	NM	NM	NM
9/19/2016	12:52:00 PM	17.26	11.8	6.37	-86.0	.344	5.13	.40	NM		NM
9/19/2016	12:57:00 PM	17.26	11.7	6.38	-80.1	.355	3.68	0.39	NM	NM	NM
9/19/2016	1:02:00 PM	17.26	11.7	6.38	-77.3	.332	4.53	.38	NM	NM	NM
9/19/2016	1:07:00 PM	17.26	11.7	6.38	-92.6	0.327	3.71	0.32	NM	NM	NM
9/19/2016	1:12:00 PM	17.26	11.9	6.40	-85.2	0.327	5.12	0.28	NM	NM	NM
9/19/2016	1:17:00 PM	17.26	11.9	6.42	-79.5	0.321	4.10	0.26	NM	NM	NM
9/19/2016	1:22:00 PM	17.26	11.8	6.43	-77.1	0.320	4.58	0.25	NM	NM	2.5

Well ID: 2140-MW27
Date: 9/21/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: dtb: 15.68initial: clear, colorless, odor
Casing Screenlength (ft)
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
9/21/2016	7:40:00 AM	11.40	12.4	6.78	-64.9	0.91	12.3	1.14			0.1
9/21/2016	7:45:00 AM	11.40	12.3	6.79	-64.4	0.90	11.4	0.90			0.2
9/21/2016	7:50:00 AM	11.40	12.3	6.80	-61.2	0.74	11.7	0.83			0.4
9/21/2016	7:55:00 AM	11.40	12.3	6.79	-51.3	0.73	7.73	0.75			0.50
9/21/2016	8:00:00 AM	11.40	12.3	6.77	-49.6	0.74	6.84	0.72			0.54
9/21/2016	8:05:00 AM	11.4	12.3	6.78	-48.6	0.78	4.78	0.83			0.58
9/21/2016	8:10:00 AM	11.40	12.3	6.80	-41.4	0.628	3.91	1.06			1.0
9/21/2016	8:15:00 AM	11.40	12.3	6.77	-37.2	0.632	3.40	1.09			1.20
9/21/2016	8:20:00 AM	11.40	12.4	6.75	-39.8	0.632	3.40	1.10			1.2

Well ID: 1795-MWS7

Date: 9/21/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: DTB: 17.15Initial purge: odorless, black particulate Final purge: odorless, clear

Casing Screenlength (ft)

Casing Diameter (in):

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
9/21/2016	9:25:00 AM	14.50	17.1	7.13	-133.1	2.36	7.35	1.23	NM	NM	NM
9/21/2016	9:30:00 AM	14.50	17.2	7.32	-103.6	1.69	5.02	30.8	NM	NM	NM
9/21/2016	9:35:00 AM	14.50	17.4	7.34	-93.4	1.61	4.56	3.70	NM	NM	NM
9/21/2016	9:40:00 AM	14.50	17.3	7.34	-87.1	1.62	4.75	4.15	NM	NM	NM
9/21/2016	9:45:00 AM	14.50	17.4	7.34	-82.9	1.78	4.56	4.50	NM	NM	NM
9/21/2016	9:50:00 AM	14.50	17.4	7.36	-79.7	1.79		4.74	NM	NM	NM
9/21/2016	9:55:00 AM	14.50	17.4	7.37	-76.2	1.81	4.11	4.76	NM	NM	NM

Well ID: 3805-MWS5

Date: 9/21/2016

Purge Log
Fort Drum
Installation Restoration Program

Notes/Observations: DTB: 25.95Initial purge: odor, colorlessFinal purge: s.a.a System running, bubbles made DTW readings difficult, bubbles in tubing

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
9/21/2016	7:33:00 AM		14.0	5.90	71.0	0.092	59.3	9.22	NM	NM	
9/21/2016	7:38:00 AM		13.8	6.09	57.1	0.092	67.0	9.15	NM	NM	NM
9/21/2016	7:43:00 AM	19.0	13.8	6.24	57.1	0.092	64.4	9.18	NM	NM	NM
9/21/2016	7:48:00 AM		13.8	6.37	44.3	0.092	60.5	9.18	NM	NM	NM
9/21/2016	7:53:00 AM	19.0	13.8	6.46	37.5	0.093	51.9	9.29	NM	NM	NM
9/21/2016	7:58:00 AM		13.9	6.54	32.1	0.093	52.1	9.33	NM	NM	NM
9/21/2016	8:03:00 AM	19.0	14.0	6.59	29.9	0.093	46.4	9.37	NM	NM	NM
9/21/2016	8:08:00 AM	19.0	14.1	6.63	34.3	0.093	45.8	9.35	NM	NM	NM

Appendix C

Analytical Laboratory Reporting Forms

September 23, 2016 Service Request No:R1609582

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY IRP

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 09, 2016
For your reference, these analyses have been assigned our service request number **R1609582.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

Service Request:R1609582
Date Received:9/9/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Seven water samples were received for analysis at ALS Environmental on 09/09/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

No significant anomalies were noted with this analysis.

Semi-Volatile Organic Analyses:

Method 8270D, 09/14/16: The lower control limit for the spike recovery of the Laboratory Control Sample Duplicate (LCSD) was exceeded for one or more analyte. The Laboratory Control Sample (LCS), Matrix Spike and Matrix Spike Duplicate are within limits. The analytes affected are flagged in the LCS Summary.

Method 8270D, 09/14/16: The Relative Percent Difference for the matrix spike and matrix spike duplicate recovery of one or more of the spiked analytes is >20. All spike recoveries are within limits. No further corrective action was required.

Method 8081: The sample extract(s) required cleanup with TBA (Tetrabutylammonium sulfate) to reduce analytical interference from sulfur. Endrin aldehyde is degraded by TBA cleanup, resulting in low LCS recoveries, and a likely low bias in the associated samples.

General Chemistry Analyses:

No significant anomalies were noted with this analysis.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by _____ Date 9/23/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-MWI12-090816	Lab ID: R1609582-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Cyanide, Total	0.018		0.002	0.010	mg/L	9012B
Acetone	3.1	J	1.3	10	ug/L	8260C
Chloroform	1.4	J	0.25	5.0	ug/L	8260C
Tetrachloroethene (PCE)	24		0.30	5.0	ug/L	8260C

CLIENT ID: TRIP BLANK 1	Lab ID: R1609582-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.8	J	1.3	10	ug/L	8260C

CLIENT ID: 1295-MWS27-090916	Lab ID: R1609582-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Nitrate as Nitrogen	1.5		0.5	1.0	mg/L	300.0
Sulfate	21.1		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	1.2	J	0.20	5.0	ug/L	8260C
Acetone	1.6	J	1.3	10	ug/L	8260C
Trichloroethene (TCE)	0.30	J	0.22	5.0	ug/L	8260C
n-Propylbenzene	0.38	J	0.20	5.0	ug/L	8260C

CLIENT ID: 1295-MW26-090916	Lab ID: R1609582-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Nitrate as Nitrogen	3.9		0.5	1.0	mg/L	300.0
Sulfate	42.5		0.2	2.0	mg/L	300.0
Acetone	1.3	J	1.3	10	ug/L	8260C

CLIENT ID: 1295-MW25-090916	Lab ID: R1609582-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Nitrate as Nitrogen	1.2		0.5	1.0	mg/L	300.0
Sulfate	22.8		0.2	2.0	mg/L	300.0
Acetone	1.5	J	1.3	10	ug/L	8260C
Trichloroethene (TCE)	0.24	J	0.22	5.0	ug/L	8260C

CLIENT ID: 1295-MW30-090916	Lab ID: R1609582-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	69.4		1.7	5.0	mg/L	SM 3500-Fe
Sulfate	259		2	20	mg/L	300.0
1,2,4-Trimethylbenzene	500		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	160		1.0	25	ug/L	8260C
4-Isopropyltoluene	6.2	J	1.0	25	ug/L	8260C
Acetone	23	J	6.2	50	ug/L	8260C
Ethylbenzene	130		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	21	J	1.0	25	ug/L	8260C
Naphthalene	43		1.0	25	ug/L	8260C
Styrene	1.6	J	1.0	25	ug/L	8260C
m,p-Xylenes	330		1.7	25	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 1295-MW30-090916	Lab ID: R1609582-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
n-Butylbenzene	4.5	J	1.1	25	ug/L	8260C
n-Propylbenzene	35		1.0	25	ug/L	8260C
o-Xylene	13	J	1.0	25	ug/L	8260C
sec-Butylbenzene	4.0	J	1.4	25	ug/L	8260C
2,4-Dimethylphenol	9.6		1.5	9.4	ug/L	8270D
2-Methylnaphthalene	12		1.0	9.4	ug/L	8270D
3- and 4-Methylphenol Coelution	5.0	J	2.0	19	ug/L	8270D
Naphthalene	26		1.0	9.4	ug/L	8270D
Pentachlorophenol (PCP)	56		6.9	47	ug/L	8270D

CLIENT ID: 1295-MWS28-090916	Lab ID: R1609582-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Sulfate	8.0		0.2	2.0	mg/L	300.0
2-Butanone (MEK)	1.1	J	0.81	10	ug/L	8260C
Trichloroethene (TCE)	0.61	J	0.22	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609582-001	3805-MWI12-090816	9/8/2016	1415
R1609582-002	TRIP BLANK 1	9/9/2016	
R1609582-003	1295-MWS27-090916	9/9/2016	0800
R1609582-004	1295-MW26-090916	9/9/2016	0900
R1609582-005	1295-MW25-090916	9/9/2016	1010
R1609582-006	1295-MW30-090916	9/9/2016	1100
R1609582-007	1295-MWS28-090916	9/9/2016	1210

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39920

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: FT Drum IRP Fall	Project Number:
Project Manager: Stefan Bagnato	Report CC:
Company/Address: ARCADIS 855 Route 146 Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7334	Email: stefan.bagnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE				0	0			0	2	4	1				
					NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	SVOC	TAL Metals	cyanide	VOC	MNA			REMARKS/ ALTERNATE DESCRIPTION
3805-MW112-090816		9/8/16	14:15	GW					1	1			2	1	1	3				
3805-MW112-090816(MS)		9/8/16	14:15	GW					1	1			2	1	1	3				
3805-MW12-090816(MSD)		9/8/16	14:15	GW					1	1			2	1	1	3				
trip blank		8/22/16	1000	TB												3				
1295-MW527-090916		9/9/16	0900	GW												3	1			
1295-MW26-090916		9/9/16	0900	GW												3	1			
1295-MW28-090916	@9/9/16	9/9/16	1010	GW												3	1			
1295-MW30-090916		9/9/16	1100	GW									2			3	1			
1295-MW528-090916		9/9/16	1210	GW												3	1			

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals
ASP Category A (Tier II)
EQuIS EFWEDD w/ Arcadis reference values.
2 coolers
See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata _____ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name	Printed Name Chris Wright	Printed Name Chris Wright	Printed Name ALS	Printed Name	Printed Name
Firm ARCADIS	Firm ALS	Firm	Firm 9/9/16 1605	Firm	Firm
Date/Time 9/9/16 1315	Date/Time 9/9/16 1315	Date/Time 9/9/16 1605	Date/Time	Date/Time	Date/Time

R1609582 5
ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

© 2012 by ALS Group

R1609582 5
ARCADIS U.S., inc.
Fort Drum, NY

Cooler Receipt and Preservation Check Form

Project/Client Arcadis Folder Number

Cooler received on 9/9/16 by: dlw

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: ~~Wet Ice~~ **Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as:	Bulk Encore 5035set (NA)

8. Temperature Readings Date: 9/9/16 Time: 1634 ID: (IR#5) IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.8 c	3.6	2.6 c	6.8 c	14.2 c	3.4 c	
Correction Factor (°C)	+0.0	-0.5	+0.0	-0.5	+0.0	+0.0	
Corrected Temp (°C)	1.8	3.1	2.6	6.3	14.2	3.4	
Within 0-6°C?	(Y) N	(Y) N	(Y) N	Y (N)**	Y (N)**	(Y) N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule**

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-017 by dlw on 9/9/16 at 1634
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9/9/16 Time: 2050 by: @

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	YES	(NO)
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO
5.	Air Samples: Cassettes / Tubes Intact	Canisters Pressurized	Tedlar® Bags Inflated

(N/A) (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH	✓		WC1491776	5/17				
≤2	HNO_3	✓		BB026153G	6/17				
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522	✓		If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**	411502Z	7/17				

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: 6-060-004, 0613J6-2PPO, 0601J6-1SLT, 060206 (illegible)

Other Comments:
*5 vials for the trip blank.
**Sample location: 38S Post Air Stripper.

1295 MW2P on COC
↓
bottle says
1295 MW25
sampled @ 1010

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	(SUB)
SO3	MARRS
ALS	REV

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
SM 3500-Fe B.4.c	Water	Iron, Divalent (Ferrous Iron)

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002

Sample Name: 3805-MWI12-090816 **Date Collected:** 09/8/16
Lab Code: R1609582-001 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8081B	DMURPHY	MPEDRO
8082A	DMURPHY	MPEDRO
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ
9012B	GNITAJOUPPI	GNITAJOUPPI

Sample Name: TRIP BLANK 1 **Date Collected:** 09/9/16
Lab Code: R1609582-002 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1295-MWS27-090916 **Date Collected:** 09/9/16
Lab Code: R1609582-003 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		GNITAJOUPPI

Sample Name: 1295-MW26-090916 **Date Collected:** 09/9/16
Lab Code: R1609582-004 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		GNITAJOUPPI

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002		

Sample Name:	1295-MW25-090916	**Date Collected:**	09/9/16
Lab Code:	R1609582-005	**Date Received:**	09/9/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		GNITAJOUPPI

Sample Name:	1295-MW30-090916	**Date Collected:**	09/9/16
Lab Code:	R1609582-006	**Date Received:**	09/9/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ
SM 3500-Fe B.4.c		GNITAJOUPPI

Sample Name:	1295-MWS28-090916	**Date Collected:**	09/9/16
Lab Code:	R1609582-007	**Date Received:**	09/9/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		GNITAJOUPPI

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16 14:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/14/16 16:30	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/14/16 16:30	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/14/16 16:30	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/14/16 16:30	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/14/16 16:30	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/14/16 16:30	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/14/16 16:30	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/14/16 16:30	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/14/16 16:30	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/14/16 16:30	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/14/16 16:30	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/14/16 16:30	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/14/16 16:30	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 16:30	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 16:30	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/14/16 16:30	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
2-Hexanone	ND U	10	5.0	1.7	1	09/14/16 16:30	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/14/16 16:30	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/14/16 16:30	
Acetone	**3.1 J**	10	5.0	1.3	1	09/14/16 16:30	
Benzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/14/16 16:30	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/14/16 16:30	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/14/16 16:30	
Bromoform	ND U	5.0	1.0	0.42	1	09/14/16 16:30	
Bromomethane	ND U	5.0	1.0	0.29	1	09/14/16 16:30	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/14/16 16:30	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/14/16 16:30	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/14/16 16:30	
Chloroethane	ND U	5.0	1.0	0.24	1	09/14/16 16:30	
Chloroform	**1.4 J**	5.0	1.0	0.25	1	09/14/16 16:30	
Chloromethane	ND U	5.0	1.0	0.21	1	09/14/16 16:30	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/14/16 16:30	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/14/16 16:30	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/14/16 16:30	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16 14:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/14/16 16:30	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/14/16 16:30	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/14/16 16:30	
Naphthalene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
Styrene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
Tetrachloroethene (PCE)	**24**	5.0	1.0	0.30	1	09/14/16 16:30	
Toluene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/14/16 16:30	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/14/16 16:30	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/14/16 16:30	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/14/16 16:30	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/14/16 16:30	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/14/16 16:30	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
o-Xylene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/14/16 16:30	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/14/16 16:30	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/14/16 16:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	09/14/16 16:30	
Dibromofluoromethane	101	80 - 119	09/14/16 16:30	
Toluene-d8	101	89 - 112	09/14/16 16:30	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	TRIP BLANK 1	**Units:**	ug/L
Lab Code:	R1609582-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/14/16 16:06	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/14/16 16:06	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/14/16 16:06	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/14/16 16:06	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/14/16 16:06	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/14/16 16:06	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/14/16 16:06	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/14/16 16:06	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/14/16 16:06	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/14/16 16:06	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/14/16 16:06	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/14/16 16:06	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/14/16 16:06	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 16:06	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 16:06	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/14/16 16:06	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
2-Hexanone	ND U	10	5.0	1.7	1	09/14/16 16:06	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/14/16 16:06	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/14/16 16:06	
Acetone	**1.8 J**	10	5.0	1.3	1	09/14/16 16:06	
Benzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/14/16 16:06	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/14/16 16:06	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/14/16 16:06	
Bromoform	ND U	5.0	1.0	0.42	1	09/14/16 16:06	
Bromomethane	ND U	5.0	1.0	0.29	1	09/14/16 16:06	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/14/16 16:06	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/14/16 16:06	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/14/16 16:06	
Chloroethane	ND U	5.0	1.0	0.24	1	09/14/16 16:06	
Chloroform	ND U	5.0	1.0	0.25	1	09/14/16 16:06	
Chloromethane	ND U	5.0	1.0	0.21	1	09/14/16 16:06	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/14/16 16:06	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/14/16 16:06	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/14/16 16:06	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	TRIP BLANK 1	**Units:**	ug/L
Lab Code:	R1609582-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/14/16 16:06	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/14/16 16:06	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/14/16 16:06	
Naphthalene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
Styrene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/14/16 16:06	
Toluene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/14/16 16:06	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/14/16 16:06	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/14/16 16:06	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/14/16 16:06	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/14/16 16:06	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/14/16 16:06	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
o-Xylene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/14/16 16:06	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/14/16 16:06	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/14/16 16:06	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/14/16 16:06	
Dibromofluoromethane	103	80 - 119	09/14/16 16:06	
Toluene-d8	102	89 - 112	09/14/16 16:06	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 08:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MWS27-090916	**Units:**	ug/L
Lab Code:	R1609582-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/14/16 16:54	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/14/16 16:54	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/14/16 16:54	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/14/16 16:54	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/14/16 16:54	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/14/16 16:54	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/14/16 16:54	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/14/16 16:54	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/14/16 16:54	
1,2,4-Trimethylbenzene	**1.2 J**	5.0	1.0	0.20	1	09/14/16 16:54	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/14/16 16:54	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/14/16 16:54	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/14/16 16:54	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/14/16 16:54	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 16:54	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 16:54	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/14/16 16:54	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
2-Hexanone	ND U	10	5.0	1.7	1	09/14/16 16:54	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/14/16 16:54	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/14/16 16:54	
Acetone	**1.6 J**	10	5.0	1.3	1	09/14/16 16:54	
Benzene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/14/16 16:54	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/14/16 16:54	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/14/16 16:54	
Bromoform	ND U	5.0	1.0	0.42	1	09/14/16 16:54	
Bromomethane	ND U	5.0	1.0	0.29	1	09/14/16 16:54	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/14/16 16:54	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/14/16 16:54	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/14/16 16:54	
Chloroethane	ND U	5.0	1.0	0.24	1	09/14/16 16:54	
Chloroform	ND U	5.0	1.0	0.25	1	09/14/16 16:54	
Chloromethane	ND U	5.0	1.0	0.21	1	09/14/16 16:54	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/14/16 16:54	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/14/16 16:54	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/14/16 16:54	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 08:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MWS27-090916	**Units:**	ug/L
Lab Code:	R1609582-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/14/16 16:54	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/14/16 16:54	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/14/16 16:54	
Naphthalene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
Styrene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/14/16 16:54	
Toluene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
Trichloroethene (TCE)	**0.30 J**	5.0	1.0	0.22	1	09/14/16 16:54	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/14/16 16:54	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/14/16 16:54	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/14/16 16:54	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/14/16 16:54	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/14/16 16:54	
n-Propylbenzene	**0.38 J**	5.0	1.0	0.20	1	09/14/16 16:54	
o-Xylene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/14/16 16:54	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/14/16 16:54	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/14/16 16:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	85 - 114	09/14/16 16:54	
Dibromofluoromethane	97	80 - 119	09/14/16 16:54	
Toluene-d8	98	89 - 112	09/14/16 16:54	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 09:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW26-090916	**Units:**	ug/L
Lab Code:	R1609582-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/14/16 17:19	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/14/16 17:19	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/14/16 17:19	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/14/16 17:19	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/14/16 17:19	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/14/16 17:19	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/14/16 17:19	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/14/16 17:19	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/14/16 17:19	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/14/16 17:19	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/14/16 17:19	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/14/16 17:19	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/14/16 17:19	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 17:19	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 17:19	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/14/16 17:19	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
2-Hexanone	ND U	10	5.0	1.7	1	09/14/16 17:19	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/14/16 17:19	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/14/16 17:19	
Acetone	**1.3 J**	10	5.0	1.3	1	09/14/16 17:19	
Benzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/14/16 17:19	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/14/16 17:19	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/14/16 17:19	
Bromoform	ND U	5.0	1.0	0.42	1	09/14/16 17:19	
Bromomethane	ND U	5.0	1.0	0.29	1	09/14/16 17:19	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/14/16 17:19	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/14/16 17:19	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/14/16 17:19	
Chloroethane	ND U	5.0	1.0	0.24	1	09/14/16 17:19	
Chloroform	ND U	5.0	1.0	0.25	1	09/14/16 17:19	
Chloromethane	ND U	5.0	1.0	0.21	1	09/14/16 17:19	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/14/16 17:19	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/14/16 17:19	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/14/16 17:19	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 09:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW26-090916	**Units:**	ug/L
Lab Code:	R1609582-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/14/16 17:19	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/14/16 17:19	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/14/16 17:19	
Naphthalene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
Styrene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/14/16 17:19	
Toluene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/14/16 17:19	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/14/16 17:19	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/14/16 17:19	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/14/16 17:19	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/14/16 17:19	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/14/16 17:19	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
o-Xylene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/14/16 17:19	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/14/16 17:19	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/14/16 17:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/14/16 17:19	
Dibromofluoromethane	100	80 - 119	09/14/16 17:19	
Toluene-d8	103	89 - 112	09/14/16 17:19	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 10:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW25-090916	**Units:**	ug/L
Lab Code:	R1609582-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/14/16 17:43	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/14/16 17:43	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/14/16 17:43	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/14/16 17:43	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/14/16 17:43	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/14/16 17:43	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/14/16 17:43	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/14/16 17:43	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/14/16 17:43	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/14/16 17:43	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/14/16 17:43	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/14/16 17:43	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/14/16 17:43	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 17:43	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 17:43	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/14/16 17:43	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
2-Hexanone	ND U	10	5.0	1.7	1	09/14/16 17:43	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/14/16 17:43	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/14/16 17:43	
Acetone	**1.5 J**	10	5.0	1.3	1	09/14/16 17:43	
Benzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/14/16 17:43	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/14/16 17:43	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/14/16 17:43	
Bromoform	ND U	5.0	1.0	0.42	1	09/14/16 17:43	
Bromomethane	ND U	5.0	1.0	0.29	1	09/14/16 17:43	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/14/16 17:43	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/14/16 17:43	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/14/16 17:43	
Chloroethane	ND U	5.0	1.0	0.24	1	09/14/16 17:43	
Chloroform	ND U	5.0	1.0	0.25	1	09/14/16 17:43	
Chloromethane	ND U	5.0	1.0	0.21	1	09/14/16 17:43	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/14/16 17:43	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/14/16 17:43	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/14/16 17:43	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 10:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW25-090916	**Units:**	ug/L
Lab Code:	R1609582-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/14/16 17:43	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/14/16 17:43	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/14/16 17:43	
Naphthalene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
Styrene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/14/16 17:43	
Toluene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
Trichloroethene (TCE)	**0.24 J**	5.0	1.0	0.22	1	09/14/16 17:43	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/14/16 17:43	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/14/16 17:43	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/14/16 17:43	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/14/16 17:43	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/14/16 17:43	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
o-Xylene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/14/16 17:43	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/14/16 17:43	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/14/16 17:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/14/16 17:43	
Dibromofluoromethane	102	80 - 119	09/14/16 17:43	
Toluene-d8	103	89 - 112	09/14/16 17:43	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW30-090916	**Units:**	ug/L
Lab Code:	R1609582-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/14/16 18:32	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/14/16 18:32	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/14/16 18:32	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/14/16 18:32	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/14/16 18:32	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/14/16 18:32	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/14/16 18:32	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/14/16 18:32	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/14/16 18:32	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/14/16 18:32	
1,2,4-Trimethylbenzene	**500**	25	5.0	1.0	5	09/14/16 18:32	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/14/16 18:32	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/14/16 18:32	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/14/16 18:32	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/14/16 18:32	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/14/16 18:32	
1,3,5-Trimethylbenzene	**160**	25	5.0	1.0	5	09/14/16 18:32	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/14/16 18:32	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/14/16 18:32	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/14/16 18:32	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/14/16 18:32	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/14/16 18:32	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/14/16 18:32	
2-Hexanone	ND U	50	25	8.3	5	09/14/16 18:32	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/14/16 18:32	
4-Isopropyltoluene	**6.2 J**	25	5.0	1.0	5	09/14/16 18:32	
4-Methyl-2-pentanone	ND U	50	5.0	3.4	5	09/14/16 18:32	
Acetone	**23 J**	50	25	6.2	5	09/14/16 18:32	
Benzene	ND U	25	5.0	1.0	5	09/14/16 18:32	
Bromobenzene	ND U	25	5.0	1.4	5	09/14/16 18:32	
Bromochloromethane	ND U	25	5.0	1.6	5	09/14/16 18:32	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/14/16 18:32	
Bromoform	ND U	25	5.0	2.1	5	09/14/16 18:32	
Bromomethane	ND U	25	5.0	1.5	5	09/14/16 18:32	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/14/16 18:32	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/14/16 18:32	
Chlorobenzene	ND U	25	5.0	1.5	5	09/14/16 18:32	
Chloroethane	ND U	25	5.0	1.2	5	09/14/16 18:32	
Chloroform	ND U	25	5.0	1.3	5	09/14/16 18:32	
Chloromethane	ND U	25	5.0	1.1	5	09/14/16 18:32	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/14/16 18:32	
Dibromomethane	ND U	25	5.0	1.6	5	09/14/16 18:32	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/14/16 18:32	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW30-090916	**Units:**	ug/L
Lab Code:	R1609582-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	25	5.0	3.0	5	09/14/16 18:32	
Ethylbenzene	**130**	25	5.0	1.0	5	09/14/16 18:32	
Hexachlorobutadiene	ND U	25	5.0	3.1	5	09/14/16 18:32	
Isopropylbenzene (Cumene)	**21 J**	25	5.0	1.0	5	09/14/16 18:32	
Methyl tert-Butyl Ether	ND U	25	5.0	1.5	5	09/14/16 18:32	
Naphthalene	**43**	25	5.0	1.0	5	09/14/16 18:32	
Styrene	**1.6 J**	25	5.0	1.0	5	09/14/16 18:32	
Tetrachloroethene (PCE)	ND U	25	5.0	1.5	5	09/14/16 18:32	
Toluene	ND U	25	5.0	1.0	5	09/14/16 18:32	
Trichloroethene (TCE)	ND U	25	5.0	1.1	5	09/14/16 18:32	
Trichlorofluoromethane (CFC 11)	ND U	25	5.0	1.0	5	09/14/16 18:32	
Vinyl Chloride	ND U	25	5.0	1.6	5	09/14/16 18:32	
cis-1,2-Dichloroethene	ND U	25	5.0	1.5	5	09/14/16 18:32	
cis-1,3-Dichloropropene	ND U	25	5.0	1.2	5	09/14/16 18:32	
m,p-Xylenes	**330**	25	10	1.7	5	09/14/16 18:32	
n-Butylbenzene	**4.5 J**	25	5.0	1.1	5	09/14/16 18:32	
n-Propylbenzene	**35**	25	5.0	1.0	5	09/14/16 18:32	
o-Xylene	**13 J**	25	5.0	1.0	5	09/14/16 18:32	
sec-Butylbenzene	**4.0 J**	25	5.0	1.4	5	09/14/16 18:32	
tert-Butylbenzene	ND U	25	5.0	1.0	5	09/14/16 18:32	
trans-1,2-Dichloroethene	ND U	25	5.0	1.7	5	09/14/16 18:32	
trans-1,3-Dichloropropene	ND U	25	5.0	1.0	5	09/14/16 18:32	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/14/16 18:32	
Dibromofluoromethane	102	80 - 119	09/14/16 18:32	
Toluene-d8	102	89 - 112	09/14/16 18:32	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 12:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MWS28-090916	**Units:**	ug/L
Lab Code:	R1609582-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/14/16 18:08	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/14/16 18:08	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/14/16 18:08	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/14/16 18:08	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/14/16 18:08	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/14/16 18:08	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/14/16 18:08	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/14/16 18:08	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/14/16 18:08	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/14/16 18:08	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/14/16 18:08	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/14/16 18:08	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/14/16 18:08	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 18:08	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 18:08	
2-Butanone (MEK)	**1.1 J**	10	1.0	0.81	1	09/14/16 18:08	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
2-Hexanone	ND U	10	5.0	1.7	1	09/14/16 18:08	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/14/16 18:08	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/14/16 18:08	
Acetone	ND U	10	5.0	1.3	1	09/14/16 18:08	
Benzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/14/16 18:08	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/14/16 18:08	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/14/16 18:08	
Bromoform	ND U	5.0	1.0	0.42	1	09/14/16 18:08	
Bromomethane	ND U	5.0	1.0	0.29	1	09/14/16 18:08	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/14/16 18:08	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/14/16 18:08	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/14/16 18:08	
Chloroethane	ND U	5.0	1.0	0.24	1	09/14/16 18:08	
Chloroform	ND U	5.0	1.0	0.25	1	09/14/16 18:08	
Chloromethane	ND U	5.0	1.0	0.21	1	09/14/16 18:08	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/14/16 18:08	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/14/16 18:08	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/14/16 18:08	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 12:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MWS28-090916	**Units:**	ug/L
Lab Code:	R1609582-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/14/16 18:08	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/14/16 18:08	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/14/16 18:08	
Naphthalene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
Styrene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/14/16 18:08	
Toluene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
Trichloroethene (TCE)	**0.61 J**	5.0	1.0	0.22	1	09/14/16 18:08	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/14/16 18:08	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/14/16 18:08	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/14/16 18:08	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/14/16 18:08	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/14/16 18:08	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
o-Xylene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/14/16 18:08	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/14/16 18:08	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/14/16 18:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/14/16 18:08	
Dibromofluoromethane	103	80 - 119	09/14/16 18:08	
Toluene-d8	104	89 - 112	09/14/16 18:08	

Semivolatile Organic Compounds by GC/MS

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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16 14:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/14/16 10:08	9/12/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/14/16 10:08	9/12/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/14/16 10:08	9/12/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/14/16 10:08	9/12/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/14/16 10:08	9/12/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/14/16 10:08	9/12/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/14/16 10:08	9/12/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/14/16 10:08	9/12/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/14/16 10:08	9/12/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/14/16 10:08	9/12/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/14/16 10:08	9/12/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/14/16 10:08	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/14/16 10:08	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/14/16 10:08	9/12/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/14/16 10:08	9/12/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/14/16 10:08	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/14/16 10:08	9/12/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/14/16 10:08	9/12/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/14/16 10:08	9/12/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/14/16 10:08	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/14/16 10:08	9/12/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/14/16 10:08	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 10:08	9/12/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/14/16 10:08	9/12/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/14/16 10:08	9/12/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16 14:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 10:08	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 10:08	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 10:08	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 10:08	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 10:08	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 10:08	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 10:08	9/12/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/14/16 10:08	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Phenol	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 10:08	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	43 - 140	09/14/16 10:08	
2-Fluorobiphenyl	78	44 - 119	09/14/16 10:08	
2-Fluorophenol	44	19 - 119	09/14/16 10:08	
Nitrobenzene-d5	77	44 - 120	09/14/16 10:08	
Phenol-d6	31	10 - 107	09/14/16 10:08	
p-Terphenyl-d14	98	50 - 134	09/14/16 10:08	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW30-090916	**Units:**	ug/L
Lab Code:	R1609582-006	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
1,2-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
1,3-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
1,4-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
2,4,5-Trichlorophenol	ND	U	9.4	5.0	1.8	1	09/14/16 11:32	9/12/16	
2,4,6-Trichlorophenol	ND	U	9.4	5.0	1.4	1	09/14/16 11:32	9/12/16	
2,4-Dichlorophenol	ND	U	9.4	5.0	1.3	1	09/14/16 11:32	9/12/16	
2,4-Dimethylphenol	**9.6**		9.4	5.0	1.5	1	09/14/16 11:32	9/12/16	
2,4-Dinitrophenol	ND	U	47	25	20	1	09/14/16 11:32	9/12/16	
2,4-Dinitrotoluene	ND	U	9.4	5.0	1.6	1	09/14/16 11:32	9/12/16	
2,6-Dinitrotoluene	ND	U	9.4	5.0	1.8	1	09/14/16 11:32	9/12/16	
2-Chloronaphthalene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
2-Chlorophenol	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
2-Methylnaphthalene	**12**		9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
2-Methylphenol	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
2-Nitroaniline	ND	U	47	25	9.1	1	09/14/16 11:32	9/12/16	
2-Nitrophenol	ND	U	9.4	5.0	1.4	1	09/14/16 11:32	9/12/16	
3,3'-Dichlorobenzidine	ND	U	9.4	5.0	4.5	1	09/14/16 11:32	9/12/16	
3- and 4-Methylphenol Coelution	**5.0**	**J**	19	10	2.0	1	09/14/16 11:32	9/12/16	
3-Nitroaniline	ND	U	47	25	7.7	1	09/14/16 11:32	9/12/16	
4,6-Dinitro-2-methylphenol	ND	U	47	25	11	1	09/14/16 11:32	9/12/16	
4-Bromophenyl Phenyl Ether	ND	U	9.4	5.0	2.2	1	09/14/16 11:32	9/12/16	
4-Chloro-3-methylphenol	ND	U	9.4	5.0	1.2	1	09/14/16 11:32	9/12/16	
4-Chloroaniline	ND	U	9.4	5.0	1.5	1	09/14/16 11:32	9/12/16	
4-Chlorophenyl Phenyl Ether	ND	U	9.4	5.0	1.2	1	09/14/16 11:32	9/12/16	
4-Nitroaniline	ND	U	47	25	7.8	1	09/14/16 11:32	9/12/16	
4-Nitrophenol	ND	U	47	25	5.9	1	09/14/16 11:32	9/12/16	
Acenaphthene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Acenaphthylene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Anthracene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Benz(a)anthracene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Benzo(a)pyrene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Benzo(b)fluoranthene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Benzo(g,h,i)perylene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Benzo(k)fluoranthene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Benzyl Alcohol	ND	U	9.4	5.0	1.3	1	09/14/16 11:32	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Bis(2-chloroethoxy)methane	ND	U	9.4	5.0	2.2	1	09/14/16 11:32	9/12/16	
Bis(2-chloroethyl) Ether	ND	U	9.4	5.0	1.3	1	09/14/16 11:32	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND	U	9.4	5.0	1.2	1	09/14/16 11:32	9/12/16	
Butyl Benzyl Phthalate	ND	U	9.4	5.0	2.4	1	09/14/16 11:32	9/12/16	
Carbazole	ND	U	9.4	5.0	1.1	1	09/14/16 11:32	9/12/16	
Chrysene	ND	U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW30-090916	**Units:**	ug/L
Lab Code:	R1609582-006	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 11:32	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 11:32	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 11:32	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 11:32	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 11:32	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 11:32	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Naphthalene	**26**	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 11:32	9/12/16	
Pentachlorophenol (PCP)	**56**	47	25	6.9	1	09/14/16 11:32	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Phenol	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 11:32	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	87	43 - 140	09/14/16 11:32	
2-Fluorobiphenyl	65	44 - 119	09/14/16 11:32	
2-Fluorophenol	37	19 - 119	09/14/16 11:32	
Nitrobenzene-d5	70	44 - 120	09/14/16 11:32	
Phenol-d6	28	10 - 107	09/14/16 11:32	
p-Terphenyl-d14	79	50 - 134	09/14/16 11:32	

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16 14:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	0.047	0.025	0.0075	1	09/16/16 11:04	9/13/16	
4,4'-DDE	ND U	0.047	0.025	0.0080	1	09/16/16 11:04	9/13/16	
4,4'-DDT	ND U	0.047	0.025	0.0079	1	09/16/16 11:04	9/13/16	
Aldrin	ND U	0.047	0.025	0.0086	1	09/16/16 11:04	9/13/16	
Dieldrin	ND U	0.047	0.025	0.011	1	09/16/16 11:04	9/13/16	
Endosulfan I	ND U	0.047	0.025	0.012	1	09/16/16 11:04	9/13/16	
Endosulfan II	ND U	0.047	0.025	0.010	1	09/16/16 11:04	9/13/16	
Endosulfan Sulfate	ND U	0.047	0.025	0.0089	1	09/16/16 11:04	9/13/16	
Endrin	ND U	0.047	0.025	0.012	1	09/16/16 11:04	9/13/16	
Endrin Aldehyde	ND U	0.047	0.025	0.0087	1	09/16/16 11:04	9/13/16	
Endrin Ketone	ND U	0.047	0.025	0.0090	1	09/16/16 11:04	9/13/16	
Heptachlor	ND U	0.047	0.025	0.011	1	09/16/16 11:04	9/13/16	
Heptachlor Epoxide	ND U	0.047	0.025	0.011	1	09/16/16 11:04	9/13/16	
Methoxychlor	ND U	0.047	0.025	0.0091	1	09/16/16 11:04	9/13/16	
alpha-BHC	ND U	0.047	0.025	0.012	1	09/16/16 11:04	9/13/16	
alpha-Chlordane	ND U	0.047	0.025	0.012	1	09/16/16 11:04	9/13/16	
beta-BHC	ND U	0.047	0.025	0.017	1	09/16/16 11:04	9/13/16	
delta-BHC	ND U	0.047	0.025	0.011	1	09/16/16 11:04	9/13/16	
gamma-BHC (Lindane)	ND U	0.047	0.025	0.013	1	09/16/16 11:04	9/13/16	
gamma-Chlordane	ND U	0.047	0.025	0.0088	1	09/16/16 11:04	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	71	30 - 135	09/16/16 11:04	
Tetrachloro-m-xylene	64	44 - 124	09/16/16 11:04	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16 14:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	0.94	0.50	0.36	1	09/15/16 11:01	9/13/16	
Aroclor 1221	ND U	1.9	1.0	0.84	1	09/15/16 11:01	9/13/16	
Aroclor 1232	ND U	0.94	0.50	0.36	1	09/15/16 11:01	9/13/16	
Aroclor 1242	ND U	0.94	0.50	0.29	1	09/15/16 11:01	9/13/16	
Aroclor 1248	ND U	0.94	0.50	0.27	1	09/15/16 11:01	9/13/16	
Aroclor 1254	ND U	0.94	0.50	0.26	1	09/15/16 11:01	9/13/16	
Aroclor 1260	ND U	0.94	0.50	0.36	1	09/15/16 11:01	9/13/16	
Aroclor 1268	ND U	0.94	0.50	0.36	1	09/15/16 11:01	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	68	10 - 149	09/15/16 11:01	
Tetrachloro-m-xylene	66	15 - 131	09/15/16 11:01	

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16 14:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI12-090816	**Basis:**	NA
Lab Code:	R1609582-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	**0.018**	mg/L	0.010	0.005	0.002	1	09/13/16 14:45	09/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 08:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MWS27-090916	**Basis:**	NA
Lab Code:	R1609582-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/09/16 17:30	*
Nitrate as Nitrogen	300.0	**1.5**	mg/L	1.0	0.5	0.5	10	09/09/16 18:06	
Sulfate	300.0	**21.1**	mg/L	2.0	1.0	0.2	10	09/09/16 18:06	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 09:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW26-090916	**Basis:**	NA
Lab Code:	R1609582-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/09/16 17:30	*
Nitrate as Nitrogen	300.0	**3.9**	mg/L	1.0	0.5	0.5	10	09/09/16 17:51	
Sulfate	300.0	**42.5**	mg/L	2.0	1.0	0.2	10	09/09/16 17:51	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 10:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW25-090916	**Basis:**	NA
Lab Code:	R1609582-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/09/16 17:30	*
Nitrate as Nitrogen	300.0	**1.2**	mg/L	1.0	0.5	0.5	10	09/09/16 17:36	
Sulfate	300.0	**22.8**	mg/L	2.0	1.0	0.2	10	09/09/16 17:36	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MW30-090916	**Basis:**	NA
Lab Code:	R1609582-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**69.4**	mg/L	5.0	4.0	1.7	50	09/09/16 17:30	*
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/09/16 17:21	
Sulfate	300.0	**259**	mg/L	20	10	2	100	09/15/16 07:50	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16 12:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	1295-MWS28-090916	**Basis:**	NA
Lab Code:	R1609582-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/09/16 17:30	*
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/09/16 18:21	
Sulfate	300.0	**8.0**	mg/L	2.0	1.0	0.2	10	09/09/16 18:21	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

		4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
Sample Name	**Lab Code**	**85 - 114**	**80 - 119**	**89 - 112**
3805-MWI12-090816	R1609582-001	93	101	101
TRIP BLANK 1	R1609582-002	97	103	102
1295-MWS27-090916	R1609582-003	91	97	98
1295-MW26-090916	R1609582-004	96	100	103
1295-MW25-090916	R1609582-005	97	102	103
1295-MW30-090916	R1609582-006	94	102	102
1295-MWS28-090916	R1609582-007	98	103	104
Method Blank	RQ1610958-01	97	101	102
Lab Control Sample	RQ1610958-02	98	102	101
3805-MWI12-090816 MS	RQ1610958-05	96	101	101
3805-MWI12-090816 DMS	RQ1610958-06	99	105	103

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/14/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1610958-05			Duplicate Matrix Spike RQ1610958-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	50.4	50.0	101	52.4	50.0	105	78-124	4	20
1,1,1-Trichloroethane (TCA)	ND U	49.1	50.0	98	50.2	50.0	100	74-131	2	20
1,1,2,2-Tetrachloroethane	ND U	47.6	50.0	95	49.6	50.0	99	71-121	4	20
1,1,2-Trichloroethane	ND U	48.6	50.0	97	49.5	50.0	99	80-119	2	20
1,1-Dichloroethane (1,1-DCA)	ND U	46.4	50.0	93	47.2	50.0	94	77-125	2	20
1,1-Dichloroethene (1,1-DCE)	ND U	49.1	50.0	98	50.2	50.0	100	71-131	2	20
1,1-Dichloropropene	ND U	47.8	50.0	96	49.6	50.0	99	79-125	4	20
1,2,3-Trichlorobenzene	ND U	56.4	50.0	113	59.0	50.0	118	69-129	5	20
1,2,3-Trichloropropane	ND U	46.4	50.0	93	47.1	50.0	94	73-122	1	20
1,2,4-Trichlorobenzene	ND U	57.7	50.0	115	60.1	50.0	120	69-130	4	20
1,2,4-Trimethylbenzene	ND U	49.1	50.0	98	50.8	50.0	102	76-124	4	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	49.0	50.0	98	49.4	50.0	99	62-128	<1	20
1,2-Dibromoethane	ND U	49.7	50.0	99	50.7	50.0	101	77-121	2	20
1,2-Dichlorobenzene	ND U	47.2	50.0	94	49.7	50.0	99	80-119	5	20
1,2-Dichloroethane	ND U	48.0	50.0	96	50.3	50.0	101	73-128	5	20
1,2-Dichloropropane	ND U	47.6	50.0	95	49.1	50.0	98	78-122	3	20
1,3,5-Trimethylbenzene	ND U	49.7	50.0	99	52.0	50.0	104	75-124	4	20
1,3-Dichlorobenzene	ND U	47.9	50.0	96	49.8	50.0	100	80-119	4	20
1,3-Dichloropropane	ND U	46.0	50.0	92	47.4	50.0	95	80-119	3	20
1,4-Dichlorobenzene	ND U	48.6	50.0	97	50.5	50.0	101	79-118	4	20
2,2-Dichloropropane	ND U	41.3	50.0	83	42.3	50.0	85	60-139	3	20
2-Butanone (MEK)	ND U	42.5	50.0	85	43.7	50.0	87	56-143	3	20
2-Chlorotoluene	ND U	49.5	50.0	99	52.2	50.0	104	79-122	5	20
2-Hexanone	ND U	41.2	50.0	82	43.2	50.0	86	57-139	5	20
4-Chlorotoluene	ND U	48.5	50.0	97	50.5	50.0	101	78-122	4	20
4-Isopropyltoluene	ND U	49.8	50.0	100	52.2	50.0	104	77-127	5	20
4-Methyl-2-pentanone	ND U	45.9	50.0	92	50.2	50.0	100	67-130	9	20
Acetone	3.1 J	40.2	50.0	74	41.4	50.0	77	39-160	3	20
Benzene	ND U	50.7	50.0	101	52.9	50.0	106	79-120	4	20
Bromobenzene	ND U	50.0	50.0	100	51.5	50.0	103	80-120	3	20
Bromochloromethane	ND U	47.1	50.0	94	46.6	50.0	93	78-123	1	20
Bromodichloromethane	ND U	47.4	50.0	95	49.5	50.0	99	79-125	4	20
Bromoform	ND U	52.7	50.0	105	54.2	50.0	108	66-130	3	20
Bromomethane	ND U	34.4	50.0	69	33.6	50.0	67	53-141	2	20
Carbon Disulfide	ND U	45.8	50.0	92	49.3	50.0	98	64-133	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/14/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1610958-05			Duplicate Matrix Spike RQ1610958-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	52.8	50.0	106	55.1	50.0	110	72-136	4	20
Chlorobenzene	ND U	49.9	50.0	100	50.7	50.0	101	82-118	2	20
Chloroethane	ND U	44.6	50.0	89	46.9	50.0	94	60-138	5	20
Chloroform	1.4 J	48.4	50.0	94	50.5	50.0	98	79-124	4	20
Chloromethane	ND U	39.2	50.0	78	40.3	50.0	81	50-139	3	20
Dibromochloromethane	ND U	49.7	50.0	99	51.2	50.0	102	74-126	3	20
Dibromomethane	ND U	47.5	50.0	95	50.7	50.0	101	79-123	7	20
Dichlorodifluoromethane (CFC 12)	ND U	41.2	50.0	82	41.3	50.0	83	32-152	<1	20
Dichloromethane	ND U	43.7	50.0	87	44.6	50.0	89	74-124	2	20
Ethylbenzene	ND U	49.8	50.0	100	50.5	50.0	101	79-121	1	20
Hexachlorobutadiene	ND U	49.2	50.0	98	52.8	50.0	106	66-134	7	20
Isopropylbenzene (Cumene)	ND U	51.0	50.0	102	51.8	50.0	104	72-131	2	20
Methyl tert-Butyl Ether	ND U	44.2	50.0	88	44.7	50.0	89	71-124	1	20
Naphthalene	ND U	55.7	50.0	111	57.2	50.0	114	61-128	3	20
Styrene	ND U	49.6	50.0	99	50.1	50.0	100	78-123	1	20
Tetrachloroethene (PCE)	24	76.8	50.0	105	79.0	50.0	109	74-129	3	20
Toluene	ND U	51.1	50.0	102	52.0	50.0	104	80-121	2	20
Trichloroethene (TCE)	ND U	51.7	50.0	103	52.9	50.0	106	79-123	2	20
Trichlorofluoromethane (CFC 11)	ND U	50.3	50.0	101	51.6	50.0	103	65-141	3	20
Vinyl Chloride	ND U	50.3	50.0	101	51.7	50.0	103	58-137	3	20
cis-1,2-Dichloroethene	ND U	48.5	50.0	97	49.5	50.0	99	78-123	2	20
cis-1,3-Dichloropropene	ND U	45.5	50.0	91	48.3	50.0	97	75-124	6	20
m,p-Xylenes	ND U	101	100	101	102	100	102	80-121	<1	20
n-Butylbenzene	ND U	48.7	50.0	97	52.2	50.0	104	75-128	7	20
n-Propylbenzene	ND U	50.5	50.0	101	52.8	50.0	106	76-126	4	20
o-Xylene	ND U	50.7	50.0	101	51.7	50.0	103	78-122	2	20
sec-Butylbenzene	ND U	49.7	50.0	99	51.8	50.0	104	77-126	4	20
tert-Butylbenzene	ND U	51.5	50.0	103	53.7	50.0	107	78-124	4	20
trans-1,2-Dichloroethene	ND U	48.0	50.0	96	47.7	50.0	95	75-124	<1	20
trans-1,3-Dichloropropene	ND U	45.4	50.0	91	48.0	50.0	96	73-127	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610958-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/14/16 11:56	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/14/16 11:56	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/14/16 11:56	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/14/16 11:56	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/14/16 11:56	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/14/16 11:56	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/14/16 11:56	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/14/16 11:56	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/14/16 11:56	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/14/16 11:56	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/14/16 11:56	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/14/16 11:56	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/14/16 11:56	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 11:56	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/14/16 11:56	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/14/16 11:56	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
2-Hexanone	ND U	10	5.0	1.7	1	09/14/16 11:56	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/14/16 11:56	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/14/16 11:56	
Acetone	ND U	10	5.0	1.3	1	09/14/16 11:56	
Benzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/14/16 11:56	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/14/16 11:56	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/14/16 11:56	
Bromoform	ND U	5.0	1.0	0.42	1	09/14/16 11:56	
Bromomethane	ND U	5.0	1.0	0.29	1	09/14/16 11:56	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/14/16 11:56	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/14/16 11:56	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/14/16 11:56	
Chloroethane	ND U	5.0	1.0	0.24	1	09/14/16 11:56	
Chloroform	ND U	5.0	1.0	0.25	1	09/14/16 11:56	
Chloromethane	ND U	5.0	1.0	0.21	1	09/14/16 11:56	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/14/16 11:56	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/14/16 11:56	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/14/16 11:56	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610958-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/14/16 11:56	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/14/16 11:56	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/14/16 11:56	
Naphthalene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
Styrene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/14/16 11:56	
Toluene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/14/16 11:56	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/14/16 11:56	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/14/16 11:56	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/14/16 11:56	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/14/16 11:56	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/14/16 11:56	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
o-Xylene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/14/16 11:56	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/14/16 11:56	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/14/16 11:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/14/16 11:56	
Dibromofluoromethane	101	80 - 119	09/14/16 11:56	
Toluene-d8	102	89 - 112	09/14/16 11:56	

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002 **Date Analyzed:** 09/14/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1610958-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.1	20.0	100	78-124
1,1,1-Trichloroethane (TCA)	8260C	17.9	20.0	89	74-131
1,1,2,2-Tetrachloroethane	8260C	19.3	20.0	96	71-121
1,1,2-Trichloroethane	8260C	18.7	20.0	94	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	17.6	20.0	88	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	17.9	20.0	89	71-131
1,1-Dichloropropene	8260C	17.5	20.0	88	79-125
1,2,3-Trichlorobenzene	8260C	23.6	20.0	118	69-129
1,2,3-Trichloropropane	8260C	19.1	20.0	95	73-122
1,2,4-Trichlorobenzene	8260C	23.4	20.0	117	69-130
1,2,4-Trimethylbenzene	8260C	19.4	20.0	97	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	18.0	20.0	90	62-128
1,2-Dibromoethane	8260C	19.7	20.0	99	77-121
1,2-Dichlorobenzene	8260C	20.0	20.0	100	80-119
1,2-Dichloroethane	8260C	19.0	20.0	95	73-128
1,2-Dichloropropane	8260C	17.9	20.0	90	78-122
1,3,5-Trimethylbenzene	8260C	19.5	20.0	97	75-124
1,3-Dichlorobenzene	8260C	19.7	20.0	98	80-119
1,3-Dichloropropane	8260C	18.6	20.0	93	80-119
1,4-Dichlorobenzene	8260C	19.8	20.0	99	79-118
2,2-Dichloropropane	8260C	17.0	20.0	85	60-139
2-Butanone (MEK)	8260C	16.4	20.0	82	56-143
2-Chlorotoluene	8260C	19.4	20.0	97	79-122
2-Hexanone	8260C	17.3	20.0	86	57-139
4-Chlorotoluene	8260C	19.2	20.0	96	78-122
4-Isopropyltoluene	8260C	19.6	20.0	98	77-127
4-Methyl-2-pentanone	8260C	18.3	20.0	92	67-130
Acetone	8260C	17.0	20.0	85	39-160
Benzene	8260C	18.9	20.0	95	79-120
Bromobenzene	8260C	20.3	20.0	101	80-120
Bromochloromethane	8260C	18.9	20.0	94	78-123
Bromodichloromethane	8260C	18.6	20.0	93	79-125
Bromoform	8260C	21.0	20.0	105	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

Service Request: R1609582
Date Analyzed: 09/14/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1610958-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	12.2	20.0	61	53-141
Carbon Disulfide	8260C	13.7	20.0	69	64-133
Carbon Tetrachloride	8260C	18.8	20.0	94	72-136
Chlorobenzene	8260C	18.9	20.0	94	82-118
Chloroethane	8260C	16.2	20.0	81	60-138
Chloroform	8260C	18.2	20.0	91	79-124
Chloromethane	8260C	14.6	20.0	73	50-139
Dibromochloromethane	8260C	20.0	20.0	100	74-126
Dibromomethane	8260C	19.2	20.0	96	79-123
Dichlorodifluoromethane (CFC 12)	8260C	14.9	20.0	75	32-152
Dichloromethane	8260C	17.9	20.0	89	74-124
Ethylbenzene	8260C	18.0	20.0	90	79-121
Hexachlorobutadiene	8260C	20.3	20.0	101	66-134
Isopropylbenzene (Cumene)	8260C	18.8	20.0	94	72-131
Methyl tert-Butyl Ether	8260C	17.8	20.0	89	71-124
Naphthalene	8260C	22.9	20.0	114	61-128
Styrene	8260C	18.9	20.0	95	78-123
Tetrachloroethene (PCE)	8260C	19.1	20.0	95	74-129
Toluene	8260C	18.8	20.0	94	80-121
Trichloroethene (TCE)	8260C	19.3	20.0	96	79-123
Trichlorofluoromethane (CFC 11)	8260C	18.0	20.0	90	65-141
Vinyl Chloride	8260C	18.0	20.0	90	58-137
cis-1,2-Dichloroethene	8260C	19.0	20.0	95	78-123
cis-1,3-Dichloropropene	8260C	18.2	20.0	91	75-124
m,p-Xylenes	8260C	37.6	40.0	94	80-121
n-Butylbenzene	8260C	19.5	20.0	97	75-128
n-Propylbenzene	8260C	20.1	20.0	100	76-126
o-Xylene	8260C	18.4	20.0	92	78-122
sec-Butylbenzene	8260C	19.1	20.0	96	77-126
tert-Butylbenzene	8260C	20.0	20.0	100	78-124
trans-1,2-Dichloroethene	8260C	17.1	20.0	86	75-124
trans-1,3-Dichloropropene	8260C	18.6	20.0	93	73-127

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609582

Project: Fort Drum, NY IRP/1443135-002

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D

Extraction Method: EPA 3510C

		2,4,6-Tribromophenol	2-Fluorobiphenyl	2-Fluorophenol
Sample Name	**Lab Code**	**43 - 140**	**44 - 119**	**19 - 119**
3805-MWI12-090816	R1609582-001	95	78	44
1295-MW30-090916	R1609582-006	87	65	37
Method Blank	RQ1610742-01	82	64	36
Lab Control Sample	RQ1610742-02	91	76	44
Duplicate Lab Control Sample	RQ1610742-03	91	76	40
3805-MWI12-090816 MS	RQ1610742-08	86	79	44
3805-MWI12-090816 DMS	RQ1610742-09	76	69	40
Continuing Cal. Verification CCVA	RQ1610916-03			

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

		Nitrobenzene-d5	Phenol-d6	p-Terphenyl-d14
Sample Name	**Lab Code**	**44 - 120**	**10 - 107**	**50 - 134**
3805-MWI12-090816	R1609582-001	77	31	98
1295-MW30-090916	R1609582-006	70	28	79
Method Blank	RQ1610742-01	63	27	97
Lab Control Sample	RQ1610742-02	71	33	93
Duplicate Lab Control Sample	RQ1610742-03	68	30	90
3805-MWI12-090816	RQ1610742-08	75	31	85
3805-MWI12-090816	RQ1610742-09	63	29	82
Continuing Cal. Verification	RQ1610916-03			

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/14/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA
Analysis Method:	8270D		
Prep Method:	EPA 3510C		

		Matrix Spike RQ1610742-08			Duplicate Matrix Spike RQ1610742-09					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	ND U	76.9	94.3	82	61.5	94.3	65	29-116	22*	20
1,2-Dichlorobenzene	ND U	71.3	94.3	76	59.4	94.3	63	32-111	18	20
1,3-Dichlorobenzene	ND U	69.9	94.3	74	57.1	94.3	61	28-110	20	20
1,4-Dichlorobenzene	ND U	70.0	94.3	74	57.7	94.3	61	29-112	19	20
2,4,5-Trichlorophenol	ND U	89.2	94.3	95	80.9	94.3	86	53-123	10	20
2,4,6-Trichlorophenol	ND U	87.5	94.3	93	78.7	94.3	83	50-125	11	20
2,4-Dichlorophenol	ND U	86.3	94.3	92	75.5	94.3	80	47-121	13	20
2,4-Dimethylphenol	ND U	87.4	94.3	93	79.9	94.3	85	31-124	9	20
2,4-Dinitrophenol	ND U	117	94.3	124	107	94.3	113	23-143	9	20
2,4-Dinitrotoluene	ND U	91.5	94.3	97	84.3	94.3	89	57-128	8	20
2,6-Dinitrotoluene	ND U	94.2	94.3	100	85.9	94.3	91	57-124	9	20
2-Chloronaphthalene	ND U	84.4	94.3	89	72.3	94.3	77	40-116	15	20
2-Chlorophenol	ND U	80.4	94.3	85	72.5	94.3	77	38-117	10	20
2-Methylnaphthalene	ND U	82.7	94.3	88	70.6	94.3	75	40-121	16	20
2-Methylphenol	ND U	74.4	94.3	79	71.4	94.3	76	30-117	4	20
2-Nitroaniline	ND U	87.1	94.3	92	77.7	94.3	82	55-127	11	20
2-Nitrophenol	ND U	90.7	94.3	96	78.3	94.3	83	47-123	15	20
3,3'-Dichlorobenzidine	ND U	76.5	94.3	81	73.5	94.3	78	27-129	4	20
3- and 4-Methylphenol Coelution	ND U	62.8	94.3	67	58.7	94.3	62	29-110	7	20
3-Nitroaniline	ND U	70.8	94.3	75	74.2	94.3	79	41-128	5	20
4,6-Dinitro-2-methylphenol	ND U	107	94.3	113	95.8	94.3	102	44-137	11	20
4-Bromophenyl Phenyl Ether	ND U	86.4	94.3	92	77.3	94.3	82	55-124	11	20
4-Chloro-3-methylphenol	ND U	89.7	94.3	95	84.1	94.3	89	52-119	6	20
4-Chloroaniline	ND U	77.3	94.3	82	78.4	94.3	83	33-117	1	20
4-Chlorophenyl Phenyl Ether	ND U	86.1	94.3	91	76.7	94.3	81	53-121	12	20
4-Nitroaniline	ND U	81.5	94.3	86	75.1	94.3	80		8	20
4-Nitrophenol	ND U	35.4	94.3	38	29.8 J	94.3	32		17	20
Acenaphthene	ND U	87.5	94.3	93	78.1	94.3	83	47-122	11	20
Acenaphthylene	ND U	85.6	94.3	91	76.4	94.3	81	41-130	11	20
Anthracene	ND U	94.1	94.3	100	82.8	94.3	88	57-123	13	20
Benz(a)anthracene	ND U	89.1	94.3	94	81.8	94.3	87	58-125	9	20
Benzo(a)pyrene	ND U	93.8	94.3	99	85.7	94.3	91	54-128	9	20
Benzo(b)fluoranthene	ND U	86.6	94.3	92	78.9	94.3	84	53-131	9	20
Benzo(g,h,i)perylene	ND U	92.7	94.3	98	85.6	94.3	91	50-134	8	20
Benzo(k)fluoranthene	ND U	91.0	94.3	97	85.8	94.3	91	57-129	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/14/16
		Date Extracted:	09/12/16

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA
Analysis Method:	8270D		
Prep Method:	EPA 3510C		

		Matrix Spike RQ1610742-08			Duplicate Matrix Spike RQ1610742-09					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	ND U	80.2	94.3	85	79.8	94.3	85	31-112	<1	20
2,2'-Oxybis(1-chloropropane)	ND U	80.4	94.3	85	69.8	94.3	74		14	20
Bis(2-chloroethoxy)methane	ND U	84.7	94.3	90	74.7	94.3	79	48-120	13	20
Bis(2-chloroethyl) Ether	ND U	79.8	94.3	85	72.3	94.3	77	43-118	10	20
Bis(2-ethylhexyl) Phthalate	ND U	91.0	94.3	96	82.4	94.3	87	55-135	10	20
Butyl Benzyl Phthalate	ND U	85.8	94.3	91	78.1	94.3	83	53-134	9	20
Carbazole	ND U	87.1	94.3	92	79.8	94.3	85	60-122	9	20
Chrysene	ND U	91.9	94.3	97	82.8	94.3	88	59-123	10	20
Di-n-butyl Phthalate	ND U	100	94.3	106	91.2	94.3	97	59-127	9	20
Di-n-octyl Phthalate	ND U	94.6	94.3	100	86.5	94.3	92	51-140	9	20
Dibenz(a,h)anthracene	ND U	85.4	94.3	91	75.8	94.3	80	51-134	12	20
Dibenzofuran	ND U	85.7	94.3	91	76.3	94.3	81	53-118	12	20
Diethyl Phthalate	ND U	89.4	94.3	95	82.1	94.3	87	56-125	8	20
Dimethyl Phthalate	ND U	86.6	94.3	92	80.7	94.3	86	45-127	7	20
Fluoranthene	ND U	95.3	94.3	101	86.5	94.3	92	57-128	10	20
Fluorene	ND U	85.7	94.3	91	76.7	94.3	81	52-124	11	20
Hexachlorobenzene	ND U	89.2	94.3	95	79.1	94.3	84	53-125	12	20
Hexachlorobutadiene	ND U	82.1	94.3	87	66.6	94.3	71	22-124	21*	20
Hexachloroethane	ND U	66.2	94.3	70	55.1	94.3	58	21-115	18	20
Indeno(1,2,3-cd)pyrene	ND U	92.2	94.3	98	85.7	94.3	91	52-134	7	20
Isophorone	ND U	87.1	94.3	92	77.6	94.3	82	42-124	12	20
N-Nitrosodi-n-propylamine	ND U	72.6	94.3	77	67.4	94.3	71	49-119	7	20
N-Nitrosodimethylamine	ND U	44.5	94.3	47	42.4	94.3	45	23-120	5	20
N-Nitrosodiphenylamine	ND U	86.3	94.3	91	76.4	94.3	81	51-123	12	20
Naphthalene	ND U	78.6	94.3	83	65.7	94.3	70	40-121	18	20
Nitrobenzene	ND U	84.5	94.3	90	73.3	94.3	78	45-121	14	20
Pentachlorophenol (PCP)	ND U	111	94.3	118	104	94.3	110	35-138	7	20
Phenanthrene	ND U	90.8	94.3	96	82.1	94.3	87	59-120	10	20
Phenol	ND U	37.5	94.3	40	36.1	94.3	38	34-121	4	20
Pyrene	ND U	88.5	94.3	94	81.2	94.3	86	57-126	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610742-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
1,2-Dichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
1,3-Dichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
1,4-Dichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2,4,5-Trichlorophenol	ND U	10	5.0	1.8	1	09/14/16 08:16	9/12/16	
2,4,6-Trichlorophenol	ND U	10	5.0	1.4	1	09/14/16 08:16	9/12/16	
2,4-Dichlorophenol	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
2,4-Dimethylphenol	ND U	10	5.0	1.5	1	09/14/16 08:16	9/12/16	
2,4-Dinitrophenol	ND U	50	25	20	1	09/14/16 08:16	9/12/16	
2,4-Dinitrotoluene	ND U	10	5.0	1.6	1	09/14/16 08:16	9/12/16	
2,6-Dinitrotoluene	ND U	10	5.0	1.8	1	09/14/16 08:16	9/12/16	
2-Chloronaphthalene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Chlorophenol	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Methylnaphthalene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Methylphenol	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Nitroaniline	ND U	50	25	9.1	1	09/14/16 08:16	9/12/16	
2-Nitrophenol	ND U	10	5.0	1.4	1	09/14/16 08:16	9/12/16	
3,3'-Dichlorobenzidine	ND U	10	5.0	4.5	1	09/14/16 08:16	9/12/16	
3- and 4-Methylphenol Coelution	ND U	20	10	2.0	1	09/14/16 08:16	9/12/16	
3-Nitroaniline	ND U	50	25	7.7	1	09/14/16 08:16	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	50	25	11	1	09/14/16 08:16	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	10	5.0	2.2	1	09/14/16 08:16	9/12/16	
4-Chloro-3-methylphenol	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
4-Chloroaniline	ND U	10	5.0	1.5	1	09/14/16 08:16	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
4-Nitroaniline	ND U	50	25	7.8	1	09/14/16 08:16	9/12/16	
4-Nitrophenol	ND U	50	25	5.9	1	09/14/16 08:16	9/12/16	
Acenaphthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Acenaphthylene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Anthracene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benz(a)anthracene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(a)pyrene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(b)fluoranthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(g,h,i)perylene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(k)fluoranthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzyl Alcohol	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Bis(2-chloroethoxy)methane	ND U	10	5.0	2.2	1	09/14/16 08:16	9/12/16	
Bis(2-chloroethyl) Ether	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Butyl Benzyl Phthalate	ND U	10	5.0	2.4	1	09/14/16 08:16	9/12/16	
Carbazole	ND U	10	5.0	1.1	1	09/14/16 08:16	9/12/16	
Chrysene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610742-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Di-n-octyl Phthalate	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Dibenz(a,h)anthracene	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
Dibenzofuran	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Diethyl Phthalate	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Dimethyl Phthalate	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Fluoranthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Fluorene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Hexachlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Hexachlorobutadiene	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
Hexachloroethane	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Isophorone	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
N-Nitrosodi-n-propylamine	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
N-Nitrosodimethylamine	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
N-Nitrosodiphenylamine	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Naphthalene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Nitrobenzene	ND U	10	5.0	1.6	1	09/14/16 08:16	9/12/16	
Pentachlorophenol (PCP)	ND U	50	25	6.9	1	09/14/16 08:16	9/12/16	
Phenanthrene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Phenol	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Pyrene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	82	43 - 140	09/14/16 08:16	
2-Fluorobiphenyl	64	44 - 119	09/14/16 08:16	
2-Fluorophenol	36	19 - 119	09/14/16 08:16	
Nitrobenzene-d5	63	44 - 120	09/14/16 08:16	
Phenol-d6	27	10 - 107	09/14/16 08:16	
p-Terphenyl-d14	97	50 - 134	09/14/16 08:16	

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

Service Request: R1609582
Date Analyzed: 09/14/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610742-02			RQ1610742-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	65.4	100	65	58.2	100	58	29-116	12	20
1,2-Dichlorobenzene	8270D	64.9	100	65	58.1	100	58	32-111	11	20
1,3-Dichlorobenzene	8270D	63.4	100	63	54.9	100	55	28-110	14	20
1,4-Dichlorobenzene	8270D	63.5	100	64	56.5	100	56	29-112	12	20
2,4,5-Trichlorophenol	8270D	98.3	100	98	99.8	100	100	53-123	2	20
2,4,6-Trichlorophenol	8270D	95.3	100	95	94.8	100	95	50-125	<1	20
2,4-Dichlorophenol	8270D	95.5	100	96	87.2	100	87	47-121	9	20
2,4-Dimethylphenol	8270D	95.1	100	95	92.7	100	93	31-124	3	20
2,4-Dinitrophenol	8270D	120	100	120	128	100	128	23-143	6	20
2,4-Dinitrotoluene	8270D	97.6	100	98	104	100	104	57-128	6	20
2,6-Dinitrotoluene	8270D	101	100	101	101	100	101	57-124	<1	20
2-Chloronaphthalene	8270D	73.8	100	74	71.3	100	71	40-116	3	20
2-Chlorophenol	8270D	85.2	100	85	80.7	100	81	38-117	5	20
2-Methylnaphthalene	8270D	73.8	100	74	69.2	100	69	40-121	6	20
2-Methylphenol	8270D	82.0	100	82	77.3	100	77	30-117	6	20
2-Nitroaniline	8270D	94.9	100	95	94.7	100	95	55-127	<1	20
2-Nitrophenol	8270D	92.6	100	93	88.0	100	88	47-123	5	20
3,3'-Dichlorobenzidine	8270D	90.3	100	90	91.2	100	91	27-129	<1	20
3- and 4-Methylphenol Coelution	8270D	68.8	100	69	67.1	100	67	29-110	3	20
3-Nitroaniline	8270D	87.6	100	88	90.6	100	91	41-128	3	20
4,6-Dinitro-2-methylphenol	8270D	114	100	114	118	100	118	44-137	4	20
4-Bromophenyl Phenyl Ether	8270D	91.3	100	91	90.3	100	90	55-124	1	20
4-Chloro-3-methylphenol	8270D	98.5	100	98	96.4	100	96	52-119	2	20
4-Chloroaniline	8270D	93.9	100	94	94.4	100	94	33-117	<1	20
4-Chlorophenyl Phenyl Ether	8270D	85.8	100	86	84.4	100	84	53-121	2	20
Acenaphthene	8270D	82.0	100	82	81.6	100	82	47-122	<1	20
Acenaphthylene	8270D	81.1	100	81	81.4	100	81	41-130	<1	20
Anthracene	8270D	103	100	103	102	100	102	57-123	1	20
Benz(a)anthracene	8270D	99.3	100	99	100	100	100	58-125	1	20
Benzo(a)pyrene	8270D	104	100	104	103	100	103	54-128	2	20
Benzo(b)fluoranthene	8270D	94.8	100	95	94.8	100	95	53-131	<1	20
Benzo(g,h,i)perylene	8270D	105	100	105	101	100	101	50-134	4	20
Benzo(k)fluoranthene	8270D	104	100	104	102	100	102	57-129	2	20

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002 **Date Analyzed:** 09/14/16
Sample Matrix: Water

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610742-02			RQ1610742-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	8270D	89.0	100	89	84.7	100	85	31-112	5	20
Bis(2-chloroethoxy)methane	8270D	90.5	100	90	86.2	100	86	48-120	5	20
Bis(2-chloroethyl) Ether	8270D	84.3	100	84	80.3	100	80	43-118	5	20
Bis(2-ethylhexyl) Phthalate	8270D	101	100	101	98.5	100	98	55-135	3	20
Butyl Benzyl Phthalate	8270D	95.4	100	95	94.6	100	95	53-134	<1	20
Carbazole	8270D	99.1	100	99	98.3	100	98	60-122	<1	20
Chrysene	8270D	102	100	102	100	100	100	59-123	2	20
Di-n-butyl Phthalate	8270D	112	100	112	111	100	111	59-127	1	20
Di-n-octyl Phthalate	8270D	105	100	105	104	100	104	51-140	<1	20
Dibenz(a,h)anthracene	8270D	76.5	100	76	76.5	100	76	51-134	<1	20
Dibenzofuran	8270D	81.3	100	81	82.7	100	83	53-118	2	20
Diethyl Phthalate	8270D	98.7	100	99	101	100	101	56-125	3	20
Dimethyl Phthalate	8270D	97.4	100	97	100	100	100	45-127	3	20
Fluoranthene	8270D	105	100	105	104	100	104	57-128	<1	20
Fluorene	8270D	84.7	100	85	86.9	100	87	52-124	3	20
Hexachlorobenzene	8270D	97.8	100	98	94.1	100	94	53-125	4	20
Hexachlorobutadiene	8270D	70.2	100	70	65.8	100	66	22-124	6	20
Hexachloroethane	8270D	59.5	100	60	51.3	100	51	21-115	15	20
Indeno(1,2,3-cd)pyrene	8270D	102	100	102	101	100	101	52-134	<1	20
Isophorone	8270D	94.7	100	95	91.2	100	91	42-124	4	20
N-Nitrosodi-n-propylamine	8270D	78.8	100	79	74.5	100	74	49-119	6	20
N-Nitrosodimethylamine	8270D	50.5	100	50	45.4	100	45	23-120	11	20
N-Nitrosodiphenylamine	8270D	95.2	100	95	93.4	100	93	51-123	2	20
Naphthalene	8270D	70.3	100	70	65.3	100	65	40-121	7	20
Nitrobenzene	8270D	86.6	100	87	82.1	100	82	45-121	5	20
Pentachlorophenol (PCP)	8270D	129	100	129	128	100	128	35-138	<1	20
Phenanthrene	8270D	97.6	100	98	96.5	100	97	59-120	1	20
Phenol	8270D	36.0	100	36	33.0	100	33 *	34-121	9	20
Pyrene	8270D	101	100	101	99.4	100	99	57-126	1	20

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3510C

Sample Name	Lab Code	Decachlorobiphenyl 30 - 135	Tetrachloro-m-xylene 44 - 124
3805-MWI12-090816	R1609582-001	71	64
Method Blank	RQ1610740-01	68	55
Lab Control Sample	RQ1610740-02	88	76
Duplicate Lab Control Sample	RQ1610740-03	81	71
3805-MWI12-090816 MS	RQ1610740-12	72	69
3805-MWI12-090816 DMS	RQ1610740-13	72	66
Peformance Evaluation PEM	RQ1611010-02		
Peformance Evaluation PEM	RQ1611010-07		

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/16/16
		Date Extracted:	09/13/16

Duplicate Matrix Spike Summary
Organochlorine Pesticides by Gas Chromatography

Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA
Analysis Method:	8081B		
Prep Method:	EPA 3510C		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1610740-12			RQ1610740-13					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
4,4'-DDD	ND U	0.174	0.189	92	0.169	0.189	89	56-143	3	30
4,4'-DDE	ND U	0.170	0.189	90	0.166	0.189	88	57-135	2	30
4,4'-DDT	ND U	0.155	0.189	82	0.156	0.189	83	51-143	<1	30
Aldrin	ND U	0.164	0.189	87	0.154	0.189	81	45-134	6	30
Dieldrin	ND U	0.182	0.189	97	0.177	0.189	94	60-136	3	30
Endosulfan I	ND U	0.160	0.189	85	0.156	0.189	83	62-126	3	30
Endosulfan II	ND U	0.175	0.189	93	0.171	0.189	91	52-135	2	30
Endosulfan Sulfate	ND U	0.178	0.189	95	0.174	0.189	92	62-133	2	30
Endrin	ND U	0.185	0.189	98	0.179	0.189	95	60-138	3	30
Endrin Aldehyde	ND U	0.0264	0.189	14 *	0.0290 J	0.189	15 *	51-132	9	30
Endrin Ketone	ND U	0.184	0.189	97	0.180	0.189	95	58-134	2	30
Heptachlor	ND U	0.162	0.189	86	0.155	0.189	82	54-130	4	30
Heptachlor Epoxide	ND U	0.175	0.189	93	0.169	0.189	89	61-133	4	30
Methoxychlor	ND U	0.181	0.189	96	0.175	0.189	93	54-145	3	30
alpha-BHC	ND U	0.175	0.189	93	0.167	0.189	89	54-138	4	30
alpha-Chlordane	ND U	0.173	0.189	92	0.168	0.189	89	60-129	3	30
beta-BHC	ND U	0.169	0.189	90	0.164	0.189	87	56-136	3	30
delta-BHC	ND U	0.176	0.189	93	0.170	0.189	90	52-142	4	30
gamma-BHC (Lindane)	ND U	0.178	0.189	94	0.170	0.189	90	59-134	4	30
gamma-Chlordane	ND U	0.170	0.189	90	0.165	0.189	87	56-136	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610740-01	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	0.050	0.025	0.0075	1	09/15/16 09:59	9/13/16	
4,4'-DDE	ND U	0.050	0.025	0.0080	1	09/15/16 09:59	9/13/16	
4,4'-DDT	ND U	0.050	0.025	0.0079	1	09/15/16 09:59	9/13/16	
Aldrin	ND U	0.050	0.025	0.0086	1	09/15/16 09:59	9/13/16	
Dieldrin	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
Endosulfan I	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
Endosulfan II	ND U	0.050	0.025	0.010	1	09/15/16 09:59	9/13/16	
Endosulfan Sulfate	ND U	0.050	0.025	0.0089	1	09/15/16 09:59	9/13/16	
Endrin	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
Endrin Aldehyde	ND U	0.050	0.025	0.0087	1	09/15/16 09:59	9/13/16	
Endrin Ketone	ND U	0.050	0.025	0.0090	1	09/15/16 09:59	9/13/16	
Heptachlor	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
Heptachlor Epoxide	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
Methoxychlor	ND U	0.050	0.025	0.0091	1	09/15/16 09:59	9/13/16	
alpha-BHC	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
alpha-Chlordane	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
beta-BHC	ND U	0.050	0.025	0.017	1	09/15/16 09:59	9/13/16	
delta-BHC	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
gamma-BHC (Lindane)	ND U	0.050	0.025	0.013	1	09/15/16 09:59	9/13/16	
gamma-Chlordane	ND U	0.050	0.025	0.0088	1	09/15/16 09:59	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	68	30 - 135	09/15/16 09:59	
Tetrachloro-m-xylene	55	44 - 124	09/15/16 09:59	

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002 **Date Analyzed:** 09/15/16
Sample Matrix: Water

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610740-02			RQ1610740-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
4,4'-DDD	8081B	0.223	0.200	112	0.204	0.200	102	56-143	9	30
4,4'-DDE	8081B	0.210	0.200	105	0.190	0.200	95	57-135	10	30
4,4'-DDT	8081B	0.210	0.200	105	0.194	0.200	97	51-143	8	30
Aldrin	8081B	0.163	0.200	81	0.163	0.200	81	45-134	<1	30
Dieldrin	8081B	0.221	0.200	111	0.202	0.200	101	60-136	9	30
Endosulfan I	8081B	0.195	0.200	97	0.179	0.200	90	62-126	8	30
Endosulfan II	8081B	0.214	0.200	107	0.198	0.200	99	52-135	7	30
Endosulfan Sulfate	8081B	0.216	0.200	108	0.200	0.200	100	62-133	7	30
Endrin	8081B	0.220	0.200	110	0.205	0.200	102	60-138	7	30
Endrin Aldehyde	8081B	0.0520	0.200	26 *	0.0475 J	0.200	24 *	51-132	9	30
Endrin Ketone	8081B	0.224	0.200	112	0.207	0.200	103	58-134	8	30
Heptachlor	8081B	0.171	0.200	85	0.166	0.200	83	54-130	3	30
Heptachlor Epoxide	8081B	0.208	0.200	104	0.195	0.200	97	61-133	7	30
Methoxychlor	8081B	0.219	0.200	110	0.209	0.200	104	54-145	5	30
alpha-BHC	8081B	0.212	0.200	106	0.204	0.200	102	54-138	4	30
alpha-Chlordane	8081B	0.205	0.200	102	0.191	0.200	96	60-129	7	30
beta-BHC	8081B	0.201	0.200	101	0.195	0.200	98	56-136	3	30
delta-BHC	8081B	0.213	0.200	106	0.202	0.200	101	52-142	5	30
gamma-BHC (Lindane)	8081B	0.213	0.200	106	0.205	0.200	103	59-134	3	30
gamma-Chlordane	8081B	0.200	0.200	100	0.187	0.200	93	56-136	7	30

Client: ARCADIS U.S., Inc. **Service Request:** R1609582
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Extraction Method: EPA 3510C

		Decachlorobiphenyl	Tetrachloro-m-xylene
Sample Name	**Lab Code**	**10 - 149**	**15 - 131**
3805-MWI12-090816	R1609582-001	68	66
Method Blank	RQ1610740-01	65	59
Lab Control Sample	RQ1610740-02	73	66
Duplicate Lab Control Sample	RQ1610740-03	83	74
3805-MWI12-090816 MS	RQ1610740-12	65	64
3805-MWI12-090816 DMS	RQ1610740-13	75	70

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/15/16
		Date Extracted:	09/13/16

Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs) by GC

Sample Name:	3805-MWI12-090816	**Units:**	ug/L
Lab Code:	R1609582-001	**Basis:**	NA
Analysis Method:	8082A		
Prep Method:	EPA 3510C		

		Matrix Spike RQ1610740-12			Duplicate Matrix Spike RQ1610740-13					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND U	3.36	4.72	71	3.57	4.72	76	46-129	6	30
Aroclor 1260	ND U	3.53	4.72	75	3.96	4.72	84	45-134	11	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610740-01	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	
Aroclor 1221	ND U	2.0	1.0	0.84	1	09/15/16 09:18	9/13/16	
Aroclor 1232	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	
Aroclor 1242	ND U	1.0	0.50	0.29	1	09/15/16 09:18	9/13/16	
Aroclor 1248	ND U	1.0	0.50	0.27	1	09/15/16 09:18	9/13/16	
Aroclor 1254	ND U	1.0	0.50	0.26	1	09/15/16 09:18	9/13/16	
Aroclor 1260	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	
Aroclor 1268	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	65	10 - 149	09/15/16 09:18	
Tetrachloro-m-xylene	59	15 - 131	09/15/16 09:18	

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dba ALS Environmental

QA/QC Report

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

Service Request: R1609582
Date Analyzed: 09/15/16

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/L
Basis:NA

			Lab Control Sample RQ1610740-02			Duplicate Lab Control Sample RQ1610740-03				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	8082A	3.35	5.00	67	3.71	5.00	74	46-129	10	30
Aroclor 1260	8082A	4.03	5.00	81	4.48	5.00	90	45-134	11	30

General Chemistry

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www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609582-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	ND	U	mg/L	0.010	0.005	0.002	1	09/13/16 14:24	09/12/16	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/09/16 17:30	NA	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.10	0.05	0.05	1	09/09/16 15:37	NA	
Sulfate	300.0	ND	U	mg/L	0.20	0.10	0.02	1	09/09/16 15:37	NA	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609582-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/14/16 21:18	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/13/16
		Date Extracted:	09/12/16

Matrix Spike Summary
Cyanide, Total

Sample Name:	3805-MWI12-090816	**Units:**	mg/L
Lab Code:	R1609582-001	**Basis:**	NA
Analysis Method:	9012B		
Prep Method:	Method		

Matrix Spike
R1609582-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	0.018	0.116	0.100	98	83-116

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project:	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/9/16

Matrix Spike Summary
Iron, Divalent (Ferrous Iron)

Sample Name:	1295-MW25-090916	**Units:**	mg/L
Lab Code:	R1609582-005	**Basis:**	NA
Analysis Method:	SM 3500-Fe B.4.c		

Matrix Spike
R1609582-005MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	ND U	0.41	0.40	102	67-129

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

Service Request:R1609582
Date Collected:09/09/16
Date Received:09/09/16
Date Analyzed:9/9/16

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: 1295-MWS28-090916
Lab Code: R1609582-007

Units:mg/L
Basis:NA

			Matrix Spike R1609582-007MS			Duplicate Matrix Spike R1609582-007DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Nitrate as Nitrogen	300.0	ND U	10.7	10.0	107	10.7	10.0	107	90-110	<1	20
Sulfate	300.0	8.0	28.9	20.0	104	29.0	20.0	105	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/13/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	3805-MWI12-090816	**Units:**	mg/L
Lab Code:	R1609582-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609582-001DUP Result	Average	RPD	RPD Limit
Cyanide, Total	9012B	0.010	0.005	0.002	0.018	0.017	0.0173	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609582
Project	Fort Drum, NY IRP/1443135-002	**Date Collected:**	09/09/16
Sample Matrix:	Water	**Date Received:**	09/09/16
		Date Analyzed:	09/09/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	1295-MW25-090916	**Units:**	mg/L
Lab Code:	R1609582-005	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609582-005DUP Result	Average	RPD	RPD Limit
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.10	0.08	0.04	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

Service Request: R1609582
Date Analyzed: 09/09/16 - 09/13/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609582-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	0.0996	0.100	100	90-110
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.368	0.40	92	67-129
Nitrate as Nitrogen	300.0	1.05	1.00	105	90-110
Sulfate	300.0	1.98	2.00	99	90-110

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP/1443135-002
Sample Matrix: Water

Service Request: R1609582
Date Analyzed: 09/13/16 - 09/14/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609582-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	0.383	0.400	96	90-110
Sulfate	300.0	2.10	2.00	105	90-110

Subcontracted Analytical Parameters

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

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34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

September 22, 2016

Reports and Invoices
ALS Environmental
1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	**R1609584**	Workorder:	**2175005**
Purchase Order:	**58R1609582**	Workorder ID:	**AER194|R1609582**

Dear Reports Invoices:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, September 14, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vicki A. Forney (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Janice Jaeger

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2175005 AER194|R1609582

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2175005001	3805-MWI12-090816	Ground Water	9/8/2016 14:15	9/14/2016 09:07	Collected by Client

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2175005 AER194|R1609582

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2175005 AER194|R1609582

Lab ID: **2175005001** Date Collected: 9/8/2016 14:15 Matrix: Ground Water

Sample ID: **3805-MWI12-090816** Date Received: 9/14/2016 09:07

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Cadmium, Total	0.00070U	U1	mg/L	0.0011	0.00070	0.00037	SW846 6020A	9/18/16	JPS	9/22/16 05:15	ZMC	B1
Chromium, Total	0.0018J	J	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/18/16	JPS	9/19/16 12:22	MO	B1
Copper, Total	0.022	2	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/18/16	JPS	9/22/16 05:15	ZMC	B1
Lead, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/18/16	JPS	9/19/16 12:22	MO	B1
Mercury, Total	0.00033U	U	mg/L	0.00050	0.00033	0.00016	SW846 7470A	9/19/16	MNP	9/19/16 13:13	MNP	B2
Nickel, Total	0.0037U	U3	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/18/16	JPS	9/22/16 05:15	ZMC	B1
Zinc, Total	0.0021J	J4	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/18/16	JPS	9/22/16 05:15	ZMC	B1

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2175005001	1	3805-MWI12-090816	SW846 6020A	Cadmium, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2175005001	2	3805-MWI12-090816	SW846 6020A	Copper, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2175005001	3	3805-MWI12-090816	SW846 6020A	Nickel, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2175005001	4	3805-MWI12-090816	SW846 6020A	Zinc, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				

ALS Environmental Chain of Custody

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ALS Cont

2175005

Project Number: R1609582
Project Manager: Janice Jaeger
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Ag T DOD 6010C	Al T DOD 6010C	As T DOD 6010C	Ba T DOD 6010C	Be T DOD 6010C	Ca T DOD 6010C	Cd T DOD 6010C	Co T DOD 6010C	Cr T DOD 6010C
[redacted]	3805-MW112-090816	X3	Water	9/8/16	1415	Middletown ALS	X	X	X	X	X	X	X	X	X

Rec'd 3 bottles (2)labeled M/S-MSD
JLS 9/15

	Y	N	Initials	Cooler Temp.
Custody Seals Present?				18 °C
(if present) Seals Intact?				
Received on Ice?	X			Cooler #:
COC/Lbls Complete				
Cont in Good Cond?				Therm ID: IR-352
Correct Containers?				
Correct Samp Vol?				Ship Carrier:
Correct Preservation?				FedEx UPS
Headspace/Volatiles?				DHL

Tracking # 6606 8244 4956

Special Instructions/Comments
Fort Drum DOD
EQuIS 3.7 EDD w/
arcadis VVIS

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements
___ RUSH (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
X STANDARD
Requested FAX Date: _____
Requested Report Date: 09/20/16

Report Requirements
___ I. Results Only
X II. Results + QC Summaries
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD Y

Invoice Information
PO# 58R1609582
Bill to

Relinquished By: [signature] 9/13/16/1605
Received By: [signature] 9/14/16 0907
Airbill Number: _____

[redacted]	3805-MW112-090816		Water	9/8/16	1415	Middletown ALS	X	X	X	X	X	X	X	X	X	X	X
							Cu T DOD 6010C	Fe T DOD 6010C	Hg T DOD 7470A	K T DOD 6010C	Mg T DOD 6010C	Mn T DOD 6010C	Na T DOD 6010C	Ni T DOD 6010C	Pb T DOD 6010C		

[redacted]	3805-MW112-090816		Water	9/8/16	1415	Middletown ALS	X	X	X	X	X

Sb T DOD 6010C	Se T DOD 6010C	Tl T DOD 6010C	V T DOD 6010C	Zn T DOD 6010C
X	X	X	X	X

ALS Environmental Chain of Custody

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ALS Contact: Janice Jaeger

Run QC on sample R1609582-001 for 6010C/Ag T DOD, Al T DOD, As T DOD, Ba T DOD, Be T DOD, Ca T DOD, Cd T DOD, Co T DOD, Cr T DOD, Cu T DOD, Fe T DOD, K T DOD, Mg T DOD, Mn T DOD,6010C/Na T DOD, Ni T DOD, Pb T DOD, Sb T DOD, Se T DOD, Tl T DOD, V T DOD, Zn T DOD, 7470A/Hg T DOD

Project Manager: Pamela Leigh

QAP: LAB QAP

R1609582

Ship To: Middletown ALS
ALS Laboratory Group
34 Dogwood Lane
Middletown, PA 17057

PC JMD Date 9/12/16

SMO _____ Date _____

Instructions:

Ice _____

Dry Ice _____

No Ice _____

Shipping:

Overnight _____

2nd Day _____

Ground _____

Bill to Client Account _____

Comments:

November 09, 2016 Service Request No:R1609583

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY IRP Basewide

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 12, 2016
For your reference, these analyses have been assigned our service request number **R1609583.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger

Project Manager

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OSL-SP01-090816 - VOA GCMS 195
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Narrative Documents

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
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1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request:R1609583
Date Received:09/09/16 - 09/12/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Fifteen water samples were received for analysis at ALS Environmental on 09/09-12/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260c, 9/15/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Semi-Volatile Organic Analyses:

Method 8270D, 09/14/16: The lower control limit for the spike recovery of the Laboratory Control Sample Duplicate (LCSD) was exceeded for one or more analyte. The Laboratory Control Sample (LCS), batch Matrix Spike and batch Matrix Spike Duplicate are within limits. The analytes affected are flagged in the LCS Summary.

Method 8081: The sample extract(s) required cleanup with TBA (Tetrabutylammonium sulfate) to reduce analytical interference from sulfur. Endrin aldehyde is degraded by TBA cleanup, resulting in low LCS recoveries, and a likely low bias in the associated samples.

General Chemistry Analyses:

Method SM 3500-Fe B.4.c/Ferrous DOD, One or more samples were received past the recommended holding time. The customer was notified when the discrepancy was found and instructed the laboratory to proceed with processing. The analysis was performed as soon as possible after receipt by the laboratory. The data is flagged to indicate the holding time violation.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by  Date 11/10/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-MWI17-090716	Lab ID: R1609583-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	290		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	83		1.0	25	ug/L	8260C
4-Isopropyltoluene	2.2	J	1.0	25	ug/L	8260C
Acetone	7.5	J	6.2	50	ug/L	8260C
Benzene	670		1.0	25	ug/L	8260C
Ethylbenzene	580		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	34		1.0	25	ug/L	8260C
Naphthalene	140		1.0	25	ug/L	8260C
Toluene	76		1.0	25	ug/L	8260C
m,p-Xylenes	1100		1.7	25	ug/L	8260C
n-Butylbenzene	2.8	J	1.1	25	ug/L	8260C
n-Propylbenzene	57		1.0	25	ug/L	8260C
o-Xylene	120		1.0	25	ug/L	8260C
sec-Butylbenzene	3.1	J	1.4	25	ug/L	8260C
2,4-Dimethylphenol	9.4	J	1.5	9.4	ug/L	8270D
2-Methylnaphthalene	15		1.0	9.4	ug/L	8270D
Naphthalene	86		1.0	9.4	ug/L	8270D
Phenol	3.3	J	1.0	9.4	ug/L	8270D

CLIENT ID: 3805-MWD18-090716	Lab ID: R1609583-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.0	J	1.3	10	ug/L	8260C
Benzene	13		0.20	5.0	ug/L	8260C

CLIENT ID: TRIP BLANK 1	Lab ID: R1609583-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.5	J	1.3	10	ug/L	8260C

CLIENT ID: 3805-MWI15-090716	Lab ID: R1609583-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Cyanide, Total	0.003	J	0.002	0.010	mg/L	9012B
Acetone	1.8	J	1.3	10	ug/L	8260C
Benzene	1.4	J	0.20	5.0	ug/L	8260C
Chloromethane	0.21	J	0.21	5.0	ug/L	8260C
Tetrachloroethene (PCE)	63		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	1.4	J	0.22	5.0	ug/L	8260C

CLIENT ID: 3805-MWD16-090816	Lab ID: R1609583-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Chloroform	0.25	J	0.25	5.0	ug/L	8260C

CLIENT ID: OSL-MW2-090816	Lab ID: R1609583-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Chloroform	0.40	J	0.25	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: OSL-MW2-090816	Lab ID: R1609583-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**

CLIENT ID: OSL-SP01-090816	Lab ID: R1609583-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	1.3	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.28	J	0.20	5.0	ug/L	8260C
Acetone	2.3	J	1.3	10	ug/L	8260C
Ethylbenzene	0.57	J	0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.30	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	1.4	J	0.33	5.0	ug/L	8260C
n-Propylbenzene	0.37	J	0.20	5.0	ug/L	8260C

CLIENT ID: SP01-EFF-090816	Lab ID: R1609583-008					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	0.93	J	0.20	5.0	ug/L	8260C
Acetone	4.5	J	1.3	10	ug/L	8260C
Ethylbenzene	0.37	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	1.2	J	0.33	5.0	ug/L	8260C
n-Propylbenzene	0.21	J	0.20	5.0	ug/L	8260C

CLIENT ID: LS31-EFF-090816	Lab ID: R1609583-009					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	3.1	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.53	J	0.20	5.0	ug/L	8260C
Ethylbenzene	0.92	J	0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.32	J	0.20	5.0	ug/L	8260C
Naphthalene	1.4	J	0.20	5.0	ug/L	8260C
Tetrachloroethene (PCE)	0.46	J	0.30	5.0	ug/L	8260C
m,p-Xylenes	2.7	J	0.33	5.0	ug/L	8260C
n-Propylbenzene	0.53	J	0.20	5.0	ug/L	8260C

CLIENT ID: LS31-090816	Lab ID: R1609583-010					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	1.7	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.33	J	0.20	5.0	ug/L	8260C
Acetone	3.0	J	1.3	10	ug/L	8260C
Ethylbenzene	0.44	J	0.20	5.0	ug/L	8260C
Tetrachloroethene (PCE)	0.85	J	0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	0.24	J	0.22	5.0	ug/L	8260C
m,p-Xylenes	1.7	J	0.33	5.0	ug/L	8260C
n-Propylbenzene	0.32	J	0.20	5.0	ug/L	8260C

CLIENT ID: ASL-MW12A-091216	Lab ID: R1609583-011					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	172		1.0	2.0	mg/L	SM 2320 B-

SAMPLE DETECTION SUMMARY

CLIENT ID: ASL-MW12A-091216	Lab ID: R1609583-011					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Carbon, Total Organic (TOC)	1.5		0.05	1.0	mg/L	SM 5310 C-
Chemical Oxygen Demand, Total	6.5		3.7	5.0	mg/L	410.4
Nitrate as Nitrogen	4.2		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.20	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	666		8	20	mg/L	SM 2540 C-
Sulfate	31.8		0.2	2.0	mg/L	300.0

CLIENT ID: ASL-MW13-091216	Lab ID: R1609583-012					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	152		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	1.0	B	0.05	1.0	mg/L	SM 5310 C-
Nitrate as Nitrogen	4.3		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.34	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	318		4	10	mg/L	SM 2540 C-
Sulfate	14.7		0.2	2.0	mg/L	300.0

CLIENT ID: ASL-MW14-091216	Lab ID: R1609583-013					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	285		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	1.0	B	0.05	1.0	mg/L	SM 5310 C-
Nitrate as Nitrogen	2.2		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.20	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	404		4	10	mg/L	SM 2540 C-
Sulfate	8.3		0.2	2.0	mg/L	300.0

CLIENT ID: ASL-MW961-091216	Lab ID: R1609583-014					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	207		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	1.4	B	0.05	1.0	mg/L	SM 5310 C-
Nitrate as Nitrogen	4.1		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.27	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	738		8	20	mg/L	SM 2540 C-
Sulfate	29.2		0.2	2.0	mg/L	300.0

CLIENT ID: BD-091216	Lab ID: R1609583-015					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	154		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	0.9	BJ	0.05	1.0	mg/L	SM 5310 C-
Nitrate as Nitrogen	4.4		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.37	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	318		4	10	mg/L	SM 2540 C-
Sulfate	14.9		0.2	2.0	mg/L	300.0

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609583-001	3805-MWI17-090716	9/7/2016	1320
R1609583-002	3805-MWD18-090716	9/7/2016	1110
R1609583-003	TRIP BLANK 1	9/8/2016	
R1609583-004	3805-MWI15-090716	9/7/2016	1330
R1609583-005	3805-MWD16-090816	9/8/2016	0910
R1609583-006	OSL-MW2-090816	9/8/2016	1100
R1609583-007	OSL-SP01-090816	9/8/2016	0830
R1609583-008	SP01-EFF-090816	9/8/2016	0915
R1609583-009	LS31-EFF-090816	9/8/2016	1030
R1609583-010	LS31-090816	9/8/2016	1000
R1609583-011	ASL-MW12A-091216	9/12/2016	0910
R1609583-012	ASL-MW13-091216	9/12/2016	1030
R1609583-013	ASL-MW14-091216	9/12/2016	1140
R1609583-014	ASL-MW961-091216	9/12/2016	1300
R1609583-015	BD-091216	9/12/2016	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39919

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: FT Drum IRP Basewide	Project Number:
Project Manager: Stefan Bagnato	Report CC:
Company/Address: Arcadis 855 Route 146, Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7334	Email: stefan.bagnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1 0 1 0 0 4 2

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Cyanide	VOC	SVOC	TAL metals	Fe Pb hardness	REMARKS/ ALTERNATE DESCRIPTION
3805-MW117-090716		9/7/16	1320						1	2			1	3	2	1		
3805-MWD18-090716		9/7/16	1110						1	2			1	3	2	1		
Trip blank		5/31/16	1230											3				
3805-MW115-090716		9/7/16	1330						1	2			1	3	2	1		
3805-MWD16-090816		9/8/16	0910						1	1			1	3	2	1		
OSL-MW2-090816		9/8/16	1100						4	4			4	3	2	1		
OSL-SP01-090816		9/8/16	~~0530~~ 0915											3	2	1	1	
SP01-EFF-090816		9/8/16	~~1030~~ 1015											3		1	1	
LS31-EFF-090816		9/8/16	~~1030~~ 1030											3		1	1	
LS31-090816		9/8/16	1005											3		1	1	

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Metals

OSL/ASL Locations

ASP Category B (Tier IV)

EQuIS EFWEDD w/ Arcadis Reference Values

3 coolers

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

REQUESTED REPORT DATE

_____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature Daniel Marc	Signature	
Printed Name AMB	Printed Name Chris Wright	Printed Name Chris Wright	Printed Name ALS	Printed Name	
Firm Arcadis	Firm ALS	Firm	Firm 9/9/16 1605	Firm	
Date/Time 9/9/16 1315	Date/Time 9/9/16 1315	Date/Time 9/9/16 1605	Date/Time	Date/Time	Date/Time

R1609583 5

ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

Project/Client Arcadis Folder Number

Cooler received on 9/9/16 by: DW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y N	5a	**Perchlorate** samples have required headspace?	Y N NA
2	**Custody papers** properly completed (ink, signed)?	Y N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N NA
3	Did all bottles arrive in good **condition** (unbroken)?	Y N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: ~~Wet Ice~~ **Dry Ice Gel packs** present?	Y N	7	Soil VOA received as:	Bulk Encore 5035set NA

8. Temperature Readings Date: 9/9/16 Time: 1634 ID: IR#5 IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.8 c	3.6	2.6 c	6.8 c	14.2 c	3.4 c	
Correction Factor (°C)	+0.0	-0.5	+0.0	-0.5	+0.0	+0.0	
Corrected Temp (°C)	1.8	3.1	2.6	6.3	14.2	3.4	
Within 0-6°C?	Y N	Y N	Y N	Y N**	Y N**	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule**

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-07 by DW on 9/9/16 at 1634
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9/9/16 Time: 2122 by: [signature]

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	YES	NO
2.	Did all bottle labels and tags agree with custody papers?	YES	NO
3.	Were correct containers used for the tests indicated?	YES	NO
4.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO
5.	Air Samples: Cassettes / Tubes Intact	Canisters Pressurized	Tedlar® Bags Inflated

~~N/A~~ N/A ~~N/A~~ N/A

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH	✓		0914217713	3/17				
≤2	HNO_3	✓		0608B26536	6/17				
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522	✓		If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**	4116022	7/17				

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: 060116 JMM, 060316 JMM, 6 ~~445~~ 060 004, 060316 1441

Other Comments:
*5 vials for the trip blank.
**Sample location: 3805 Post Air Stripper.

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: SMW 9/12/16

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39945

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: FT Drum IRP Basewide | Project Number:
Project Manager: Stefan Bagnato | Report CC:
Company/Address: Arcadis, 855 Route 146, Suite 210, Clifton Park, NY 12065
Phone #: 518-250-7354 | Email: Stefan.Bagnato@arcadis.com
Sampler's Signature: | Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 3 | 8 | 8 | 8 | 2 | 3 | 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TOC, Phenol	Br, NO2/NO3, TDS (Ca)	BOD	Alkalinity	TAL Metals	TKN, NH2 COD	RSK-175	REMARKS/ ALTERNATE DESCRIPTION
ASL-MW12A-091216		9/12/16	0910	GW	9								1	1	1	1	1	1	3	
ASL-MW13-091216		9/12/16	1030	GW	9								1	1	1	1	1	1	3	
ASL-MW14-091216		9/12/16	1140	GW	9								1	1	1	1	1	1	3	
ASL-MW901-091216		9/12/16	1300	GW	9								1	1	1	1	1	1	3	
BD-091216		9/12/16	—	GW	9								1	1	1	1	1	1	3	
~~trip blank~~																				

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other ICE

SPECIAL INSTRUCTIONS/COMMENTS

Metals ASL

ASP Category B (Tier II)

EQuIS EFWEDD y Arcadis Ref Values

1 cooler

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

REQUESTED REPORT DATE

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	
Printed Name N. Griffith	Printed Name Scott Seay	Printed Name Scott Seay	Printed Name ALS	Printed Name	
Firm Arcadis	Firm ALS	Firm ALS	Firm 9/12/16 1630	Firm	
Date/Time 9/12/16 13:50	Date/Time 9/12/16 1350	Date/Time 9/12/16 1630	Date/Time	Date/Time	

FR1609583 5

ARCADIS U.S., Inc.
Fort Drum, NY IRP Basewide

Distribution: White - Lab Copy; Yellow - Return to Originator

© 2012 by ALS Group

Cooler Receipt and Preservation Check Form

Project/Client Arcadis Folder Number .

Cooler received on 9/12/16 by: DW

COURIER: ~~ALS~~ UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y ~~N~~	5a	**Perchlorate** samples have required headspace?	Y N ~~NA~~
2	**Custody papers** properly completed (ink, signed)?	~~Y~~ N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y ~~N~~ NA
3	Did all bottles arrive in good **condition** (unbroken)?	~~Y~~ N	6	Where did the bottles originate?	~~ALS~~/ROC CLIENT
4	Circle: ~~Wet Ice~~ **Dry Ice Gel packs** present?	~~Y~~ N	7	Soil VOA received as: Bulk Encore 5035set	~~NA~~

8. Temperature Readings Date: 9/12/16 Time: 1652 ID: ~~IR#5~~ IR#6 From: ~~Temp Blank~~ Sample Bottle

Observed Temp (°C)	6.1°	13.7°					
Correction Factor (°C)	-0.2	-0.7					
Corrected Temp (°C)	5.9	13.0					
Within 0-6°C?	~~Y~~ N	Y ~~N~~	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed ~~Same Day Rule~~

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: Rack by DW on 9/12/16 at 1652
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9-13-16 Time: 0915 by: T.S

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? ~~YES~~ NO
2. Did all bottle labels and tags agree with custody papers? ~~YES~~ NO
3. Were correct containers used for the tests indicated? ~~YES~~ NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO ~~N/A~~
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated ~~N/A~~

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	X		BD3261 5561	6/17				
≤2	H_2SO_4	X		WC16100A	8/17				
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522	X		If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 060116-13MC, 060516-2AMO, 5-211-002, 050216 2AB1
Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	~~SUB~~
SO3	MARRS
ALS	REV

PC Secondary Review: DW 9/13/16

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609583-001.01					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-001.02					
	8270D				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0841	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-001.05					
	9012B				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/16/2016	0826	In Lab / KABBOTT	
R1609583-001.07					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-001.08					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1345	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-001.09					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-001.10					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-001.12					
	8082A				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-001.13					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-001.19					
	8081B				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0840	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-002.01					
	8270D				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0841	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-002.02					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-002.05					
	9012B				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/16/2016	0827	In Lab / KABBOTT	
R1609583-002.07					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609583-002.08					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-002.09					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-002.10					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-002.12					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-002.13					
	8081B,8082A				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0840	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-002.19					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-003.01					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609583-003.02					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
R1609583-003.03					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-004.01					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-004.02					
	8270D				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0842	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-004.05					
	9012B				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/16/2016	0827	In Lab / KABBOTT	
R1609583-004.07					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-004.08					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8260C				
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-004.09					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-004.10					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-004.12					
	8081B,8082A				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0840	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-004.13					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-004.19					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-005.01					
	8270D				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0842	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-005.02					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-005.05					
	9012B				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/16/2016	0827	In Lab / KABBOTT	
R1609583-005.07					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-005.08					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-005.09					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-005.10					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-005.12					
	8082A				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0841	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-005.19					

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8081B				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-006.01					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-006.02					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-006.03					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-006.04					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-006.05					
	8270D				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0841	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-006.06					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-007.01					

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-007.02					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-007.03					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-007.04					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-007.05					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0900	SUBBED / GESMERIAN	
R1609583-007.06					
	8270D				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/12/2016	0841	In Lab / DMURPHY	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-007.07					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-002 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609583-008.02					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-008.03					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-008.04					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-008.05					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-009.02					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-009.03					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
		9/15/2016	1419	R-001-S10 / FNAEGLER	
R1609583-009.04					
		9/9/2016	2120	SMO / DWARD	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
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Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-009.05					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-010.02					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	SUBBED / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-010.03					
	8260C				
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1344	In Lab / FNAEGLER	
R1609583-010.04					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-010.05					
		9/9/2016	2120	SMO / DWARD	
		9/9/2016	2121	R-001 / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
R1609583-011.03					
	SM 5310 C-2000(2011),420.4				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/20/2016	0804	In Lab / BBOWE	
		9/20/2016	1551	R-002 / BBOWE	
		9/22/2016	1551	In Lab / KABBOTT	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
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Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	SM 5310 C-2000(2011),420.4				
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	1249	In Lab / KABBOTT	
		9/27/2016	1422	R-002 / KMENGS	
R1609583-011.06					
	SM 2320 B-1997(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-011.10					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0900	SUBBED / GESMERIAN	
R1609583-011.11					
	SM 5210 B-2001(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0759	In Lab / MLAMBRECHT	
		9/14/2016	1730	R-002 / KABBOTT	
R1609583-011.14					
	351.2,410.4,ASTM D6919-09				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0837	In Lab / KMENGS	
		9/14/2016	1544	R-002 / KMENGS	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1643	R-002 / TSABO	
R1609583-011.15					
	RSK 175				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
		9/15/2016	1615	R-001 / AMOSES	
R1609583-011.16					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/15/2016	1247	In Lab / AMOSES	
R1609583-011.17					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-011.20					
	SM 3500-Fe B.4.c,300.0,SM 2540 C-1997(2011),300.0,300.0,300.0				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	1015	In Lab / NMANSEN	
		9/13/2016	1048	R-002 / NMANSEN	
		9/13/2016	1136	In Lab / KMENGS	
		9/14/2016	0841	In Lab / KWONG	
		9/14/2016	1203	R-002 / SDIRKX	
R1609583-012.03					
	SM 5310 C-2000(2011),420.4				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/20/2016	0804	In Lab / BBOWE	
		9/20/2016	1551	R-002 / BBOWE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	1249	In Lab / KABBOTT	
		9/27/2016	1422	R-002 / KMENGS	
R1609583-012.06					
	SM 2320 B-1997(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-012.10					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0900	SUBBED / GESMERIAN	
R1609583-012.11					
	SM 5210 B-2001(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0800	In Lab / MLAMBRECHT	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	SM 5210 B-2001(2011)				
		9/14/2016	1731	R-002 / KABBOTT	
R1609583-012.14					
	351.2,ASTM D6919-09,410.4				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0837	In Lab / KMENGS	
		9/14/2016	1544	R-002 / KMENGS	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1643	R-002 / TSABO	
R1609583-012.15					
	RSK 175				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
		9/15/2016	1615	R-001 / AMOSES	
R1609583-012.16					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-012.17					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-012.20					
	SM 3500-Fe B.4.c,300.0,SM 2540 C-1997(2011),300.0,300.0,300.0				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	1015	In Lab / NMANSEN	
		9/13/2016	1048	R-002 / NMANSEN	
		9/13/2016	1136	In Lab / KMENGS	
		9/14/2016	0841	In Lab / KWONG	
		9/14/2016	1203	R-002 / SDIRKX	
R1609583-013.03					

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	420.4,SM 5310 C-2000(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/20/2016	0805	In Lab / BBOWE	
		9/20/2016	1551	R-002 / BBOWE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	1249	In Lab / KABBOTT	
		9/27/2016	1422	R-002 / KMENGS	
R1609583-013.06					
	SM 2320 B-1997(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-013.10					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0900	SUBBED / GESMERIAN	
R1609583-013.11					
	SM 5210 B-2001(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0759	In Lab / MLAMBRECHT	
		9/14/2016	1730	R-002 / KABBOTT	
R1609583-013.14					
	410.4,351.2,ASTM D6919-09				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0837	In Lab / KMENGS	
		9/14/2016	1544	R-002 / KMENGS	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1643	R-002 / TSABO	
R1609583-013.15					
	RSK 175				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
		9/15/2016	1615	R-001 / AMOSES	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609583-013.16					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-013.17					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-013.20					
	300.0,SM 2540 C-1997(2011),SM 3500-Fe B.4.c,300.0,300.0,300.0				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	1015	In Lab / NMANSEN	
		9/13/2016	1047	R-002 / NMANSEN	
		9/13/2016	1136	In Lab / KMENGS	
		9/14/2016	0841	In Lab / KWONG	
		9/14/2016	1203	R-002 / SDIRKX	
R1609583-014.03					
	SM 5310 C-2000(2011),420.4				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/20/2016	0805	In Lab / BBOWE	
		9/20/2016	1551	R-002 / BBOWE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	1249	In Lab / KABBOTT	
		9/27/2016	1422	R-002 / KMENGS	
R1609583-014.06					
	SM 2320 B-1997(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-014.10					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0900	SUBBED / GESMERIAN	
R1609583-014.11					

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	SM 5210 B-2001(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0759	In Lab / MLAMBRECHT	
		9/14/2016	1730	R-002 / KABBOTT	
R1609583-014.14					
	351.2,410.4,ASTM D6919-09				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0837	In Lab / KMENGS	
		9/14/2016	1544	R-002 / KMENGS	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1643	R-002 / TSABO	
R1609583-014.15					
	RSK 175				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
		9/15/2016	1615	R-001 / AMOSES	
R1609583-014.16					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-014.17					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-014.20					
	300.0,300.0,300.0,SM 3500-Fe B.4.c,SM 2540 C-1997(2011),300.0				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	1015	In Lab / NMANSEN	
		9/13/2016	1047	R-002 / NMANSEN	
		9/13/2016	1136	In Lab / KMENGS	

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	300.0,300.0,300.0,SM 3500-Fe B.4.c,SM 2540 C-1997(2011),300.0				
		9/14/2016	0841	In Lab / KWONG	
		9/14/2016	1203	R-002 / SDIRKX	
R1609583-015.03					
	SM 5310 C-2000(2011),420.4				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/20/2016	0805	In Lab / BBOWE	
		9/20/2016	1551	R-002 / BBOWE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	1249	In Lab / KABBOTT	
		9/27/2016	1422	R-002 / KMENGS	
R1609583-015.06					
	SM 2320 B-1997(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
R1609583-015.10					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0900	SUBBED / GESMERIAN	
R1609583-015.11					
	SM 5210 B-2001(2011)				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0759	In Lab / MLAMBRECHT	
		9/14/2016	1730	R-002 / KABBOTT	
R1609583-015.14					
	ASTM D6919-09,410.4,351.2				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/14/2016	0837	In Lab / KMENGS	
		9/14/2016	1544	R-002 / KMENGS	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1644	R-002 / TSABO	
R1609583-015.15					
	RSK 175				
		9/12/2016	1747	SMO / DWARD	

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Internal Chain of Custody Report

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	RSK 175				
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
		9/15/2016	1615	R-001 / AMOSES	
R1609583-015.16					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-015.17					
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	0858	R-001 / GESMERIAN	
		9/15/2016	1247	In Lab / AMOSES	
R1609583-015.20					
	300.0,300.0,SM 2540 C-1997(2011),300.0,300.0,SM 3500-Fe B.4.c				
		9/12/2016	1747	SMO / DWARD	
		9/13/2016	0857	R-002 / GESMERIAN	
		9/13/2016	1015	In Lab / NMANSEN	
		9/13/2016	1047	R-002 / NMANSEN	
		9/13/2016	1136	In Lab / KMENGS	
		9/14/2016	0841	In Lab / KWONG	
		9/14/2016	1203	R-002 / SDIRKX	

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% (25% for CLP) difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
RSK 175	Water	Propene
SM 3500-Fe B.4.c	Water	Iron, Divalent (Ferrous Iron)

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Name: 3805-MWI17-090716 **Date Collected:** 09/7/16
Lab Code: R1609583-001 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8081B	DMURPHY	MPEDRO
8082A	DMURPHY	MPEDRO
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ
9012B	GNITAJOUPPI	KABBOTT

Sample Name: 3805-MWD18-090716 **Date Collected:** 09/7/16
Lab Code: R1609583-002 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8081B	DMURPHY	MPEDRO
8082A	DMURPHY	MPEDRO
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ
9012B	GNITAJOUPPI	KABBOTT

Sample Name: TRIP BLANK 1 **Date Collected:** 09/8/16
Lab Code: R1609583-003 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-MWI15-090716 **Date Collected:** 09/7/16
Lab Code: R1609583-004 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8081B	DMURPHY	MPEDRO
8082A	DMURPHY	MPEDRO

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Name: 3805-MWI15-090716 **Date Collected:** 09/7/16
Lab Code: R1609583-004 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ
9012B	GNITAJOUPPI	KABBOTT

Sample Name: 3805-MWD16-090816 **Date Collected:** 09/8/16
Lab Code: R1609583-005 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8081B	DMURPHY	MPEDRO
8082A	DMURPHY	MPEDRO
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ
9012B	GNITAJOUPPI	KABBOTT

Sample Name: OSL-MW2-090816 **Date Collected:** 09/8/16
Lab Code: R1609583-006 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Sample Name: OSL-SP01-090816 **Date Collected:** 09/8/16
Lab Code: R1609583-007 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Name: SP01-EFF-090816 **Date Collected:** 09/8/16
Lab Code: R1609583-008 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: LS31-EFF-090816 **Date Collected:** 09/8/16
Lab Code: R1609583-009 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: LS31-090816 **Date Collected:** 09/8/16
Lab Code: R1609583-010 **Date Received:** 09/9/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: ASL-MW12A-091216 **Date Collected:** 09/12/16
Lab Code: R1609583-011 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	LDOLGOS
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		TSABO
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		KMENGS
SM 5210 B-2001(2011)		MLAMBRECHT

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Name: ASL-MW12A-091216 **Date Collected:** 09/12/16
Lab Code: R1609583-011 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 5310 C-2000(2011)		KABBOTT

Sample Name: ASL-MW13-091216 **Date Collected:** 09/12/16
Lab Code: R1609583-012 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	LDOLGOS
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		TSABO
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		KMENGS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

Sample Name: ASL-MW14-091216 **Date Collected:** 09/12/16
Lab Code: R1609583-013 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	LDOLGOS
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		TSABO
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Name: ASL-MW14-091216 **Date Collected:** 09/12/16
Lab Code: R1609583-013 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 3500-Fe B.4.c		KMENGS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

Sample Name: ASL-MW961-091216 **Date Collected:** 09/12/16
Lab Code: R1609583-014 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	LDOLGOS
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		TSABO
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		KMENGS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

Sample Name: BD-091216 **Date Collected:** 09/12/16
Lab Code: R1609583-015 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	LDOLGOS
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		TSABO
RSK 175		AMOSES

Analyst Summary report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002		

Sample Name:	BD-091216	**Date Collected:**	09/12/16
Lab Code:	R1609583-015	**Date Received:**	09/12/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		KMENGS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:20
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI17-090716	**Units:**	ug/L
Lab Code:	R1609583-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/15/16 17:15	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/15/16 17:15	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/15/16 17:15	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/15/16 17:15	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/15/16 17:15	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/15/16 17:15	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/15/16 17:15	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/15/16 17:15	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/15/16 17:15	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/15/16 17:15	
1,2,4-Trimethylbenzene	**290**	25	5.0	1.0	5	09/15/16 17:15	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/15/16 17:15	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/15/16 17:15	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/15/16 17:15	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/15/16 17:15	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/15/16 17:15	
1,3,5-Trimethylbenzene	**83**	25	5.0	1.0	5	09/15/16 17:15	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/15/16 17:15	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/15/16 17:15	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/15/16 17:15	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/15/16 17:15	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/15/16 17:15	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/15/16 17:15	
2-Hexanone	ND U	50	25	8.3	5	09/15/16 17:15	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/15/16 17:15	
4-Isopropyltoluene	**2.2 J**	25	5.0	1.0	5	09/15/16 17:15	
4-Methyl-2-pentanone	ND U	50	5.0	3.4	5	09/15/16 17:15	
Acetone	**7.5 J**	50	25	6.2	5	09/15/16 17:15	
Benzene	**670**	25	5.0	1.0	5	09/15/16 17:15	
Bromobenzene	ND U	25	5.0	1.4	5	09/15/16 17:15	
Bromochloromethane	ND U	25	5.0	1.6	5	09/15/16 17:15	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/15/16 17:15	
Bromoform	ND U	25	5.0	2.1	5	09/15/16 17:15	
Bromomethane	ND U	25	5.0	1.5	5	09/15/16 17:15	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/15/16 17:15	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/15/16 17:15	
Chlorobenzene	ND U	25	5.0	1.5	5	09/15/16 17:15	
Chloroethane	ND U	25	5.0	1.2	5	09/15/16 17:15	
Chloroform	ND U	25	5.0	1.3	5	09/15/16 17:15	
Chloromethane	ND U	25	5.0	1.1	5	09/15/16 17:15	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/15/16 17:15	
Dibromomethane	ND U	25	5.0	1.6	5	09/15/16 17:15	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/15/16 17:15	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:20
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI17-090716	**Units:**	ug/L
Lab Code:	R1609583-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	09/15/16 17:15	
Ethylbenzene	**580**		25	5.0	1.0	5	09/15/16 17:15	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	09/15/16 17:15	
Isopropylbenzene (Cumene)	**34**		25	5.0	1.0	5	09/15/16 17:15	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	09/15/16 17:15	
Naphthalene	**140**		25	5.0	1.0	5	09/15/16 17:15	
Styrene	ND	U	25	5.0	1.0	5	09/15/16 17:15	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	09/15/16 17:15	
Toluene	**76**		25	5.0	1.0	5	09/15/16 17:15	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	09/15/16 17:15	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	09/15/16 17:15	
Vinyl Chloride	ND	U	25	5.0	1.6	5	09/15/16 17:15	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	09/15/16 17:15	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	09/15/16 17:15	
m,p-Xylenes	**1100**		25	10	1.7	5	09/15/16 17:15	
n-Butylbenzene	**2.8**	**J**	25	5.0	1.1	5	09/15/16 17:15	
n-Propylbenzene	**57**		25	5.0	1.0	5	09/15/16 17:15	
o-Xylene	**120**		25	5.0	1.0	5	09/15/16 17:15	
sec-Butylbenzene	**3.1**	**J**	25	5.0	1.4	5	09/15/16 17:15	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	09/15/16 17:15	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	09/15/16 17:15	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	09/15/16 17:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/15/16 17:15	
Dibromofluoromethane	100	80 - 119	09/15/16 17:15	
Toluene-d8	101	89 - 112	09/15/16 17:15	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 11:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD18-090716	**Units:**	ug/L
Lab Code:	R1609583-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 14:01	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 14:01	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 14:01	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 14:01	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 14:01	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 14:01	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 14:01	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 14:01	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 14:01	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 14:01	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 14:01	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 14:01	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 14:01	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 14:01	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 14:01	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 14:01	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 14:01	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 14:01	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 14:01	
Acetone	**2.0 J**	10	5.0	1.3	1	09/15/16 14:01	
Benzene	**13**	5.0	1.0	0.20	1	09/15/16 14:01	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 14:01	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 14:01	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 14:01	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 14:01	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 14:01	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 14:01	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 14:01	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 14:01	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 14:01	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 14:01	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 14:01	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 14:01	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 14:01	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 14:01	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 11:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD18-090716	**Units:**	ug/L
Lab Code:	R1609583-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 14:01	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 14:01	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 14:01	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 14:01	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 14:01	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 14:01	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 14:01	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 14:01	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 14:01	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 14:01	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 14:01	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 14:01	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 14:01	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	09/15/16 14:01	
Dibromofluoromethane	100	80 - 119	09/15/16 14:01	
Toluene-d8	100	89 - 112	09/15/16 14:01	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	TRIP BLANK 1	**Units:**	ug/L
Lab Code:	R1609583-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 13:36	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 13:36	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 13:36	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 13:36	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 13:36	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 13:36	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 13:36	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 13:36	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 13:36	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 13:36	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 13:36	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 13:36	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 13:36	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 13:36	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 13:36	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 13:36	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 13:36	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 13:36	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 13:36	
Acetone	**2.5 J**	10	5.0	1.3	1	09/15/16 13:36	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 13:36	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 13:36	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 13:36	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 13:36	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 13:36	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 13:36	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 13:36	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 13:36	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 13:36	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 13:36	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 13:36	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 13:36	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 13:36	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 13:36	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	TRIP BLANK 1	**Units:**	ug/L
Lab Code:	R1609583-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 13:36	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 13:36	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 13:36	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 13:36	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 13:36	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 13:36	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 13:36	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 13:36	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 13:36	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 13:36	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 13:36	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 13:36	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 13:36	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/15/16 13:36	
Dibromofluoromethane	101	80 - 119	09/15/16 13:36	
Toluene-d8	100	89 - 112	09/15/16 13:36	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI15-090716	**Units:**	ug/L
Lab Code:	R1609583-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 14:25	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 14:25	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 14:25	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 14:25	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 14:25	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 14:25	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 14:25	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 14:25	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 14:25	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 14:25	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 14:25	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 14:25	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 14:25	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 14:25	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 14:25	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 14:25	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 14:25	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 14:25	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 14:25	
Acetone	**1.8 J**	10	5.0	1.3	1	09/15/16 14:25	
Benzene	**1.4 J**	5.0	1.0	0.20	1	09/15/16 14:25	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 14:25	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 14:25	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 14:25	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 14:25	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 14:25	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 14:25	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 14:25	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 14:25	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 14:25	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 14:25	
Chloromethane	**0.21 J**	5.0	1.0	0.21	1	09/15/16 14:25	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 14:25	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 14:25	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 14:25	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI15-090716	**Units:**	ug/L
Lab Code:	R1609583-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 14:25	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 14:25	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 14:25	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
Tetrachloroethene (PCE)	**63**	5.0	1.0	0.30	1	09/15/16 14:25	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
Trichloroethene (TCE)	**1.4 J**	5.0	1.0	0.22	1	09/15/16 14:25	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 14:25	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 14:25	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 14:25	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 14:25	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 14:25	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 14:25	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 14:25	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 14:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/15/16 14:25	
Dibromofluoromethane	101	80 - 119	09/15/16 14:25	
Toluene-d8	100	89 - 112	09/15/16 14:25	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD16-090816	**Units:**	ug/L
Lab Code:	R1609583-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 14:49	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 14:49	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 14:49	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 14:49	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 14:49	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 14:49	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 14:49	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 14:49	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 14:49	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 14:49	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 14:49	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 14:49	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 14:49	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 14:49	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 14:49	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 14:49	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 14:49	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 14:49	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 14:49	
Acetone	ND U	10	5.0	1.3	1	09/15/16 14:49	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 14:49	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 14:49	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 14:49	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 14:49	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 14:49	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 14:49	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 14:49	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 14:49	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 14:49	
Chloroform	**0.25 J**	5.0	1.0	0.25	1	09/15/16 14:49	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 14:49	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 14:49	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 14:49	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 14:49	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD16-090816	**Units:**	ug/L
Lab Code:	R1609583-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 14:49	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 14:49	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 14:49	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 14:49	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 14:49	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 14:49	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 14:49	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 14:49	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 14:49	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 14:49	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 14:49	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 14:49	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 14:49	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/15/16 14:49	
Dibromofluoromethane	102	80 - 119	09/15/16 14:49	
Toluene-d8	103	89 - 112	09/15/16 14:49	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-MW2-090816	**Units:**	ug/L
Lab Code:	R1609583-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 15:14	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 15:14	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 15:14	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 15:14	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 15:14	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 15:14	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 15:14	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 15:14	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 15:14	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 15:14	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 15:14	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 15:14	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 15:14	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 15:14	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 15:14	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 15:14	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 15:14	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 15:14	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 15:14	
Acetone	ND U	10	5.0	1.3	1	09/15/16 15:14	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 15:14	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 15:14	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 15:14	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 15:14	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 15:14	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 15:14	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 15:14	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 15:14	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 15:14	
Chloroform	**0.40 J**	5.0	1.0	0.25	1	09/15/16 15:14	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 15:14	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 15:14	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 15:14	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 15:14	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-MW2-090816	**Units:**	ug/L
Lab Code:	R1609583-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 15:14	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 15:14	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 15:14	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 15:14	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 15:14	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 15:14	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 15:14	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 15:14	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 15:14	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 15:14	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 15:14	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 15:14	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 15:14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/15/16 15:14	
Dibromofluoromethane	99	80 - 119	09/15/16 15:14	
Toluene-d8	100	89 - 112	09/15/16 15:14	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 08:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-SP01-090816	**Units:**	ug/L
Lab Code:	R1609583-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 15:38	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 15:38	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 15:38	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 15:38	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 15:38	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 15:38	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 15:38	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 15:38	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 15:38	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 15:38	
1,2,4-Trimethylbenzene	**1.3 J**	5.0	1.0	0.20	1	09/15/16 15:38	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 15:38	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 15:38	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 15:38	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 15:38	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 15:38	
1,3,5-Trimethylbenzene	**0.28 J**	5.0	1.0	0.20	1	09/15/16 15:38	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:38	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 15:38	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 15:38	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 15:38	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 15:38	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 15:38	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 15:38	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 15:38	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 15:38	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 15:38	
Acetone	**2.3 J**	10	5.0	1.3	1	09/15/16 15:38	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 15:38	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 15:38	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 15:38	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 15:38	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 15:38	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 15:38	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 15:38	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 15:38	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 15:38	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 15:38	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 15:38	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 15:38	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 15:38	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 15:38	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 15:38	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 08:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-SP01-090816	**Units:**	ug/L
Lab Code:	R1609583-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/15/16 15:38	
Ethylbenzene	**0.57**	**J**	5.0	1.0	0.20	1	09/15/16 15:38	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/15/16 15:38	
Isopropylbenzene (Cumene)	**0.30**	**J**	5.0	1.0	0.20	1	09/15/16 15:38	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/15/16 15:38	
Naphthalene	ND	U	5.0	1.0	0.20	1	09/15/16 15:38	
Styrene	ND	U	5.0	1.0	0.20	1	09/15/16 15:38	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/15/16 15:38	
Toluene	ND	U	5.0	1.0	0.20	1	09/15/16 15:38	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/15/16 15:38	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/15/16 15:38	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/15/16 15:38	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/15/16 15:38	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/15/16 15:38	
m,p-Xylenes	**1.4**	**J**	5.0	2.0	0.33	1	09/15/16 15:38	
n-Butylbenzene	ND	U	5.0	1.0	0.21	1	09/15/16 15:38	
n-Propylbenzene	**0.37**	**J**	5.0	1.0	0.20	1	09/15/16 15:38	
o-Xylene	ND	U	5.0	1.0	0.20	1	09/15/16 15:38	
sec-Butylbenzene	ND	U	5.0	1.0	0.27	1	09/15/16 15:38	
tert-Butylbenzene	ND	U	5.0	1.0	0.20	1	09/15/16 15:38	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/15/16 15:38	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/15/16 15:38	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/15/16 15:38	
Dibromofluoromethane	99	80 - 119	09/15/16 15:38	
Toluene-d8	101	89 - 112	09/15/16 15:38	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	SP01-EFF-090816	**Units:**	ug/L
Lab Code:	R1609583-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 16:02	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 16:02	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 16:02	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 16:02	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 16:02	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 16:02	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 16:02	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 16:02	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 16:02	
1,2,4-Trimethylbenzene	**0.93 J**	5.0	1.0	0.20	1	09/15/16 16:02	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 16:02	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 16:02	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 16:02	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 16:02	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 16:02	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 16:02	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 16:02	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 16:02	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 16:02	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 16:02	
Acetone	**4.5 J**	10	5.0	1.3	1	09/15/16 16:02	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 16:02	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 16:02	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 16:02	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 16:02	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 16:02	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 16:02	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 16:02	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 16:02	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 16:02	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 16:02	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 16:02	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 16:02	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 16:02	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 16:02	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:15
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	SP01-EFF-090816	**Units:**	ug/L
Lab Code:	R1609583-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 16:02	
Ethylbenzene	**0.37 J**	5.0	1.0	0.20	1	09/15/16 16:02	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 16:02	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 16:02	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 16:02	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 16:02	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 16:02	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 16:02	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 16:02	
m,p-Xylenes	**1.2 J**	5.0	2.0	0.33	1	09/15/16 16:02	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 16:02	
n-Propylbenzene	**0.21 J**	5.0	1.0	0.20	1	09/15/16 16:02	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 16:02	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 16:02	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 16:02	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/15/16 16:02	
Dibromofluoromethane	101	80 - 119	09/15/16 16:02	
Toluene-d8	101	89 - 112	09/15/16 16:02	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 10:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	LS31-EFF-090816	**Units:**	ug/L
Lab Code:	R1609583-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 16:27	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 16:27	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 16:27	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 16:27	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 16:27	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 16:27	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 16:27	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 16:27	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 16:27	
1,2,4-Trimethylbenzene	**3.1 J**	5.0	1.0	0.20	1	09/15/16 16:27	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 16:27	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 16:27	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 16:27	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 16:27	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
1,3,5-Trimethylbenzene	**0.53 J**	5.0	1.0	0.20	1	09/15/16 16:27	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 16:27	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 16:27	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 16:27	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 16:27	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 16:27	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 16:27	
Acetone	ND U	10	5.0	1.3	1	09/15/16 16:27	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 16:27	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 16:27	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 16:27	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 16:27	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 16:27	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 16:27	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 16:27	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 16:27	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 16:27	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 16:27	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 16:27	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 16:27	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 16:27	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 16:27	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 10:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	LS31-EFF-090816	**Units:**	ug/L
Lab Code:	R1609583-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 16:27	
Ethylbenzene	**0.92 J**	5.0	1.0	0.20	1	09/15/16 16:27	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 16:27	
Isopropylbenzene (Cumene)	**0.32 J**	5.0	1.0	0.20	1	09/15/16 16:27	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 16:27	
Naphthalene	**1.4 J**	5.0	1.0	0.20	1	09/15/16 16:27	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
Tetrachloroethene (PCE)	**0.46 J**	5.0	1.0	0.30	1	09/15/16 16:27	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 16:27	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 16:27	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 16:27	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 16:27	
m,p-Xylenes	**2.7 J**	5.0	2.0	0.33	1	09/15/16 16:27	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 16:27	
n-Propylbenzene	**0.53 J**	5.0	1.0	0.20	1	09/15/16 16:27	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 16:27	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 16:27	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 16:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/15/16 16:27	
Dibromofluoromethane	102	80 - 119	09/15/16 16:27	
Toluene-d8	101	89 - 112	09/15/16 16:27	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 10:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	LS31-090816	**Units:**	ug/L
Lab Code:	R1609583-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 16:51	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 16:51	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 16:51	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 16:51	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 16:51	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 16:51	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 16:51	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 16:51	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 16:51	
1,2,4-Trimethylbenzene	**1.7 J**	5.0	1.0	0.20	1	09/15/16 16:51	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 16:51	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 16:51	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 16:51	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 16:51	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
1,3,5-Trimethylbenzene	**0.33 J**	5.0	1.0	0.20	1	09/15/16 16:51	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 16:51	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 16:51	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 16:51	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 16:51	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 16:51	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 16:51	
Acetone	**3.0 J**	10	5.0	1.3	1	09/15/16 16:51	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 16:51	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 16:51	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 16:51	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 16:51	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 16:51	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 16:51	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 16:51	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 16:51	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 16:51	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 16:51	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 16:51	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 16:51	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 16:51	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 16:51	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 10:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	LS31-090816	**Units:**	ug/L
Lab Code:	R1609583-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 16:51	
Ethylbenzene	**0.44 J**	5.0	1.0	0.20	1	09/15/16 16:51	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 16:51	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 16:51	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
Tetrachloroethene (PCE)	**0.85 J**	5.0	1.0	0.30	1	09/15/16 16:51	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
Trichloroethene (TCE)	**0.24 J**	5.0	1.0	0.22	1	09/15/16 16:51	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 16:51	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 16:51	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 16:51	
m,p-Xylenes	**1.7 J**	5.0	2.0	0.33	1	09/15/16 16:51	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 16:51	
n-Propylbenzene	**0.32 J**	5.0	1.0	0.20	1	09/15/16 16:51	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 16:51	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 16:51	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 16:51	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/15/16 16:51	
Dibromofluoromethane	100	80 - 119	09/15/16 16:51	
Toluene-d8	100	89 - 112	09/15/16 16:51	

Volatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	9/12/16 0910
Sample Matrix:	Water	**Date Received:**	9/12/16
Sample Name:	ASL-MW12A-091216	**Units:**	µg/L
Lab Code:	R1609583-011	**Basis:**	NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Ethane	ND	U	1.0	0.50	0.20	1	NA	9/15/16 14:25		514339	
Ethene	ND	U	1.0	0.50	0.11	1	NA	9/15/16 14:25		514339	
Methane	ND	U	1.0	0.50	0.21	1	NA	9/15/16 14:25		514339	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	9/12/16 1030
Sample Matrix:	Water	**Date Received:**	9/12/16
Sample Name:	ASL-MW13-091216	**Units:**	µg/L
Lab Code:	R1609583-012	**Basis:**	NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Ethane	ND	U	1.0	0.50	0.20	1	NA	9/15/16 14:33		514339	
Ethene	ND	U	1.0	0.50	0.11	1	NA	9/15/16 14:33		514339	
Methane	ND	U	1.0	0.50	0.21	1	NA	9/15/16 14:33		514339	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	9/12/16 1140
Sample Matrix:	Water	**Date Received:**	9/12/16
Sample Name:	ASL-MW14-091216	**Units:**	µg/L
Lab Code:	R1609583-013	**Basis:**	NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Ethane	ND	U	1.0	0.50	0.20	1	NA	9/15/16 14:41		514339	
Ethene	ND	U	1.0	0.50	0.11	1	NA	9/15/16 14:41		514339	
Methane	ND	U	1.0	0.50	0.21	1	NA	9/15/16 14:41		514339	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	9/12/16 1300
Sample Matrix:	Water	**Date Received:**	9/12/16
Sample Name:	ASL-MW961-091216	**Units:**	µg/L
Lab Code:	R1609583-014	**Basis:**	NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Ethane	ND	U	1.0	0.50	0.20	1	NA	9/15/16 14:50		514339	
Ethene	ND	U	1.0	0.50	0.11	1	NA	9/15/16 14:50		514339	
Methane	ND	U	1.0	0.50	0.21	1	NA	9/15/16 14:50		514339	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	9/12/16
Sample Matrix:	Water	**Date Received:**	9/12/16
Sample Name:	BD-091216	**Units:**	µg/L
Lab Code:	R1609583-015	**Basis:**	NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Ethane	ND	U	1.0	0.50	0.20	1	NA	9/15/16 14:58		514339	
Ethene	ND	U	1.0	0.50	0.11	1	NA	9/15/16 14:58		514339	
Methane	ND	U	1.0	0.50	0.21	1	NA	9/15/16 14:58		514339	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:20
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI17-090716	**Units:**	ug/L
Lab Code:	R1609583-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
1,2-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
1,3-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
1,4-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
2,4,5-Trichlorophenol	ND	U	9.4	5.0	1.8	1	09/14/16 12:00	9/12/16	
2,4,6-Trichlorophenol	ND	U	9.4	5.0	1.4	1	09/14/16 12:00	9/12/16	
2,4-Dichlorophenol	ND	U	9.4	5.0	1.3	1	09/14/16 12:00	9/12/16	
2,4-Dimethylphenol	**9.4**	**J**	9.4	5.0	1.5	1	09/14/16 12:00	9/12/16	
2,4-Dinitrophenol	ND	U	47	25	20	1	09/14/16 12:00	9/12/16	
2,4-Dinitrotoluene	ND	U	9.4	5.0	1.6	1	09/14/16 12:00	9/12/16	
2,6-Dinitrotoluene	ND	U	9.4	5.0	1.8	1	09/14/16 12:00	9/12/16	
2-Chloronaphthalene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
2-Chlorophenol	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
2-Methylnaphthalene	**15**		9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
2-Methylphenol	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
2-Nitroaniline	ND	U	47	25	9.1	1	09/14/16 12:00	9/12/16	
2-Nitrophenol	ND	U	9.4	5.0	1.4	1	09/14/16 12:00	9/12/16	
3,3'-Dichlorobenzidine	ND	U	9.4	5.0	4.5	1	09/14/16 12:00	9/12/16	
3- and 4-Methylphenol Coelution	ND	U	19	10	2.0	1	09/14/16 12:00	9/12/16	
3-Nitroaniline	ND	U	47	25	7.7	1	09/14/16 12:00	9/12/16	
4,6-Dinitro-2-methylphenol	ND	U	47	25	11	1	09/14/16 12:00	9/12/16	
4-Bromophenyl Phenyl Ether	ND	U	9.4	5.0	2.2	1	09/14/16 12:00	9/12/16	
4-Chloro-3-methylphenol	ND	U	9.4	5.0	1.2	1	09/14/16 12:00	9/12/16	
4-Chloroaniline	ND	U	9.4	5.0	1.5	1	09/14/16 12:00	9/12/16	
4-Chlorophenyl Phenyl Ether	ND	U	9.4	5.0	1.2	1	09/14/16 12:00	9/12/16	
4-Nitroaniline	ND	U	47	25	7.8	1	09/14/16 12:00	9/12/16	
4-Nitrophenol	ND	U	47	25	5.9	1	09/14/16 12:00	9/12/16	
Acenaphthene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Acenaphthylene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Anthracene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Benz(a)anthracene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Benzo(a)pyrene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Benzo(b)fluoranthene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Benzo(g,h,i)perylene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Benzo(k)fluoranthene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Benzyl Alcohol	ND	U	9.4	5.0	1.3	1	09/14/16 12:00	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Bis(2-chloroethoxy)methane	ND	U	9.4	5.0	2.2	1	09/14/16 12:00	9/12/16	
Bis(2-chloroethyl) Ether	ND	U	9.4	5.0	1.3	1	09/14/16 12:00	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND	U	9.4	5.0	1.2	1	09/14/16 12:00	9/12/16	
Butyl Benzyl Phthalate	ND	U	9.4	5.0	2.4	1	09/14/16 12:00	9/12/16	
Carbazole	ND	U	9.4	5.0	1.1	1	09/14/16 12:00	9/12/16	
Chrysene	ND	U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:20
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI17-090716	**Units:**	ug/L
Lab Code:	R1609583-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 12:00	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 12:00	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 12:00	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 12:00	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 12:00	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 12:00	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Naphthalene	**86**	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 12:00	9/12/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/14/16 12:00	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Phenol	**3.3 J**	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 12:00	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	77	43 - 140	09/14/16 12:00	
2-Fluorobiphenyl	65	44 - 119	09/14/16 12:00	
2-Fluorophenol	37	19 - 119	09/14/16 12:00	
Nitrobenzene-d5	68	44 - 120	09/14/16 12:00	
Phenol-d6	26	10 - 107	09/14/16 12:00	
p-Terphenyl-d14	75	50 - 134	09/14/16 12:00	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 11:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD18-090716	**Units:**	ug/L
Lab Code:	R1609583-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/14/16 12:28	9/12/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/14/16 12:28	9/12/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/14/16 12:28	9/12/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/14/16 12:28	9/12/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/14/16 12:28	9/12/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/14/16 12:28	9/12/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/14/16 12:28	9/12/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/14/16 12:28	9/12/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/14/16 12:28	9/12/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/14/16 12:28	9/12/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/14/16 12:28	9/12/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/14/16 12:28	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/14/16 12:28	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/14/16 12:28	9/12/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/14/16 12:28	9/12/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/14/16 12:28	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/14/16 12:28	9/12/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/14/16 12:28	9/12/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/14/16 12:28	9/12/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/14/16 12:28	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/14/16 12:28	9/12/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/14/16 12:28	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 12:28	9/12/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/14/16 12:28	9/12/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/14/16 12:28	9/12/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 11:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD18-090716	**Units:**	ug/L
Lab Code:	R1609583-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 12:28	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 12:28	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 12:28	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 12:28	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 12:28	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 12:28	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 12:28	9/12/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/14/16 12:28	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Phenol	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 12:28	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	84	43 - 140	09/14/16 12:28	
2-Fluorobiphenyl	66	44 - 119	09/14/16 12:28	
2-Fluorophenol	35	19 - 119	09/14/16 12:28	
Nitrobenzene-d5	66	44 - 120	09/14/16 12:28	
Phenol-d6	25	10 - 107	09/14/16 12:28	
p-Terphenyl-d14	80	50 - 134	09/14/16 12:28	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI15-090716	**Units:**	ug/L
Lab Code:	R1609583-004	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/14/16 12:56	9/12/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/14/16 12:56	9/12/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/14/16 12:56	9/12/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/14/16 12:56	9/12/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/14/16 12:56	9/12/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/14/16 12:56	9/12/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/14/16 12:56	9/12/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/14/16 12:56	9/12/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/14/16 12:56	9/12/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/14/16 12:56	9/12/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/14/16 12:56	9/12/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/14/16 12:56	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/14/16 12:56	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/14/16 12:56	9/12/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/14/16 12:56	9/12/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/14/16 12:56	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/14/16 12:56	9/12/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/14/16 12:56	9/12/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/14/16 12:56	9/12/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/14/16 12:56	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/14/16 12:56	9/12/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/14/16 12:56	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 12:56	9/12/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/14/16 12:56	9/12/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/14/16 12:56	9/12/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI15-090716	**Units:**	ug/L
Lab Code:	R1609583-004	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 12:56	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 12:56	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 12:56	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 12:56	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 12:56	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 12:56	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 12:56	9/12/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/14/16 12:56	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Phenol	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 12:56	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	90	43 - 140	09/14/16 12:56	
2-Fluorobiphenyl	70	44 - 119	09/14/16 12:56	
2-Fluorophenol	37	19 - 119	09/14/16 12:56	
Nitrobenzene-d5	68	44 - 120	09/14/16 12:56	
Phenol-d6	26	10 - 107	09/14/16 12:56	
p-Terphenyl-d14	87	50 - 134	09/14/16 12:56	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD16-090816	**Units:**	ug/L
Lab Code:	R1609583-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/14/16 13:24	9/12/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/14/16 13:24	9/12/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/14/16 13:24	9/12/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/14/16 13:24	9/12/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/14/16 13:24	9/12/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/14/16 13:24	9/12/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/14/16 13:24	9/12/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/14/16 13:24	9/12/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/14/16 13:24	9/12/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/14/16 13:24	9/12/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/14/16 13:24	9/12/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/14/16 13:24	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/14/16 13:24	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/14/16 13:24	9/12/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/14/16 13:24	9/12/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/14/16 13:24	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/14/16 13:24	9/12/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/14/16 13:24	9/12/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/14/16 13:24	9/12/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/14/16 13:24	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/14/16 13:24	9/12/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/14/16 13:24	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 13:24	9/12/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/14/16 13:24	9/12/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/14/16 13:24	9/12/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD16-090816	**Units:**	ug/L
Lab Code:	R1609583-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 13:24	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 13:24	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 13:24	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 13:24	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 13:24	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 13:24	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 13:24	9/12/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/14/16 13:24	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Phenol	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 13:24	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	82	43 - 140	09/14/16 13:24	
2-Fluorobiphenyl	67	44 - 119	09/14/16 13:24	
2-Fluorophenol	34	19 - 119	09/14/16 13:24	
Nitrobenzene-d5	66	44 - 120	09/14/16 13:24	
Phenol-d6	25	10 - 107	09/14/16 13:24	
p-Terphenyl-d14	97	50 - 134	09/14/16 13:24	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-MW2-090816	**Units:**	ug/L
Lab Code:	R1609583-006	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/14/16 13:52	9/12/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/14/16 13:52	9/12/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/14/16 13:52	9/12/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/14/16 13:52	9/12/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/14/16 13:52	9/12/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/14/16 13:52	9/12/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/14/16 13:52	9/12/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/14/16 13:52	9/12/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/14/16 13:52	9/12/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/14/16 13:52	9/12/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/14/16 13:52	9/12/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/14/16 13:52	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/14/16 13:52	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/14/16 13:52	9/12/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/14/16 13:52	9/12/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/14/16 13:52	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/14/16 13:52	9/12/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/14/16 13:52	9/12/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/14/16 13:52	9/12/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/14/16 13:52	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/14/16 13:52	9/12/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/14/16 13:52	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 13:52	9/12/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/14/16 13:52	9/12/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/14/16 13:52	9/12/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 11:00
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-MW2-090816	**Units:**	ug/L
Lab Code:	R1609583-006	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 13:52	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 13:52	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 13:52	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 13:52	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 13:52	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 13:52	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 13:52	9/12/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/14/16 13:52	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Phenol	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 13:52	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	86	43 - 140	09/14/16 13:52	
2-Fluorobiphenyl	71	44 - 119	09/14/16 13:52	
2-Fluorophenol	39	19 - 119	09/14/16 13:52	
Nitrobenzene-d5	71	44 - 120	09/14/16 13:52	
Phenol-d6	28	10 - 107	09/14/16 13:52	
p-Terphenyl-d14	103	50 - 134	09/14/16 13:52	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 08:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-SP01-090816	**Units:**	ug/L
Lab Code:	R1609583-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/14/16 14:20	9/12/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/14/16 14:20	9/12/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/14/16 14:20	9/12/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/14/16 14:20	9/12/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/14/16 14:20	9/12/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/14/16 14:20	9/12/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/14/16 14:20	9/12/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/14/16 14:20	9/12/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/14/16 14:20	9/12/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/14/16 14:20	9/12/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/14/16 14:20	9/12/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/14/16 14:20	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/14/16 14:20	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/14/16 14:20	9/12/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/14/16 14:20	9/12/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/14/16 14:20	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/14/16 14:20	9/12/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/14/16 14:20	9/12/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/14/16 14:20	9/12/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/14/16 14:20	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/14/16 14:20	9/12/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/14/16 14:20	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 14:20	9/12/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/14/16 14:20	9/12/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/14/16 14:20	9/12/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 08:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	OSL-SP01-090816	**Units:**	ug/L
Lab Code:	R1609583-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/14/16 14:20	9/12/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/14/16 14:20	9/12/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/14/16 14:20	9/12/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/14/16 14:20	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/14/16 14:20	9/12/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/14/16 14:20	9/12/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/14/16 14:20	9/12/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/14/16 14:20	9/12/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Phenol	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/14/16 14:20	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	75	43 - 140	09/14/16 14:20	
2-Fluorobiphenyl	60	44 - 119	09/14/16 14:20	
2-Fluorophenol	33	19 - 119	09/14/16 14:20	
Nitrobenzene-d5	61	44 - 120	09/14/16 14:20	
Phenol-d6	24	10 - 107	09/14/16 14:20	
p-Terphenyl-d14	75	50 - 134	09/14/16 14:20	

Semivolatile Organic Compounds by GC

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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:20
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI17-090716	**Units:**	ug/L
Lab Code:	R1609583-001	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	0.047	0.025	0.0075	1	09/16/16 12:17	9/13/16	
4,4'-DDE	ND U	0.047	0.025	0.0080	1	09/16/16 12:17	9/13/16	
4,4'-DDT	ND U	0.047	0.025	0.0079	1	09/16/16 12:17	9/13/16	
Aldrin	ND U	0.047	0.025	0.0086	1	09/16/16 12:17	9/13/16	
Dieldrin	ND U	0.047	0.025	0.011	1	09/16/16 12:17	9/13/16	
Endosulfan I	ND U	0.047	0.025	0.012	1	09/16/16 12:17	9/13/16	
Endosulfan II	ND U	0.047	0.025	0.010	1	09/16/16 12:17	9/13/16	
Endosulfan Sulfate	ND U	0.047	0.025	0.0089	1	09/16/16 12:17	9/13/16	
Endrin	ND U	0.047	0.025	0.012	1	09/16/16 12:17	9/13/16	
Endrin Aldehyde	ND U	0.047	0.025	0.0087	1	09/16/16 12:17	9/13/16	
Endrin Ketone	ND U	0.047	0.025	0.0090	1	09/16/16 12:17	9/13/16	
Heptachlor	ND U	0.047	0.025	0.011	1	09/16/16 12:17	9/13/16	
Heptachlor Epoxide	ND U	0.047	0.025	0.011	1	09/16/16 12:17	9/13/16	
Methoxychlor	ND U	0.047	0.025	0.0091	1	09/16/16 12:17	9/13/16	
alpha-BHC	ND U	0.047	0.025	0.012	1	09/16/16 12:17	9/13/16	
alpha-Chlordane	ND U	0.047	0.025	0.012	1	09/16/16 12:17	9/13/16	
beta-BHC	ND U	0.047	0.025	0.017	1	09/16/16 12:17	9/13/16	
delta-BHC	ND U	0.047	0.025	0.011	1	09/16/16 12:17	9/13/16	
gamma-BHC (Lindane)	ND U	0.047	0.025	0.013	1	09/16/16 12:17	9/13/16	
gamma-Chlordane	ND U	0.047	0.025	0.0088	1	09/16/16 12:17	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	62	30 - 135	09/16/16 12:17	
Tetrachloro-m-xylene	62	44 - 124	09/16/16 12:17	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 11:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD18-090716	**Units:**	ug/L
Lab Code:	R1609583-002	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	0.047	0.025	0.0075	1	09/16/16 12:36	9/13/16	
4,4'-DDE	ND U	0.047	0.025	0.0080	1	09/16/16 12:36	9/13/16	
4,4'-DDT	ND U	0.047	0.025	0.0079	1	09/16/16 12:36	9/13/16	
Aldrin	ND U	0.047	0.025	0.0086	1	09/16/16 12:36	9/13/16	
Dieldrin	ND U	0.047	0.025	0.011	1	09/16/16 12:36	9/13/16	
Endosulfan I	ND U	0.047	0.025	0.012	1	09/16/16 12:36	9/13/16	
Endosulfan II	ND U	0.047	0.025	0.010	1	09/16/16 12:36	9/13/16	
Endosulfan Sulfate	ND U	0.047	0.025	0.0089	1	09/16/16 12:36	9/13/16	
Endrin	ND U	0.047	0.025	0.012	1	09/16/16 12:36	9/13/16	
Endrin Aldehyde	ND U	0.047	0.025	0.0087	1	09/16/16 12:36	9/13/16	
Endrin Ketone	ND U	0.047	0.025	0.0090	1	09/16/16 12:36	9/13/16	
Heptachlor	ND U	0.047	0.025	0.011	1	09/16/16 12:36	9/13/16	
Heptachlor Epoxide	ND U	0.047	0.025	0.011	1	09/16/16 12:36	9/13/16	
Methoxychlor	ND U	0.047	0.025	0.0091	1	09/16/16 12:36	9/13/16	
alpha-BHC	ND U	0.047	0.025	0.012	1	09/16/16 12:36	9/13/16	
alpha-Chlordane	ND U	0.047	0.025	0.012	1	09/16/16 12:36	9/13/16	
beta-BHC	ND U	0.047	0.025	0.017	1	09/16/16 12:36	9/13/16	
delta-BHC	ND U	0.047	0.025	0.011	1	09/16/16 12:36	9/13/16	
gamma-BHC (Lindane)	ND U	0.047	0.025	0.013	1	09/16/16 12:36	9/13/16	
gamma-Chlordane	ND U	0.047	0.025	0.0088	1	09/16/16 12:36	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	57	30 - 135	09/16/16 12:36	
Tetrachloro-m-xylene	64	44 - 124	09/16/16 12:36	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI15-090716	**Units:**	ug/L
Lab Code:	R1609583-004	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	0.047	0.025	0.0075	1	09/16/16 12:55	9/13/16	
4,4'-DDE	ND U	0.047	0.025	0.0080	1	09/16/16 12:55	9/13/16	
4,4'-DDT	ND U	0.047	0.025	0.0079	1	09/16/16 12:55	9/13/16	
Aldrin	ND U	0.047	0.025	0.0086	1	09/16/16 12:55	9/13/16	
Dieldrin	ND U	0.047	0.025	0.011	1	09/16/16 12:55	9/13/16	
Endosulfan I	ND U	0.047	0.025	0.012	1	09/16/16 12:55	9/13/16	
Endosulfan II	ND U	0.047	0.025	0.010	1	09/16/16 12:55	9/13/16	
Endosulfan Sulfate	ND U	0.047	0.025	0.0089	1	09/16/16 12:55	9/13/16	
Endrin	ND U	0.047	0.025	0.012	1	09/16/16 12:55	9/13/16	
Endrin Aldehyde	ND U	0.047	0.025	0.0087	1	09/16/16 12:55	9/13/16	
Endrin Ketone	ND U	0.047	0.025	0.0090	1	09/16/16 12:55	9/13/16	
Heptachlor	ND U	0.047	0.025	0.011	1	09/16/16 12:55	9/13/16	
Heptachlor Epoxide	ND U	0.047	0.025	0.011	1	09/16/16 12:55	9/13/16	
Methoxychlor	ND U	0.047	0.025	0.0091	1	09/16/16 12:55	9/13/16	
alpha-BHC	ND U	0.047	0.025	0.012	1	09/16/16 12:55	9/13/16	
alpha-Chlordane	ND U	0.047	0.025	0.012	1	09/16/16 12:55	9/13/16	
beta-BHC	ND U	0.047	0.025	0.017	1	09/16/16 12:55	9/13/16	
delta-BHC	ND U	0.047	0.025	0.011	1	09/16/16 12:55	9/13/16	
gamma-BHC (Lindane)	ND U	0.047	0.025	0.013	1	09/16/16 12:55	9/13/16	
gamma-Chlordane	ND U	0.047	0.025	0.0088	1	09/16/16 12:55	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	69	30 - 135	09/16/16 12:55	
Tetrachloro-m-xylene	68	44 - 124	09/16/16 12:55	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD16-090816	**Units:**	ug/L
Lab Code:	R1609583-005	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	0.047	0.025	0.0075	1	09/16/16 13:13	9/13/16	
4,4'-DDE	ND U	0.047	0.025	0.0080	1	09/16/16 13:13	9/13/16	
4,4'-DDT	ND U	0.047	0.025	0.0079	1	09/16/16 13:13	9/13/16	
Aldrin	ND U	0.047	0.025	0.0086	1	09/16/16 13:13	9/13/16	
Dieldrin	ND U	0.047	0.025	0.011	1	09/16/16 13:13	9/13/16	
Endosulfan I	ND U	0.047	0.025	0.012	1	09/16/16 13:13	9/13/16	
Endosulfan II	ND U	0.047	0.025	0.010	1	09/16/16 13:13	9/13/16	
Endosulfan Sulfate	ND U	0.047	0.025	0.0089	1	09/16/16 13:13	9/13/16	
Endrin	ND U	0.047	0.025	0.012	1	09/16/16 13:13	9/13/16	
Endrin Aldehyde	ND U	0.047	0.025	0.0087	1	09/16/16 13:13	9/13/16	
Endrin Ketone	ND U	0.047	0.025	0.0090	1	09/16/16 13:13	9/13/16	
Heptachlor	ND U	0.047	0.025	0.011	1	09/16/16 13:13	9/13/16	
Heptachlor Epoxide	ND U	0.047	0.025	0.011	1	09/16/16 13:13	9/13/16	
Methoxychlor	ND U	0.047	0.025	0.0091	1	09/16/16 13:13	9/13/16	
alpha-BHC	ND U	0.047	0.025	0.012	1	09/16/16 13:13	9/13/16	
alpha-Chlordane	ND U	0.047	0.025	0.012	1	09/16/16 13:13	9/13/16	
beta-BHC	ND U	0.047	0.025	0.017	1	09/16/16 13:13	9/13/16	
delta-BHC	ND U	0.047	0.025	0.011	1	09/16/16 13:13	9/13/16	
gamma-BHC (Lindane)	ND U	0.047	0.025	0.013	1	09/16/16 13:13	9/13/16	
gamma-Chlordane	ND U	0.047	0.025	0.0088	1	09/16/16 13:13	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	54	30 - 135	09/16/16 13:13	
Tetrachloro-m-xylene	59	44 - 124	09/16/16 13:13	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:20
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI17-090716	**Units:**	ug/L
Lab Code:	R1609583-001	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	0.94	0.50	0.36	1	09/15/16 12:18	9/13/16	
Aroclor 1221	ND U	1.9	1.0	0.84	1	09/15/16 12:18	9/13/16	
Aroclor 1232	ND U	0.94	0.50	0.36	1	09/15/16 12:18	9/13/16	
Aroclor 1242	ND U	0.94	0.50	0.29	1	09/15/16 12:18	9/13/16	
Aroclor 1248	ND U	0.94	0.50	0.27	1	09/15/16 12:18	9/13/16	
Aroclor 1254	ND U	0.94	0.50	0.26	1	09/15/16 12:18	9/13/16	
Aroclor 1260	ND U	0.94	0.50	0.36	1	09/15/16 12:18	9/13/16	
Aroclor 1268	ND U	0.94	0.50	0.36	1	09/15/16 12:18	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	64	10 - 149	09/15/16 12:18	
Tetrachloro-m-xylene	69	15 - 131	09/15/16 12:18	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 11:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD18-090716	**Units:**	ug/L
Lab Code:	R1609583-002	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	0.94	0.50	0.36	1	09/15/16 12:44	9/13/16	
Aroclor 1221	ND U	1.9	1.0	0.84	1	09/15/16 12:44	9/13/16	
Aroclor 1232	ND U	0.94	0.50	0.36	1	09/15/16 12:44	9/13/16	
Aroclor 1242	ND U	0.94	0.50	0.29	1	09/15/16 12:44	9/13/16	
Aroclor 1248	ND U	0.94	0.50	0.27	1	09/15/16 12:44	9/13/16	
Aroclor 1254	ND U	0.94	0.50	0.26	1	09/15/16 12:44	9/13/16	
Aroclor 1260	ND U	0.94	0.50	0.36	1	09/15/16 12:44	9/13/16	
Aroclor 1268	ND U	0.94	0.50	0.36	1	09/15/16 12:44	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	63	10 - 149	09/15/16 12:44	
Tetrachloro-m-xylene	70	15 - 131	09/15/16 12:44	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI15-090716	**Units:**	ug/L
Lab Code:	R1609583-004	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	0.94	0.50	0.36	1	09/15/16 13:10	9/13/16	
Aroclor 1221	ND U	1.9	1.0	0.84	1	09/15/16 13:10	9/13/16	
Aroclor 1232	ND U	0.94	0.50	0.36	1	09/15/16 13:10	9/13/16	
Aroclor 1242	ND U	0.94	0.50	0.29	1	09/15/16 13:10	9/13/16	
Aroclor 1248	ND U	0.94	0.50	0.27	1	09/15/16 13:10	9/13/16	
Aroclor 1254	ND U	0.94	0.50	0.26	1	09/15/16 13:10	9/13/16	
Aroclor 1260	ND U	0.94	0.50	0.36	1	09/15/16 13:10	9/13/16	
Aroclor 1268	ND U	0.94	0.50	0.36	1	09/15/16 13:10	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	76	10 - 149	09/15/16 13:10	
Tetrachloro-m-xylene	76	15 - 131	09/15/16 13:10	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD16-090816	**Units:**	ug/L
Lab Code:	R1609583-005	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	0.94	0.50	0.36	1	09/15/16 14:01	9/13/16	
Aroclor 1221	ND U	1.9	1.0	0.84	1	09/15/16 14:01	9/13/16	
Aroclor 1232	ND U	0.94	0.50	0.36	1	09/15/16 14:01	9/13/16	
Aroclor 1242	ND U	0.94	0.50	0.29	1	09/15/16 14:01	9/13/16	
Aroclor 1248	ND U	0.94	0.50	0.27	1	09/15/16 14:01	9/13/16	
Aroclor 1254	ND U	0.94	0.50	0.26	1	09/15/16 14:01	9/13/16	
Aroclor 1260	ND U	0.94	0.50	0.36	1	09/15/16 14:01	9/13/16	
Aroclor 1268	ND U	0.94	0.50	0.36	1	09/15/16 14:01	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	57	10 - 149	09/15/16 14:01	
Tetrachloro-m-xylene	61	15 - 131	09/15/16 14:01	

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:20
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI17-090716	**Basis:**	NA
Lab Code:	R1609583-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	ND U	mg/L	0.010	0.005	0.002	1	09/19/16 11:04	09/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 11:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD18-090716	**Basis:**	NA
Lab Code:	R1609583-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	ND U	mg/L	0.010	0.005	0.002	1	09/19/16 11:04	09/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/07/16 13:30
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWI15-090716	**Basis:**	NA
Lab Code:	R1609583-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	**0.003 J**	mg/L	0.010	0.005	0.002	1	09/19/16 12:11	09/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/08/16 09:10
Sample Matrix:	Water	**Date Received:**	09/09/16 16:05
Sample Name:	3805-MWD16-090816	**Basis:**	NA
Lab Code:	R1609583-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	ND U	mg/L	0.010	0.005	0.002	1	09/19/16 11:08	09/16/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/12/16 09:10
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	ASL-MW12A-091216	**Basis:**	NA
Lab Code:	R1609583-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**172**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.050	0.010	0.006	10	09/25/16 03:16	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/14/16 08:00	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/13/16 11:07	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**1.5**		mg/L	1.0	0.5	0.05	1	09/27/16 15:26	NA	
Chemical Oxygen Demand, Total	410.4	**6.5**		mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	NA	*
Nitrate as Nitrogen	300.0	**4.2**		mg/L	1.0	0.5	0.5	10	09/13/16 11:07	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/13/16 11:07	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.20**	**J**	mg/L	0.40	0.10	0.08	1	09/19/16 12:13	09/14/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/20/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**666**		mg/L	20	-	8	1	09/14/16 11:10	NA	
Sulfate	300.0	**31.8**		mg/L	2.0	1.0	0.2	10	09/13/16 11:07	NA	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/12/16 10:30
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	ASL-MW13-091216	**Basis:**	NA
Lab Code:	R1609583-012		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**152**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.050	0.010	0.006	10	09/25/16 03:34	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/14/16 08:15	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/13/16 11:52	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**1.0**	**B**	mg/L	1.0	0.5	0.05	1	09/27/16 15:47	NA	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	NA	*
Nitrate as Nitrogen	300.0	**4.3**		mg/L	1.0	0.5	0.5	10	09/13/16 11:52	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/13/16 11:52	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.34**	**J**	mg/L	0.40	0.10	0.08	1	09/19/16 12:14	09/14/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/20/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**318**		mg/L	10	-	4	1	09/14/16 11:10	NA	
Sulfate	300.0	**14.7**		mg/L	2.0	1.0	0.2	10	09/13/16 11:52	NA	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/12/16 11:40
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	ASL-MW14-091216	**Basis:**	NA
Lab Code:	R1609583-013		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**285**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.050	0.010	0.006	10	09/25/16 03:52	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/14/16 08:15	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/13/16 12:07	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**1.0**	**B**	mg/L	1.0	0.5	0.05	1	09/27/16 16:08	NA	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	NA	*
Nitrate as Nitrogen	300.0	**2.2**		mg/L	1.0	0.5	0.5	10	09/13/16 12:07	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/13/16 12:07	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.20**	**J**	mg/L	0.40	0.10	0.08	1	09/19/16 12:14	09/14/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/20/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**404**		mg/L	10	-	4	1	09/14/16 11:10	NA	
Sulfate	300.0	**8.3**		mg/L	2.0	1.0	0.2	10	09/13/16 12:07	NA	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/12/16 13:00
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	ASL-MW961-091216	**Basis:**	NA
Lab Code:	R1609583-014		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**207**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.050	0.010	0.006	10	09/25/16 04:10	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/14/16 08:16	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/13/16 12:22	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**1.4**	**B**	mg/L	1.0	0.5	0.05	1	09/27/16 16:29	NA	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	NA	*
Nitrate as Nitrogen	300.0	**4.1**		mg/L	1.0	0.5	0.5	10	09/13/16 12:22	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/13/16 12:22	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.27**	**J**	mg/L	0.40	0.10	0.08	1	09/19/16 12:15	09/14/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/20/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**738**		mg/L	20	-	8	1	09/14/16 11:10	NA	
Sulfate	300.0	**29.2**		mg/L	2.0	1.0	0.2	10	09/13/16 12:22	NA	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/12/16
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	BD-091216	**Basis:**	NA
Lab Code:	R1609583-015		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**154**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.050	0.010	0.006	10	09/25/16 04:28	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/14/16 08:17	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/13/16 12:37	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**0.9**	**BJ**	mg/L	1.0	0.5	0.05	1	09/27/16 16:50	NA	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	NA	
Nitrate as Nitrogen	300.0	**4.4**		mg/L	1.0	0.5	0.5	10	09/13/16 12:37	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/13/16 12:37	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.37**	**J**	mg/L	0.40	0.10	0.08	1	09/19/16 12:16	09/14/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/20/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**318**		mg/L	10	-	4	1	09/14/16 11:10	NA	
Sulfate	300.0	**14.9**		mg/L	2.0	1.0	0.2	10	09/13/16 12:37	NA	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609583

Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Extraction Method: EPA 5030C

		4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
Sample Name	**Lab Code**	**85 - 114**	**80 - 119**	**89 - 112**
3805-MWI17-090716	R1609583-001	97	100	101
3805-MWD18-090716	R1609583-002	93	100	100
TRIP BLANK 1	R1609583-003	94	101	100
3805-MWI15-090716	R1609583-004	94	101	100
3805-MWD16-090816	R1609583-005	98	102	103
OSL-MW2-090816	R1609583-006	94	99	100
OSL-SP01-090816	R1609583-007	96	99	101
SP01-EFF-090816	R1609583-008	95	101	101
LS31-EFF-090816	R1609583-009	97	102	101
LS31-090816	R1609583-010	94	100	100
Method Blank	RQ1611082-01	92	100	98
Lab Control Sample	RQ1611082-02	96	104	101

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Analyzed:**	09/15/16 11:19
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank **Instrument ID:** R-MS-10
Lab Code: RQ1611082-01 **File ID:** I:\ACQUDATA\msvoa10\data\091516\N0354.D\

Analysis Method: 8260C **Analysis Lot:** 514274
Prep Method: EPA 5030C

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1611082-02	I:\ACQUDATA\msvoa10\data\091516\N0352.D\	09/15/16 10:31
TRIP BLANK 1	R1609583-003	I:\ACQUDATA\msvoa10\data\091516\N0358.D\	09/15/16 13:36
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\msvoa10\data\091516\N0359.D\	09/15/16 14:01
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\msvoa10\data\091516\N0360.D\	09/15/16 14:25
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\msvoa10\data\091516\N0361.D\	09/15/16 14:49
OSL-MW2-090816	R1609583-006	I:\ACQUDATA\msvoa10\data\091516\N0362.D\	09/15/16 15:14
OSL-SP01-090816	R1609583-007	I:\ACQUDATA\msvoa10\data\091516\N0363.D\	09/15/16 15:38
SP01-EFF-090816	R1609583-008	I:\ACQUDATA\msvoa10\data\091516\N0364.D\	09/15/16 16:02
LS31-EFF-090816	R1609583-009	I:\ACQUDATA\msvoa10\data\091516\N0365.D\	09/15/16 16:27
LS31-090816	R1609583-010	I:\ACQUDATA\msvoa10\data\091516\N0366.D\	09/15/16 16:51
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\msvoa10\data\091516\N0367.D\	09/15/16 17:15

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611082-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 11:19	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 11:19	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 11:19	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 11:19	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 11:19	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 11:19	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 11:19	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 11:19	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 11:19	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 11:19	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 11:19	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 11:19	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 11:19	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 11:19	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 11:19	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 11:19	
Acetone	ND U	10	5.0	1.3	1	09/15/16 11:19	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 11:19	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 11:19	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 11:19	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 11:19	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 11:19	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 11:19	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 11:19	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 11:19	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611082-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 11:19	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 11:19	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 11:19	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 11:19	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 11:19	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 11:19	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 11:19	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 11:19	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 11:19	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 114	09/15/16 11:19	
Dibromofluoromethane	100	80 - 119	09/15/16 11:19	
Toluene-d8	98	89 - 112	09/15/16 11:19	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Analyzed:**	09/15/16 10:31
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name: Lab Control Sample
Lab Code: RQ1611082-02
Instrument ID: R-MS-10
File ID: I:\ACQUDATA\msvoa10\data\091516\N0352.D\

Analysis Method: 8260C
Prep Method: EPA 5030C
Analysis Lot: 514274

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1611082-01	I:\ACQUDATA\msvoa10\data\091516\N0354.D\	09/15/16 11:19
TRIP BLANK 1	R1609583-003	I:\ACQUDATA\msvoa10\data\091516\N0358.D\	09/15/16 13:36
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\msvoa10\data\091516\N0359.D\	09/15/16 14:01
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\msvoa10\data\091516\N0360.D\	09/15/16 14:25
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\msvoa10\data\091516\N0361.D\	09/15/16 14:49
OSL-MW2-090816	R1609583-006	I:\ACQUDATA\msvoa10\data\091516\N0362.D\	09/15/16 15:14
OSL-SP01-090816	R1609583-007	I:\ACQUDATA\msvoa10\data\091516\N0363.D\	09/15/16 15:38
SP01-EFF-090816	R1609583-008	I:\ACQUDATA\msvoa10\data\091516\N0364.D\	09/15/16 16:02
LS31-EFF-090816	R1609583-009	I:\ACQUDATA\msvoa10\data\091516\N0365.D\	09/15/16 16:27
LS31-090816	R1609583-010	I:\ACQUDATA\msvoa10\data\091516\N0366.D\	09/15/16 16:51
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\msvoa10\data\091516\N0367.D\	09/15/16 17:15

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/15/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611082-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	18.3	20.0	92	78-124
1,1,1-Trichloroethane (TCA)	8260C	16.5	20.0	82	74-131
1,1,2,2-Tetrachloroethane	8260C	18.3	20.0	91	71-121
1,1,2-Trichloroethane	8260C	18.5	20.0	92	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	16.7	20.0	83	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	16.4	20.0	82	71-131
1,1-Dichloropropene	8260C	16.0	20.0	80	79-125
1,2,3-Trichlorobenzene	8260C	21.0	20.0	105	69-129
1,2,3-Trichloropropane	8260C	17.6	20.0	88	73-122
1,2,4-Trichlorobenzene	8260C	20.8	20.0	104	69-130
1,2,4-Trimethylbenzene	8260C	17.3	20.0	87	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.2	20.0	86	62-128
1,2-Dibromoethane	8260C	19.5	20.0	98	77-121
1,2-Dichlorobenzene	8260C	18.3	20.0	92	80-119
1,2-Dichloroethane	8260C	18.3	20.0	92	73-128
1,2-Dichloropropane	8260C	17.9	20.0	90	78-122
1,3,5-Trimethylbenzene	8260C	17.2	20.0	86	75-124
1,3-Dichlorobenzene	8260C	17.8	20.0	89	80-119
1,3-Dichloropropane	8260C	18.1	20.0	90	80-119
1,4-Dichlorobenzene	8260C	18.5	20.0	92	79-118
2,2-Dichloropropane	8260C	15.5	20.0	78	60-139
2-Butanone (MEK)	8260C	15.0	20.0	75	56-143
2-Chlorotoluene	8260C	18.3	20.0	92	79-122
2-Hexanone	8260C	15.4	20.0	77	57-139
4-Chlorotoluene	8260C	17.8	20.0	89	78-122
4-Isopropyltoluene	8260C	16.7	20.0	84	77-127
4-Methyl-2-pentanone	8260C	17.1	20.0	86	67-130
Acetone	8260C	16.9	20.0	85	39-160
Benzene	8260C	18.1	20.0	91	79-120
Bromobenzene	8260C	19.2	20.0	96	80-120
Bromochloromethane	8260C	17.8	20.0	89	78-123
Bromodichloromethane	8260C	17.8	20.0	89	79-125
Bromoform	8260C	19.5	20.0	97	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/15/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611082-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	12.8	20.0	64	53-141
Carbon Disulfide	8260C	15.2	20.0	76	64-133
Carbon Tetrachloride	8260C	18.1	20.0	91	72-136
Chlorobenzene	8260C	18.0	20.0	90	82-118
Chloroethane	8260C	15.4	20.0	77	60-138
Chloroform	8260C	17.4	20.0	87	79-124
Chloromethane	8260C	13.4	20.0	67	50-139
Dibromochloromethane	8260C	18.9	20.0	95	74-126
Dibromomethane	8260C	19.2	20.0	96	79-123
Dichlorodifluoromethane (CFC 12)	8260C	14.3	20.0	71	32-152
Dichloromethane	8260C	17.2	20.0	86	74-124
Ethylbenzene	8260C	17.3	20.0	87	79-121
Hexachlorobutadiene	8260C	16.9	20.0	85	66-134
Isopropylbenzene (Cumene)	8260C	16.8	20.0	84	72-131
Methyl tert-Butyl Ether	8260C	17.2	20.0	86	71-124
Naphthalene	8260C	20.2	20.0	101	61-128
Styrene	8260C	17.6	20.0	88	78-123
Tetrachloroethene (PCE)	8260C	17.3	20.0	86	74-129
Toluene	8260C	17.8	20.0	89	80-121
Trichloroethene (TCE)	8260C	17.8	20.0	89	79-123
Trichlorofluoromethane (CFC 11)	8260C	16.7	20.0	84	65-141
Vinyl Chloride	8260C	17.1	20.0	85	58-137
cis-1,2-Dichloroethene	8260C	18.2	20.0	91	78-123
cis-1,3-Dichloropropene	8260C	18.1	20.0	91	75-124
m,p-Xylenes	8260C	34.4	40.0	86	80-121
n-Butylbenzene	8260C	16.8	20.0	84	75-128
n-Propylbenzene	8260C	17.4	20.0	87	76-126
o-Xylene	8260C	17.2	20.0	86	78-122
sec-Butylbenzene	8260C	16.7	20.0	84	77-126
tert-Butylbenzene	8260C	17.4	20.0	87	78-124
trans-1,2-Dichloroethene	8260C	16.7	20.0	83	75-124
trans-1,3-Dichloropropene	8260C	17.9	20.0	90	73-127

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002 **Date Analyzed:**09/15/16 09:23

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\091516\N0350.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-10 **Analysis Lot:** 514274

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	17.60	19946	Pass
75	95	30	60	49.98	56637	Pass
95	95	100	100	100.00	113325	Pass
96	95	5	9	7.23	8191	Pass
173	174	0	2	1.02	1009	Pass
174	95	50	120	86.95	98541	Pass
175	174	5	9	7.31	7208	Pass
176	174	95	101	96.70	95293	Pass
177	176	5	9	6.68	6362	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1611082-04	I:\ACQUDATA\msvoa10\data\091516\N0351.D\	09/15/16 09:58	
Lab Control Sample	RQ1611082-02	I:\ACQUDATA\msvoa10\data\091516\N0352.D\	09/15/16 10:31	
Method Blank	RQ1611082-01	I:\ACQUDATA\msvoa10\data\091516\N0354.D\	09/15/16 11:19	
TRIP BLANK 1	R1609583-003	I:\ACQUDATA\msvoa10\data\091516\N0358.D\	09/15/16 13:36	
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\msvoa10\data\091516\N0359.D\	09/15/16 14:01	
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\msvoa10\data\091516\N0360.D\	09/15/16 14:25	
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\msvoa10\data\091516\N0361.D\	09/15/16 14:49	
OSL-MW2-090816	R1609583-006	I:\ACQUDATA\msvoa10\data\091516\N0362.D\	09/15/16 15:14	
OSL-SP01-090816	R1609583-007	I:\ACQUDATA\msvoa10\data\091516\N0363.D\	09/15/16 15:38	
SP01-EFF-090816	R1609583-008	I:\ACQUDATA\msvoa10\data\091516\N0364.D\	09/15/16 16:02	
LS31-EFF-090816	R1609583-009	I:\ACQUDATA\msvoa10\data\091516\N0365.D\	09/15/16 16:27	
LS31-090816	R1609583-010	I:\ACQUDATA\msvoa10\data\091516\N0366.D\	09/15/16 16:51	
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\msvoa10\data\091516\N0367.D\	09/15/16 17:15	
Continuing Calibration Verification	RQ1611082-07	I:\ACQUDATA\msvoa10\data\091516\N0373.D\	09/15/16 19:41	

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002 **Date Analyzed:**09/15/16 09:58

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\091516\N0351.D\ **Lab Code:**RQ1611082-04
Instrument ID: R-MS-10 **Analysis Lot:**514274
Analysis Method: 8260C **Signal ID:**

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	190,406	11.99	411,827	6.71	361,341	9.96
	Upper Limit ==>	380,812	12.49	823,654	7.21	722,682	10.46
	Lower Limit ==>	95,203	11.49	205,914	6.21	180,671	9.46
Associated Analyses							
Lab Control Sample	RQ1611082-02	191232	11.99	416084	6.71	371570	9.96
Method Blank	RQ1611082-01	173321	11.99	399711	6.71	352964	9.96
TRIP BLANK 1	R1609583-003	165505	11.99	369735	6.71	323538	9.96
3805-MWD18-090716	R1609583-002	168748	11.99	387371	6.71	341873	9.96
3805-MWI15-090716	R1609583-004	168885	11.99	387060	6.71	334939	9.96
3805-MWD16-090816	R1609583-005	160163	11.99	366873	6.71	319754	9.96
OSL-MW2-090816	R1609583-006	165370	11.99	382550	6.71	331950	9.96
OSL-SP01-090816	R1609583-007	166753	11.99	367350	6.71	324881	9.96
SP01-EFF-090816	R1609583-008	167588	11.99	369131	6.71	328503	9.96
LS31-EFF-090816	R1609583-009	166620	11.99	368659	6.71	325330	9.96
LS31-090816	R1609583-010	165132	11.99	372282	6.71	323134	9.96
3805-MWI17-090716	R1609583-001	178829	11.99	384127	6.71	337142	9.96

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002 **Date Analyzed:**09/15/16 09:58

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\091516\N0351.D\ **Lab Code:**RQ1611082-04
Instrument ID: R-MS-10 **Analysis Lot:**514274
Analysis Method: 8260C **Signal ID:**

		Pentafluorobenzene	
		Area	**RT**
	ICAL Result ==>	288,859	5.67
	Upper Limit ==>	577,718	6.17
	Lower Limit ==>	144,430	5.17
Associated Analyses			
Lab Control Sample	RQ1611082-02	294643	5.67
Method Blank	RQ1611082-01	278246	5.67
TRIP BLANK 1	R1609583-003	258193	5.67
3805-MWD18-090716	R1609583-002	271509	5.67
3805-MWI15-090716	R1609583-004	268820	5.67
3805-MWD16-090816	R1609583-005	258173	5.67
OSL-MW2-090816	R1609583-006	264725	5.67
OSL-SP01-090816	R1609583-007	259233	5.67
SP01-EFF-090816	R1609583-008	262406	5.67
LS31-EFF-090816	R1609583-009	259129	5.67
LS31-090816	R1609583-010	259098	5.67
3805-MWI17-090716	R1609583-001	268033	5.67

Volatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/15/16 14:00

Method Blank Summary
Dissolved Gases by GC/FID

Sample Name: Method Blank
Lab Code: RQ1610965-01

Instrument ID:R-GC-02
File ID:I:\ACQUDATA\V2\DATA\091516\AA544.D\

Analysis Method: RSK 175
Analysis Lot:514339

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1610965-02	I:\ACQUDATA\V2\DATA\091516\AA545.D\	09/15/16 14:08
Duplicate Lab Control Sample	RQ1610965-03	I:\ACQUDATA\V2\DATA\091516\AA546.D\	09/15/16 14:16
ASL-MW12A-091216	R1609583-011	I:\ACQUDATA\V2\DATA\091516\AA547.D\	09/15/16 14:25
ASL-MW13-091216	R1609583-012	I:\ACQUDATA\V2\DATA\091516\AA548.D\	09/15/16 14:33
ASL-MW14-091216	R1609583-013	I:\ACQUDATA\V2\DATA\091516\AA549.D\	09/15/16 14:41
ASL-MW961-091216	R1609583-014	I:\ACQUDATA\V2\DATA\091516\AA550.D\	09/15/16 14:50
BD-091216	R1609583-015	I:\ACQUDATA\V2\DATA\091516\AA551.D\	09/15/16 14:58

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1610965-01	**Basis:**	NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Ethane	ND	U	1.0	0.50	0.20	1	NA	9/15/16 14:00		514339	
Ethene	ND	U	1.0	0.50	0.11	1	NA	9/15/16 14:00		514339	
Methane	ND	U	1.0	0.50	0.21	1	NA	9/15/16 14:00		514339	

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/15/16 14:08

Lab Control Sample Summary
Dissolved Gases by GC/FID

Sample Name: Lab Control Sample
Lab Code: RQ1610965-02

Instrument ID:R-GC-02
File ID:I:\ACQUDATA\V2\DATA\091516\AA545.D\

Analysis Method: RSK 175
Analysis Lot:514339

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1610965-01	I:\ACQUDATA\V2\DATA\091516\AA544.D\	09/15/16 14:00
Duplicate Lab Control Sample	RQ1610965-03	I:\ACQUDATA\V2\DATA\091516\AA546.D\	09/15/16 14:16
ASL-MW12A-091216	R1609583-011	I:\ACQUDATA\V2\DATA\091516\AA547.D\	09/15/16 14:25
ASL-MW13-091216	R1609583-012	I:\ACQUDATA\V2\DATA\091516\AA548.D\	09/15/16 14:33
ASL-MW14-091216	R1609583-013	I:\ACQUDATA\V2\DATA\091516\AA549.D\	09/15/16 14:41
ASL-MW961-091216	R1609583-014	I:\ACQUDATA\V2\DATA\091516\AA550.D\	09/15/16 14:50
BD-091216	R1609583-015	I:\ACQUDATA\V2\DATA\091516\AA551.D\	09/15/16 14:58

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 9/15/16

Lab Control Sample Summary
Dissolved Gases by GC/FID

Analytical Method: RSK 175

Units: µg/L
Basis: NA

Analysis Lot: 514339

	Lab Control Sample RQ1610965-02			Duplicate Lab Control Sample RQ1610965-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ethane	27.2	26.0	105	26.1	26.0	100	74 - 131	4	30
Ethene	26.0	24.3	107	25.0	24.3	103	72 - 133	4	30
Methane	27.8	26.2	106	26.6	26.2	101	73 - 125	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609583

Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D

Extraction Method: EPA 3510C

Sample Name	Lab Code	2,4,6-Tribromophenol 43 - 140	2-Fluorobiphenyl 44 - 119	2-Fluorophenol 19 - 119
3805-MWI17-090716	R1609583-001	77	65	37
3805-MWD18-090716	R1609583-002	84	66	35
3805-MWI15-090716	R1609583-004	90	70	37
3805-MWD16-090816	R1609583-005	82	67	34
OSL-MW2-090816	R1609583-006	86	71	39
OSL-SP01-090816	R1609583-007	75	60	33
Method Blank	RQ1610742-01	82	64	36
Lab Control Sample	RQ1610742-02	91	76	44
Duplicate Lab Control Sample	RQ1610742-03	91	76	40

Client: ARCADIS U.S., Inc. **Service Request:** R1609583

Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D

Extraction Method: EPA 3510C

Sample Name	Lab Code	Nitrobenzene-d5 44 - 120	Phenol-d6 10 - 107	p-Terphenyl-d14 50 - 134
3805-MWI17-090716	R1609583-001	68	26	75
3805-MWD18-090716	R1609583-002	66	25	80
3805-MWI15-090716	R1609583-004	68	26	87
3805-MWD16-090816	R1609583-005	66	25	97
OSL-MW2-090816	R1609583-006	71	28	103
OSL-SP01-090816	R1609583-007	61	24	75
Method Blank	RQ1610742-01	63	27	97
Lab Control Sample	RQ1610742-02	71	33	93
Duplicate Lab Control Sample	RQ1610742-03	68	30	90

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/14/16 08:16
Date Extracted: 09/12/16

Method Blank Summary
Semivolatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1610742-01

Instrument ID: R-MS-54
File ID: I:\ACQUDATA\5973D\Data\091416\BI023.D\

Analysis Method: 8270D
Prep Method: EPA 3510C

Analysis Lot: 514196
Extraction Lot: 270636

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1610742-02	I:\ACQUDATA\5973D\Data\091416\BI024.D\	09/14/16 08:44
Duplicate Lab Control Sample	RQ1610742-03	I:\ACQUDATA\5973D\Data\091416\BI025.D\	09/14/16 09:12
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\5973D\Data\091416\BI031.D\	09/14/16 12:00
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\5973D\Data\091416\BI032.D\	09/14/16 12:28
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\5973D\Data\091416\BI033.D\	09/14/16 12:56
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\5973D\Data\091416\BI034.D\	09/14/16 13:24
OSL-MW2-090816	R1609583-006	I:\ACQUDATA\5973D\Data\091416\BI035.D\	09/14/16 13:52
OSL-SP01-090816	R1609583-007	I:\ACQUDATA\5973D\Data\091416\BI036.D\	09/14/16 14:20

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610742-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
1,2-Dichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
1,3-Dichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
1,4-Dichlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2,4,5-Trichlorophenol	ND U	10	5.0	1.8	1	09/14/16 08:16	9/12/16	
2,4,6-Trichlorophenol	ND U	10	5.0	1.4	1	09/14/16 08:16	9/12/16	
2,4-Dichlorophenol	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
2,4-Dimethylphenol	ND U	10	5.0	1.5	1	09/14/16 08:16	9/12/16	
2,4-Dinitrophenol	ND U	50	25	20	1	09/14/16 08:16	9/12/16	
2,4-Dinitrotoluene	ND U	10	5.0	1.6	1	09/14/16 08:16	9/12/16	
2,6-Dinitrotoluene	ND U	10	5.0	1.8	1	09/14/16 08:16	9/12/16	
2-Chloronaphthalene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Chlorophenol	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Methylnaphthalene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Methylphenol	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
2-Nitroaniline	ND U	50	25	9.1	1	09/14/16 08:16	9/12/16	
2-Nitrophenol	ND U	10	5.0	1.4	1	09/14/16 08:16	9/12/16	
3,3'-Dichlorobenzidine	ND U	10	5.0	4.5	1	09/14/16 08:16	9/12/16	
3- and 4-Methylphenol Coelution	ND U	20	10	2.0	1	09/14/16 08:16	9/12/16	
3-Nitroaniline	ND U	50	25	7.7	1	09/14/16 08:16	9/12/16	
4,6-Dinitro-2-methylphenol	ND U	50	25	11	1	09/14/16 08:16	9/12/16	
4-Bromophenyl Phenyl Ether	ND U	10	5.0	2.2	1	09/14/16 08:16	9/12/16	
4-Chloro-3-methylphenol	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
4-Chloroaniline	ND U	10	5.0	1.5	1	09/14/16 08:16	9/12/16	
4-Chlorophenyl Phenyl Ether	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
4-Nitroaniline	ND U	50	25	7.8	1	09/14/16 08:16	9/12/16	
4-Nitrophenol	ND U	50	25	5.9	1	09/14/16 08:16	9/12/16	
Acenaphthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Acenaphthylene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Anthracene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benz(a)anthracene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(a)pyrene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(b)fluoranthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(g,h,i)perylene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzo(k)fluoranthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Benzyl Alcohol	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
2,2'-Oxybis(1-chloropropane)	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Bis(2-chloroethoxy)methane	ND U	10	5.0	2.2	1	09/14/16 08:16	9/12/16	
Bis(2-chloroethyl) Ether	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
Bis(2-ethylhexyl) Phthalate	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Butyl Benzyl Phthalate	ND U	10	5.0	2.4	1	09/14/16 08:16	9/12/16	
Carbazole	ND U	10	5.0	1.1	1	09/14/16 08:16	9/12/16	
Chrysene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610742-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Di-n-octyl Phthalate	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Dibenz(a,h)anthracene	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
Dibenzofuran	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Diethyl Phthalate	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Dimethyl Phthalate	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Fluoranthene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Fluorene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Hexachlorobenzene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Hexachlorobutadiene	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
Hexachloroethane	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Indeno(1,2,3-cd)pyrene	ND U	10	5.0	1.2	1	09/14/16 08:16	9/12/16	
Isophorone	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
N-Nitrosodi-n-propylamine	ND U	10	5.0	1.3	1	09/14/16 08:16	9/12/16	
N-Nitrosodimethylamine	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
N-Nitrosodiphenylamine	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Naphthalene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Nitrobenzene	ND U	10	5.0	1.6	1	09/14/16 08:16	9/12/16	
Pentachlorophenol (PCP)	ND U	50	25	6.9	1	09/14/16 08:16	9/12/16	
Phenanthrene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Phenol	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	
Pyrene	ND U	10	5.0	1.0	1	09/14/16 08:16	9/12/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	82	43 - 140	09/14/16 08:16	
2-Fluorobiphenyl	64	44 - 119	09/14/16 08:16	
2-Fluorophenol	36	19 - 119	09/14/16 08:16	
Nitrobenzene-d5	63	44 - 120	09/14/16 08:16	
Phenol-d6	27	10 - 107	09/14/16 08:16	
p-Terphenyl-d14	97	50 - 134	09/14/16 08:16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Analyzed:**	09/14/16 08:44
Sample Matrix:	Water	**Date Extracted:**	09/12/16

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-54
Lab Code:	RQ1610742-02	**File ID:**	I:\ACQUDATA\5973D\Data\091416\BI024.D\
Analysis Method:	8270D	**Analysis Lot:**	514196
Prep Method:	EPA 3510C	**Extraction Lot:**	270636

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1610742-01	I:\ACQUDATA\5973D\Data\091416\BI023.D\	09/14/16 08:16
Duplicate Lab Control Sample	RQ1610742-03	I:\ACQUDATA\5973D\Data\091416\BI025.D\	09/14/16 09:12
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\5973D\Data\091416\BI031.D\	09/14/16 12:00
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\5973D\Data\091416\BI032.D\	09/14/16 12:28
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\5973D\Data\091416\BI033.D\	09/14/16 12:56
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\5973D\Data\091416\BI034.D\	09/14/16 13:24
OSL-MW2-090816	R1609583-006	I:\ACQUDATA\5973D\Data\091416\BI035.D\	09/14/16 13:52
OSL-SP01-090816	R1609583-007	I:\ACQUDATA\5973D\Data\091416\BI036.D\	09/14/16 14:20

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/14/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610742-02			RQ1610742-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	65.4	100	65	58.2	100	58	29-116	12	20
1,2-Dichlorobenzene	8270D	64.9	100	65	58.1	100	58	32-111	11	20
1,3-Dichlorobenzene	8270D	63.4	100	63	54.9	100	55	28-110	14	20
1,4-Dichlorobenzene	8270D	63.5	100	64	56.5	100	56	29-112	12	20
2,4,5-Trichlorophenol	8270D	98.3	100	98	99.8	100	100	53-123	2	20
2,4,6-Trichlorophenol	8270D	95.3	100	95	94.8	100	95	50-125	<1	20
2,4-Dichlorophenol	8270D	95.5	100	96	87.2	100	87	47-121	9	20
2,4-Dimethylphenol	8270D	95.1	100	95	92.7	100	93	31-124	3	20
2,4-Dinitrophenol	8270D	120	100	120	128	100	128	23-143	6	20
2,4-Dinitrotoluene	8270D	97.6	100	98	104	100	104	57-128	6	20
2,6-Dinitrotoluene	8270D	101	100	101	101	100	101	57-124	<1	20
2-Chloronaphthalene	8270D	73.8	100	74	71.3	100	71	40-116	3	20
2-Chlorophenol	8270D	85.2	100	85	80.7	100	81	38-117	5	20
2-Methylnaphthalene	8270D	73.8	100	74	69.2	100	69	40-121	6	20
2-Methylphenol	8270D	82.0	100	82	77.3	100	77	30-117	6	20
2-Nitroaniline	8270D	94.9	100	95	94.7	100	95	55-127	<1	20
2-Nitrophenol	8270D	92.6	100	93	88.0	100	88	47-123	5	20
3,3'-Dichlorobenzidine	8270D	90.3	100	90	91.2	100	91	27-129	<1	20
3- and 4-Methylphenol Coelution	8270D	68.8	100	69	67.1	100	67	29-110	3	20
3-Nitroaniline	8270D	87.6	100	88	90.6	100	91	41-128	3	20
4,6-Dinitro-2-methylphenol	8270D	114	100	114	118	100	118	44-137	4	20
4-Bromophenyl Phenyl Ether	8270D	91.3	100	91	90.3	100	90	55-124	1	20
4-Chloro-3-methylphenol	8270D	98.5	100	98	96.4	100	96	52-119	2	20
4-Chloroaniline	8270D	93.9	100	94	94.4	100	94	33-117	<1	20
4-Chlorophenyl Phenyl Ether	8270D	85.8	100	86	84.4	100	84	53-121	2	20
Acenaphthene	8270D	82.0	100	82	81.6	100	82	47-122	<1	20
Acenaphthylene	8270D	81.1	100	81	81.4	100	81	41-130	<1	20
Anthracene	8270D	103	100	103	102	100	102	57-123	1	20
Benz(a)anthracene	8270D	99.3	100	99	100	100	100	58-125	1	20
Benzo(a)pyrene	8270D	104	100	104	103	100	103	54-128	2	20
Benzo(b)fluoranthene	8270D	94.8	100	95	94.8	100	95	53-131	<1	20
Benzo(g,h,i)perylene	8270D	105	100	105	101	100	101	50-134	4	20
Benzo(k)fluoranthene	8270D	104	100	104	102	100	102	57-129	2	20

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/14/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610742-02			RQ1610742-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	8270D	89.0	100	89	84.7	100	85	31-112	5	20
Bis(2-chloroethoxy)methane	8270D	90.5	100	90	86.2	100	86	48-120	5	20
Bis(2-chloroethyl) Ether	8270D	84.3	100	84	80.3	100	80	43-118	5	20
Bis(2-ethylhexyl) Phthalate	8270D	101	100	101	98.5	100	98	55-135	3	20
Butyl Benzyl Phthalate	8270D	95.4	100	95	94.6	100	95	53-134	<1	20
Carbazole	8270D	99.1	100	99	98.3	100	98	60-122	<1	20
Chrysene	8270D	102	100	102	100	100	100	59-123	2	20
Di-n-butyl Phthalate	8270D	112	100	112	111	100	111	59-127	1	20
Di-n-octyl Phthalate	8270D	105	100	105	104	100	104	51-140	<1	20
Dibenz(a,h)anthracene	8270D	76.5	100	76	76.5	100	76	51-134	<1	20
Dibenzofuran	8270D	81.3	100	81	82.7	100	83	53-118	2	20
Diethyl Phthalate	8270D	98.7	100	99	101	100	101	56-125	3	20
Dimethyl Phthalate	8270D	97.4	100	97	100	100	100	45-127	3	20
Fluoranthene	8270D	105	100	105	104	100	104	57-128	<1	20
Fluorene	8270D	84.7	100	85	86.9	100	87	52-124	3	20
Hexachlorobenzene	8270D	97.8	100	98	94.1	100	94	53-125	4	20
Hexachlorobutadiene	8270D	70.2	100	70	65.8	100	66	22-124	6	20
Hexachloroethane	8270D	59.5	100	60	51.3	100	51	21-115	15	20
Indeno(1,2,3-cd)pyrene	8270D	102	100	102	101	100	101	52-134	<1	20
Isophorone	8270D	94.7	100	95	91.2	100	91	42-124	4	20
N-Nitrosodi-n-propylamine	8270D	78.8	100	79	74.5	100	74	49-119	6	20
N-Nitrosodimethylamine	8270D	50.5	100	51	45.4	100	45	23-120	11	20
N-Nitrosodiphenylamine	8270D	95.2	100	95	93.4	100	93	51-123	2	20
Naphthalene	8270D	70.3	100	70	65.3	100	65	40-121	7	20
Nitrobenzene	8270D	86.6	100	87	82.1	100	82	45-121	5	20
Pentachlorophenol (PCP)	8270D	129	100	129	128	100	128	35-138	<1	20
Phenanthrene	8270D	97.6	100	98	96.5	100	97	59-120	1	20
Phenol	8270D	36.0	100	36	33.0	100	33 *	34-121	9	20
Pyrene	8270D	101	100	101	99.4	100	99	57-126	1	20

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002 **Date Analyzed:**09/14/16 07:30

Tune Summary
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\091416\BI021.D\ **Analytical Method:** 8270D
Instrument ID: R-MS-54 **Analysis Lot:** 514196

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	41.71	22862	Pass
68	69	0.00	2	1.25	339	Pass
69	198	0.00	100	49.47	27117	Pass
70	69	0.00	2	0.45	122	Pass
127	198	10	80	55.65	30503	Pass
197	198	0.00	2	0.69	380	Pass
198	198	100	100	100.00	54811	Pass
199	198	5	9	7.69	4216	Pass
275	198	10	60	24.48	13417	Pass
365	198	1	100	4.30	2359	Pass
441	442	0.01	24	14.56	7274	Pass
442	442	100	100	100.00	49973	Pass
443	442	15	24	19.02	9505	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1610916-02	I:\ACQUDATA\5973D\Data\091416\BI022.D\	09/14/16 07:49	
Method Blank	RQ1610742-01	I:\ACQUDATA\5973D\Data\091416\BI023.D\	09/14/16 08:16	
Lab Control Sample	RQ1610742-02	I:\ACQUDATA\5973D\Data\091416\BI024.D\	09/14/16 08:44	
Duplicate Lab Control Sample	RQ1610742-03	I:\ACQUDATA\5973D\Data\091416\BI025.D\	09/14/16 09:12	
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\5973D\Data\091416\BI031.D\	09/14/16 12:00	
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\5973D\Data\091416\BI032.D\	09/14/16 12:28	
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\5973D\Data\091416\BI033.D\	09/14/16 12:56	
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\5973D\Data\091416\BI034.D\	09/14/16 13:24	
OSL-MW2-090816	R1609583-006	I:\ACQUDATA\5973D\Data\091416\BI035.D\	09/14/16 13:52	
OSL-SP01-090816	R1609583-007	I:\ACQUDATA\5973D\Data\091416\BI036.D\	09/14/16 14:20	
Continuing Cal. Verification	RQ1610916-03	I:\ACQUDATA\5973D\Data\091416\BI046.D\	09/14/16 18:57	

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002 **Date Analyzed:**09/14/16 07:49

Internal Standard Area and RT SUMMARY
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\091416\BI022.D\ **Lab Code:**RQ1610916-02
Instrument ID: R-MS-54 **Analysis Lot:**514196
Analysis Method: 8270D **Signal ID:**

		1,4-Dichlorobenzene-d4		Acenaphthene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	90,274	4.72	175,792	7.58	281,385	12.27
	Upper Limit ==>	180,548	5.22	351,584	8.08	562,770	12.77
	Lower Limit ==>	45,137	4.22	87,896	7.08	140,693	11.77
Associated Analyses							
Method Blank	RQ1610742-01	73590	4.72	148351	7.58	209550	12.26
Lab Control Sample	RQ1610742-02	80776	4.72	161717	7.58	258427	12.27
Duplicate Lab Control Sample	RQ1610742-03	81867	4.72	158189	7.58	267188	12.27
3805-MWI17-090716	R1609583-001	76335	4.72	151956	7.58	249142	12.26
3805-MWD18-090716	R1609583-002	78793	4.72	153107	7.58	247778	12.27
3805-MWI15-090716	R1609583-004	78301	4.72	152722	7.58	247495	12.27
3805-MWD16-090816	R1609583-005	82015	4.72	168886	7.58	230372	12.27
OSL-MW2-090816	R1609583-006	79203	4.72	158170	7.58	217396	12.26
OSL-SP01-090816	R1609583-007	82008	4.72	161973	7.58	252631	12.27
Continuing Cal. Verification	RQ1610916-03	86897	4.72	175669	7.58	289469	12.27

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002 **Date Analyzed:**09/14/16 07:49

Internal Standard Area and RT SUMMARY
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\091416\BI022.D\ **Lab Code:**RQ1610916-02
Instrument ID: R-MS-54 **Analysis Lot:**514196
Analysis Method: 8270D **Signal ID:**

		Naphthalene-d8		Perylene-d12		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	349,769	5.88	263,993	15.17	321,815	9.05
	Upper Limit ==>	699,538	6.38	527,986	15.67	643,630	9.55
	Lower Limit ==>	174,885	5.38	131,997	14.67	160,908	8.55
Associated Analyses							
Method Blank	RQ1610742-01	286935	5.88	236098	15.16	281319	9.04
Lab Control Sample	RQ1610742-02	324037	5.88	249381	15.17	284454	9.05
Duplicate Lab Control Sample	RQ1610742-03	326161	5.88	259532	15.17	289214	9.05
3805-MWI17-090716	R1609583-001	286672	5.88	229583	15.17	253511	9.05
3805-MWD18-090716	R1609583-002	292331	5.88	245276	15.17	284990	9.04
3805-MWI15-090716	R1609583-004	295030	5.88	240105	15.16	296881	9.05
3805-MWD16-090816	R1609583-005	315699	5.88	267141	15.16	299708	9.05
OSL-MW2-090816	R1609583-006	301348	5.88	241630	15.16	279220	9.04
OSL-SP01-090816	R1609583-007	309558	5.88	236807	15.16	311697	9.04
Continuing Cal. Verification	RQ1610916-03	356521	5.88	274368	15.17	329016	9.05

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609583

Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B

Extraction Method: EPA 3510C

		Decachlorobiphenyl	Tetrachloro-m-xylene
Sample Name	**Lab Code**	**30 - 135**	**44 - 124**
3805-MWI17-090716	R1609583-001	62	62
3805-MWD18-090716	R1609583-002	57	64
3805-MWI15-090716	R1609583-004	69	68
3805-MWD16-090816	R1609583-005	54	59
Method Blank	RQ1610740-01	68	55
Lab Control Sample	RQ1610740-02	88	76
Duplicate Lab Control Sample	RQ1610740-03	81	71

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Analyzed:**	09/15/16 09:59
Sample Matrix:	Water	**Date Extracted:**	09/13/16

Method Blank Summary
Organochlorine Pesticides by Gas Chromatography

Sample Name:	Method Blank	**Instrument ID:**	R-GC-63
Lab Code:	RQ1610740-01	**File ID:**	I:\ACQUDATA\7890N.net\data\091516\aa085.D\
Analysis Method:	8081B	**Analysis Lot:**	514520
Prep Method:	EPA 3510C	**Extraction Lot:**	270635

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1610740-02	I:\ACQUDATA\7890N.net\data\091516\aa086.D\	09/15/16 10:17
Duplicate Lab Control Sample	RQ1610740-03	I:\ACQUDATA\7890N.net\data\091516\aa087.D\	09/15/16 10:36
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\7890N.net\data\091616\aa121.D\	09/16/16 12:17
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\7890N.net\data\091616\aa122.D\	09/16/16 12:36
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\7890N.net\data\091616\aa123.D\	09/16/16 12:55
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\7890N.net\data\091616\aa124.D\	09/16/16 13:13

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610740-01	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	0.050	0.025	0.0075	1	09/15/16 09:59	9/13/16	
4,4'-DDE	ND U	0.050	0.025	0.0080	1	09/15/16 09:59	9/13/16	
4,4'-DDT	ND U	0.050	0.025	0.0079	1	09/15/16 09:59	9/13/16	
Aldrin	ND U	0.050	0.025	0.0086	1	09/15/16 09:59	9/13/16	
Dieldrin	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
Endosulfan I	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
Endosulfan II	ND U	0.050	0.025	0.010	1	09/15/16 09:59	9/13/16	
Endosulfan Sulfate	ND U	0.050	0.025	0.0089	1	09/15/16 09:59	9/13/16	
Endrin	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
Endrin Aldehyde	ND U	0.050	0.025	0.0087	1	09/15/16 09:59	9/13/16	
Endrin Ketone	ND U	0.050	0.025	0.0090	1	09/15/16 09:59	9/13/16	
Heptachlor	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
Heptachlor Epoxide	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
Methoxychlor	ND U	0.050	0.025	0.0091	1	09/15/16 09:59	9/13/16	
alpha-BHC	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
alpha-Chlordane	ND U	0.050	0.025	0.012	1	09/15/16 09:59	9/13/16	
beta-BHC	ND U	0.050	0.025	0.017	1	09/15/16 09:59	9/13/16	
delta-BHC	ND U	0.050	0.025	0.011	1	09/15/16 09:59	9/13/16	
gamma-BHC (Lindane)	ND U	0.050	0.025	0.013	1	09/15/16 09:59	9/13/16	
gamma-Chlordane	ND U	0.050	0.025	0.0088	1	09/15/16 09:59	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	68	30 - 135	09/15/16 09:59	
Tetrachloro-m-xylene	55	44 - 124	09/15/16 09:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Analyzed:**	09/15/16 10:17
Sample Matrix:	Water	**Date Extracted:**	09/13/16

Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Sample Name:	Lab Control Sample	**Instrument ID:**	R-GC-63
Lab Code:	RQ1610740-02	**File ID:**	I:\ACQUDATA\7890N.net\data\091516\aa086.D\
Analysis Method:	8081B	**Analysis Lot:**	514520
Prep Method:	EPA 3510C	**Extraction Lot:**	270635

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1610740-01	I:\ACQUDATA\7890N.net\data\091516\aa085.D\	09/15/16 09:59
Duplicate Lab Control Sample	RQ1610740-03	I:\ACQUDATA\7890N.net\data\091516\aa087.D\	09/15/16 10:36
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\7890N.net\data\091616\aa121.D\	09/16/16 12:17
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\7890N.net\data\091616\aa122.D\	09/16/16 12:36
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\7890N.net\data\091616\aa123.D\	09/16/16 12:55
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\7890N.net\data\091616\aa124.D\	09/16/16 13:13

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/15/16

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610740-02			RQ1610740-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
4,4'-DDD	8081B	0.223	0.200	112	0.204	0.200	102	56-143	9	30
4,4'-DDE	8081B	0.210	0.200	105	0.190	0.200	95	57-135	10	30
4,4'-DDT	8081B	0.210	0.200	105	0.194	0.200	97	51-143	8	30
Aldrin	8081B	0.163	0.200	81	0.163	0.200	81	45-134	<1	30
Dieldrin	8081B	0.221	0.200	111	0.202	0.200	101	60-136	9	30
Endosulfan I	8081B	0.195	0.200	97	0.179	0.200	90	62-126	8	30
Endosulfan II	8081B	0.214	0.200	107	0.198	0.200	99	52-135	7	30
Endosulfan Sulfate	8081B	0.216	0.200	108	0.200	0.200	100	62-133	7	30
Endrin	8081B	0.220	0.200	110	0.205	0.200	102	60-138	7	30
Endrin Aldehyde	8081B	0.0520	0.200	26 *	0.0475 J	0.200	24 *	51-132	9	30
Endrin Ketone	8081B	0.224	0.200	112	0.207	0.200	103	58-134	8	30
Heptachlor	8081B	0.171	0.200	85	0.166	0.200	83	54-130	3	30
Heptachlor Epoxide	8081B	0.208	0.200	104	0.195	0.200	97	61-133	7	30
Methoxychlor	8081B	0.219	0.200	110	0.209	0.200	104	54-145	5	30
alpha-BHC	8081B	0.212	0.200	106	0.204	0.200	102	54-138	4	30
alpha-Chlordane	8081B	0.205	0.200	102	0.191	0.200	96	60-129	7	30
beta-BHC	8081B	0.201	0.200	101	0.195	0.200	98	56-136	3	30
delta-BHC	8081B	0.213	0.200	106	0.202	0.200	101	52-142	5	30
gamma-BHC (Lindane)	8081B	0.213	0.200	106	0.205	0.200	103	59-134	3	30
gamma-Chlordane	8081B	0.200	0.200	100	0.187	0.200	93	56-136	7	30

Client: ARCADIS U.S., Inc. **Service Request:** R1609583

Project: Fort Drum, NY IRP Basewide/1443135-002

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A

Extraction Method: EPA 3510C

		Decachlorobiphenyl	Tetrachloro-m-xylene
Sample Name	**Lab Code**	**10 - 149**	**15 - 131**
3805-MWI17-090716	R1609583-001	64	69
3805-MWD18-090716	R1609583-002	63	70
3805-MWI15-090716	R1609583-004	76	76
3805-MWD16-090816	R1609583-005	57	61
Method Blank	RQ1610740-01	65	59
Lab Control Sample	RQ1610740-02	73	66
Duplicate Lab Control Sample	RQ1610740-03	83	74

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Analyzed:**	09/15/16 09:18
Sample Matrix:	Water	**Date Extracted:**	09/13/16

Method Blank Summary
Polychlorinated Biphenyls (PCBs) by GC

Sample Name:	Method Blank	**Instrument ID:**	R-GC-58
Lab Code:	RQ1610740-01	**File ID:**	I:\ACQUDATA\6890G\Data\091516\bf161.D\
Analysis Method:	8082A	**Analysis Lot:**	514417
Prep Method:	EPA 3510C	**Extraction Lot:**	270635

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1610740-02	I:\ACQUDATA\6890G\Data\091516\bf162.D\	09/15/16 09:44
Duplicate Lab Control Sample	RQ1610740-03	I:\ACQUDATA\6890G\Data\091516\bf163.D\	09/15/16 10:12
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\6890G\Data\091516\bf168.D\	09/15/16 12:18
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\6890G\Data\091516\bf169.D\	09/15/16 12:44
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\6890G\Data\091516\bf170.D\	09/15/16 13:10
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\6890G\Data\091516\bf172.D\	09/15/16 14:01

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610740-01	**Basis:**	NA

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	
Aroclor 1221	ND U	2.0	1.0	0.84	1	09/15/16 09:18	9/13/16	
Aroclor 1232	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	
Aroclor 1242	ND U	1.0	0.50	0.29	1	09/15/16 09:18	9/13/16	
Aroclor 1248	ND U	1.0	0.50	0.27	1	09/15/16 09:18	9/13/16	
Aroclor 1254	ND U	1.0	0.50	0.26	1	09/15/16 09:18	9/13/16	
Aroclor 1260	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	
Aroclor 1268	ND U	1.0	0.50	0.36	1	09/15/16 09:18	9/13/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	65	10 - 149	09/15/16 09:18	
Tetrachloro-m-xylene	59	15 - 131	09/15/16 09:18	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Analyzed:**	09/15/16 09:44
Sample Matrix:	Water	**Date Extracted:**	09/13/16

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Sample Name:	Lab Control Sample	**Instrument ID:**	R-GC-58
Lab Code:	RQ1610740-02	**File ID:**	I:\ACQUDATA\6890G\Data\091516\bf162.D\
Analysis Method:	8082A	**Analysis Lot:**	514417
Prep Method:	EPA 3510C	**Extraction Lot:**	270635

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1610740-01	I:\ACQUDATA\6890G\Data\091516\bf161.D\	09/15/16 09:18
Duplicate Lab Control Sample	RQ1610740-03	I:\ACQUDATA\6890G\Data\091516\bf163.D\	09/15/16 10:12
3805-MWI17-090716	R1609583-001	I:\ACQUDATA\6890G\Data\091516\bf168.D\	09/15/16 12:18
3805-MWD18-090716	R1609583-002	I:\ACQUDATA\6890G\Data\091516\bf169.D\	09/15/16 12:44
3805-MWI15-090716	R1609583-004	I:\ACQUDATA\6890G\Data\091516\bf170.D\	09/15/16 13:10
3805-MWD16-090816	R1609583-005	I:\ACQUDATA\6890G\Data\091516\bf172.D\	09/15/16 14:01

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/15/16

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610740-02			RQ1610740-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	8082A	3.35	5.00	67	3.71	5.00	74	46-129	10	30
Aroclor 1260	8082A	4.03	5.00	81	4.48	5.00	90	45-134	11	30

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project:	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609583-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	ND	U	mg/L	2.0	1.0	1	1	09/20/16 18:09	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/14/16 16:26	NA	
Bromide	300.0	ND	U	mg/L	0.10	0.05	0.04	1	09/13/16 10:37	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**0.2**	**J**	mg/L	1.0	0.5	0.05	1	09/27/16 14:44	NA	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	5.0	3.5	3.7	1	09/19/16 12:57	NA	
Cyanide, Total	9012B	ND	U	mg/L	0.010	0.005	0.002	1	09/19/16 10:55	09/16/16	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	NA	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.10	0.05	0.05	1	09/13/16 10:37	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	0.10	0.05	0.007	1	09/13/16 10:37	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	ND	U	mg/L	0.40	0.10	0.08	1	09/19/16 11:51	09/14/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/20/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	ND	U	mg/L	10	-	4	1	09/14/16 11:10	NA	
Sulfate	300.0	ND	U	mg/L	0.20	0.10	0.02	1	09/13/16 10:37	NA	

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request:R1609583
Date Collected:09/12/16
Date Received:09/12/16
Date Analyzed:09/13/16 - 09/20/16

Matrix Spike Summary
General Chemistry Parameters

Sample Name: ASL-MW12A-091216
Lab Code: R1609583-011

Units:mg/L
Basis:NA

Matrix Spike
R1609583-011MS

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	172	524	500	70 *	81-112
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	0.40	0.40	100	67-129

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request:R1609583
Date Collected:09/12/16
Date Received:09/12/16
Date Analyzed:9/13/16

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: ASL-MW12A-091216
Lab Code: R1609583-011

Units:mg/L
Basis:NA

			Matrix Spike R1609583-011MS			Duplicate Matrix Spike R1609583-011DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Bromide	300.0	ND U	10.4	10.0	104	10.4	10.0	104	90-110	<1	20
Nitrite as Nitrogen	300.0	ND U	8.2	10.0	82 *	8.3	10.0	83 *	90-110	1	20
Nitrate as Nitrogen	300.0	4.2	15.6	10.0	113 *	15.6	10.0	113 *	90-110	<1	20
Sulfate	300.0	31.8	52.6	20.0	104	52.7	20.0	104	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Collected: 09/12/16
Date Received: 09/12/16
Date Analyzed: 09/13/16 - 09/20/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name: ASL-MW12A-091216
Lab Code: R1609583-011

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609583-011DUP Result	Average	RPD	RPD Limit
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	2.0	1.0	1	172	170	171	<1	20
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.10	0.08	0.04	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609583
Project	Fort Drum, NY IRP Basewide/1443135-002	**Date Collected:**	09/12/16
Sample Matrix:	Water	**Date Received:**	09/12/16
		Date Analyzed:	09/14/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	ASL-MW961-091216	**Units:**	mg/L
Lab Code:	R1609583-014	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609583-014DUP Result	Average	RPD	RPD Limit
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	20	-	8	738	722	730	2	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/13/16 - 09/27/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609583-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	20.4	20.0	102	81-112
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	193	198	98	85-115
Bromide	300.0	1.01	1.00	101	90-110
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	10.1	10.0	101	81-118
Chemical Oxygen Demand, Total	410.4	52.2	50.0	104	90-110
Cyanide, Total	9012B	0.096	0.100	96	90-110
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.41	0.40	103	67-129
Nitrate as Nitrogen	300.0	1.06	1.00	106	90-110
Nitrite as Nitrogen	300.0	0.980	1.00	98	90-110
Nitrogen, Total Kjeldahl (TKN)	351.2	2.26	2.50	90	90-110
Phenolics, Total Recoverable	420.4	0.0399	0.0400	100	90-110
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	890	914	97	90-110
Sulfate	300.0	2.09	2.00	104	90-110

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Basewide/1443135-002
Sample Matrix: Water

Service Request: R1609583
Date Analyzed: 09/19/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609583-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	0.372	0.400	93	90-110

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen, undistilled

Analysis Method: ASTM D6919-09 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	515943	RQ1611458-12	09/25/16 02:58	0.0050	0.0010	0.0006	0.0006	U
CCB2	515943	RQ1611458-14	09/25/16 05:04	0.0050	0.0010	0.0006	0.0006	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Bromide

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514042	RQ1610880-02	09/13/16 10:37	0.10	0.05	0.04	0.04	U
CCB2	514042	RQ1610880-08	09/13/16 13:38	0.10	0.05	0.04	0.04	U
CCB3	514042	RQ1610880-12	09/13/16 16:38	0.10	0.05	0.04	0.04	U
CCB4	514042	RQ1610880-14	09/13/16 19:39	0.10	0.05	0.04	0.04	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Cyanide, Total

Analysis Method: 9012B **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514722	RQ1611074-02	09/19/16 10:48	0.010	0.005	0.002	0.002	U
CCB2	514722	RQ1611074-04	09/19/16 10:58	0.010	0.005	0.002	0.002	U
CCB3	514722	RQ1611074-06	09/19/16 11:07	0.010	0.005	0.002	0.002	U
CCB4	514722	RQ1611074-08	09/19/16 11:16	0.010	0.005	0.002	0.002	U
CCB5	514722	RQ1611074-10	09/19/16 12:03	0.010	0.005	0.002	0.002	U
CCB6	514722	RQ1611074-12	09/19/16 12:13	0.010	0.005	0.002	0.002	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Chemical Oxygen Demand, Total

Analysis Method: 410.4 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	515119	RQ1611198-02	09/19/16 12:57	5.0	3.7	3.7	3.7	U
CCB2	515119	RQ1611198-06	09/19/16 12:57	5.0	3.7	3.7	3.7	U
CCB3	515119	RQ1611198-10	09/19/16 12:57	5.0	3.7	3.7	3.7	U
CCB4	515119	RQ1611198-13	09/19/16 12:57	5.0	3.7	3.7	4.9	J
CCB5	515119	RQ1611198-17	09/19/16 12:57	5.0	3.7	3.7	3.7	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Iron, Divalent (Ferrous Iron)

Analysis Method: SM 3500-Fe B.4.c **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	513883	RQ1611130-02	09/13/16 11:58	0.10	0.08	0.04	0.04	U
CCB2	513883	RQ1611130-04	09/13/16 11:58	0.10	0.08	0.04	0.04	U
CCB3	513883	RQ1611130-05	09/13/16 11:58	0.10	0.08	0.04	0.04	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary

Nitrite as Nitrogen

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514042	RQ1610880-02	09/13/16 10:37	0.10	0.05	0.007	0.007	U
CCB2	514042	RQ1610880-08	09/13/16 13:38	0.10	0.05	0.007	0.007	U
CCB3	514042	RQ1610880-12	09/13/16 16:38	0.10	0.05	0.007	0.007	U
CCB4	514042	RQ1610880-14	09/13/16 19:39	0.10	0.05	0.007	0.007	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary

Nitrate as Nitrogen

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514042	RQ1610880-02	09/13/16 10:37	0.10	0.05	0.05	0.05	U
CCB2	514042	RQ1610880-08	09/13/16 13:38	0.10	0.05	0.05	0.05	U
CCB3	514042	RQ1610880-12	09/13/16 16:38	0.10	0.05	0.05	0.05	U
CCB4	514042	RQ1610880-14	09/13/16 19:39	0.10	0.05	0.05	0.05	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Phenolics, Total Recoverable

Analysis Method: 420.4 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514986	RQ1611151-02	09/20/16 09:15	0.0050		0.0013	0.0013	U
CCB2	514986	RQ1611151-08	09/20/16 09:15	0.0050		0.0013	0.0013	U
CCB3	514986	RQ1611151-12	09/20/16 09:15	0.0050		0.0013	0.0013	U
CCB4	514986	RQ1611151-14	09/20/16 09:15	0.0050		0.0013	0.0013	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Sulfate

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514042	RQ1610880-02	09/13/16 10:37	0.20	0.10	0.02	0.02	U
CCB2	514042	RQ1610880-08	09/13/16 13:38	0.20	0.10	0.02	0.02	U
CCB3	514042	RQ1610880-12	09/13/16 16:38	0.20	0.10	0.02	0.02	U
CCB4	514042	RQ1610880-14	09/13/16 19:39	0.20	0.10	0.02	0.02	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514664	RQ1611059-01	09/19/16 11:44	0.40	0.10	0.08	0.08	U
CCB2	514664	RQ1611059-02	09/19/16 11:54	0.40	0.10	0.08	0.08	U
CCB3	514664	RQ1611059-03	09/19/16 12:11	0.40	0.10	0.08	0.08	U
CCB4	514664	RQ1611059-04	09/19/16 12:19	0.40	0.10	0.08	0.08	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic (TOC)

Analysis Method: SM 5310 C-2000(2011) **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	516191	RQ1611536-08	09/27/16 14:44	1.0	0.5	0.05	0.2	J
CCB2	516191	RQ1611536-10	09/27/16 18:55	1.0	0.5	0.05	0.05	U
CCB3	516191	RQ1611536-12	09/27/16 23:06	1.0	0.5	0.05	0.05	U

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen, undistilled

Analysis Method: ASTM D6919-09 **Units:** ppm

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	515943	RQ1611458-11	09/25/16 02:40	1.00	0.998	100	90-110
CCV2	515943	RQ1611458-13	09/25/16 04:46	1.00	1.01	101	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Bromide

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514042	RQ1610880-01	09/13/16 10:22	2.00	1.98	99	90-110
CCV2	514042	RQ1610880-07	09/13/16 13:22	2.00	2.03	102	90-110
CCV3	514042	RQ1610880-11	09/13/16 16:23	2.00	2.05	102	90-110
CCV4	514042	RQ1610880-13	09/13/16 19:24	2.00	2.04	102	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Cyanide, Total

Analysis Method: 9012B **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514722	RQ1611074-01	09/19/16 10:47	0.500	0.502	100	85-115
CCV2	514722	RQ1611074-03	09/19/16 10:57	0.500	0.498	100	85-115
CCV3	514722	RQ1611074-05	09/19/16 11:06	0.500	0.488	98	85-115
CCV4	514722	RQ1611074-07	09/19/16 11:15	0.500	0.492	98	85-115
CCV5	514722	RQ1611074-09	09/19/16 12:03	0.500	0.485	97	85-115
CCV6	514722	RQ1611074-11	09/19/16 12:12	0.500	0.489	98	85-115

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Chemical Oxygen Demand, Total

Analysis Method: 410.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	515119	RQ1611198-01	09/19/16 12:57	50.0	52.2	104	90-110
CCV2	515119	RQ1611198-05	09/19/16 12:57	50.0	52.0	104	90-110
CCV3	515119	RQ1611198-09	09/19/16 12:57	50.0	49.9	100	90-110
CCV4	515119	RQ1611198-14	09/19/16 12:57	50.0	51.1	102	90-110
CCV5	515119	RQ1611198-18	09/19/16 12:57	50.0	48.8	98	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Iron, Divalent (Ferrous Iron)

Analysis Method: SM 3500-Fe B.4.c **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	513883	RQ1611130-01	09/13/16 11:58	2.00	2.01	100	90-110
CCV2	513883	RQ1611130-03	09/13/16 11:58	2.00	1.96	98	90-110
CCV3	513883	RQ1611130-06	09/13/16 11:58	2.00	1.98	99	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Nitrite as Nitrogen

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514042	RQ1610880-01	09/13/16 10:22	2.00	2.04	102	90-110
CCV2	514042	RQ1610880-07	09/13/16 13:22	2.00	2.09	104	90-110
CCV3	514042	RQ1610880-11	09/13/16 16:23	2.00	2.08	104	90-110
CCV4	514042	RQ1610880-13	09/13/16 19:24	2.00	2.09	105	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Nitrate as Nitrogen

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514042	RQ1610880-01	09/13/16 10:22	2.00	1.97	98	90-110
CCV2	514042	RQ1610880-07	09/13/16 13:22	2.00	2.00	100	90-110
CCV3	514042	RQ1610880-11	09/13/16 16:23	2.00	2.01	100	90-110
CCV4	514042	RQ1610880-13	09/13/16 19:24	2.00	2.01	101	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Phenolics, Total Recoverable

Analysis Method: 420.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514986	RQ1611151-01	09/20/16 09:15	0.0700	0.0712	102	90-110
CCV2	514986	RQ1611151-07	09/20/16 09:15	0.0700	0.0698	100	90-110
CCV3	514986	RQ1611151-11	09/20/16 09:15	0.0700	0.0704	101	90-110
CCV4	514986	RQ1611151-13	09/20/16 09:15	0.0700	0.0704	101	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Sulfate

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514042	RQ1610880-01	09/13/16 10:22	4.00	3.75	94	90-110
CCV2	514042	RQ1610880-07	09/13/16 13:22	4.00	3.77	94	90-110
CCV3	514042	RQ1610880-11	09/13/16 16:23	4.00	3.77	94	90-110
CCV4	514042	RQ1610880-13	09/13/16 19:24	4.00	3.76	94	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514664	RQ1611059-05	09/19/16 11:43	4.00	3.85	96	90-110
CCV2	514664	RQ1611059-06	09/19/16 11:53	4.00	3.74	94	90-110
CCV3	514664	RQ1611059-07	09/19/16 12:10	4.00	3.77	94	90-110
CCV4	514664	RQ1611059-08	09/19/16 12:19	4.00	3.68	92	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609583
Project: Fort Drum, NY IRP Basewide/1443135-002

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic (TOC)

Analysis Method: SM 5310 C-2000(2011) **Units:** ppm

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	516191	RQ1611536-07	09/27/16 14:23	15.0	13.9	93	85-115
CCV2	516191	RQ1611536-09	09/27/16 18:34	15.0	13.7	91	85-115
CCV3	516191	RQ1611536-11	09/27/16 22:45	15.0	14.0	94	85-115

September 26, 2016 Service Request No:R1609614

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum IRP

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 12, 2016
For your reference, these analyses have been assigned our service request number **R1609614.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger

Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum IRP
Sample Matrix: Water

Service Request:R1609614
Date Received:9/12/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Four water samples were received for analysis at ALS Environmental on 09/12/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260c, 9/15/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8260c, 9/16/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

General Chemistry Analyses:

Method SM 3500-Fe B.4.c/Ferrous DOD, One or more samples were received past the recommended holding time. The customer was notified when the discrepancy was found and instructed the laboratory to proceed with processing. The analysis was performed as soon as possible after receipt by the laboratory. The data is flagged to indicate the holding time violation.

Approved by  Date 9/26/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-MWS11-091216	Lab ID: R1609614-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	30.3		1.7	5.0	mg/L	SM 3500-Fe
Sulfate	7.6		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	1400	D	4.0	100	ug/L	8260C
1,3,5-Trimethylbenzene	380		1.0	25	ug/L	8260C
4-Isopropyltoluene	7.3	J	1.0	25	ug/L	8260C
4-Methyl-2-pentanone	4.0	J	3.4	50	ug/L	8260C
Acetone	8.1	J	6.2	50	ug/L	8260C
Benzene	11	J	1.0	25	ug/L	8260C
Ethylbenzene	450		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	49		1.0	25	ug/L	8260C
Naphthalene	220		1.0	25	ug/L	8260C
Toluene	60		1.0	25	ug/L	8260C
m,p-Xylenes	2800	D	6.6	100	ug/L	8260C
n-Butylbenzene	11	J	1.1	25	ug/L	8260C
n-Propylbenzene	100		1.0	25	ug/L	8260C
o-Xylene	560		1.0	25	ug/L	8260C
sec-Butylbenzene	7.6	J	1.4	25	ug/L	8260C

CLIENT ID: 3805-PZ3-091216	Lab ID: R1609614-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Sulfate	23.0		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	2.0	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	3.0	J	0.20	5.0	ug/L	8260C
Acetone	1.3	J	1.3	10	ug/L	8260C
Ethylbenzene	0.48	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	1.1	J	0.33	5.0	ug/L	8260C
o-Xylene	0.69	J	0.20	5.0	ug/L	8260C

CLIENT ID: 3805-PZ12S-091216	Lab ID: R1609614-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	20.0		1.7	5.0	mg/L	SM 3500-Fe
Sulfate	2.7		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	1700		4.0	100	ug/L	8260C
1,3,5-Trimethylbenzene	490		4.0	100	ug/L	8260C
4-Isopropyltoluene	7.6	J	4.0	100	ug/L	8260C
Acetone	36	J	25	200	ug/L	8260C
Benzene	9.6	J	4.0	100	ug/L	8260C
Ethylbenzene	1500		4.0	100	ug/L	8260C
Isopropylbenzene (Cumene)	85	J	4.0	100	ug/L	8260C
Naphthalene	410		4.0	100	ug/L	8260C
Toluene	2400		4.0	100	ug/L	8260C
m,p-Xylenes	7500		6.6	100	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-PZ12S-091216	Lab ID: R1609614-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
n-Butylbenzene	12	J	4.2	100	ug/L	8260C
n-Propylbenzene	180		4.0	100	ug/L	8260C
o-Xylene	3000		4.0	100	ug/L	8260C
sec-Butylbenzene	8.8	J	5.4	100	ug/L	8260C

CLIENT ID: Trip Blank	Lab ID: R1609614-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2-Dichloroethane	0.69	J	0.36	5.0	ug/L	8260C
2-Butanone (MEK)	1.1	J	0.81	10	ug/L	8260C
Acetone	4.9	J	1.3	10	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609614-001	3805-MWS11-091216	9/12/2016	0900
R1609614-002	3805-PZ3-091216	9/12/2016	1030
R1609614-003	3805-PZ12S-091216	9/12/2016	1230
R1609614-004	Trip Blank	9/12/2016	1315

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39922

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 283 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name	Project Number
Ft Drum IRP	
Project Manager	**Report CC**
Stefan Basnato	
Company/Address	
Arcadis	
855 Route 146, Suite 210	
Cliffton Park, NY 12065	
Phone #	**Email**
518-250-7354	Stefan.basnato@arcadis-us.com
Sampler's Signature	**Sampler's Printed Name**
	Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	MNA	VOC
3805-MWS11-091216		9/12/16	0900	GW	1	3	
3805-PZ3-091216		9/12/16	1030	GW	1	3	
3805-PZ12S-091216		9/12/16	1230	GW	1	3	
trip blank		9/12/16	1315	TB		3	

GC/MS VOAs ○ 8260 ○ 624 ○ CLP; GC/MS SVOAs ○ 8270 ○ 625; GC VOAs ○ 8021 ○ 601/602; PESTICIDES ○ 8081 ○ 608; PCBs: ○ 8082 ○ 608; METALS, TOTAL (List in comments below); METALS, DISSOLVED (List in comments below)

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Metals BWM
ASP Category A (Tier II)

EQUIS EDWEDD w/ Arcadis Ref values.

1 cooler

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Scott Seay	Signature Scott Seay	Signature Daniel Ward	Signature	
Printed Name N. Griffith	Printed Name Scott Seay	Printed Name Scott Seay	Printed Name ALS	Printed Name	
Firm Arcadis	Firm ALS	Firm ALS	Firm 9/12/16/1630	Firm	
Date/Time 9/12/16 1330	Date/Time 9/12/16 1355	Date/Time 9/12/16 1630	Date/Time	Date/Time	

R1609614
ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

R1609614 5
ARCADIS U.S., Inc.
Fort Drum, NY

Project/Client Arcadis Folder Number R16-9614

Cooler received on 9/12/16 by: DW COURIER: ~~ALS~~ UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y (N) NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: **Wet Ice Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as:	Bulk Encore 5035set (NA)

8. Temperature Readings Date: 9/12/16 Time: 1652 ID: (IR#5) IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	6.1	13.2					
Correction Factor (°C)	-0.2	-0.2					
Corrected Temp (°C)	5.9	13.0					
Within 0-6°C?	(Y) N	Y (N)	Y N	Y N	Y N	Y N	Y N
If<0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (Same Day Rule)

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: Rack 2 by DW on 9/12/16 at 1652
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9/12/16 Time: 1951 by: DW

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (NA)
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (NA)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**	4113022	7/17				

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: ~~H15077~~ 6-200 ml, 0613G-2MC

Other Comments: DW 9/12/16

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: MM 9/13/16 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609614
Project: Fort Drum IRP

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
SM 3500-Fe B.4.c	Water	Iron, Divalent (Ferrous Iron)

Client: ARCADIS U.S., Inc. **Service Request:** R1609614
Project: Fort Drum IRP

Sample Name: 3805-MWS11-091216 **Date Collected:** 09/12/16
Lab Code: R1609614-001 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name: 3805-PZ3-091216 **Date Collected:** 09/12/16
Lab Code: R1609614-002 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name: 3805-PZ12S-091216 **Date Collected:** 09/12/16
Lab Code: R1609614-003 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name: Trip Blank **Date Collected:** 09/12/16
Lab Code: R1609614-004 **Date Received:** 09/12/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 09:00
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-MWS11-091216	**Units:**	ug/L
Lab Code:	R1609614-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/15/16 17:40	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/15/16 17:40	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/15/16 17:40	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/15/16 17:40	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/15/16 17:40	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/15/16 17:40	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/15/16 17:40	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/15/16 17:40	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/15/16 17:40	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/15/16 17:40	
1,2,4-Trimethylbenzene	**1400 D**	100	20	4.0	20	09/16/16 16:56	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/15/16 17:40	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/15/16 17:40	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/15/16 17:40	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/15/16 17:40	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/15/16 17:40	
1,3,5-Trimethylbenzene	**380**	25	5.0	1.0	5	09/15/16 17:40	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/15/16 17:40	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/15/16 17:40	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/15/16 17:40	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/15/16 17:40	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/15/16 17:40	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/15/16 17:40	
2-Hexanone	ND U	50	25	8.3	5	09/15/16 17:40	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/15/16 17:40	
4-Isopropyltoluene	**7.3 J**	25	5.0	1.0	5	09/15/16 17:40	
4-Methyl-2-pentanone	**4.0 J**	50	5.0	3.4	5	09/15/16 17:40	
Acetone	**8.1 J**	50	25	6.2	5	09/15/16 17:40	
Benzene	**11 J**	25	5.0	1.0	5	09/15/16 17:40	
Bromobenzene	ND U	25	5.0	1.4	5	09/15/16 17:40	
Bromochloromethane	ND U	25	5.0	1.6	5	09/15/16 17:40	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/15/16 17:40	
Bromoform	ND U	25	5.0	2.1	5	09/15/16 17:40	
Bromomethane	ND U	25	5.0	1.5	5	09/15/16 17:40	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/15/16 17:40	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/15/16 17:40	
Chlorobenzene	ND U	25	5.0	1.5	5	09/15/16 17:40	
Chloroethane	ND U	25	5.0	1.2	5	09/15/16 17:40	
Chloroform	ND U	25	5.0	1.3	5	09/15/16 17:40	
Chloromethane	ND U	25	5.0	1.1	5	09/15/16 17:40	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/15/16 17:40	
Dibromomethane	ND U	25	5.0	1.6	5	09/15/16 17:40	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/15/16 17:40	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 09:00
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-MWS11-091216	**Units:**	ug/L
Lab Code:	R1609614-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	09/15/16 17:40	
Ethylbenzene	**450**		25	5.0	1.0	5	09/15/16 17:40	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	09/15/16 17:40	
Isopropylbenzene (Cumene)	**49**		25	5.0	1.0	5	09/15/16 17:40	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	09/15/16 17:40	
Naphthalene	**220**		25	5.0	1.0	5	09/15/16 17:40	
Styrene	ND	U	25	5.0	1.0	5	09/15/16 17:40	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	09/15/16 17:40	
Toluene	**60**		25	5.0	1.0	5	09/15/16 17:40	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	09/15/16 17:40	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	09/15/16 17:40	
Vinyl Chloride	ND	U	25	5.0	1.6	5	09/15/16 17:40	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	09/15/16 17:40	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	09/15/16 17:40	
m,p-Xylenes	**2800**	**D**	100	40	6.6	20	09/16/16 16:56	
n-Butylbenzene	**11**	**J**	25	5.0	1.1	5	09/15/16 17:40	
n-Propylbenzene	**100**		25	5.0	1.0	5	09/15/16 17:40	
o-Xylene	**560**		25	5.0	1.0	5	09/15/16 17:40	
sec-Butylbenzene	**7.6**	**J**	25	5.0	1.4	5	09/15/16 17:40	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	09/15/16 17:40	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	09/15/16 17:40	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	09/15/16 17:40	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/15/16 17:40	
Dibromofluoromethane	98	80 - 119	09/15/16 17:40	
Toluene-d8	101	89 - 112	09/15/16 17:40	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 10:30
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-PZ3-091216	**Units:**	ug/L
Lab Code:	R1609614-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 16:32	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 16:32	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 16:32	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 16:32	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 16:32	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 16:32	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 16:32	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 16:32	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 16:32	
1,2,4-Trimethylbenzene	**2.0 J**	5.0	1.0	0.20	1	09/16/16 16:32	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 16:32	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 16:32	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 16:32	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 16:32	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
1,3,5-Trimethylbenzene	**3.0 J**	5.0	1.0	0.20	1	09/16/16 16:32	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 16:32	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 16:32	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 16:32	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 16:32	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 16:32	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 16:32	
Acetone	**1.3 J**	10	5.0	1.3	1	09/16/16 16:32	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 16:32	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 16:32	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 16:32	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 16:32	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 16:32	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 16:32	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 16:32	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 16:32	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 16:32	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 16:32	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 16:32	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 16:32	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 16:32	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 16:32	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 10:30
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-PZ3-091216	**Units:**	ug/L
Lab Code:	R1609614-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 16:32	
Ethylbenzene	**0.48 J**	5.0	1.0	0.20	1	09/16/16 16:32	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 16:32	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 16:32	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 16:32	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 16:32	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 16:32	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 16:32	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 16:32	
m,p-Xylenes	**1.1 J**	5.0	2.0	0.33	1	09/16/16 16:32	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 16:32	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
o-Xylene	**0.69 J**	5.0	1.0	0.20	1	09/16/16 16:32	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 16:32	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 16:32	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 16:32	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/16/16 16:32	
Dibromofluoromethane	102	80 - 119	09/16/16 16:32	
Toluene-d8	103	89 - 112	09/16/16 16:32	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 12:30
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-PZ12S-091216	**Units:**	ug/L
Lab Code:	R1609614-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	100	20	4.4	20	09/15/16 18:28	
1,1,1-Trichloroethane (TCA)	ND U	100	20	7.2	20	09/15/16 18:28	
1,1,2,2-Tetrachloroethane	ND U	100	20	5.0	20	09/15/16 18:28	
1,1,2-Trichloroethane	ND U	100	20	6.8	20	09/15/16 18:28	
1,1-Dichloroethane (1,1-DCA)	ND U	100	20	4.0	20	09/15/16 18:28	
1,1-Dichloroethene (1,1-DCE)	ND U	100	20	12	20	09/15/16 18:28	
1,1-Dichloropropene	ND U	100	20	5.8	20	09/15/16 18:28	
1,2,3-Trichlorobenzene	ND U	100	20	17	20	09/15/16 18:28	
1,2,3-Trichloropropane	ND U	100	20	14	20	09/15/16 18:28	
1,2,4-Trichlorobenzene	ND U	100	20	4.6	20	09/15/16 18:28	
1,2,4-Trimethylbenzene	**1700**	100	20	4.0	20	09/15/16 18:28	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	100	20	15	20	09/15/16 18:28	
1,2-Dibromoethane	ND U	100	20	4.8	20	09/15/16 18:28	
1,2-Dichlorobenzene	ND U	100	20	4.2	20	09/15/16 18:28	
1,2-Dichloroethane	ND U	100	20	7.2	20	09/15/16 18:28	
1,2-Dichloropropane	ND U	100	20	4.0	20	09/15/16 18:28	
1,3,5-Trimethylbenzene	**490**	100	20	4.0	20	09/15/16 18:28	
1,3-Dichlorobenzene	ND U	100	20	4.0	20	09/15/16 18:28	
1,3-Dichloropropane	ND U	100	20	5.4	20	09/15/16 18:28	
1,4-Dichlorobenzene	ND U	100	20	4.0	20	09/15/16 18:28	
2,2-Dichloropropane	ND U	100	20	5.4	20	09/15/16 18:28	
2-Butanone (MEK)	ND U	200	20	17	20	09/15/16 18:28	
2-Chlorotoluene	ND U	100	20	4.0	20	09/15/16 18:28	
2-Hexanone	ND U	200	100	34	20	09/15/16 18:28	
4-Chlorotoluene	ND U	100	20	4.8	20	09/15/16 18:28	
4-Isopropyltoluene	**7.6 J**	100	20	4.0	20	09/15/16 18:28	
4-Methyl-2-pentanone	ND U	200	20	14	20	09/15/16 18:28	
Acetone	**36 J**	200	100	25	20	09/15/16 18:28	
Benzene	**9.6 J**	100	20	4.0	20	09/15/16 18:28	
Bromobenzene	ND U	100	20	5.6	20	09/15/16 18:28	
Bromochloromethane	ND U	100	20	6.4	20	09/15/16 18:28	
Bromodichloromethane	ND U	100	20	6.4	20	09/15/16 18:28	
Bromoform	ND U	100	20	8.4	20	09/15/16 18:28	
Bromomethane	ND U	100	20	5.8	20	09/15/16 18:28	
Carbon Disulfide	ND U	200	20	4.4	20	09/15/16 18:28	
Carbon Tetrachloride	ND U	100	20	9.0	20	09/15/16 18:28	
Chlorobenzene	ND U	100	20	5.8	20	09/15/16 18:28	
Chloroethane	ND U	100	20	4.8	20	09/15/16 18:28	
Chloroform	ND U	100	20	5.0	20	09/15/16 18:28	
Chloromethane	ND U	100	20	4.2	20	09/15/16 18:28	
Dibromochloromethane	ND U	100	20	6.2	20	09/15/16 18:28	
Dibromomethane	ND U	100	20	6.4	20	09/15/16 18:28	
Dichlorodifluoromethane (CFC 12)	ND U	100	20	9.2	20	09/15/16 18:28	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 12:30
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-PZ12S-091216	**Units:**	ug/L
Lab Code:	R1609614-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	100	20	12	20	09/15/16 18:28	
Ethylbenzene	**1500**		100	20	4.0	20	09/15/16 18:28	
Hexachlorobutadiene	ND	U	100	20	13	20	09/15/16 18:28	
Isopropylbenzene (Cumene)	**85**	**J**	100	20	4.0	20	09/15/16 18:28	
Methyl tert-Butyl Ether	ND	U	100	20	5.8	20	09/15/16 18:28	
Naphthalene	**410**		100	20	4.0	20	09/15/16 18:28	
Styrene	ND	U	100	20	4.0	20	09/15/16 18:28	
Tetrachloroethene (PCE)	ND	U	100	20	6.0	20	09/15/16 18:28	
Toluene	**2400**		100	20	4.0	20	09/15/16 18:28	
Trichloroethene (TCE)	ND	U	100	20	4.4	20	09/15/16 18:28	
Trichlorofluoromethane (CFC 11)	ND	U	100	20	4.0	20	09/15/16 18:28	
Vinyl Chloride	ND	U	100	20	6.4	20	09/15/16 18:28	
cis-1,2-Dichloroethene	ND	U	100	20	6.0	20	09/15/16 18:28	
cis-1,3-Dichloropropene	ND	U	100	20	4.8	20	09/15/16 18:28	
m,p-Xylenes	**7500**		100	40	6.6	20	09/15/16 18:28	
n-Butylbenzene	**12**	**J**	100	20	4.2	20	09/15/16 18:28	
n-Propylbenzene	**180**		100	20	4.0	20	09/15/16 18:28	
o-Xylene	**3000**		100	20	4.0	20	09/15/16 18:28	
sec-Butylbenzene	**8.8**	**J**	100	20	5.4	20	09/15/16 18:28	
tert-Butylbenzene	ND	U	100	20	4.0	20	09/15/16 18:28	
trans-1,2-Dichloroethene	ND	U	100	20	6.6	20	09/15/16 18:28	
trans-1,3-Dichloropropene	ND	U	100	20	4.0	20	09/15/16 18:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/15/16 18:28	
Dibromofluoromethane	103	80 - 119	09/15/16 18:28	
Toluene-d8	103	89 - 112	09/15/16 18:28	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 13:15
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1609614-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 13:12	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 13:12	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 13:12	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 13:12	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 13:12	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 13:12	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 13:12	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 13:12	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 13:12	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 13:12	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 13:12	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 13:12	
1,2-Dichloroethane	**0.69 J**	5.0	1.0	0.36	1	09/15/16 13:12	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 13:12	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 13:12	
2-Butanone (MEK)	**1.1 J**	10	1.0	0.81	1	09/15/16 13:12	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 13:12	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 13:12	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 13:12	
Acetone	**4.9 J**	10	5.0	1.3	1	09/15/16 13:12	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 13:12	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 13:12	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 13:12	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 13:12	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 13:12	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 13:12	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 13:12	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 13:12	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 13:12	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 13:12	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 13:12	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 13:12	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 13:12	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 13:12	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 13:15
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1609614-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 13:12	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 13:12	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 13:12	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 13:12	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 13:12	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 13:12	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 13:12	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 13:12	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 13:12	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 13:12	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 13:12	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 13:12	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 13:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/15/16 13:12	
Dibromofluoromethane	101	80 - 119	09/15/16 13:12	
Toluene-d8	102	89 - 112	09/15/16 13:12	

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 09:00
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-MWS11-091216	**Basis:**	NA
Lab Code:	R1609614-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**30.3**	mg/L	5.0	4.0	1.7	50	09/13/16 11:58	*
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/13/16 12:52	
Sulfate	300.0	**7.6**	mg/L	2.0	1.0	0.2	10	09/13/16 12:52	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 10:30
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-PZ3-091216	**Basis:**	NA
Lab Code:	R1609614-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	*
Nitrate as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.5	10	09/13/16 13:07	
Sulfate	300.0	**23.0**		mg/L	2.0	1.0	0.2	10	09/13/16 13:07	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16 12:30
Sample Matrix:	Water	**Date Received:**	09/12/16 16:30
Sample Name:	3805-PZ12S-091216	**Basis:**	NA
Lab Code:	R1609614-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**20.0**	mg/L	5.0	4.0	1.7	50	09/13/16 11:58	
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/13/16 13:53	
Sulfate	300.0	**2.7**	mg/L	2.0	1.0	0.2	10	09/13/16 13:53	

QC Summary Forms

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609614
Project: Fort Drum IRP
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

		4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
Sample Name	**Lab Code**	**85 - 114**	**80 - 119**	**89 - 112**
3805-MWS11-091216	R1609614-001	96	98	101
3805-PZ3-091216	R1609614-002	95	102	103
3805-PZ12S-091216	R1609614-003	98	103	103
Trip Blank	R1609614-004	95	101	102
Method Blank	RQ1611082-01	92	100	98
Lab Control Sample	RQ1611082-02	96	104	101
3805-PZ12S-091216 MS	RQ1611082-05	97	101	101
3805-PZ12S-091216 DMS	RQ1611082-06	97	102	102
Method Blank	RQ1611147-01	95	102	102
Lab Control Sample	RQ1611147-02	101	106	106

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16
Sample Matrix:	Water	**Date Received:**	09/12/16
		Date Analyzed:	09/15/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-PZ12S-091216	**Units:**	ug/L
Lab Code:	R1609614-003	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1611082-05			Duplicate Matrix Spike RQ1611082-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	1060	1000	106	1060	1000	106	78-124	<1	20
1,1,1-Trichloroethane (TCA)	ND U	988	1000	99	976	1000	98	74-131	1	20
1,1,2,2-Tetrachloroethane	ND U	1010	1000	101	1050	1000	105	71-121	4	20
1,1,2-Trichloroethane	ND U	1030	1000	103	1020	1000	102	80-119	2	20
1,1-Dichloroethane (1,1-DCA)	ND U	952	1000	95	927	1000	93	77-125	3	20
1,1-Dichloroethene (1,1-DCE)	ND U	970	1000	97	947	1000	95	71-131	2	20
1,1-Dichloropropene	ND U	954	1000	95	950	1000	95	79-125	<1	20
1,2,3-Trichlorobenzene	ND U	1200	1000	120	1230	1000	123	69-129	2	20
1,2,3-Trichloropropane	ND U	985	1000	99	998	1000	100	73-122	1	20
1,2,4-Trichlorobenzene	ND U	1250	1000	125	1250	1000	125	69-130	<1	20
1,2,4-Trimethylbenzene	1700	2590	1000	85	2630	1000	89	76-124	2	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	1030	1000	103	1070	1000	107	62-128	4	20
1,2-Dibromoethane	ND U	1070	1000	107	1070	1000	107	77-121	<1	20
1,2-Dichlorobenzene	ND U	1020	1000	102	1020	1000	102	80-119	<1	20
1,2-Dichloroethane	ND U	1010	1000	101	1030	1000	103	73-128	1	20
1,2-Dichloropropane	ND U	991	1000	99	999	1000	100	78-122	<1	20
1,3,5-Trimethylbenzene	490	1440	1000	95	1470	1000	98	75-124	2	20
1,3-Dichlorobenzene	ND U	999	1000	100	1010	1000	101	80-119	1	20
1,3-Dichloropropane	ND U	984	1000	98	995	1000	99	80-119	1	20
1,4-Dichlorobenzene	ND U	996	1000	100	1030	1000	103	79-118	3	20
2,2-Dichloropropane	ND U	854	1000	85	843	1000	84	60-139	1	20
2-Butanone (MEK)	ND U	835	1000	84	908	1000	91	56-143	8	20
2-Chlorotoluene	ND U	1160	1000	116	1190	1000	119	79-122	3	20
2-Hexanone	ND U	861	1000	86	928	1000	93	57-139	8	20
4-Chlorotoluene	ND U	1020	1000	102	1030	1000	103	78-122	<1	20
4-Isopropyltoluene	7.6 J	1020	1000	101	1020	1000	101	77-127	<1	20
4-Methyl-2-pentanone	ND U	1010	1000	101	1040	1000	104	67-130	3	20
Acetone	36 J	807	1000	77	858	1000	82	39-160	6	20
Benzene	9.6 J	1050	1000	104	1030	1000	102	79-120	2	20
Bromobenzene	ND U	1010	1000	101	1040	1000	104	80-120	3	20
Bromochloromethane	ND U	964	1000	96	973	1000	97	78-123	<1	20
Bromodichloromethane	ND U	970	1000	97	986	1000	99	79-125	2	20
Bromoform	ND U	1130	1000	113	1180	1000	118	66-130	4	20
Bromomethane	ND U	644	1000	64	611	1000	61	53-141	5	20
Carbon Disulfide	ND U	922	1000	92	946	1000	95	64-133	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	09/12/16
Sample Matrix:	Water	**Date Received:**	09/12/16
		Date Analyzed:	09/15/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-PZ12S-091216	**Units:**	ug/L
Lab Code:	R1609614-003	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1611082-05			Duplicate Matrix Spike RQ1611082-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	1040	1000	104	1050	1000	105	72-136	1	20
Chlorobenzene	ND U	1020	1000	102	1010	1000	101	82-118	<1	20
Chloroethane	ND U	967	1000	97	920	1000	92	60-138	5	20
Chloroform	ND U	984	1000	98	982	1000	98	79-124	<1	20
Chloromethane	ND U	743	1000	74	737	1000	74	50-139	<1	20
Dibromochloromethane	ND U	1050	1000	105	1080	1000	108	74-126	2	20
Dibromomethane	ND U	1030	1000	103	1020	1000	102	79-123	1	20
Dichlorodifluoromethane (CFC 12)	ND U	789	1000	79	782	1000	78	32-152	<1	20
Dichloromethane	ND U	895	1000	89	921	1000	92	74-124	3	20
Ethylbenzene	1500	2390	1000	89	2390	1000	89	79-121	<1	20
Hexachlorobutadiene	ND U	1030	1000	103	1030	1000	103	66-134	<1	20
Isopropylbenzene (Cumene)	85 J	1120	1000	103	1090	1000	100	72-131	3	20
Methyl tert-Butyl Ether	ND U	930	1000	93	949	1000	95	71-124	2	20
Naphthalene	410	1590	1000	118	1630	1000	122	61-128	2	20
Styrene	ND U	1130	1000	113	1130	1000	113	78-123	<1	20
Tetrachloroethene (PCE)	ND U	1070	1000	107	1040	1000	104	74-129	3	20
Toluene	2400	3240	1000	87	3260	1000	88	80-121	<1	20
Trichloroethene (TCE)	ND U	1050	1000	105	1040	1000	104	79-123	1	20
Trichlorofluoromethane (CFC 11)	ND U	976	1000	98	950	1000	95	65-141	3	20
Vinyl Chloride	ND U	1000	1000	100	972	1000	97	58-137	3	20
cis-1,2-Dichloroethene	ND U	999	1000	100	978	1000	98	78-123	2	20
cis-1,3-Dichloropropene	ND U	992	1000	99	983	1000	98	75-124	<1	20
m,p-Xylenes	7500	9030	2000	79 *	9020 E	2000	78 *	80-121	<1	20
n-Butylbenzene	12 J	1040	1000	102	1030	1000	102	75-128	<1	20
n-Propylbenzene	180	1170	1000	99	1170	1000	100	76-126	<1	20
o-Xylene	3000	3820	1000	86	3830	1000	86	78-122	<1	20
sec-Butylbenzene	8.8 J	1000	1000	99	993	1000	98	77-126	<1	20
tert-Butylbenzene	ND U	1050	1000	105	1050	1000	105	78-124	<1	20
trans-1,2-Dichloroethene	ND U	954	1000	95	923	1000	92	75-124	3	20
trans-1,3-Dichloropropene	ND U	981	1000	98	998	1000	100	73-127	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611082-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/15/16 11:19	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/15/16 11:19	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/15/16 11:19	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/15/16 11:19	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/15/16 11:19	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/15/16 11:19	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/15/16 11:19	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/15/16 11:19	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/15/16 11:19	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/15/16 11:19	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/15/16 11:19	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 11:19	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/15/16 11:19	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/15/16 11:19	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
2-Hexanone	ND U	10	5.0	1.7	1	09/15/16 11:19	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/15/16 11:19	
Acetone	ND U	10	5.0	1.3	1	09/15/16 11:19	
Benzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/15/16 11:19	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
Bromoform	ND U	5.0	1.0	0.42	1	09/15/16 11:19	
Bromomethane	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/15/16 11:19	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/15/16 11:19	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
Chloroethane	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
Chloroform	ND U	5.0	1.0	0.25	1	09/15/16 11:19	
Chloromethane	ND U	5.0	1.0	0.21	1	09/15/16 11:19	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/15/16 11:19	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/15/16 11:19	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611082-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/15/16 11:19	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/15/16 11:19	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/15/16 11:19	
Naphthalene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Styrene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/15/16 11:19	
Toluene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/15/16 11:19	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/15/16 11:19	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/15/16 11:19	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/15/16 11:19	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/15/16 11:19	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/15/16 11:19	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
o-Xylene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/15/16 11:19	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/15/16 11:19	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/15/16 11:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 114	09/15/16 11:19	
Dibromofluoromethane	100	80 - 119	09/15/16 11:19	
Toluene-d8	98	89 - 112	09/15/16 11:19	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611147-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 14:47	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 14:47	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 14:47	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 14:47	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 14:47	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 14:47	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 14:47	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 14:47	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 14:47	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 14:47	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 14:47	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 14:47	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 14:47	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 14:47	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 14:47	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 14:47	
Acetone	ND U	10	5.0	1.3	1	09/16/16 14:47	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 14:47	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 14:47	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 14:47	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 14:47	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 14:47	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 14:47	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 14:47	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 14:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611147-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 14:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 14:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 14:47	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 14:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 14:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 14:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 14:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 14:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 14:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/16/16 14:47	
Dibromofluoromethane	102	80 - 119	09/16/16 14:47	
Toluene-d8	102	89 - 112	09/16/16 14:47	

Client: ARCADIS U.S., Inc. **Service Request:** R1609614
Project: Fort Drum IRP **Date Analyzed:** 09/15/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611082-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	18.3	20.0	92	78-124
1,1,1-Trichloroethane (TCA)	8260C	16.5	20.0	82	74-131
1,1,2,2-Tetrachloroethane	8260C	18.3	20.0	91	71-121
1,1,2-Trichloroethane	8260C	18.5	20.0	92	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	16.7	20.0	83	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	16.4	20.0	82	71-131
1,1-Dichloropropene	8260C	16.0	20.0	80	79-125
1,2,3-Trichlorobenzene	8260C	21.0	20.0	105	69-129
1,2,3-Trichloropropane	8260C	17.6	20.0	88	73-122
1,2,4-Trichlorobenzene	8260C	20.8	20.0	104	69-130
1,2,4-Trimethylbenzene	8260C	17.3	20.0	87	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.2	20.0	86	62-128
1,2-Dibromoethane	8260C	19.5	20.0	98	77-121
1,2-Dichlorobenzene	8260C	18.3	20.0	92	80-119
1,2-Dichloroethane	8260C	18.3	20.0	92	73-128
1,2-Dichloropropane	8260C	17.9	20.0	90	78-122
1,3,5-Trimethylbenzene	8260C	17.2	20.0	86	75-124
1,3-Dichlorobenzene	8260C	17.8	20.0	89	80-119
1,3-Dichloropropane	8260C	18.1	20.0	90	80-119
1,4-Dichlorobenzene	8260C	18.5	20.0	92	79-118
2,2-Dichloropropane	8260C	15.5	20.0	78	60-139
2-Butanone (MEK)	8260C	15.0	20.0	75	56-143
2-Chlorotoluene	8260C	18.3	20.0	92	79-122
2-Hexanone	8260C	15.4	20.0	77	57-139
4-Chlorotoluene	8260C	17.8	20.0	89	78-122
4-Isopropyltoluene	8260C	16.7	20.0	84	77-127
4-Methyl-2-pentanone	8260C	17.1	20.0	86	67-130
Acetone	8260C	16.9	20.0	85	39-160
Benzene	8260C	18.1	20.0	91	79-120
Bromobenzene	8260C	19.2	20.0	96	80-120
Bromochloromethane	8260C	17.8	20.0	89	78-123
Bromodichloromethane	8260C	17.8	20.0	89	79-125
Bromoform	8260C	19.5	20.0	97	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum IRP
Sample Matrix: Water

Service Request: R1609614
Date Analyzed: 09/15/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611082-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	12.8	20.0	64	53-141
Carbon Disulfide	8260C	15.2	20.0	76	64-133
Carbon Tetrachloride	8260C	18.1	20.0	90	72-136
Chlorobenzene	8260C	18.0	20.0	90	82-118
Chloroethane	8260C	15.4	20.0	77	60-138
Chloroform	8260C	17.4	20.0	87	79-124
Chloromethane	8260C	13.4	20.0	67	50-139
Dibromochloromethane	8260C	18.9	20.0	94	74-126
Dibromomethane	8260C	19.2	20.0	96	79-123
Dichlorodifluoromethane (CFC 12)	8260C	14.3	20.0	71	32-152
Dichloromethane	8260C	17.2	20.0	86	74-124
Ethylbenzene	8260C	17.3	20.0	87	79-121
Hexachlorobutadiene	8260C	16.9	20.0	85	66-134
Isopropylbenzene (Cumene)	8260C	16.8	20.0	84	72-131
Methyl tert-Butyl Ether	8260C	17.2	20.0	86	71-124
Naphthalene	8260C	20.2	20.0	101	61-128
Styrene	8260C	17.6	20.0	88	78-123
Tetrachloroethene (PCE)	8260C	17.3	20.0	86	74-129
Toluene	8260C	17.8	20.0	89	80-121
Trichloroethene (TCE)	8260C	17.8	20.0	89	79-123
Trichlorofluoromethane (CFC 11)	8260C	16.7	20.0	84	65-141
Vinyl Chloride	8260C	17.1	20.0	85	58-137
cis-1,2-Dichloroethene	8260C	18.2	20.0	91	78-123
cis-1,3-Dichloropropene	8260C	18.1	20.0	91	75-124
m,p-Xylenes	8260C	34.4	40.0	86	80-121
n-Butylbenzene	8260C	16.8	20.0	84	75-128
n-Propylbenzene	8260C	17.4	20.0	87	76-126
o-Xylene	8260C	17.2	20.0	86	78-122
sec-Butylbenzene	8260C	16.7	20.0	84	77-126
tert-Butylbenzene	8260C	17.4	20.0	87	78-124
trans-1,2-Dichloroethene	8260C	16.7	20.0	83	75-124
trans-1,3-Dichloropropene	8260C	17.9	20.0	90	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609614
Project: Fort Drum IRP **Date Analyzed:** 09/16/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611147-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	19.5	20.0	98	78-124
1,1,1-Trichloroethane (TCA)	8260C	17.8	20.0	89	74-131
1,1,2,2-Tetrachloroethane	8260C	19.2	20.0	96	71-121
1,1,2-Trichloroethane	8260C	19.6	20.0	98	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	19.5	20.0	98	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	17.9	20.0	89	71-131
1,1-Dichloropropene	8260C	17.8	20.0	89	79-125
1,2,3-Trichlorobenzene	8260C	21.5	20.0	108	69-129
1,2,3-Trichloropropane	8260C	18.3	20.0	92	73-122
1,2,4-Trichlorobenzene	8260C	22.2	20.0	111	69-130
1,2,4-Trimethylbenzene	8260C	18.7	20.0	94	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.5	20.0	88	62-128
1,2-Dibromoethane	8260C	19.8	20.0	99	77-121
1,2-Dichlorobenzene	8260C	19.6	20.0	98	80-119
1,2-Dichloroethane	8260C	22.4	20.0	112	73-128
1,2-Dichloropropane	8260C	20.0	20.0	100	78-122
1,3,5-Trimethylbenzene	8260C	18.9	20.0	95	75-124
1,3-Dichlorobenzene	8260C	19.3	20.0	96	80-119
1,3-Dichloropropane	8260C	18.7	20.0	94	80-119
1,4-Dichlorobenzene	8260C	19.5	20.0	97	79-118
2,2-Dichloropropane	8260C	16.8	20.0	84	60-139
2-Butanone (MEK)	8260C	21.4	20.0	107	56-143
2-Chlorotoluene	8260C	19.1	20.0	96	79-122
2-Hexanone	8260C	20.5	20.0	102	57-139
4-Chlorotoluene	8260C	18.5	20.0	93	78-122
4-Isopropyltoluene	8260C	18.8	20.0	94	77-127
4-Methyl-2-pentanone	8260C	22.3	20.0	112	67-130
Acetone	8260C	21.1	20.0	106	39-160
Benzene	8260C	19.2	20.0	96	79-120
Bromobenzene	8260C	19.4	20.0	97	80-120
Bromochloromethane	8260C	17.8	20.0	89	78-123
Bromodichloromethane	8260C	19.1	20.0	95	79-125
Bromoform	8260C	21.9	20.0	110	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609614
Project: Fort Drum IRP **Date Analyzed:** 09/16/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611147-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	15.5	20.0	77	53-141
Carbon Disulfide	8260C	20.8	20.0	104	64-133
Carbon Tetrachloride	8260C	18.3	20.0	91	72-136
Chlorobenzene	8260C	19.3	20.0	96	82-118
Chloroethane	8260C	20.4	20.0	102	60-138
Chloroform	8260C	18.5	20.0	92	79-124
Chloromethane	8260C	15.4	20.0	77	50-139
Dibromochloromethane	8260C	20.2	20.0	101	74-126
Dibromomethane	8260C	20.5	20.0	103	79-123
Dichlorodifluoromethane (CFC 12)	8260C	14.5	20.0	73	32-152
Dichloromethane	8260C	17.7	20.0	89	74-124
Ethylbenzene	8260C	17.9	20.0	90	79-121
Hexachlorobutadiene	8260C	19.4	20.0	97	66-134
Isopropylbenzene (Cumene)	8260C	18.7	20.0	93	72-131
Methyl tert-Butyl Ether	8260C	18.2	20.0	91	71-124
Naphthalene	8260C	19.8	20.0	99	61-128
Styrene	8260C	18.8	20.0	94	78-123
Tetrachloroethene (PCE)	8260C	19.5	20.0	98	74-129
Toluene	8260C	19.0	20.0	95	80-121
Trichloroethene (TCE)	8260C	19.1	20.0	96	79-123
Trichlorofluoromethane (CFC 11)	8260C	18.2	20.0	91	65-141
Vinyl Chloride	8260C	21.8	20.0	109	58-137
cis-1,2-Dichloroethene	8260C	18.9	20.0	94	78-123
cis-1,3-Dichloropropene	8260C	18.8	20.0	94	75-124
m,p-Xylenes	8260C	36.9	40.0	92	80-121
n-Butylbenzene	8260C	19.1	20.0	95	75-128
n-Propylbenzene	8260C	18.9	20.0	94	76-126
o-Xylene	8260C	18.8	20.0	94	78-122
sec-Butylbenzene	8260C	18.2	20.0	91	77-126
tert-Butylbenzene	8260C	18.9	20.0	95	78-124
trans-1,2-Dichloroethene	8260C	17.5	20.0	88	75-124
trans-1,3-Dichloropropene	8260C	18.9	20.0	94	73-127

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609614
Project:	Fort Drum IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609614-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/13/16 11:58	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	0.05	0.05	1	09/13/16 10:37	
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/13/16 10:37	

Client: ARCADIS U.S., Inc.
Project: Fort Drum IRP
Sample Matrix: Water

Service Request: R1609614
Date Analyzed: 09/13/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609614-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.411	0.40	103	67-129
Nitrate as Nitrogen	300.0	1.06	1.00	106	90-110
Sulfate	300.0	2.09	2.00	104	90-110

October 06, 2016 Service Request No:R1609731

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY IRP Fall

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 14, 2016
For your reference, these analyses have been assigned our service request number **R1609731.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

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ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

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1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request:R1609731
Date Received:9/14/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Seventeen Water samples were received for analysis at ALS Environmental on 09/14/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260, 9/21/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Semi-Volatile Organic Analyses:

Method 8270D, 09/20/16 & 09/26/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV) initial and closing. The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/20/16 & 09/26/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Method 8270D, R1609731-013: The control limits were exceeded for one or more surrogates in the sample(s). Since the exceedance may indicate a potential bias in the analytical batch, all associated field samples were re-extracted and reanalyzed. The surrogates met control limits for the reanalysis. Since the results for the field samples were comparable for both determinations, the exceedance in the initial analysis was likely restricted to the surrogate recovery. Since the re-extraction was performed outside of holding time both analysis are reported and flagged.

General Chemistry Analyses:

Method SM 3500-Fe B.4.c/Ferrous DOD, One or more samples were received past the recommended holding time. The customer was notified when the discrepancy was found and instructed the laboratory to proceed with processing. The analysis was performed as soon as possible after receipt by the laboratory. The data is flagged to indicate the holding time violation.

Approved by _____ Date 10/6/2016

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by _____ Date 10/6/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 1795-OW4-091316	Lab ID: R1609731-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	1.6	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.71	J	0.20	5.0	ug/L	8260C
Acetone	4.5	J	1.3	10	ug/L	8260C
Ethylbenzene	0.87	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	4.2	BJ	0.33	5.0	ug/L	8260C
n-Propylbenzene	0.23	J	0.20	5.0	ug/L	8260C
o-Xylene	1.3	J	0.20	5.0	ug/L	8260C
tert-Butylbenzene	0.27	J	0.20	5.0	ug/L	8260C

CLIENT ID: 1795-OW5-091316	Lab ID: R1609731-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	720		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	220		1.0	25	ug/L	8260C
2-Butanone (MEK)	11	J	4.1	50	ug/L	8260C
2-Hexanone	36	J	8.3	50	ug/L	8260C
4-Isopropyltoluene	5.9	J	1.0	25	ug/L	8260C
4-Methyl-2-pentanone	10	J	3.4	50	ug/L	8260C
Acetone	17	J	6.2	50	ug/L	8260C
Ethylbenzene	450		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	40		1.0	25	ug/L	8260C
Naphthalene	110		1.0	25	ug/L	8260C
Styrene	8.7	J	1.0	25	ug/L	8260C
Toluene	95		1.0	25	ug/L	8260C
m,p-Xylenes	1900		1.7	25	ug/L	8260C
n-Butylbenzene	18	J	1.1	25	ug/L	8260C
n-Propylbenzene	77		1.0	25	ug/L	8260C
o-Xylene	210		1.0	25	ug/L	8260C
sec-Butylbenzene	4.2	J	1.4	25	ug/L	8260C

CLIENT ID: 1795-OW3-091316	Lab ID: R1609731-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	460		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	93		1.0	25	ug/L	8260C
4-Isopropyltoluene	5.7	J	1.0	25	ug/L	8260C
4-Methyl-2-pentanone	5.3	J	3.4	50	ug/L	8260C
Acetone	9.4	J	6.2	50	ug/L	8260C
Ethylbenzene	48		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	21	J	1.0	25	ug/L	8260C
Naphthalene	21	J	1.0	25	ug/L	8260C
Toluene	1.2	J	1.0	25	ug/L	8260C
m,p-Xylenes	190		1.7	25	ug/L	8260C
n-Butylbenzene	5.6	J	1.1	25	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 1795-OW3-091316	Lab ID: R1609731-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
n-Propylbenzene	54		1.0	25	ug/L	8260C
o-Xylene	53		1.0	25	ug/L	8260C
sec-Butylbenzene	5.5	J	1.4	25	ug/L	8260C

CLIENT ID: TRIP BLANK 1	Lab ID: R1609731-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.5	J	1.3	10	ug/L	8260C
m,p-Xylenes	0.46	BJ	0.33	5.0	ug/L	8260C
o-Xylene	0.20	J	0.20	5.0	ug/L	8260C

CLIENT ID: 1995-MWS9-091416	Lab ID: R1609731-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	6.13		0.07	0.20	mg/L	SM 3500-Fe
Sulfate	0.8	J	0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	130		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.52	J	0.20	5.0	ug/L	8260C
2-Butanone (MEK)	1.2	J	0.81	10	ug/L	8260C
4-Isopropyltoluene	3.1	J	0.20	5.0	ug/L	8260C
Acetone	3.3	J	1.3	10	ug/L	8260C
Ethylbenzene	66		0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	12		0.20	5.0	ug/L	8260C
Naphthalene	110		0.20	5.0	ug/L	8260C
Styrene	1.7	J	0.20	5.0	ug/L	8260C
Toluene	4.5	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	89		0.33	5.0	ug/L	8260C
n-Butylbenzene	1.6	J	0.21	5.0	ug/L	8260C
n-Propylbenzene	15		0.20	5.0	ug/L	8260C
o-Xylene	53		0.20	5.0	ug/L	8260C
sec-Butylbenzene	3.2	J	0.27	5.0	ug/L	8260C

CLIENT ID: 1995-MWS10-091416	Lab ID: R1609731-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	78.8		1.7	5.0	mg/L	SM 3500-Fe
1,2,4-Trimethylbenzene	59		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	8.5		0.20	5.0	ug/L	8260C
2-Butanone (MEK)	1.9	J	0.81	10	ug/L	8260C
4-Isopropyltoluene	0.68	J	0.20	5.0	ug/L	8260C
Acetone	3.6	J	1.3	10	ug/L	8260C
Benzene	0.53	J	0.20	5.0	ug/L	8260C
Ethylbenzene	95		0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	18		0.20	5.0	ug/L	8260C
Naphthalene	43		0.20	5.0	ug/L	8260C
Styrene	1.7	J	0.20	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 1995-MWS10-091416	Lab ID: R1609731-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Toluene	86		0.20	5.0	ug/L	8260C
m,p-Xylenes	93		0.33	5.0	ug/L	8260C
n-Butylbenzene	3.8	J	0.21	5.0	ug/L	8260C
n-Propylbenzene	22		0.20	5.0	ug/L	8260C
o-Xylene	50		0.20	5.0	ug/L	8260C
sec-Butylbenzene	3.4	J	0.27	5.0	ug/L	8260C
tert-Butylbenzene	0.30	J	0.20	5.0	ug/L	8260C

CLIENT ID: 3805-MWS24-091416	Lab ID: R1609731-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Nitrate as Nitrogen	1.7		0.5	1.0	mg/L	300.0
Sulfate	16.1		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	16		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	6.5		0.20	5.0	ug/L	8260C
4-Isopropyltoluene	0.25	J	0.20	5.0	ug/L	8260C
Acetone	2.5	J	1.3	10	ug/L	8260C
Ethylbenzene	3.4	J	0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.60	J	0.20	5.0	ug/L	8260C
Naphthalene	1.8	J	0.20	5.0	ug/L	8260C
Toluene	1.6	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	19		0.33	5.0	ug/L	8260C
n-Butylbenzene	0.61	J	0.21	5.0	ug/L	8260C
n-Propylbenzene	1.6	J	0.20	5.0	ug/L	8260C
o-Xylene	9.6		0.20	5.0	ug/L	8260C
sec-Butylbenzene	0.27	J	0.27	5.0	ug/L	8260C

CLIENT ID: 3805-PZ2S-091416	Lab ID: R1609731-008					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	0.49		0.04	0.10	mg/L	SM 3500-Fe
1,2,4-Trimethylbenzene	220		0.40	10	ug/L	8260C
1,3,5-Trimethylbenzene	75		0.40	10	ug/L	8260C
4-Isopropyltoluene	3.8	J	0.40	10	ug/L	8260C
Ethylbenzene	13		0.40	10	ug/L	8260C
Isopropylbenzene (Cumene)	8.6	J	0.40	10	ug/L	8260C
Naphthalene	13		0.40	10	ug/L	8260C
Styrene	0.72	J	0.40	10	ug/L	8260C
Toluene	26		0.40	10	ug/L	8260C
m,p-Xylenes	36		0.66	10	ug/L	8260C
n-Propylbenzene	24		0.40	10	ug/L	8260C
o-Xylene	20		0.40	10	ug/L	8260C
sec-Butylbenzene	3.3	J	0.54	10	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-PZ14-091416	Lab ID: R1609731-009					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	10.0		0.14	0.40	mg/L	SM 3500-Fe
Sulfate	1.8	J	0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	460		2.0	50	ug/L	8260C
1,3,5-Trimethylbenzene	180		2.0	50	ug/L	8260C
4-Isopropyltoluene	2.6	J	2.0	50	ug/L	8260C
Ethylbenzene	140		2.0	50	ug/L	8260C
Isopropylbenzene (Cumene)	8.2	J	2.0	50	ug/L	8260C
Naphthalene	130		2.0	50	ug/L	8260C
Toluene	29	J	2.0	50	ug/L	8260C
m,p-Xylenes	2100		3.3	50	ug/L	8260C
n-Butylbenzene	13	J	2.1	50	ug/L	8260C
n-Propylbenzene	12	J	2.0	50	ug/L	8260C
o-Xylene	1300		2.0	50	ug/L	8260C

CLIENT ID: 1795-SW04-091316	Lab ID: R1609731-010					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.1	J	1.3	10	ug/L	8260C
m,p-Xylenes	0.34	BJ	0.33	5.0	ug/L	8260C

CLIENT ID: 1795-SW00-091316	Lab ID: R1609731-011					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
m,p-Xylenes	0.37	BJ	0.33	5.0	ug/L	8260C

CLIENT ID: 1595-SW04-091316	Lab ID: R1609731-012					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	3.2	J	1.3	10	ug/L	8260C

CLIENT ID: 1595-SW01-091316	Lab ID: R1609731-013					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	0.44	J	0.20	5.0	ug/L	8260C
Acetone	3.1	J	1.3	10	ug/L	8260C
m,p-Xylenes	0.37	BJ	0.33	5.0	ug/L	8260C

CLIENT ID: 1595-MWS7-091416	Lab ID: R1609731-014					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Nitrate as Nitrogen	0.6	J	0.5	1.0	mg/L	300.0
Sulfate	26.8		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	4.4	J	2.0	50	ug/L	8260C
Naphthalene	4.8	J	2.0	50	ug/L	8260C
m,p-Xylenes	7.5	J	3.3	50	ug/L	8260C
o-Xylene	2.3	J	2.0	50	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 1595-MW33-091416	Lab ID: R1609731-015					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Nitrate as Nitrogen	1.5		0.5	1.0	mg/L	300.0
Sulfate	34.6		0.2	2.0	mg/L	300.0
Acetone	1.3	J	1.3	10	ug/L	8260C

CLIENT ID: 1595-OBG2-091416	Lab ID: R1609731-016					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	8.04		0.14	0.40	mg/L	SM 3500-Fe
Sulfate	97		2	20	mg/L	300.0
1,2,4-Trimethylbenzene	20		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	16		0.20	5.0	ug/L	8260C
4-Isopropyltoluene	1.7	J	0.20	5.0	ug/L	8260C
4-Methyl-2-pentanone	1.4	J	0.67	10	ug/L	8260C
Acetone	4.2	J	1.3	10	ug/L	8260C
Benzene	0.32	J	0.20	5.0	ug/L	8260C
Ethylbenzene	5.1		0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	1.0	J	0.20	5.0	ug/L	8260C
Naphthalene	8.9		0.20	5.0	ug/L	8260C
Toluene	1.9	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	26		0.33	5.0	ug/L	8260C
n-Propylbenzene	1.2	J	0.20	5.0	ug/L	8260C
o-Xylene	32		0.20	5.0	ug/L	8260C
sec-Butylbenzene	0.69	J	0.27	5.0	ug/L	8260C
tert-Butylbenzene	0.55	J	0.20	5.0	ug/L	8260C

CLIENT ID: TRIP BLANK 2	Lab ID: R1609731-017					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
m,p-Xylenes	0.37	BJ	0.33	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:**R1609731

Project: Fort Drum, NY IRP Fall

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609731-001	1795-OW4-091316	9/13/2016	1040
R1609731-002	1795-OW5-091316	9/13/2016	1130
R1609731-003	1795-OW3-091316	9/13/2016	1400
R1609731-004	TRIP BLANK 1	9/13/2016	1040
R1609731-005	1995-MWS9-091416	9/14/2016	0810
R1609731-006	1995-MWS10-091416	9/14/2016	1040
R1609731-007	3805-MWS24-091416	9/14/2016	0935
R1609731-008	3805-PZ2S-091416	9/14/2016	1145
R1609731-009	3805-PZ14-091416	9/14/2016	1315
R1609731-010	1795-SW04-091316	9/13/2016	0900
R1609731-011	1795-SW00-091316	9/13/2016	0930
R1609731-012	1595-SW04-091316	9/13/2016	1430
R1609731-013	1595-SW01-091316	9/13/2016	1500
R1609731-014	1595-MWS7-091416	9/14/2016	0810
R1609731-015	1595-MW33-091416	9/14/2016	0930
R1609731-016	1595-OBG2-091416	9/14/2016	1040
R1609731-017	TRIP BLANK 2	9/14/2016	0810

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39923

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 2

Project Name: FT Drum IRP Fall	Project Number:
Project Manager: Stefan Bugnato	Report CC:
Company/Address: Arcadis 855 Route 146 Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.bugnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: N. Conforth

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	VOC	MNA
1795-OW4-091316		9/13/16	1040	GW	3		
1795-OW5-091316		9/13/16	1130	GW	3		
1795-OW3-091316		9/13/16	1400	GW	3		
trip blank		8/22/16	1000	TB	3		
~~1595-MWS7-091416~~							
1995-MWS9-091416		09/14/16	0810	GW	3	1	
1995-MWS10-091416		09/14/16	1040	GW	3	1	
~~3805-MWS5-091416~~		~~09/14/16~~		~~GW~~			
3805-MWS24-091416		09/14/16	0935	GW	3	1	
3805-PZ05-091416		09/14/16	1145	GW	3	1	
3805-PZ14-091416		09/14/16	1315	GW	3	1	

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ice

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS
Metals
ASP Category A (Tier II)
EQUIS EDD w/ Arcadis reference Values

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata _____ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Nicholle Quirk	Printed Name: Brian McGuirk	Printed Name	Printed Name	Printed Name	Printed Name
Firm: Arcadis	Firm: ALS	Firm	Firm: ALS	Firm	Firm
Date/Time: 9/14/16 14:00	Date/Time: 9/14/16 1400	Date/Time	Date/Time: 9/14/16 1700	Date/Time	Date/Time

R1609731 5
ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39921

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Project Name: FT Drum IRP Fall	Project Number:
Project Manager: Stefan Bagnato	Report CC:
Company/Address: Arcadis 855 Rank 146 Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.bagnato@arcadis-us.com
Sampler's Signature:	Sampler's Printed Name: N. Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 2 2 Ø 1 8

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Ft. Plb	Hardness	SVOC	VOC	MNA			REMARKS/ ALTERNATE DESCRIPTION
1795-SW04-091316			0900		3								1	1	2	3				
1795-SW00-091316			0930		3								1	1	2	3				
~~1795-QW4-091316~~																				
1595-SW01-091316			1430		3								1	1	2	3				
1595-SW02-091316			1500		3								1	1	2	3				
1595-MW57-091416		9/14/16	~~10:15~~ 0910	GW	3											3	1			
1595-MW33-091416		9/14/16	0930	GW	3											3	1			
1595-OB62-091416		9/14/16	1040	GW	3											3	1			
trip blank		8/22/16	1000	TB	3											3				

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other Ice

SPECIAL INSTRUCTIONS/COMMENTS
Metals

ASP Category A (Tier II)

EQuIS EFWEDD w/ arcadis ref. values

See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata _____ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Brian McGuirk	Signature Brian McGuirk	Signature Daniel Ward	Signature	Signature
Printed Name N. Griffith	Printed Name BRIAN MCGUIRK	Printed Name BRIAN MCGUIRK	Printed Name ALS	Printed Name	
Firm Arcadis	Firm A/S	Firm A/S	Firm 9/14/16/1700	Firm	
Date/Time 9/14/16 14:00	Date/Time 9/14/16 1400	Date/Time 9/14/16 1600	Date/Time	Date/Time	

R1609731 5
ARCADIS U.S., Inc.
Fort Drum, NY

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Cooler Receipt and Preservation Check Form

R1609731 5
ARCADIS U.S., Inc.
Fort Drum, NY

Project/Client Arcadis Folder Number

Cooler received on 9/14/16 by: dlw

COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did (VOA) vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: ~~Wet Ice~~ **Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 9/14/16 Time: 1710 ID: (IR#5) IR#6 From: Temp Blank (Sample Bottle)

Observed Temp (°C)	3.4 c	11.6 c	4.5 c				
Correction Factor (°C)	+0.0	-2.0	+0.0				
Corrected Temp (°C)	3.4	9.6	4.5				
Within 0-6°C?	(Y) N	Y (N)**	(Y) N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed** Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: dlw 9/14/16

All samples held in storage location: R-002 by DLW on 9/14/16 at 1710
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9/15/16 Time: 1206 by: TS

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	X		VD3261 536	6/17				
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 160316-1AA0, 160216-1AT, 160716-1AW

Other Comments:
* 1 Vial for a trip blank
** All Samples were done on ~~the~~ 9/13/16 DLW 9/14/16

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	(SUB)
SO3	MARRS
ALS	REV

PC Secondary Review: DLW 9/16/16

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609731
Project: Fort Drum, NY IRP Fall

Sample Name: 1795-OW4-091316 **Date Collected:** 09/13/16
Lab Code: R1609731-001 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-OW5-091316 **Date Collected:** 09/13/16
Lab Code: R1609731-002 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-OW3-091316 **Date Collected:** 09/13/16
Lab Code: R1609731-003 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: TRIP BLANK 1 **Date Collected:** 09/13/16
Lab Code: R1609731-004 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1995-MWS9-091416 **Date Collected:** 09/14/16
Lab Code: R1609731-005 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall		

Sample Name:	1995-MWS9-091416	**Date Collected:**	09/14/16
Lab Code:	R1609731-005	**Date Received:**	09/14/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name:	1995-MWS10-091416	**Date Collected:**	09/14/16
Lab Code:	R1609731-006	**Date Received:**	09/14/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name:	3805-MWS24-091416	**Date Collected:**	09/14/16
Lab Code:	R1609731-007	**Date Received:**	09/14/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name:	3805-PZ2S-091416	**Date Collected:**	09/14/16
Lab Code:	R1609731-008	**Date Received:**	09/14/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Client: ARCADIS U.S., Inc. **Service Request:** R1609731
Project: Fort Drum, NY IRP Fall

Sample Name: 3805-PZ14-091416 **Date Collected:** 09/14/16
Lab Code: R1609731-009 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name: 1795-SW04-091316 **Date Collected:** 09/13/16
Lab Code: R1609731-010 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Sample Name: 1795-SW00-091316 **Date Collected:** 09/13/16
Lab Code: R1609731-011 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Sample Name: 1595-SW04-091316 **Date Collected:** 09/13/16
Lab Code: R1609731-012 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Client: ARCADIS U.S., Inc. **Service Request:** R1609731
Project: Fort Drum, NY IRP Fall

Sample Name: 1595-SW01-091316 **Date Collected:** 09/13/16
Lab Code: R1609731-013 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Sample Name: 1595-MWS7-091416 **Date Collected:** 09/14/16
Lab Code: R1609731-014 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name: 1595-MW33-091416 **Date Collected:** 09/14/16
Lab Code: R1609731-015 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Sample Name: 1595-OBG2-091416 **Date Collected:** 09/14/16
Lab Code: R1609731-016 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		KMENGS

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall		

Sample Name:	TRIP BLANK 2	**Date Collected:**	09/14/16
Lab Code:	R1609731-017	**Date Received:**	09/14/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-OW4-091316	**Units:**	ug/L
Lab Code:	R1609731-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 15:08	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 15:08	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 15:08	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 15:08	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 15:08	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 15:08	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 15:08	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 15:08	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 15:08	
1,2,4-Trimethylbenzene	**1.6 J**	5.0	1.0	0.20	1	09/21/16 15:08	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 15:08	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 15:08	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 15:08	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 15:08	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
1,3,5-Trimethylbenzene	**0.71 J**	5.0	1.0	0.20	1	09/21/16 15:08	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 15:08	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 15:08	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 15:08	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 15:08	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 15:08	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 15:08	
Acetone	**4.5 J**	10	5.0	1.3	1	09/21/16 15:08	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 15:08	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 15:08	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 15:08	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 15:08	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 15:08	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 15:08	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 15:08	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 15:08	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 15:08	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 15:08	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 15:08	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 15:08	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 15:08	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 15:08	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-OW4-091316	**Units:**	ug/L
Lab Code:	R1609731-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 15:08	
Ethylbenzene	**0.87 J**	5.0	1.0	0.20	1	09/21/16 15:08	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 15:08	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 15:08	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 15:08	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 15:08	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 15:08	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 15:08	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 15:08	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 15:08	
m,p-Xylenes	**4.2 BJ**	5.0	2.0	0.33	1	09/21/16 15:08	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 15:08	
n-Propylbenzene	**0.23 J**	5.0	1.0	0.20	1	09/21/16 15:08	
o-Xylene	**1.3 J**	5.0	1.0	0.20	1	09/21/16 15:08	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 15:08	
tert-Butylbenzene	**0.27 J**	5.0	1.0	0.20	1	09/21/16 15:08	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 15:08	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 15:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/21/16 15:08	
Dibromofluoromethane	102	80 - 119	09/21/16 15:08	
Toluene-d8	103	89 - 112	09/21/16 15:08	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 11:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-OW5-091316	**Units:**	ug/L
Lab Code:	R1609731-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	25	5.0	1.1	5	09/21/16 17:34	
1,1,1-Trichloroethane (TCA)	ND	U	25	5.0	1.8	5	09/21/16 17:34	
1,1,2,2-Tetrachloroethane	ND	U	25	5.0	1.3	5	09/21/16 17:34	
1,1,2-Trichloroethane	ND	U	25	5.0	1.7	5	09/21/16 17:34	
1,1-Dichloroethane (1,1-DCA)	ND	U	25	5.0	1.0	5	09/21/16 17:34	
1,1-Dichloroethene (1,1-DCE)	ND	U	25	5.0	2.9	5	09/21/16 17:34	
1,1-Dichloropropene	ND	U	25	5.0	1.5	5	09/21/16 17:34	
1,2,3-Trichlorobenzene	ND	U	25	5.0	4.1	5	09/21/16 17:34	
1,2,3-Trichloropropane	ND	U	25	5.0	3.5	5	09/21/16 17:34	
1,2,4-Trichlorobenzene	ND	U	25	5.0	1.2	5	09/21/16 17:34	
1,2,4-Trimethylbenzene	**720**		25	5.0	1.0	5	09/21/16 17:34	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	25	5.0	3.7	5	09/21/16 17:34	
1,2-Dibromoethane	ND	U	25	5.0	1.2	5	09/21/16 17:34	
1,2-Dichlorobenzene	ND	U	25	5.0	1.1	5	09/21/16 17:34	
1,2-Dichloroethane	ND	U	25	5.0	1.8	5	09/21/16 17:34	
1,2-Dichloropropane	ND	U	25	5.0	1.0	5	09/21/16 17:34	
1,3,5-Trimethylbenzene	**220**		25	5.0	1.0	5	09/21/16 17:34	
1,3-Dichlorobenzene	ND	U	25	5.0	1.0	5	09/21/16 17:34	
1,3-Dichloropropane	ND	U	25	5.0	1.4	5	09/21/16 17:34	
1,4-Dichlorobenzene	ND	U	25	5.0	1.0	5	09/21/16 17:34	
2,2-Dichloropropane	ND	U	25	5.0	1.4	5	09/21/16 17:34	
2-Butanone (MEK)	**11**	**J**	50	5.0	4.1	5	09/21/16 17:34	
2-Chlorotoluene	ND	U	25	5.0	1.0	5	09/21/16 17:34	
2-Hexanone	**36**	**J**	50	25	8.3	5	09/21/16 17:34	
4-Chlorotoluene	ND	U	25	5.0	1.2	5	09/21/16 17:34	
4-Isopropyltoluene	**5.9**	**J**	25	5.0	1.0	5	09/21/16 17:34	
4-Methyl-2-pentanone	**10**	**J**	50	5.0	3.4	5	09/21/16 17:34	
Acetone	**17**	**J**	50	25	6.2	5	09/21/16 17:34	
Benzene	ND	U	25	5.0	1.0	5	09/21/16 17:34	
Bromobenzene	ND	U	25	5.0	1.4	5	09/21/16 17:34	
Bromochloromethane	ND	U	25	5.0	1.6	5	09/21/16 17:34	
Bromodichloromethane	ND	U	25	5.0	1.6	5	09/21/16 17:34	
Bromoform	ND	U	25	5.0	2.1	5	09/21/16 17:34	
Bromomethane	ND	U	25	5.0	1.5	5	09/21/16 17:34	
Carbon Disulfide	ND	U	50	5.0	1.1	5	09/21/16 17:34	
Carbon Tetrachloride	ND	U	25	5.0	2.3	5	09/21/16 17:34	
Chlorobenzene	ND	U	25	5.0	1.5	5	09/21/16 17:34	
Chloroethane	ND	U	25	5.0	1.2	5	09/21/16 17:34	
Chloroform	ND	U	25	5.0	1.3	5	09/21/16 17:34	
Chloromethane	ND	U	25	5.0	1.1	5	09/21/16 17:34	
Dibromochloromethane	ND	U	25	5.0	1.6	5	09/21/16 17:34	
Dibromomethane	ND	U	25	5.0	1.6	5	09/21/16 17:34	
Dichlorodifluoromethane (CFC 12)	ND	U	25	5.0	2.3	5	09/21/16 17:34	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 11:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-OW5-091316	**Units:**	ug/L
Lab Code:	R1609731-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	09/21/16 17:34	
Ethylbenzene	**450**		25	5.0	1.0	5	09/21/16 17:34	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	09/21/16 17:34	
Isopropylbenzene (Cumene)	**40**		25	5.0	1.0	5	09/21/16 17:34	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	09/21/16 17:34	
Naphthalene	**110**		25	5.0	1.0	5	09/21/16 17:34	
Styrene	**8.7**	**J**	25	5.0	1.0	5	09/21/16 17:34	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	09/21/16 17:34	
Toluene	**95**		25	5.0	1.0	5	09/21/16 17:34	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	09/21/16 17:34	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	09/21/16 17:34	
Vinyl Chloride	ND	U	25	5.0	1.6	5	09/21/16 17:34	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	09/21/16 17:34	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	09/21/16 17:34	
m,p-Xylenes	**1900**		25	10	1.7	5	09/21/16 17:34	
n-Butylbenzene	**18**	**J**	25	5.0	1.1	5	09/21/16 17:34	
n-Propylbenzene	**77**		25	5.0	1.0	5	09/21/16 17:34	
o-Xylene	**210**		25	5.0	1.0	5	09/21/16 17:34	
sec-Butylbenzene	**4.2**	**J**	25	5.0	1.4	5	09/21/16 17:34	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	09/21/16 17:34	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	09/21/16 17:34	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	09/21/16 17:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 114	09/21/16 17:34	
Dibromofluoromethane	99	80 - 119	09/21/16 17:34	
Toluene-d8	104	89 - 112	09/21/16 17:34	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 14:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-OW3-091316	**Units:**	ug/L
Lab Code:	R1609731-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/21/16 17:59	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/21/16 17:59	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/21/16 17:59	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/21/16 17:59	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/21/16 17:59	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/21/16 17:59	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/21/16 17:59	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/21/16 17:59	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/21/16 17:59	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/21/16 17:59	
1,2,4-Trimethylbenzene	**460**	25	5.0	1.0	5	09/21/16 17:59	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/21/16 17:59	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/21/16 17:59	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/21/16 17:59	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/21/16 17:59	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/21/16 17:59	
1,3,5-Trimethylbenzene	**93**	25	5.0	1.0	5	09/21/16 17:59	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/21/16 17:59	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/21/16 17:59	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/21/16 17:59	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/21/16 17:59	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/21/16 17:59	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/21/16 17:59	
2-Hexanone	ND U	50	25	8.3	5	09/21/16 17:59	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/21/16 17:59	
4-Isopropyltoluene	**5.7 J**	25	5.0	1.0	5	09/21/16 17:59	
4-Methyl-2-pentanone	**5.3 J**	50	5.0	3.4	5	09/21/16 17:59	
Acetone	**9.4 J**	50	25	6.2	5	09/21/16 17:59	
Benzene	ND U	25	5.0	1.0	5	09/21/16 17:59	
Bromobenzene	ND U	25	5.0	1.4	5	09/21/16 17:59	
Bromochloromethane	ND U	25	5.0	1.6	5	09/21/16 17:59	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/21/16 17:59	
Bromoform	ND U	25	5.0	2.1	5	09/21/16 17:59	
Bromomethane	ND U	25	5.0	1.5	5	09/21/16 17:59	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/21/16 17:59	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/21/16 17:59	
Chlorobenzene	ND U	25	5.0	1.5	5	09/21/16 17:59	
Chloroethane	ND U	25	5.0	1.2	5	09/21/16 17:59	
Chloroform	ND U	25	5.0	1.3	5	09/21/16 17:59	
Chloromethane	ND U	25	5.0	1.1	5	09/21/16 17:59	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/21/16 17:59	
Dibromomethane	ND U	25	5.0	1.6	5	09/21/16 17:59	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/21/16 17:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 14:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-OW3-091316	**Units:**	ug/L
Lab Code:	R1609731-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	09/21/16 17:59	
Ethylbenzene	**48**		25	5.0	1.0	5	09/21/16 17:59	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	09/21/16 17:59	
Isopropylbenzene (Cumene)	**21**	**J**	25	5.0	1.0	5	09/21/16 17:59	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	09/21/16 17:59	
Naphthalene	**21**	**J**	25	5.0	1.0	5	09/21/16 17:59	
Styrene	ND	U	25	5.0	1.0	5	09/21/16 17:59	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	09/21/16 17:59	
Toluene	**1.2**	**J**	25	5.0	1.0	5	09/21/16 17:59	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	09/21/16 17:59	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	09/21/16 17:59	
Vinyl Chloride	ND	U	25	5.0	1.6	5	09/21/16 17:59	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	09/21/16 17:59	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	09/21/16 17:59	
m,p-Xylenes	**190**		25	10	1.7	5	09/21/16 17:59	
n-Butylbenzene	**5.6**	**J**	25	5.0	1.1	5	09/21/16 17:59	
n-Propylbenzene	**54**		25	5.0	1.0	5	09/21/16 17:59	
o-Xylene	**53**		25	5.0	1.0	5	09/21/16 17:59	
sec-Butylbenzene	**5.5**	**J**	25	5.0	1.4	5	09/21/16 17:59	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	09/21/16 17:59	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	09/21/16 17:59	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	09/21/16 17:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/21/16 17:59	
Dibromofluoromethane	101	80 - 119	09/21/16 17:59	
Toluene-d8	103	89 - 112	09/21/16 17:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	TRIP BLANK 1	**Units:**	ug/L
Lab Code:	R1609731-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 12:18	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 12:18	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 12:18	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 12:18	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 12:18	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 12:18	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 12:18	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 12:18	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 12:18	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 12:18	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 12:18	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 12:18	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 12:18	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 12:18	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 12:18	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 12:18	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 12:18	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 12:18	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 12:18	
Acetone	**1.5 J**	10	5.0	1.3	1	09/21/16 12:18	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 12:18	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 12:18	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 12:18	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 12:18	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 12:18	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 12:18	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 12:18	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 12:18	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 12:18	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 12:18	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 12:18	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 12:18	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 12:18	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 12:18	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	TRIP BLANK 1	**Units:**	ug/L
Lab Code:	R1609731-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 12:18	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 12:18	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 12:18	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 12:18	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 12:18	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 12:18	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 12:18	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 12:18	
m,p-Xylenes	**0.46 BJ**	5.0	2.0	0.33	1	09/21/16 12:18	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 12:18	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
o-Xylene	**0.20 J**	5.0	1.0	0.20	1	09/21/16 12:18	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 12:18	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 12:18	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 12:18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/21/16 12:18	
Dibromofluoromethane	101	80 - 119	09/21/16 12:18	
Toluene-d8	103	89 - 112	09/21/16 12:18	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1995-MWS9-091416	**Units:**	ug/L
Lab Code:	R1609731-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 16:21	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 16:21	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 16:21	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 16:21	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 16:21	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 16:21	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 16:21	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 16:21	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 16:21	
1,2,4-Trimethylbenzene	**130**	5.0	1.0	0.20	1	09/21/16 16:21	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 16:21	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 16:21	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 16:21	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 16:21	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
1,3,5-Trimethylbenzene	**0.52 J**	5.0	1.0	0.20	1	09/21/16 16:21	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 16:21	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 16:21	
2-Butanone (MEK)	**1.2 J**	10	1.0	0.81	1	09/21/16 16:21	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 16:21	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 16:21	
4-Isopropyltoluene	**3.1 J**	5.0	1.0	0.20	1	09/21/16 16:21	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 16:21	
Acetone	**3.3 J**	10	5.0	1.3	1	09/21/16 16:21	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 16:21	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 16:21	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 16:21	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 16:21	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 16:21	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 16:21	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 16:21	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 16:21	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 16:21	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 16:21	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 16:21	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 16:21	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 16:21	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 16:21	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1995-MWS9-091416	**Units:**	ug/L
Lab Code:	R1609731-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 16:21	
Ethylbenzene	**66**	5.0	1.0	0.20	1	09/21/16 16:21	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 16:21	
Isopropylbenzene (Cumene)	**12**	5.0	1.0	0.20	1	09/21/16 16:21	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 16:21	
Naphthalene	**110**	5.0	1.0	0.20	1	09/21/16 16:21	
Styrene	**1.7 J**	5.0	1.0	0.20	1	09/21/16 16:21	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 16:21	
Toluene	**4.5 J**	5.0	1.0	0.20	1	09/21/16 16:21	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 16:21	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 16:21	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 16:21	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 16:21	
m,p-Xylenes	**89**	5.0	2.0	0.33	1	09/21/16 16:21	
n-Butylbenzene	**1.6 J**	5.0	1.0	0.21	1	09/21/16 16:21	
n-Propylbenzene	**15**	5.0	1.0	0.20	1	09/21/16 16:21	
o-Xylene	**53**	5.0	1.0	0.20	1	09/21/16 16:21	
sec-Butylbenzene	**3.2 J**	5.0	1.0	0.27	1	09/21/16 16:21	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 16:21	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 16:21	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 16:21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/21/16 16:21	
Dibromofluoromethane	100	80 - 119	09/21/16 16:21	
Toluene-d8	103	89 - 112	09/21/16 16:21	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1995-MWS10-091416	**Units:**	ug/L
Lab Code:	R1609731-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	5.0	1.0	0.22	1	09/21/16 16:46	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	1.0	0.36	1	09/21/16 16:46	
1,1,2,2-Tetrachloroethane	ND	U	5.0	1.0	0.25	1	09/21/16 16:46	
1,1,2-Trichloroethane	ND	U	5.0	1.0	0.34	1	09/21/16 16:46	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.0	1.0	0.20	1	09/21/16 16:46	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.0	1.0	0.57	1	09/21/16 16:46	
1,1-Dichloropropene	ND	U	5.0	1.0	0.29	1	09/21/16 16:46	
1,2,3-Trichlorobenzene	ND	U	5.0	1.0	0.82	1	09/21/16 16:46	
1,2,3-Trichloropropane	ND	U	5.0	1.0	0.70	1	09/21/16 16:46	
1,2,4-Trichlorobenzene	ND	U	5.0	1.0	0.23	1	09/21/16 16:46	
1,2,4-Trimethylbenzene	**59**		5.0	1.0	0.20	1	09/21/16 16:46	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.0	1.0	0.74	1	09/21/16 16:46	
1,2-Dibromoethane	ND	U	5.0	1.0	0.24	1	09/21/16 16:46	
1,2-Dichlorobenzene	ND	U	5.0	1.0	0.21	1	09/21/16 16:46	
1,2-Dichloroethane	ND	U	5.0	1.0	0.36	1	09/21/16 16:46	
1,2-Dichloropropane	ND	U	5.0	1.0	0.20	1	09/21/16 16:46	
1,3,5-Trimethylbenzene	**8.5**		5.0	1.0	0.20	1	09/21/16 16:46	
1,3-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/21/16 16:46	
1,3-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/21/16 16:46	
1,4-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/21/16 16:46	
2,2-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/21/16 16:46	
2-Butanone (MEK)	**1.9**	**J**	10	1.0	0.81	1	09/21/16 16:46	
2-Chlorotoluene	ND	U	5.0	1.0	0.20	1	09/21/16 16:46	
2-Hexanone	ND	U	10	5.0	1.7	1	09/21/16 16:46	
4-Chlorotoluene	ND	U	5.0	1.0	0.24	1	09/21/16 16:46	
4-Isopropyltoluene	**0.68**	**J**	5.0	1.0	0.20	1	09/21/16 16:46	
4-Methyl-2-pentanone	ND	U	10	1.0	0.67	1	09/21/16 16:46	
Acetone	**3.6**	**J**	10	5.0	1.3	1	09/21/16 16:46	
Benzene	**0.53**	**J**	5.0	1.0	0.20	1	09/21/16 16:46	
Bromobenzene	ND	U	5.0	1.0	0.28	1	09/21/16 16:46	
Bromochloromethane	ND	U	5.0	1.0	0.32	1	09/21/16 16:46	
Bromodichloromethane	ND	U	5.0	1.0	0.32	1	09/21/16 16:46	
Bromoform	ND	U	5.0	1.0	0.42	1	09/21/16 16:46	
Bromomethane	ND	U	5.0	1.0	0.29	1	09/21/16 16:46	
Carbon Disulfide	ND	U	10	1.0	0.22	1	09/21/16 16:46	
Carbon Tetrachloride	ND	U	5.0	1.0	0.45	1	09/21/16 16:46	
Chlorobenzene	ND	U	5.0	1.0	0.29	1	09/21/16 16:46	
Chloroethane	ND	U	5.0	1.0	0.24	1	09/21/16 16:46	
Chloroform	ND	U	5.0	1.0	0.25	1	09/21/16 16:46	
Chloromethane	ND	U	5.0	1.0	0.21	1	09/21/16 16:46	
Dibromochloromethane	ND	U	5.0	1.0	0.31	1	09/21/16 16:46	
Dibromomethane	ND	U	5.0	1.0	0.32	1	09/21/16 16:46	
Dichlorodifluoromethane (CFC 12)	ND	U	5.0	1.0	0.46	1	09/21/16 16:46	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1995-MWS10-091416	**Units:**	ug/L
Lab Code:	R1609731-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/21/16 16:46	
Ethylbenzene	**95**		5.0	1.0	0.20	1	09/21/16 16:46	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/21/16 16:46	
Isopropylbenzene (Cumene)	**18**		5.0	1.0	0.20	1	09/21/16 16:46	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/21/16 16:46	
Naphthalene	**43**		5.0	1.0	0.20	1	09/21/16 16:46	
Styrene	**1.7**	**J**	5.0	1.0	0.20	1	09/21/16 16:46	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/21/16 16:46	
Toluene	**86**		5.0	1.0	0.20	1	09/21/16 16:46	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/21/16 16:46	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/21/16 16:46	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/21/16 16:46	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/21/16 16:46	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/21/16 16:46	
m,p-Xylenes	**93**		5.0	2.0	0.33	1	09/21/16 16:46	
n-Butylbenzene	**3.8**	**J**	5.0	1.0	0.21	1	09/21/16 16:46	
n-Propylbenzene	**22**		5.0	1.0	0.20	1	09/21/16 16:46	
o-Xylene	**50**		5.0	1.0	0.20	1	09/21/16 16:46	
sec-Butylbenzene	**3.4**	**J**	5.0	1.0	0.27	1	09/21/16 16:46	
tert-Butylbenzene	**0.30**	**J**	5.0	1.0	0.20	1	09/21/16 16:46	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/21/16 16:46	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/21/16 16:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/21/16 16:46	
Dibromofluoromethane	100	80 - 119	09/21/16 16:46	
Toluene-d8	104	89 - 112	09/21/16 16:46	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 09:35
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-MWS24-091416	**Units:**	ug/L
Lab Code:	R1609731-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 15:33	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 15:33	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 15:33	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 15:33	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 15:33	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 15:33	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 15:33	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 15:33	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 15:33	
1,2,4-Trimethylbenzene	**16**	5.0	1.0	0.20	1	09/21/16 15:33	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 15:33	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 15:33	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 15:33	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 15:33	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
1,3,5-Trimethylbenzene	**6.5**	5.0	1.0	0.20	1	09/21/16 15:33	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 15:33	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 15:33	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 15:33	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 15:33	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 15:33	
4-Isopropyltoluene	**0.25 J**	5.0	1.0	0.20	1	09/21/16 15:33	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 15:33	
Acetone	**2.5 J**	10	5.0	1.3	1	09/21/16 15:33	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 15:33	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 15:33	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 15:33	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 15:33	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 15:33	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 15:33	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 15:33	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 15:33	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 15:33	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 15:33	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 15:33	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 15:33	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 15:33	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 15:33	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 09:35
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-MWS24-091416	**Units:**	ug/L
Lab Code:	R1609731-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 15:33	
Ethylbenzene	**3.4 J**	5.0	1.0	0.20	1	09/21/16 15:33	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 15:33	
Isopropylbenzene (Cumene)	**0.60 J**	5.0	1.0	0.20	1	09/21/16 15:33	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 15:33	
Naphthalene	**1.8 J**	5.0	1.0	0.20	1	09/21/16 15:33	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 15:33	
Toluene	**1.6 J**	5.0	1.0	0.20	1	09/21/16 15:33	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 15:33	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 15:33	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 15:33	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 15:33	
m,p-Xylenes	**19**	5.0	2.0	0.33	1	09/21/16 15:33	
n-Butylbenzene	**0.61 J**	5.0	1.0	0.21	1	09/21/16 15:33	
n-Propylbenzene	**1.6 J**	5.0	1.0	0.20	1	09/21/16 15:33	
o-Xylene	**9.6**	5.0	1.0	0.20	1	09/21/16 15:33	
sec-Butylbenzene	**0.27 J**	5.0	1.0	0.27	1	09/21/16 15:33	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 15:33	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 15:33	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 15:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/21/16 15:33	
Dibromofluoromethane	102	80 - 119	09/21/16 15:33	
Toluene-d8	104	89 - 112	09/21/16 15:33	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 11:45
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-PZ2S-091416	**Units:**	ug/L
Lab Code:	R1609731-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	10	2.0	0.44	2	09/21/16 17:10	
1,1,1-Trichloroethane (TCA)	ND U	10	2.0	0.72	2	09/21/16 17:10	
1,1,2,2-Tetrachloroethane	ND U	10	2.0	0.50	2	09/21/16 17:10	
1,1,2-Trichloroethane	ND U	10	2.0	0.68	2	09/21/16 17:10	
1,1-Dichloroethane (1,1-DCA)	ND U	10	2.0	0.40	2	09/21/16 17:10	
1,1-Dichloroethene (1,1-DCE)	ND U	10	2.0	1.2	2	09/21/16 17:10	
1,1-Dichloropropene	ND U	10	2.0	0.58	2	09/21/16 17:10	
1,2,3-Trichlorobenzene	ND U	10	2.0	1.7	2	09/21/16 17:10	
1,2,3-Trichloropropane	ND U	10	2.0	1.4	2	09/21/16 17:10	
1,2,4-Trichlorobenzene	ND U	10	2.0	0.46	2	09/21/16 17:10	
1,2,4-Trimethylbenzene	**220**	10	2.0	0.40	2	09/21/16 17:10	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	10	2.0	1.5	2	09/21/16 17:10	
1,2-Dibromoethane	ND U	10	2.0	0.48	2	09/21/16 17:10	
1,2-Dichlorobenzene	ND U	10	2.0	0.42	2	09/21/16 17:10	
1,2-Dichloroethane	ND U	10	2.0	0.72	2	09/21/16 17:10	
1,2-Dichloropropane	ND U	10	2.0	0.40	2	09/21/16 17:10	
1,3,5-Trimethylbenzene	**75**	10	2.0	0.40	2	09/21/16 17:10	
1,3-Dichlorobenzene	ND U	10	2.0	0.40	2	09/21/16 17:10	
1,3-Dichloropropane	ND U	10	2.0	0.54	2	09/21/16 17:10	
1,4-Dichlorobenzene	ND U	10	2.0	0.40	2	09/21/16 17:10	
2,2-Dichloropropane	ND U	10	2.0	0.54	2	09/21/16 17:10	
2-Butanone (MEK)	ND U	20	2.0	1.7	2	09/21/16 17:10	
2-Chlorotoluene	ND U	10	2.0	0.40	2	09/21/16 17:10	
2-Hexanone	ND U	20	10	3.4	2	09/21/16 17:10	
4-Chlorotoluene	ND U	10	2.0	0.48	2	09/21/16 17:10	
4-Isopropyltoluene	**3.8 J**	10	2.0	0.40	2	09/21/16 17:10	
4-Methyl-2-pentanone	ND U	20	2.0	1.4	2	09/21/16 17:10	
Acetone	ND U	20	10	2.5	2	09/21/16 17:10	
Benzene	ND U	10	2.0	0.40	2	09/21/16 17:10	
Bromobenzene	ND U	10	2.0	0.56	2	09/21/16 17:10	
Bromochloromethane	ND U	10	2.0	0.64	2	09/21/16 17:10	
Bromodichloromethane	ND U	10	2.0	0.64	2	09/21/16 17:10	
Bromoform	ND U	10	2.0	0.84	2	09/21/16 17:10	
Bromomethane	ND U	10	2.0	0.58	2	09/21/16 17:10	
Carbon Disulfide	ND U	20	2.0	0.44	2	09/21/16 17:10	
Carbon Tetrachloride	ND U	10	2.0	0.90	2	09/21/16 17:10	
Chlorobenzene	ND U	10	2.0	0.58	2	09/21/16 17:10	
Chloroethane	ND U	10	2.0	0.48	2	09/21/16 17:10	
Chloroform	ND U	10	2.0	0.50	2	09/21/16 17:10	
Chloromethane	ND U	10	2.0	0.42	2	09/21/16 17:10	
Dibromochloromethane	ND U	10	2.0	0.62	2	09/21/16 17:10	
Dibromomethane	ND U	10	2.0	0.64	2	09/21/16 17:10	
Dichlorodifluoromethane (CFC 12)	ND U	10	2.0	0.92	2	09/21/16 17:10	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 11:45
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-PZ2S-091416	**Units:**	ug/L
Lab Code:	R1609731-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	10	2.0	1.2	2	09/21/16 17:10	
Ethylbenzene	**13**		10	2.0	0.40	2	09/21/16 17:10	
Hexachlorobutadiene	ND	U	10	2.0	1.3	2	09/21/16 17:10	
Isopropylbenzene (Cumene)	**8.6**	**J**	10	2.0	0.40	2	09/21/16 17:10	
Methyl tert-Butyl Ether	ND	U	10	2.0	0.58	2	09/21/16 17:10	
Naphthalene	**13**		10	2.0	0.40	2	09/21/16 17:10	
Styrene	**0.72**	**J**	10	2.0	0.40	2	09/21/16 17:10	
Tetrachloroethene (PCE)	ND	U	10	2.0	0.60	2	09/21/16 17:10	
Toluene	**26**		10	2.0	0.40	2	09/21/16 17:10	
Trichloroethene (TCE)	ND	U	10	2.0	0.44	2	09/21/16 17:10	
Trichlorofluoromethane (CFC 11)	ND	U	10	2.0	0.40	2	09/21/16 17:10	
Vinyl Chloride	ND	U	10	2.0	0.64	2	09/21/16 17:10	
cis-1,2-Dichloroethene	ND	U	10	2.0	0.60	2	09/21/16 17:10	
cis-1,3-Dichloropropene	ND	U	10	2.0	0.48	2	09/21/16 17:10	
m,p-Xylenes	**36**		10	4.0	0.66	2	09/21/16 17:10	
n-Butylbenzene	ND	U	10	2.0	0.42	2	09/21/16 17:10	
n-Propylbenzene	**24**		10	2.0	0.40	2	09/21/16 17:10	
o-Xylene	**20**		10	2.0	0.40	2	09/21/16 17:10	
sec-Butylbenzene	**3.3**	**J**	10	2.0	0.54	2	09/21/16 17:10	
tert-Butylbenzene	ND	U	10	2.0	0.40	2	09/21/16 17:10	
trans-1,2-Dichloroethene	ND	U	10	2.0	0.66	2	09/21/16 17:10	
trans-1,3-Dichloropropene	ND	U	10	2.0	0.40	2	09/21/16 17:10	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 114	09/21/16 17:10	
Dibromofluoromethane	101	80 - 119	09/21/16 17:10	
Toluene-d8	104	89 - 112	09/21/16 17:10	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 13:15
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-PZ14-091416	**Units:**	ug/L
Lab Code:	R1609731-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	50	10	2.2	10	09/21/16 18:23	
1,1,1-Trichloroethane (TCA)	ND U	50	10	3.6	10	09/21/16 18:23	
1,1,2,2-Tetrachloroethane	ND U	50	10	2.5	10	09/21/16 18:23	
1,1,2-Trichloroethane	ND U	50	10	3.4	10	09/21/16 18:23	
1,1-Dichloroethane (1,1-DCA)	ND U	50	10	2.0	10	09/21/16 18:23	
1,1-Dichloroethene (1,1-DCE)	ND U	50	10	5.7	10	09/21/16 18:23	
1,1-Dichloropropene	ND U	50	10	2.9	10	09/21/16 18:23	
1,2,3-Trichlorobenzene	ND U	50	10	8.2	10	09/21/16 18:23	
1,2,3-Trichloropropane	ND U	50	10	7.0	10	09/21/16 18:23	
1,2,4-Trichlorobenzene	ND U	50	10	2.3	10	09/21/16 18:23	
1,2,4-Trimethylbenzene	**460**	50	10	2.0	10	09/21/16 18:23	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	50	10	7.4	10	09/21/16 18:23	
1,2-Dibromoethane	ND U	50	10	2.4	10	09/21/16 18:23	
1,2-Dichlorobenzene	ND U	50	10	2.1	10	09/21/16 18:23	
1,2-Dichloroethane	ND U	50	10	3.6	10	09/21/16 18:23	
1,2-Dichloropropane	ND U	50	10	2.0	10	09/21/16 18:23	
1,3,5-Trimethylbenzene	**180**	50	10	2.0	10	09/21/16 18:23	
1,3-Dichlorobenzene	ND U	50	10	2.0	10	09/21/16 18:23	
1,3-Dichloropropane	ND U	50	10	2.7	10	09/21/16 18:23	
1,4-Dichlorobenzene	ND U	50	10	2.0	10	09/21/16 18:23	
2,2-Dichloropropane	ND U	50	10	2.7	10	09/21/16 18:23	
2-Butanone (MEK)	ND U	100	10	8.1	10	09/21/16 18:23	
2-Chlorotoluene	ND U	50	10	2.0	10	09/21/16 18:23	
2-Hexanone	ND U	100	50	17	10	09/21/16 18:23	
4-Chlorotoluene	ND U	50	10	2.4	10	09/21/16 18:23	
4-Isopropyltoluene	**2.6 J**	50	10	2.0	10	09/21/16 18:23	
4-Methyl-2-pentanone	ND U	100	10	6.7	10	09/21/16 18:23	
Acetone	ND U	100	50	13	10	09/21/16 18:23	
Benzene	ND U	50	10	2.0	10	09/21/16 18:23	
Bromobenzene	ND U	50	10	2.8	10	09/21/16 18:23	
Bromochloromethane	ND U	50	10	3.2	10	09/21/16 18:23	
Bromodichloromethane	ND U	50	10	3.2	10	09/21/16 18:23	
Bromoform	ND U	50	10	4.2	10	09/21/16 18:23	
Bromomethane	ND U	50	10	2.9	10	09/21/16 18:23	
Carbon Disulfide	ND U	100	10	2.2	10	09/21/16 18:23	
Carbon Tetrachloride	ND U	50	10	4.5	10	09/21/16 18:23	
Chlorobenzene	ND U	50	10	2.9	10	09/21/16 18:23	
Chloroethane	ND U	50	10	2.4	10	09/21/16 18:23	
Chloroform	ND U	50	10	2.5	10	09/21/16 18:23	
Chloromethane	ND U	50	10	2.1	10	09/21/16 18:23	
Dibromochloromethane	ND U	50	10	3.1	10	09/21/16 18:23	
Dibromomethane	ND U	50	10	3.2	10	09/21/16 18:23	
Dichlorodifluoromethane (CFC 12)	ND U	50	10	4.6	10	09/21/16 18:23	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 13:15
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-PZ14-091416	**Units:**	ug/L
Lab Code:	R1609731-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	50	10	6.0	10	09/21/16 18:23	
Ethylbenzene	**140**		50	10	2.0	10	09/21/16 18:23	
Hexachlorobutadiene	ND	U	50	10	6.2	10	09/21/16 18:23	
Isopropylbenzene (Cumene)	**8.2**	**J**	50	10	2.0	10	09/21/16 18:23	
Methyl tert-Butyl Ether	ND	U	50	10	2.9	10	09/21/16 18:23	
Naphthalene	**130**		50	10	2.0	10	09/21/16 18:23	
Styrene	ND	U	50	10	2.0	10	09/21/16 18:23	
Tetrachloroethene (PCE)	ND	U	50	10	3.0	10	09/21/16 18:23	
Toluene	**29**	**J**	50	10	2.0	10	09/21/16 18:23	
Trichloroethene (TCE)	ND	U	50	10	2.2	10	09/21/16 18:23	
Trichlorofluoromethane (CFC 11)	ND	U	50	10	2.0	10	09/21/16 18:23	
Vinyl Chloride	ND	U	50	10	3.2	10	09/21/16 18:23	
cis-1,2-Dichloroethene	ND	U	50	10	3.0	10	09/21/16 18:23	
cis-1,3-Dichloropropene	ND	U	50	10	2.4	10	09/21/16 18:23	
m,p-Xylenes	**2100**		50	20	3.3	10	09/21/16 18:23	
n-Butylbenzene	**13**	**J**	50	10	2.1	10	09/21/16 18:23	
n-Propylbenzene	**12**	**J**	50	10	2.0	10	09/21/16 18:23	
o-Xylene	**1300**		50	10	2.0	10	09/21/16 18:23	
sec-Butylbenzene	ND	U	50	10	2.7	10	09/21/16 18:23	
tert-Butylbenzene	ND	U	50	10	2.0	10	09/21/16 18:23	
trans-1,2-Dichloroethene	ND	U	50	10	3.3	10	09/21/16 18:23	
trans-1,3-Dichloropropene	ND	U	50	10	2.0	10	09/21/16 18:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/21/16 18:23	
Dibromofluoromethane	101	80 - 119	09/21/16 18:23	
Toluene-d8	103	89 - 112	09/21/16 18:23	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 13:07	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 13:07	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 13:07	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 13:07	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 13:07	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 13:07	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 13:07	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 13:07	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 13:07	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 13:07	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 13:07	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 13:07	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 13:07	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 13:07	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 13:07	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 13:07	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 13:07	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 13:07	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 13:07	
Acetone	**2.1 J**	10	5.0	1.3	1	09/21/16 13:07	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 13:07	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 13:07	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 13:07	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 13:07	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 13:07	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 13:07	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 13:07	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 13:07	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 13:07	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 13:07	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 13:07	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 13:07	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 13:07	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 13:07	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 13:07	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 13:07	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 13:07	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 13:07	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 13:07	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 13:07	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 13:07	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 13:07	
m,p-Xylenes	**0.34 BJ**	5.0	2.0	0.33	1	09/21/16 13:07	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 13:07	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 13:07	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 13:07	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 13:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/21/16 13:07	
Dibromofluoromethane	103	80 - 119	09/21/16 13:07	
Toluene-d8	104	89 - 112	09/21/16 13:07	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW00-091316	**Units:**	ug/L
Lab Code:	R1609731-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 13:31	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 13:31	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 13:31	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 13:31	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 13:31	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 13:31	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 13:31	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 13:31	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 13:31	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 13:31	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 13:31	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 13:31	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 13:31	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 13:31	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 13:31	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 13:31	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 13:31	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 13:31	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 13:31	
Acetone	ND U	10	5.0	1.3	1	09/21/16 13:31	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 13:31	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 13:31	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 13:31	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 13:31	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 13:31	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 13:31	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 13:31	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 13:31	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 13:31	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 13:31	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 13:31	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 13:31	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 13:31	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 13:31	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW00-091316	**Units:**	ug/L
Lab Code:	R1609731-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 13:31	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 13:31	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 13:31	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 13:31	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 13:31	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 13:31	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 13:31	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 13:31	
m,p-Xylenes	**0.37 BJ**	5.0	2.0	0.33	1	09/21/16 13:31	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 13:31	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 13:31	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 13:31	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 13:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	09/21/16 13:31	
Dibromofluoromethane	99	80 - 119	09/21/16 13:31	
Toluene-d8	101	89 - 112	09/21/16 13:31	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 14:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 13:55	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 13:55	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 13:55	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 13:55	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 13:55	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 13:55	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 13:55	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 13:55	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 13:55	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 13:55	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 13:55	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 13:55	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 13:55	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 13:55	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 13:55	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 13:55	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 13:55	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 13:55	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 13:55	
Acetone	**3.2 J**	10	5.0	1.3	1	09/21/16 13:55	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 13:55	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 13:55	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 13:55	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 13:55	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 13:55	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 13:55	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 13:55	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 13:55	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 13:55	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 13:55	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 13:55	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 13:55	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 13:55	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 13:55	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 14:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 13:55	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 13:55	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 13:55	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 13:55	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 13:55	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 13:55	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 13:55	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 13:55	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/21/16 13:55	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 13:55	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 13:55	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 13:55	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 13:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/21/16 13:55	
Dibromofluoromethane	99	80 - 119	09/21/16 13:55	
Toluene-d8	103	89 - 112	09/21/16 13:55	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW01-091316	**Units:**	ug/L
Lab Code:	R1609731-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 14:20	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 14:20	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 14:20	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 14:20	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 14:20	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 14:20	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 14:20	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 14:20	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 14:20	
1,2,4-Trimethylbenzene	**0.44 J**	5.0	1.0	0.20	1	09/21/16 14:20	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 14:20	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 14:20	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 14:20	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 14:20	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 14:20	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 14:20	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 14:20	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 14:20	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 14:20	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 14:20	
Acetone	**3.1 J**	10	5.0	1.3	1	09/21/16 14:20	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 14:20	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 14:20	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 14:20	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 14:20	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 14:20	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 14:20	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 14:20	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 14:20	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 14:20	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 14:20	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 14:20	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 14:20	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 14:20	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 14:20	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW01-091316	**Units:**	ug/L
Lab Code:	R1609731-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 14:20	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 14:20	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 14:20	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 14:20	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 14:20	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 14:20	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 14:20	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 14:20	
m,p-Xylenes	**0.37 BJ**	5.0	2.0	0.33	1	09/21/16 14:20	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 14:20	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 14:20	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 14:20	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 14:20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 114	09/21/16 14:20	
Dibromofluoromethane	104	80 - 119	09/21/16 14:20	
Toluene-d8	104	89 - 112	09/21/16 14:20	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-MWS7-091416	**Units:**	ug/L
Lab Code:	R1609731-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	50	10	2.2	10	09/21/16 18:48	
1,1,1-Trichloroethane (TCA)	ND U	50	10	3.6	10	09/21/16 18:48	
1,1,2,2-Tetrachloroethane	ND U	50	10	2.5	10	09/21/16 18:48	
1,1,2-Trichloroethane	ND U	50	10	3.4	10	09/21/16 18:48	
1,1-Dichloroethane (1,1-DCA)	ND U	50	10	2.0	10	09/21/16 18:48	
1,1-Dichloroethene (1,1-DCE)	ND U	50	10	5.7	10	09/21/16 18:48	
1,1-Dichloropropene	ND U	50	10	2.9	10	09/21/16 18:48	
1,2,3-Trichlorobenzene	ND U	50	10	8.2	10	09/21/16 18:48	
1,2,3-Trichloropropane	ND U	50	10	7.0	10	09/21/16 18:48	
1,2,4-Trichlorobenzene	ND U	50	10	2.3	10	09/21/16 18:48	
1,2,4-Trimethylbenzene	**4.4 J**	50	10	2.0	10	09/21/16 18:48	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	50	10	7.4	10	09/21/16 18:48	
1,2-Dibromoethane	ND U	50	10	2.4	10	09/21/16 18:48	
1,2-Dichlorobenzene	ND U	50	10	2.1	10	09/21/16 18:48	
1,2-Dichloroethane	ND U	50	10	3.6	10	09/21/16 18:48	
1,2-Dichloropropane	ND U	50	10	2.0	10	09/21/16 18:48	
1,3,5-Trimethylbenzene	ND U	50	10	2.0	10	09/21/16 18:48	
1,3-Dichlorobenzene	ND U	50	10	2.0	10	09/21/16 18:48	
1,3-Dichloropropane	ND U	50	10	2.7	10	09/21/16 18:48	
1,4-Dichlorobenzene	ND U	50	10	2.0	10	09/21/16 18:48	
2,2-Dichloropropane	ND U	50	10	2.7	10	09/21/16 18:48	
2-Butanone (MEK)	ND U	100	10	8.1	10	09/21/16 18:48	
2-Chlorotoluene	ND U	50	10	2.0	10	09/21/16 18:48	
2-Hexanone	ND U	100	50	17	10	09/21/16 18:48	
4-Chlorotoluene	ND U	50	10	2.4	10	09/21/16 18:48	
4-Isopropyltoluene	ND U	50	10	2.0	10	09/21/16 18:48	
4-Methyl-2-pentanone	ND U	100	10	6.7	10	09/21/16 18:48	
Acetone	ND U	100	50	13	10	09/21/16 18:48	
Benzene	ND U	50	10	2.0	10	09/21/16 18:48	
Bromobenzene	ND U	50	10	2.8	10	09/21/16 18:48	
Bromochloromethane	ND U	50	10	3.2	10	09/21/16 18:48	
Bromodichloromethane	ND U	50	10	3.2	10	09/21/16 18:48	
Bromoform	ND U	50	10	4.2	10	09/21/16 18:48	
Bromomethane	ND U	50	10	2.9	10	09/21/16 18:48	
Carbon Disulfide	ND U	100	10	2.2	10	09/21/16 18:48	
Carbon Tetrachloride	ND U	50	10	4.5	10	09/21/16 18:48	
Chlorobenzene	ND U	50	10	2.9	10	09/21/16 18:48	
Chloroethane	ND U	50	10	2.4	10	09/21/16 18:48	
Chloroform	ND U	50	10	2.5	10	09/21/16 18:48	
Chloromethane	ND U	50	10	2.1	10	09/21/16 18:48	
Dibromochloromethane	ND U	50	10	3.1	10	09/21/16 18:48	
Dibromomethane	ND U	50	10	3.2	10	09/21/16 18:48	
Dichlorodifluoromethane (CFC 12)	ND U	50	10	4.6	10	09/21/16 18:48	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-MWS7-091416	**Units:**	ug/L
Lab Code:	R1609731-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	50	10	6.0	10	09/21/16 18:48	
Ethylbenzene	ND U	50	10	2.0	10	09/21/16 18:48	
Hexachlorobutadiene	ND U	50	10	6.2	10	09/21/16 18:48	
Isopropylbenzene (Cumene)	ND U	50	10	2.0	10	09/21/16 18:48	
Methyl tert-Butyl Ether	ND U	50	10	2.9	10	09/21/16 18:48	
Naphthalene	**4.8 J**	50	10	2.0	10	09/21/16 18:48	
Styrene	ND U	50	10	2.0	10	09/21/16 18:48	
Tetrachloroethene (PCE)	ND U	50	10	3.0	10	09/21/16 18:48	
Toluene	ND U	50	10	2.0	10	09/21/16 18:48	
Trichloroethene (TCE)	ND U	50	10	2.2	10	09/21/16 18:48	
Trichlorofluoromethane (CFC 11)	ND U	50	10	2.0	10	09/21/16 18:48	
Vinyl Chloride	ND U	50	10	3.2	10	09/21/16 18:48	
cis-1,2-Dichloroethene	ND U	50	10	3.0	10	09/21/16 18:48	
cis-1,3-Dichloropropene	ND U	50	10	2.4	10	09/21/16 18:48	
m,p-Xylenes	**7.5 J**	50	20	3.3	10	09/21/16 18:48	
n-Butylbenzene	ND U	50	10	2.1	10	09/21/16 18:48	
n-Propylbenzene	ND U	50	10	2.0	10	09/21/16 18:48	
o-Xylene	**2.3 J**	50	10	2.0	10	09/21/16 18:48	
sec-Butylbenzene	ND U	50	10	2.7	10	09/21/16 18:48	
tert-Butylbenzene	ND U	50	10	2.0	10	09/21/16 18:48	
trans-1,2-Dichloroethene	ND U	50	10	3.3	10	09/21/16 18:48	
trans-1,3-Dichloropropene	ND U	50	10	2.0	10	09/21/16 18:48	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/21/16 18:48	
Dibromofluoromethane	100	80 - 119	09/21/16 18:48	
Toluene-d8	101	89 - 112	09/21/16 18:48	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 09:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-MW33-091416	**Units:**	ug/L
Lab Code:	R1609731-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 14:44	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 14:44	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 14:44	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 14:44	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 14:44	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 14:44	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 14:44	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 14:44	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 14:44	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 14:44	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 14:44	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 14:44	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 14:44	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 14:44	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 14:44	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 14:44	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 14:44	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 14:44	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 14:44	
Acetone	**1.3 J**	10	5.0	1.3	1	09/21/16 14:44	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 14:44	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 14:44	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 14:44	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 14:44	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 14:44	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 14:44	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 14:44	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 14:44	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 14:44	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 14:44	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 14:44	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 14:44	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 14:44	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 14:44	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 09:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-MW33-091416	**Units:**	ug/L
Lab Code:	R1609731-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 14:44	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 14:44	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 14:44	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 14:44	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 14:44	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 14:44	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 14:44	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 14:44	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/21/16 14:44	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 14:44	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 14:44	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 14:44	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 14:44	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 114	09/21/16 14:44	
Dibromofluoromethane	98	80 - 119	09/21/16 14:44	
Toluene-d8	100	89 - 112	09/21/16 14:44	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-OBG2-091416	**Units:**	ug/L
Lab Code:	R1609731-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 15:57	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 15:57	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 15:57	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 15:57	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 15:57	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 15:57	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 15:57	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 15:57	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 15:57	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 15:57	
1,2,4-Trimethylbenzene	**20**	5.0	1.0	0.20	1	09/21/16 15:57	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 15:57	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 15:57	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 15:57	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 15:57	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 15:57	
1,3,5-Trimethylbenzene	**16**	5.0	1.0	0.20	1	09/21/16 15:57	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 15:57	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 15:57	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 15:57	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 15:57	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 15:57	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 15:57	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 15:57	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 15:57	
4-Isopropyltoluene	**1.7 J**	5.0	1.0	0.20	1	09/21/16 15:57	
4-Methyl-2-pentanone	**1.4 J**	10	1.0	0.67	1	09/21/16 15:57	
Acetone	**4.2 J**	10	5.0	1.3	1	09/21/16 15:57	
Benzene	**0.32 J**	5.0	1.0	0.20	1	09/21/16 15:57	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 15:57	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 15:57	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 15:57	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 15:57	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 15:57	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 15:57	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 15:57	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 15:57	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 15:57	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 15:57	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 15:57	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 15:57	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 15:57	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 15:57	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-OBG2-091416	**Units:**	ug/L
Lab Code:	R1609731-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 15:57	
Ethylbenzene	**5.1**	5.0	1.0	0.20	1	09/21/16 15:57	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 15:57	
Isopropylbenzene (Cumene)	**1.0 J**	5.0	1.0	0.20	1	09/21/16 15:57	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 15:57	
Naphthalene	**8.9**	5.0	1.0	0.20	1	09/21/16 15:57	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 15:57	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 15:57	
Toluene	**1.9 J**	5.0	1.0	0.20	1	09/21/16 15:57	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 15:57	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 15:57	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 15:57	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 15:57	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 15:57	
m,p-Xylenes	**26**	5.0	2.0	0.33	1	09/21/16 15:57	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 15:57	
n-Propylbenzene	**1.2 J**	5.0	1.0	0.20	1	09/21/16 15:57	
o-Xylene	**32**	5.0	1.0	0.20	1	09/21/16 15:57	
sec-Butylbenzene	**0.69 J**	5.0	1.0	0.27	1	09/21/16 15:57	
tert-Butylbenzene	**0.55 J**	5.0	1.0	0.20	1	09/21/16 15:57	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 15:57	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 15:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/21/16 15:57	
Dibromofluoromethane	99	80 - 119	09/21/16 15:57	
Toluene-d8	102	89 - 112	09/21/16 15:57	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	TRIP BLANK 2	**Units:**	ug/L
Lab Code:	R1609731-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 12:43	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 12:43	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 12:43	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 12:43	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 12:43	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 12:43	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 12:43	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 12:43	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 12:43	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 12:43	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 12:43	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 12:43	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 12:43	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 12:43	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 12:43	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 12:43	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 12:43	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 12:43	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 12:43	
Acetone	ND U	10	5.0	1.3	1	09/21/16 12:43	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 12:43	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 12:43	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 12:43	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 12:43	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 12:43	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 12:43	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 12:43	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 12:43	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 12:43	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 12:43	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 12:43	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 12:43	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 12:43	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 12:43	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	TRIP BLANK 2	**Units:**	ug/L
Lab Code:	R1609731-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 12:43	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 12:43	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 12:43	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 12:43	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 12:43	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 12:43	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 12:43	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 12:43	
m,p-Xylenes	**0.37 BJ**	5.0	2.0	0.33	1	09/21/16 12:43	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 12:43	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 12:43	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 12:43	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 12:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/21/16 12:43	
Dibromofluoromethane	101	80 - 119	09/21/16 12:43	
Toluene-d8	101	89 - 112	09/21/16 12:43	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-010	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 12:06	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 12:06	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 12:06	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 12:06	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 12:06	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 12:06	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 12:06	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 12:06	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 12:06	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 12:06	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 12:06	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 12:06	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 12:06	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 12:06	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 12:06	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 12:06	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 12:06	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 12:06	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 12:06	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 12:06	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 12:06	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 12:06	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 12:06	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 12:06	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 12:06	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-010	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 12:06	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 12:06	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 12:06	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 12:06	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 12:06	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 12:06	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 12:06	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 12:06	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 12:06	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	43 - 140	09/20/16 12:06	
2-Fluorobiphenyl	72	44 - 119	09/20/16 12:06	
2-Fluorophenol	35	19 - 119	09/20/16 12:06	
Nitrobenzene-d5	71	44 - 120	09/20/16 12:06	
Phenol-d6	24	10 - 107	09/20/16 12:06	
p-Terphenyl-d14	88	50 - 134	09/20/16 12:06	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW00-091316	**Units:**	ug/L
Lab Code:	R1609731-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 12:35	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 12:35	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 12:35	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 12:35	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 12:35	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 12:35	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 12:35	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 12:35	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 12:35	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 12:35	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 12:35	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 12:35	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 12:35	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 12:35	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 12:35	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 12:35	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 12:35	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 12:35	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 12:35	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 12:35	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 12:35	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 12:35	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 12:35	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 12:35	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 12:35	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 09:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1795-SW00-091316	**Units:**	ug/L
Lab Code:	R1609731-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 12:35	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 12:35	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 12:35	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 12:35	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 12:35	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 12:35	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 12:35	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 12:35	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 12:35	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	43 - 140	09/20/16 12:35	
2-Fluorobiphenyl	73	44 - 119	09/20/16 12:35	
2-Fluorophenol	37	19 - 119	09/20/16 12:35	
Nitrobenzene-d5	72	44 - 120	09/20/16 12:35	
Phenol-d6	26	10 - 107	09/20/16 12:35	
p-Terphenyl-d14	87	50 - 134	09/20/16 12:35	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 14:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-012	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 13:02	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 13:02	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 13:02	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 13:02	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 13:02	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 13:02	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 13:02	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 13:02	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 13:02	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 13:02	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 13:02	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 13:02	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 13:02	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 13:02	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 13:02	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 13:02	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 13:02	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 13:02	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 13:02	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 13:02	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 13:02	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 13:02	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 13:02	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 13:02	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 13:02	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 14:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW04-091316	**Units:**	ug/L
Lab Code:	R1609731-012	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 13:02	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 13:02	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 13:02	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 13:02	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 13:02	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 13:02	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 13:02	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 13:02	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 13:02	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	88	43 - 140	09/20/16 13:02	
2-Fluorobiphenyl	65	44 - 119	09/20/16 13:02	
2-Fluorophenol	35	19 - 119	09/20/16 13:02	
Nitrobenzene-d5	70	44 - 120	09/20/16 13:02	
Phenol-d6	25	10 - 107	09/20/16 13:02	
p-Terphenyl-d14	67	50 - 134	09/20/16 13:02	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW01-091316	**Units:**	ug/L
Lab Code:	R1609731-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 13:30	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 13:30	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 13:30	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 13:30	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 13:30	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 13:30	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 13:30	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
2-Methylphenol	**1.0 J**	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 13:30	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 13:30	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 13:30	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 13:30	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 13:30	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 13:30	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 13:30	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 13:30	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 13:30	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 13:30	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 13:30	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 13:30	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 13:30	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 13:30	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 13:30	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 13:30	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 13:30	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 13:30	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW01-091316	**Units:**	ug/L
Lab Code:	R1609731-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 13:30	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 13:30	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 13:30	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 13:30	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 13:30	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 13:30	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 13:30	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 13:30	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Phenol	**6.0 J**	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 13:30	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	53	43 - 140	09/20/16 13:30	
2-Fluorobiphenyl	64	44 - 119	09/20/16 13:30	
2-Fluorophenol	14 *	19 - 119	09/20/16 13:30	*
Nitrobenzene-d5	71	44 - 120	09/20/16 13:30	
Phenol-d6	10	10 - 107	09/20/16 13:30	
p-Terphenyl-d14	71	50 - 134	09/20/16 13:30	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW01-091316	**Units:**	ug/L
Lab Code:	R1609731-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/26/16 10:40	9/22/16	*
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/26/16 10:40	9/22/16	*
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/26/16 10:40	9/22/16	*
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/26/16 10:40	9/22/16	*
2,4-Dinitrophenol	ND U	47	25	20	1	09/26/16 10:40	9/22/16	*
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/26/16 10:40	9/22/16	*
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/26/16 10:40	9/22/16	*
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
2-Nitroaniline	ND U	47	25	9.1	1	09/26/16 10:40	9/22/16	*
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/26/16 10:40	9/22/16	*
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/26/16 10:40	9/22/16	*
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/26/16 10:40	9/22/16	*
3-Nitroaniline	ND U	47	25	7.7	1	09/26/16 10:40	9/22/16	*
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/26/16 10:40	9/22/16	*
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/26/16 10:40	9/22/16	*
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/26/16 10:40	9/22/16	*
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/26/16 10:40	9/22/16	*
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/26/16 10:40	9/22/16	*
4-Nitroaniline	ND U	47	25	7.8	1	09/26/16 10:40	9/22/16	*
4-Nitrophenol	ND U	47	25	5.9	1	09/26/16 10:40	9/22/16	*
Acenaphthene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Anthracene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/26/16 10:40	9/22/16	*
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/26/16 10:40	9/22/16	*
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/26/16 10:40	9/22/16	*
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/26/16 10:40	9/22/16	*
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/26/16 10:40	9/22/16	*
Carbazole	ND U	9.4	5.0	1.1	1	09/26/16 10:40	9/22/16	*
Chrysene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-SW01-091316	**Units:**	ug/L
Lab Code:	R1609731-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/26/16 10:40	9/22/16	*
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/26/16 10:40	9/22/16	*
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Fluoranthene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Fluorene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/26/16 10:40	9/22/16	*
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/26/16 10:40	9/22/16	*
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/26/16 10:40	9/22/16	*
Isophorone	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/26/16 10:40	9/22/16	*
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Naphthalene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/26/16 10:40	9/22/16	*
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/26/16 10:40	9/22/16	*
Phenanthrene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Phenol	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*
Pyrene	ND U	9.4	5.0	1.0	1	09/26/16 10:40	9/22/16	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	108	43 - 140	09/26/16 10:40	
2-Fluorobiphenyl	78	44 - 119	09/26/16 10:40	
2-Fluorophenol	41	19 - 119	09/26/16 10:40	
Nitrobenzene-d5	85	44 - 120	09/26/16 10:40	
Phenol-d6	30	10 - 107	09/26/16 10:40	
p-Terphenyl-d14	87	50 - 134	09/26/16 10:40	

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1995-MWS9-091416	**Basis:**	NA
Lab Code:	R1609731-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**6.13**	mg/L	0.20	0.16	0.07	2	09/15/16 11:17	*
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/15/16 09:35	
Sulfate	300.0	**0.8 J**	mg/L	2.0	1.0	0.2	10	09/15/16 09:35	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1995-MWS10-091416	**Basis:**	NA
Lab Code:	R1609731-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**78.8**	mg/L	5.0	4.0	1.7	50	09/15/16 11:17	*
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/15/16 09:50	
Sulfate	300.0	ND U	mg/L	2.0	1.0	0.2	10	09/15/16 09:50	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 09:35
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-MWS24-091416	**Basis:**	NA
Lab Code:	R1609731-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/15/16 11:17	*
Nitrate as Nitrogen	300.0	**1.7**	mg/L	1.0	0.5	0.5	10	09/15/16 10:05	
Sulfate	300.0	**16.1**	mg/L	2.0	1.0	0.2	10	09/15/16 10:05	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 11:45
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-PZ2S-091416	**Basis:**	NA
Lab Code:	R1609731-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.49**	mg/L	0.10	0.08	0.04	1	09/15/16 11:17	
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/15/16 10:35	
Sulfate	300.0	ND U	mg/L	2.0	1.0	0.2	10	09/15/16 10:35	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 13:15
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	3805-PZ14-091416	**Basis:**	NA
Lab Code:	R1609731-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**10.0**	mg/L	0.40	0.32	0.14	4	09/15/16 11:17	
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/15/16 10:20	
Sulfate	300.0	**1.8 J**	mg/L	2.0	1.0	0.2	10	09/15/16 10:20	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 08:10
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-MWS7-091416	**Basis:**	NA
Lab Code:	R1609731-014		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/15/16 11:17	*
Nitrate as Nitrogen	300.0	**0.6 J**	mg/L	1.0	0.5	0.5	10	09/15/16 08:35	
Sulfate	300.0	**26.8**	mg/L	2.0	1.0	0.2	10	09/15/16 08:35	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 09:30
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-MW33-091416	**Basis:**	NA
Lab Code:	R1609731-015		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/15/16 11:17	*
Nitrate as Nitrogen	300.0	**1.5**	mg/L	1.0	0.5	0.5	10	09/15/16 08:20	
Sulfate	300.0	**34.6**	mg/L	2.0	1.0	0.2	10	09/15/16 08:20	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16 10:40
Sample Matrix:	Water	**Date Received:**	09/14/16 21:26
Sample Name:	1595-OBG2-091416	**Basis:**	NA
Lab Code:	R1609731-016		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**8.04**	mg/L	0.40	0.32	0.14	4	09/15/16 11:17	*
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/15/16 08:50	
Sulfate	300.0	**97**	mg/L	20	10	2	100	09/16/16 00:42	

QC Summary Forms

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609731

Project: Fort Drum, NY IRP Fall

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 114	Dibromofluoromethane 80 - 119	Toluene-d8 89 - 112
1795-OW4-091316	R1609731-001	94	102	103
1795-OW5-091316	R1609731-002	99	99	104
1795-OW3-091316	R1609731-003	98	101	103
TRIP BLANK 1	R1609731-004	96	101	103
1995-MWS9-091416	R1609731-005	98	100	103
1995-MWS10-091416	R1609731-006	98	100	104
3805-MWS24-091416	R1609731-007	98	102	104
3805-PZ2S-091416	R1609731-008	100	101	104
3805-PZ14-091416	R1609731-009	96	101	103
1795-SW04-091316	R1609731-010	96	103	104
1795-SW00-091316	R1609731-011	93	99	101
1595-SW04-091316	R1609731-012	95	99	103
1595-SW01-091316	R1609731-013	99	104	104
1595-MWS7-091416	R1609731-014	94	100	101
1595-MW33-091416	R1609731-015	92	98	100
1595-OBG2-091416	R1609731-016	96	99	102
TRIP BLANK 2	R1609731-017	94	101	101
Lab Control Sample	RQ1611257-03	100	104	103
Method Blank	RQ1611257-04	95	98	101
1595-MWS7-091416 MS	RQ1611257-05	100	104	104
1595-MWS7-091416 DMS	RQ1611257-06	97	102	104

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16
Sample Matrix:	Water	**Date Received:**	09/14/16
		Date Analyzed:	09/21/16

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	1595-MWS7-091416	**Units:**	ug/L
Lab Code:	R1609731-014	**Basis:**	NA
Analysis Method:	8260C		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1611257-05			RQ1611257-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	496	500	99	504	500	101	78-124	2	20
1,1,1-Trichloroethane (TCA)	ND U	444	500	89	437	500	87	74-131	1	20
1,1,2,2-Tetrachloroethane	ND U	515	500	103	515	500	103	71-121	<1	20
1,1,2-Trichloroethane	ND U	497	500	99	499	500	100	80-119	<1	20
1,1-Dichloroethane (1,1-DCA)	ND U	492	500	98	503	500	101	77-125	2	20
1,1-Dichloroethene (1,1-DCE)	ND U	449	500	90	451	500	90	71-131	<1	20
1,1-Dichloropropene	ND U	453	500	91	434	500	87	79-125	4	20
1,2,3-Trichlorobenzene	ND U	545	500	109	542	500	108	69-129	<1	20
1,2,3-Trichloropropane	ND U	478	500	96	484	500	97	73-122	1	20
1,2,4-Trichlorobenzene	ND U	547	500	109	559	500	112	69-130	2	20
1,2,4-Trimethylbenzene	4.4 J	479	500	95	466	500	92	76-124	3	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	512	500	102	496	500	99	62-128	3	20
1,2-Dibromoethane	ND U	522	500	104	539	500	108	77-121	3	20
1,2-Dichlorobenzene	ND U	492	500	98	484	500	97	80-119	2	20
1,2-Dichloroethane	ND U	566	500	113	568	500	114	73-128	<1	20
1,2-Dichloropropane	ND U	535	500	107	534	500	107	78-122	<1	20
1,3,5-Trimethylbenzene	ND U	477	500	95	461	500	92	75-124	3	20
1,3-Dichlorobenzene	ND U	477	500	95	470	500	94	80-119	1	20
1,3-Dichloropropane	ND U	498	500	100	510	500	102	80-119	2	20
1,4-Dichlorobenzene	ND U	482	500	96	482	500	96	79-118	<1	20
2,2-Dichloropropane	ND U	338	500	68	338	500	68	60-139	<1	20
2-Butanone (MEK)	ND U	523	500	105	469	500	94	56-143	11	20
2-Chlorotoluene	ND U	487	500	97	478	500	96	79-122	2	20
2-Hexanone	ND U	516	500	103	484	500	97	57-139	6	20
4-Chlorotoluene	ND U	474	500	95	461	500	92	78-122	3	20
4-Isopropyltoluene	ND U	477	500	95	454	500	91	77-127	5	20
4-Methyl-2-pentanone	ND U	594	500	119	543	500	109	67-130	9	20
Acetone	ND U	474	500	95	451	500	90	39-160	5	20
Benzene	ND U	504	500	101	485	500	97	79-120	4	20
Bromobenzene	ND U	494	500	99	490	500	98	80-120	<1	20
Bromochloromethane	ND U	456	500	91	468	500	94	78-123	3	20
Bromodichloromethane	ND U	460	500	92	467	500	93	79-125	1	20
Bromoform	ND U	540	500	108	548	500	110	66-130	1	20
Bromomethane	ND U	223	500	45 *	230	500	46 *	53-141	3	20
Carbon Disulfide	ND U	434	500	87	391	500	78	64-133	10	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16
Sample Matrix:	Water	**Date Received:**	09/14/16
		Date Analyzed:	09/21/16

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	1595-MWS7-091416	**Units:**	ug/L
Lab Code:	R1609731-014	**Basis:**	NA
Analysis Method:	8260C		

		Matrix Spike RQ1611257-05			Duplicate Matrix Spike RQ1611257-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	466	500	93	452	500	90	72-136	3	20
Chlorobenzene	ND U	490	500	98	480	500	96	82-118	2	20
Chloroethane	ND U	520	500	104	508	500	102	60-138	2	20
Chloroform	ND U	460	500	92	467	500	93	79-124	2	20
Chloromethane	ND U	421	500	84	386	500	77	50-139	9	20
Dibromochloromethane	ND U	513	500	103	523	500	105	74-126	2	20
Dibromomethane	ND U	511	500	102	495	500	99	79-123	3	20
Dichlorodifluoromethane (CFC 12)	ND U	456	500	91	440	500	88	32-152	4	20
Dichloromethane	ND U	446	500	89	443	500	89	74-124	<1	20
Ethylbenzene	ND U	482	500	96	456	500	91	79-121	6	20
Hexachlorobutadiene	ND U	450	500	90	445	500	89	66-134	1	20
Isopropylbenzene (Cumene)	ND U	494	500	99	468	500	94	72-131	6	20
Naphthalene	4.8 J	560	500	111	537	500	106	61-128	4	20
Styrene	ND U	495	500	99	491	500	98	78-123	<1	20
Tetrachloroethene (PCE)	ND U	498	500	100	469	500	94	74-129	6	20
Toluene	ND U	492	500	98	471	500	94	80-121	4	20
Trichloroethene (TCE)	ND U	471	500	94	449	500	90	79-123	5	20
Trichlorofluoromethane (CFC 11)	ND U	465	500	93	450	500	90	65-141	3	20
Vinyl Chloride	ND U	575	500	115	563	500	113	58-137	2	20
cis-1,2-Dichloroethene	ND U	455	500	91	476	500	95	78-123	4	20
cis-1,3-Dichloropropene	ND U	453	500	91	459	500	92	75-124	1	20
m,p-Xylenes	7.5 J	971	1000	96	924	1000	92	80-121	5	20
n-Butylbenzene	ND U	476	500	95	458	500	92	75-128	4	20
n-Propylbenzene	ND U	488	500	98	472	500	94	76-126	3	20
o-Xylene	2.3 J	494	500	98	481	500	96	78-122	2	20
sec-Butylbenzene	ND U	478	500	96	453	500	91	77-126	5	20
tert-Butylbenzene	ND U	487	500	97	476	500	95	78-124	2	20
trans-1,2-Dichloroethene	ND U	427	500	85	439	500	88	75-124	3	20
trans-1,3-Dichloropropene	ND U	453	500	91	456	500	91	73-127	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611257-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 11:29	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 11:29	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 11:29	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 11:29	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 11:29	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 11:29	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 11:29	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 11:29	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 11:29	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 11:29	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 11:29	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 11:29	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 11:29	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 11:29	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 11:29	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 11:29	
Acetone	ND U	10	5.0	1.3	1	09/21/16 11:29	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 11:29	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 11:29	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 11:29	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 11:29	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 11:29	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 11:29	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 11:29	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 11:29	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611257-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 11:29	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 11:29	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 11:29	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 11:29	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 11:29	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
m,p-Xylenes	**0.60 J**	5.0	2.0	0.33	1	09/21/16 11:29	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 11:29	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 11:29	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 11:29	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/21/16 11:29	
Dibromofluoromethane	98	80 - 119	09/21/16 11:29	
Toluene-d8	101	89 - 112	09/21/16 11:29	

Client: ARCADIS U.S., Inc. **Service Request:** R1609731
Project: Fort Drum, NY IRP Fall **Date Analyzed:** 09/21/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611257-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	19.7	20.0	99	78-124
1,1,1-Trichloroethane (TCA)	8260C	18.1	20.0	90	74-131
1,1,2,2-Tetrachloroethane	8260C	20.9	20.0	105	71-121
1,1,2-Trichloroethane	8260C	21.2	20.0	106	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	20.1	20.0	101	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	17.8	20.0	89	71-131
1,1-Dichloropropene	8260C	18.6	20.0	93	79-125
1,2,3-Trichlorobenzene	8260C	23.4	20.0	117	69-129
1,2,3-Trichloropropane	8260C	20.4	20.0	102	73-122
1,2,4-Trichlorobenzene	8260C	23.8	20.0	119	69-130
1,2,4-Trimethylbenzene	8260C	20.6	20.0	103	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.8	20.0	89	62-128
1,2-Dibromoethane	8260C	21.3	20.0	107	77-121
1,2-Dichlorobenzene	8260C	21.4	20.0	107	80-119
1,2-Dichloroethane	8260C	23.0	20.0	115	73-128
1,2-Dichloropropane	8260C	21.6	20.0	108	78-122
1,3,5-Trimethylbenzene	8260C	20.3	20.0	102	75-124
1,3-Dichlorobenzene	8260C	21.4	20.0	107	80-119
1,3-Dichloropropane	8260C	20.2	20.0	101	80-119
1,4-Dichlorobenzene	8260C	21.2	20.0	106	79-118
2,2-Dichloropropane	8260C	17.8	20.0	89	60-139
2-Butanone (MEK)	8260C	19.0	20.0	95	56-143
2-Chlorotoluene	8260C	21.0	20.0	105	79-122
2-Hexanone	8260C	19.1	20.0	95	57-139
4-Chlorotoluene	8260C	20.4	20.0	102	78-122
4-Isopropyltoluene	8260C	19.9	20.0	99	77-127
4-Methyl-2-pentanone	8260C	20.6	20.0	103	67-130
Acetone	8260C	19.6	20.0	98	39-160
Benzene	8260C	20.5	20.0	103	79-120
Bromobenzene	8260C	21.6	20.0	108	80-120
Bromochloromethane	8260C	19.1	20.0	95	78-123
Bromodichloromethane	8260C	19.2	20.0	96	79-125
Bromoform	8260C	21.7	20.0	109	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609731
Date Analyzed: 09/21/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611257-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	14.1	20.0	70	53-141
Carbon Disulfide	8260C	17.1	20.0	85	64-133
Carbon Tetrachloride	8260C	19.0	20.0	95	72-136
Chlorobenzene	8260C	20.6	20.0	103	82-118
Chloroethane	8260C	20.5	20.0	102	60-138
Chloroform	8260C	19.4	20.0	97	79-124
Chloromethane	8260C	18.2	20.0	91	50-139
Dibromochloromethane	8260C	20.6	20.0	103	74-126
Dibromomethane	8260C	20.0	20.0	100	79-123
Dichlorodifluoromethane (CFC 12)	8260C	19.1	20.0	96	32-152
Dichloromethane	8260C	18.5	20.0	92	74-124
Ethylbenzene	8260C	19.4	20.0	97	79-121
Hexachlorobutadiene	8260C	20.4	20.0	102	66-134
Isopropylbenzene (Cumene)	8260C	20.0	20.0	100	72-131
Naphthalene	8260C	21.6	20.0	108	61-128
Styrene	8260C	20.9	20.0	104	78-123
Tetrachloroethene (PCE)	8260C	20.8	20.0	104	74-129
Toluene	8260C	20.3	20.0	101	80-121
Trichloroethene (TCE)	8260C	19.8	20.0	99	79-123
Trichlorofluoromethane (CFC 11)	8260C	18.8	20.0	94	65-141
Vinyl Chloride	8260C	22.9	20.0	115	58-137
cis-1,2-Dichloroethene	8260C	19.6	20.0	98	78-123
cis-1,3-Dichloropropene	8260C	19.8	20.0	99	75-124
m,p-Xylenes	8260C	40.6	40.0	102	80-121
n-Butylbenzene	8260C	21.1	20.0	105	75-128
n-Propylbenzene	8260C	20.5	20.0	102	76-126
o-Xylene	8260C	21.0	20.0	105	78-122
sec-Butylbenzene	8260C	20.0	20.0	100	77-126
tert-Butylbenzene	8260C	20.2	20.0	101	78-124
trans-1,2-Dichloroethene	8260C	17.5	20.0	88	75-124
trans-1,3-Dichloropropene	8260C	19.2	20.0	96	73-127

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609731

Project: Fort Drum, NY IRP Fall

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D

Extraction Method: EPA 3510C

Sample Name	Lab Code	2,4,6-Tribromophenol 43 - 140	2-Fluorobiphenyl 44 - 119	2-Fluorophenol 19 - 119
1795-SW04-091316	R1609731-010	95	72	35
1795-SW00-091316	R1609731-011	94	73	37
1595-SW04-091316	R1609731-012	88	65	35
1595-SW01-091316	R1609731-013	53	64	14 *
1595-SW01-091316 RE	R1609731-013	108	78	41
Method Blank	RQ1610987-01	94	73	38
Lab Control Sample	RQ1610987-02	88	77	43
Duplicate Lab Control Sample	RQ1610987-03	91	80	45
Continuing Cal. Verification CCVA	RQ1611163-03			
Method Blank	RQ1611235-01	94	69	38
Lab Control Sample	RQ1611235-02	98	82	41
Duplicate Lab Control Sample	RQ1611235-03	98	82	41
Continuing Cal. Verification CCVA	RQ1611444-04			

Client: ARCADIS U.S., Inc. **Service Request:** R1609731
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	Nitrobenzene-d5 44 - 120	Phenol-d6 10 - 107	p-Terphenyl-d14 50 - 134
1795-SW04-091316	R1609731-010	71	24	88
1795-SW00-091316	R1609731-011	72	26	87
1595-SW04-091316	R1609731-012	70	25	67
1595-SW01-091316	R1609731-013	71	10	71
1595-SW01-091316	R1609731-013	85	30	87
Method Blank	RQ1610987-01	75	28	91
Lab Control Sample	RQ1610987-02	77	32	89
Duplicate Lab Control Sample	RQ1610987-03	80	34	89
Continuing Cal. Verification	RQ1611163-03			
Method Blank	RQ1611235-01	76	26	100
Lab Control Sample	RQ1611235-02	82	30	96
Duplicate Lab Control Sample	RQ1611235-03	85	30	94
Continuing Cal. Verification	RQ1611444-04			

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610987-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
1,2-Dichlorobenzene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
1,3-Dichlorobenzene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
1,4-Dichlorobenzene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2,4,5-Trichlorophenol	ND	U	10	5.0	1.8	1	09/20/16 10:42	9/16/16	
2,4,6-Trichlorophenol	ND	U	10	5.0	1.4	1	09/20/16 10:42	9/16/16	
2,4-Dichlorophenol	ND	U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
2,4-Dimethylphenol	ND	U	10	5.0	1.5	1	09/20/16 10:42	9/16/16	
2,4-Dinitrophenol	ND	U	50	25	20	1	09/20/16 10:42	9/16/16	
2,4-Dinitrotoluene	ND	U	10	5.0	1.6	1	09/20/16 10:42	9/16/16	
2,6-Dinitrotoluene	ND	U	10	5.0	1.8	1	09/20/16 10:42	9/16/16	
2-Chloronaphthalene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Chlorophenol	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Methylnaphthalene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Methylphenol	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Nitroaniline	ND	U	50	25	9.1	1	09/20/16 10:42	9/16/16	
2-Nitrophenol	ND	U	10	5.0	1.4	1	09/20/16 10:42	9/16/16	
3,3'-Dichlorobenzidine	ND	U	10	5.0	4.5	1	09/20/16 10:42	9/16/16	
3- and 4-Methylphenol Coelution	ND	U	20	10	2.0	1	09/20/16 10:42	9/16/16	
3-Nitroaniline	ND	U	50	25	7.7	1	09/20/16 10:42	9/16/16	
4,6-Dinitro-2-methylphenol	ND	U	50	25	11	1	09/20/16 10:42	9/16/16	
4-Bromophenyl Phenyl Ether	ND	U	10	5.0	2.2	1	09/20/16 10:42	9/16/16	
4-Chloro-3-methylphenol	ND	U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
4-Chloroaniline	ND	U	10	5.0	1.5	1	09/20/16 10:42	9/16/16	
4-Chlorophenyl Phenyl Ether	ND	U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
4-Nitroaniline	ND	U	50	25	7.8	1	09/20/16 10:42	9/16/16	
4-Nitrophenol	ND	U	50	25	5.9	1	09/20/16 10:42	9/16/16	
Acenaphthene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Acenaphthylene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Anthracene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benz(a)anthracene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(a)pyrene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(b)fluoranthene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(g,h,i)perylene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(k)fluoranthene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzyl Alcohol	ND	U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Bis(2-chloroethoxy)methane	ND	U	10	5.0	2.2	1	09/20/16 10:42	9/16/16	
Bis(2-chloroethyl) Ether	ND	U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND	U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Butyl Benzyl Phthalate	ND	U	10	5.0	2.4	1	09/20/16 10:42	9/16/16	
Carbazole	ND	U	10	5.0	1.1	1	09/20/16 10:42	9/16/16	
Chrysene	ND	U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610987-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Di-n-octyl Phthalate	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Dibenz(a,h)anthracene	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
Dibenzofuran	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Diethyl Phthalate	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Dimethyl Phthalate	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Fluoranthene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Fluorene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Hexachlorobenzene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Hexachlorobutadiene	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
Hexachloroethane	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Isophorone	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
N-Nitrosodi-n-propylamine	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
N-Nitrosodimethylamine	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
N-Nitrosodiphenylamine	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Naphthalene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Nitrobenzene	ND U	10	5.0	1.6	1	09/20/16 10:42	9/16/16	
Pentachlorophenol (PCP)	ND U	50	25	6.9	1	09/20/16 10:42	9/16/16	
Phenanthrene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Phenol	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Pyrene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	43 - 140	09/20/16 10:42	
2-Fluorobiphenyl	73	44 - 119	09/20/16 10:42	
2-Fluorophenol	38	19 - 119	09/20/16 10:42	
Nitrobenzene-d5	75	44 - 120	09/20/16 10:42	
Phenol-d6	28	10 - 107	09/20/16 10:42	
p-Terphenyl-d14	91	50 - 134	09/20/16 10:42	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611235-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
1,2-Dichlorobenzene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
1,3-Dichlorobenzene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
1,4-Dichlorobenzene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
2,4,5-Trichlorophenol	ND U	10	5.0	1.8	1	09/26/16 09:16	9/22/16	
2,4,6-Trichlorophenol	ND U	10	5.0	1.4	1	09/26/16 09:16	9/22/16	
2,4-Dichlorophenol	ND U	10	5.0	1.3	1	09/26/16 09:16	9/22/16	
2,4-Dimethylphenol	ND U	10	5.0	1.5	1	09/26/16 09:16	9/22/16	
2,4-Dinitrophenol	ND U	50	25	20	1	09/26/16 09:16	9/22/16	
2,4-Dinitrotoluene	ND U	10	5.0	1.6	1	09/26/16 09:16	9/22/16	
2,6-Dinitrotoluene	ND U	10	5.0	1.8	1	09/26/16 09:16	9/22/16	
2-Chloronaphthalene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
2-Chlorophenol	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
2-Methylnaphthalene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
2-Methylphenol	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
2-Nitroaniline	ND U	50	25	9.1	1	09/26/16 09:16	9/22/16	
2-Nitrophenol	ND U	10	5.0	1.4	1	09/26/16 09:16	9/22/16	
3,3'-Dichlorobenzidine	ND U	10	5.0	4.5	1	09/26/16 09:16	9/22/16	
3- and 4-Methylphenol Coelution	ND U	20	10	2.0	1	09/26/16 09:16	9/22/16	
3-Nitroaniline	ND U	50	25	7.7	1	09/26/16 09:16	9/22/16	
4,6-Dinitro-2-methylphenol	ND U	50	25	11	1	09/26/16 09:16	9/22/16	
4-Bromophenyl Phenyl Ether	ND U	10	5.0	2.2	1	09/26/16 09:16	9/22/16	
4-Chloro-3-methylphenol	ND U	10	5.0	1.2	1	09/26/16 09:16	9/22/16	
4-Chloroaniline	ND U	10	5.0	1.5	1	09/26/16 09:16	9/22/16	
4-Chlorophenyl Phenyl Ether	ND U	10	5.0	1.2	1	09/26/16 09:16	9/22/16	
4-Nitroaniline	ND U	50	25	7.8	1	09/26/16 09:16	9/22/16	
4-Nitrophenol	ND U	50	25	5.9	1	09/26/16 09:16	9/22/16	
Acenaphthene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Acenaphthylene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Anthracene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Benz(a)anthracene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Benzo(a)pyrene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Benzo(b)fluoranthene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Benzo(g,h,i)perylene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Benzo(k)fluoranthene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Benzyl Alcohol	ND U	10	5.0	1.3	1	09/26/16 09:16	9/22/16	
2,2'-Oxybis(1-chloropropane)	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Bis(2-chloroethoxy)methane	ND U	10	5.0	2.2	1	09/26/16 09:16	9/22/16	
Bis(2-chloroethyl) Ether	ND U	10	5.0	1.3	1	09/26/16 09:16	9/22/16	
Bis(2-ethylhexyl) Phthalate	ND U	10	5.0	1.2	1	09/26/16 09:16	9/22/16	
Butyl Benzyl Phthalate	ND U	10	5.0	2.4	1	09/26/16 09:16	9/22/16	
Carbazole	ND U	10	5.0	1.1	1	09/26/16 09:16	9/22/16	
Chrysene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611235-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Di-n-octyl Phthalate	ND U	10	5.0	1.2	1	09/26/16 09:16	9/22/16	
Dibenz(a,h)anthracene	ND U	10	5.0	1.3	1	09/26/16 09:16	9/22/16	
Dibenzofuran	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Diethyl Phthalate	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Dimethyl Phthalate	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Fluoranthene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Fluorene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Hexachlorobenzene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Hexachlorobutadiene	ND U	10	5.0	1.3	1	09/26/16 09:16	9/22/16	
Hexachloroethane	ND U	10	5.0	1.2	1	09/26/16 09:16	9/22/16	
Indeno(1,2,3-cd)pyrene	ND U	10	5.0	1.2	1	09/26/16 09:16	9/22/16	
Isophorone	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
N-Nitrosodi-n-propylamine	ND U	10	5.0	1.3	1	09/26/16 09:16	9/22/16	
N-Nitrosodimethylamine	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
N-Nitrosodiphenylamine	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Naphthalene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Nitrobenzene	ND U	10	5.0	1.6	1	09/26/16 09:16	9/22/16	
Pentachlorophenol (PCP)	ND U	50	25	6.9	1	09/26/16 09:16	9/22/16	
Phenanthrene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Phenol	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	
Pyrene	ND U	10	5.0	1.0	1	09/26/16 09:16	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	43 - 140	09/26/16 09:16	
2-Fluorobiphenyl	69	44 - 119	09/26/16 09:16	
2-Fluorophenol	38	19 - 119	09/26/16 09:16	
Nitrobenzene-d5	76	44 - 120	09/26/16 09:16	
Phenol-d6	26	10 - 107	09/26/16 09:16	
p-Terphenyl-d14	100	50 - 134	09/26/16 09:16	

Client: ARCADIS U.S., Inc. **Service Request:** R1609731
Project: Fort Drum, NY IRP Fall **Date Analyzed:** 09/20/16
Sample Matrix: Water

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610987-02			RQ1610987-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	67.3	100	67	72.4	100	72	29-116	7	20
1,2-Dichlorobenzene	8270D	65.1	100	65	71.1	100	71	32-111	9	20
1,3-Dichlorobenzene	8270D	62.1	100	62	68.6	100	69	28-110	10	20
1,4-Dichlorobenzene	8270D	63.9	100	64	69.7	100	70	29-112	9	20
2,4,5-Trichlorophenol	8270D	96.9	100	97	99.6	100	100	53-123	3	20
2,4,6-Trichlorophenol	8270D	94.9	100	95	100	100	100	50-125	6	20
2,4-Dichlorophenol	8270D	112	100	112	113	100	113	47-121	<1	20
2,4-Dimethylphenol	8270D	98.2	100	98	102	100	102	31-124	4	20
2,4-Dinitrophenol	8270D	126	100	126	127	100	127	23-143	<1	20
2,4-Dinitrotoluene	8270D	97.3	100	97	102	100	102	57-128	5	20
2,6-Dinitrotoluene	8270D	99.3	100	99	107	100	107	57-124	7	20
2-Chloronaphthalene	8270D	82.3	100	82	86.7	100	87	40-116	5	20
2-Chlorophenol	8270D	83.2	100	83	90.1	100	90	38-117	8	20
2-Methylnaphthalene	8270D	77.4	100	77	80.7	100	81	40-121	4	20
2-Methylphenol	8270D	78.9	100	79	84.0	100	84	30-117	6	20
2-Nitroaniline	8270D	96.9	100	97	99.4	100	99	55-127	3	20
2-Nitrophenol	8270D	99.6	100	100	102	100	102	47-123	2	20
3,3'-Dichlorobenzidine	8270D	81.6	100	82	87.4	100	87	27-129	7	20
3- and 4-Methylphenol Coelution	8270D	67.0	100	67	71.3	100	71	29-110	6	20
3-Nitroaniline	8270D	75.5	100	75	81.9	100	82	41-128	8	20
4,6-Dinitro-2-methylphenol	8270D	115	100	115	126	100	126	44-137	9	20
4-Bromophenyl Phenyl Ether	8270D	92.5	100	92	97.0	100	97	55-124	5	20
4-Chloro-3-methylphenol	8270D	101	100	101	103	100	103	52-119	2	20
4-Chloroaniline	8270D	89.6	100	90	95.6	100	96	33-117	6	20
4-Chlorophenyl Phenyl Ether	8270D	89.3	100	89	92.2	100	92	53-121	3	20
Acenaphthene	8270D	84.9	100	85	88.9	100	89	47-122	5	20
Acenaphthylene	8270D	83.5	100	83	87.9	100	88	41-130	5	20
Anthracene	8270D	102	100	102	105	100	105	57-123	3	20
Benz(a)anthracene	8270D	99.8	100	100	101	100	101	58-125	<1	20
Benzo(a)pyrene	8270D	104	100	104	105	100	105	54-128	1	20
Benzo(b)fluoranthene	8270D	97.8	100	98	97.8	100	98	53-131	<1	20
Benzo(g,h,i)perylene	8270D	104	100	104	107	100	107	50-134	3	20
Benzo(k)fluoranthene	8270D	102	100	102	104	100	104	57-129	2	20

Client: ARCADIS U.S., Inc. **Service Request:** R1609731
Project: Fort Drum, NY IRP Fall **Date Analyzed:** 09/20/16
Sample Matrix: Water

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610987-02			RQ1610987-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	8270D	87.8	100	88	95.2	100	95	31-112	8	20
Bis(2-chloroethoxy)methane	8270D	93.3	100	93	96.8	100	97	48-120	4	20
Bis(2-chloroethyl) Ether	8270D	82.4	100	82	90.1	100	90	43-118	9	20
Bis(2-ethylhexyl) Phthalate	8270D	105	100	105	104	100	104	55-135	<1	20
Butyl Benzyl Phthalate	8270D	99.3	100	99	99.7	100	100	53-134	<1	20
Carbazole	8270D	94.7	100	95	104	100	104	60-122	9	20
Chrysene	8270D	101	100	101	102	100	102	59-123	<1	20
Di-n-butyl Phthalate	8270D	110	100	110	118	100	118	59-127	7	20
Di-n-octyl Phthalate	8270D	109	100	109	111	100	111	51-140	2	20
Dibenz(a,h)anthracene	8270D	98.8	100	99	99.4	100	99	51-134	<1	20
Dibenzofuran	8270D	86.4	100	86	90.7	100	91	53-118	5	20
Diethyl Phthalate	8270D	97.1	100	97	100	100	100	56-125	3	20
Dimethyl Phthalate	8270D	96.0	100	96	98.5	100	99	45-127	3	20
Fluoranthene	8270D	104	100	104	112	100	112	57-128	7	20
Fluorene	8270D	90.9	100	91	93.0	100	93	52-124	2	20
Hexachlorobenzene	8270D	97.7	100	98	105	100	105	53-125	7	20
Hexachlorobutadiene	8270D	75.3	100	75	80.0	100	80	22-124	6	20
Hexachloroethane	8270D	58.3	100	58	66.4	100	66	21-115	13	20
Indeno(1,2,3-cd)pyrene	8270D	97.5	100	98	96.6	100	97	52-134	<1	20
Isophorone	8270D	98.8	100	99	102	100	102	42-124	3	20
N-Nitrosodi-n-propylamine	8270D	79.2	100	79	86.4	100	86	49-119	9	20
N-Nitrosodimethylamine	8270D	44.5	100	45	48.2	100	48	23-120	8	20
N-Nitrosodiphenylamine	8270D	93.3	100	93	97.6	100	98	51-123	5	20
Naphthalene	8270D	77.3	100	77	82.2	100	82	40-121	6	20
Nitrobenzene	8270D	92.5	100	92	96.4	100	96	45-121	4	20
Pentachlorophenol (PCP)	8270D	143	100	143 *	144	100	144 *	35-138	<1	20
Phenanthrene	8270D	97.3	100	97	105	100	105	59-120	8	20
Phenol	8270D	35.3	100	35	38.5	100	38	34-121	9	20
Pyrene	8270D	97.5	100	98	99.5	100	100	57-126	2	20

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609731
Date Analyzed: 09/26/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611235-02			RQ1611235-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	69.7	100	70	73.2	100	73	29-116	5	20
1,2-Dichlorobenzene	8270D	70.7	100	71	70.4	100	70	32-111	<1	20
1,3-Dichlorobenzene	8270D	69.1	100	69	69.8	100	70	28-110	1	20
1,4-Dichlorobenzene	8270D	69.7	100	70	71.7	100	72	29-112	3	20
2,4,5-Trichlorophenol	8270D	101	100	101	106	100	106	53-123	5	20
2,4,6-Trichlorophenol	8270D	99.0	100	99	102	100	102	50-125	3	20
2,4-Dichlorophenol	8270D	94.2	100	94	99.8	100	100	47-121	6	20
2,4-Dimethylphenol	8270D	97.2	100	97	104	100	104	31-124	7	20
2,4-Dinitrophenol	8270D	139	100	139	147	100	147 *	23-143	6	20
2,4-Dinitrotoluene	8270D	101	100	101	104	100	104	57-128	2	20
2,6-Dinitrotoluene	8270D	107	100	107	109	100	109	57-124	2	20
2-Chloronaphthalene	8270D	77.2	100	77	80.6	100	81	40-116	4	20
2-Chlorophenol	8270D	85.0	100	85	84.7	100	85	38-117	<1	20
2-Methylnaphthalene	8270D	77.3	100	77	80.5	100	81	40-121	4	20
2-Methylphenol	8270D	76.5	100	77	76.0	100	76	30-117	<1	20
2-Nitroaniline	8270D	99.5	100	100	107	100	107	55-127	7	20
2-Nitrophenol	8270D	98.2	100	98	105	100	105	47-123	6	20
3,3'-Dichlorobenzidine	8270D	94.4	100	94	89.2	100	89	27-129	6	20
3- and 4-Methylphenol Coelution	8270D	63.1	100	63	64.4	100	64	29-110	2	20
3-Nitroaniline	8270D	83.5	100	84	87.4	100	87	41-128	5	20
4,6-Dinitro-2-methylphenol	8270D	123	100	123	123	100	123	44-137	<1	20
4-Bromophenyl Phenyl Ether	8270D	94.3	100	94	98.0	100	98	55-124	4	20
4-Chloro-3-methylphenol	8270D	102	100	102	104	100	104	52-119	2	20
4-Chloroaniline	8270D	88.6	100	89	92.3	100	92	33-117	4	20
4-Chlorophenyl Phenyl Ether	8270D	89.3	100	89	94.3	100	94	53-121	5	20
Acenaphthene	8270D	86.3	100	86	88.9	100	89	47-122	3	20
Acenaphthylene	8270D	85.5	100	85	88.3	100	88	41-130	3	20
Anthracene	8270D	107	100	107	109	100	109	57-123	2	20
Benz(a)anthracene	8270D	103	100	103	102	100	102	58-125	1	20
Benzo(a)pyrene	8270D	107	100	107	109	100	109	54-128	1	20
Benzo(b)fluoranthene	8270D	96.5	100	97	101	100	101	53-131	4	20
Benzo(g,h,i)perylene	8270D	103	100	103	104	100	104	50-134	1	20
Benzo(k)fluoranthene	8270D	107	100	107	106	100	106	57-129	<1	20

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609731
Date Analyzed: 09/26/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611235-02			RQ1611235-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	8270D	89.8	100	90	88.8	100	89	31-112	1	20
Bis(2-chloroethoxy)methane	8270D	95.0	100	95	97.6	100	98	48-120	3	20
Bis(2-chloroethyl) Ether	8270D	85.4	100	85	86.5	100	87	43-118	1	20
Bis(2-ethylhexyl) Phthalate	8270D	110	100	110	111	100	111	55-135	1	20
Butyl Benzyl Phthalate	8270D	104	100	104	104	100	104	53-134	<1	20
Carbazole	8270D	99.6	100	100	100	100	100	60-122	<1	20
Chrysene	8270D	101	100	101	103	100	103	59-123	1	20
Di-n-butyl Phthalate	8270D	120	100	120	121	100	121	59-127	1	20
Di-n-octyl Phthalate	8270D	116	100	116	117	100	117	51-140	<1	20
Dibenz(a,h)anthracene	8270D	86.6	100	87	86.8	100	87	51-134	<1	20
Dibenzofuran	8270D	85.6	100	86	89.3	100	89	53-118	4	20
Diethyl Phthalate	8270D	107	100	107	108	100	108	56-125	2	20
Dimethyl Phthalate	8270D	103	100	103	107	100	107	45-127	4	20
Fluoranthene	8270D	108	100	108	110	100	110	57-128	2	20
Fluorene	8270D	91.3	100	91	93.8	100	94	52-124	3	20
Hexachlorobenzene	8270D	104	100	104	107	100	107	53-125	3	20
Hexachlorobutadiene	8270D	77.2	100	77	81.3	100	81	22-124	5	20
Hexachloroethane	8270D	67.3	100	67	70.2	100	70	21-115	4	20
Indeno(1,2,3-cd)pyrene	8270D	106	100	106	109	100	109	52-134	2	20
Isophorone	8270D	98.3	100	98	102	100	102	42-124	3	20
N-Nitrosodi-n-propylamine	8270D	83.7	100	84	84.3	100	84	49-119	<1	20
N-Nitrosodimethylamine	8270D	44.6	100	45	45.6	100	46	23-120	2	20
N-Nitrosodiphenylamine	8270D	96.8	100	97	101	100	101	51-123	4	20
Naphthalene	8270D	75.1	100	75	78.7	100	79	40-121	5	20
Nitrobenzene	8270D	96.3	100	96	102	100	102	45-121	6	20
Pentachlorophenol (PCP)	8270D	160 E	100	160 *	162 E	100	162 *	35-138	<1	20
Phenanthrene	8270D	101	100	101	106	100	106	59-120	5	20
Phenol	8270D	38.2	100	38	36.7	100	37	34-121	4	20
Pyrene	8270D	106	100	106	102	100	102	57-126	3	20

General Chemistry

ALS Environmental—Rochester Laboratory
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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609731-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/15/16 11:17	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	0.05	0.05	1	09/15/16 06:19	
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/15/16 06:19	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609731-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/15/16 22:57	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16
Sample Matrix:	Water	**Date Received:**	09/14/16
		Date Analyzed:	09/15/16

Matrix Spike Summary
Iron, Divalent (Ferrous Iron)

Sample Name:	3805-PZ2S-091416	**Units:**	mg/L
Lab Code:	R1609731-008	**Basis:**	NA
Analysis Method:	SM 3500-Fe B.4.c		

Matrix Spike
R1609731-008MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	0.49	0.86	0.40	92	67-129

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609731
Project	Fort Drum, NY IRP Fall	**Date Collected:**	09/14/16
Sample Matrix:	Water	**Date Received:**	09/14/16
		Date Analyzed:	09/15/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	3805-PZ2S-091416	**Units:**	mg/L
Lab Code:	R1609731-008	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609731-008DUP Result	Average	RPD	RPD Limit
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.10	0.08	0.04	0.49	0.48	0.485	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609731
Date Analyzed: 09/15/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609731-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.38	0.40	94	67-129
Nitrate as Nitrogen	300.0	1.05	1.00	105	90-110
Sulfate	300.0	2.00	2.00	100	90-110

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609731
Date Analyzed: 09/16/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609731-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	1.97	2.00	98	90-110

Subcontracted Analytical Parameters

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September 30, 2016

Ms. Janice Jaeger
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	**R1609731**	Workorder:	**2176214**
Purchase Order:		Workorder ID:	**R1609731**

Dear Ms. Jaeger:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, September 20, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vicki A. Forney (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Ellen Smith , Reports and Invoices

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

ALS Environmental

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SAMPLE SUMMARY

Workorder: 2176214 R1609731

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2176214001	1795-SW04-091316	Ground Water	9/13/2016 09:00	9/20/2016 09:33	Collected by Client
2176214002	1795-SW00-091316	Ground Water	9/13/2016 09:30	9/20/2016 09:33	Collected by Client
2176214003	1595-SW04-091316	Ground Water	9/13/2016 14:30	9/20/2016 09:33	Collected by Client
2176214004	1595-SW01-091316	Ground Water	9/13/2016 15:00	9/20/2016 09:33	Collected by Client

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2176214 R1609731

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 2176214 R1609731

Lab ID: **2176214001** Date Collected: 9/13/2016 09:00 Matrix: Ground Water

Sample ID: **1795-SW04-091316** Date Received: 9/20/2016 09:33

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Hardness	207		mg/L	0.73	0.49	0.24	SW846 6010C	9/27/16	JPS	9/30/16 14:35	SRT	B1
Calcium, Total	74.2		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:35	SRT	B1
Iron, Total	0.23		mg/L	0.067	0.045	0.022	SW846 6010C	9/27/16	JPS	9/30/16 14:35	SRT	B1
Lead, Total	0.0045U	U	mg/L	0.0067	0.0045	0.0022	SW846 6010C	9/27/16	JPS	9/30/16 14:35	SRT	B1
Magnesium, Total	5.2		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:35	SRT	B1

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2176214 R1609731

Lab ID: **2176214002** Date Collected: 9/13/2016 09:30 Matrix: Ground Water

Sample ID: **1795-SW00-091316** Date Received: 9/20/2016 09:33

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Hardness	193		mg/L	0.73	0.49	0.24	SW846 6010C	9/27/16	JPS	9/30/16 14:39	SRT	B1
Calcium, Total	69.1		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:39	SRT	B1
Iron, Total	0.045U	U	mg/L	0.067	0.045	0.022	SW846 6010C	9/27/16	JPS	9/30/16 14:39	SRT	B1
Lead, Total	0.0045U	U	mg/L	0.0067	0.0045	0.0022	SW846 6010C	9/27/16	JPS	9/30/16 14:39	SRT	B1
Magnesium, Total	4.9		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:39	SRT	B1

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2176214 R1609731

Lab ID: **2176214003** Date Collected: 9/13/2016 14:30 Matrix: Ground Water

Sample ID: **1595-SW04-091316** Date Received: 9/20/2016 09:33

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Hardness	183		mg/L	0.73	0.49	0.24	SW846 6010C	9/27/16	JPS	9/30/16 14:43	SRT	B1
Calcium, Total	64.4		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:43	SRT	B1
Iron, Total	19.4		mg/L	0.067	0.045	0.022	SW846 6010C	9/27/16	JPS	9/30/16 14:43	SRT	B1
Lead, Total	0.052		mg/L	0.0067	0.0045	0.0022	SW846 6010C	9/27/16	JPS	9/30/16 14:43	SRT	B1
Magnesium, Total	5.3		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:43	SRT	B1

Vicki Forney

Mrs. Vicki A. Forney
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ANALYTICAL RESULTS

Workorder: 2176214 R1609731

Lab ID: **2176214004** Date Collected: 9/13/2016 15:00 Matrix: Ground Water

Sample ID: **1595-SW01-091316** Date Received: 9/20/2016 09:33

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	*Cntr*
METALS												
Hardness	126		mg/L	0.73	0.49	0.24	SW846 6010C	9/27/16	JPS	9/30/16 14:50	SRT	B1
Calcium, Total	45.2		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:50	SRT	B1
Iron, Total	41.5		mg/L	0.067	0.045	0.022	SW846 6010C	9/27/16	JPS	9/30/16 14:50	SRT	B1
Lead, Total	0.011		mg/L	0.0067	0.0045	0.0022	SW846 6010C	9/27/16	JPS	9/30/16 14:50	SRT	B1
Magnesium, Total	3.2		mg/L	0.11	0.073	0.036	SW846 6010C	9/27/16	JPS	9/30/16 14:50	SRT	B1

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

QUALITY CONTROL DATA

Workorder: 2176214 R1609731

QC Batch: MDIG/59898 **Analysis Method:** SW846 6010C

QC Batch Method: SW846 3015

Associated Lab Samples: 2176214001, 2176214002, 2176214003, 2176214004

METHOD BLANK: 2414406

Parameter	Blank Result	Units	Reporting Limit
Hardness	0.49U	mg/L	0.73
Calcium, Total	0.057J	mg/L	0.11
Iron, Total	0.028J	mg/L	0.067
Lead, Total	0.0045U	mg/L	0.0067
Magnesium, Total	0.073U	mg/L	0.11

LABORATORY CONTROL SAMPLE: 2414407

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hardness	99.7	mg/L	7.4	7.3	
Calcium, Total	100	mg/L	1.1	1.1	87 - 113
Iron, Total	102	mg/L	1.1	1.1	87 - 115
Lead, Total	106	mg/L	.11	0.12	86 - 113
Magnesium, Total	99.1	mg/L	1.1	1.1	85 - 113

LABORATORY CONTROL SAMPLE: 2414408

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hardness	100	mg/L	7.4	7.4	
Calcium, Total	100	mg/L	1.1	1.1	87 - 113
Iron, Total	102	mg/L	1.1	1.1	87 - 115
Lead, Total	104	mg/L	.11	0.12	86 - 113
Magnesium, Total	99.9	mg/L	1.1	1.1	85 - 113

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2176214 R1609731

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2176214001	1795-SW04-091316	SW846 3015	MDIG/59898	SW846 6010C	META/54438
2176214002	1795-SW00-091316	SW846 3015	MDIG/59898	SW846 6010C	META/54438
2176214003	1595-SW04-091316	SW846 3015	MDIG/59898	SW846 6010C	META/54438
2176214004	1595-SW01-091316	SW846 3015	MDIG/59898	SW846 6010C	META/54438

ALS Environmental Chain of Custody

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VAF

ALS Co

21762145

Project Number: R1609731
Project Manager: Janice Jaeger
QAP: LAB QAP

FOR DRUM

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Ca T DOD 6010C	Fe T DOD 6010C	Mg T DOD 6010C	Pb T DOD 6010C	hard by calc
[redacted]	1795-SW04-091316	1	Water	9/13/16	0900	Middletown ALS	X	X	X	X	X
[redacted]	1795-SW00-091316	1	Water	9/13/16	0930	Middletown ALS	X	X	X	X	X
[redacted]	1595-SW04-091316	1	Water	9/13/16	1430	Middletown ALS	X	X	X	X	X
[redacted]	1595-SW01-091316	1	Water	9/13/16	1500	Middletown ALS	X	X	X	X	X

	Y	N	Initials	Cooler Temp
Custody Seals Present?			AF	1.7 °C
(If present) Seals Intact?				Cooler #
Received on Ice?				
COC/Lbls Complete				Therm ID
Cont in Good Cond?				177352
Correct Containers?				Ship Carrier:
Correct Samp Vol?				FedEx UPS
Correct Preservation?				
Headspace/Volatiles*				DHL

Tracking # 662680161704

Folder Comments:
DoD

Special Instructions/Comments
EQUIS 3.7 EDD w/ Arcadis VUIS
DOD

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements
___ RUSH (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
X STANDARD
Requested FAX Date: _____
Requested Report Date: 09/26/16

Report Requirements
___ I. Results Only
X II. Results + QC Summaries
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD Y

Invoice Information
PO# 58R1609731
Bill to

Relinquished By: [signature] 9-19-16 12:30 Received By: [signature] 9/20/16 0933 Airbill Number: _____

LMG 09/21/16 0120

November 10, 2016 Service Request No:R1609732

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY IRP

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 14, 2016
For your reference, these analyses have been assigned our service request number **R1609732.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

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Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP
Sample Matrix: Water

Service Request:R1609732
Date Received:9/14/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Eleven water samples were received for analysis at ALS Environmental on 09/14/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260, 9/21/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8260c, 9/16/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Semi-Volatile Organic Analyses:

Method 8270D, 09/20/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV) initial and closing. The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/20/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by _____ Date 11/10/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: OSL-MW10-091316	Lab ID: R1609732-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Dichlorodifluoromethane (CFC 12)	1.3	J	0.46	5.0	ug/L	8260C

CLIENT ID: SP03-EFF-091316	Lab ID: R1609732-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.4	J	1.3	10	ug/L	8260C

CLIENT ID: LS34-091316	Lab ID: R1609732-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.4	J	1.3	10	ug/L	8260C
m,p-Xylenes	0.48	BJ	0.33	5.0	ug/L	8260C

CLIENT ID: LS34-EFF-091316	Lab ID: R1609732-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.8	J	1.3	10	ug/L	8260C

CLIENT ID: LC009-EFF-091316	Lab ID: R1609732-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	1.3	J	0.20	5.0	ug/L	8260C
Acetone	1.6	J	1.3	10	ug/L	8260C
Benzene	0.25	J	0.20	5.0	ug/L	8260C
Ethylbenzene	1.3	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	2.0	J	0.33	5.0	ug/L	8260C

CLIENT ID: DUP-091316	Lab ID: R1609732-008					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.2	J	1.3	10	ug/L	8260C

CLIENT ID: OSL-SP03-091316	Lab ID: R1609732-009					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	4.7	J	1.3	10	ug/L	8260C
Benzene	0.23	J	0.20	5.0	ug/L	8260C
Toluene	0.22	J	0.20	5.0	ug/L	8260C

CLIENT ID: LC009-091316	Lab ID: R1609732-010					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	1.4	J	0.20	5.0	ug/L	8260C
Acetone	1.5	J	1.3	10	ug/L	8260C
Benzene	0.30	J	0.20	5.0	ug/L	8260C
Ethylbenzene	1.5	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	2.1	J	0.33	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:**R1609732

Project: Fort Drum, NY IRP

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609732-001	OSL-MW8-091316	9/13/2016	1300
R1609732-002	OSL-MW10-091316	9/13/2016	1500
R1609732-003	SP03-EFF-091316	9/13/2016	0845
R1609732-004	OSL-MW9A-091316	9/13/2016	1050
R1609732-005	LS34-091316	9/13/2016	0945
R1609732-006	LS34-EFF-091316	9/13/2016	0915
R1609732-007	LC009-EFF-091316	9/13/2016	1015
R1609732-008	DUP-091316	9/13/2016	
R1609732-009	OSL-SP03-091316	9/13/2016	0800
R1609732-010	LC009-091316	9/13/2016	1030
R1609732-011	TRIP BLANK	9/13/2016	0845

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39924

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: FT Drum IRP	Project Number:
Project Manager: Stefan Bagnato	Report CC:
Company/Address: 855 Route 146 Suite 210, Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: Stefan.Bagnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1 0 2

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ OLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	VOC	SVOC	TAL-Metals	Fe, Pb	hardness	REMARKS/ ALTERNATE DESCRIPTION
OSL-MW8-091316		9/13/16	1300	GW									3	1	1			
OSL-MW10-091316		9/13/16	1500	GW									3	1	1			
SP03-EFF-091316		9/13/16	0845	GW									3					
OSL-MW9A-091316		9/13/16	1050	GW									3	1	1			
LS34-091316		9/13/16	0945	GW									3			1		Lead & Iron added to LC009-091316 as per Nicholle Griffith 9/15/16
LS34-EFF-091316		9/13/16	0915	GW									3			1		
LC009-EFF-091316		9/13/16	1015	GW									3			1		
DUP-091316		9/13/16	—	GW									3	1	1			
OSL-SP03-091316		9/13/16	0800	GW									3	1	1		1	
LC009-091316		9/13/16	1030	GW									3			1		
Trip blank		8/22/16	1000	TB									3					

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Metals — OSL

ASP Category B (Tier IV)

EQuIS EDWEDD w/ Arcadis ref. values

1 cooler

See QAPP ☐

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #

BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Brian McGuirk	Signature Brian McGuirk	Signature Daniel Ward	Signature	
Printed Name N. Griffith	Printed Name BRIAN MCGUIRK	Printed Name BRIAN MCGUIRK	Printed Name ALS	Printed Name	
Firm Arcadis	Firm ALS	Firm ALS	Firm 9/14/16 1700	Firm	
Date/Time 9/14/16 1400	Date/Time 9/14/16 1408	Date/Time 9/14/16 500	Date/Time	Date/Time	Date/Time

R1609732 5

ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

Project/Client Arcadis Folder Number .

Cooler received on 9/14/16 by: DW COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did (VOA) vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: ~~Wet Ice~~ Dry Ice **Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 9/14/16 Time: 1710 ID: (IR#5) IR#6 From: Temp Blank (Sample Bottle)

Observed Temp (°C)	3.4°	11.6°	4.5°				
Correction Factor (°C)	+0.0	-2.0	+0.0				
Corrected Temp (°C)	3.4°	9.6°	4.5°				
Within 0-6°C?	(Y) N	Y (N)**	(Y) N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed** Same Day Rule

&Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by: DW 9/14/16

All samples held in storage location: R-007 by DW on 9/14/16 at 1710
5035 samples placed in storage location: by on at

Cooler Breakdown: Date: 9/15/16 Time: 1209 by: AD

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? ~~YES~~ (NO)
3. Were correct containers used for the tests indicated? (YES) NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated ~~N/A~~ N/A

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		BDB26152BA	6/17				
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**	4115022	7/17				

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 6-060-004 5-211-003 1627116-2MM) 062011.1BCT

Other Comments:
* 1 Vial for a trip blank
** All Samples were done on ~~the~~ 9/13/16 DW 9/14/16

Recd metals for LC009 not on COC Metals added DW

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	(SUB)
SO3	MARRS
ALS	REV

PC Secondary Review: DW 9/16/16 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Janice Jaeger

Project Number: R1609732
Project Manager: Janice Jaeger
QAP: LAB QAP

Fort Drum

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Ag T DOD 6010C	Al T DOD 6010C	As T DOD 6010C	Ba T DOD 6010C	Be T DOD 6010C	Ca T DOD 6010C	Cd T DOD 6010C	Co T DOD 6010C	Cr T DOD 6010C
[redacted]	OSL-MW8-091316	1	Water	9/13/16	1300	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	OSL-MW10-091316	1	Water	9/13/16	1500	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	OSL-MW9A-091316	1	Water	9/13/16	1050	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]005	LS34-091316	1	Water	9/13/16	0945	Middletown ALS									
[redacted]	LS34-EFF-091316	1	Water	9/13/16	0915	Middletown ALS									
[redacted]	LC009-EFF-091316	1	Water	9/13/16	1015	Middletown ALS									
[redacted]	DUP-091316	1	Water	9/13/16		Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	OSL-SP03-091316	1	Water	9/13/16	0800	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]010	LC009-091316	1	Water	9/13/16	1030	Middletown ALS									

Folder Comments:
DoD

Special Instructions/Comments DoD

EQuIS 3.7 EDD w/ Arcadis UVIS

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS
1 2 3 4 5

X **STANDARD**

Requested FAX Date: _____

Requested Report Date: 09/26/16

Report Requirements

____ I. Results Only

____ II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

PQL/MDL/J Y
EDD Y

Invoice Information

PO# 58R1609732

Bill to

Relinquished By: [signature] 9-14-16 1230 Received By: _____ Airbill Number: _____

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609732-001.01					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-001.02					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1417	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-001.03					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-001.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-001.05					
	8270D				
		9/15/2016	1218	SMO / GESMERIAN	
		9/15/2016	1219	R-002 / GESMERIAN	
		9/16/2016	1230	In Lab / DMURPHY	
R1609732-002.01					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-002.02					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1417	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-002.03					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-002.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609732-002.05					
	8270D				
		9/15/2016	1218	SMO / GESMERIAN	
		9/15/2016	1219	R-002 / GESMERIAN	
R1609732-003.01					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-003.02					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1417	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-003.03					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-004.01					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-004.02					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1417	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-004.03					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-004.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-004.05					
	8270D				
		9/15/2016	1218	SMO / GESMERIAN	
		9/15/2016	1219	R-002 / GESMERIAN	

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8270D				
		9/16/2016	1230	In Lab / DMURPHY	
R1609732-005.02					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-005.03					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1418	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
		9/19/2016	1343	In Lab / FNAEGLER	
		9/19/2016	1424	R-001-S10 / MCYMBAL	
R1609732-005.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-005.05					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-006.02					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-006.03					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1417	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-006.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-006.05					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609732-007.02					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-007.03					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1417	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-007.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-007.05					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-008.01					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-008.02					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-008.03					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1418	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-008.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-008.05					
	8270D				
		9/15/2016	1218	SMO / GESMERIAN	
		9/15/2016	1219	R-002 / GESMERIAN	
		9/16/2016	1230	In Lab / DMURPHY	

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609732-009.01					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	SUBBED / GESMERIAN	
R1609732-009.02					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-009.03					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1418	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-009.04					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-009.05					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1219	R-002 / GESMERIAN	
R1609732-009.06					
	8270D				
		9/15/2016	1218	SMO / GESMERIAN	
		9/15/2016	1219	R-002 / GESMERIAN	
		9/16/2016	1230	In Lab / DMURPHY	
R1609732-010.01					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1418	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-010.02					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-010.03					
		9/15/2016	1217	SMO / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-010.04					
		9/15/2016	1228	SMO / GESMERIAN	
		9/15/2016	1229	SUBBED / GESMERIAN	
R1609732-011.01					
	8260C				
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
		9/16/2016	1417	In Lab / FNAEGLER	
		9/16/2016	1514	R-001-S10 / FNAEGLER	
R1609732-011.02					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	
R1609732-011.03					
		9/15/2016	1217	SMO / GESMERIAN	
		9/15/2016	1218	R-001 / GESMERIAN	

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
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REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Sample Name: OSL-MW8-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-001 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Sample Name: OSL-MW10-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-002 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Sample Name: SP03-EFF-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-003 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: OSL-MW9A-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-004 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Sample Name: LS34-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-005 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: LS34-EFF-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-006 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: LC009-EFF-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-007 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: DUP-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-008 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP

Sample Name: OSL-SP03-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-009 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	DMURPHY	JMISIUREWICZ

Sample Name: LC009-091316 **Date Collected:** 09/13/16
Lab Code: R1609732-010 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: TRIP BLANK **Date Collected:** 09/13/16
Lab Code: R1609732-011 **Date Received:** 09/14/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

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www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 13:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW8-091316	**Units:**	ug/L
Lab Code:	R1609732-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 18:09	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 18:09	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 18:09	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 18:09	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 18:09	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 18:09	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 18:09	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 18:09	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 18:09	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 18:09	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 18:09	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 18:09	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 18:09	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 18:09	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 18:09	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 18:09	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 18:09	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 18:09	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 18:09	
Acetone	ND U	10	5.0	1.3	1	09/16/16 18:09	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 18:09	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 18:09	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 18:09	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 18:09	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 18:09	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 18:09	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 18:09	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 18:09	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 18:09	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 18:09	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 18:09	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 18:09	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 18:09	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 18:09	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 13:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW8-091316	**Units:**	ug/L
Lab Code:	R1609732-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 18:09	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 18:09	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 18:09	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 18:09	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 18:09	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 18:09	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 18:09	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 18:09	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 18:09	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 18:09	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 18:09	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 18:09	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 18:09	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/16/16 18:09	
Dibromofluoromethane	98	80 - 119	09/16/16 18:09	
Toluene-d8	102	89 - 112	09/16/16 18:09	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW10-091316	**Units:**	ug/L
Lab Code:	R1609732-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 18:34	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 18:34	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 18:34	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 18:34	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 18:34	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 18:34	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 18:34	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 18:34	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 18:34	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 18:34	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 18:34	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 18:34	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 18:34	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 18:34	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 18:34	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 18:34	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 18:34	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 18:34	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 18:34	
Acetone	ND U	10	5.0	1.3	1	09/16/16 18:34	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 18:34	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 18:34	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 18:34	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 18:34	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 18:34	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 18:34	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 18:34	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 18:34	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 18:34	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 18:34	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 18:34	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 18:34	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 18:34	
Dichlorodifluoromethane (CFC 12)	**1.3 J**	5.0	1.0	0.46	1	09/16/16 18:34	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW10-091316	**Units:**	ug/L
Lab Code:	R1609732-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 18:34	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 18:34	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 18:34	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 18:34	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 18:34	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 18:34	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 18:34	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 18:34	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 18:34	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 18:34	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 18:34	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 18:34	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 18:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/16/16 18:34	
Dibromofluoromethane	104	80 - 119	09/16/16 18:34	
Toluene-d8	105	89 - 112	09/16/16 18:34	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:45
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	SP03-EFF-091316	**Units:**	ug/L
Lab Code:	R1609732-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 18:58	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 18:58	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 18:58	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 18:58	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 18:58	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 18:58	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 18:58	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 18:58	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 18:58	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 18:58	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 18:58	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 18:58	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 18:58	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 18:58	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 18:58	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 18:58	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 18:58	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 18:58	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 18:58	
Acetone	**1.4 J**	10	5.0	1.3	1	09/16/16 18:58	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 18:58	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 18:58	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 18:58	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 18:58	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 18:58	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 18:58	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 18:58	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 18:58	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 18:58	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 18:58	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 18:58	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 18:58	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 18:58	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 18:58	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:45
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	SP03-EFF-091316	**Units:**	ug/L
Lab Code:	R1609732-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 18:58	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 18:58	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 18:58	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 18:58	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 18:58	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 18:58	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 18:58	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 18:58	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 18:58	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 18:58	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 18:58	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 18:58	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 18:58	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	09/16/16 18:58	
Dibromofluoromethane	100	80 - 119	09/16/16 18:58	
Toluene-d8	101	89 - 112	09/16/16 18:58	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:50
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW9A-091316	**Units:**	ug/L
Lab Code:	R1609732-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 19:22	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 19:22	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 19:22	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 19:22	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 19:22	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 19:22	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 19:22	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 19:22	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 19:22	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 19:22	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 19:22	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 19:22	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 19:22	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 19:22	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 19:22	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 19:22	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 19:22	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 19:22	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 19:22	
Acetone	ND U	10	5.0	1.3	1	09/16/16 19:22	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 19:22	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 19:22	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 19:22	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 19:22	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 19:22	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 19:22	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 19:22	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 19:22	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 19:22	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 19:22	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 19:22	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 19:22	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 19:22	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 19:22	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:50
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW9A-091316	**Units:**	ug/L
Lab Code:	R1609732-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 19:22	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 19:22	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 19:22	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 19:22	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 19:22	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 19:22	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 19:22	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 19:22	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 19:22	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 19:22	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 19:22	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 19:22	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 19:22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/16/16 19:22	
Dibromofluoromethane	101	80 - 119	09/16/16 19:22	
Toluene-d8	102	89 - 112	09/16/16 19:22	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 09:45
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LS34-091316	**Units:**	ug/L
Lab Code:	R1609732-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 11:54	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 11:54	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 11:54	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 11:54	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 11:54	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 11:54	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 11:54	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 11:54	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 11:54	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 11:54	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 11:54	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 11:54	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 11:54	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 11:54	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 11:54	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 11:54	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 11:54	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 11:54	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 11:54	
Acetone	**1.4 J**	10	5.0	1.3	1	09/21/16 11:54	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 11:54	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 11:54	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 11:54	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 11:54	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 11:54	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 11:54	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 11:54	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 11:54	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 11:54	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 11:54	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 11:54	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 11:54	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 11:54	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 11:54	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 11:54	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 09:45
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LS34-091316	**Units:**	ug/L
Lab Code:	R1609732-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/21/16 11:54	
Ethylbenzene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/21/16 11:54	
Isopropylbenzene (Cumene)	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/21/16 11:54	
Naphthalene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
Styrene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/21/16 11:54	
Toluene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/21/16 11:54	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/21/16 11:54	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/21/16 11:54	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/21/16 11:54	
m,p-Xylenes	**0.48**	**BJ**	5.0	2.0	0.33	1	09/21/16 11:54	
n-Butylbenzene	ND	U	5.0	1.0	0.21	1	09/21/16 11:54	
n-Propylbenzene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
o-Xylene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
sec-Butylbenzene	ND	U	5.0	1.0	0.27	1	09/21/16 11:54	
tert-Butylbenzene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/21/16 11:54	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/21/16 11:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/21/16 11:54	
Dibromofluoromethane	102	80 - 119	09/21/16 11:54	
Toluene-d8	104	89 - 112	09/21/16 11:54	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 09:15
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LS34-EFF-091316	**Units:**	ug/L
Lab Code:	R1609732-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 19:47	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 19:47	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 19:47	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 19:47	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 19:47	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 19:47	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 19:47	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 19:47	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 19:47	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 19:47	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 19:47	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 19:47	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 19:47	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 19:47	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 19:47	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 19:47	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 19:47	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 19:47	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 19:47	
Acetone	**1.8 J**	10	5.0	1.3	1	09/16/16 19:47	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 19:47	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 19:47	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 19:47	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 19:47	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 19:47	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 19:47	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 19:47	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 19:47	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 19:47	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 19:47	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 19:47	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 19:47	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 19:47	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 19:47	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 09:15
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LS34-EFF-091316	**Units:**	ug/L
Lab Code:	R1609732-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 19:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 19:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 19:47	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 19:47	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 19:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 19:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 19:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 19:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 19:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 19:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 19:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 19:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 19:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/16/16 19:47	
Dibromofluoromethane	99	80 - 119	09/16/16 19:47	
Toluene-d8	101	89 - 112	09/16/16 19:47	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:15
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LC009-EFF-091316	**Units:**	ug/L
Lab Code:	R1609732-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 20:11	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 20:11	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 20:11	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 20:11	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 20:11	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 20:11	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 20:11	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 20:11	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 20:11	
1,2,4-Trimethylbenzene	**1.3 J**	5.0	1.0	0.20	1	09/16/16 20:11	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 20:11	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 20:11	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 20:11	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 20:11	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 20:11	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 20:11	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 20:11	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 20:11	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 20:11	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 20:11	
Acetone	**1.6 J**	10	5.0	1.3	1	09/16/16 20:11	
Benzene	**0.25 J**	5.0	1.0	0.20	1	09/16/16 20:11	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 20:11	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 20:11	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 20:11	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 20:11	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 20:11	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 20:11	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 20:11	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 20:11	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 20:11	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 20:11	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 20:11	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 20:11	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 20:11	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 20:11	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:15
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LC009-EFF-091316	**Units:**	ug/L
Lab Code:	R1609732-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 20:11	
Ethylbenzene	**1.3 J**	5.0	1.0	0.20	1	09/16/16 20:11	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 20:11	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 20:11	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 20:11	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 20:11	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 20:11	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 20:11	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 20:11	
m,p-Xylenes	**2.0 J**	5.0	2.0	0.33	1	09/16/16 20:11	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 20:11	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 20:11	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 20:11	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 20:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/16/16 20:11	
Dibromofluoromethane	100	80 - 119	09/16/16 20:11	
Toluene-d8	100	89 - 112	09/16/16 20:11	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	DUP-091316	**Units:**	ug/L
Lab Code:	R1609732-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 20:35	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 20:35	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 20:35	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 20:35	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 20:35	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 20:35	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 20:35	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 20:35	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 20:35	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 20:35	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 20:35	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 20:35	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 20:35	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 20:35	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 20:35	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 20:35	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 20:35	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 20:35	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 20:35	
Acetone	**2.2 J**	10	5.0	1.3	1	09/16/16 20:35	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 20:35	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 20:35	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 20:35	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 20:35	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 20:35	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 20:35	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 20:35	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 20:35	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 20:35	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 20:35	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 20:35	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 20:35	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 20:35	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 20:35	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	DUP-091316	**Units:**	ug/L
Lab Code:	R1609732-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 20:35	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 20:35	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 20:35	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 20:35	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 20:35	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 20:35	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 20:35	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 20:35	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 20:35	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 20:35	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 20:35	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 20:35	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 20:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/16/16 20:35	
Dibromofluoromethane	98	80 - 119	09/16/16 20:35	
Toluene-d8	101	89 - 112	09/16/16 20:35	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-SP03-091316	**Units:**	ug/L
Lab Code:	R1609732-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 21:00	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 21:00	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 21:00	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 21:00	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 21:00	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 21:00	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 21:00	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 21:00	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 21:00	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 21:00	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 21:00	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 21:00	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 21:00	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 21:00	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 21:00	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 21:00	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 21:00	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 21:00	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 21:00	
Acetone	**4.7 J**	10	5.0	1.3	1	09/16/16 21:00	
Benzene	**0.23 J**	5.0	1.0	0.20	1	09/16/16 21:00	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 21:00	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 21:00	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 21:00	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 21:00	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 21:00	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 21:00	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 21:00	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 21:00	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 21:00	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 21:00	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 21:00	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 21:00	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 21:00	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 21:00	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-SP03-091316	**Units:**	ug/L
Lab Code:	R1609732-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 21:00	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 21:00	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 21:00	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 21:00	
Toluene	**0.22 J**	5.0	1.0	0.20	1	09/16/16 21:00	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 21:00	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 21:00	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 21:00	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 21:00	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 21:00	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 21:00	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 21:00	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 21:00	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 21:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/16/16 21:00	
Dibromofluoromethane	102	80 - 119	09/16/16 21:00	
Toluene-d8	102	89 - 112	09/16/16 21:00	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:30
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LC009-091316	**Units:**	ug/L
Lab Code:	R1609732-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 21:24	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 21:24	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 21:24	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 21:24	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 21:24	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 21:24	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 21:24	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 21:24	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 21:24	
1,2,4-Trimethylbenzene	**1.4 J**	5.0	1.0	0.20	1	09/16/16 21:24	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 21:24	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 21:24	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 21:24	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 21:24	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 21:24	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 21:24	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 21:24	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 21:24	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 21:24	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 21:24	
Acetone	**1.5 J**	10	5.0	1.3	1	09/16/16 21:24	
Benzene	**0.30 J**	5.0	1.0	0.20	1	09/16/16 21:24	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 21:24	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 21:24	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 21:24	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 21:24	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 21:24	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 21:24	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 21:24	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 21:24	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 21:24	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 21:24	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 21:24	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 21:24	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 21:24	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 21:24	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:30
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	LC009-091316	**Units:**	ug/L
Lab Code:	R1609732-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 21:24	
Ethylbenzene	**1.5 J**	5.0	1.0	0.20	1	09/16/16 21:24	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 21:24	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 21:24	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 21:24	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 21:24	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 21:24	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 21:24	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 21:24	
m,p-Xylenes	**2.1 J**	5.0	2.0	0.33	1	09/16/16 21:24	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 21:24	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 21:24	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 21:24	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 21:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	09/16/16 21:24	
Dibromofluoromethane	99	80 - 119	09/16/16 21:24	
Toluene-d8	102	89 - 112	09/16/16 21:24	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:45
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609732-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 17:45	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 17:45	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 17:45	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 17:45	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 17:45	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 17:45	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 17:45	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 17:45	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 17:45	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 17:45	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 17:45	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 17:45	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 17:45	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 17:45	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 17:45	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 17:45	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 17:45	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 17:45	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 17:45	
Acetone	ND U	10	5.0	1.3	1	09/16/16 17:45	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 17:45	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 17:45	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 17:45	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 17:45	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 17:45	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 17:45	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 17:45	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 17:45	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 17:45	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 17:45	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 17:45	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 17:45	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 17:45	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 17:45	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:45
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609732-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 17:45	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 17:45	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 17:45	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 17:45	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 17:45	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 17:45	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 17:45	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 17:45	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 17:45	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 17:45	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 17:45	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 17:45	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 17:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/16/16 17:45	
Dibromofluoromethane	99	80 - 119	09/16/16 17:45	
Toluene-d8	102	89 - 112	09/16/16 17:45	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 13:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW8-091316	**Units:**	ug/L
Lab Code:	R1609732-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 13:58	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 13:58	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 13:58	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 13:58	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 13:58	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 13:58	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 13:58	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 13:58	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 13:58	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 13:58	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 13:58	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 13:58	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 13:58	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 13:58	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 13:58	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 13:58	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 13:58	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 13:58	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 13:58	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 13:58	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 13:58	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 13:58	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 13:58	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 13:58	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 13:58	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 13:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW8-091316	**Units:**	ug/L
Lab Code:	R1609732-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 13:58	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 13:58	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 13:58	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 13:58	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 13:58	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 13:58	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 13:58	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 13:58	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 13:58	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	93	43 - 140	09/20/16 13:58	
2-Fluorobiphenyl	70	44 - 119	09/20/16 13:58	
2-Fluorophenol	36	19 - 119	09/20/16 13:58	
Nitrobenzene-d5	70	44 - 120	09/20/16 13:58	
Phenol-d6	25	10 - 107	09/20/16 13:58	
p-Terphenyl-d14	88	50 - 134	09/20/16 13:58	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW10-091316	**Units:**	ug/L
Lab Code:	R1609732-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 14:26	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 14:26	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 14:26	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 14:26	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 14:26	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 14:26	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 14:26	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 14:26	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 14:26	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 14:26	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 14:26	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 14:26	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 14:26	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 14:26	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 14:26	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 14:26	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 14:26	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 14:26	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 14:26	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 14:26	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 14:26	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 14:26	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 14:26	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 14:26	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 14:26	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 15:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW10-091316	**Units:**	ug/L
Lab Code:	R1609732-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 14:26	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 14:26	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 14:26	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 14:26	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 14:26	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 14:26	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 14:26	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 14:26	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 14:26	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	100	43 - 140	09/20/16 14:26	
2-Fluorobiphenyl	79	44 - 119	09/20/16 14:26	
2-Fluorophenol	38	19 - 119	09/20/16 14:26	
Nitrobenzene-d5	80	44 - 120	09/20/16 14:26	
Phenol-d6	27	10 - 107	09/20/16 14:26	
p-Terphenyl-d14	92	50 - 134	09/20/16 14:26	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:50
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW9A-091316	**Units:**	ug/L
Lab Code:	R1609732-004	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 14:54	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 14:54	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 14:54	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 14:54	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 14:54	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 14:54	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 14:54	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 14:54	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 14:54	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 14:54	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 14:54	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 14:54	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 14:54	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 14:54	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 14:54	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 14:54	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 14:54	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 14:54	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 14:54	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 14:54	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 14:54	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 14:54	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 14:54	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 14:54	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 14:54	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 10:50
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-MW9A-091316	**Units:**	ug/L
Lab Code:	R1609732-004	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 14:54	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 14:54	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 14:54	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 14:54	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 14:54	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 14:54	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 14:54	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 14:54	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 14:54	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	43 - 140	09/20/16 14:54	
2-Fluorobiphenyl	78	44 - 119	09/20/16 14:54	
2-Fluorophenol	38	19 - 119	09/20/16 14:54	
Nitrobenzene-d5	76	44 - 120	09/20/16 14:54	
Phenol-d6	26	10 - 107	09/20/16 14:54	
p-Terphenyl-d14	89	50 - 134	09/20/16 14:54	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	DUP-091316	**Units:**	ug/L
Lab Code:	R1609732-008	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 15:23	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 15:23	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 15:23	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 15:23	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 15:23	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 15:23	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 15:23	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 15:23	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 15:23	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 15:23	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 15:23	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 15:23	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 15:23	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 15:23	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 15:23	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 15:23	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 15:23	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 15:23	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 15:23	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 15:23	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 15:23	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 15:23	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 15:23	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 15:23	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 15:23	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	DUP-091316	**Units:**	ug/L
Lab Code:	R1609732-008	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 15:23	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 15:23	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 15:23	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 15:23	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 15:23	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 15:23	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 15:23	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 15:23	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 15:23	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	99	43 - 140	09/20/16 15:23	
2-Fluorobiphenyl	84	44 - 119	09/20/16 15:23	
2-Fluorophenol	40	19 - 119	09/20/16 15:23	
Nitrobenzene-d5	83	44 - 120	09/20/16 15:23	
Phenol-d6	28	10 - 107	09/20/16 15:23	
p-Terphenyl-d14	92	50 - 134	09/20/16 15:23	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-SP03-091316	**Units:**	ug/L
Lab Code:	R1609732-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/20/16 15:50	9/16/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/20/16 15:50	9/16/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/20/16 15:50	9/16/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/20/16 15:50	9/16/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/20/16 15:50	9/16/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/20/16 15:50	9/16/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/20/16 15:50	9/16/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/20/16 15:50	9/16/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/20/16 15:50	9/16/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/20/16 15:50	9/16/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/20/16 15:50	9/16/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/20/16 15:50	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/20/16 15:50	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/20/16 15:50	9/16/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/20/16 15:50	9/16/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/20/16 15:50	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/20/16 15:50	9/16/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/20/16 15:50	9/16/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/20/16 15:50	9/16/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/20/16 15:50	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/20/16 15:50	9/16/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/20/16 15:50	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 15:50	9/16/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/20/16 15:50	9/16/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/20/16 15:50	9/16/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	09/13/16 08:00
Sample Matrix:	Water	**Date Received:**	09/14/16 17:00
Sample Name:	OSL-SP03-091316	**Units:**	ug/L
Lab Code:	R1609732-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/20/16 15:50	9/16/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/20/16 15:50	9/16/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/20/16 15:50	9/16/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/20/16 15:50	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/20/16 15:50	9/16/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/20/16 15:50	9/16/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/20/16 15:50	9/16/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/20/16 15:50	9/16/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Phenol	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/20/16 15:50	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	90	43 - 140	09/20/16 15:50	
2-Fluorobiphenyl	69	44 - 119	09/20/16 15:50	
2-Fluorophenol	36	19 - 119	09/20/16 15:50	
Nitrobenzene-d5	72	44 - 120	09/20/16 15:50	
Phenol-d6	25	10 - 107	09/20/16 15:50	
p-Terphenyl-d14	80	50 - 134	09/20/16 15:50	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 114	Dibromofluoromethane 80 - 119	Toluene-d8 89 - 112
OSL-MW8-091316	R1609732-001	95	98	102
OSL-MW10-091316	R1609732-002	97	104	105
SP03-EFF-091316	R1609732-003	93	100	101
OSL-MW9A-091316	R1609732-004	94	101	102
LS34-091316	R1609732-005	96	102	104
LS34-EFF-091316	R1609732-006	98	99	101
LC009-EFF-091316	R1609732-007	96	100	100
DUP-091316	R1609732-008	96	98	101
OSL-SP03-091316	R1609732-009	95	102	102
LC009-091316	R1609732-010	93	99	102
TRIP BLANK	R1609732-011	96	99	102
Method Blank	RQ1611147-01	95	102	102
Lab Control Sample	RQ1611147-02	101	106	106
Lab Control Sample	RQ1611257-03	100	104	103
Method Blank	RQ1611257-04	95	98	101

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Analyzed:**	09/16/16 14:47
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank **Instrument ID:** R-MS-10
Lab Code: RQ1611147-01 **File ID:** I:\ACQUDATA\msvoa10\data\091616\N0414.D\

Analysis Method: 8260C **Analysis Lot:** 514503
Prep Method: EPA 5030C

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1611147-02	I:\ACQUDATA\msvoa10\data\091616\N0412.D\	09/16/16 13:52
TRIP BLANK	R1609732-011	I:\ACQUDATA\msvoa10\data\091616\N0421.D\	09/16/16 17:45
OSL-MW8-091316	R1609732-001	I:\ACQUDATA\msvoa10\data\091616\N0422.D\	09/16/16 18:09
OSL-MW10-091316	R1609732-002	I:\ACQUDATA\msvoa10\data\091616\N0423.D\	09/16/16 18:34
SP03-EFF-091316	R1609732-003	I:\ACQUDATA\msvoa10\data\091616\N0424.D\	09/16/16 18:58
OSL-MW9A-091316	R1609732-004	I:\ACQUDATA\msvoa10\data\091616\N0425.D\	09/16/16 19:22
LS34-EFF-091316	R1609732-006	I:\ACQUDATA\msvoa10\data\091616\N0426.D\	09/16/16 19:47
LC009-EFF-091316	R1609732-007	I:\ACQUDATA\msvoa10\data\091616\N0427.D\	09/16/16 20:11
DUP-091316	R1609732-008	I:\ACQUDATA\msvoa10\data\091616\N0428.D\	09/16/16 20:35
OSL-SP03-091316	R1609732-009	I:\ACQUDATA\msvoa10\data\091616\N0429.D\	09/16/16 21:00
LC009-091316	R1609732-010	I:\ACQUDATA\msvoa10\data\091616\N0430.D\	09/16/16 21:24

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP
Sample Matrix: Water

Service Request: R1609732
Date Analyzed: 09/21/16 11:29

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1611257-04

Instrument ID:R-MS-10
File ID:I:\ACQUDATA\msvoa10\data\092116\N0516.D\

Analysis Method: 8260C

Analysis Lot:514695

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1611257-03	I:\ACQUDATA\msvoa10\data\092116\N0514.D\	09/21/16 10:36
LS34-091316	R1609732-005	I:\ACQUDATA\msvoa10\data\092116\N0517.D\	09/21/16 11:54

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611147-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/16/16 14:47	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/16/16 14:47	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/16/16 14:47	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/16/16 14:47	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/16/16 14:47	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/16/16 14:47	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/16/16 14:47	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/16/16 14:47	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/16/16 14:47	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/16/16 14:47	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/16/16 14:47	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 14:47	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/16/16 14:47	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/16/16 14:47	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
2-Hexanone	ND U	10	5.0	1.7	1	09/16/16 14:47	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/16/16 14:47	
Acetone	ND U	10	5.0	1.3	1	09/16/16 14:47	
Benzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/16/16 14:47	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
Bromoform	ND U	5.0	1.0	0.42	1	09/16/16 14:47	
Bromomethane	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/16/16 14:47	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/16/16 14:47	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
Chloroethane	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
Chloroform	ND U	5.0	1.0	0.25	1	09/16/16 14:47	
Chloromethane	ND U	5.0	1.0	0.21	1	09/16/16 14:47	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/16/16 14:47	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/16/16 14:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611147-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/16/16 14:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/16/16 14:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/16/16 14:47	
Naphthalene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Styrene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/16/16 14:47	
Toluene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/16/16 14:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/16/16 14:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/16/16 14:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/16/16 14:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/16/16 14:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/16/16 14:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
o-Xylene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/16/16 14:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/16/16 14:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/16/16 14:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/16/16 14:47	
Dibromofluoromethane	102	80 - 119	09/16/16 14:47	
Toluene-d8	102	89 - 112	09/16/16 14:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611257-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/21/16 11:29	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/21/16 11:29	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/21/16 11:29	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/21/16 11:29	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/21/16 11:29	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/21/16 11:29	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/21/16 11:29	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/21/16 11:29	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/21/16 11:29	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/21/16 11:29	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/21/16 11:29	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 11:29	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/21/16 11:29	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/21/16 11:29	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
2-Hexanone	ND U	10	5.0	1.7	1	09/21/16 11:29	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/21/16 11:29	
Acetone	ND U	10	5.0	1.3	1	09/21/16 11:29	
Benzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/21/16 11:29	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
Bromoform	ND U	5.0	1.0	0.42	1	09/21/16 11:29	
Bromomethane	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/21/16 11:29	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/21/16 11:29	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
Chloroethane	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
Chloroform	ND U	5.0	1.0	0.25	1	09/21/16 11:29	
Chloromethane	ND U	5.0	1.0	0.21	1	09/21/16 11:29	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/21/16 11:29	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/21/16 11:29	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611257-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/21/16 11:29	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/21/16 11:29	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/21/16 11:29	
Naphthalene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Styrene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/21/16 11:29	
Toluene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/21/16 11:29	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/21/16 11:29	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/21/16 11:29	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/21/16 11:29	
m,p-Xylenes	**0.60 J**	5.0	2.0	0.33	1	09/21/16 11:29	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/21/16 11:29	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
o-Xylene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/21/16 11:29	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/21/16 11:29	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/21/16 11:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/21/16 11:29	
Dibromofluoromethane	98	80 - 119	09/21/16 11:29	
Toluene-d8	101	89 - 112	09/21/16 11:29	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Analyzed:**	09/16/16 13:52
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name: Lab Control Sample **Instrument ID:** R-MS-10
Lab Code: RQ1611147-02 **File ID:** I:\ACQUDATA\msvoa10\data\091616\N0412.D\

Analysis Method: 8260C **Analysis Lot:** 514503
Prep Method: EPA 5030C

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1611147-01	I:\ACQUDATA\msvoa10\data\091616\N0414.D\	09/16/16 14:47
TRIP BLANK	R1609732-011	I:\ACQUDATA\msvoa10\data\091616\N0421.D\	09/16/16 17:45
OSL-MW8-091316	R1609732-001	I:\ACQUDATA\msvoa10\data\091616\N0422.D\	09/16/16 18:09
OSL-MW10-091316	R1609732-002	I:\ACQUDATA\msvoa10\data\091616\N0423.D\	09/16/16 18:34
SP03-EFF-091316	R1609732-003	I:\ACQUDATA\msvoa10\data\091616\N0424.D\	09/16/16 18:58
OSL-MW9A-091316	R1609732-004	I:\ACQUDATA\msvoa10\data\091616\N0425.D\	09/16/16 19:22
LS34-EFF-091316	R1609732-006	I:\ACQUDATA\msvoa10\data\091616\N0426.D\	09/16/16 19:47
LC009-EFF-091316	R1609732-007	I:\ACQUDATA\msvoa10\data\091616\N0427.D\	09/16/16 20:11
DUP-091316	R1609732-008	I:\ACQUDATA\msvoa10\data\091616\N0428.D\	09/16/16 20:35
OSL-SP03-091316	R1609732-009	I:\ACQUDATA\msvoa10\data\091616\N0429.D\	09/16/16 21:00
LC009-091316	R1609732-010	I:\ACQUDATA\msvoa10\data\091616\N0430.D\	09/16/16 21:24

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP
Sample Matrix: Water

Service Request: R1609732
Date Analyzed: 09/21/16 10:36

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name: Lab Control Sample
Lab Code: RQ1611257-03

Instrument ID:R-MS-10
File ID:I:\ACQUDATA\msvoa10\data\092116\N0514.D\

Analysis Method: 8260C
Analysis Lot:514695

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1611257-04	I:\ACQUDATA\msvoa10\data\092116\N0516.D\	09/21/16 11:29
LS34-091316	R1609732-005	I:\ACQUDATA\msvoa10\data\092116\N0517.D\	09/21/16 11:54

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP **Date Analyzed:** 09/16/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611147-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	19.5	20.0	98	78-124
1,1,1-Trichloroethane (TCA)	8260C	17.8	20.0	89	74-131
1,1,2,2-Tetrachloroethane	8260C	19.2	20.0	96	71-121
1,1,2-Trichloroethane	8260C	19.6	20.0	98	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	19.5	20.0	98	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	17.9	20.0	89	71-131
1,1-Dichloropropene	8260C	17.8	20.0	89	79-125
1,2,3-Trichlorobenzene	8260C	21.5	20.0	108	69-129
1,2,3-Trichloropropane	8260C	18.3	20.0	92	73-122
1,2,4-Trichlorobenzene	8260C	22.2	20.0	111	69-130
1,2,4-Trimethylbenzene	8260C	18.7	20.0	94	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.5	20.0	88	62-128
1,2-Dibromoethane	8260C	19.8	20.0	99	77-121
1,2-Dichlorobenzene	8260C	19.6	20.0	98	80-119
1,2-Dichloroethane	8260C	22.4	20.0	112	73-128
1,2-Dichloropropane	8260C	20.0	20.0	100	78-122
1,3,5-Trimethylbenzene	8260C	18.9	20.0	95	75-124
1,3-Dichlorobenzene	8260C	19.3	20.0	96	80-119
1,3-Dichloropropane	8260C	18.7	20.0	94	80-119
1,4-Dichlorobenzene	8260C	19.5	20.0	97	79-118
2,2-Dichloropropane	8260C	16.8	20.0	84	60-139
2-Butanone (MEK)	8260C	21.4	20.0	107	56-143
2-Chlorotoluene	8260C	19.1	20.0	96	79-122
2-Hexanone	8260C	20.5	20.0	102	57-139
4-Chlorotoluene	8260C	18.5	20.0	93	78-122
4-Isopropyltoluene	8260C	18.8	20.0	94	77-127
4-Methyl-2-pentanone	8260C	22.3	20.0	112	67-130
Acetone	8260C	21.1	20.0	106	39-160
Benzene	8260C	19.2	20.0	96	79-120
Bromobenzene	8260C	19.4	20.0	97	80-120
Bromochloromethane	8260C	17.8	20.0	89	78-123
Bromodichloromethane	8260C	19.1	20.0	95	79-125
Bromoform	8260C	21.9	20.0	110	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP **Date Analyzed:** 09/16/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611147-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	15.5	20.0	77	53-141
Carbon Disulfide	8260C	20.8	20.0	104	64-133
Carbon Tetrachloride	8260C	18.3	20.0	91	72-136
Chlorobenzene	8260C	19.3	20.0	96	82-118
Chloroethane	8260C	20.4	20.0	102	60-138
Chloroform	8260C	18.5	20.0	92	79-124
Chloromethane	8260C	15.4	20.0	77	50-139
Dibromochloromethane	8260C	20.2	20.0	101	74-126
Dibromomethane	8260C	20.5	20.0	103	79-123
Dichlorodifluoromethane (CFC 12)	8260C	14.5	20.0	73	32-152
Dichloromethane	8260C	17.7	20.0	89	74-124
Ethylbenzene	8260C	17.9	20.0	90	79-121
Hexachlorobutadiene	8260C	19.4	20.0	97	66-134
Isopropylbenzene (Cumene)	8260C	18.7	20.0	93	72-131
Methyl tert-Butyl Ether	8260C	18.2	20.0	91	71-124
Naphthalene	8260C	19.8	20.0	99	61-128
Styrene	8260C	18.8	20.0	94	78-123
Tetrachloroethene (PCE)	8260C	19.5	20.0	98	74-129
Toluene	8260C	19.0	20.0	95	80-121
Trichloroethene (TCE)	8260C	19.1	20.0	96	79-123
Trichlorofluoromethane (CFC 11)	8260C	18.2	20.0	91	65-141
Vinyl Chloride	8260C	21.8	20.0	109	58-137
cis-1,2-Dichloroethene	8260C	18.9	20.0	94	78-123
cis-1,3-Dichloropropene	8260C	18.8	20.0	94	75-124
m,p-Xylenes	8260C	36.9	40.0	92	80-121
n-Butylbenzene	8260C	19.1	20.0	95	75-128
n-Propylbenzene	8260C	18.9	20.0	94	76-126
o-Xylene	8260C	18.8	20.0	94	78-122
sec-Butylbenzene	8260C	18.2	20.0	91	77-126
tert-Butylbenzene	8260C	18.9	20.0	95	78-124
trans-1,2-Dichloroethene	8260C	17.5	20.0	88	75-124
trans-1,3-Dichloropropene	8260C	18.9	20.0	94	73-127

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP
Sample Matrix: Water

Service Request: R1609732
Date Analyzed: 09/21/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611257-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	19.7	20.0	99	78-124
1,1,1-Trichloroethane (TCA)	8260C	18.1	20.0	90	74-131
1,1,2,2-Tetrachloroethane	8260C	20.9	20.0	105	71-121
1,1,2-Trichloroethane	8260C	21.2	20.0	106	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	20.1	20.0	101	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	17.8	20.0	89	71-131
1,1-Dichloropropene	8260C	18.6	20.0	93	79-125
1,2,3-Trichlorobenzene	8260C	23.4	20.0	117	69-129
1,2,3-Trichloropropane	8260C	20.4	20.0	102	73-122
1,2,4-Trichlorobenzene	8260C	23.8	20.0	119	69-130
1,2,4-Trimethylbenzene	8260C	20.6	20.0	103	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.8	20.0	89	62-128
1,2-Dibromoethane	8260C	21.3	20.0	107	77-121
1,2-Dichlorobenzene	8260C	21.4	20.0	107	80-119
1,2-Dichloroethane	8260C	23.0	20.0	115	73-128
1,2-Dichloropropane	8260C	21.6	20.0	108	78-122
1,3,5-Trimethylbenzene	8260C	20.3	20.0	102	75-124
1,3-Dichlorobenzene	8260C	21.4	20.0	107	80-119
1,3-Dichloropropane	8260C	20.2	20.0	101	80-119
1,4-Dichlorobenzene	8260C	21.2	20.0	106	79-118
2,2-Dichloropropane	8260C	17.8	20.0	89	60-139
2-Butanone (MEK)	8260C	19.0	20.0	95	56-143
2-Chlorotoluene	8260C	21.0	20.0	105	79-122
2-Hexanone	8260C	19.1	20.0	95	57-139
4-Chlorotoluene	8260C	20.4	20.0	102	78-122
4-Isopropyltoluene	8260C	19.9	20.0	99	77-127
4-Methyl-2-pentanone	8260C	20.6	20.0	103	67-130
Acetone	8260C	19.6	20.0	98	39-160
Benzene	8260C	20.5	20.0	103	79-120
Bromobenzene	8260C	21.6	20.0	108	80-120
Bromochloromethane	8260C	19.1	20.0	95	78-123
Bromodichloromethane	8260C	19.2	20.0	96	79-125
Bromoform	8260C	21.7	20.0	109	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP
Sample Matrix: Water

Service Request: R1609732
Date Analyzed: 09/21/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611257-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	14.1	20.0	70	53-141
Carbon Disulfide	8260C	17.1	20.0	85	64-133
Carbon Tetrachloride	8260C	19.0	20.0	95	72-136
Chlorobenzene	8260C	20.6	20.0	103	82-118
Chloroethane	8260C	20.5	20.0	102	60-138
Chloroform	8260C	19.4	20.0	97	79-124
Chloromethane	8260C	18.2	20.0	91	50-139
Dibromochloromethane	8260C	20.6	20.0	103	74-126
Dibromomethane	8260C	20.0	20.0	100	79-123
Dichlorodifluoromethane (CFC 12)	8260C	19.1	20.0	96	32-152
Dichloromethane	8260C	18.5	20.0	92	74-124
Ethylbenzene	8260C	19.4	20.0	97	79-121
Hexachlorobutadiene	8260C	20.4	20.0	102	66-134
Isopropylbenzene (Cumene)	8260C	20.0	20.0	100	72-131
Naphthalene	8260C	21.6	20.0	108	61-128
Styrene	8260C	20.9	20.0	104	78-123
Tetrachloroethene (PCE)	8260C	20.8	20.0	104	74-129
Toluene	8260C	20.3	20.0	101	80-121
Trichloroethene (TCE)	8260C	19.8	20.0	99	79-123
Trichlorofluoromethane (CFC 11)	8260C	18.8	20.0	94	65-141
Vinyl Chloride	8260C	22.9	20.0	115	58-137
cis-1,2-Dichloroethene	8260C	19.6	20.0	98	78-123
cis-1,3-Dichloropropene	8260C	19.8	20.0	99	75-124
m,p-Xylenes	8260C	40.6	40.0	102	80-121
n-Butylbenzene	8260C	21.1	20.0	105	75-128
n-Propylbenzene	8260C	20.5	20.0	102	76-126
o-Xylene	8260C	21.0	20.0	105	78-122
sec-Butylbenzene	8260C	20.0	20.0	100	77-126
tert-Butylbenzene	8260C	20.2	20.0	101	78-124
trans-1,2-Dichloroethene	8260C	17.5	20.0	88	75-124
trans-1,3-Dichloropropene	8260C	19.2	20.0	96	73-127

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/16/16 12:46

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\091616\N0410.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-10 **Analysis Lot:** 514503

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	21.47	19042	Pass
75	95	30	60	50.52	44813	Pass
95	95	100	100	100.00	88701	Pass
96	95	5	9	7.13	6321	Pass
173	174	0	2	1.28	1001	Pass
174	95	50	120	88.51	78509	Pass
175	174	5	9	7.45	5848	Pass
176	174	95	101	96.04	75397	Pass
177	176	5	9	7.20	5431	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1611147-04	I:\ACQUDATA\msvoa10\data\091616\N0411.D\	09/16/16 13:20	
Lab Control Sample	RQ1611147-02	I:\ACQUDATA\msvoa10\data\091616\N0412.D\	09/16/16 13:52	
Method Blank	RQ1611147-01	I:\ACQUDATA\msvoa10\data\091616\N0414.D\	09/16/16 14:47	
TRIP BLANK	R1609732-011	I:\ACQUDATA\msvoa10\data\091616\N0421.D\	09/16/16 17:45	
OSL-MW8-091316	R1609732-001	I:\ACQUDATA\msvoa10\data\091616\N0422.D\	09/16/16 18:09	
OSL-MW10-091316	R1609732-002	I:\ACQUDATA\msvoa10\data\091616\N0423.D\	09/16/16 18:34	
SP03-EFF-091316	R1609732-003	I:\ACQUDATA\msvoa10\data\091616\N0424.D\	09/16/16 18:58	
OSL-MW9A-091316	R1609732-004	I:\ACQUDATA\msvoa10\data\091616\N0425.D\	09/16/16 19:22	
LS34-EFF-091316	R1609732-006	I:\ACQUDATA\msvoa10\data\091616\N0426.D\	09/16/16 19:47	
LC009-EFF-091316	R1609732-007	I:\ACQUDATA\msvoa10\data\091616\N0427.D\	09/16/16 20:11	
DUP-091316	R1609732-008	I:\ACQUDATA\msvoa10\data\091616\N0428.D\	09/16/16 20:35	
OSL-SP03-091316	R1609732-009	I:\ACQUDATA\msvoa10\data\091616\N0429.D\	09/16/16 21:00	
LC009-091316	R1609732-010	I:\ACQUDATA\msvoa10\data\091616\N0430.D\	09/16/16 21:24	
Continuing Calibration Verification	RQ1611147-05	I:\ACQUDATA\msvoa10\data\091616\N0434.D\	09/16/16 23:02	

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/16/16 12:46

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\092116\N0512.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-10 **Analysis Lot:** 514695

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	21.42	27960	Pass
75	95	30	60	50.24	65584	Pass
95	95	100	100	100.00	130538	Pass
96	95	5	9	6.71	8763	Pass
173	174	0	2	1.29	1432	Pass
174	95	50	120	85.19	111203	Pass
175	174	5	9	7.69	8546	Pass
176	174	95	101	95.54	106240	Pass
177	176	5	9	6.71	7127	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1611257-02	I:\ACQUDATA\msvoa10\data\092116\N0513.D\	09/21/16 10:04	
Lab Control Sample	RQ1611257-03	I:\ACQUDATA\msvoa10\data\092116\N0514.D\	09/21/16 10:36	
Method Blank	RQ1611257-04	I:\ACQUDATA\msvoa10\data\092116\N0516.D\	09/21/16 11:29	
LS34-091316	R1609732-005	I:\ACQUDATA\msvoa10\data\092116\N0517.D\	09/21/16 11:54	
Continuing Calibration Verification	RQ1611257-07	I:\ACQUDATA\msvoa10\data\092116\N0537.D\	09/21/16 20:01	

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/16/16 13:20

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\091616\N0411.D\ **Lab Code:**RQ1611147-04
Instrument ID: R-MS-10 **Analysis Lot:**514503
Analysis Method: 8260C **Signal ID:**

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	151,714	11.99	307,279	6.71	274,823	9.96
	Upper Limit ==>	303,428	12.49	614,558	7.21	549,646	10.46
	Lower Limit ==>	75,857	11.49	153,640	6.21	137,412	9.46
Associated Analyses							
Lab Control Sample	RQ1611147-02	147827	11.99	307447	6.71	274608	9.96
Method Blank	RQ1611147-01	132854	11.99	297350	6.71	262484	9.96
TRIP BLANK	R1609732-011	134082	11.99	305084	6.71	268885	9.96
OSL-MW8-091316	R1609732-001	133420	11.99	297454	6.71	263295	9.96
OSL-MW10-091316	R1609732-002	135446	11.99	304323	6.71	271940	9.96
SP03-EFF-091316	R1609732-003	131681	11.99	301850	6.71	263080	9.96
OSL-MW9A-091316	R1609732-004	133929	11.99	312032	6.71	272274	9.96
LS34-EFF-091316	R1609732-006	135691	11.99	302131	6.71	267560	9.96
LC009-EFF-091316	R1609732-007	134837	11.99	305599	6.71	268081	9.96
DUP-091316	R1609732-008	134169	11.99	303435	6.71	267528	9.96
OSL-SP03-091316	R1609732-009	131402	11.99	300139	6.71	260040	9.96
LC009-091316	R1609732-010	137871	11.99	312420	6.71	273175	9.96

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/16/16 13:20

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\091616\N0411.D\ **Lab Code:**RQ1611147-04
Instrument ID: R-MS-10 **Analysis Lot:**514503
Analysis Method: 8260C **Signal ID:**

		Pentafluorobenzene	
		Area	**RT**
	ICAL Result ==>	218,705	5.67
	Upper Limit ==>	437,410	6.17
	Lower Limit ==>	109,353	5.17
Associated Analyses			
Lab Control Sample	RQ1611147-02	217490	5.67
Method Blank	RQ1611147-01	212378	5.67
TRIP BLANK	R1609732-011	212478	5.67
OSL-MW8-091316	R1609732-001	208743	5.67
OSL-MW10-091316	R1609732-002	215435	5.67
SP03-EFF-091316	R1609732-003	209021	5.67
OSL-MW9A-091316	R1609732-004	216777	5.67
LS34-EFF-091316	R1609732-006	212586	5.67
LC009-EFF-091316	R1609732-007	214106	5.67
DUP-091316	R1609732-008	210501	5.67
OSL-SP03-091316	R1609732-009	210300	5.67
LC009-091316	R1609732-010	216369	5.67

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/21/16 10:04

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\092116\N0513.D\ **Lab Code:**RQ1611257-02
Instrument ID: R-MS-10 **Analysis Lot:**514695
Analysis Method: 8260C **Signal ID:**

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	205,772	11.99	422,545	6.71	365,672	9.96
	Upper Limit ==>	411,544	12.49	845,090	7.21	731,344	10.46
	Lower Limit ==>	102,886	11.49	211,273	6.21	182,836	9.46
Associated Analyses							
Lab Control Sample	RQ1611257-03	208788	11.99	447112	6.71	392084	9.96
Method Blank	RQ1611257-04	183078	11.99	421396	6.71	361723	9.96
LS34-091316	R1609732-005	188176	11.99	431285	6.71	376751	9.96

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/21/16 10:04

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\msvoa10\data\092116\N0513.D\ **Lab Code:**RQ1611257-02
Instrument ID: R-MS-10 **Analysis Lot:**514695
Analysis Method: 8260C **Signal ID:**

		Pentafluorobenzene	
		Area	**RT**
	ICAL Result ==>	301,703	5.67
	Upper Limit ==>	603,406	6.17
	Lower Limit ==>	150,852	5.17
Associated Analyses			
Lab Control Sample	RQ1611257-03	319816	5.67
Method Blank	RQ1611257-04	298169	5.67
LS34-091316	R1609732-005	307588	5.67

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	2,4,6-Tribromophenol 43 - 140	2-Fluorobiphenyl 44 - 119	2-Fluorophenol 19 - 119
OSL-MW8-091316	R1609732-001	93	70	36
OSL-MW10-091316	R1609732-002	100	79	38
OSL-MW9A-091316	R1609732-004	94	78	38
DUP-091316	R1609732-008	99	84	40
OSL-SP03-091316	R1609732-009	90	69	36
Method Blank	RQ1610987-01	94	73	38
Lab Control Sample	RQ1610987-02	88	77	43
Duplicate Lab Control Sample	RQ1610987-03	91	80	45

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

		Nitrobenzene-d5	Phenol-d6	p-Terphenyl-d14
Sample Name	**Lab Code**	**44 - 120**	**10 - 107**	**50 - 134**
OSL-MW8-091316	R1609732-001	70	25	88
OSL-MW10-091316	R1609732-002	80	27	92
OSL-MW9A-091316	R1609732-004	76	26	89
DUP-091316	R1609732-008	83	28	92
OSL-SP03-091316	R1609732-009	72	25	80
Method Blank	RQ1610987-01	75	28	91
Lab Control Sample	RQ1610987-02	77	32	89
Duplicate Lab Control Sample	RQ1610987-03	80	34	89

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Analyzed:**	09/20/16 10:42
Sample Matrix:	Water	**Date Extracted:**	09/16/16

Method Blank Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	R-MS-54
Lab Code:	RQ1610987-01	**File ID:**	I:\ACQUDATA\5973D\Data\092016\BI158.D\
Analysis Method:	8270D	**Analysis Lot:**	514794
Prep Method:	EPA 3510C	**Extraction Lot:**	271088

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1610987-02	I:\ACQUDATA\5973D\Data\092016\BI159.D\	09/20/16 11:10
Duplicate Lab Control Sample	RQ1610987-03	I:\ACQUDATA\5973D\Data\092016\BI160.D\	09/20/16 11:38
OSL-MW8-091316	R1609732-001	I:\ACQUDATA\5973D\Data\092016\BI165.D\	09/20/16 13:58
OSL-MW10-091316	R1609732-002	I:\ACQUDATA\5973D\Data\092016\BI166.D\	09/20/16 14:26
OSL-MW9A-091316	R1609732-004	I:\ACQUDATA\5973D\Data\092016\BI167.D\	09/20/16 14:54
DUP-091316	R1609732-008	I:\ACQUDATA\5973D\Data\092016\BI168.D\	09/20/16 15:23
OSL-SP03-091316	R1609732-009	I:\ACQUDATA\5973D\Data\092016\BI169.D\	09/20/16 15:50

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610987-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
1,2-Dichlorobenzene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
1,3-Dichlorobenzene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
1,4-Dichlorobenzene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2,4,5-Trichlorophenol	ND U	10	5.0	1.8	1	09/20/16 10:42	9/16/16	
2,4,6-Trichlorophenol	ND U	10	5.0	1.4	1	09/20/16 10:42	9/16/16	
2,4-Dichlorophenol	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
2,4-Dimethylphenol	ND U	10	5.0	1.5	1	09/20/16 10:42	9/16/16	
2,4-Dinitrophenol	ND U	50	25	20	1	09/20/16 10:42	9/16/16	
2,4-Dinitrotoluene	ND U	10	5.0	1.6	1	09/20/16 10:42	9/16/16	
2,6-Dinitrotoluene	ND U	10	5.0	1.8	1	09/20/16 10:42	9/16/16	
2-Chloronaphthalene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Chlorophenol	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Methylnaphthalene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Methylphenol	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
2-Nitroaniline	ND U	50	25	9.1	1	09/20/16 10:42	9/16/16	
2-Nitrophenol	ND U	10	5.0	1.4	1	09/20/16 10:42	9/16/16	
3,3'-Dichlorobenzidine	ND U	10	5.0	4.5	1	09/20/16 10:42	9/16/16	
3- and 4-Methylphenol Coelution	ND U	20	10	2.0	1	09/20/16 10:42	9/16/16	
3-Nitroaniline	ND U	50	25	7.7	1	09/20/16 10:42	9/16/16	
4,6-Dinitro-2-methylphenol	ND U	50	25	11	1	09/20/16 10:42	9/16/16	
4-Bromophenyl Phenyl Ether	ND U	10	5.0	2.2	1	09/20/16 10:42	9/16/16	
4-Chloro-3-methylphenol	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
4-Chloroaniline	ND U	10	5.0	1.5	1	09/20/16 10:42	9/16/16	
4-Chlorophenyl Phenyl Ether	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
4-Nitroaniline	ND U	50	25	7.8	1	09/20/16 10:42	9/16/16	
4-Nitrophenol	ND U	50	25	5.9	1	09/20/16 10:42	9/16/16	
Acenaphthene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Acenaphthylene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Anthracene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benz(a)anthracene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(a)pyrene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(b)fluoranthene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(g,h,i)perylene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzo(k)fluoranthene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Benzyl Alcohol	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
2,2'-Oxybis(1-chloropropane)	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Bis(2-chloroethoxy)methane	ND U	10	5.0	2.2	1	09/20/16 10:42	9/16/16	
Bis(2-chloroethyl) Ether	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
Bis(2-ethylhexyl) Phthalate	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Butyl Benzyl Phthalate	ND U	10	5.0	2.4	1	09/20/16 10:42	9/16/16	
Carbazole	ND U	10	5.0	1.1	1	09/20/16 10:42	9/16/16	
Chrysene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1610987-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Di-n-octyl Phthalate	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Dibenz(a,h)anthracene	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
Dibenzofuran	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Diethyl Phthalate	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Dimethyl Phthalate	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Fluoranthene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Fluorene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Hexachlorobenzene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Hexachlorobutadiene	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
Hexachloroethane	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Indeno(1,2,3-cd)pyrene	ND U	10	5.0	1.2	1	09/20/16 10:42	9/16/16	
Isophorone	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
N-Nitrosodi-n-propylamine	ND U	10	5.0	1.3	1	09/20/16 10:42	9/16/16	
N-Nitrosodimethylamine	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
N-Nitrosodiphenylamine	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Naphthalene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Nitrobenzene	ND U	10	5.0	1.6	1	09/20/16 10:42	9/16/16	
Pentachlorophenol (PCP)	ND U	50	25	6.9	1	09/20/16 10:42	9/16/16	
Phenanthrene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Phenol	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	
Pyrene	ND U	10	5.0	1.0	1	09/20/16 10:42	9/16/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	43 - 140	09/20/16 10:42	
2-Fluorobiphenyl	73	44 - 119	09/20/16 10:42	
2-Fluorophenol	38	19 - 119	09/20/16 10:42	
Nitrobenzene-d5	75	44 - 120	09/20/16 10:42	
Phenol-d6	28	10 - 107	09/20/16 10:42	
p-Terphenyl-d14	91	50 - 134	09/20/16 10:42	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609732
Project:	Fort Drum, NY IRP	**Date Analyzed:**	09/20/16 11:10
Sample Matrix:	Water	**Date Extracted:**	09/16/16

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-54
Lab Code:	RQ1610987-02	**File ID:**	I:\ACQUDATA\5973D\Data\092016\BI159.D\
Analysis Method:	8270D	**Analysis Lot:**	514794
Prep Method:	EPA 3510C	**Extraction Lot:**	271088

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1610987-01	I:\ACQUDATA\5973D\Data\092016\BI158.D\	09/20/16 10:42
Duplicate Lab Control Sample	RQ1610987-03	I:\ACQUDATA\5973D\Data\092016\BI160.D\	09/20/16 11:38
OSL-MW8-091316	R1609732-001	I:\ACQUDATA\5973D\Data\092016\BI165.D\	09/20/16 13:58
OSL-MW10-091316	R1609732-002	I:\ACQUDATA\5973D\Data\092016\BI166.D\	09/20/16 14:26
OSL-MW9A-091316	R1609732-004	I:\ACQUDATA\5973D\Data\092016\BI167.D\	09/20/16 14:54
DUP-091316	R1609732-008	I:\ACQUDATA\5973D\Data\092016\BI168.D\	09/20/16 15:23
OSL-SP03-091316	R1609732-009	I:\ACQUDATA\5973D\Data\092016\BI169.D\	09/20/16 15:50

QA/QC Report

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP
Sample Matrix: Water

Service Request: R1609732
Date Analyzed: 09/20/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610987-02			RQ1610987-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	67.3	100	67	72.4	100	72	29-116	7	20
1,2-Dichlorobenzene	8270D	65.1	100	65	71.1	100	71	32-111	9	20
1,3-Dichlorobenzene	8270D	62.1	100	62	68.6	100	69	28-110	10	20
1,4-Dichlorobenzene	8270D	63.9	100	64	69.7	100	70	29-112	9	20
2,4,5-Trichlorophenol	8270D	96.9	100	97	99.6	100	100	53-123	3	20
2,4,6-Trichlorophenol	8270D	94.9	100	95	100	100	100	50-125	6	20
2,4-Dichlorophenol	8270D	112	100	112	113	100	113	47-121	<1	20
2,4-Dimethylphenol	8270D	98.2	100	98	102	100	102	31-124	4	20
2,4-Dinitrophenol	8270D	126	100	126	127	100	127	23-143	<1	20
2,4-Dinitrotoluene	8270D	97.3	100	97	102	100	102	57-128	5	20
2,6-Dinitrotoluene	8270D	99.3	100	99	107	100	106	57-124	7	20
2-Chloronaphthalene	8270D	82.3	100	82	86.7	100	87	40-116	5	20
2-Chlorophenol	8270D	83.2	100	83	90.1	100	90	38-117	8	20
2-Methylnaphthalene	8270D	77.4	100	77	80.7	100	81	40-121	4	20
2-Methylphenol	8270D	78.9	100	79	84.0	100	84	30-117	6	20
2-Nitroaniline	8270D	96.9	100	97	99.4	100	99	55-127	3	20
2-Nitrophenol	8270D	99.6	100	100	102	100	102	47-123	2	20
3,3'-Dichlorobenzidine	8270D	81.6	100	82	87.4	100	87	27-129	7	20
3- and 4-Methylphenol Coelution	8270D	67.0	100	67	71.3	100	71	29-110	6	20
3-Nitroaniline	8270D	75.5	100	75	81.9	100	82	41-128	8	20
4,6-Dinitro-2-methylphenol	8270D	115	100	115	126	100	126	44-137	9	20
4-Bromophenyl Phenyl Ether	8270D	92.5	100	92	97.0	100	97	55-124	5	20
4-Chloro-3-methylphenol	8270D	101	100	101	103	100	103	52-119	2	20
4-Chloroaniline	8270D	89.6	100	90	95.6	100	96	33-117	6	20
4-Chlorophenyl Phenyl Ether	8270D	89.3	100	89	92.2	100	92	53-121	3	20
Acenaphthene	8270D	84.9	100	85	88.9	100	89	47-122	5	20
Acenaphthylene	8270D	83.5	100	83	87.9	100	88	41-130	5	20
Anthracene	8270D	102	100	102	105	100	105	57-123	3	20
Benz(a)anthracene	8270D	99.8	100	100	101	100	101	58-125	<1	20
Benzo(a)pyrene	8270D	104	100	104	105	100	105	54-128	1	20
Benzo(b)fluoranthene	8270D	97.8	100	98	97.8	100	98	53-131	<1	20
Benzo(g,h,i)perylene	8270D	104	100	104	107	100	107	50-134	3	20
Benzo(k)fluoranthene	8270D	102	100	102	104	100	104	57-129	2	20

Client: ARCADIS U.S., Inc. **Service Request:** R1609732
Project: Fort Drum, NY IRP **Date Analyzed:** 09/20/16
Sample Matrix: Water

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1610987-02			RQ1610987-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	8270D	87.8	100	88	95.2	100	95	31-112	8	20
Bis(2-chloroethoxy)methane	8270D	93.3	100	93	96.8	100	97	48-120	4	20
Bis(2-chloroethyl) Ether	8270D	82.4	100	82	90.1	100	90	43-118	9	20
Bis(2-ethylhexyl) Phthalate	8270D	105	100	105	104	100	104	55-135	<1	20
Butyl Benzyl Phthalate	8270D	99.3	100	99	99.7	100	100	53-134	<1	20
Carbazole	8270D	94.7	100	95	104	100	104	60-122	9	20
Chrysene	8270D	101	100	101	102	100	102	59-123	<1	20
Di-n-butyl Phthalate	8270D	110	100	110	118	100	118	59-127	7	20
Di-n-octyl Phthalate	8270D	109	100	109	111	100	111	51-140	2	20
Dibenz(a,h)anthracene	8270D	98.8	100	99	99.4	100	99	51-134	<1	20
Dibenzofuran	8270D	86.4	100	86	90.7	100	91	53-118	5	20
Diethyl Phthalate	8270D	97.1	100	97	100	100	100	56-125	3	20
Dimethyl Phthalate	8270D	96.0	100	96	98.5	100	99	45-127	3	20
Fluoranthene	8270D	104	100	104	112	100	112	57-128	7	20
Fluorene	8270D	90.9	100	91	93.0	100	93	52-124	2	20
Hexachlorobenzene	8270D	97.7	100	98	105	100	105	53-125	7	20
Hexachlorobutadiene	8270D	75.3	100	75	80.0	100	80	22-124	6	20
Hexachloroethane	8270D	58.3	100	58	66.4	100	66	21-115	13	20
Indeno(1,2,3-cd)pyrene	8270D	97.5	100	98	96.6	100	97	52-134	<1	20
Isophorone	8270D	98.8	100	99	102	100	102	42-124	3	20
N-Nitrosodi-n-propylamine	8270D	79.2	100	79	86.4	100	86	49-119	9	20
N-Nitrosodimethylamine	8270D	44.5	100	45	48.2	100	48	23-120	8	20
N-Nitrosodiphenylamine	8270D	93.3	100	93	97.6	100	98	51-123	5	20
Naphthalene	8270D	77.3	100	77	82.2	100	82	40-121	6	20
Nitrobenzene	8270D	92.5	100	92	96.4	100	96	45-121	4	20
Pentachlorophenol (PCP)	8270D	143	100	143 *	144	100	144 *	35-138	<1	20
Phenanthrene	8270D	97.3	100	97	105	100	105	59-120	8	20
Phenol	8270D	35.3	100	35	38.5	100	38	34-121	9	20
Pyrene	8270D	97.5	100	98	99.5	100	100	57-126	2	20

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/20/16 09:55

Tune Summary
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\092016\BI156.D\ **Analytical Method:** 8270D
Instrument ID: R-MS-54 **Analysis Lot:** 514794

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	47.30	19576	Pass
68	69	0.00	2	1.58	328	Pass
69	198	0.00	100	50.23	20791	Pass
70	69	0.00	2	0.63	132	Pass
127	198	10	80	58.61	24259	Pass
197	198	0.00	2	0.00	0	Pass
198	198	100	100	100.00	41389	Pass
199	198	5	9	6.98	2891	Pass
275	198	10	60	21.02	8698	Pass
365	198	1	100	2.92	1209	Pass
441	442	0.01	24	14.41	5152	Pass
442	442	100	100	100.00	35759	Pass
443	442	15	24	19.78	7072	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1611163-02	I:\ACQUDATA\5973D\Data\092016\BI157.D\	09/20/16 10:14	
Method Blank	RQ1610987-01	I:\ACQUDATA\5973D\Data\092016\BI158.D\	09/20/16 10:42	
Lab Control Sample	RQ1610987-02	I:\ACQUDATA\5973D\Data\092016\BI159.D\	09/20/16 11:10	
Duplicate Lab Control Sample	RQ1610987-03	I:\ACQUDATA\5973D\Data\092016\BI160.D\	09/20/16 11:38	
OSL-MW8-091316	R1609732-001	I:\ACQUDATA\5973D\Data\092016\BI165.D\	09/20/16 13:58	
OSL-MW10-091316	R1609732-002	I:\ACQUDATA\5973D\Data\092016\BI166.D\	09/20/16 14:26	
OSL-MW9A-091316	R1609732-004	I:\ACQUDATA\5973D\Data\092016\BI167.D\	09/20/16 14:54	
DUP-091316	R1609732-008	I:\ACQUDATA\5973D\Data\092016\BI168.D\	09/20/16 15:23	
OSL-SP03-091316	R1609732-009	I:\ACQUDATA\5973D\Data\092016\BI169.D\	09/20/16 15:50	
Continuing Cal. Verification	RQ1611163-03	I:\ACQUDATA\5973D\Data\092016\BI171.D\	09/20/16 16:46	

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/20/16 10:14

Internal Standard Area and RT SUMMARY
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\092016\BI157.D\ **Lab Code:**RQ1611163-02
Instrument ID: R-MS-54 **Analysis Lot:**514794
Analysis Method: 8270D **Signal ID:**

		1,4-Dichlorobenzene-d4		Acenaphthene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	74,885	4.71	152,223	7.57	245,523	12.26
	Upper Limit ==>	149,770	5.21	304,446	8.07	491,046	12.76
	Lower Limit ==>	37,443	4.21	76,112	7.07	122,762	11.76
Associated Analyses							
Method Blank	RQ1610987-01	63865	4.70	124057	7.57	201248	12.25
Lab Control Sample	RQ1610987-02	68700	4.70	135079	7.57	223970	12.26
Duplicate Lab Control Sample	RQ1610987-03	61828	4.70	124677	7.57	213163	12.26
OSL-MW8-091316	R1609732-001	66475	4.70	133761	7.57	210671	12.25
OSL-MW10-091316	R1609732-002	61502	4.70	121839	7.57	192336	12.25
OSL-MW9A-091316	R1609732-004	63920	4.70	129181	7.57	194836	12.25
DUP-091316	R1609732-008	66469	4.70	131671	7.57	206380	12.25
OSL-SP03-091316	R1609732-009	65692	4.70	133406	7.57	214041	12.25
Continuing Cal. Verification	RQ1611163-03	76570	4.70	154365	7.57	259864	12.26

Client: ARCADIS U.S., Inc. **Service Request:**R1609732
Project: Fort Drum, NY IRP **Date Analyzed:**09/20/16 10:14

Internal Standard Area and RT SUMMARY
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\092016\BI157.D\ **Lab Code:**RQ1611163-02
Instrument ID: R-MS-54 **Analysis Lot:**514794
Analysis Method: 8270D **Signal ID:**

		Naphthalene-d8		Perylene-d12		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	291,992	5.87	234,166	15.15	274,964	9.04
	Upper Limit ==>	583,984	6.37	468,332	15.65	549,928	9.54
	Lower Limit ==>	145,996	5.37	117,083	14.65	137,482	8.54
Associated Analyses							
Method Blank	RQ1610987-01	239730	5.87	198182	15.14	240476	9.03
Lab Control Sample	RQ1610987-02	262169	5.87	214663	15.15	240435	9.04
Duplicate Lab Control Sample	RQ1610987-03	244466	5.87	200525	15.15	215764	9.04
OSL-MW8-091316	R1609732-001	252731	5.87	217815	15.14	246199	9.04
OSL-MW10-091316	R1609732-002	234693	5.87	199275	15.14	229675	9.04
OSL-MW9A-091316	R1609732-004	248945	5.87	207281	15.15	240951	9.03
DUP-091316	R1609732-008	252439	5.87	215648	15.14	247626	9.03
OSL-SP03-091316	R1609732-009	244743	5.87	205668	15.14	251222	9.03
Continuing Cal. Verification	RQ1611163-03	300002	5.87	240513	15.15	286800	9.04

November 10, 2016 Service Request No:R1609843

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY IRP Fall

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 18, 2016
For your reference, these analyses have been assigned our service request number **R1609843.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

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1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request:R1609843
Date Received:09/16/16 - 09/18/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Seven water samples were received for analysis at ALS Environmental on 09/16/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

No significant anomalies were noted with this analysis.

Semi-Volatile Organic Analyses:

Method 8270D, 09/21/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV) and the closing CCV. The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/21/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

General Chemistry Analyses:

Method SM 3500-Fe B.4.c/Ferrous DOD: One or more samples were received with insufficient hold time remaining to complete the analysis within the recommended limit. The analysis was performed as soon as possible after receipt by the laboratory. The data is flagged to indicate the holding time violation.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by  Date 11/10/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: OSL-SW09-091516	Lab ID: R1609843-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	0.25	J	0.20	5.0	ug/L	8260C
Acetone	3.8	J	1.3	10	ug/L	8260C
Benzene	0.99	J	0.20	5.0	ug/L	8260C
Ethylbenzene	0.95	J	0.20	5.0	ug/L	8260C
Naphthalene	0.51	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	0.94	J	0.33	5.0	ug/L	8260C
n-Propylbenzene	0.22	J	0.20	5.0	ug/L	8260C

CLIENT ID: OSL-SW06-091516	Lab ID: R1609843-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	5.8	J	1.3	10	ug/L	8260C
Benzene	0.81	J	0.20	5.0	ug/L	8260C
Ethylbenzene	0.61	J	0.20	5.0	ug/L	8260C
Naphthalene	0.41	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	0.52	J	0.33	5.0	ug/L	8260C

CLIENT ID: OSL-SW10-091516	Lab ID: R1609843-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.5	J	1.3	10	ug/L	8260C
Chloroform	0.31	J	0.25	5.0	ug/L	8260C

CLIENT ID: ASL-MW944-091616	Lab ID: R1609843-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	155		1.0	2.0	mg/L	SM 2320 B-
Ammonia as Nitrogen, undistilled	0.078		0.006	0.050	mg/L	ASTM
Carbon, Total Organic (TOC)	2.8		0.05	1.0	mg/L	SM 5310 C-
Chemical Oxygen Demand, Total	13.1		3.7	5.0	mg/L	410.4
Chloride	1280		40	80	mg/L	300.0
Iron, Divalent (Ferrous Iron)	0.37		0.04	0.10	mg/L	SM 3500-Fe
Nitrate as Nitrogen	3.5		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.30	J	0.08	0.40	mg/L	351.2
Phenolics, Total Recoverable	0.0041	J	0.0013	0.0050	mg/L	420.4
Solids, Total Dissolved (TDS)	2110		21	59	mg/L	SM 2540 C-
Sulfate	93.0		0.8	8.0	mg/L	300.0

CLIENT ID: ASL-MW943-091616	Lab ID: R1609843-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	202		1.0	2.0	mg/L	SM 2320 B-
Ammonia as Nitrogen, undistilled	0.025	J	0.006	0.050	mg/L	ASTM
Carbon, Total Organic (TOC)	1.4	B	0.05	1.0	mg/L	SM 5310 C-
Chemical Oxygen Demand, Total	8.1		3.7	5.0	mg/L	410.4
Chloride	645		10	20	mg/L	300.0
Iron, Divalent (Ferrous Iron)	0.05	J	0.04	0.10	mg/L	SM 3500-Fe

SAMPLE DETECTION SUMMARY

CLIENT ID: ASL-MW943-091616	Lab ID: R1609843-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Nitrate as Nitrogen	4.3		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.25	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	1290		15	40	mg/L	SM 2540 C-
Sulfate	37.4		0.2	2.0	mg/L	300.0
Methane	0.22	J	0.21	1.0	ug/L	RSK 175

CLIENT ID: ASL-MW942-091616	Lab ID: R1609843-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	295		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	2.0		0.05	1.0	mg/L	SM 5310 C-
Chemical Oxygen Demand, Total	6.5		3.7	5.0	mg/L	410.4
Chloride	204		10	20	mg/L	300.0
Nitrate as Nitrogen	5.0		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.26	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	680		8	20	mg/L	SM 2540 C-
Sulfate	24.8		0.2	2.0	mg/L	300.0

CLIENT ID: ASL-MW941-091616	Lab ID: R1609843-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Alkalinity, Total as CaCO3	140		1.0	2.0	mg/L	SM 2320 B-
Carbon, Total Organic (TOC)	1.4	B	0.05	1.0	mg/L	SM 5310 C-
Chloride	188		10	20	mg/L	300.0
Nitrate as Nitrogen	4.1		0.5	1.0	mg/L	300.0
Nitrogen, Total Kjeldahl (TKN)	0.14	J	0.08	0.40	mg/L	351.2
Solids, Total Dissolved (TDS)	526		4	11	mg/L	SM 2540 C-
Sulfate	37.9		0.2	2.0	mg/L	300.0

CLIENT ID: TRIP BLANK	Lab ID: R1609843-008					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.8	J	1.3	10	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609843-001	OSL-SW09-091516	9/15/2016	0820
R1609843-002	OSL-SW06-091516	9/15/2016	0845
R1609843-003	OSL-SW10-091516	9/15/2016	0920
R1609843-004	ASL-MW944-091616	9/16/2016	0830
R1609843-005	ASL-MW943-091616	9/16/2016	1000
R1609843-006	ASL-MW942-091616	9/16/2016	1240
R1609843-007	ASL-MW941-091616	9/16/2016	1130
R1609843-008	TRIP BLANK	9/15/2016	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39925

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: FT Drum IRP Fall	Project Number:
Project Manager: Stefan Bajnato	Report CC:
Company/Address: Arcadis 855 Route 146 Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.bajnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Michael Griffith

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	VOC	SVOC	TAL Metals	Hardness	ASL Calkulate	Bromide, Nitrate, Nitrite	TOC, Sulfide, TDS, BOD, F, Cl	REMARKS/ ALTERNATE DESCRIPTION
OSL-SW09-091516		9/15/16	0820	GW									3	2	1	1				
OSL-SW06-091516		9/15/16	0845	GW									3	2	1	1				
OSL-SW10-091516		9/15/16	0920	GW									3	2	1	1				
ASL-MW94-091616		9/16/16	0830	GW													9			
ASL-MW93-091616		9/16/16	1000	GW													9			
ASL-MW93-091616 (MS)		9/16/16	1000	GW													9			
ASL-MW93-091616 (MSD)		9/16/16	1000	GW													9			
ASL-MW92-091616		9/16/16	1240	GW													9			
ASL-MW91-091616		9/16/16	1130	GW													9			
Trip blank																				

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Metals

ASP Category B (Tier IV) OSL/ASL

EQUIS EFWERD w/ Arcadis reference values

2 Coders

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

REQUESTED REPORT DATE

_____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Scott Seay	Signature Scott Seay	Signature Daniel Ward	Signature	
Printed Name: M. Griffith	Printed Name SCOTT SEAY	Printed Name SCOTT SEAY	Printed Name	Printed Name	
Firm Arcadis	Firm ALS	Firm ALS	Firm ALS	Firm	
Date/Time 9/16/16 13:41	Date/Time 9/16/16 1341	Date/Time 9/16/16 1634	Date/Time 9/16/16/1630	Date/Time	

R1609843 5

ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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R1609843 5
ARCADIS U.S., Inc.
Fort Drum, NY

Cooler Receipt and Preservation Check Form

Project/Client Arcadis Folder Number .

Cooler received on 9/16/16 by: TS/DW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y N
2	**Custody papers** properly completed (ink, signed)?	Y N
3	Did all bottles arrive in good **condition** (unbroken)?	Y N
4	Circle: **Wet Ice Dry Ice Gel packs** present?	Y N

5a	**Perchlorate** samples have required headspace?	Y N NA
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N NA
6	Where did the bottles originate?	ALS/ROC CLIENT
7	Soil VOA received as:	Bulk Encore 5035set NA

8. Temperature Readings Date: 9/16/16 Time: 1644 ID: IR#5 IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.4C	17.3C	7.1C				
Correction Factor (°C)	+0.0	~~+0.0~~ -0.2	-0.2				
Corrected Temp (°C)	1.4C	17.1C	6.9C				
Within 0-6°C?	Y N	Y N*	Y N*	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed** Same Day Rule*

&Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by:

All samples held in storage location: R-002 by DW/TS on 9/16/16 at 1644
5035 samples placed in storage location: by on at

Cooler Breakdown: Date: 9/16/16 Time: 1128 by: @

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
5. Air Samples: Cassettes / Tubes Intact N/A Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		BDB26153G	6/17				
≤2	H_2SO_4	✓		WC16100,A	5/17				
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522	✓		If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**	4115022	7/17				

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: *

Bottle lot numbers: 5-Zinc-002, 6-Oct-001, N:1314 ZnT, Ascorbic 3mM, NaOH+EDTA, HNO3 1.01

Other Comments:

** 3805-PZ135-091516
A95-MW52-091516

also need RSK-175 & metals for all "ASL" locations not on COC.

1/2 soy bottle for ASL-944-091616 not complete

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: MM 9/16/16

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Janice Jaeger

Project Number: R1609843
Project Manager: Janice Jaeger
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Ag T DOD 6010C	Al T DOD 6010C	As T DOD 6010C	Ba T DOD 6010C	Be T DOD 6010C	Ca T DOD 6010C	Cd T DOD 6010C	Co T DOD 6010C	Cr T DOD 6010C
[redacted]001	OSL-SW09-091516	1	Water	9/15/16	0820	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	OSL-SW06-091516	1	Water	9/15/16	0845	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	OSL-SW10-091516	1	Water	9/15/16	0920	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	ASL-MW944-091616	1	Water	9/16/16	0830	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]005	ASL-MW943-091616 QC	3	Water	9/16/16	1000	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	ASL-MW942-091616	1	Water	9/16/16	1240	Middletown ALS	X	X	X	X	X	X	X	X	X
[redacted]	ASL-MW941-091616	1	Water	9/16/16	1130	Middletown ALS	X	X	X	X	X	X	X	X	X

Folder Comments:
DoD

Special Instructions/Comments
Fort Drum, DoD
EQUIS 3.7 EDD w/ Arcadis UUS

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements
____ **RUSH** (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
A **STANDARD**
Requested FAX Date: _____
Requested Report Date: 09/27/16

Report Requirements
____ I. Results Only
____ II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
K IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD Y

Invoice Information
PO# 58R1609843
Bill to

Relinquished By: [signature] 9-19-16 1230 Received By: _____ Airbill Number: _____

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609843-001.01					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	SUBBED / GLAFORCE	
R1609843-001.02					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-001.03					
	8260C				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/22/2016	1127	In Lab / DLIPANI	
		9/22/2016	1903	R-001-S11 / DLIPANI	
R1609843-001.04					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-001.05					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-001.06					
		9/18/2016	1139	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-001.07					
	8270D				
		9/18/2016	1139	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/19/2016	0758	In Lab / DMURPHY	
R1609843-002.01					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	SUBBED / GLAFORCE	
R1609843-002.02					
	8260C				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/22/2016	1127	In Lab / DLIPANI	
		9/22/2016	1903	R-001-S11 / DLIPANI	

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609843-002.03					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-002.04					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-002.05					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-002.06					
	8270D				
		9/18/2016	1139	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/19/2016	0757	In Lab / DMURPHY	
R1609843-002.07					
		9/18/2016	1139	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-003.01					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	SUBBED / GLAFORCE	
R1609843-003.02					
	8260C				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/22/2016	1127	In Lab / DLIPANI	
		9/22/2016	1902	R-001-S11 / DLIPANI	
R1609843-003.03					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-003.04					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-003.05					

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-003.06					
		9/18/2016	1139	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-003.07					
	8270D				
		9/18/2016	1139	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/19/2016	0757	In Lab / DMURPHY	
R1609843-004.03					
	SM 5310 C-2000(2011),420.4				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	0817	In Lab / BBOWE	
		9/27/2016	1422	R-002 / KMENGS	
		9/28/2016	0935	In Lab / KMENGS	
R1609843-004.06					
	SM 2320 B-1997(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-004.10					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	SUBBED / GLAFORCE	
R1609843-004.11					
	SM 5210 B-2001(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-004.14					
	351.2,410.4,ASTM D6919-09				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/19/2016	1353	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1644	R-002 / TSABO	

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609843-004.15					
	RSK 175				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/23/2016	1125	In Lab / AMOSES	
		9/23/2016	1606	R-001 / AMOSES	
R1609843-004.16					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-004.17					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-004.20					
	300.0,300.0,300.0,SM 2540 C-1997(2011),300.0,SM 3500-Fe B.4.c				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/20/2016	0904	In Lab / KWONG	
		9/20/2016	1212	R-002 / KWONG	
		9/20/2016	1457	In Lab / NMANSEN	
		9/20/2016	1841	R-002 / NMANSEN	
R1609843-004.21					
	300.0				
		9/19/2016	0805	SMO / JJAEGER	
R1609843-005.03					
	SM 5310 C-2000(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-005.06					
	SM 2320 B-1997(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-005.10					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	SUBBED / GLAFORCE	
R1609843-005.11					
	SM 5210 B-2001(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609843-005.14					
	351.2,410.4,ASTM D6919-09				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1644	R-002 / TSABO	
R1609843-005.15					
	RSK 175				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-005.16					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/23/2016	1125	In Lab / AMOSES	
		9/23/2016	1606	R-001 / AMOSES	
R1609843-005.17					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/23/2016	1125	In Lab / AMOSES	
		9/23/2016	1606	R-001 / AMOSES	
R1609843-005.20					
	300.0,300.0,300.0,SM 2540 C-1997(2011),300.0,SM 3500-Fe B.4.c				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-005.21					
	420.4				
		9/18/2016	1148	SMO / GLAFORCE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	0817	In Lab / BBOWE	
		9/27/2016	1423	R-Dumpster / KMENGS	
R1609843-005.22					
		9/18/2016	1148	SMO / GLAFORCE	
		9/27/2016	1346	In Lab / KABBOTT	
		9/27/2016	1422	R-002 / KMENGS	
R1609843-005.23					

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.24					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.25					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.26					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.27					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.28					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.29					
		9/18/2016	1148	SMO / GLAFORCE	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
R1609843-005.30					
		9/18/2016	1148	SMO / GLAFORCE	
		9/19/2016	1354	In Lab / MLAMBRECHT	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/28/2016	0935	In Lab / KMENGS	
		9/28/2016	1654	R-002 / KMENGS	
R1609843-005.31					
		9/18/2016	1148	SMO / GLAFORCE	
		9/23/2016	1125	In Lab / AMOSES	
		9/23/2016	1606	R-001 / AMOSES	
R1609843-005.32					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.33					

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.34					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.35					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.36					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.37					
		9/18/2016	1148	SMO / GLAFORCE	
R1609843-005.38					
		9/18/2016	1148	SMO / GLAFORCE	
		9/20/2016	0904	In Lab / KWONG	
		9/20/2016	1212	R-002 / KWONG	
		9/20/2016	1457	In Lab / NMANSEN	
		9/20/2016	1840	R-002 / NMANSEN	
		9/26/2016	1319	In Lab / NMANSEN	
		9/26/2016	1710	R-002 / NMANSEN	
R1609843-005.39					
	300.0				
		9/19/2016	0805	SMO / JJAEGER	
R1609843-006.03					
	SM 5310 C-2000(2011),420.4				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	0817	In Lab / BBOWE	
		9/27/2016	1422	R-002 / KMENGS	
		9/28/2016	0935	In Lab / KMENGS	
R1609843-006.06					
	SM 2320 B-1997(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-006.10					

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	SUBBED / GLAFORCE	
R1609843-006.11					
	SM 5210 B-2001(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-006.14					
	351.2,410.4,ASTM D6919-09				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/20/2016	1105	R-002 / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1644	R-002 / TSABO	
R1609843-006.15					
	RSK 175				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-006.16					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/23/2016	1125	In Lab / AMOSES	
		9/23/2016	1606	R-001 / AMOSES	
R1609843-006.17					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-006.20					
	300.0,300.0,300.0,SM 2540 C-1997(2011),300.0,SM 3500-Fe B.4.c				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/20/2016	0904	In Lab / KWONG	
		9/20/2016	1212	R-002 / KWONG	
		9/20/2016	1457	In Lab / NMANSEN	
		9/20/2016	1840	R-002 / NMANSEN	
R1609843-006.21					
	300.0				
		9/19/2016	0805	SMO / JJAEGER	
R1609843-007.03					

ALS Group USA, Corp.
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Internal Chain of Custody Report

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	SM 5310 C-2000(2011),420.4				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/22/2016	1551	In Lab / KABBOTT	
		9/22/2016	1632	R-002 / KABBOTT	
		9/27/2016	0817	In Lab / BBOWE	
		9/27/2016	1422	R-002 / KMENGS	
		9/28/2016	0935	In Lab / KMENGS	
R1609843-007.06					
	SM 2320 B-1997(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-007.10					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	SUBBED / GLAFORCE	
R1609843-007.11					
	SM 5210 B-2001(2011)				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
R1609843-007.14					
	351.2,410.4,ASTM D6919-09				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/19/2016	1357	In Lab / MLAMBRECHT	
		9/23/2016	1525	In Lab / TSABO	
		9/23/2016	1644	R-002 / TSABO	
R1609843-007.15					
	RSK 175				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
R1609843-007.16					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	
		9/23/2016	1125	In Lab / AMOSES	
		9/23/2016	1606	R-001 / AMOSES	
R1609843-007.17					
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1142	R-001 / GLAFORCE	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1609843-007.20					
	300.0,300.0,300.0,SM 2540 C-1997(2011),300.0,SM 3500-Fe B.4.c				
		9/18/2016	1128	SMO / GLAFORCE	
		9/18/2016	1143	R-002 / GLAFORCE	
		9/20/2016	0904	In Lab / KWONG	
		9/20/2016	1212	R-002 / KWONG	
		9/20/2016	1457	In Lab / NMANSEN	
		9/20/2016	1840	R-002 / NMANSEN	
R1609843-007.21					
	300.0				
		9/19/2016	0805	SMO / JJAEGER	
R1609843-008.01					
	8260C				
		9/18/2016	1156	R-001 / GLAFORCE	
		9/18/2016	1156	SMO / GLAFORCE	
		9/22/2016	1127	In Lab / DLIPANI	
		9/22/2016	1903	R-001-S11 / DLIPANI	
R1609843-008.02					
		9/18/2016	1156	R-001 / GLAFORCE	
		9/18/2016	1156	SMO / GLAFORCE	
R1609843-008.03					
		9/18/2016	1156	R-001 / GLAFORCE	
		9/18/2016	1156	SMO / GLAFORCE	

Miscellaneous Forms

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www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% (25% for CLP) difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
SM 3500-Fe B.4.c	Water	Iron, Divalent (Ferrous Iron)

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Sample Name: OSL-SW09-091516 **Date Collected:** 09/15/16
Lab Code: R1609843-001 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI
8270D	DMURPHY	JMISIUREWICZ

Sample Name: OSL-SW06-091516 **Date Collected:** 09/15/16
Lab Code: R1609843-002 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI
8270D	DMURPHY	JMISIUREWICZ

Sample Name: OSL-SW10-091516 **Date Collected:** 09/15/16
Lab Code: R1609843-003 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI
8270D	DMURPHY	JMISIUREWICZ

Sample Name: ASL-MW944-091616 **Date Collected:** 09/16/16
Lab Code: R1609843-004 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	GNITAJOUPPI
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		CWOODS
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Sample Name: ASL-MW944-091616 **Date Collected:** 09/16/16
Lab Code: R1609843-004 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		CWOODS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

Sample Name: ASL-MW943-091616 **Date Collected:** 09/16/16
Lab Code: R1609843-005 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	GNITAJOUPPI
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		CWOODS
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		CWOODS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

Sample Name: ASL-MW942-091616 **Date Collected:** 09/16/16
Lab Code: R1609843-006 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	GNITAJOUPPI
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		CWOODS

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Sample Name: ASL-MW942-091616 **Date Collected:** 09/16/16
Lab Code: R1609843-006 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		CWOODS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

Sample Name: ASL-MW941-091616 **Date Collected:** 09/16/16
Lab Code: R1609843-007 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
351.2	KMENGS	GNITAJOUPPI
410.4		MLAMBRECHT
420.4		BBOWE
ASTM D6919-09		CWOODS
RSK 175		AMOSES
SM 2320 B-1997(2011)		TSABO
SM 2540 C-1997(2011)		KWONG
SM 3500-Fe B.4.c		CWOODS
SM 5210 B-2001(2011)		MLAMBRECHT
SM 5310 C-2000(2011)		KABBOTT

Sample Name: TRIP BLANK **Date Collected:** 09/15/16
Lab Code: R1609843-008 **Date Received:** 09/18/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

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Volatile Organic Compounds by GC/MS

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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW09-091516	**Units:**	ug/L
Lab Code:	R1609843-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/22/16 14:00	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/22/16 14:00	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/22/16 14:00	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/22/16 14:00	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/22/16 14:00	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/22/16 14:00	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/22/16 14:00	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/22/16 14:00	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/22/16 14:00	
1,2,4-Trimethylbenzene	**0.25 J**	5.0	1.0	0.20	1	09/22/16 14:00	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/22/16 14:00	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/22/16 14:00	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/22/16 14:00	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/22/16 14:00	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 14:00	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 14:00	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/22/16 14:00	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
2-Hexanone	ND U	10	5.0	1.7	1	09/22/16 14:00	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/22/16 14:00	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/22/16 14:00	
Acetone	**3.8 J**	10	5.0	1.3	1	09/22/16 14:00	
Benzene	**0.99 J**	5.0	1.0	0.20	1	09/22/16 14:00	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/22/16 14:00	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/22/16 14:00	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/22/16 14:00	
Bromoform	ND U	5.0	1.0	0.42	1	09/22/16 14:00	
Bromomethane	ND U	5.0	1.0	0.29	1	09/22/16 14:00	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/22/16 14:00	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/22/16 14:00	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/22/16 14:00	
Chloroethane	ND U	5.0	1.0	0.24	1	09/22/16 14:00	
Chloroform	ND U	5.0	1.0	0.25	1	09/22/16 14:00	
Chloromethane	ND U	5.0	1.0	0.21	1	09/22/16 14:00	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/22/16 14:00	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/22/16 14:00	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/22/16 14:00	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW09-091516	**Units:**	ug/L
Lab Code:	R1609843-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 14:00	
Ethylbenzene	**0.95 J**	5.0	1.0	0.20	1	09/22/16 14:00	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 14:00	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 14:00	
Naphthalene	**0.51 J**	5.0	1.0	0.20	1	09/22/16 14:00	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 14:00	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 14:00	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 14:00	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 14:00	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 14:00	
m,p-Xylenes	**0.94 J**	5.0	2.0	0.33	1	09/22/16 14:00	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 14:00	
n-Propylbenzene	**0.22 J**	5.0	1.0	0.20	1	09/22/16 14:00	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 14:00	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 14:00	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 14:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/22/16 14:00	
Dibromofluoromethane	106	80 - 119	09/22/16 14:00	
Toluene-d8	99	89 - 112	09/22/16 14:00	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:45
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW06-091516	**Units:**	ug/L
Lab Code:	R1609843-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/22/16 14:29	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/22/16 14:29	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/22/16 14:29	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/22/16 14:29	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/22/16 14:29	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/22/16 14:29	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/22/16 14:29	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/22/16 14:29	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/22/16 14:29	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/22/16 14:29	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/22/16 14:29	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/22/16 14:29	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/22/16 14:29	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 14:29	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 14:29	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/22/16 14:29	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
2-Hexanone	ND U	10	5.0	1.7	1	09/22/16 14:29	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/22/16 14:29	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/22/16 14:29	
Acetone	**5.8 J**	10	5.0	1.3	1	09/22/16 14:29	
Benzene	**0.81 J**	5.0	1.0	0.20	1	09/22/16 14:29	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/22/16 14:29	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/22/16 14:29	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/22/16 14:29	
Bromoform	ND U	5.0	1.0	0.42	1	09/22/16 14:29	
Bromomethane	ND U	5.0	1.0	0.29	1	09/22/16 14:29	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/22/16 14:29	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/22/16 14:29	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/22/16 14:29	
Chloroethane	ND U	5.0	1.0	0.24	1	09/22/16 14:29	
Chloroform	ND U	5.0	1.0	0.25	1	09/22/16 14:29	
Chloromethane	ND U	5.0	1.0	0.21	1	09/22/16 14:29	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/22/16 14:29	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/22/16 14:29	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/22/16 14:29	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:45
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW06-091516	**Units:**	ug/L
Lab Code:	R1609843-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 14:29	
Ethylbenzene	**0.61 J**	5.0	1.0	0.20	1	09/22/16 14:29	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 14:29	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 14:29	
Naphthalene	**0.41 J**	5.0	1.0	0.20	1	09/22/16 14:29	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 14:29	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 14:29	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 14:29	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 14:29	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 14:29	
m,p-Xylenes	**0.52 J**	5.0	2.0	0.33	1	09/22/16 14:29	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 14:29	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 14:29	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 14:29	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 14:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 114	09/22/16 14:29	
Dibromofluoromethane	107	80 - 119	09/22/16 14:29	
Toluene-d8	101	89 - 112	09/22/16 14:29	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 09:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW10-091516	**Units:**	ug/L
Lab Code:	R1609843-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/22/16 14:59	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/22/16 14:59	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/22/16 14:59	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/22/16 14:59	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/22/16 14:59	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/22/16 14:59	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/22/16 14:59	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/22/16 14:59	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/22/16 14:59	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/22/16 14:59	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/22/16 14:59	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/22/16 14:59	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/22/16 14:59	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 14:59	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 14:59	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/22/16 14:59	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
2-Hexanone	ND U	10	5.0	1.7	1	09/22/16 14:59	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/22/16 14:59	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/22/16 14:59	
Acetone	**1.5 J**	10	5.0	1.3	1	09/22/16 14:59	
Benzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/22/16 14:59	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/22/16 14:59	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/22/16 14:59	
Bromoform	ND U	5.0	1.0	0.42	1	09/22/16 14:59	
Bromomethane	ND U	5.0	1.0	0.29	1	09/22/16 14:59	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/22/16 14:59	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/22/16 14:59	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/22/16 14:59	
Chloroethane	ND U	5.0	1.0	0.24	1	09/22/16 14:59	
Chloroform	**0.31 J**	5.0	1.0	0.25	1	09/22/16 14:59	
Chloromethane	ND U	5.0	1.0	0.21	1	09/22/16 14:59	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/22/16 14:59	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/22/16 14:59	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/22/16 14:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 09:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW10-091516	**Units:**	ug/L
Lab Code:	R1609843-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 14:59	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 14:59	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 14:59	
Naphthalene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 14:59	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 14:59	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 14:59	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 14:59	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 14:59	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/22/16 14:59	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 14:59	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 14:59	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 14:59	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 14:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 114	09/22/16 14:59	
Dibromofluoromethane	105	80 - 119	09/22/16 14:59	
Toluene-d8	104	89 - 112	09/22/16 14:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16
Sample Matrix:	Water	**Date Received:**	09/18/16 16:30
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609843-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/22/16 13:02	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/22/16 13:02	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/22/16 13:02	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/22/16 13:02	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/22/16 13:02	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/22/16 13:02	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/22/16 13:02	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/22/16 13:02	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/22/16 13:02	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/22/16 13:02	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/22/16 13:02	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/22/16 13:02	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/22/16 13:02	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 13:02	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 13:02	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/22/16 13:02	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
2-Hexanone	ND U	10	5.0	1.7	1	09/22/16 13:02	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/22/16 13:02	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/22/16 13:02	
Acetone	**2.8 J**	10	5.0	1.3	1	09/22/16 13:02	
Benzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/22/16 13:02	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/22/16 13:02	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/22/16 13:02	
Bromoform	ND U	5.0	1.0	0.42	1	09/22/16 13:02	
Bromomethane	ND U	5.0	1.0	0.29	1	09/22/16 13:02	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/22/16 13:02	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/22/16 13:02	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/22/16 13:02	
Chloroethane	ND U	5.0	1.0	0.24	1	09/22/16 13:02	
Chloroform	ND U	5.0	1.0	0.25	1	09/22/16 13:02	
Chloromethane	ND U	5.0	1.0	0.21	1	09/22/16 13:02	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/22/16 13:02	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/22/16 13:02	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/22/16 13:02	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16
Sample Matrix:	Water	**Date Received:**	09/18/16 16:30
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609843-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 13:02	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 13:02	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 13:02	
Naphthalene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 13:02	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 13:02	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 13:02	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 13:02	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 13:02	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/22/16 13:02	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 13:02	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 13:02	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 13:02	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 13:02	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 114	09/22/16 13:02	
Dibromofluoromethane	105	80 - 119	09/22/16 13:02	
Toluene-d8	106	89 - 112	09/22/16 13:02	

Volatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 08:30
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW944-091616	**Units:**	ug/L
Lab Code:	R1609843-004	**Basis:**	NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Acetylene	ND U	2.0	1.0	0.29	1	09/23/16 12:51	
Ethane	ND U	1.0	0.50	0.20	1	09/23/16 12:51	
Ethene	ND U	1.0	0.50	0.11	1	09/23/16 12:51	
Methane	ND U	1.0	0.50	0.21	1	09/23/16 12:51	
Propane	ND U	1.0	0.50	0.23	1	09/23/16 12:51	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 10:00
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW943-091616	**Units:**	ug/L
Lab Code:	R1609843-005	**Basis:**	NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Acetylene	ND U	2.0	1.0	0.29	1	09/23/16 12:59	
Ethane	ND U	1.0	0.50	0.20	1	09/23/16 12:59	
Ethene	ND U	1.0	0.50	0.11	1	09/23/16 12:59	
Methane	**0.22 J**	1.0	0.50	0.21	1	09/23/16 12:59	
Propane	ND U	1.0	0.50	0.23	1	09/23/16 12:59	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 12:40
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW942-091616	**Units:**	ug/L
Lab Code:	R1609843-006	**Basis:**	NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Acetylene	ND U	2.0	1.0	0.29	1	09/23/16 13:36	
Ethane	ND U	1.0	0.50	0.20	1	09/23/16 13:36	
Ethene	ND U	1.0	0.50	0.11	1	09/23/16 13:36	
Methane	ND U	1.0	0.50	0.21	1	09/23/16 13:36	
Propane	ND U	1.0	0.50	0.23	1	09/23/16 13:36	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 11:30
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW941-091616	**Units:**	ug/L
Lab Code:	R1609843-007	**Basis:**	NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Acetylene	ND U	2.0	1.0	0.29	1	09/23/16 13:44	
Ethane	ND U	1.0	0.50	0.20	1	09/23/16 13:44	
Ethene	ND U	1.0	0.50	0.11	1	09/23/16 13:44	
Methane	ND U	1.0	0.50	0.21	1	09/23/16 13:44	
Propane	ND U	1.0	0.50	0.23	1	09/23/16 13:44	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW09-091516	**Units:**	ug/L
Lab Code:	R1609843-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/21/16 09:16	9/19/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/21/16 09:16	9/19/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/21/16 09:16	9/19/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/21/16 09:16	9/19/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/21/16 09:16	9/19/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/21/16 09:16	9/19/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/21/16 09:16	9/19/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/21/16 09:16	9/19/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/21/16 09:16	9/19/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/21/16 09:16	9/19/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/21/16 09:16	9/19/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/21/16 09:16	9/19/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/21/16 09:16	9/19/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/21/16 09:16	9/19/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/21/16 09:16	9/19/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/21/16 09:16	9/19/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/21/16 09:16	9/19/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/21/16 09:16	9/19/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/21/16 09:16	9/19/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/21/16 09:16	9/19/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/21/16 09:16	9/19/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/21/16 09:16	9/19/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 09:16	9/19/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/21/16 09:16	9/19/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/21/16 09:16	9/19/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW09-091516	**Units:**	ug/L
Lab Code:	R1609843-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 09:16	9/19/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/21/16 09:16	9/19/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/21/16 09:16	9/19/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/21/16 09:16	9/19/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/21/16 09:16	9/19/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/21/16 09:16	9/19/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/21/16 09:16	9/19/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/21/16 09:16	9/19/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Phenol	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/21/16 09:16	9/19/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	43 - 140	09/21/16 09:16	
2-Fluorobiphenyl	72	44 - 119	09/21/16 09:16	
2-Fluorophenol	37	19 - 119	09/21/16 09:16	
Nitrobenzene-d5	72	44 - 120	09/21/16 09:16	
Phenol-d6	26	10 - 107	09/21/16 09:16	
p-Terphenyl-d14	91	50 - 134	09/21/16 09:16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:45
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW06-091516	**Units:**	ug/L
Lab Code:	R1609843-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/21/16 09:44	9/19/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/21/16 09:44	9/19/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/21/16 09:44	9/19/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/21/16 09:44	9/19/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/21/16 09:44	9/19/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/21/16 09:44	9/19/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/21/16 09:44	9/19/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/21/16 09:44	9/19/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/21/16 09:44	9/19/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/21/16 09:44	9/19/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/21/16 09:44	9/19/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/21/16 09:44	9/19/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/21/16 09:44	9/19/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/21/16 09:44	9/19/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/21/16 09:44	9/19/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/21/16 09:44	9/19/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/21/16 09:44	9/19/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/21/16 09:44	9/19/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/21/16 09:44	9/19/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/21/16 09:44	9/19/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/21/16 09:44	9/19/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/21/16 09:44	9/19/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 09:44	9/19/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/21/16 09:44	9/19/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/21/16 09:44	9/19/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 08:45
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW06-091516	**Units:**	ug/L
Lab Code:	R1609843-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 09:44	9/19/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/21/16 09:44	9/19/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/21/16 09:44	9/19/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/21/16 09:44	9/19/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/21/16 09:44	9/19/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/21/16 09:44	9/19/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/21/16 09:44	9/19/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/21/16 09:44	9/19/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Phenol	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/21/16 09:44	9/19/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	43 - 140	09/21/16 09:44	
2-Fluorobiphenyl	75	44 - 119	09/21/16 09:44	
2-Fluorophenol	35	19 - 119	09/21/16 09:44	
Nitrobenzene-d5	71	44 - 120	09/21/16 09:44	
Phenol-d6	25	10 - 107	09/21/16 09:44	
p-Terphenyl-d14	90	50 - 134	09/21/16 09:44	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 09:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW10-091516	**Units:**	ug/L
Lab Code:	R1609843-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/21/16 10:12	9/19/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/21/16 10:12	9/19/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/21/16 10:12	9/19/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/21/16 10:12	9/19/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/21/16 10:12	9/19/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/21/16 10:12	9/19/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/21/16 10:12	9/19/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/21/16 10:12	9/19/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/21/16 10:12	9/19/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/21/16 10:12	9/19/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/21/16 10:12	9/19/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/21/16 10:12	9/19/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/21/16 10:12	9/19/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/21/16 10:12	9/19/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/21/16 10:12	9/19/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/21/16 10:12	9/19/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/21/16 10:12	9/19/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/21/16 10:12	9/19/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/21/16 10:12	9/19/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/21/16 10:12	9/19/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/21/16 10:12	9/19/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/21/16 10:12	9/19/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 10:12	9/19/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/21/16 10:12	9/19/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/21/16 10:12	9/19/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 09:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	OSL-SW10-091516	**Units:**	ug/L
Lab Code:	R1609843-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 10:12	9/19/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/21/16 10:12	9/19/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/21/16 10:12	9/19/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/21/16 10:12	9/19/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/21/16 10:12	9/19/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/21/16 10:12	9/19/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/21/16 10:12	9/19/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/21/16 10:12	9/19/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Phenol	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/21/16 10:12	9/19/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	83	43 - 140	09/21/16 10:12	
2-Fluorobiphenyl	63	44 - 119	09/21/16 10:12	
2-Fluorophenol	38	19 - 119	09/21/16 10:12	
Nitrobenzene-d5	66	44 - 120	09/21/16 10:12	
Phenol-d6	26	10 - 107	09/21/16 10:12	
p-Terphenyl-d14	87	50 - 134	09/21/16 10:12	

General Chemistry

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Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 08:30
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW944-091616	**Basis:**	NA
Lab Code:	R1609843-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**155**	mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	**0.078**	mg/L	0.050	0.010	0.006	10	09/26/16 11:22	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND U	mg/L	2.0	-	-	1	09/16/16 17:03	NA	
Bromide	300.0	ND U	mg/L	1.0	0.5	0.4	10	09/17/16 02:27	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**2.8**	mg/L	1.0	0.5	0.05	1	09/27/16 17:10	NA	
Chemical Oxygen Demand, Total	410.4	**13.1**	mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Chloride	300.0	**1280**	mg/L	80	40	40	400	09/21/16 14:48	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.37**	mg/L	0.10	0.08	0.04	1	09/16/16 18:00	NA	
Nitrate as Nitrogen	300.0	**3.5**	mg/L	1.0	0.5	0.5	10	09/17/16 02:27	NA	
Nitrite as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.07	10	09/17/16 02:27	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.30 J**	mg/L	0.40	0.10	0.08	1	09/29/16 15:32	09/28/16	
Phenolics, Total Recoverable	420.4	**0.0041 J**	mg/L	0.0050	-	0.0013	1	09/27/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**2110**	mg/L	59	-	21	1	09/20/16 10:15	NA	
Sulfate	300.0	**93.0**	mg/L	8.0	4.0	0.8	40	09/21/16 14:34	NA	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 10:00
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW943-091616	**Basis:**	NA
Lab Code:	R1609843-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**202**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	**0.025**	**J**	mg/L	0.050	0.010	0.006	10	09/26/16 11:40	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/16/16 17:04	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/17/16 00:42	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**1.4**	**B**	mg/L	1.0	0.5	0.05	1	09/27/16 17:31	NA	
Chemical Oxygen Demand, Total	410.4	**8.1**		mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Chloride	300.0	**645**		mg/L	20	10	10	100	09/21/16 16:50	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.05**	**J**	mg/L	0.10	0.08	0.04	1	09/16/16 18:00	NA	
Nitrate as Nitrogen	300.0	**4.3**		mg/L	1.0	0.5	0.5	10	09/17/16 00:42	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/17/16 00:42	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.25**	**J**	mg/L	0.40	0.10	0.08	1	09/29/16 15:32	09/28/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/27/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**1290**		mg/L	40	-	15	1	09/20/16 10:15	NA	
Sulfate	300.0	**37.4**		mg/L	2.0	1.0	0.2	10	09/27/16 19:41	NA	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 12:40
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW942-091616	**Basis:**	NA
Lab Code:	R1609843-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**295**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.050	0.010	0.006	10	09/26/16 12:34	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/16/16 17:06	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/17/16 02:12	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**2.0**		mg/L	1.0	0.5	0.05	1	09/27/16 19:16	NA	
Chemical Oxygen Demand, Total	410.4	**6.5**		mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Chloride	300.0	**204**		mg/L	20	10	10	100	09/21/16 15:55	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/16/16 18:00	NA	
Nitrate as Nitrogen	300.0	**5.0**		mg/L	1.0	0.5	0.5	10	09/17/16 02:12	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/17/16 02:12	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.26**	**J**	mg/L	0.40	0.10	0.08	1	09/29/16 16:23	09/28/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/27/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**680**		mg/L	20	-	8	1	09/20/16 10:15	NA	
Sulfate	300.0	**24.8**		mg/L	2.0	1.0	0.2	10	09/21/16 15:01	NA	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16 11:30
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	ASL-MW941-091616	**Basis:**	NA
Lab Code:	R1609843-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	**140**		mg/L	2.0	1.0	1.0	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.050	0.010	0.006	10	09/26/16 12:52	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/16/16 17:05	NA	
Bromide	300.0	ND	U	mg/L	1.0	0.5	0.4	10	09/17/16 01:27	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**1.4**	**B**	mg/L	1.0	0.5	0.05	1	09/27/16 19:37	NA	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	5.0	3.7	3.7	1	09/19/16 12:57	NA	
Chloride	300.0	**188**		mg/L	20	10	10	100	09/21/16 17:48	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/16/16 18:00	NA	
Nitrate as Nitrogen	300.0	**4.1**		mg/L	1.0	0.5	0.5	10	09/17/16 01:27	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	1.0	0.5	0.07	10	09/17/16 01:27	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	**0.14**	**J**	mg/L	0.40	0.10	0.08	1	09/29/16 16:24	09/28/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/27/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**526**		mg/L	11	-	4	1	09/20/16 10:15	NA	
Sulfate	300.0	**37.9**		mg/L	2.0	1.0	0.2	10	09/21/16 17:33	NA	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 114	Dibromofluoromethane 80 - 119	Toluene-d8 89 - 112
OSL-SW09-091516	R1609843-001	98	106	99
OSL-SW06-091516	R1609843-002	103	107	101
OSL-SW10-091516	R1609843-003	104	105	104
TRIP BLANK	R1609843-008	102	105	106
Lab Control Sample	RQ1611272-03	99	104	106
Method Blank	RQ1611272-04	97	109	107
OSL-SW10-091516 MS	RQ1611272-06	107	106	107
OSL-SW10-091516 DMS	RQ1611272-07	103	104	102

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16
Sample Matrix:	Water	**Date Received:**	09/16/16
		Date Analyzed:	09/22/16

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	OSL-SW10-091516	**Units:**	ug/L
Lab Code:	R1609843-003	**Basis:**	NA
Analysis Method:	8260C		

		Matrix Spike RQ1611272-06			Duplicate Matrix Spike RQ1611272-07				
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	53.8	50.0	108	52.3	50.0	105	78-124	3	20
1,1,1-Trichloroethane (TCA)	ND U	54.0	50.0	108	51.8	50.0	104	74-131	4	20
1,1,2,2-Tetrachloroethane	ND U	50.9	50.0	102	49.0	50.0	98	71-121	4	20
1,1,2-Trichloroethane	ND U	53.3	50.0	107	50.8	50.0	102	80-119	5	20
1,1-Dichloroethane (1,1-DCA)	ND U	55.3	50.0	111	53.6	50.0	107	77-125	3	20
1,1-Dichloroethene (1,1-DCE)	ND U	53.3	50.0	107	52.8	50.0	106	71-131	<1	20
1,1-Dichloropropene	ND U	54.0	50.0	108	50.9	50.0	102	79-125	6	20
1,2,3-Trichlorobenzene	ND U	47.2	50.0	94	47.7	50.0	95	69-129	<1	20
1,2,3-Trichloropropane	ND U	49.7	50.0	99	47.7	50.0	95	73-122	4	20
1,2,4-Trichlorobenzene	ND U	46.3	50.0	93	47.3	50.0	95	69-130	2	20
1,2,4-Trimethylbenzene	ND U	45.9	50.0	92	44.3	50.0	89	76-124	3	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	45.0	50.0	90	44.0	50.0	88	62-128	2	20
1,2-Dibromoethane	ND U	50.1	50.0	100	49.4	50.0	99	77-121	1	20
1,2-Dichlorobenzene	ND U	48.7	50.0	97	47.9	50.0	96	80-119	2	20
1,2-Dichloroethane	ND U	48.2	50.0	96	48.1	50.0	96	73-128	<1	20
1,2-Dichloropropane	ND U	52.9	50.0	106	51.3	50.0	103	78-122	3	20
1,3,5-Trimethylbenzene	ND U	44.8	50.0	90	43.9	50.0	88	75-124	2	20
1,3-Dichlorobenzene	ND U	50.3	50.0	101	48.0	50.0	96	80-119	5	20
1,3-Dichloropropane	ND U	52.6	50.0	105	52.4	50.0	105	80-119	<1	20
1,4-Dichlorobenzene	ND U	49.4	50.0	99	47.6	50.0	95	79-118	4	20
2,2-Dichloropropane	ND U	50.4	50.0	101	49.3	50.0	99	60-139	2	20
2-Butanone (MEK)	ND U	45.6	50.0	91	44.3	50.0	89	56-143	3	20
2-Chlorotoluene	ND U	49.2	50.0	98	47.1	50.0	94	79-122	4	20
2-Hexanone	ND U	41.9	50.0	84	40.2	50.0	80	57-139	4	20
4-Chlorotoluene	ND U	48.8	50.0	98	46.3	50.0	93	78-122	5	20
4-Isopropyltoluene	ND U	46.5	50.0	93	46.7	50.0	93	77-127	<1	20
4-Methyl-2-pentanone	ND U	46.1	50.0	92	42.0	50.0	84	67-130	9	20
Acetone	1.5 J	59.2	50.0	115	57.6	50.0	112	39-160	3	20
Benzene	ND U	50.8	50.0	102	48.9	50.0	98	79-120	4	20
Bromobenzene	ND U	48.9	50.0	98	47.9	50.0	96	80-120	2	20
Bromochloromethane	ND U	53.2	50.0	106	52.7	50.0	105	78-123	1	20
Bromodichloromethane	ND U	48.0	50.0	96	46.4	50.0	93	79-125	3	20
Bromoform	ND U	43.8	50.0	88	43.8	50.0	88	66-130	<1	20
Bromomethane	ND U	33.5	50.0	67	48.7	50.0	97	53-141	37*	20
Carbon Disulfide	ND U	28.4	50.0	57 *	28.7	50.0	57 *	64-133	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16
Sample Matrix:	Water	**Date Received:**	09/16/16
		Date Analyzed:	09/22/16

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	OSL-SW10-091516	**Units:**	ug/L
Lab Code:	R1609843-003	**Basis:**	NA
Analysis Method:	8260C		

		Matrix Spike RQ1611272-06			Duplicate Matrix Spike RQ1611272-07				
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	49.2	50.0	98	47.2	50.0	94	72-136	4	20
Chlorobenzene	ND U	48.8	50.0	98	48.1	50.0	96	82-118	1	20
Chloroethane	ND U	46.7	50.0	93	46.8	50.0	94	60-138	<1	20
Chloroform	0.31 J	49.6	50.0	98	48.6	50.0	97	79-124	2	20
Chloromethane	ND U	44.2	50.0	88	44.1	50.0	88	50-139	<1	20
Dibromochloromethane	ND U	44.1	50.0	88	44.0	50.0	88	74-126	<1	20
Dibromomethane	ND U	54.0	50.0	108	52.9	50.0	106	79-123	2	20
Dichlorodifluoromethane (CFC 12)	ND U	50.4	50.0	101	49.4	50.0	99	32-152	2	20
Dichloromethane	ND U	48.5	50.0	97	49.1	50.0	98	74-124	1	20
Ethylbenzene	ND U	48.6	50.0	97	49.2	50.0	98	79-121	1	20
Hexachlorobutadiene	ND U	46.7	50.0	93	48.5	50.0	97	66-134	4	20
Isopropylbenzene (Cumene)	ND U	46.7	50.0	93	45.3	50.0	91	72-131	3	20
Methyl tert-Butyl Ether	ND U	48.2	50.0	96	46.6	50.0	93	71-124	3	20
Naphthalene	ND U	43.9	50.0	88	45.1	50.0	90	61-128	3	20
Styrene	ND U	47.1	50.0	94	46.4	50.0	93	78-123	2	20
Tetrachloroethene (PCE)	ND U	51.3	50.0	103	49.8	50.0	100	74-129	3	20
Toluene	ND U	45.9	50.0	92	43.9	50.0	88	80-121	5	20
Trichloroethene (TCE)	ND U	56.6	50.0	113	54.0	50.0	108	79-123	5	20
Trichlorofluoromethane (CFC 11)	ND U	52.7	50.0	105	50.9	50.0	102	65-141	4	20
Vinyl Chloride	ND U	48.2	50.0	96	47.6	50.0	95	58-137	1	20
cis-1,2-Dichloroethene	ND U	54.2	50.0	108	52.6	50.0	105	78-123	3	20
cis-1,3-Dichloropropene	ND U	45.0	50.0	90	45.0	50.0	90	75-124	<1	20
m,p-Xylenes	ND U	98.9	100	99	95.4	100	95	80-121	4	20
n-Butylbenzene	ND U	49.2	50.0	98	46.9	50.0	94	75-128	5	20
n-Propylbenzene	ND U	45.4	50.0	91	44.5	50.0	89	76-126	2	20
o-Xylene	ND U	52.9	50.0	106	50.5	50.0	101	78-122	5	20
sec-Butylbenzene	ND U	48.4	50.0	97	46.5	50.0	93	77-126	4	20
tert-Butylbenzene	ND U	49.3	50.0	99	46.8	50.0	94	78-124	5	20
trans-1,2-Dichloroethene	ND U	56.0	50.0	112	54.1	50.0	108	75-124	3	20
trans-1,3-Dichloropropene	ND U	43.0	50.0	86	43.8	50.0	88	73-127	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/22/16 12:01

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1611272-04

Instrument ID:R-MS-06
File ID:I:\ACQUDATA\MSVOA6\DATA\092216\M9465.D\

Analysis Method: 8260C

Analysis Lot:515310

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1611272-03	I:\ACQUDATA\MSVOA6\DATA\092216 \M9462.D\	09/22/16 10:15
TRIP BLANK	R1609843-008	I:\ACQUDATA\MSVOA6\DATA\092216 \M9467.D\	09/22/16 13:02
OSL-SW09-091516	R1609843-001	I:\ACQUDATA\MSVOA6\DATA\092216 \M9469.D\	09/22/16 14:00
OSL-SW06-091516	R1609843-002	I:\ACQUDATA\MSVOA6\DATA\092216 \M9470.D\	09/22/16 14:29
OSL-SW10-091516	R1609843-003	I:\ACQUDATA\MSVOA6\DATA\092216 \M9471.D\	09/22/16 14:59
OSL-SW10-091516	RQ1611272-06	I:\ACQUDATA\MSVOA6\DATA\092216 \M9480.D\	09/22/16 19:38
OSL-SW10-091516	RQ1611272-07	I:\ACQUDATA\MSVOA6\DATA\092216 \M9481.D\	09/22/16 20:10

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611272-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	5.0	1.0	0.22	1	09/22/16 12:01	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	1.0	0.36	1	09/22/16 12:01	
1,1,2,2-Tetrachloroethane	ND	U	5.0	1.0	0.25	1	09/22/16 12:01	
1,1,2-Trichloroethane	ND	U	5.0	1.0	0.34	1	09/22/16 12:01	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.0	1.0	0.57	1	09/22/16 12:01	
1,1-Dichloropropene	ND	U	5.0	1.0	0.29	1	09/22/16 12:01	
1,2,3-Trichlorobenzene	ND	U	5.0	1.0	0.82	1	09/22/16 12:01	
1,2,3-Trichloropropane	ND	U	5.0	1.0	0.70	1	09/22/16 12:01	
1,2,4-Trichlorobenzene	ND	U	5.0	1.0	0.23	1	09/22/16 12:01	
1,2,4-Trimethylbenzene	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.0	1.0	0.74	1	09/22/16 12:01	
1,2-Dibromoethane	ND	U	5.0	1.0	0.24	1	09/22/16 12:01	
1,2-Dichlorobenzene	ND	U	5.0	1.0	0.21	1	09/22/16 12:01	
1,2-Dichloroethane	ND	U	5.0	1.0	0.36	1	09/22/16 12:01	
1,2-Dichloropropane	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
1,3,5-Trimethylbenzene	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
1,3-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
1,3-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/22/16 12:01	
1,4-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
2,2-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/22/16 12:01	
2-Butanone (MEK)	ND	U	10	1.0	0.81	1	09/22/16 12:01	
2-Chlorotoluene	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
2-Hexanone	ND	U	10	5.0	1.7	1	09/22/16 12:01	
4-Chlorotoluene	ND	U	5.0	1.0	0.24	1	09/22/16 12:01	
4-Isopropyltoluene	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
4-Methyl-2-pentanone	ND	U	10	1.0	0.67	1	09/22/16 12:01	
Acetone	ND	U	10	5.0	1.3	1	09/22/16 12:01	
Benzene	ND	U	5.0	1.0	0.20	1	09/22/16 12:01	
Bromobenzene	ND	U	5.0	1.0	0.28	1	09/22/16 12:01	
Bromochloromethane	ND	U	5.0	1.0	0.32	1	09/22/16 12:01	
Bromodichloromethane	ND	U	5.0	1.0	0.32	1	09/22/16 12:01	
Bromoform	ND	U	5.0	1.0	0.42	1	09/22/16 12:01	
Bromomethane	**0.36**	**J**	5.0	1.0	0.29	1	09/22/16 12:01	
Carbon Disulfide	ND	U	10	1.0	0.22	1	09/22/16 12:01	
Carbon Tetrachloride	ND	U	5.0	1.0	0.45	1	09/22/16 12:01	
Chlorobenzene	ND	U	5.0	1.0	0.29	1	09/22/16 12:01	
Chloroethane	ND	U	5.0	1.0	0.24	1	09/22/16 12:01	
Chloroform	ND	U	5.0	1.0	0.25	1	09/22/16 12:01	
Chloromethane	ND	U	5.0	1.0	0.21	1	09/22/16 12:01	
Dibromochloromethane	ND	U	5.0	1.0	0.31	1	09/22/16 12:01	
Dibromomethane	ND	U	5.0	1.0	0.32	1	09/22/16 12:01	
Dichlorodifluoromethane (CFC 12)	ND	U	5.0	1.0	0.46	1	09/22/16 12:01	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611272-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 12:01	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 12:01	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 12:01	
Naphthalene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 12:01	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 12:01	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 12:01	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 12:01	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 12:01	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/22/16 12:01	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 12:01	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 12:01	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 12:01	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/22/16 12:01	
Dibromofluoromethane	109	80 - 119	09/22/16 12:01	
Toluene-d8	107	89 - 112	09/22/16 12:01	

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/22/16 10:15

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name: Lab Control Sample
Lab Code: RQ1611272-03

Instrument ID:R-MS-06
File ID:I:\ACQUDATA\MSVOA6\DATA\092216\M9462.D\

Analysis Method: 8260C

Analysis Lot:515310

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1611272-04	I:\ACQUDATA\MSVOA6\DATA\092216 \M9465.D\	09/22/16 12:01
TRIP BLANK	R1609843-008	I:\ACQUDATA\MSVOA6\DATA\092216 \M9467.D\	09/22/16 13:02
OSL-SW09-091516	R1609843-001	I:\ACQUDATA\MSVOA6\DATA\092216 \M9469.D\	09/22/16 14:00
OSL-SW06-091516	R1609843-002	I:\ACQUDATA\MSVOA6\DATA\092216 \M9470.D\	09/22/16 14:29
OSL-SW10-091516	R1609843-003	I:\ACQUDATA\MSVOA6\DATA\092216 \M9471.D\	09/22/16 14:59
OSL-SW10-091516	RQ1611272-06	I:\ACQUDATA\MSVOA6\DATA\092216 \M9480.D\	09/22/16 19:38
OSL-SW10-091516	RQ1611272-07	I:\ACQUDATA\MSVOA6\DATA\092216 \M9481.D\	09/22/16 20:10

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/22/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611272-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.3	20.0	102	78-124
1,1,1-Trichloroethane (TCA)	8260C	20.9	20.0	105	74-131
1,1,2,2-Tetrachloroethane	8260C	19.5	20.0	97	71-121
1,1,2-Trichloroethane	8260C	21.0	20.0	105	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	21.2	20.0	106	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.8	20.0	104	71-131
1,1-Dichloropropene	8260C	20.6	20.0	103	79-125
1,2,3-Trichlorobenzene	8260C	20.5	20.0	102	69-129
1,2,3-Trichloropropane	8260C	19.8	20.0	99	73-122
1,2,4-Trichlorobenzene	8260C	20.0	20.0	100	69-130
1,2,4-Trimethylbenzene	8260C	19.5	20.0	97	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	19.3	20.0	97	62-128
1,2-Dibromoethane	8260C	19.5	20.0	98	77-121
1,2-Dichlorobenzene	8260C	19.7	20.0	98	80-119
1,2-Dichloroethane	8260C	20.0	20.0	100	73-128
1,2-Dichloropropane	8260C	21.2	20.0	106	78-122
1,3,5-Trimethylbenzene	8260C	20.1	20.0	101	75-124
1,3-Dichlorobenzene	8260C	20.6	20.0	103	80-119
1,3-Dichloropropane	8260C	20.8	20.0	104	80-119
1,4-Dichlorobenzene	8260C	20.8	20.0	104	79-118
2,2-Dichloropropane	8260C	20.0	20.0	100	60-139
2-Butanone (MEK)	8260C	16.5	20.0	83	56-143
2-Chlorotoluene	8260C	20.0	20.0	100	79-122
2-Hexanone	8260C	16.6	20.0	83	57-139
4-Chlorotoluene	8260C	20.3	20.0	102	78-122
4-Isopropyltoluene	8260C	20.4	20.0	102	77-127
4-Methyl-2-pentanone	8260C	17.0	20.0	85	67-130
Acetone	8260C	20.7	20.0	103	39-160
Benzene	8260C	20.1	20.0	100	79-120
Bromobenzene	8260C	19.5	20.0	98	80-120
Bromochloromethane	8260C	20.7	20.0	104	78-123
Bromodichloromethane	8260C	19.5	20.0	98	79-125
Bromoform	8260C	20.4	20.0	102	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/22/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611272-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	25.3	20.0	127	53-141
Carbon Disulfide	8260C	20.3	20.0	101	64-133
Carbon Tetrachloride	8260C	20.1	20.0	100	72-136
Chlorobenzene	8260C	19.9	20.0	99	82-118
Chloroethane	8260C	18.9	20.0	94	60-138
Chloroform	8260C	19.3	20.0	97	79-124
Chloromethane	8260C	19.1	20.0	95	50-139
Dibromochloromethane	8260C	19.1	20.0	96	74-126
Dibromomethane	8260C	20.4	20.0	102	79-123
Dichlorodifluoromethane (CFC 12)	8260C	20.9	20.0	104	32-152
Dichloromethane	8260C	20.1	20.0	101	74-124
Ethylbenzene	8260C	18.1	20.0	91	79-121
Hexachlorobutadiene	8260C	21.6	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	19.3	20.0	97	72-131
Methyl tert-Butyl Ether	8260C	19.2	20.0	96	71-124
Naphthalene	8260C	19.6	20.0	98	61-128
Styrene	8260C	21.2	20.0	106	78-123
Tetrachloroethene (PCE)	8260C	19.5	20.0	98	74-129
Toluene	8260C	19.9	20.0	99	80-121
Trichloroethene (TCE)	8260C	22.0	20.0	110	79-123
Trichlorofluoromethane (CFC 11)	8260C	21.5	20.0	107	65-141
Vinyl Chloride	8260C	19.9	20.0	100	58-137
cis-1,2-Dichloroethene	8260C	20.8	20.0	104	78-123
cis-1,3-Dichloropropene	8260C	20.4	20.0	102	75-124
m,p-Xylenes	8260C	39.2	40.0	98	80-121
n-Butylbenzene	8260C	21.1	20.0	106	75-128
n-Propylbenzene	8260C	20.1	20.0	100	76-126
o-Xylene	8260C	21.2	20.0	106	78-122
sec-Butylbenzene	8260C	21.0	20.0	105	77-126
tert-Butylbenzene	8260C	20.2	20.0	101	78-124
trans-1,2-Dichloroethene	8260C	21.6	20.0	108	75-124
trans-1,3-Dichloropropene	8260C	19.3	20.0	96	73-127

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall **Date Analyzed:**09/22/16 09:06

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA6\DATA\092216\M9460.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-06 **Analysis Lot:** 515310

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	18.45	26472	Pass
75	95	30	60	46.80	67163	Pass
95	95	100	100	100.00	143507	Pass
96	95	5	9	7.73	11098	Pass
173	174	0	2	0.00	0	Pass
174	95	50	120	91.59	131445	Pass
175	174	5	9	8.27	10872	Pass
176	174	95	101	97.77	128509	Pass
177	176	5	9	6.96	8946	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1611272-02	I:\ACQUDATA\MSVOA6\DATA\092216\M9461.D\	09/22/16 09:44	
Lab Control Sample	RQ1611272-03	I:\ACQUDATA\MSVOA6\DATA\092216\M9462.D\	09/22/16 10:15	
Method Blank	RQ1611272-04	I:\ACQUDATA\MSVOA6\DATA\092216\M9465.D\	09/22/16 12:01	
TRIP BLANK	R1609843-008	I:\ACQUDATA\MSVOA6\DATA\092216\M9467.D\	09/22/16 13:02	
OSL-SW09-091516	R1609843-001	I:\ACQUDATA\MSVOA6\DATA\092216\M9469.D\	09/22/16 14:00	
OSL-SW06-091516	R1609843-002	I:\ACQUDATA\MSVOA6\DATA\092216\M9470.D\	09/22/16 14:29	
OSL-SW10-091516	R1609843-003	I:\ACQUDATA\MSVOA6\DATA\092216\M9471.D\	09/22/16 14:59	
OSL-SW10-091516	RQ1611272-06	I:\ACQUDATA\MSVOA6\DATA\092216\M9480.D\	09/22/16 19:38	
OSL-SW10-091516	RQ1611272-07	I:\ACQUDATA\MSVOA6\DATA\092216\M9481.D\	09/22/16 20:10	
Continuing Calibration Verification	RQ1611272-05	I:\ACQUDATA\MSVOA6\DATA\092216\M9482.D\	09/22/16 20:41	

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall **Date Analyzed:**09/22/16 09:44

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA6\DATA\092216\M9461.D\ **Lab Code:**RQ1611272-02
Instrument ID: R-MS-06 **Analysis Lot:**515310
Analysis Method: 8260C **Signal ID:**

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	280,476	11.29	542,233	5.83	452,655	9.18
	Upper Limit ==>	560,952	11.79	1,084,466	6.33	905,310	9.68
	Lower Limit ==>	140,238	10.79	271,117	5.33	226,328	8.68
Associated Analyses							
Lab Control Sample	RQ1611272-03	274334	11.28	544855	5.82	482316	9.18
Method Blank	RQ1611272-04	265994	11.28	518313	5.82	460639	9.18
TRIP BLANK	R1609843-008	248129	11.28	520340	5.83	451451	9.18
OSL-SW09-091516	R1609843-001	248612	11.29	526960	5.83	450285	9.18
OSL-SW06-091516	R1609843-002	243599	11.29	515049	5.83	451013	9.18
OSL-SW10-091516	R1609843-003	253528	11.28	523005	5.82	450489	9.18
OSL-SW10-091516	RQ1611272-06	274013	11.28	539865	5.82	467033	9.18
OSL-SW10-091516	RQ1611272-07	279853	11.28	562267	5.82	475577	9.18

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall **Date Analyzed:**09/22/16 09:44

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA6\DATA\092216\M9461.D\ **Lab Code:**RQ1611272-02
Instrument ID: R-MS-06 **Analysis Lot:**515310
Analysis Method: 8260C **Signal ID:**

		Pentafluorobenzene	
		Area	**RT**
	ICAL Result ==>	374,250	4.52
	Upper Limit ==>	748,500	5.02
	Lower Limit ==>	187,125	4.02
Associated Analyses			
Lab Control Sample	RQ1611272-03	376249	4.52
Method Blank	RQ1611272-04	365170	4.52
TRIP BLANK	R1609843-008	363392	4.52
OSL-SW09-091516	R1609843-001	356139	4.52
OSL-SW06-091516	R1609843-002	365569	4.52
OSL-SW10-091516	R1609843-003	359401	4.52
OSL-SW10-091516	RQ1611272-06	370893	4.52
OSL-SW10-091516	RQ1611272-07	381810	4.52

Volatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16
Sample Matrix:	Water	**Date Received:**	09/16/16
		Date Analyzed:	09/23/16

Duplicate Matrix Spike Summary
Dissolved Gases by GC/FID

Sample Name:	ASL-MW943-091616	**Units:**	ug/L
Lab Code:	R1609843-005	**Basis:**	NA
Analysis Method:	RSK 175		

		Matrix Spike RQ1611357-04			Duplicate Matrix Spike RQ1611357-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Acetylene	ND U	57.3	50.2	114	48.0	50.2	96	70-129	18	30
Ethane	ND U	25.9	26.0	99	22.1	26.0	85	74-131	16	30
Ethene	ND U	25.0	24.3	103	21.3	24.3	88	72-133	16	30
Methane	0.22 J	26.0	26.2	98	22.2	26.2	84	73-125	16	30
Propane	ND U	25.4	25.5	100	21.5	25.5	84	74-123	17	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/23/16 12:23

Method Blank Summary
Dissolved Gases by GC/FID

Sample Name: Method Blank
Lab Code: RQ1611357-01

Instrument ID:R-GC-02
File ID:I:\ACQUDATA\V2\DATA\092316\AA567.D\

Analysis Method: RSK 175

Analysis Lot:515619

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1611357-02	I:\ACQUDATA\V2\DATA\092316\AA568.D\	09/23/16 12:33
Duplicate Lab Control Sample	RQ1611357-03	I:\ACQUDATA\V2\DATA\092316\AA569.D\	09/23/16 12:42
ASL-MW944-091616	R1609843-004	I:\ACQUDATA\V2\DATA\092316\AA570.D\	09/23/16 12:51
ASL-MW943-091616	R1609843-005	I:\ACQUDATA\V2\DATA\092316\AA571.D\	09/23/16 12:59
ASL-MW943-091616	RQ1611357-04	I:\ACQUDATA\V2\DATA\092316\AA573.D\	09/23/16 13:17
ASL-MW943-091616	RQ1611357-05	I:\ACQUDATA\V2\DATA\092316\AA574.D\	09/23/16 13:27
ASL-MW942-091616	R1609843-006	I:\ACQUDATA\V2\DATA\092316\AA575.D\	09/23/16 13:36
ASL-MW941-091616	R1609843-007	I:\ACQUDATA\V2\DATA\092316\AA576.D\	09/23/16 13:44

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611357-01	**Basis:**	NA

Dissolved Gases by GC/FID

Analysis Method: RSK 175

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Acetylene	ND U	2.0	1.0	0.29	1	09/23/16 12:23	
Ethane	ND U	1.0	0.50	0.20	1	09/23/16 12:23	
Ethene	ND U	1.0	0.50	0.11	1	09/23/16 12:23	
Methane	ND U	1.0	0.50	0.21	1	09/23/16 12:23	
Propane	ND U	1.0	0.50	0.23	1	09/23/16 12:23	

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/23/16 12:33

Lab Control Sample Summary
Dissolved Gases by GC/FID

Sample Name: Lab Control Sample
Lab Code: RQ1611357-02

Instrument ID:R-GC-02
File ID:I:\ACQUDATA\V2\DATA\092316\AA568.D\

Analysis Method: RSK 175
Analysis Lot:515619

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1611357-01	I:\ACQUDATA\V2\DATA\092316\AA567.D\	09/23/16 12:23
Duplicate Lab Control Sample	RQ1611357-03	I:\ACQUDATA\V2\DATA\092316\AA569.D\	09/23/16 12:42
ASL-MW944-091616	R1609843-004	I:\ACQUDATA\V2\DATA\092316\AA570.D\	09/23/16 12:51
ASL-MW943-091616	R1609843-005	I:\ACQUDATA\V2\DATA\092316\AA571.D\	09/23/16 12:59
ASL-MW943-091616	RQ1611357-04	I:\ACQUDATA\V2\DATA\092316\AA573.D\	09/23/16 13:17
ASL-MW943-091616	RQ1611357-05	I:\ACQUDATA\V2\DATA\092316\AA574.D\	09/23/16 13:27
ASL-MW942-091616	R1609843-006	I:\ACQUDATA\V2\DATA\092316\AA575.D\	09/23/16 13:36
ASL-MW941-091616	R1609843-007	I:\ACQUDATA\V2\DATA\092316\AA576.D\	09/23/16 13:44

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/23/16

Duplicate Lab Control Sample Summary
Dissolved Gases by GC/FID

Units:ug/L
Basis:NA

			Lab Control Sample			Duplicate Lab Control Sample				
			RQ1611357-02			RQ1611357-03				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Acetylene	RSK 175	57.1	50.2	114	58.1	50.2	116	70-129	2	30
Ethane	RSK 175	26.3	26.0	101	25.9	26.0	99	74-131	1	30
Ethene	RSK 175	25.3	24.3	104	25.0	24.3	103	72-133	1	30
Methane	RSK 175	26.5	26.2	101	26.1	26.2	100	73-125	1	30
Propane	RSK 175	25.2	25.5	99	24.9	25.5	98	74-123	1	30

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	2,4,6-Tribromophenol 43 - 140	2-Fluorobiphenyl 44 - 119	2-Fluorophenol 19 - 119
OSL-SW09-091516	R1609843-001	94	72	37
OSL-SW06-091516	R1609843-002	98	75	35
OSL-SW10-091516	R1609843-003	83	63	38
Method Blank	RQ1611026-01	98	74	42
Lab Control Sample	RQ1611026-02	84	75	45
Duplicate Lab Control Sample	RQ1611026-03	87	76	42

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	Nitrobenzene-d5 44 - 120	Phenol-d6 10 - 107	p-Terphenyl-d14 50 - 134
OSL-SW09-091516	R1609843-001	72	26	91
OSL-SW06-091516	R1609843-002	71	25	90
OSL-SW10-091516	R1609843-003	66	26	87
Method Blank	RQ1611026-01	76	31	95
Lab Control Sample	RQ1611026-02	68	35	84
Duplicate Lab Control Sample	RQ1611026-03	73	31	89

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Analyzed:**	09/21/16 07:53
Sample Matrix:	Water	**Date Extracted:**	09/19/16

Method Blank Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	R-MS-54
Lab Code:	RQ1611026-01	**File ID:**	I:\ACQUDATA\5973D\Data\092116\BI190.D\
Analysis Method:	8270D	**Analysis Lot:**	515255
Prep Method:	EPA 3510C	**Extraction Lot:**	271137

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1611026-02	I:\ACQUDATA\5973D\Data\092116\BI191.D\	09/21/16 08:21
Duplicate Lab Control Sample	RQ1611026-03	I:\ACQUDATA\5973D\Data\092116\BI192.D\	09/21/16 08:48
OSL-SW09-091516	R1609843-001	I:\ACQUDATA\5973D\Data\092116\BI193.D\	09/21/16 09:16
OSL-SW06-091516	R1609843-002	I:\ACQUDATA\5973D\Data\092116\BI194.D\	09/21/16 09:44
OSL-SW10-091516	R1609843-003	I:\ACQUDATA\5973D\Data\092116\BI195.D\	09/21/16 10:12

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611026-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
1,2-Dichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
1,3-Dichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
1,4-Dichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2,4,5-Trichlorophenol	ND U	10	5.0	1.8	1	09/21/16 07:53	9/19/16	
2,4,6-Trichlorophenol	ND U	10	5.0	1.4	1	09/21/16 07:53	9/19/16	
2,4-Dichlorophenol	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
2,4-Dimethylphenol	ND U	10	5.0	1.5	1	09/21/16 07:53	9/19/16	
2,4-Dinitrophenol	ND U	50	25	20	1	09/21/16 07:53	9/19/16	
2,4-Dinitrotoluene	ND U	10	5.0	1.6	1	09/21/16 07:53	9/19/16	
2,6-Dinitrotoluene	ND U	10	5.0	1.8	1	09/21/16 07:53	9/19/16	
2-Chloronaphthalene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Chlorophenol	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Methylnaphthalene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Methylphenol	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Nitroaniline	ND U	50	25	9.1	1	09/21/16 07:53	9/19/16	
2-Nitrophenol	ND U	10	5.0	1.4	1	09/21/16 07:53	9/19/16	
3,3'-Dichlorobenzidine	ND U	10	5.0	4.5	1	09/21/16 07:53	9/19/16	
3- and 4-Methylphenol Coelution	ND U	20	10	2.0	1	09/21/16 07:53	9/19/16	
3-Nitroaniline	ND U	50	25	7.7	1	09/21/16 07:53	9/19/16	
4,6-Dinitro-2-methylphenol	ND U	50	25	11	1	09/21/16 07:53	9/19/16	
4-Bromophenyl Phenyl Ether	ND U	10	5.0	2.2	1	09/21/16 07:53	9/19/16	
4-Chloro-3-methylphenol	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
4-Chloroaniline	ND U	10	5.0	1.5	1	09/21/16 07:53	9/19/16	
4-Chlorophenyl Phenyl Ether	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
4-Nitroaniline	ND U	50	25	7.8	1	09/21/16 07:53	9/19/16	
4-Nitrophenol	ND U	50	25	5.9	1	09/21/16 07:53	9/19/16	
Acenaphthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Acenaphthylene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Anthracene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benz(a)anthracene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(a)pyrene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(b)fluoranthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(g,h,i)perylene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(k)fluoranthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzyl Alcohol	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
2,2'-Oxybis(1-chloropropane)	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Bis(2-chloroethoxy)methane	ND U	10	5.0	2.2	1	09/21/16 07:53	9/19/16	
Bis(2-chloroethyl) Ether	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
Bis(2-ethylhexyl) Phthalate	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Butyl Benzyl Phthalate	ND U	10	5.0	2.4	1	09/21/16 07:53	9/19/16	
Carbazole	ND U	10	5.0	1.1	1	09/21/16 07:53	9/19/16	
Chrysene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611026-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Di-n-octyl Phthalate	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Dibenz(a,h)anthracene	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
Dibenzofuran	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Diethyl Phthalate	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Dimethyl Phthalate	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Fluoranthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Fluorene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Hexachlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Hexachlorobutadiene	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
Hexachloroethane	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Indeno(1,2,3-cd)pyrene	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Isophorone	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
N-Nitrosodi-n-propylamine	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
N-Nitrosodimethylamine	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
N-Nitrosodiphenylamine	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Naphthalene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Nitrobenzene	ND U	10	5.0	1.6	1	09/21/16 07:53	9/19/16	
Pentachlorophenol (PCP)	ND U	50	25	6.9	1	09/21/16 07:53	9/19/16	
Phenanthrene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Phenol	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Pyrene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	43 - 140	09/21/16 07:53	
2-Fluorobiphenyl	74	44 - 119	09/21/16 07:53	
2-Fluorophenol	42	19 - 119	09/21/16 07:53	
Nitrobenzene-d5	76	44 - 120	09/21/16 07:53	
Phenol-d6	31	10 - 107	09/21/16 07:53	
p-Terphenyl-d14	95	50 - 134	09/21/16 07:53	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Analyzed:**	09/21/16 08:21
Sample Matrix:	Water	**Date Extracted:**	09/19/16

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-54
Lab Code:	RQ1611026-02	**File ID:**	I:\ACQUDATA\5973D\Data\092116\BI191.D\
Analysis Method:	8270D	**Analysis Lot:**	515255
Prep Method:	EPA 3510C	**Extraction Lot:**	271137

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1611026-01	I:\ACQUDATA\5973D\Data\092116\BI190.D\	09/21/16 07:53
Duplicate Lab Control Sample	RQ1611026-03	I:\ACQUDATA\5973D\Data\092116\BI192.D\	09/21/16 08:48
OSL-SW09-091516	R1609843-001	I:\ACQUDATA\5973D\Data\092116\BI193.D\	09/21/16 09:16
OSL-SW06-091516	R1609843-002	I:\ACQUDATA\5973D\Data\092116\BI194.D\	09/21/16 09:44
OSL-SW10-091516	R1609843-003	I:\ACQUDATA\5973D\Data\092116\BI195.D\	09/21/16 10:12

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/21/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611026-02			RQ1611026-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	61.3	100	61	64.3	100	64	29-116	5	20
1,2-Dichlorobenzene	8270D	67.3	100	67	63.6	100	64	32-111	6	20
1,3-Dichlorobenzene	8270D	64.6	100	65	61.9	100	62	28-110	4	20
1,4-Dichlorobenzene	8270D	64.6	100	65	63.5	100	64	29-112	2	20
2,4,5-Trichlorophenol	8270D	92.7	100	93	93.5	100	94	53-123	<1	20
2,4,6-Trichlorophenol	8270D	88.0	100	88	91.5	100	92	50-125	4	20
2,4-Dichlorophenol	8270D	85.0	100	85	92.3	100	92	47-121	8	20
2,4-Dimethylphenol	8270D	89.0	100	89	94.4	100	94	31-124	6	20
2,4-Dinitrophenol	8270D	121	100	121	132	100	132	23-143	9	20
2,4-Dinitrotoluene	8270D	89.4	100	89	96.9	100	97	57-128	8	20
2,6-Dinitrotoluene	8270D	94.1	100	94	100	100	100	57-124	6	20
2-Chloronaphthalene	8270D	70.7	100	71	71.2	100	71	40-116	<1	20
2-Chlorophenol	8270D	83.4	100	83	82.0	100	82	38-117	2	20
2-Methylnaphthalene	8270D	65.8	100	66	74.9	100	75	40-121	13	20
2-Methylphenol	8270D	78.6	100	79	78.4	100	78	30-117	<1	20
2-Nitroaniline	8270D	93.1	100	93	95.5	100	96	55-127	3	20
2-Nitrophenol	8270D	88.8	100	89	92.7	100	93	47-123	4	20
3,3'-Dichlorobenzidine	8270D	79.5	100	79	91.8	100	92	27-129	14	20
3- and 4-Methylphenol Coelution	8270D	67.6	100	68	66.6	100	67	29-110	1	20
3-Nitroaniline	8270D	79.0	100	79	84.4	100	84	41-128	7	20
4,6-Dinitro-2-methylphenol	8270D	102	100	102	121	100	121	44-137	17	20
4-Bromophenyl Phenyl Ether	8270D	84.7	100	85	91.1	100	91	55-124	7	20
4-Chloro-3-methylphenol	8270D	90.7	100	91	98.4	100	98	52-119	8	20
4-Chloroaniline	8270D	81.9	100	82	86.4	100	86	33-117	5	20
4-Chlorophenyl Phenyl Ether	8270D	84.5	100	85	89.4	100	89	53-121	6	20
Acenaphthene	8270D	80.8	100	81	82.1	100	82	47-122	2	20
Acenaphthylene	8270D	78.4	100	78	81.0	100	81	41-130	3	20
Anthracene	8270D	93.8	100	94	104	100	104	57-123	10	20
Benz(a)anthracene	8270D	87.7	100	88	98.7	100	99	58-125	12	20
Benzo(a)pyrene	8270D	98.8	100	99	105	100	105	54-128	6	20
Benzo(b)fluoranthene	8270D	89.6	100	90	96.2	100	96	53-131	7	20
Benzo(g,h,i)perylene	8270D	101	100	101	108	100	108	50-134	7	20
Benzo(k)fluoranthene	8270D	97.9	100	98	106	100	106	57-129	8	20

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/21/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611026-02			RQ1611026-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	8270D	91.5	100	92	90.5	100	91	31-112	1	20
Bis(2-chloroethoxy)methane	8270D	82.4	100	82	88.1	100	88	48-120	7	20
Bis(2-chloroethyl) Ether	8270D	83.7	100	84	81.7	100	82	43-118	2	20
Bis(2-ethylhexyl) Phthalate	8270D	94.8	100	95	106	100	106	55-135	12	20
Butyl Benzyl Phthalate	8270D	88.9	100	89	101	100	101	53-134	13	20
Carbazole	8270D	88.3	100	88	101	100	101	60-122	13	20
Chrysene	8270D	91.7	100	92	99.5	100	100	59-123	8	20
Di-n-butyl Phthalate	8270D	104	100	104	116	100	116	59-127	11	20
Di-n-octyl Phthalate	8270D	104	100	104	111	100	111	51-140	7	20
Dibenz(a,h)anthracene	8270D	94.9	100	95	99.9	100	100	51-134	5	20
Dibenzofuran	8270D	79.6	100	80	84.8	100	85	53-118	6	20
Diethyl Phthalate	8270D	95.1	100	95	97.2	100	97	56-125	2	20
Dimethyl Phthalate	8270D	92.9	100	93	98.3	100	98	45-127	6	20
Fluoranthene	8270D	96.1	100	96	108	100	108	57-128	12	20
Fluorene	8270D	85.7	100	86	90.5	100	90	52-124	5	20
Hexachlorobenzene	8270D	93.4	100	93	102	100	102	53-125	9	20
Hexachlorobutadiene	8270D	65.0	100	65	69.6	100	70	22-124	7	20
Hexachloroethane	8270D	59.0	100	59	58.5	100	59	21-115	<1	20
Indeno(1,2,3-cd)pyrene	8270D	92.1	100	92	101	100	101	52-134	9	20
Isophorone	8270D	86.8	100	87	93.9	100	94	42-124	8	20
N-Nitrosodi-n-propylamine	8270D	78.0	100	78	78.9	100	79	49-119	1	20
N-Nitrosodimethylamine	8270D	48.5	100	48	48.2	100	48	23-120	<1	20
N-Nitrosodiphenylamine	8270D	84.6	100	85	94.5	100	95	51-123	11	20
Naphthalene	8270D	67.8	100	68	71.5	100	71	40-121	5	20
Nitrobenzene	8270D	83.0	100	83	89.0	100	89	45-121	7	20
Pentachlorophenol (PCP)	8270D	140	100	140 *	154	100	154 *	35-138	9	20
Phenanthrene	8270D	90.3	100	90	101	100	101	59-120	11	20
Phenol	8270D	36.8	100	37	40.2	100	40	34-121	9	20
Pyrene	8270D	88.3	100	88	98.0	100	98	57-126	10	20

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall **Date Analyzed:**09/21/16 07:06

Tune Summary
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\092116\BI188.D\ **Analytical Method:** 8270D
Instrument ID: R-MS-54 **Analysis Lot:** 515255

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	45.32	19621	Pass
68	69	0.00	2	1.38	312	Pass
69	198	0.00	100	52.05	22536	Pass
70	69	0.00	2	1.05	236	Pass
127	198	10	80	57.00	24682	Pass
197	198	0.00	2	0.58	250	Pass
198	198	100	100	100.00	43299	Pass
199	198	5	9	7.09	3072	Pass
275	198	10	60	22.36	9680	Pass
365	198	1	100	2.87	1242	Pass
441	442	0.01	24	15.11	5343	Pass
442	442	100	100	100.00	35353	Pass
443	442	15	24	19.11	6755	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1611258-02	I:\ACQUDATA\5973D\Data\092116\BI189.D\	09/21/16 07:25	
Method Blank	RQ1611026-01	I:\ACQUDATA\5973D\Data\092116\BI190.D\	09/21/16 07:53	
Lab Control Sample	RQ1611026-02	I:\ACQUDATA\5973D\Data\092116\BI191.D\	09/21/16 08:21	
Duplicate Lab Control Sample	RQ1611026-03	I:\ACQUDATA\5973D\Data\092116\BI192.D\	09/21/16 08:48	
OSL-SW09-091516	R1609843-001	I:\ACQUDATA\5973D\Data\092116\BI193.D\	09/21/16 09:16	
OSL-SW06-091516	R1609843-002	I:\ACQUDATA\5973D\Data\092116\BI194.D\	09/21/16 09:44	
OSL-SW10-091516	R1609843-003	I:\ACQUDATA\5973D\Data\092116\BI195.D\	09/21/16 10:12	
Continuing Cal. Verification	RQ1611258-03	I:\ACQUDATA\5973D\Data\092116\BI211.D\	09/21/16 17:34	

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall **Date Analyzed:**09/21/16 07:25

Internal Standard Area and RT SUMMARY
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\092116\BI189.D\ **Lab Code:**RQ1611258-02
Instrument ID: R-MS-54 **Analysis Lot:**515255
Analysis Method: 8270D **Signal ID:**

		1,4-Dichlorobenzene-d4		Acenaphthene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	84,009	4.70	171,454	7.57	273,218	12.26
	Upper Limit ==>	168,018	5.20	342,908	8.07	546,436	12.76
	Lower Limit ==>	42,005	4.20	85,727	7.07	136,609	11.76
Associated Analyses							
Method Blank	RQ1611026-01	64796	4.70	131958	7.57	200795	12.25
Lab Control Sample	RQ1611026-02	63366	4.70	128191	7.57	222959	12.25
Duplicate Lab Control Sample	RQ1611026-03	64475	4.70	135133	7.57	219455	12.26
OSL-SW09-091516	R1609843-001	65486	4.70	132215	7.57	205074	12.25
OSL-SW06-091516	R1609843-002	65714	4.70	126491	7.57	196912	12.25
OSL-SW10-091516	R1609843-003	63852	4.70	134540	7.57	200512	12.25
Continuing Cal. Verification	RQ1611258-03	82573	4.70	168639	7.57	268789	12.26

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall **Date Analyzed:**09/21/16 07:25

Internal Standard Area and RT SUMMARY
Semivolatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\5973D\Data\092116\BI189.D\ **Lab Code:**RQ1611258-02
Instrument ID: R-MS-54 **Analysis Lot:**515255
Analysis Method: 8270D **Signal ID:**

		Naphthalene-d8		Perylene-d12		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	ICAL Result ==>	329,510	5.87	257,575	15.15	315,687	9.04
	Upper Limit ==>	659,020	6.37	515,150	15.65	631,374	9.54
	Lower Limit ==>	164,755	5.37	128,788	14.65	157,844	8.54
Associated Analyses							
Method Blank	RQ1611026-01	252284	5.87	206883	15.15	251105	9.03
Lab Control Sample	RQ1611026-02	267006	5.87	202935	15.15	231523	9.04
Duplicate Lab Control Sample	RQ1611026-03	260719	5.87	207046	15.14	229126	9.04
OSL-SW09-091516	R1609843-001	248316	5.87	205919	15.14	250090	9.03
OSL-SW06-091516	R1609843-002	246922	5.87	200862	15.15	247249	9.03
OSL-SW10-091516	R1609843-003	249799	5.87	201832	15.14	250246	9.03
Continuing Cal. Verification	RQ1611258-03	319763	5.87	250702	15.15	306178	9.04

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609843-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	ND	U	mg/L	2.0	1.0	1	1	09/20/16 18:09	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	ND	U	mg/L	0.0050	0.0010	0.0006	1	09/26/16 10:46	NA	
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	-	-	1	09/16/16 12:43	NA	
Bromide	300.0	ND	U	mg/L	0.10	0.05	0.04	1	09/16/16 22:56	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**0.2**	**J**	mg/L	1.0	0.5	0.05	1	09/27/16 14:44	NA	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	5.0	3.5	3.7	1	09/19/16 12:57	NA	
Chloride	300.0	ND	U	mg/L	0.20	0.10	0.1	1	09/20/16 18:03	NA	
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND	U	mg/L	0.10	0.08	0.04	1	09/16/16 18:00	NA	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.10	0.05	0.05	1	09/16/16 22:56	NA	
Nitrite as Nitrogen	300.0	ND	U	mg/L	0.10	0.05	0.007	1	09/16/16 22:56	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	ND	U	mg/L	0.40	0.10	0.08	1	09/29/16 15:17	09/28/16	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	-	0.0013	1	09/27/16 09:15	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	ND	U	mg/L	10	-	4	1	09/20/16 10:15	NA	
Sulfate	300.0	ND	U	mg/L	0.20	0.10	0.02	1	09/20/16 18:03	NA	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609843-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.20	0.10	0.1	1	09/21/16 15:31	
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/21/16 15:31	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609843-MB3		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/27/16 16:41	

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request:R1609843
Date Collected:09/16/16
Date Received:09/16/16
Date Analyzed:09/16/16 - 09/29/16

Matrix Spike Summary
General Chemistry Parameters

Sample Name: ASL-MW943-091616
Lab Code: R1609843-005

Units:mg/L
Basis:NA

Matrix Spike
R1609843-005MS

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	202	445	500	49 *	81-112
Chemical Oxygen Demand, Total	410.4	8.1	28.6	25.0	82 *	90-110
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.05 J	0.30	0.40	64 *	67-129
Phenolics, Total Recoverable	420.4	ND U	0.0389	0.0400	97	90-110
Nitrogen, Total Kjeldahl (TKN)	351.2	0.25 J	2.45	2.50	88 *	90-110
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	1.4 B	11.5	10.0	101	81-118

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16
Sample Matrix:	Water	**Date Received:**	09/16/16
		Date Analyzed:	09/19/16

Matrix Spike Summary
Chemical Oxygen Demand, Total

Sample Name:	ASL-MW941-091616	**Units:**	mg/L
Lab Code:	R1609843-007	**Basis:**	NA
Analysis Method:	410.4		

Matrix Spike
R1609843-007MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand, Total	ND U	32.9	25.0	132 *	90-110

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request:R1609843
Date Collected:09/16/16
Date Received:09/16/16
Date Analyzed:09/17/16 - 09/27/16

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: ASL-MW943-091616
Lab Code: R1609843-005

Units:mg/L
Basis:NA

			Matrix Spike			Duplicate Matrix Spike					
			R1609843-005MS			R1609843-005DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.025 J	4.97	5.00	99	5.01	5.00	100	90-110	<1	20
Bromide	300.0	ND U	10.1	10.0	101	10.1	10.0	101	90-110	<1	20
Chloride	300.0	645	824	200	89 *	827	200	91	90-110	<1	20
Nitrite as Nitrogen	300.0	ND U	6.3	10.0	63 *	6.4	10.0	64 *	90-110	1	20
Nitrate as Nitrogen	300.0	4.3	15.5	10.0	111 *	15.5	10.0	112 *	90-110	<1	20
Sulfate	300.0	37.4	57.8	20.0	102	57.7	20.0	101	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Collected: 09/16/16
Date Received: 09/16/16
Date Analyzed: 09/16/16 - 09/29/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name: ASL-MW943-091616
Lab Code: R1609843-005

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609843-005DUP Result	Average	RPD	RPD Limit
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	2.0	1.0	1	202	201	201	<1	20
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	2.0	-	-	ND U	ND U	NC	NC	20
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	1.0	0.5	0.05	1.4 B	1.4	1.41	3	20
Chemical Oxygen Demand, Total	410.4	5.0	3.5	3.7	8.1	8.1	8.13	<1	20
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.10	0.08	0.04	0.05 J	0.05 J	0.0460	<1	20
Nitrogen, Total Kjeldahl (TKN)	351.2	0.40	0.10	0.08	0.25 J	0.17 J	0.208	38 *	20
Phenolics, Total Recoverable	420.4	0.0050	-	0.0013	ND U	ND U	NC	NC	20
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	40	-	15	1290	1290	1290	<1	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609843
Project	Fort Drum, NY IRP Fall	**Date Collected:**	09/16/16
Sample Matrix:	Water	**Date Received:**	09/16/16
		Date Analyzed:	09/19/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	ASL-MW941-091616	**Units:**	mg/L
Lab Code:	R1609843-007	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609843-007DUP Result	Average	RPD	RPD Limit
Chemical Oxygen Demand, Total	410.4	5.0	3.5	3.7	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/16/16 - 09/29/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609843-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	20.4	20.0	102	81-112
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.495	0.500	99	90-110
Biochemical Oxygen Demand (BOD)	SM 5210 B-2001(2011)	205	198	104	85-115
Bromide	300.0	1.04	1.00	104	90-110
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	10.1	10.0	101	81-118
Chemical Oxygen Demand, Total	410.4	52.2	50.0	104	90-110
Chloride	300.0	1.89	2.00	94	90-110
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.35	0.40	87	67-129
Nitrate as Nitrogen	300.0	1.10	1.00	110	90-110
Nitrite as Nitrogen	300.0	1.05	1.00	105	90-110
Nitrogen, Total Kjeldahl (TKN)	351.2	2.32	2.50	93	90-110
Phenolics, Total Recoverable	420.4	0.0394	0.0400	99	90-110
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	916	914	100	90-110
Sulfate	300.0	1.83	2.00	91	90-110

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/21/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609843-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	1.90	2.00	95	90-110
Sulfate	300.0	1.81	2.00	91	90-110

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609843
Date Analyzed: 09/27/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609843-LCS3

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	2.02	2.00	101	90-110

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Ammonia as Nitrogen, undistilled

Analysis Method: ASTM D6919-09 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	515991	RQ1611470-09	09/26/16 10:46	0.0050	0.0010	0.0006	0.0006	U
CCB2	515991	RQ1611470-10	09/26/16 14:22	0.0050	0.0010	0.0006	0.0006	U
CCB3	515991	RQ1611470-11	09/26/16 18:03	0.0050	0.0010	0.0006	0.0058	
CCB4	515991	RQ1611470-12	09/26/16 21:40	0.0050	0.0010	0.0006	0.0006	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Bromide

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514638	RQ1611077-02	09/16/16 22:56	0.10	0.05	0.04	0.04	U
CCB2	514638	RQ1611077-08	09/17/16 01:57	0.10	0.05	0.04	0.04	U
CCB3	514638	RQ1611077-10	09/17/16 02:57	0.10	0.05	0.04	0.04	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Chloride

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	515269	RQ1611317-02	09/20/16 18:03	0.20	0.10	0.10	0.10	U
CCB2	515269	RQ1611317-08	09/20/16 20:47	0.20	0.10	0.10	0.10	U
CCB3	515269	RQ1611317-10	09/21/16 10:01	0.20	0.10	0.10	0.10	U
CCB4	515269	RQ1611317-12	09/21/16 12:45	0.20	0.10	0.10	0.10	U
CCB5	515269	RQ1611317-16	09/21/16 15:31	0.20	0.10	0.10	0.10	U
CCB6	515286	RQ1611318-02	09/21/16 15:31	0.20	0.10	0.10	0.10	U
CCB7	515286	RQ1611318-08	09/21/16 18:12	0.20	0.10	0.10	0.10	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Chemical Oxygen Demand, Total

Analysis Method: 410.4 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	515119	RQ1611198-02	09/19/16 12:57	5.0	3.7	3.7	3.7	U
CCB2	515119	RQ1611198-06	09/19/16 12:57	5.0	3.7	3.7	3.7	U
CCB3	515119	RQ1611198-10	09/19/16 12:57	5.0	3.7	3.7	3.7	U
CCB4	515119	RQ1611198-13	09/19/16 12:57	5.0	3.7	3.7	4.9	J
CCB5	515119	RQ1611198-17	09/19/16 12:57	5.0	3.7	3.7	3.7	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Iron, Divalent (Ferrous Iron)

Analysis Method: SM 3500-Fe B.4.c **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	515442	RQ1611302-04	09/16/16 18:00	0.10	0.08	0.04	0.04	U
CCB2	515442	RQ1611302-08	09/16/16 18:00	0.10	0.08	0.04	0.04	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary

Nitrite as Nitrogen

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514638	RQ1611077-02	09/16/16 22:56	0.10	0.05	0.007	0.007	U
CCB2	514638	RQ1611077-08	09/17/16 01:57	0.10	0.05	0.007	0.007	U
CCB3	514638	RQ1611077-10	09/17/16 02:57	0.10	0.05	0.007	0.007	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Nitrate as Nitrogen

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	514638	RQ1611077-02	09/16/16 22:56	0.10	0.05	0.05	0.05	U
CCB2	514638	RQ1611077-08	09/17/16 01:57	0.10	0.05	0.05	0.05	U
CCB3	514638	RQ1611077-10	09/17/16 02:57	0.10	0.05	0.05	0.05	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Phenolics, Total Recoverable

Analysis Method: 420.4 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	516131	RQ1611511-02	09/27/16 09:15	0.0050		0.0013	0.0013	U
CCB2	516131	RQ1611511-08	09/27/16 09:15	0.0050		0.0013	0.0013	U
CCB3	516131	RQ1611511-12	09/27/16 09:15	0.0050		0.0013	0.0013	U
CCB4	516131	RQ1611511-14	09/27/16 09:15	0.0050		0.0013	0.0013	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Sulfate

Analysis Method: 300.0 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	515269	RQ1611317-02	09/20/16 18:03	0.20	0.10	0.02	0.02	U
CCB2	515269	RQ1611317-08	09/20/16 20:47	0.20	0.10	0.02	0.02	U
CCB3	515269	RQ1611317-10	09/21/16 10:01	0.20	0.10	0.02	0.02	U
CCB4	515269	RQ1611317-12	09/21/16 12:45	0.20	0.10	0.02	0.02	U
CCB5	515269	RQ1611317-16	09/21/16 15:31	0.20	0.10	0.02	0.02	U
CCB6	515286	RQ1611318-02	09/21/16 15:31	0.20	0.10	0.02	0.02	U
CCB7	515286	RQ1611318-08	09/21/16 18:12	0.20	0.10	0.02	0.02	U
CCB8	516245	RQ1611583-02	09/27/16 16:41	0.20	0.10	0.02	0.02	U
CCB9	516245	RQ1611583-06	09/27/16 19:26	0.20	0.10	0.02	0.02	U
CCB10	516245	RQ1611583-10	09/27/16 22:08	0.20	0.10	0.02	0.02	U
CCB11	516245	RQ1611583-12	09/28/16 00:52	0.20	0.10	0.02	0.02	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.2 **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	516569	RQ1611676-02	09/29/16 15:17	0.40	0.10	0.08	0.08	U
CCB2	516569	RQ1611676-04	09/29/16 15:25	0.40	0.10	0.08	0.08	U
CCB3	516569	RQ1611676-06	09/29/16 15:36	0.40	0.10	0.08	0.08	U
CCB4	516569	RQ1611676-08	09/29/16 16:18	0.40	0.10	0.08	0.08	U
CCB5	516569	RQ1611676-10	09/29/16 16:32	0.40	0.10	0.08	0.08	U
CCB6	516569	RQ1611676-12	09/29/16 16:54	0.40	0.10	0.08	0.08	U
CCB7	516569	RQ1611676-14	09/29/16 17:06	0.40	0.10	0.08	0.08	U

Client: ARCADIS U.S., Inc. **Service Request:**R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic (TOC)

Analysis Method: SM 5310 C-2000(2011) **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	516191	RQ1611536-08	09/27/16 14:44	1.0	0.5	0.05	0.2	J
CCB2	516191	RQ1611536-10	09/27/16 18:55	1.0	0.5	0.05	0.05	U
CCB3	516191	RQ1611536-12	09/27/16 23:06	1.0	0.5	0.05	0.05	U

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Ammonia as Nitrogen, undistilled

Analysis Method: ASTM D6919-09 **Units:** ppm

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	515991	RQ1611470-05	09/26/16 10:28	1.00	0.999	100	90-110
CCV2	515991	RQ1611470-06	09/26/16 14:04	1.00	0.994	99	90-110
CCV3	515991	RQ1611470-07	09/26/16 17:45	1.00	0.993	99	90-110
CCV4	515991	RQ1611470-08	09/26/16 21:22	1.00	0.999	100	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Bromide

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514638	RQ1611077-01	09/16/16 22:41	2.00	2.03	101	90-110
CCV2	514638	RQ1611077-07	09/17/16 01:42	2.00	2.02	101	90-110
CCV3	514638	RQ1611077-09	09/17/16 02:42	2.00	2.03	102	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Chloride

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	515269	RQ1611317-01	09/20/16 17:49	4.00	3.78	95	90-110
CCV2	515269	RQ1611317-07	09/20/16 20:33	4.00	3.78	94	90-110
CCV3	515269	RQ1611317-09	09/21/16 09:51	4.00	3.82	95	90-110
CCV4	515269	RQ1611317-11	09/21/16 12:31	4.00	3.81	95	90-110
CCV5	515269	RQ1611317-15	09/21/16 15:16	4.00	3.83	96	90-110
CCV6	515286	RQ1611318-01	09/21/16 15:16	4.00	3.83	96	90-110
CCV7	515286	RQ1611318-07	09/21/16 18:03	4.00	3.86	97	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Chemical Oxygen Demand, Total

Analysis Method: 410.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	515119	RQ1611198-01	09/19/16 12:57	50.0	52.2	104	90-110
CCV2	515119	RQ1611198-05	09/19/16 12:57	50.0	52.0	104	90-110
CCV3	515119	RQ1611198-09	09/19/16 12:57	50.0	49.9	100	90-110
CCV4	515119	RQ1611198-14	09/19/16 12:57	50.0	51.1	102	90-110
CCV5	515119	RQ1611198-18	09/19/16 12:57	50.0	48.8	98	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Iron, Divalent (Ferrous Iron)

Analysis Method: SM 3500-Fe B.4.c **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	515442	RQ1611302-03	09/16/16 18:00	2.00	1.88	94	90-110
CCV2	515442	RQ1611302-07	09/16/16 18:00	2.00	1.87	93	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Nitrite as Nitrogen

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514638	RQ1611077-01	09/16/16 22:41	2.00	2.08	104	90-110
CCV2	514638	RQ1611077-07	09/17/16 01:42	2.00	2.09	104	90-110
CCV3	514638	RQ1611077-09	09/17/16 02:42	2.00	2.09	105	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Nitrate as Nitrogen

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	514638	RQ1611077-01	09/16/16 22:41	2.00	2.01	100	90-110
CCV2	514638	RQ1611077-07	09/17/16 01:42	2.00	2.01	100	90-110
CCV3	514638	RQ1611077-09	09/17/16 02:42	2.00	2.01	100	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Phenolics, Total Recoverable

Analysis Method: 420.4 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	516131	RQ1611511-01	09/27/16 09:15	0.0700	0.0691	99	90-110
CCV2	516131	RQ1611511-07	09/27/16 09:15	0.0700	0.0686	98	90-110
CCV3	516131	RQ1611511-11	09/27/16 09:15	0.0700	0.0694	99	90-110
CCV4	516131	RQ1611511-13	09/27/16 09:15	0.0700	0.0691	99	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Sulfate

Analysis Method: 300.0 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	515269	RQ1611317-01	09/20/16 17:49	4.00	3.63	91	90-110
CCV2	515269	RQ1611317-07	09/20/16 20:33	4.00	3.63	91	90-110
CCV3	515269	RQ1611317-09	09/21/16 09:51	4.00	3.66	91	90-110
CCV4	515269	RQ1611317-11	09/21/16 12:31	4.00	3.66	92	90-110
CCV5	515269	RQ1611317-15	09/21/16 15:16	4.00	3.68	92	90-110
CCV6	515286	RQ1611318-01	09/21/16 15:16	4.00	3.68	92	90-110
CCV7	515286	RQ1611318-07	09/21/16 18:03	4.00	3.72	93	90-110
CCV8	516245	RQ1611583-01	09/27/16 16:28	4.00	3.95	99	90-110
CCV9	516245	RQ1611583-05	09/27/16 19:11	4.00	3.95	99	90-110
CCV10	516245	RQ1611583-09	09/27/16 21:54	4.00	3.93	98	90-110
CCV11	516245	RQ1611583-11	09/28/16 00:38	4.00	3.95	99	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Nitrogen, Total Kjeldahl (TKN)

Analysis Method: 351.2 **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	516569	RQ1611676-01	09/29/16 15:16	4.00	3.94	99	90-110
CCV2	516569	RQ1611676-03	09/29/16 15:25	4.00	3.96	99	90-110
CCV3	516569	RQ1611676-05	09/29/16 15:35	4.00	3.99	100	90-110
CCV4	516569	RQ1611676-07	09/29/16 16:18	4.00	3.95	99	90-110
CCV5	516569	RQ1611676-09	09/29/16 16:31	4.00	4.13	103	90-110
CCV6	516569	RQ1611676-11	09/29/16 16:53	4.00	4.14	103	90-110
CCV7	516569	RQ1611676-13	09/29/16 17:05	4.00	4.06	101	90-110

Client: ARCADIS U.S., Inc. **Service Request:** R1609843
Project: Fort Drum, NY IRP Fall

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic (TOC)

Analysis Method: SM 5310 C-2000(2011) **Units:** ppm

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	516191	RQ1611536-07	09/27/16 14:23	15.0	13.9	93	85-115
CCV2	516191	RQ1611536-09	09/27/16 18:34	15.0	13.7	91	85-115
CCV3	516191	RQ1611536-11	09/27/16 22:45	15.0	14.0	94	85-115

October 03, 2016 Service Request No:R1609844

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY IRP Fall

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 16, 2016
For your reference, these analyses have been assigned our service request number **R1609844.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

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1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request:R1609844
Date Received:9/16/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Three water samples were received for analysis at ALS Environmental on 09/16/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Analyst Notes on sample-001 – The reported value for acetone (both 1/5 and DL analyses) is considered an estimate due to a difficult coelution of a hydrocarbon (likely n-pentane) with acetone. These two compounds share mass 43 as their largest ions and judgement was used for integrating acetone (looking at secondary ion 58) so as to minimize the inflating effect of the hydrocarbon. Ion Mass 58 is very minimal in the spectrum for the interferent n-pentane so this is a useful guide in discerning which part of peak (quant mass 43) belongs to acetone.

Semi-Volatile Organic Analyses:

Method 8270D, 09/21/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV) and the closing CCV. The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/21/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Subcontracted Analytical Parameters:

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

Approved by _____ Date 10/3/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-PZ13S-091516	Lab ID: R1609844-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	450		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	120		1.0	25	ug/L	8260C
4-Isopropyltoluene	6.0	J	1.0	25	ug/L	8260C
Acetone	420		6.2	50	ug/L	8260C
Bromomethane	1.6	BJ	1.5	25	ug/L	8260C
Chloroethane	5.0	J	1.2	25	ug/L	8260C
Chloromethane	2.9	J	1.1	25	ug/L	8260C
Ethylbenzene	540		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	37		1.0	25	ug/L	8260C
Naphthalene	220		1.0	25	ug/L	8260C
Toluene	210		1.0	25	ug/L	8260C
m,p-Xylenes	2300	D	6.7	100	ug/L	8260C
n-Butylbenzene	21	J	1.1	25	ug/L	8260C
n-Propylbenzene	100		1.0	25	ug/L	8260C
o-Xylene	660		1.0	25	ug/L	8260C
sec-Butylbenzene	8.8	J	1.4	25	ug/L	8260C
2-Methylnaphthalene	31		1.0	9.4	ug/L	8270D
3- and 4-Methylphenol Coelution	11	J	2.0	19	ug/L	8270D
Naphthalene	140		1.0	9.4	ug/L	8270D

CLIENT ID: 1995-MWS2-091516	Lab ID: R1609844-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	4.2	J	1.3	10	ug/L	8260C

CLIENT ID: Trip Blank	Lab ID: R1609844-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.2	J	1.3	10	ug/L	8260C
Bromomethane	0.32	BJ	0.29	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:**R1609844
Project: Fort Drum, NY IRP Fall

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609844-001	3805-PZ13S-091516	9/15/2016	1020
R1609844-002	1995-MWS2-091516	9/15/2016	1115
R1609844-003	Trip Blank	9/15/2016	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39926

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: FT Drum IRP Fall	Project Number:
Project Manager: Stefan Baynato	Report CC:
Company/Address: Arcadis, 855 Route, Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: Stefan.baynato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1 0 2

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	VOC	SVOC	Al metals					
3805-PZ135-091516		9/15/16	1020										3	2	1					
1995-MWS2-091516		9/15/16	1115										3	2	1					
trip blank													3							

Preservative Key: 0. NONE; 1. HCl; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Metals

ASP Category A (Tier II)

EQuIS EFWEDD w/ Arcadis reference tables

1 cooler

See QAPP ☐

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

REQUESTED REPORT DATE

_____

REPORT REQUIREMENTS

____ I. Results Only

____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

__X__ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #

BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	
Printed Name: N. Griffith	Printed Name: SCOTT SEAVY	Printed Name: SCOTT SEAVY	Printed Name:	Printed Name	
Firm: Arcadis	Firm: AES	Firm: AES	Firm: AES	Firm	
Date/Time: 9/16/16 13:41	Date/Time: 9/16/16 1341	Date/Time: 9/16/16 1630	Date/Time: 9/16/16 1630	Date/Time	

R1609844 5

ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

R1609844 5
ARCADIS U.S., Inc.
Fort Drum, NY

Project/Client Arcadis Folder Number .

Cooler received on 9/16/16 by: TS/DW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y N
2	**Custody papers** properly completed (ink, signed)?	Y N
3	Did all bottles arrive in good **condition** (unbroken)?	Y N
4	Circle: **Wet Ice Dry Ice Gel packs** present?	Y N

5a	**Perchlorate** samples have required headspace?	Y N NA
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N NA
6	Where did the bottles originate?	ALS/ROC CLIENT
7	Soil VOA received as: Bulk Encore 5035set	NA

8. Temperature Readings Date: 9/16/16 Time: 1644 ID: IR#5 IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.4C	17.3C	7.1c				
Correction Factor (°C)	+0.0	+0.0 -0.2	-0.2				
Corrected Temp (°C)	1.4	17.1	6.9				
Within 0-6°C?	Y N	Y N**	Y N**	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed** Same Day Rule*

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by DW/TS on 9/16/16 at 1644
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9/18/16 Time: 1108 by:

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		BSB26153 / B26000JB	Exp 6/17/02/17				
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN). ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**	4/15022	7/17				

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: L-060 004, DC2014 JMW, DC2016 1807, 1A1915-2 JMW

Other Comments:

** 38C5-PZ135-091516
A95-MW52-091516

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: JMW 9/19/16 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% (25% for CLP) difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609844
Project: Fort Drum, NY IRP Fall

Sample Name: 3805-PZ13S-091516 **Date Collected:** 09/15/16
Lab Code: R1609844-001 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI
8270D	DMURPHY	JMISIUREWICZ

Sample Name: 1995-MWS2-091516 **Date Collected:** 09/15/16
Lab Code: R1609844-002 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI
8270D	DMURPHY	JMISIUREWICZ

Sample Name: Trip Blank **Date Collected:** 09/15/16
Lab Code: R1609844-003 **Date Received:** 09/16/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 10:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	3805-PZ13S-091516	**Units:**	ug/L
Lab Code:	R1609844-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	25	5.0	1.1	5	09/22/16 15:57	
1,1,1-Trichloroethane (TCA)	ND	U	25	5.0	1.8	5	09/22/16 15:57	
1,1,2,2-Tetrachloroethane	ND	U	25	5.0	1.3	5	09/22/16 15:57	
1,1,2-Trichloroethane	ND	U	25	5.0	1.7	5	09/22/16 15:57	
1,1-Dichloroethane (1,1-DCA)	ND	U	25	5.0	1.0	5	09/22/16 15:57	
1,1-Dichloroethene (1,1-DCE)	ND	U	25	5.0	2.9	5	09/22/16 15:57	
1,1-Dichloropropene	ND	U	25	5.0	1.5	5	09/22/16 15:57	
1,2,3-Trichlorobenzene	ND	U	25	5.0	4.1	5	09/22/16 15:57	
1,2,3-Trichloropropane	ND	U	25	5.0	3.5	5	09/22/16 15:57	
1,2,4-Trichlorobenzene	ND	U	25	5.0	1.2	5	09/22/16 15:57	
1,2,4-Trimethylbenzene	**450**		25	5.0	1.0	5	09/22/16 15:57	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	25	5.0	3.7	5	09/22/16 15:57	
1,2-Dibromoethane	ND	U	25	5.0	1.2	5	09/22/16 15:57	
1,2-Dichlorobenzene	ND	U	25	5.0	1.1	5	09/22/16 15:57	
1,2-Dichloroethane	ND	U	25	5.0	1.8	5	09/22/16 15:57	
1,2-Dichloropropane	ND	U	25	5.0	1.0	5	09/22/16 15:57	
1,3,5-Trimethylbenzene	**120**		25	5.0	1.0	5	09/22/16 15:57	
1,3-Dichlorobenzene	ND	U	25	5.0	1.0	5	09/22/16 15:57	
1,3-Dichloropropane	ND	U	25	5.0	1.4	5	09/22/16 15:57	
1,4-Dichlorobenzene	ND	U	25	5.0	1.0	5	09/22/16 15:57	
2,2-Dichloropropane	ND	U	25	5.0	1.4	5	09/22/16 15:57	
2-Butanone (MEK)	ND	U	50	5.0	4.1	5	09/22/16 15:57	
2-Chlorotoluene	ND	U	25	5.0	1.0	5	09/22/16 15:57	
2-Hexanone	ND	U	50	25	8.3	5	09/22/16 15:57	
4-Chlorotoluene	ND	U	25	5.0	1.2	5	09/22/16 15:57	
4-Isopropyltoluene	**6.0**	**J**	25	5.0	1.0	5	09/22/16 15:57	
4-Methyl-2-pentanone	ND	U	50	5.0	3.4	5	09/22/16 15:57	
Acetone	**420**		50	25	6.2	5	09/22/16 15:57	
Benzene	ND	U	25	5.0	1.0	5	09/22/16 15:57	
Bromobenzene	ND	U	25	5.0	1.4	5	09/22/16 15:57	
Bromochloromethane	ND	U	25	5.0	1.6	5	09/22/16 15:57	
Bromodichloromethane	ND	U	25	5.0	1.6	5	09/22/16 15:57	
Bromoform	ND	U	25	5.0	2.1	5	09/22/16 15:57	
Bromomethane	**1.6**	**BJ**	25	5.0	1.5	5	09/22/16 15:57	
Carbon Disulfide	ND	U	50	5.0	1.1	5	09/22/16 15:57	
Carbon Tetrachloride	ND	U	25	5.0	2.3	5	09/22/16 15:57	
Chlorobenzene	ND	U	25	5.0	1.5	5	09/22/16 15:57	
Chloroethane	**5.0**	**J**	25	5.0	1.2	5	09/22/16 15:57	
Chloroform	ND	U	25	5.0	1.3	5	09/22/16 15:57	
Chloromethane	**2.9**	**J**	25	5.0	1.1	5	09/22/16 15:57	
Dibromochloromethane	ND	U	25	5.0	1.6	5	09/22/16 15:57	
Dibromomethane	ND	U	25	5.0	1.6	5	09/22/16 15:57	
Dichlorodifluoromethane (CFC 12)	ND	U	25	5.0	2.3	5	09/22/16 15:57	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 10:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	3805-PZ13S-091516	**Units:**	ug/L
Lab Code:	R1609844-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	09/22/16 15:57	
Ethylbenzene	**540**		25	5.0	1.0	5	09/22/16 15:57	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	09/22/16 15:57	
Isopropylbenzene (Cumene)	**37**		25	5.0	1.0	5	09/22/16 15:57	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	09/22/16 15:57	
Naphthalene	**220**		25	5.0	1.0	5	09/22/16 15:57	
Styrene	ND	U	25	5.0	1.0	5	09/22/16 15:57	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	09/22/16 15:57	
Toluene	**210**		25	5.0	1.0	5	09/22/16 15:57	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	09/22/16 15:57	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	09/22/16 15:57	
Vinyl Chloride	ND	U	25	5.0	1.6	5	09/22/16 15:57	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	09/22/16 15:57	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	09/22/16 15:57	
m,p-Xylenes	**2300**	**D**	100	40	6.7	20	09/22/16 17:01	
n-Butylbenzene	**21**	**J**	25	5.0	1.1	5	09/22/16 15:57	
n-Propylbenzene	**100**		25	5.0	1.0	5	09/22/16 15:57	
o-Xylene	**660**		25	5.0	1.0	5	09/22/16 15:57	
sec-Butylbenzene	**8.8**	**J**	25	5.0	1.4	5	09/22/16 15:57	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	09/22/16 15:57	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	09/22/16 15:57	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	09/22/16 15:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 114	09/22/16 15:57	
Dibromofluoromethane	102	80 - 119	09/22/16 15:57	
Toluene-d8	94	89 - 112	09/22/16 15:57	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 11:15
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	1995-MWS2-091516	**Units:**	ug/L
Lab Code:	R1609844-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/22/16 15:28	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/22/16 15:28	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/22/16 15:28	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/22/16 15:28	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/22/16 15:28	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/22/16 15:28	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/22/16 15:28	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/22/16 15:28	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/22/16 15:28	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/22/16 15:28	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/22/16 15:28	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/22/16 15:28	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/22/16 15:28	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 15:28	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 15:28	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/22/16 15:28	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
2-Hexanone	ND U	10	5.0	1.7	1	09/22/16 15:28	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/22/16 15:28	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/22/16 15:28	
Acetone	**4.2 J**	10	5.0	1.3	1	09/22/16 15:28	
Benzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/22/16 15:28	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/22/16 15:28	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/22/16 15:28	
Bromoform	ND U	5.0	1.0	0.42	1	09/22/16 15:28	
Bromomethane	ND U	5.0	1.0	0.29	1	09/22/16 15:28	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/22/16 15:28	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/22/16 15:28	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/22/16 15:28	
Chloroethane	ND U	5.0	1.0	0.24	1	09/22/16 15:28	
Chloroform	ND U	5.0	1.0	0.25	1	09/22/16 15:28	
Chloromethane	ND U	5.0	1.0	0.21	1	09/22/16 15:28	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/22/16 15:28	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/22/16 15:28	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/22/16 15:28	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 11:15
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	1995-MWS2-091516	**Units:**	ug/L
Lab Code:	R1609844-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 15:28	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 15:28	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 15:28	
Naphthalene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 15:28	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 15:28	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 15:28	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 15:28	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 15:28	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/22/16 15:28	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 15:28	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 15:28	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 15:28	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 15:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 114	09/22/16 15:28	
Dibromofluoromethane	104	80 - 119	09/22/16 15:28	
Toluene-d8	104	89 - 112	09/22/16 15:28	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1609844-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/22/16 13:31	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/22/16 13:31	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/22/16 13:31	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/22/16 13:31	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/22/16 13:31	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/22/16 13:31	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/22/16 13:31	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/22/16 13:31	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/22/16 13:31	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/22/16 13:31	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/22/16 13:31	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/22/16 13:31	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/22/16 13:31	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 13:31	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 13:31	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/22/16 13:31	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
2-Hexanone	ND U	10	5.0	1.7	1	09/22/16 13:31	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/22/16 13:31	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/22/16 13:31	
Acetone	**2.2 J**	10	5.0	1.3	1	09/22/16 13:31	
Benzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/22/16 13:31	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/22/16 13:31	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/22/16 13:31	
Bromoform	ND U	5.0	1.0	0.42	1	09/22/16 13:31	
Bromomethane	**0.32 BJ**	5.0	1.0	0.29	1	09/22/16 13:31	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/22/16 13:31	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/22/16 13:31	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/22/16 13:31	
Chloroethane	ND U	5.0	1.0	0.24	1	09/22/16 13:31	
Chloroform	ND U	5.0	1.0	0.25	1	09/22/16 13:31	
Chloromethane	ND U	5.0	1.0	0.21	1	09/22/16 13:31	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/22/16 13:31	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/22/16 13:31	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/22/16 13:31	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R1609844-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 13:31	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 13:31	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 13:31	
Naphthalene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 13:31	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 13:31	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 13:31	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 13:31	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 13:31	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/22/16 13:31	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 13:31	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 13:31	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 13:31	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 13:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 114	09/22/16 13:31	
Dibromofluoromethane	105	80 - 119	09/22/16 13:31	
Toluene-d8	104	89 - 112	09/22/16 13:31	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 10:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	3805-PZ13S-091516	**Units:**	ug/L
Lab Code:	R1609844-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
1,2-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
1,3-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
1,4-Dichlorobenzene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
2,4,5-Trichlorophenol	ND	U	9.4	5.0	1.8	1	09/21/16 10:40	9/19/16	
2,4,6-Trichlorophenol	ND	U	9.4	5.0	1.4	1	09/21/16 10:40	9/19/16	
2,4-Dichlorophenol	ND	U	9.4	5.0	1.3	1	09/21/16 10:40	9/19/16	
2,4-Dimethylphenol	ND	U	9.4	5.0	1.5	1	09/21/16 10:40	9/19/16	
2,4-Dinitrophenol	ND	U	47	25	20	1	09/21/16 10:40	9/19/16	
2,4-Dinitrotoluene	ND	U	9.4	5.0	1.6	1	09/21/16 10:40	9/19/16	
2,6-Dinitrotoluene	ND	U	9.4	5.0	1.8	1	09/21/16 10:40	9/19/16	
2-Chloronaphthalene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
2-Chlorophenol	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
2-Methylnaphthalene	**31**		9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
2-Methylphenol	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
2-Nitroaniline	ND	U	47	25	9.1	1	09/21/16 10:40	9/19/16	
2-Nitrophenol	ND	U	9.4	5.0	1.4	1	09/21/16 10:40	9/19/16	
3,3'-Dichlorobenzidine	ND	U	9.4	5.0	4.5	1	09/21/16 10:40	9/19/16	
3- and 4-Methylphenol Coelution	**11**	**J**	19	10	2.0	1	09/21/16 10:40	9/19/16	
3-Nitroaniline	ND	U	47	25	7.7	1	09/21/16 10:40	9/19/16	
4,6-Dinitro-2-methylphenol	ND	U	47	25	11	1	09/21/16 10:40	9/19/16	
4-Bromophenyl Phenyl Ether	ND	U	9.4	5.0	2.2	1	09/21/16 10:40	9/19/16	
4-Chloro-3-methylphenol	ND	U	9.4	5.0	1.2	1	09/21/16 10:40	9/19/16	
4-Chloroaniline	ND	U	9.4	5.0	1.5	1	09/21/16 10:40	9/19/16	
4-Chlorophenyl Phenyl Ether	ND	U	9.4	5.0	1.2	1	09/21/16 10:40	9/19/16	
4-Nitroaniline	ND	U	47	25	7.8	1	09/21/16 10:40	9/19/16	
4-Nitrophenol	ND	U	47	25	5.9	1	09/21/16 10:40	9/19/16	
Acenaphthene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Acenaphthylene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Anthracene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Benz(a)anthracene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Benzo(a)pyrene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Benzo(b)fluoranthene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Benzo(g,h,i)perylene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Benzo(k)fluoranthene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Benzyl Alcohol	ND	U	9.4	5.0	1.3	1	09/21/16 10:40	9/19/16	
2,2'-Oxybis(1-chloropropane)	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Bis(2-chloroethoxy)methane	ND	U	9.4	5.0	2.2	1	09/21/16 10:40	9/19/16	
Bis(2-chloroethyl) Ether	ND	U	9.4	5.0	1.3	1	09/21/16 10:40	9/19/16	
Bis(2-ethylhexyl) Phthalate	ND	U	9.4	5.0	1.2	1	09/21/16 10:40	9/19/16	
Butyl Benzyl Phthalate	ND	U	9.4	5.0	2.4	1	09/21/16 10:40	9/19/16	
Carbazole	ND	U	9.4	5.0	1.1	1	09/21/16 10:40	9/19/16	
Chrysene	ND	U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 10:20
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	3805-PZ13S-091516	**Units:**	ug/L
Lab Code:	R1609844-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 10:40	9/19/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/21/16 10:40	9/19/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/21/16 10:40	9/19/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/21/16 10:40	9/19/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/21/16 10:40	9/19/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/21/16 10:40	9/19/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Naphthalene	**140**	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/21/16 10:40	9/19/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/21/16 10:40	9/19/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Phenol	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/21/16 10:40	9/19/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	100	43 - 140	09/21/16 10:40	
2-Fluorobiphenyl	75	44 - 119	09/21/16 10:40	
2-Fluorophenol	38	19 - 119	09/21/16 10:40	
Nitrobenzene-d5	75	44 - 120	09/21/16 10:40	
Phenol-d6	29	10 - 107	09/21/16 10:40	
p-Terphenyl-d14	88	50 - 134	09/21/16 10:40	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 11:15
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	1995-MWS2-091516	**Units:**	ug/L
Lab Code:	R1609844-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
1,2-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
1,3-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
1,4-Dichlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
2,4,5-Trichlorophenol	ND U	9.4	5.0	1.8	1	09/21/16 11:08	9/19/16	
2,4,6-Trichlorophenol	ND U	9.4	5.0	1.4	1	09/21/16 11:08	9/19/16	
2,4-Dichlorophenol	ND U	9.4	5.0	1.3	1	09/21/16 11:08	9/19/16	
2,4-Dimethylphenol	ND U	9.4	5.0	1.5	1	09/21/16 11:08	9/19/16	
2,4-Dinitrophenol	ND U	47	25	20	1	09/21/16 11:08	9/19/16	
2,4-Dinitrotoluene	ND U	9.4	5.0	1.6	1	09/21/16 11:08	9/19/16	
2,6-Dinitrotoluene	ND U	9.4	5.0	1.8	1	09/21/16 11:08	9/19/16	
2-Chloronaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
2-Chlorophenol	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
2-Methylnaphthalene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
2-Methylphenol	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
2-Nitroaniline	ND U	47	25	9.1	1	09/21/16 11:08	9/19/16	
2-Nitrophenol	ND U	9.4	5.0	1.4	1	09/21/16 11:08	9/19/16	
3,3'-Dichlorobenzidine	ND U	9.4	5.0	4.5	1	09/21/16 11:08	9/19/16	
3- and 4-Methylphenol Coelution	ND U	19	10	2.0	1	09/21/16 11:08	9/19/16	
3-Nitroaniline	ND U	47	25	7.7	1	09/21/16 11:08	9/19/16	
4,6-Dinitro-2-methylphenol	ND U	47	25	11	1	09/21/16 11:08	9/19/16	
4-Bromophenyl Phenyl Ether	ND U	9.4	5.0	2.2	1	09/21/16 11:08	9/19/16	
4-Chloro-3-methylphenol	ND U	9.4	5.0	1.2	1	09/21/16 11:08	9/19/16	
4-Chloroaniline	ND U	9.4	5.0	1.5	1	09/21/16 11:08	9/19/16	
4-Chlorophenyl Phenyl Ether	ND U	9.4	5.0	1.2	1	09/21/16 11:08	9/19/16	
4-Nitroaniline	ND U	47	25	7.8	1	09/21/16 11:08	9/19/16	
4-Nitrophenol	ND U	47	25	5.9	1	09/21/16 11:08	9/19/16	
Acenaphthene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Acenaphthylene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Anthracene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Benz(a)anthracene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Benzo(a)pyrene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Benzo(b)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Benzo(g,h,i)perylene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Benzo(k)fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Benzyl Alcohol	ND U	9.4	5.0	1.3	1	09/21/16 11:08	9/19/16	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Bis(2-chloroethoxy)methane	ND U	9.4	5.0	2.2	1	09/21/16 11:08	9/19/16	
Bis(2-chloroethyl) Ether	ND U	9.4	5.0	1.3	1	09/21/16 11:08	9/19/16	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 11:08	9/19/16	
Butyl Benzyl Phthalate	ND U	9.4	5.0	2.4	1	09/21/16 11:08	9/19/16	
Carbazole	ND U	9.4	5.0	1.1	1	09/21/16 11:08	9/19/16	
Chrysene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/15/16 11:15
Sample Matrix:	Water	**Date Received:**	09/16/16 16:30
Sample Name:	1995-MWS2-091516	**Units:**	ug/L
Lab Code:	R1609844-002	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Di-n-octyl Phthalate	ND U	9.4	5.0	1.2	1	09/21/16 11:08	9/19/16	
Dibenz(a,h)anthracene	ND U	9.4	5.0	1.3	1	09/21/16 11:08	9/19/16	
Dibenzofuran	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Diethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Dimethyl Phthalate	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Fluoranthene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Fluorene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Hexachlorobenzene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Hexachlorobutadiene	ND U	9.4	5.0	1.3	1	09/21/16 11:08	9/19/16	
Hexachloroethane	ND U	9.4	5.0	1.2	1	09/21/16 11:08	9/19/16	
Indeno(1,2,3-cd)pyrene	ND U	9.4	5.0	1.2	1	09/21/16 11:08	9/19/16	
Isophorone	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
N-Nitrosodi-n-propylamine	ND U	9.4	5.0	1.3	1	09/21/16 11:08	9/19/16	
N-Nitrosodimethylamine	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
N-Nitrosodiphenylamine	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Naphthalene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Nitrobenzene	ND U	9.4	5.0	1.6	1	09/21/16 11:08	9/19/16	
Pentachlorophenol (PCP)	ND U	47	25	6.9	1	09/21/16 11:08	9/19/16	
Phenanthrene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Phenol	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	
Pyrene	ND U	9.4	5.0	1.0	1	09/21/16 11:08	9/19/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	91	43 - 140	09/21/16 11:08	
2-Fluorobiphenyl	72	44 - 119	09/21/16 11:08	
2-Fluorophenol	32	19 - 119	09/21/16 11:08	
Nitrobenzene-d5	69	44 - 120	09/21/16 11:08	
Phenol-d6	23	10 - 107	09/21/16 11:08	
p-Terphenyl-d14	85	50 - 134	09/21/16 11:08	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609844
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

		4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
Sample Name	**Lab Code**	**85 - 114**	**80 - 119**	**89 - 112**
3805-PZ13S-091516	R1609844-001	104	102	94
1995-MWS2-091516	R1609844-002	102	104	104
Trip Blank	R1609844-003	100	105	104
Lab Control Sample	RQ1611272-03	99	104	106
Method Blank	RQ1611272-04	97	109	107

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611272-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/22/16 12:01	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/22/16 12:01	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/22/16 12:01	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/22/16 12:01	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/22/16 12:01	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/22/16 12:01	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/22/16 12:01	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/22/16 12:01	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/22/16 12:01	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/22/16 12:01	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/22/16 12:01	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/22/16 12:01	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/22/16 12:01	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 12:01	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/22/16 12:01	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/22/16 12:01	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
2-Hexanone	ND U	10	5.0	1.7	1	09/22/16 12:01	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/22/16 12:01	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/22/16 12:01	
Acetone	ND U	10	5.0	1.3	1	09/22/16 12:01	
Benzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/22/16 12:01	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/22/16 12:01	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/22/16 12:01	
Bromoform	ND U	5.0	1.0	0.42	1	09/22/16 12:01	
Bromomethane	**0.36 J**	5.0	1.0	0.29	1	09/22/16 12:01	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/22/16 12:01	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/22/16 12:01	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/22/16 12:01	
Chloroethane	ND U	5.0	1.0	0.24	1	09/22/16 12:01	
Chloroform	ND U	5.0	1.0	0.25	1	09/22/16 12:01	
Chloromethane	ND U	5.0	1.0	0.21	1	09/22/16 12:01	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/22/16 12:01	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/22/16 12:01	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/22/16 12:01	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611272-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/22/16 12:01	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/22/16 12:01	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/22/16 12:01	
Naphthalene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Styrene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/22/16 12:01	
Toluene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/22/16 12:01	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/22/16 12:01	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/22/16 12:01	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/22/16 12:01	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/22/16 12:01	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/22/16 12:01	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
o-Xylene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/22/16 12:01	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/22/16 12:01	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/22/16 12:01	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/22/16 12:01	
Dibromofluoromethane	109	80 - 119	09/22/16 12:01	
Toluene-d8	107	89 - 112	09/22/16 12:01	

Client: ARCADIS U.S., Inc. **Service Request:** R1609844
Project: Fort Drum, NY IRP Fall **Date Analyzed:** 09/22/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611272-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.3	20.0	102	78-124
1,1,1-Trichloroethane (TCA)	8260C	20.9	20.0	105	74-131
1,1,2,2-Tetrachloroethane	8260C	19.5	20.0	97	71-121
1,1,2-Trichloroethane	8260C	21.0	20.0	105	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	21.2	20.0	106	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.8	20.0	104	71-131
1,1-Dichloropropene	8260C	20.6	20.0	103	79-125
1,2,3-Trichlorobenzene	8260C	20.5	20.0	102	69-129
1,2,3-Trichloropropane	8260C	19.8	20.0	99	73-122
1,2,4-Trichlorobenzene	8260C	20.0	20.0	100	69-130
1,2,4-Trimethylbenzene	8260C	19.5	20.0	97	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	19.3	20.0	97	62-128
1,2-Dibromoethane	8260C	19.5	20.0	98	77-121
1,2-Dichlorobenzene	8260C	19.7	20.0	98	80-119
1,2-Dichloroethane	8260C	20.0	20.0	100	73-128
1,2-Dichloropropane	8260C	21.2	20.0	106	78-122
1,3,5-Trimethylbenzene	8260C	20.1	20.0	101	75-124
1,3-Dichlorobenzene	8260C	20.6	20.0	103	80-119
1,3-Dichloropropane	8260C	20.8	20.0	104	80-119
1,4-Dichlorobenzene	8260C	20.8	20.0	104	79-118
2,2-Dichloropropane	8260C	20.0	20.0	100	60-139
2-Butanone (MEK)	8260C	16.5	20.0	83	56-143
2-Chlorotoluene	8260C	20.0	20.0	100	79-122
2-Hexanone	8260C	16.6	20.0	83	57-139
4-Chlorotoluene	8260C	20.3	20.0	102	78-122
4-Isopropyltoluene	8260C	20.4	20.0	102	77-127
4-Methyl-2-pentanone	8260C	17.0	20.0	85	67-130
Acetone	8260C	20.7	20.0	103	39-160
Benzene	8260C	20.1	20.0	100	79-120
Bromobenzene	8260C	19.5	20.0	98	80-120
Bromochloromethane	8260C	20.7	20.0	104	78-123
Bromodichloromethane	8260C	19.5	20.0	98	79-125
Bromoform	8260C	20.4	20.0	102	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609844
Date Analyzed: 09/22/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611272-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	25.3	20.0	127	53-141
Carbon Disulfide	8260C	20.3	20.0	101	64-133
Carbon Tetrachloride	8260C	20.1	20.0	100	72-136
Chlorobenzene	8260C	19.9	20.0	99	82-118
Chloroethane	8260C	18.9	20.0	94	60-138
Chloroform	8260C	19.3	20.0	97	79-124
Chloromethane	8260C	19.1	20.0	95	50-139
Dibromochloromethane	8260C	19.1	20.0	96	74-126
Dibromomethane	8260C	20.4	20.0	102	79-123
Dichlorodifluoromethane (CFC 12)	8260C	20.9	20.0	104	32-152
Dichloromethane	8260C	20.1	20.0	101	74-124
Ethylbenzene	8260C	18.1	20.0	91	79-121
Hexachlorobutadiene	8260C	21.6	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	19.3	20.0	97	72-131
Methyl tert-Butyl Ether	8260C	19.2	20.0	96	71-124
Naphthalene	8260C	19.6	20.0	98	61-128
Styrene	8260C	21.2	20.0	106	78-123
Tetrachloroethene (PCE)	8260C	19.5	20.0	98	74-129
Toluene	8260C	19.9	20.0	99	80-121
Trichloroethene (TCE)	8260C	22.0	20.0	110	79-123
Trichlorofluoromethane (CFC 11)	8260C	21.5	20.0	107	65-141
Vinyl Chloride	8260C	19.9	20.0	100	58-137
cis-1,2-Dichloroethene	8260C	20.8	20.0	104	78-123
cis-1,3-Dichloropropene	8260C	20.4	20.0	102	75-124
m,p-Xylenes	8260C	39.2	40.0	98	80-121
n-Butylbenzene	8260C	21.1	20.0	106	75-128
n-Propylbenzene	8260C	20.1	20.0	100	76-126
o-Xylene	8260C	21.2	20.0	106	78-122
sec-Butylbenzene	8260C	21.0	20.0	105	77-126
tert-Butylbenzene	8260C	20.2	20.0	101	78-124
trans-1,2-Dichloroethene	8260C	21.6	20.0	108	75-124
trans-1,3-Dichloropropene	8260C	19.3	20.0	96	73-127

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609844

Project: Fort Drum, NY IRP Fall

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D

Extraction Method: EPA 3510C

Sample Name	Lab Code	2,4,6-Tribromophenol 43 - 140	2-Fluorobiphenyl 44 - 119	2-Fluorophenol 19 - 119
3805-PZ13S-091516	R1609844-001	100	75	38
1995-MWS2-091516	R1609844-002	91	72	32
Method Blank	RQ1611026-01	98	74	42
Lab Control Sample	RQ1611026-02	84	75	45
Duplicate Lab Control Sample	RQ1611026-03	87	76	42
Continuing Cal. Verification CCVA	RQ1611258-03			

Client: ARCADIS U.S., Inc. **Service Request:** R1609844
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	Nitrobenzene-d5 44 - 120	Phenol-d6 10 - 107	p-Terphenyl-d14 50 - 134
3805-PZ13S-091516	R1609844-001	75	29	88
1995-MWS2-091516	R1609844-002	69	23	85
Method Blank	RQ1611026-01	76	31	95
Lab Control Sample	RQ1611026-02	68	35	84
Duplicate Lab Control Sample	RQ1611026-03	73	31	89
Continuing Cal. Verification	RQ1611258-03			

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611026-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
1,2-Dichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
1,3-Dichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
1,4-Dichlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2,4,5-Trichlorophenol	ND U	10	5.0	1.8	1	09/21/16 07:53	9/19/16	
2,4,6-Trichlorophenol	ND U	10	5.0	1.4	1	09/21/16 07:53	9/19/16	
2,4-Dichlorophenol	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
2,4-Dimethylphenol	ND U	10	5.0	1.5	1	09/21/16 07:53	9/19/16	
2,4-Dinitrophenol	ND U	50	25	20	1	09/21/16 07:53	9/19/16	
2,4-Dinitrotoluene	ND U	10	5.0	1.6	1	09/21/16 07:53	9/19/16	
2,6-Dinitrotoluene	ND U	10	5.0	1.8	1	09/21/16 07:53	9/19/16	
2-Chloronaphthalene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Chlorophenol	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Methylnaphthalene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Methylphenol	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
2-Nitroaniline	ND U	50	25	9.1	1	09/21/16 07:53	9/19/16	
2-Nitrophenol	ND U	10	5.0	1.4	1	09/21/16 07:53	9/19/16	
3,3'-Dichlorobenzidine	ND U	10	5.0	4.5	1	09/21/16 07:53	9/19/16	
3- and 4-Methylphenol Coelution	ND U	20	10	2.0	1	09/21/16 07:53	9/19/16	
3-Nitroaniline	ND U	50	25	7.7	1	09/21/16 07:53	9/19/16	
4,6-Dinitro-2-methylphenol	ND U	50	25	11	1	09/21/16 07:53	9/19/16	
4-Bromophenyl Phenyl Ether	ND U	10	5.0	2.2	1	09/21/16 07:53	9/19/16	
4-Chloro-3-methylphenol	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
4-Chloroaniline	ND U	10	5.0	1.5	1	09/21/16 07:53	9/19/16	
4-Chlorophenyl Phenyl Ether	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
4-Nitroaniline	ND U	50	25	7.8	1	09/21/16 07:53	9/19/16	
4-Nitrophenol	ND U	50	25	5.9	1	09/21/16 07:53	9/19/16	
Acenaphthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Acenaphthylene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Anthracene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benz(a)anthracene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(a)pyrene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(b)fluoranthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(g,h,i)perylene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzo(k)fluoranthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Benzyl Alcohol	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
2,2'-Oxybis(1-chloropropane)	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Bis(2-chloroethoxy)methane	ND U	10	5.0	2.2	1	09/21/16 07:53	9/19/16	
Bis(2-chloroethyl) Ether	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
Bis(2-ethylhexyl) Phthalate	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Butyl Benzyl Phthalate	ND U	10	5.0	2.4	1	09/21/16 07:53	9/19/16	
Carbazole	ND U	10	5.0	1.1	1	09/21/16 07:53	9/19/16	
Chrysene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609844
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611026-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Di-n-octyl Phthalate	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Dibenz(a,h)anthracene	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
Dibenzofuran	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Diethyl Phthalate	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Dimethyl Phthalate	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Fluoranthene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Fluorene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Hexachlorobenzene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Hexachlorobutadiene	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
Hexachloroethane	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Indeno(1,2,3-cd)pyrene	ND U	10	5.0	1.2	1	09/21/16 07:53	9/19/16	
Isophorone	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
N-Nitrosodi-n-propylamine	ND U	10	5.0	1.3	1	09/21/16 07:53	9/19/16	
N-Nitrosodimethylamine	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
N-Nitrosodiphenylamine	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Naphthalene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Nitrobenzene	ND U	10	5.0	1.6	1	09/21/16 07:53	9/19/16	
Pentachlorophenol (PCP)	ND U	50	25	6.9	1	09/21/16 07:53	9/19/16	
Phenanthrene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Phenol	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	
Pyrene	ND U	10	5.0	1.0	1	09/21/16 07:53	9/19/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	43 - 140	09/21/16 07:53	
2-Fluorobiphenyl	74	44 - 119	09/21/16 07:53	
2-Fluorophenol	42	19 - 119	09/21/16 07:53	
Nitrobenzene-d5	76	44 - 120	09/21/16 07:53	
Phenol-d6	31	10 - 107	09/21/16 07:53	
p-Terphenyl-d14	95	50 - 134	09/21/16 07:53	

ALS Group USA, Corp.
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QA/QC Report

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609844
Date Analyzed: 09/21/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611026-02			RQ1611026-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	61.3	100	61	64.3	100	64	29-116	5	20
1,2-Dichlorobenzene	8270D	67.3	100	67	63.6	100	64	32-111	6	20
1,3-Dichlorobenzene	8270D	64.6	100	65	61.9	100	62	28-110	4	20
1,4-Dichlorobenzene	8270D	64.6	100	65	63.5	100	64	29-112	2	20
2,4,5-Trichlorophenol	8270D	92.7	100	93	93.5	100	94	53-123	<1	20
2,4,6-Trichlorophenol	8270D	88.0	100	88	91.5	100	92	50-125	4	20
2,4-Dichlorophenol	8270D	85.0	100	85	92.3	100	92	47-121	8	20
2,4-Dimethylphenol	8270D	89.0	100	89	94.4	100	94	31-124	6	20
2,4-Dinitrophenol	8270D	121	100	121	132	100	132	23-143	9	20
2,4-Dinitrotoluene	8270D	89.4	100	89	96.9	100	97	57-128	8	20
2,6-Dinitrotoluene	8270D	94.1	100	94	100	100	100	57-124	6	20
2-Chloronaphthalene	8270D	70.7	100	71	71.2	100	71	40-116	<1	20
2-Chlorophenol	8270D	83.4	100	83	82.0	100	82	38-117	2	20
2-Methylnaphthalene	8270D	65.8	100	66	74.9	100	75	40-121	13	20
2-Methylphenol	8270D	78.6	100	79	78.4	100	78	30-117	<1	20
2-Nitroaniline	8270D	93.1	100	93	95.5	100	96	55-127	3	20
2-Nitrophenol	8270D	88.8	100	89	92.7	100	93	47-123	4	20
3,3'-Dichlorobenzidine	8270D	79.5	100	79	91.8	100	92	27-129	14	20
3- and 4-Methylphenol Coelution	8270D	67.6	100	68	66.6	100	67	29-110	1	20
3-Nitroaniline	8270D	79.0	100	79	84.4	100	84	41-128	7	20
4,6-Dinitro-2-methylphenol	8270D	102	100	102	121	100	121	44-137	17	20
4-Bromophenyl Phenyl Ether	8270D	84.7	100	85	91.1	100	91	55-124	7	20
4-Chloro-3-methylphenol	8270D	90.7	100	91	98.4	100	98	52-119	8	20
4-Chloroaniline	8270D	81.9	100	82	86.4	100	86	33-117	5	20
4-Chlorophenyl Phenyl Ether	8270D	84.5	100	85	89.4	100	89	53-121	6	20
Acenaphthene	8270D	80.8	100	81	82.1	100	82	47-122	2	20
Acenaphthylene	8270D	78.4	100	78	81.0	100	81	41-130	3	20
Anthracene	8270D	93.8	100	94	104	100	104	57-123	10	20
Benz(a)anthracene	8270D	87.7	100	88	98.7	100	99	58-125	12	20
Benzo(a)pyrene	8270D	98.8	100	99	105	100	105	54-128	6	20
Benzo(b)fluoranthene	8270D	89.6	100	90	96.2	100	96	53-131	7	20
Benzo(g,h,i)perylene	8270D	101	100	101	108	100	108	50-134	7	20
Benzo(k)fluoranthene	8270D	97.9	100	98	106	100	106	57-129	8	20

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609844
Date Analyzed: 09/21/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611026-02			RQ1611026-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzyl Alcohol	8270D	91.5	100	92	90.5	100	91	31-112	1	20
Bis(2-chloroethoxy)methane	8270D	82.4	100	82	88.1	100	88	48-120	7	20
Bis(2-chloroethyl) Ether	8270D	83.7	100	84	81.7	100	82	43-118	2	20
Bis(2-ethylhexyl) Phthalate	8270D	94.8	100	95	106	100	106	55-135	12	20
Butyl Benzyl Phthalate	8270D	88.9	100	89	101	100	101	53-134	13	20
Carbazole	8270D	88.3	100	88	101	100	101	60-122	13	20
Chrysene	8270D	91.7	100	92	99.5	100	100	59-123	8	20
Di-n-butyl Phthalate	8270D	104	100	104	116	100	116	59-127	11	20
Di-n-octyl Phthalate	8270D	104	100	104	111	100	111	51-140	7	20
Dibenz(a,h)anthracene	8270D	94.9	100	95	99.9	100	100	51-134	5	20
Dibenzofuran	8270D	79.6	100	80	84.8	100	85	53-118	6	20
Diethyl Phthalate	8270D	95.1	100	95	97.2	100	97	56-125	2	20
Dimethyl Phthalate	8270D	92.9	100	93	98.3	100	98	45-127	6	20
Fluoranthene	8270D	96.1	100	96	108	100	108	57-128	12	20
Fluorene	8270D	85.7	100	86	90.5	100	90	52-124	5	20
Hexachlorobenzene	8270D	93.4	100	93	102	100	102	53-125	9	20
Hexachlorobutadiene	8270D	65.0	100	65	69.6	100	70	22-124	7	20
Hexachloroethane	8270D	59.0	100	59	58.5	100	59	21-115	<1	20
Indeno(1,2,3-cd)pyrene	8270D	92.1	100	92	101	100	101	52-134	9	20
Isophorone	8270D	86.8	100	87	93.9	100	94	42-124	8	20
N-Nitrosodi-n-propylamine	8270D	78.0	100	78	78.9	100	79	49-119	1	20
N-Nitrosodimethylamine	8270D	48.5	100	48	48.2	100	48	23-120	<1	20
N-Nitrosodiphenylamine	8270D	84.6	100	85	94.5	100	95	51-123	11	20
Naphthalene	8270D	67.8	100	68	71.5	100	71	40-121	5	20
Nitrobenzene	8270D	83.0	100	83	89.0	100	89	45-121	7	20
Pentachlorophenol (PCP)	8270D	140	100	140 *	154	100	154 *	35-138	9	20
Phenanthrene	8270D	90.3	100	90	101	100	101	59-120	11	20
Phenol	8270D	36.8	100	37	40.2	100	40	34-121	9	20
Pyrene	8270D	88.3	100	88	98.0	100	98	57-126	10	20

Subcontracted Analytical Parameters

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

October 1, 2016

Ms. Janice Jaeger
ALS Environmental-Rochester NY
1565 Jefferson Road, Bldg. 300
Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	**R1609583**	Workorder:	**2176215**
Purchase Order:		Workorder ID:	**R1609844**

Dear Ms. Jaeger:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, September 20, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vicki A. Forney (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Ellen Smith , Reports and Invoices

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2176215 R1609844

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2176215001	3805-PZ13S-091516	Ground Water	9/15/2016 10:20	9/20/2016 09:33	Collected by Client
2176215002	1995-MWS2-091516	Ground Water	9/15/2016 11:15	9/20/2016 09:33	Collected by Client

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2176215 R1609844

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 2176215 R1609844

Lab ID: **2176215001** Date Collected: 9/15/2016 10:20 Matrix: Ground Water

Sample ID: **3805-PZ13S-091516** Date Received: 9/20/2016 09:33

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
METALS												
Aluminum, Total	0.059U	U	mg/L	0.089	0.059	0.030	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Antimony, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Arsenic, Total	0.0011J	J	mg/L	0.0030	0.0020	0.0010	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Barium, Total	0.19		mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Beryllium, Total	0.00070U	U	mg/L	0.0010	0.00070	0.00030	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Cadmium, Total	0.00070U	U	mg/L	0.0011	0.00070	0.00037	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Calcium, Total	58.0		mg/L	0.11	0.073	0.037	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Chromium, Total	0.00092J	J	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Cobalt, Total	0.0037U	U	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Copper, Total	0.0058		mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/30/16 03:53	ZMC	B2
Iron, Total	39.2		mg/L	0.056	0.037	0.019	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Lead, Total	0.0057		mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Magnesium, Total	3.6		mg/L	0.11	0.073	0.037	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Manganese, Total	0.53		mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Mercury, Total	0.00033U	U	mg/L	0.00050	0.00033	0.00016	SW846 7470A	9/26/16	MNP	9/26/16 12:04	MNP	B1
Nickel, Total	0.0037U	U	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Potassium, Total	1.3		mg/L	0.11	0.073	0.037	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Selenium, Total	0.0037U	U	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Silver, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Sodium, Total	135		mg/L	1.1	0.73	0.37	SW846 6020A	9/27/16	JPS	9/29/16 16:35	MO	B2
Thallium, Total	0.00070U	U	mg/L	0.0010	0.00070	0.00030	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Vanadium, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2
Zinc, Total	0.077		mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:55	MO	B2

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

ALS Environmental

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2176215 R1609844

Lab ID: **2176215002** Date Collected: 9/15/2016 11:15 Matrix: Ground Water

Sample ID: **1995-MWS2-091516** Date Received: 9/20/2016 09:33

Parameters	Results	Flag	Units	LOQ	LOD	DL	Method	Prepared	By	Analyzed	By	Cntr
METALS												
Aluminum, Total	0.26		mg/L	0.089	0.059	0.030	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Antimony, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Arsenic, Total	0.0020U	U	mg/L	0.0030	0.0020	0.0010	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Barium, Total	0.0093		mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Beryllium, Total	0.00070U	U	mg/L	0.0010	0.00070	0.00030	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Cadmium, Total	0.00070U	U	mg/L	0.0011	0.00070	0.00037	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Calcium, Total	24.9		mg/L	0.11	0.073	0.037	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Chromium, Total	0.0013J	J	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Cobalt, Total	0.0037U	U	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Copper, Total	0.0037U	U	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/30/16 03:57	ZMC	B2
Iron, Total	0.43		mg/L	0.056	0.037	0.019	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Lead, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Magnesium, Total	1.6		mg/L	0.11	0.073	0.037	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Manganese, Total	0.0091		mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Mercury, Total	0.00033U	U	mg/L	0.00050	0.00033	0.00016	SW846 7470A	9/26/16	MNP	9/26/16 12:05	MNP	B1
Nickel, Total	0.0037U	U	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Potassium, Total	1.2		mg/L	0.11	0.073	0.037	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Selenium, Total	0.0037U	U	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Silver, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Sodium, Total	4.6		mg/L	0.11	0.073	0.037	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Thallium, Total	0.00070U	U	mg/L	0.0010	0.00070	0.00030	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Vanadium, Total	0.0015U	U	mg/L	0.0022	0.0015	0.00074	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2
Zinc, Total	0.0025J	J	mg/L	0.0056	0.0037	0.0019	SW846 6020A	9/27/16	JPS	9/29/16 14:59	MO	B2

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS

* 2 1 7 6 2 1 5 *

Project Number: R1609844
Project Manager: Janice Jaeger
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	Ag T DOD 6010C	Al T DOD 6010C	As T DOD 6010C	Ba T DOD 6010C	Be T DOD 6010C	Ca T DOD 6010C	Cd T DOD 6010C	Co T DOD 6010C	Cr T DOD 6010C
[redacted]01	3805-PZ13S-091516	\	Water	9/15/16	1020	Middletown ALS	X	X	X	X	X	X	X	X	X
R1609844[redacted]	1995-MWS2-091516	\	Water	9/15/16	1115	Middletown ALS	X	X	X	X	X	X	X	X	X

Folder Comments:
DoD

	Y	N	Initials	Cooler Temp
Custody Seals Present?			AF	17 °C
(if present) Seals Intact?			AF	Cooler #
Received on Ice?				
COC/Labs Complete				Therm ID:
Cont in Good Cond?				
Correct Containers?				Ship Carrier:
Correct Samp Vol?				FedEx UPS
Correct Preservation?				
Headspace/Volatiles?				DHL

Tracking # 682680162014

Special Instructions/Comments
FOR DOUM DOD
EQUIS 3.7 EDD w/ Arcadis WLS

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements
___ RUSH (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
X STANDARD
Requested FAX Date: _____
Requested Report Date: 09/27/16

Report Requirements
___ I. Results Only
X II. Results + QC Summaries
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD Y

Invoice Information
PO# 58R1609844
Bill to

Relinquished By: [signature] 9-19-16 1230 Received By: [signature] 9/20/16 0933 Airbill Number: _____

Page 1

UMG 09/21/16 0123

[redacted]	3805-PZ13S-091516		Water	9/15/16	1020	Middletown ALS	X	X	X	X	X	X	X	X
[redacted]	1995-MWS2-091516		Water	9/15/16	1115	Middletown ALS	X	X	X	X	X	X	X	X

[redacted]	3805-P213S-091516		Water	9/15/16	1020	Middletown ALS	X	X	X	X	X
[redacted]	1995-MWS2-091516		Water	9/15/16	1115	Middletown ALS	X	X	X	X	X

October 03, 2016 Service Request No:R1609863

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY IRP Fall

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 19, 2016
For your reference, these analyses have been assigned our service request number **R1609863.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request:R1609863
Date Received:9/19/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Three water samples were received for analysis at ALS Environmental on 09/19/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260C, 09/28/16: The Method Blank contained a low level of the following analytes above the Method Detection Limit (MDL): 1,2,4-Trichlorobenzene, Bromoform, and Naphthalene. All associated sample results less than ten times the level found in the Method Blank are flagged. The samples were not reprepared/reanalyzed because samples would have been repeated out of holding time.

Method 8260C, 09/30/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

General Chemistry Analyses:

No anomolies were observed.

Approved by _____ Date 10/3/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 1795-MWS3-091916	Lab ID: R1609863-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	44.8		1.7	5.0	mg/L	SM 3500-Fe
Sulfate	2.6		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	680	D	2.0	50	ug/L	8260C
1,3,5-Trimethylbenzene	170		0.50	13	ug/L	8260C
2-Butanone (MEK)	3.2	J	2.1	25	ug/L	8260C
4-Isopropyltoluene	8.6	J	0.50	13	ug/L	8260C
Ethylbenzene	140		0.50	13	ug/L	8260C
Isopropylbenzene (Cumene)	39		0.50	13	ug/L	8260C
Naphthalene	76		0.50	13	ug/L	8260C
Toluene	4.4	J	0.50	13	ug/L	8260C
m,p-Xylenes	460		0.83	13	ug/L	8260C
n-Propylbenzene	88		0.50	13	ug/L	8260C
o-Xylene	71		0.50	13	ug/L	8260C
sec-Butylbenzene	7.8	J	0.68	13	ug/L	8260C
tert-Butylbenzene	0.93	J	0.50	13	ug/L	8260C

CLIENT ID: 1795-PZ15-091916	Lab ID: R1609863-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Sulfate	22.1		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	11		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	22		0.20	5.0	ug/L	8260C
Acetone	1.9	J	1.3	10	ug/L	8260C
Ethylbenzene	0.21	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	25		0.33	5.0	ug/L	8260C
o-Xylene	25		0.20	5.0	ug/L	8260C

CLIENT ID: TRIP BLANK	Lab ID: R1609863-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.5	J	1.3	10	ug/L	8260C
Bromomethane	0.40	BJ	0.29	5.0	ug/L	8260C
Naphthalene	0.22	BJ	0.20	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609863-001	1795-MWS3-091916	9/19/2016	1325
R1609863-002	1795-PZ15-091916	9/19/2016	1315
R1609863-003	TRIP BLANK	9/19/2016	1000

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39927

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: FT Drum IRP Fall BMW	Project Number: 60P14 Drum. rifs.
Project Manager: Stefan Bagnato	Report CC:
Company/Address: Arcadis 855 Route 146 Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.bagnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	MW-A VOC						
1795-MW33-091916		9/19/16	13:25	GW	3								1	3					
~~1795-MW37-091916~~													~~1~~	~~3~~					
1795-PZ15-091916		9/19/16	13:15	GW	3								1	3					
~~2140-MW27-091916~~													~~1~~	~~3~~					
~~3805-MW35-091916~~													~~1~~	~~3~~					
Trip Blank		9/22/16	1000	TB	3									3					

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS
Metals

ASP Category A (Tier II)

EQuIS EFWEDD w/ Arcadis reference values.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	
Printed Name: N. Griffith	Printed Name: Scott Seay	Printed Name: Scott Seay	Printed Name: Triana Santiago	Printed Name	
Firm: Arcadis	Firm: AES	Firm: AES	Firm: ALS	Firm	
Date/Time: 9/19/16 14:00	Date/Time: 9/19/16 1400	Date/Time: 9/19/16 1715	Date/Time: 9-19-16 1715	Date/Time	

R1609863 5
ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

R1609863 5
ARCADIS U.S., Inc.
Fort Drum, NY

Project/Client _____ Folder Number _____.

Cooler received on 9-14-16 by: TS

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y (N) NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: **Wet Ice Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 9-14-16 Time: 1730 ID: IR#5 (IR#6) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	2.5						
Correction Factor (°C)	+.2						
Corrected Temp (°C)	3.0						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: IR#2 by TS on 9-14-16 at 1730
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9-20-16 Time: 0905 by: TS

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: C16136-2AA0, 6-060-oel

Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: JMD 9/21/16 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

P:\INTRANET\QAQC\Forms Controlled\Cooler Receipt r12.doc 8/11/16

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609863
Project: Fort Drum, NY IRP Fall

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
SM 3500-Fe B.4.c	Water	Iron, Divalent (Ferrous Iron)

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall		

Sample Name:	1795-MWS3-091916	**Date Collected:**	09/19/16
Lab Code:	R1609863-001	**Date Received:**	09/19/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		GNITAJOUPPI

Sample Name:	1795-PZ15-091916	**Date Collected:**	09/19/16
Lab Code:	R1609863-002	**Date Received:**	09/19/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		DLIPANI
SM 3500-Fe B.4.c		GNITAJOUPPI

Sample Name:	TRIP BLANK	**Date Collected:**	09/19/16
Lab Code:	R1609863-003	**Date Received:**	09/19/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 13:25
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	1795-MWS3-091916	**Units:**	ug/L
Lab Code:	R1609863-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	13	2.5	0.55	2.5	09/30/16 14:01	
1,1,1-Trichloroethane (TCA)	ND	U	13	2.5	0.90	2.5	09/30/16 14:01	
1,1,2,2-Tetrachloroethane	ND	U	13	2.5	0.63	2.5	09/30/16 14:01	
1,1,2-Trichloroethane	ND	U	13	2.5	0.85	2.5	09/30/16 14:01	
1,1-Dichloroethane (1,1-DCA)	ND	U	13	2.5	0.50	2.5	09/30/16 14:01	
1,1-Dichloroethene (1,1-DCE)	ND	U	13	2.5	1.5	2.5	09/30/16 14:01	
1,1-Dichloropropene	ND	U	13	2.5	0.73	2.5	09/30/16 14:01	
1,2,3-Trichlorobenzene	ND	U	13	2.5	2.1	2.5	09/30/16 14:01	
1,2,3-Trichloropropane	ND	U	13	2.5	1.8	2.5	09/30/16 14:01	
1,2,4-Trichlorobenzene	ND	U	13	2.5	0.58	2.5	09/30/16 14:01	
1,2,4-Trimethylbenzene	**680**	**D**	50	10	2.0	10	09/30/16 16:52	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	13	2.5	1.9	2.5	09/30/16 14:01	
1,2-Dibromoethane	ND	U	13	2.5	0.60	2.5	09/30/16 14:01	
1,2-Dichlorobenzene	ND	U	13	2.5	0.53	2.5	09/30/16 14:01	
1,2-Dichloroethane	ND	U	13	2.5	0.90	2.5	09/30/16 14:01	
1,2-Dichloropropane	ND	U	13	2.5	0.50	2.5	09/30/16 14:01	
1,3,5-Trimethylbenzene	**170**		13	2.5	0.50	2.5	09/30/16 14:01	
1,3-Dichlorobenzene	ND	U	13	2.5	0.50	2.5	09/30/16 14:01	
1,3-Dichloropropane	ND	U	13	2.5	0.68	2.5	09/30/16 14:01	
1,4-Dichlorobenzene	ND	U	13	2.5	0.50	2.5	09/30/16 14:01	
2,2-Dichloropropane	ND	U	13	2.5	0.68	2.5	09/30/16 14:01	
2-Butanone (MEK)	**3.2**	**J**	25	2.5	2.1	2.5	09/30/16 14:01	
2-Chlorotoluene	ND	U	13	2.5	0.50	2.5	09/30/16 14:01	
2-Hexanone	ND	U	25	13	4.2	2.5	09/30/16 14:01	
4-Chlorotoluene	ND	U	13	2.5	0.60	2.5	09/30/16 14:01	
4-Isopropyltoluene	**8.6**	**J**	13	2.5	0.50	2.5	09/30/16 14:01	
4-Methyl-2-pentanone	ND	U	25	2.5	1.7	2.5	09/30/16 14:01	
Acetone	ND	U	25	13	3.1	2.5	09/30/16 14:01	
Benzene	ND	U	13	2.5	0.50	2.5	09/30/16 14:01	
Bromobenzene	ND	U	13	2.5	0.70	2.5	09/30/16 14:01	
Bromochloromethane	ND	U	13	2.5	0.80	2.5	09/30/16 14:01	
Bromodichloromethane	ND	U	13	2.5	0.80	2.5	09/30/16 14:01	
Bromoform	ND	U	13	2.5	1.1	2.5	09/30/16 14:01	
Bromomethane	ND	U	13	2.5	0.73	2.5	09/30/16 14:01	
Carbon Disulfide	ND	U	25	2.5	0.55	2.5	09/30/16 14:01	
Carbon Tetrachloride	ND	U	13	2.5	1.2	2.5	09/30/16 14:01	
Chlorobenzene	ND	U	13	2.5	0.73	2.5	09/30/16 14:01	
Chloroethane	ND	U	13	2.5	0.60	2.5	09/30/16 14:01	
Chloroform	ND	U	13	2.5	0.63	2.5	09/30/16 14:01	
Chloromethane	ND	U	13	2.5	0.53	2.5	09/30/16 14:01	
Dibromochloromethane	ND	U	13	2.5	0.78	2.5	09/30/16 14:01	
Dibromomethane	ND	U	13	2.5	0.80	2.5	09/30/16 14:01	
Dichlorodifluoromethane (CFC 12)	ND	U	13	2.5	1.2	2.5	09/30/16 14:01	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 13:25
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	1795-MWS3-091916	**Units:**	ug/L
Lab Code:	R1609863-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	13	2.5	1.5	2.5	09/30/16 14:01	
Ethylbenzene	**140**	13	2.5	0.50	2.5	09/30/16 14:01	
Hexachlorobutadiene	ND U	13	2.5	1.6	2.5	09/30/16 14:01	
Isopropylbenzene (Cumene)	**39**	13	2.5	0.50	2.5	09/30/16 14:01	
Methyl tert-Butyl Ether	ND U	13	2.5	0.73	2.5	09/30/16 14:01	
Naphthalene	**76**	13	2.5	0.50	2.5	09/30/16 14:01	
Styrene	ND U	13	2.5	0.50	2.5	09/30/16 14:01	
Tetrachloroethene (PCE)	ND U	13	2.5	0.75	2.5	09/30/16 14:01	
Toluene	**4.4 J**	13	2.5	0.50	2.5	09/30/16 14:01	
Trichloroethene (TCE)	ND U	13	2.5	0.55	2.5	09/30/16 14:01	
Trichlorofluoromethane (CFC 11)	ND U	13	2.5	0.50	2.5	09/30/16 14:01	
Vinyl Chloride	ND U	13	2.5	0.80	2.5	09/30/16 14:01	
cis-1,2-Dichloroethene	ND U	13	2.5	0.75	2.5	09/30/16 14:01	
cis-1,3-Dichloropropene	ND U	13	2.5	0.60	2.5	09/30/16 14:01	
m,p-Xylenes	**460**	13	5.0	0.83	2.5	09/30/16 14:01	
n-Butylbenzene	ND U	13	2.5	0.53	2.5	09/30/16 14:01	
n-Propylbenzene	**88**	13	2.5	0.50	2.5	09/30/16 14:01	
o-Xylene	**71**	13	2.5	0.50	2.5	09/30/16 14:01	
sec-Butylbenzene	**7.8 J**	13	2.5	0.68	2.5	09/30/16 14:01	
tert-Butylbenzene	**0.93 J**	13	2.5	0.50	2.5	09/30/16 14:01	
trans-1,2-Dichloroethene	ND U	13	2.5	0.83	2.5	09/30/16 14:01	
trans-1,3-Dichloropropene	ND U	13	2.5	0.50	2.5	09/30/16 14:01	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/30/16 14:01	
Dibromofluoromethane	95	80 - 119	09/30/16 14:01	
Toluene-d8	98	89 - 112	09/30/16 14:01	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 13:15
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	1795-PZ15-091916	**Units:**	ug/L
Lab Code:	R1609863-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	5.0	1.0	0.22	1	09/28/16 12:21	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	1.0	0.36	1	09/28/16 12:21	
1,1,2,2-Tetrachloroethane	ND	U	5.0	1.0	0.25	1	09/28/16 12:21	
1,1,2-Trichloroethane	ND	U	5.0	1.0	0.34	1	09/28/16 12:21	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.0	1.0	0.57	1	09/28/16 12:21	
1,1-Dichloropropene	ND	U	5.0	1.0	0.29	1	09/28/16 12:21	
1,2,3-Trichlorobenzene	ND	U	5.0	1.0	0.82	1	09/28/16 12:21	
1,2,3-Trichloropropane	ND	U	5.0	1.0	0.70	1	09/28/16 12:21	
1,2,4-Trichlorobenzene	ND	U	5.0	1.0	0.23	1	09/28/16 12:21	
1,2,4-Trimethylbenzene	**11**		5.0	1.0	0.20	1	09/28/16 12:21	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.0	1.0	0.74	1	09/28/16 12:21	
1,2-Dibromoethane	ND	U	5.0	1.0	0.24	1	09/28/16 12:21	
1,2-Dichlorobenzene	ND	U	5.0	1.0	0.21	1	09/28/16 12:21	
1,2-Dichloroethane	ND	U	5.0	1.0	0.36	1	09/28/16 12:21	
1,2-Dichloropropane	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
1,3,5-Trimethylbenzene	**22**		5.0	1.0	0.20	1	09/28/16 12:21	
1,3-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
1,3-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/28/16 12:21	
1,4-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
2,2-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/28/16 12:21	
2-Butanone (MEK)	ND	U	10	1.0	0.81	1	09/28/16 12:21	
2-Chlorotoluene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
2-Hexanone	ND	U	10	5.0	1.7	1	09/28/16 12:21	
4-Chlorotoluene	ND	U	5.0	1.0	0.24	1	09/28/16 12:21	
4-Isopropyltoluene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
4-Methyl-2-pentanone	ND	U	10	1.0	0.67	1	09/28/16 12:21	
Acetone	**1.9**	**J**	10	5.0	1.3	1	09/28/16 12:21	
Benzene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
Bromobenzene	ND	U	5.0	1.0	0.28	1	09/28/16 12:21	
Bromochloromethane	ND	U	5.0	1.0	0.32	1	09/28/16 12:21	
Bromodichloromethane	ND	U	5.0	1.0	0.32	1	09/28/16 12:21	
Bromoform	ND	U	5.0	1.0	0.42	1	09/28/16 12:21	
Bromomethane	ND	U	5.0	1.0	0.29	1	09/28/16 12:21	
Carbon Disulfide	ND	U	10	1.0	0.22	1	09/28/16 12:21	
Carbon Tetrachloride	ND	U	5.0	1.0	0.45	1	09/28/16 12:21	
Chlorobenzene	ND	U	5.0	1.0	0.29	1	09/28/16 12:21	
Chloroethane	ND	U	5.0	1.0	0.24	1	09/28/16 12:21	
Chloroform	ND	U	5.0	1.0	0.25	1	09/28/16 12:21	
Chloromethane	ND	U	5.0	1.0	0.21	1	09/28/16 12:21	
Dibromochloromethane	ND	U	5.0	1.0	0.31	1	09/28/16 12:21	
Dibromomethane	ND	U	5.0	1.0	0.32	1	09/28/16 12:21	
Dichlorodifluoromethane (CFC 12)	ND	U	5.0	1.0	0.46	1	09/28/16 12:21	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 13:15
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	1795-PZ15-091916	**Units:**	ug/L
Lab Code:	R1609863-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/28/16 12:21	
Ethylbenzene	**0.21**	**J**	5.0	1.0	0.20	1	09/28/16 12:21	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/28/16 12:21	
Isopropylbenzene (Cumene)	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/28/16 12:21	
Naphthalene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
Styrene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/28/16 12:21	
Toluene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/28/16 12:21	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/28/16 12:21	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/28/16 12:21	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/28/16 12:21	
m,p-Xylenes	**25**		5.0	2.0	0.33	1	09/28/16 12:21	
n-Butylbenzene	ND	U	5.0	1.0	0.21	1	09/28/16 12:21	
n-Propylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
o-Xylene	**25**		5.0	1.0	0.20	1	09/28/16 12:21	
sec-Butylbenzene	ND	U	5.0	1.0	0.27	1	09/28/16 12:21	
tert-Butylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/28/16 12:21	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/28/16 12:21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 114	09/28/16 12:21	
Dibromofluoromethane	104	80 - 119	09/28/16 12:21	
Toluene-d8	107	89 - 112	09/28/16 12:21	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 10:00
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609863-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 11:53	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 11:53	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 11:53	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 11:53	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 11:53	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 11:53	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 11:53	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 11:53	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 11:53	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 11:53	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 11:53	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 11:53	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 11:53	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 11:53	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 11:53	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 11:53	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 11:53	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 11:53	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 11:53	
Acetone	**1.5 J**	10	5.0	1.3	1	09/28/16 11:53	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 11:53	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 11:53	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 11:53	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 11:53	
Bromomethane	**0.40 BJ**	5.0	1.0	0.29	1	09/28/16 11:53	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 11:53	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 11:53	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 11:53	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 11:53	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 11:53	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 11:53	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 11:53	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 11:53	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 11:53	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 10:00
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609863-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 11:53	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 11:53	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 11:53	
Naphthalene	**0.22 BJ**	5.0	1.0	0.20	1	09/28/16 11:53	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 11:53	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 11:53	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 11:53	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 11:53	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 11:53	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 11:53	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 11:53	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 11:53	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 11:53	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 11:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/28/16 11:53	
Dibromofluoromethane	106	80 - 119	09/28/16 11:53	
Toluene-d8	106	89 - 112	09/28/16 11:53	

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 13:25
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	1795-MWS3-091916	**Basis:**	NA
Lab Code:	R1609863-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**44.8**	mg/L	5.0	4.0	1.7	50	09/19/16 17:30	
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/19/16 23:57	
Sulfate	300.0	**2.6**	mg/L	2.0	1.0	0.2	10	09/19/16 23:57	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16 13:15
Sample Matrix:	Water	**Date Received:**	09/19/16 17:15
Sample Name:	1795-PZ15-091916	**Basis:**	NA
Lab Code:	R1609863-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/19/16 17:30	
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/19/16 23:47	
Sulfate	300.0	**22.1**	mg/L	2.0	1.0	0.2	10	09/19/16 23:47	

QC Summary Forms

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Client: ARCADIS U.S., Inc. **Service Request:** R1609863
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

		4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
Sample Name	**Lab Code**	**85 - 114**	**80 - 119**	**89 - 112**
1795-MWS3-091916	R1609863-001	94	95	98
1795-PZ15-091916	R1609863-002	100	104	107
TRIP BLANK	R1609863-003	97	106	106
Lab Control Sample	RQ1611713-03	103	109	105
Method Blank	RQ1611713-04	100	105	107
Lab Control Sample	RQ1611780-04	101	100	100
Method Blank	RQ1611780-05	99	99	102

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611713-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 11:20	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 11:20	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 11:20	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 11:20	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 11:20	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 11:20	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 11:20	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 11:20	
1,2,4-Trichlorobenzene	**0.25 J**	5.0	1.0	0.23	1	09/28/16 11:20	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 11:20	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 11:20	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 11:20	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 11:20	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 11:20	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 11:20	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 11:20	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 11:20	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 11:20	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 11:20	
Acetone	ND U	10	5.0	1.3	1	09/28/16 11:20	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 11:20	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 11:20	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 11:20	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 11:20	
Bromomethane	**0.34 J**	5.0	1.0	0.29	1	09/28/16 11:20	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 11:20	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 11:20	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 11:20	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 11:20	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 11:20	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 11:20	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 11:20	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 11:20	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 11:20	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611713-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/28/16 11:20	
Ethylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/28/16 11:20	
Isopropylbenzene (Cumene)	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/28/16 11:20	
Naphthalene	**0.27**	**J**	5.0	1.0	0.20	1	09/28/16 11:20	
Styrene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/28/16 11:20	
Toluene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/28/16 11:20	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/28/16 11:20	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/28/16 11:20	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/28/16 11:20	
m,p-Xylenes	ND	U	5.0	2.0	0.33	1	09/28/16 11:20	
n-Butylbenzene	ND	U	5.0	1.0	0.21	1	09/28/16 11:20	
n-Propylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
o-Xylene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
sec-Butylbenzene	ND	U	5.0	1.0	0.27	1	09/28/16 11:20	
tert-Butylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/28/16 11:20	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 114	09/28/16 11:20	
Dibromofluoromethane	105	80 - 119	09/28/16 11:20	
Toluene-d8	107	89 - 112	09/28/16 11:20	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611780-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/30/16 10:47	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/30/16 10:47	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/30/16 10:47	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/30/16 10:47	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/30/16 10:47	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/30/16 10:47	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/30/16 10:47	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/30/16 10:47	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/30/16 10:47	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/30/16 10:47	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/30/16 10:47	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
2-Hexanone	ND U	10	5.0	1.7	1	09/30/16 10:47	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/30/16 10:47	
Acetone	ND U	10	5.0	1.3	1	09/30/16 10:47	
Benzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/30/16 10:47	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Bromoform	ND U	5.0	1.0	0.42	1	09/30/16 10:47	
Bromomethane	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/30/16 10:47	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/30/16 10:47	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Chloroethane	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
Chloroform	ND U	5.0	1.0	0.25	1	09/30/16 10:47	
Chloromethane	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/30/16 10:47	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/30/16 10:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611780-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/30/16 10:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/30/16 10:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Naphthalene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Styrene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/30/16 10:47	
Toluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/30/16 10:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/30/16 10:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/30/16 10:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
o-Xylene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/30/16 10:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 114	09/30/16 10:47	
Dibromofluoromethane	99	80 - 119	09/30/16 10:47	
Toluene-d8	102	89 - 112	09/30/16 10:47	

Client: ARCADIS U.S., Inc. **Service Request:** R1609863
Project: Fort Drum, NY IRP Fall **Date Analyzed:** 09/28/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611713-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	21.7	20.0	109	78-124
1,1,1-Trichloroethane (TCA)	8260C	20.8	20.0	104	74-131
1,1,2,2-Tetrachloroethane	8260C	20.4	20.0	102	71-121
1,1,2-Trichloroethane	8260C	21.4	20.0	107	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	21.1	20.0	105	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.0	20.0	100	71-131
1,1-Dichloropropene	8260C	20.4	20.0	102	79-125
1,2,3-Trichlorobenzene	8260C	21.4	20.0	107	69-129
1,2,3-Trichloropropane	8260C	19.1	20.0	95	73-122
1,2,4-Trichlorobenzene	8260C	20.4	20.0	102	69-130
1,2,4-Trimethylbenzene	8260C	20.1	20.0	100	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	19.4	20.0	97	62-128
1,2-Dibromoethane	8260C	21.4	20.0	107	77-121
1,2-Dichlorobenzene	8260C	20.0	20.0	100	80-119
1,2-Dichloroethane	8260C	20.5	20.0	102	73-128
1,2-Dichloropropane	8260C	21.8	20.0	109	78-122
1,3,5-Trimethylbenzene	8260C	19.8	20.0	99	75-124
1,3-Dichlorobenzene	8260C	19.9	20.0	100	80-119
1,3-Dichloropropane	8260C	22.1	20.0	110	80-119
1,4-Dichlorobenzene	8260C	20.5	20.0	103	79-118
2,2-Dichloropropane	8260C	19.0	20.0	95	60-139
2-Butanone (MEK)	8260C	19.7	20.0	98	56-143
2-Chlorotoluene	8260C	19.6	20.0	98	79-122
2-Hexanone	8260C	19.3	20.0	97	57-139
4-Chlorotoluene	8260C	19.9	20.0	100	78-122
4-Isopropyltoluene	8260C	20.2	20.0	101	77-127
4-Methyl-2-pentanone	8260C	19.5	20.0	97	67-130
Acetone	8260C	22.6	20.0	113	39-160
Benzene	8260C	20.5	20.0	102	79-120
Bromobenzene	8260C	19.3	20.0	96	80-120
Bromochloromethane	8260C	21.6	20.0	108	78-123
Bromodichloromethane	8260C	19.7	20.0	99	79-125
Bromoform	8260C	22.3	20.0	111	66-130

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609863
Date Analyzed: 09/28/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611713-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	20.4	20.0	102	53-141
Carbon Disulfide	8260C	19.8	20.0	99	64-133
Carbon Tetrachloride	8260C	20.5	20.0	102	72-136
Chlorobenzene	8260C	20.7	20.0	104	82-118
Chloroethane	8260C	18.5	20.0	92	60-138
Chloroform	8260C	19.5	20.0	98	79-124
Chloromethane	8260C	16.5	20.0	83	50-139
Dibromochloromethane	8260C	21.5	20.0	107	74-126
Dibromomethane	8260C	21.3	20.0	106	79-123
Dichlorodifluoromethane (CFC 12)	8260C	19.7	20.0	99	32-152
Dichloromethane	8260C	19.1	20.0	95	74-124
Ethylbenzene	8260C	20.6	20.0	103	79-121
Hexachlorobutadiene	8260C	20.6	20.0	103	66-134
Isopropylbenzene (Cumene)	8260C	20.1	20.0	101	72-131
Methyl tert-Butyl Ether	8260C	21.1	20.0	106	71-124
Naphthalene	8260C	21.1	20.0	105	61-128
Styrene	8260C	21.7	20.0	109	78-123
Tetrachloroethene (PCE)	8260C	20.7	20.0	103	74-129
Toluene	8260C	19.6	20.0	98	80-121
Trichloroethene (TCE)	8260C	21.9	20.0	109	79-123
Trichlorofluoromethane (CFC 11)	8260C	19.9	20.0	99	65-141
Vinyl Chloride	8260C	18.6	20.0	93	58-137
cis-1,2-Dichloroethene	8260C	20.3	20.0	101	78-123
cis-1,3-Dichloropropene	8260C	20.5	20.0	102	75-124
m,p-Xylenes	8260C	41.6	40.0	104	80-121
n-Butylbenzene	8260C	20.5	20.0	103	75-128
n-Propylbenzene	8260C	19.6	20.0	98	76-126
o-Xylene	8260C	21.9	20.0	110	78-122
sec-Butylbenzene	8260C	20.1	20.0	101	77-126
tert-Butylbenzene	8260C	20.4	20.0	102	78-124
trans-1,2-Dichloroethene	8260C	21.7	20.0	109	75-124
trans-1,3-Dichloropropene	8260C	19.9	20.0	99	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609863
Project: Fort Drum, NY IRP Fall **Date Analyzed:** 09/30/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611780-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.2	20.0	101	78-124
1,1,1-Trichloroethane (TCA)	8260C	21.1	20.0	105	74-131
1,1,2,2-Tetrachloroethane	8260C	19.5	20.0	97	71-121
1,1,2-Trichloroethane	8260C	19.8	20.0	99	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	19.6	20.0	98	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.9	20.0	104	71-131
1,1-Dichloropropene	8260C	20.4	20.0	102	79-125
1,2,3-Trichlorobenzene	8260C	19.3	20.0	97	69-129
1,2,3-Trichloropropane	8260C	18.6	20.0	93	73-122
1,2,4-Trichlorobenzene	8260C	21.2	20.0	106	69-130
1,2,4-Trimethylbenzene	8260C	20.6	20.0	103	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	22.1	20.0	111	62-128
1,2-Dibromoethane	8260C	19.9	20.0	100	77-121
1,2-Dichlorobenzene	8260C	20.5	20.0	103	80-119
1,2-Dichloroethane	8260C	19.7	20.0	98	73-128
1,2-Dichloropropane	8260C	19.7	20.0	98	78-122
1,3,5-Trimethylbenzene	8260C	21.4	20.0	107	75-124
1,3-Dichlorobenzene	8260C	20.4	20.0	102	80-119
1,3-Dichloropropane	8260C	19.2	20.0	96	80-119
1,4-Dichlorobenzene	8260C	20.6	20.0	103	79-118
2,2-Dichloropropane	8260C	21.6	20.0	108	60-139
2-Butanone (MEK)	8260C	17.3	20.0	86	56-143
2-Chlorotoluene	8260C	20.7	20.0	103	79-122
2-Hexanone	8260C	17.7	20.0	88	57-139
4-Chlorotoluene	8260C	20.8	20.0	104	78-122
4-Isopropyltoluene	8260C	21.6	20.0	108	77-127
4-Methyl-2-pentanone	8260C	18.2	20.0	91	67-130
Acetone	8260C	16.6	20.0	83	39-160
Benzene	8260C	21.1	20.0	106	79-120
Bromobenzene	8260C	21.4	20.0	107	80-120
Bromochloromethane	8260C	20.3	20.0	101	78-123
Bromodichloromethane	8260C	18.7	20.0	93	79-125
Bromoform	8260C	21.8	20.0	109	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609863
Project: Fort Drum, NY IRP Fall **Date Analyzed:** 09/30/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611780-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	22.2	20.0	111	53-141
Carbon Disulfide	8260C	18.3	20.0	92	64-133
Carbon Tetrachloride	8260C	20.6	20.0	103	72-136
Chlorobenzene	8260C	20.5	20.0	103	82-118
Chloroethane	8260C	18.2	20.0	91	60-138
Chloroform	8260C	18.7	20.0	94	79-124
Chloromethane	8260C	17.3	20.0	87	50-139
Dibromochloromethane	8260C	20.4	20.0	102	74-126
Dibromomethane	8260C	19.6	20.0	98	79-123
Dichlorodifluoromethane (CFC 12)	8260C	18.0	20.0	90	32-152
Dichloromethane	8260C	19.2	20.0	96	74-124
Ethylbenzene	8260C	21.0	20.0	105	79-121
Hexachlorobutadiene	8260C	21.5	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	21.9	20.0	109	72-131
Methyl tert-Butyl Ether	8260C	18.5	20.0	92	71-124
Naphthalene	8260C	20.1	20.0	101	61-128
Styrene	8260C	21.3	20.0	107	78-123
Tetrachloroethene (PCE)	8260C	21.5	20.0	107	74-129
Toluene	8260C	20.2	20.0	101	80-121
Trichloroethene (TCE)	8260C	21.3	20.0	107	79-123
Trichlorofluoromethane (CFC 11)	8260C	22.5	20.0	113	65-141
Vinyl Chloride	8260C	22.9	20.0	115	58-137
cis-1,2-Dichloroethene	8260C	20.6	20.0	103	78-123
cis-1,3-Dichloropropene	8260C	19.5	20.0	97	75-124
m,p-Xylenes	8260C	43.1	40.0	108	80-121
n-Butylbenzene	8260C	21.5	20.0	107	75-128
n-Propylbenzene	8260C	21.6	20.0	108	76-126
o-Xylene	8260C	21.5	20.0	107	78-122
sec-Butylbenzene	8260C	21.8	20.0	109	77-126
tert-Butylbenzene	8260C	21.9	20.0	110	78-124
trans-1,2-Dichloroethene	8260C	20.3	20.0	101	75-124
trans-1,3-Dichloropropene	8260C	19.0	20.0	95	73-127

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609863-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	ND U	mg/L	0.10	0.08	0.04	1	09/19/16 17:30	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	0.05	0.05	1	09/19/16 18:04	
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/19/16 18:04	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project:	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16
Sample Matrix:	Water	**Date Received:**	09/19/16
		Date Analyzed:	09/19/16

Matrix Spike Summary
Iron, Divalent (Ferrous Iron)

Sample Name:	1795-PZ15-091916	**Units:**	mg/L
Lab Code:	R1609863-002	**Basis:**	NA
Analysis Method:	SM 3500-Fe B.4.c		

Matrix Spike
R1609863-002MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	ND U	0.35	0.40	87	67-129

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609863
Project	Fort Drum, NY IRP Fall	**Date Collected:**	09/19/16
Sample Matrix:	Water	**Date Received:**	09/19/16
		Date Analyzed:	09/19/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	1795-PZ15-091916	**Units:**	mg/L
Lab Code:	R1609863-002	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609863-002DUP Result	Average	RPD	RPD Limit
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.10	0.08	0.04	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY IRP Fall
Sample Matrix: Water

Service Request: R1609863
Date Analyzed: 09/19/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609863-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.386	0.40	97	67-129
Nitrate as Nitrogen	300.0	0.953	1.00	95	90-110
Sulfate	300.0	1.85	2.00	93	90-110

October 06, 2016 Service Request No:R1609972

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY BWM Fall

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 21, 2016
For your reference, these analyses have been assigned our service request number **R1609972.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS
Sample Matrix: Water

Service Request:R1609972
Date Received:9/21/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Twenty two water samples were received for analysis at ALS Environmental on 09/21/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260C, 09/28/16: The Method Blank contained a low level of the following analytes above the Method Detection Limit (MDL): 1,2,4-Trichlorobenzene, Bromoform, and Naphthalene. All associated sample results less than ten times the level found in the Method Blank are flagged. The samples were not reprepared/reanalyzed because samples would have been repeated out of holding time.

Method 8260C, 09/28/16, 09/30/16: The lower control limit for the spike recovery of the Matrix Spike Sample (MS) was exceeded for one or more analyte. The Laboratory Control Sample (LCS) was within limits for all compounds. The analytes affected are flagged in the MS Summary.

Method 8260C, 09/30/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8260c, 10/4/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Approved by _____ Date 10/6/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 1995-PZ6-092016	Lab ID: R1609972-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	860		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	240		1.0	25	ug/L	8260C
4-Isopropyltoluene	10	J	1.0	25	ug/L	8260C
Benzene	5.9	J	1.0	25	ug/L	8260C
Ethylbenzene	300		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	61		1.0	25	ug/L	8260C
Naphthalene	140		1.0	25	ug/L	8260C
Toluene	380		1.0	25	ug/L	8260C
m,p-Xylenes	1100		1.7	25	ug/L	8260C
n-Propylbenzene	110		1.0	25	ug/L	8260C
o-Xylene	410		1.0	25	ug/L	8260C
sec-Butylbenzene	13	J	1.4	25	ug/L	8260C

CLIENT ID: 1995-MW43-092016	Lab ID: R1609972-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	4.4	J	1.3	10	ug/L	8260C

CLIENT ID: 3805-MWS2-092016	Lab ID: R1609972-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.8	J	1.3	10	ug/L	8260C
Tetrachloroethene (PCE)	0.36	J	0.30	5.0	ug/L	8260C

CLIENT ID: 3805-014-092016	Lab ID: R1609972-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	850		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	300		1.0	25	ug/L	8260C
4-Isopropyltoluene	2.8	J	1.0	25	ug/L	8260C
Ethylbenzene	210		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	32		1.0	25	ug/L	8260C
Naphthalene	93		1.0	25	ug/L	8260C
Toluene	65		1.0	25	ug/L	8260C
m,p-Xylenes	1600		1.7	25	ug/L	8260C
n-Propylbenzene	48		1.0	25	ug/L	8260C
o-Xylene	540		1.0	25	ug/L	8260C
sec-Butylbenzene	2.0	J	1.4	25	ug/L	8260C

CLIENT ID: 3805-016-092016	Lab ID: R1609972-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	7.6		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.85	J	0.20	5.0	ug/L	8260C
Acetone	9.4	J	1.3	10	ug/L	8260C
Benzene	0.33	J	0.20	5.0	ug/L	8260C
Ethylbenzene	2.6	J	0.20	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-016-092016	Lab ID: R1609972-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Naphthalene	0.91	J	0.20	5.0	ug/L	8260C
Tetrachloroethene (PCE)	0.62	J	0.30	5.0	ug/L	8260C
Toluene	7.2		0.20	5.0	ug/L	8260C
m,p-Xylenes	16		0.33	5.0	ug/L	8260C
n-Propylbenzene	0.20	J	0.20	5.0	ug/L	8260C
o-Xylene	12		0.20	5.0	ug/L	8260C

CLIENT ID: 3805-PZ7-092016	Lab ID: R1609972-006					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.2	J	1.3	10	ug/L	8260C

CLIENT ID: 3805-PZ2D-092016	Lab ID: R1609972-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.4	J	1.3	10	ug/L	8260C
Tetrachloroethene (PCE)	130		0.30	5.0	ug/L	8260C
Trichloroethene (TCE)	3.0	J	0.22	5.0	ug/L	8260C

CLIENT ID: 3805-PZ2I-092016	Lab ID: R1609972-008					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.7	J	1.3	10	ug/L	8260C
Chloroform	0.81	J	0.25	5.0	ug/L	8260C
Tetrachloroethene (PCE)	26		0.30	5.0	ug/L	8260C

CLIENT ID: 3805-MWD7-092016	Lab ID: R1609972-009					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.6	J	1.3	10	ug/L	8260C

CLIENT ID: 3805-MWI6-092016	Lab ID: R1609972-010					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Chloroform	0.29	J	0.25	5.0	ug/L	8260C
Ethylbenzene	0.91	J	0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.58	J	0.20	5.0	ug/L	8260C
Tetrachloroethene (PCE)	8.7		0.30	5.0	ug/L	8260C
Toluene	0.42	J	0.20	5.0	ug/L	8260C
Trichloroethene (TCE)	1.4	J	0.22	5.0	ug/L	8260C

CLIENT ID: 3805-002-092016	Lab ID: R1609972-011					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	150		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	160		1.0	25	ug/L	8260C
4-Isopropyltoluene	1.5	J	1.0	25	ug/L	8260C
Ethylbenzene	15	J	1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	5.1	J	1.0	25	ug/L	8260C
Toluene	2.7	J	1.0	25	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-002-092016	Lab ID: R1609972-011					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
m,p-Xylenes	350		1.7	25	ug/L	8260C
n-Propylbenzene	4.1	J	1.0	25	ug/L	8260C
o-Xylene	500		1.0	25	ug/L	8260C

CLIENT ID: 3805-MWI20-092016	Lab ID: R1609972-012					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.1	J	1.3	10	ug/L	8260C
Trichloroethene (TCE)	0.47	J	0.22	5.0	ug/L	8260C

CLIENT ID: 3805-MWS19-092016	Lab ID: R1609972-013					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	3.0	J	1.3	10	ug/L	8260C

CLIENT ID: OSL-MW3-092016	Lab ID: R1609972-014					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	320	D	1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	67	D	1.0	25	ug/L	8260C
4-Isopropyltoluene	2.6	DJ	1.0	25	ug/L	8260C
Ethylbenzene	77	D	1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	11	DJ	1.0	25	ug/L	8260C
Naphthalene	20	DJ	1.0	25	ug/L	8260C
Styrene	1.3	DJ	1.0	25	ug/L	8260C
Toluene	27	D	1.0	25	ug/L	8260C
m,p-Xylenes	160	D	1.7	25	ug/L	8260C
n-Butylbenzene	2.1	DJ	1.1	25	ug/L	8260C
n-Propylbenzene	27	D	1.0	25	ug/L	8260C
o-Xylene	35	D	1.0	25	ug/L	8260C
sec-Butylbenzene	2.3	DJ	1.4	25	ug/L	8260C

CLIENT ID: 3805-PZ13D-092016	Lab ID: R1609972-016					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.8	J	1.3	10	ug/L	8260C
Chloroform	0.54	J	0.25	5.0	ug/L	8260C

CLIENT ID: 3805-PZ12D-092016	Lab ID: R1609972-018					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.8	J	1.3	10	ug/L	8260C

CLIENT ID: 3805-MWI9-092016	Lab ID: R1609972-020					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	43		1.0	25	ug/L	8260C
1,3,5-Trimethylbenzene	170		1.0	25	ug/L	8260C
4-Isopropyltoluene	2.5	J	1.0	25	ug/L	8260C
Benzene	45		1.0	25	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 3805-MWI9-092016	Lab ID: R1609972-020					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Ethylbenzene	830		1.0	25	ug/L	8260C
Isopropylbenzene (Cumene)	37		1.0	25	ug/L	8260C
Naphthalene	250		1.0	25	ug/L	8260C
Toluene	690		1.0	25	ug/L	8260C
m,p-Xylenes	110		1.7	25	ug/L	8260C
n-Propylbenzene	76		1.0	25	ug/L	8260C
o-Xylene	470		1.0	25	ug/L	8260C
sec-Butylbenzene	2.8	J	1.4	25	ug/L	8260C

CLIENT ID: 3805-MWS8-092016	Lab ID: R1609972-021					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Chloroform	0.62	J	0.25	5.0	ug/L	8260C
Tetrachloroethene (PCE)	22		0.30	5.0	ug/L	8260C

CLIENT ID: 3805-MWD13-092016	Lab ID: R1609972-022					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	1.2	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.25	J	0.20	5.0	ug/L	8260C
4-Isopropyltoluene	0.21	J	0.20	5.0	ug/L	8260C
Acetone	1.6	J	1.3	10	ug/L	8260C
Benzene	0.94	J	0.20	5.0	ug/L	8260C
Ethylbenzene	10		0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	1.0	J	0.20	5.0	ug/L	8260C
Naphthalene	2.0	J	0.20	5.0	ug/L	8260C
Toluene	0.39	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	0.44	J	0.33	5.0	ug/L	8260C
n-Propylbenzene	1.6	J	0.20	5.0	ug/L	8260C
o-Xylene	3.7	J	0.20	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609972-001	1995-PZ6-092016	9/20/2016	1030
R1609972-002	1995-MW43-092016	9/20/2016	1100
R1609972-003	3805-MWS2-092016	9/20/2016	1115
R1609972-004	3805-014-092016	9/20/2016	1130
R1609972-005	3805-016-092016	9/20/2016	1145
R1609972-006	3805-PZ7-092016	9/20/2016	1230
R1609972-007	3805-PZ2D-092016	9/20/2016	1245
R1609972-008	3805-PZ2I-092016	9/20/2016	1300
R1609972-009	3805-MWD7-092016	9/20/2016	1330
R1609972-010	3805-MWI6-092016	9/20/2016	1315
R1609972-011	3805-002-092016	9/20/2016	1345
R1609972-012	3805-MWI20-092016	9/20/2016	0745
R1609972-013	3805-MWS19-092016	9/20/2016	0750
R1609972-014	OSL-MW3-092016	9/20/2016	0810
R1609972-015	3805-PZ13I-092016	9/20/2016	0820
R1609972-016	3805-PZ13D-092016	9/20/2016	0825
R1609972-017	3805-PZ12I-092016	9/20/2016	0900
R1609972-018	3805-PZ12D-092016	9/20/2016	0910
R1609972-019	3805-MWD10-092016	9/20/2016	0950
R1609972-020	3805-MWI9-092016	9/20/2016	0955
R1609972-021	3805-MWS8-092016	9/20/2016	1000
R1609972-022	3805-MWD13-092016	9/20/2016	1015

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39932

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 6

Project Name: Ft Drum BWM Fall	Project Number: 6P14 Drum - rifs
Project Manager: Stefan Basnato	Report CC:
Company/Address: 855 Route 146 Suite 210, Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.basnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: HCl

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	
1995-PZ6 092016		9/20/16	1035	W	3	3
1995-MW43 092016		9/20/16	1100	W	3	3
3805-MW2 092016		9/20/16	1115	W	3	3
3805-014 092016		9/20/16	1130	W	3	3
3805-016 092016		9/20/16	1145	W	3	3
3805-PZ7 092016		9/20/16	1230	W	3	3
3805-PZ2D 092016		9/20/16	1245	W	3	3
3805-PZ2I 092016		9/20/16	1300	W	3	3
3805-MWD7 092016		9/20/16	1330	W	3	3
3805-MWI6 092016		9/20/16	1315	W	3	3
3805-002 092016		9/20/16	1345	W	3	3

GC/MS VOAs ○ 8260 ○ 624 ○ CLP; GC/MS SVOAs ○ 8270 ○ 625; GC VOAs ○ 8021 ○ 601/602; PESTICIDES ○ 8081 ○ 608; PCBs ○ 8082 ○ 608; METALS, TOTAL (List in comments below); METALS, DISSOLVED (List in comments below)

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Metals

ASP Category A (Tier II)
EQuIS EFWEDD w/ Arcadis reference Values

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____Yes _____No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Brian McGuirk	Signature Brian McGuirk	Signature Daniel Hall	Signature	Signature
Printed Name N. Griffith	Printed Name BRIAN McGUIRK	Printed Name BRIAN McGUIRK	Printed Name ALS	Printed Name	
Firm Arcadis	Firm ALS	Firm ALS	Firm 9/21/16/1651	Firm	
Date/Time 9/21/16 14:00	Date/Time 9/21/16 1400	Date/Time 9/21/16 1650	Date/Time 95	Date/Time	

R1609972 5

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Fort Drum, NY

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39931

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Project Name: FTDMM BwM - Fall	Project Number: 60P14Drum.Kits
Project Manager: Stefan Bagnato	Report CC:
Company/Address: Arcadis 855 Route 146, Suite 210 Cliffton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.bagnato@arcadis.com
Sampler's Signature: NA	Sampler's Printed Name: Nicholle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: HCl

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
3805-MWI20 092016		9/20/16	0745	W	3	3							
3805-MW S19 092016		9/20/16	0750	W	3	3							
OSL-MW3 092016		9/20/16	0810	W	3	3							
3805-PZ13I 092016		9/20/16	0820	W	3	3							
3805-PZ13D 092016		9/20/16	0825	W	3	3							
3805-PZ12I 092016		9/20/16	0900	W	3	3							
3805-PZ12D 092016		9/20/16	0910	W	3	3							
3805-MWD10 092016		9/20/16	0950	W	3	3							
3805-MWI9 092016		9/20/16	0955	W	3	3							
3805-MWS8 092016		9/20/16	1000	W	3	3							
3805-MWD13		9/20/16	1015	W	3	3							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Metals

ASP Category A (Tier II)

EQuIS EFWEDD w/ Arcadis reference value

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day

REQUESTED REPORT DATE

_____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____Yes _____No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: NA	Signature: Brian McGuirk	Signature: Brian McGuirk	Signature: Daniel Work	Signature:	Signature:
Printed Name: N. Griffith	Printed Name: BRIAN McGUIRK	Printed Name: BRIAN McGUIRK	Printed Name: ALS	Printed Name:	Printed Name:
Firm: Arcadis	Firm: ALS	Firm: ALS	Firm: 9/21/16 / 1655	Firm:	Firm:
Date/Time: 9/21/16 14:00	Date/Time: 9/21/16 1400	Date/Time: 9/21/16 1455	Date/Time: 95	Date/Time:	Date/Time:

R1609972
ARCADIS U.S., Inc.
Fort Drum, NY
5

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ALS Group

Cooler Receipt and Preservation Check Form

R1609972 5
ARCADIS U.S., Inc.
Fort Drum, NY

Project/Client Arcadis Folder Number .

Cooler received on 9/21/16 by: DW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (NA)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did ~~VOA vials~~, Alk, or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: ~~Wet Ice~~ **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as:	Bulk Encore 5035set (NA)

8. Temperature Readings Date: 9/21/16 Time: 1700 ID: IR#5 IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	3.1						
Correction Factor (°C)	-0.2						
Corrected Temp (°C)	2.9						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by:

All samples held in storage location: R-002 by DW on 9/21/16 at 1700
5035 samples placed in storage location: by on at

Cooler Breakdown: Date: 9-22-16 Time: 1125 by: TS

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? ~~YES~~ NO
2. Did all bottle labels and tags agree with custody papers? ~~YES~~ NO
3. Were correct containers used for the tests indicated? ~~YES~~ NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 6060-004

Other Comments:
*3 Vials for the Trip Blank.

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: DW 9/22/14 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS

Sample Name: 1995-PZ6-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-001 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1995-MW43-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-002 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

Sample Name: 3805-MWS2-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-003 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

Sample Name: 3805-014-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-004 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-016-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-005 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS

Sample Name: 3805-PZ7-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-006 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

Sample Name: 3805-PZ2D-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-007 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-PZ2I-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-008 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

Sample Name: 3805-MWD7-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-009 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		DLIPANI

Sample Name: 3805-MWI6-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-010 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS

Sample Name: 3805-002-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-011 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-MWI20-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-012 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-MWS19-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-013 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: OSL-MW3-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-014 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-PZ13I-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-015 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS

Sample Name: 3805-PZ13D-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-016 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-PZ12I-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-017 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-PZ12D-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-018 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-MWD10-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-019 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 3805-MWI9-092016 **Date Collected:** 09/20/16
Lab Code: R1609972-020 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS		

Sample Name:	3805-MWS8-092016	**Date Collected:**	09/20/16
Lab Code:	R1609972-021	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	3805-MWD13-092016	**Date Collected:**	09/20/16
Lab Code:	R1609972-022	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Volatile Organic Compounds by GC/MS

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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 10:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1995-PZ6-092016	**Units:**	ug/L
Lab Code:	R1609972-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/30/16 14:26	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/30/16 14:26	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/30/16 14:26	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/30/16 14:26	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/30/16 14:26	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/30/16 14:26	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/30/16 14:26	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/30/16 14:26	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/30/16 14:26	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/30/16 14:26	
1,2,4-Trimethylbenzene	**860**	25	5.0	1.0	5	09/30/16 14:26	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/30/16 14:26	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/30/16 14:26	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/30/16 14:26	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/30/16 14:26	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/30/16 14:26	
1,3,5-Trimethylbenzene	**240**	25	5.0	1.0	5	09/30/16 14:26	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 14:26	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 14:26	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 14:26	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 14:26	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/30/16 14:26	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/30/16 14:26	
2-Hexanone	ND U	50	25	8.3	5	09/30/16 14:26	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/30/16 14:26	
4-Isopropyltoluene	**10 J**	25	5.0	1.0	5	09/30/16 14:26	
4-Methyl-2-pentanone	ND U	50	5.0	3.4	5	09/30/16 14:26	
Acetone	ND U	50	25	6.2	5	09/30/16 14:26	
Benzene	**5.9 J**	25	5.0	1.0	5	09/30/16 14:26	
Bromobenzene	ND U	25	5.0	1.4	5	09/30/16 14:26	
Bromochloromethane	ND U	25	5.0	1.6	5	09/30/16 14:26	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/30/16 14:26	
Bromoform	ND U	25	5.0	2.1	5	09/30/16 14:26	
Bromomethane	ND U	25	5.0	1.5	5	09/30/16 14:26	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/30/16 14:26	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/30/16 14:26	
Chlorobenzene	ND U	25	5.0	1.5	5	09/30/16 14:26	
Chloroethane	ND U	25	5.0	1.2	5	09/30/16 14:26	
Chloroform	ND U	25	5.0	1.3	5	09/30/16 14:26	
Chloromethane	ND U	25	5.0	1.1	5	09/30/16 14:26	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/30/16 14:26	
Dibromomethane	ND U	25	5.0	1.6	5	09/30/16 14:26	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/30/16 14:26	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 10:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1995-PZ6-092016	**Units:**	ug/L
Lab Code:	R1609972-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	25	5.0	3.0	5	09/30/16 14:26	
Ethylbenzene	**300**	25	5.0	1.0	5	09/30/16 14:26	
Hexachlorobutadiene	ND U	25	5.0	3.1	5	09/30/16 14:26	
Isopropylbenzene (Cumene)	**61**	25	5.0	1.0	5	09/30/16 14:26	
Methyl tert-Butyl Ether	ND U	25	5.0	1.5	5	09/30/16 14:26	
Naphthalene	**140**	25	5.0	1.0	5	09/30/16 14:26	
Styrene	ND U	25	5.0	1.0	5	09/30/16 14:26	
Tetrachloroethene (PCE)	ND U	25	5.0	1.5	5	09/30/16 14:26	
Toluene	**380**	25	5.0	1.0	5	09/30/16 14:26	
Trichloroethene (TCE)	ND U	25	5.0	1.1	5	09/30/16 14:26	
Trichlorofluoromethane (CFC 11)	ND U	25	5.0	1.0	5	09/30/16 14:26	
Vinyl Chloride	ND U	25	5.0	1.6	5	09/30/16 14:26	
cis-1,2-Dichloroethene	ND U	25	5.0	1.5	5	09/30/16 14:26	
cis-1,3-Dichloropropene	ND U	25	5.0	1.2	5	09/30/16 14:26	
m,p-Xylenes	**1100**	25	10	1.7	5	09/30/16 14:26	
n-Butylbenzene	ND U	25	5.0	1.1	5	09/30/16 14:26	
n-Propylbenzene	**110**	25	5.0	1.0	5	09/30/16 14:26	
o-Xylene	**410**	25	5.0	1.0	5	09/30/16 14:26	
sec-Butylbenzene	**13 J**	25	5.0	1.4	5	09/30/16 14:26	
tert-Butylbenzene	ND U	25	5.0	1.0	5	09/30/16 14:26	
trans-1,2-Dichloroethene	ND U	25	5.0	1.7	5	09/30/16 14:26	
trans-1,3-Dichloropropene	ND U	25	5.0	1.0	5	09/30/16 14:26	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/30/16 14:26	
Dibromofluoromethane	99	80 - 119	09/30/16 14:26	
Toluene-d8	99	89 - 112	09/30/16 14:26	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1995-MW43-092016	**Units:**	ug/L
Lab Code:	R1609972-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 14:25	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 14:25	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 14:25	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 14:25	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 14:25	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 14:25	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 14:25	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 14:25	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 14:25	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 14:25	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 14:25	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:25	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 14:25	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:25	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:25	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 14:25	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 14:25	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 14:25	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 14:25	
Acetone	**4.4 J**	10	5.0	1.3	1	09/28/16 14:25	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 14:25	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:25	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:25	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 14:25	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 14:25	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 14:25	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 14:25	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 14:25	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 14:25	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 14:25	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 14:25	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 14:25	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 14:25	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 14:25	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1995-MW43-092016	**Units:**	ug/L
Lab Code:	R1609972-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 14:25	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 14:25	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 14:25	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 14:25	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 14:25	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 14:25	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 14:25	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 14:25	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 14:25	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:25	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 14:25	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 14:25	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 14:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 114	09/28/16 14:25	
Dibromofluoromethane	108	80 - 119	09/28/16 14:25	
Toluene-d8	103	89 - 112	09/28/16 14:25	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS2-092016	**Units:**	ug/L
Lab Code:	R1609972-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 14:56	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 14:56	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 14:56	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 14:56	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 14:56	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 14:56	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 14:56	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 14:56	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 14:56	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 14:56	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 14:56	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:56	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 14:56	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:56	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:56	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 14:56	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 14:56	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 14:56	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 14:56	
Acetone	**2.8 J**	10	5.0	1.3	1	09/28/16 14:56	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 14:56	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:56	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:56	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 14:56	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 14:56	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 14:56	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 14:56	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 14:56	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 14:56	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 14:56	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 14:56	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 14:56	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 14:56	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 14:56	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS2-092016	**Units:**	ug/L
Lab Code:	R1609972-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 14:56	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 14:56	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 14:56	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
Tetrachloroethene (PCE)	**0.36 J**	5.0	1.0	0.30	1	09/28/16 14:56	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 14:56	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 14:56	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 14:56	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 14:56	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 14:56	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:56	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 14:56	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 14:56	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 14:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 114	09/28/16 14:56	
Dibromofluoromethane	107	80 - 119	09/28/16 14:56	
Toluene-d8	106	89 - 112	09/28/16 14:56	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-014-092016	**Units:**	ug/L
Lab Code:	R1609972-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/30/16 14:50	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/30/16 14:50	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/30/16 14:50	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/30/16 14:50	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/30/16 14:50	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/30/16 14:50	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/30/16 14:50	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/30/16 14:50	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/30/16 14:50	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/30/16 14:50	
1,2,4-Trimethylbenzene	**850**	25	5.0	1.0	5	09/30/16 14:50	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/30/16 14:50	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/30/16 14:50	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/30/16 14:50	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/30/16 14:50	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/30/16 14:50	
1,3,5-Trimethylbenzene	**300**	25	5.0	1.0	5	09/30/16 14:50	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 14:50	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 14:50	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 14:50	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 14:50	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/30/16 14:50	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/30/16 14:50	
2-Hexanone	ND U	50	25	8.3	5	09/30/16 14:50	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/30/16 14:50	
4-Isopropyltoluene	**2.8 J**	25	5.0	1.0	5	09/30/16 14:50	
4-Methyl-2-pentanone	ND U	50	5.0	3.4	5	09/30/16 14:50	
Acetone	ND U	50	25	6.2	5	09/30/16 14:50	
Benzene	ND U	25	5.0	1.0	5	09/30/16 14:50	
Bromobenzene	ND U	25	5.0	1.4	5	09/30/16 14:50	
Bromochloromethane	ND U	25	5.0	1.6	5	09/30/16 14:50	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/30/16 14:50	
Bromoform	ND U	25	5.0	2.1	5	09/30/16 14:50	
Bromomethane	ND U	25	5.0	1.5	5	09/30/16 14:50	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/30/16 14:50	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/30/16 14:50	
Chlorobenzene	ND U	25	5.0	1.5	5	09/30/16 14:50	
Chloroethane	ND U	25	5.0	1.2	5	09/30/16 14:50	
Chloroform	ND U	25	5.0	1.3	5	09/30/16 14:50	
Chloromethane	ND U	25	5.0	1.1	5	09/30/16 14:50	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/30/16 14:50	
Dibromomethane	ND U	25	5.0	1.6	5	09/30/16 14:50	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/30/16 14:50	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-014-092016	**Units:**	ug/L
Lab Code:	R1609972-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	09/30/16 14:50	
Ethylbenzene	**210**		25	5.0	1.0	5	09/30/16 14:50	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	09/30/16 14:50	
Isopropylbenzene (Cumene)	**32**		25	5.0	1.0	5	09/30/16 14:50	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	09/30/16 14:50	
Naphthalene	**93**		25	5.0	1.0	5	09/30/16 14:50	
Styrene	ND	U	25	5.0	1.0	5	09/30/16 14:50	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	09/30/16 14:50	
Toluene	**65**		25	5.0	1.0	5	09/30/16 14:50	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	09/30/16 14:50	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	09/30/16 14:50	
Vinyl Chloride	ND	U	25	5.0	1.6	5	09/30/16 14:50	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	09/30/16 14:50	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	09/30/16 14:50	
m,p-Xylenes	**1600**		25	10	1.7	5	09/30/16 14:50	
n-Butylbenzene	ND	U	25	5.0	1.1	5	09/30/16 14:50	
n-Propylbenzene	**48**		25	5.0	1.0	5	09/30/16 14:50	
o-Xylene	**540**		25	5.0	1.0	5	09/30/16 14:50	
sec-Butylbenzene	**2.0**	**J**	25	5.0	1.4	5	09/30/16 14:50	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	09/30/16 14:50	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	09/30/16 14:50	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	09/30/16 14:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/30/16 14:50	
Dibromofluoromethane	97	80 - 119	09/30/16 14:50	
Toluene-d8	98	89 - 112	09/30/16 14:50	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-016-092016	**Units:**	ug/L
Lab Code:	R1609972-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 13:03	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 13:03	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 13:03	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 13:03	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 13:03	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 13:03	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 13:03	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 13:03	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 13:03	
1,2,4-Trimethylbenzene	**7.6**	5.0	1.0	0.20	1	10/03/16 13:03	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 13:03	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 13:03	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 13:03	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 13:03	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
1,3,5-Trimethylbenzene	**0.85 J**	5.0	1.0	0.20	1	10/03/16 13:03	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 13:03	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 13:03	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 13:03	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 13:03	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 13:03	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 13:03	
Acetone	**9.4 J**	10	5.0	1.3	1	10/03/16 13:03	
Benzene	**0.33 J**	5.0	1.0	0.20	1	10/03/16 13:03	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 13:03	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 13:03	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 13:03	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 13:03	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 13:03	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 13:03	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 13:03	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 13:03	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 13:03	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 13:03	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 13:03	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 13:03	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 13:03	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 13:03	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 11:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-016-092016	**Units:**	ug/L
Lab Code:	R1609972-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 13:03	
Ethylbenzene	**2.6 J**	5.0	1.0	0.20	1	10/03/16 13:03	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 13:03	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 13:03	
Naphthalene	**0.91 J**	5.0	1.0	0.20	1	10/03/16 13:03	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
Tetrachloroethene (PCE)	**0.62 J**	5.0	1.0	0.30	1	10/03/16 13:03	
Toluene	**7.2**	5.0	1.0	0.20	1	10/03/16 13:03	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 13:03	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 13:03	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 13:03	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 13:03	
m,p-Xylenes	**16**	5.0	2.0	0.33	1	10/03/16 13:03	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 13:03	
n-Propylbenzene	**0.20 J**	5.0	1.0	0.20	1	10/03/16 13:03	
o-Xylene	**12**	5.0	1.0	0.20	1	10/03/16 13:03	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 13:03	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:03	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 13:03	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 13:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	10/03/16 13:03	
Dibromofluoromethane	99	80 - 119	10/03/16 13:03	
Toluene-d8	99	89 - 112	10/03/16 13:03	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 12:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ7-092016	**Units:**	ug/L
Lab Code:	R1609972-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 15:27	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 15:27	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 15:27	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 15:27	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 15:27	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 15:27	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 15:27	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 15:27	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 15:27	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 15:27	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 15:27	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:27	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 15:27	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:27	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:27	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 15:27	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 15:27	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 15:27	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 15:27	
Acetone	**2.2 J**	10	5.0	1.3	1	09/28/16 15:27	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 15:27	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:27	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:27	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 15:27	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 15:27	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 15:27	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 15:27	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 15:27	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 15:27	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 15:27	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 15:27	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 15:27	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 15:27	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 15:27	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 12:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ7-092016	**Units:**	ug/L
Lab Code:	R1609972-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 15:27	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 15:27	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 15:27	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 15:27	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 15:27	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 15:27	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 15:27	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 15:27	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 15:27	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:27	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 15:27	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 15:27	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 15:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 114	09/28/16 15:27	
Dibromofluoromethane	108	80 - 119	09/28/16 15:27	
Toluene-d8	107	89 - 112	09/28/16 15:27	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 12:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ2D-092016	**Units:**	ug/L
Lab Code:	R1609972-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 17:31	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 17:31	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 17:31	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 17:31	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 17:31	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 17:31	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 17:31	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 17:31	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 17:31	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 17:31	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 17:31	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 17:31	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 17:31	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 17:31	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 17:31	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 17:31	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 17:31	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 17:31	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 17:31	
Acetone	**1.4 J**	10	5.0	1.3	1	10/03/16 17:31	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 17:31	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 17:31	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 17:31	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 17:31	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 17:31	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 17:31	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 17:31	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 17:31	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 17:31	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 17:31	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 17:31	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 17:31	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 17:31	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 17:31	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 12:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ2D-092016	**Units:**	ug/L
Lab Code:	R1609972-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 17:31	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 17:31	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 17:31	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
Tetrachloroethene (PCE)	**130**	5.0	1.0	0.30	1	10/03/16 17:31	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
Trichloroethene (TCE)	**3.0 J**	5.0	1.0	0.22	1	10/03/16 17:31	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 17:31	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 17:31	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 17:31	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 17:31	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 17:31	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 17:31	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 17:31	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 17:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	10/03/16 17:31	
Dibromofluoromethane	97	80 - 119	10/03/16 17:31	
Toluene-d8	98	89 - 112	10/03/16 17:31	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ2I-092016	**Units:**	ug/L
Lab Code:	R1609972-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 15:59	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 15:59	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 15:59	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 15:59	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 15:59	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 15:59	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 15:59	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 15:59	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 15:59	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 15:59	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 15:59	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:59	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 15:59	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:59	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:59	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 15:59	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 15:59	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 15:59	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 15:59	
Acetone	**2.7 J**	10	5.0	1.3	1	09/28/16 15:59	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 15:59	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:59	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:59	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 15:59	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 15:59	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 15:59	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 15:59	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 15:59	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 15:59	
Chloroform	**0.81 J**	5.0	1.0	0.25	1	09/28/16 15:59	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 15:59	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 15:59	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 15:59	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 15:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ2I-092016	**Units:**	ug/L
Lab Code:	R1609972-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 15:59	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 15:59	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 15:59	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
Tetrachloroethene (PCE)	**26**	5.0	1.0	0.30	1	09/28/16 15:59	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 15:59	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 15:59	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 15:59	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 15:59	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 15:59	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:59	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 15:59	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 15:59	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 15:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 114	09/28/16 15:59	
Dibromofluoromethane	107	80 - 119	09/28/16 15:59	
Toluene-d8	104	89 - 112	09/28/16 15:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWD7-092016	**Units:**	ug/L
Lab Code:	R1609972-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 16:30	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 16:30	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 16:30	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 16:30	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 16:30	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 16:30	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 16:30	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 16:30	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 16:30	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 16:30	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 16:30	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 16:30	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 16:30	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 16:30	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 16:30	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 16:30	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 16:30	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 16:30	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 16:30	
Acetone	**2.6 J**	10	5.0	1.3	1	09/28/16 16:30	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 16:30	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 16:30	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 16:30	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 16:30	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 16:30	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 16:30	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 16:30	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 16:30	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 16:30	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 16:30	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 16:30	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 16:30	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 16:30	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 16:30	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWD7-092016	**Units:**	ug/L
Lab Code:	R1609972-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 16:30	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 16:30	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 16:30	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 16:30	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 16:30	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 16:30	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 16:30	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 16:30	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 16:30	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 16:30	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 16:30	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 16:30	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 16:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 114	09/28/16 16:30	
Dibromofluoromethane	106	80 - 119	09/28/16 16:30	
Toluene-d8	105	89 - 112	09/28/16 16:30	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWI6-092016	**Units:**	ug/L
Lab Code:	R1609972-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 13:27	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 13:27	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 13:27	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 13:27	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 13:27	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 13:27	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 13:27	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 13:27	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 13:27	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 13:27	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 13:27	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 13:27	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 13:27	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 13:27	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 13:27	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 13:27	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 13:27	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 13:27	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 13:27	
Acetone	ND U	10	5.0	1.3	1	10/03/16 13:27	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 13:27	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 13:27	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 13:27	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 13:27	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 13:27	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 13:27	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 13:27	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 13:27	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 13:27	
Chloroform	**0.29 J**	5.0	1.0	0.25	1	10/03/16 13:27	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 13:27	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 13:27	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 13:27	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 13:27	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWI6-092016	**Units:**	ug/L
Lab Code:	R1609972-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 13:27	
Ethylbenzene	**0.91 J**	5.0	1.0	0.20	1	10/03/16 13:27	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 13:27	
Isopropylbenzene (Cumene)	**0.58 J**	5.0	1.0	0.20	1	10/03/16 13:27	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 13:27	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
Tetrachloroethene (PCE)	**8.7**	5.0	1.0	0.30	1	10/03/16 13:27	
Toluene	**0.42 J**	5.0	1.0	0.20	1	10/03/16 13:27	
Trichloroethene (TCE)	**1.4 J**	5.0	1.0	0.22	1	10/03/16 13:27	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 13:27	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 13:27	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 13:27	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 13:27	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 13:27	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 13:27	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 13:27	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 13:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	10/03/16 13:27	
Dibromofluoromethane	99	80 - 119	10/03/16 13:27	
Toluene-d8	100	89 - 112	10/03/16 13:27	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-002-092016	**Units:**	ug/L
Lab Code:	R1609972-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/30/16 17:16	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/30/16 17:16	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/30/16 17:16	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/30/16 17:16	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/30/16 17:16	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/30/16 17:16	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/30/16 17:16	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/30/16 17:16	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/30/16 17:16	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/30/16 17:16	
1,2,4-Trimethylbenzene	**150**	25	5.0	1.0	5	09/30/16 17:16	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/30/16 17:16	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/30/16 17:16	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/30/16 17:16	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/30/16 17:16	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/30/16 17:16	
1,3,5-Trimethylbenzene	**160**	25	5.0	1.0	5	09/30/16 17:16	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 17:16	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 17:16	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 17:16	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 17:16	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/30/16 17:16	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/30/16 17:16	
2-Hexanone	ND U	50	25	8.3	5	09/30/16 17:16	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/30/16 17:16	
4-Isopropyltoluene	**1.5 J**	25	5.0	1.0	5	09/30/16 17:16	
4-Methyl-2-pentanone	ND U	50	5.0	3.4	5	09/30/16 17:16	
Acetone	ND U	50	25	6.2	5	09/30/16 17:16	
Benzene	ND U	25	5.0	1.0	5	09/30/16 17:16	
Bromobenzene	ND U	25	5.0	1.4	5	09/30/16 17:16	
Bromochloromethane	ND U	25	5.0	1.6	5	09/30/16 17:16	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/30/16 17:16	
Bromoform	ND U	25	5.0	2.1	5	09/30/16 17:16	
Bromomethane	ND U	25	5.0	1.5	5	09/30/16 17:16	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/30/16 17:16	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/30/16 17:16	
Chlorobenzene	ND U	25	5.0	1.5	5	09/30/16 17:16	
Chloroethane	ND U	25	5.0	1.2	5	09/30/16 17:16	
Chloroform	ND U	25	5.0	1.3	5	09/30/16 17:16	
Chloromethane	ND U	25	5.0	1.1	5	09/30/16 17:16	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/30/16 17:16	
Dibromomethane	ND U	25	5.0	1.6	5	09/30/16 17:16	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/30/16 17:16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 13:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-002-092016	**Units:**	ug/L
Lab Code:	R1609972-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	25	5.0	3.0	5	09/30/16 17:16	
Ethylbenzene	**15 J**	25	5.0	1.0	5	09/30/16 17:16	
Hexachlorobutadiene	ND U	25	5.0	3.1	5	09/30/16 17:16	
Isopropylbenzene (Cumene)	**5.1 J**	25	5.0	1.0	5	09/30/16 17:16	
Methyl tert-Butyl Ether	ND U	25	5.0	1.5	5	09/30/16 17:16	
Naphthalene	ND U	25	5.0	1.0	5	09/30/16 17:16	
Styrene	ND U	25	5.0	1.0	5	09/30/16 17:16	
Tetrachloroethene (PCE)	ND U	25	5.0	1.5	5	09/30/16 17:16	
Toluene	**2.7 J**	25	5.0	1.0	5	09/30/16 17:16	
Trichloroethene (TCE)	ND U	25	5.0	1.1	5	09/30/16 17:16	
Trichlorofluoromethane (CFC 11)	ND U	25	5.0	1.0	5	09/30/16 17:16	
Vinyl Chloride	ND U	25	5.0	1.6	5	09/30/16 17:16	
cis-1,2-Dichloroethene	ND U	25	5.0	1.5	5	09/30/16 17:16	
cis-1,3-Dichloropropene	ND U	25	5.0	1.2	5	09/30/16 17:16	
m,p-Xylenes	**350**	25	10	1.7	5	09/30/16 17:16	
n-Butylbenzene	ND U	25	5.0	1.1	5	09/30/16 17:16	
n-Propylbenzene	**4.1 J**	25	5.0	1.0	5	09/30/16 17:16	
o-Xylene	**500**	25	5.0	1.0	5	09/30/16 17:16	
sec-Butylbenzene	ND U	25	5.0	1.4	5	09/30/16 17:16	
tert-Butylbenzene	ND U	25	5.0	1.0	5	09/30/16 17:16	
trans-1,2-Dichloroethene	ND U	25	5.0	1.7	5	09/30/16 17:16	
trans-1,3-Dichloropropene	ND U	25	5.0	1.0	5	09/30/16 17:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/30/16 17:16	
Dibromofluoromethane	99	80 - 119	09/30/16 17:16	
Toluene-d8	101	89 - 112	09/30/16 17:16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 07:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWI20-092016	**Units:**	ug/L
Lab Code:	R1609972-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 13:52	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 13:52	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 13:52	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 13:52	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 13:52	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 13:52	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 13:52	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 13:52	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 13:52	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 13:52	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 13:52	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 13:52	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 13:52	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 13:52	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 13:52	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 13:52	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 13:52	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 13:52	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 13:52	
Acetone	**2.1 J**	10	5.0	1.3	1	10/03/16 13:52	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 13:52	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 13:52	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 13:52	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 13:52	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 13:52	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 13:52	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 13:52	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 13:52	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 13:52	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 13:52	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 13:52	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 13:52	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 13:52	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 13:52	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 07:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWI20-092016	**Units:**	ug/L
Lab Code:	R1609972-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 13:52	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 13:52	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 13:52	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 13:52	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
Trichloroethene (TCE)	**0.47 J**	5.0	1.0	0.22	1	10/03/16 13:52	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 13:52	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 13:52	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 13:52	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 13:52	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 13:52	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 13:52	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 13:52	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 13:52	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	10/03/16 13:52	
Dibromofluoromethane	98	80 - 119	10/03/16 13:52	
Toluene-d8	99	89 - 112	10/03/16 13:52	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 07:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS19-092016	**Units:**	ug/L
Lab Code:	R1609972-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 14:16	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 14:16	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 14:16	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 14:16	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 14:16	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 14:16	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 14:16	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 14:16	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 14:16	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 14:16	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 14:16	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 14:16	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 14:16	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 14:16	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 14:16	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 14:16	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 14:16	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 14:16	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 14:16	
Acetone	**3.0 J**	10	5.0	1.3	1	10/03/16 14:16	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 14:16	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 14:16	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 14:16	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 14:16	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 14:16	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 14:16	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 14:16	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 14:16	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 14:16	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 14:16	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 14:16	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 14:16	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 14:16	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 14:16	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 07:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS19-092016	**Units:**	ug/L
Lab Code:	R1609972-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 14:16	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 14:16	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 14:16	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 14:16	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 14:16	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 14:16	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 14:16	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 14:16	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 14:16	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 14:16	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 14:16	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 14:16	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 14:16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	10/03/16 14:16	
Dibromofluoromethane	98	80 - 119	10/03/16 14:16	
Toluene-d8	99	89 - 112	10/03/16 14:16	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 08:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	OSL-MW3-092016	**Units:**	ug/L
Lab Code:	R1609972-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	10/04/16 13:35	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	10/04/16 13:35	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	10/04/16 13:35	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	10/04/16 13:35	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	10/04/16 13:35	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	10/04/16 13:35	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	10/04/16 13:35	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	10/04/16 13:35	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	10/04/16 13:35	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	10/04/16 13:35	
1,2,4-Trimethylbenzene	**320**	25	5.0	1.0	5	10/04/16 13:35	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	10/04/16 13:35	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	10/04/16 13:35	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	10/04/16 13:35	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	10/04/16 13:35	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	10/04/16 13:35	
1,3,5-Trimethylbenzene	**67**	25	5.0	1.0	5	10/04/16 13:35	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	10/04/16 13:35	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	10/04/16 13:35	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	10/04/16 13:35	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	10/04/16 13:35	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	10/04/16 13:35	
2-Chlorotoluene	ND U	25	5.0	1.0	5	10/04/16 13:35	
2-Hexanone	ND U	50	25	8.3	5	10/04/16 13:35	
4-Chlorotoluene	ND U	25	5.0	1.2	5	10/04/16 13:35	
4-Isopropyltoluene	**2.6 J**	25	5.0	1.0	5	10/04/16 13:35	
4-Methyl-2-pentanone	ND U	50	5.0	3.4	5	10/04/16 13:35	
Acetone	ND U	50	25	6.2	5	10/04/16 13:35	
Benzene	ND U	25	5.0	1.0	5	10/04/16 13:35	
Bromobenzene	ND U	25	5.0	1.4	5	10/04/16 13:35	
Bromochloromethane	ND U	25	5.0	1.6	5	10/04/16 13:35	
Bromodichloromethane	ND U	25	5.0	1.6	5	10/04/16 13:35	
Bromoform	ND U	25	5.0	2.1	5	10/04/16 13:35	
Bromomethane	ND U	25	5.0	1.5	5	10/04/16 13:35	
Carbon Disulfide	ND U	50	5.0	1.1	5	10/04/16 13:35	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	10/04/16 13:35	
Chlorobenzene	ND U	25	5.0	1.5	5	10/04/16 13:35	
Chloroethane	ND U	25	5.0	1.2	5	10/04/16 13:35	
Chloroform	ND U	25	5.0	1.3	5	10/04/16 13:35	
Chloromethane	ND U	25	5.0	1.1	5	10/04/16 13:35	
Dibromochloromethane	ND U	25	5.0	1.6	5	10/04/16 13:35	
Dibromomethane	ND U	25	5.0	1.6	5	10/04/16 13:35	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	10/04/16 13:35	

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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 08:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	OSL-MW3-092016	**Units:**	ug/L
Lab Code:	R1609972-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	10/04/16 13:35	
Ethylbenzene	**77**		25	5.0	1.0	5	10/04/16 13:35	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	10/04/16 13:35	
Isopropylbenzene (Cumene)	**11**	**J**	25	5.0	1.0	5	10/04/16 13:35	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	10/04/16 13:35	
Naphthalene	**20**	**J**	25	5.0	1.0	5	10/04/16 13:35	
Styrene	**1.3**	**J**	25	5.0	1.0	5	10/04/16 13:35	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	10/04/16 13:35	
Toluene	**27**		25	5.0	1.0	5	10/04/16 13:35	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	10/04/16 13:35	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	10/04/16 13:35	
Vinyl Chloride	ND	U	25	5.0	1.6	5	10/04/16 13:35	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	10/04/16 13:35	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	10/04/16 13:35	
m,p-Xylenes	**160**		25	10	1.7	5	10/04/16 13:35	
n-Butylbenzene	**2.1**	**J**	25	5.0	1.1	5	10/04/16 13:35	
n-Propylbenzene	**27**		25	5.0	1.0	5	10/04/16 13:35	
o-Xylene	**35**		25	5.0	1.0	5	10/04/16 13:35	
sec-Butylbenzene	**2.3**	**J**	25	5.0	1.4	5	10/04/16 13:35	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	10/04/16 13:35	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	10/04/16 13:35	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	10/04/16 13:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	10/04/16 13:35	
Dibromofluoromethane	98	80 - 119	10/04/16 13:35	
Toluene-d8	98	89 - 112	10/04/16 13:35	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 08:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ13I-092016	**Units:**	ug/L
Lab Code:	R1609972-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/04/16 12:22	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/04/16 12:22	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/04/16 12:22	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/04/16 12:22	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/04/16 12:22	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/04/16 12:22	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/04/16 12:22	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/04/16 12:22	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/04/16 12:22	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/04/16 12:22	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/04/16 12:22	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/04/16 12:22	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/04/16 12:22	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 12:22	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 12:22	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/04/16 12:22	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
2-Hexanone	ND U	10	5.0	1.7	1	10/04/16 12:22	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/04/16 12:22	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/04/16 12:22	
Acetone	ND U	10	5.0	1.3	1	10/04/16 12:22	
Benzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/04/16 12:22	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/04/16 12:22	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/04/16 12:22	
Bromoform	ND U	5.0	1.0	0.42	1	10/04/16 12:22	
Bromomethane	ND U	5.0	1.0	0.29	1	10/04/16 12:22	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/04/16 12:22	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/04/16 12:22	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/04/16 12:22	
Chloroethane	ND U	5.0	1.0	0.24	1	10/04/16 12:22	
Chloroform	ND U	5.0	1.0	0.25	1	10/04/16 12:22	
Chloromethane	ND U	5.0	1.0	0.21	1	10/04/16 12:22	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/04/16 12:22	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/04/16 12:22	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/04/16 12:22	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 08:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ13I-092016	**Units:**	ug/L
Lab Code:	R1609972-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/04/16 12:22	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/04/16 12:22	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/04/16 12:22	
Naphthalene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
Styrene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/04/16 12:22	
Toluene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/04/16 12:22	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/04/16 12:22	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/04/16 12:22	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/04/16 12:22	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/04/16 12:22	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/04/16 12:22	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
o-Xylene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/04/16 12:22	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/04/16 12:22	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/04/16 12:22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	10/04/16 12:22	
Dibromofluoromethane	100	80 - 119	10/04/16 12:22	
Toluene-d8	98	89 - 112	10/04/16 12:22	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 08:25
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ13D-092016	**Units:**	ug/L
Lab Code:	R1609972-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/04/16 12:47	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/04/16 12:47	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/04/16 12:47	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/04/16 12:47	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/04/16 12:47	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/04/16 12:47	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/04/16 12:47	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/04/16 12:47	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/04/16 12:47	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/04/16 12:47	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/04/16 12:47	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/04/16 12:47	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/04/16 12:47	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 12:47	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 12:47	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/04/16 12:47	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
2-Hexanone	ND U	10	5.0	1.7	1	10/04/16 12:47	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/04/16 12:47	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/04/16 12:47	
Acetone	**2.8 J**	10	5.0	1.3	1	10/04/16 12:47	
Benzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/04/16 12:47	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/04/16 12:47	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/04/16 12:47	
Bromoform	ND U	5.0	1.0	0.42	1	10/04/16 12:47	
Bromomethane	ND U	5.0	1.0	0.29	1	10/04/16 12:47	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/04/16 12:47	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/04/16 12:47	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/04/16 12:47	
Chloroethane	ND U	5.0	1.0	0.24	1	10/04/16 12:47	
Chloroform	**0.54 J**	5.0	1.0	0.25	1	10/04/16 12:47	
Chloromethane	ND U	5.0	1.0	0.21	1	10/04/16 12:47	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/04/16 12:47	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/04/16 12:47	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/04/16 12:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 08:25
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ13D-092016	**Units:**	ug/L
Lab Code:	R1609972-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/04/16 12:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/04/16 12:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/04/16 12:47	
Naphthalene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
Styrene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/04/16 12:47	
Toluene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/04/16 12:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/04/16 12:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/04/16 12:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/04/16 12:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/04/16 12:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/04/16 12:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
o-Xylene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/04/16 12:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/04/16 12:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/04/16 12:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	10/04/16 12:47	
Dibromofluoromethane	98	80 - 119	10/04/16 12:47	
Toluene-d8	100	89 - 112	10/04/16 12:47	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ12I-092016	**Units:**	ug/L
Lab Code:	R1609972-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 15:53	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 15:53	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 15:53	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 15:53	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 15:53	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 15:53	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 15:53	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 15:53	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 15:53	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 15:53	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 15:53	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 15:53	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 15:53	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 15:53	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 15:53	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 15:53	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 15:53	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 15:53	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 15:53	
Acetone	ND U	10	5.0	1.3	1	10/03/16 15:53	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 15:53	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 15:53	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 15:53	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 15:53	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 15:53	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 15:53	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 15:53	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 15:53	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 15:53	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 15:53	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 15:53	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 15:53	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 15:53	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 15:53	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ12I-092016	**Units:**	ug/L
Lab Code:	R1609972-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 15:53	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 15:53	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 15:53	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 15:53	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 15:53	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 15:53	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 15:53	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 15:53	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 15:53	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 15:53	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 15:53	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 15:53	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 15:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	10/03/16 15:53	
Dibromofluoromethane	98	80 - 119	10/03/16 15:53	
Toluene-d8	98	89 - 112	10/03/16 15:53	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ12D-092016	**Units:**	ug/L
Lab Code:	R1609972-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 16:18	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 16:18	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 16:18	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 16:18	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 16:18	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 16:18	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 16:18	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 16:18	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 16:18	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 16:18	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 16:18	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 16:18	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 16:18	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 16:18	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 16:18	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 16:18	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 16:18	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 16:18	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 16:18	
Acetone	**1.8 J**	10	5.0	1.3	1	10/03/16 16:18	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 16:18	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 16:18	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 16:18	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 16:18	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 16:18	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 16:18	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 16:18	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 16:18	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 16:18	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 16:18	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 16:18	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 16:18	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 16:18	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 16:18	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-PZ12D-092016	**Units:**	ug/L
Lab Code:	R1609972-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 16:18	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 16:18	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 16:18	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 16:18	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 16:18	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 16:18	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 16:18	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 16:18	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 16:18	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 16:18	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 16:18	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 16:18	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 16:18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	10/03/16 16:18	
Dibromofluoromethane	101	80 - 119	10/03/16 16:18	
Toluene-d8	100	89 - 112	10/03/16 16:18	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWD10-092016	**Units:**	ug/L
Lab Code:	R1609972-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 16:42	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 16:42	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 16:42	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 16:42	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 16:42	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 16:42	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 16:42	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 16:42	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 16:42	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 16:42	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 16:42	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 16:42	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 16:42	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 16:42	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 16:42	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 16:42	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 16:42	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 16:42	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 16:42	
Acetone	ND U	10	5.0	1.3	1	10/03/16 16:42	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 16:42	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 16:42	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 16:42	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 16:42	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 16:42	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 16:42	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 16:42	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 16:42	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 16:42	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 16:42	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 16:42	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 16:42	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 16:42	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 16:42	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWD10-092016	**Units:**	ug/L
Lab Code:	R1609972-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 16:42	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 16:42	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 16:42	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 16:42	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 16:42	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 16:42	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 16:42	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 16:42	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 16:42	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 16:42	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 16:42	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 16:42	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 16:42	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	10/03/16 16:42	
Dibromofluoromethane	96	80 - 119	10/03/16 16:42	
Toluene-d8	100	89 - 112	10/03/16 16:42	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:55
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWI9-092016	**Units:**	ug/L
Lab Code:	R1609972-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	25	5.0	1.1	5	09/30/16 17:41	
1,1,1-Trichloroethane (TCA)	ND U	25	5.0	1.8	5	09/30/16 17:41	
1,1,2,2-Tetrachloroethane	ND U	25	5.0	1.3	5	09/30/16 17:41	
1,1,2-Trichloroethane	ND U	25	5.0	1.7	5	09/30/16 17:41	
1,1-Dichloroethane (1,1-DCA)	ND U	25	5.0	1.0	5	09/30/16 17:41	
1,1-Dichloroethene (1,1-DCE)	ND U	25	5.0	2.9	5	09/30/16 17:41	
1,1-Dichloropropene	ND U	25	5.0	1.5	5	09/30/16 17:41	
1,2,3-Trichlorobenzene	ND U	25	5.0	4.1	5	09/30/16 17:41	
1,2,3-Trichloropropane	ND U	25	5.0	3.5	5	09/30/16 17:41	
1,2,4-Trichlorobenzene	ND U	25	5.0	1.2	5	09/30/16 17:41	
1,2,4-Trimethylbenzene	**43**	25	5.0	1.0	5	09/30/16 17:41	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	25	5.0	3.7	5	09/30/16 17:41	
1,2-Dibromoethane	ND U	25	5.0	1.2	5	09/30/16 17:41	
1,2-Dichlorobenzene	ND U	25	5.0	1.1	5	09/30/16 17:41	
1,2-Dichloroethane	ND U	25	5.0	1.8	5	09/30/16 17:41	
1,2-Dichloropropane	ND U	25	5.0	1.0	5	09/30/16 17:41	
1,3,5-Trimethylbenzene	**170**	25	5.0	1.0	5	09/30/16 17:41	
1,3-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 17:41	
1,3-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 17:41	
1,4-Dichlorobenzene	ND U	25	5.0	1.0	5	09/30/16 17:41	
2,2-Dichloropropane	ND U	25	5.0	1.4	5	09/30/16 17:41	
2-Butanone (MEK)	ND U	50	5.0	4.1	5	09/30/16 17:41	
2-Chlorotoluene	ND U	25	5.0	1.0	5	09/30/16 17:41	
2-Hexanone	ND U	50	25	8.3	5	09/30/16 17:41	
4-Chlorotoluene	ND U	25	5.0	1.2	5	09/30/16 17:41	
4-Isopropyltoluene	**2.5 J**	25	5.0	1.0	5	09/30/16 17:41	
4-Methyl-2-pentanone	ND U	50	5.0	3.4	5	09/30/16 17:41	
Acetone	ND U	50	25	6.2	5	09/30/16 17:41	
Benzene	**45**	25	5.0	1.0	5	09/30/16 17:41	
Bromobenzene	ND U	25	5.0	1.4	5	09/30/16 17:41	
Bromochloromethane	ND U	25	5.0	1.6	5	09/30/16 17:41	
Bromodichloromethane	ND U	25	5.0	1.6	5	09/30/16 17:41	
Bromoform	ND U	25	5.0	2.1	5	09/30/16 17:41	
Bromomethane	ND U	25	5.0	1.5	5	09/30/16 17:41	
Carbon Disulfide	ND U	50	5.0	1.1	5	09/30/16 17:41	
Carbon Tetrachloride	ND U	25	5.0	2.3	5	09/30/16 17:41	
Chlorobenzene	ND U	25	5.0	1.5	5	09/30/16 17:41	
Chloroethane	ND U	25	5.0	1.2	5	09/30/16 17:41	
Chloroform	ND U	25	5.0	1.3	5	09/30/16 17:41	
Chloromethane	ND U	25	5.0	1.1	5	09/30/16 17:41	
Dibromochloromethane	ND U	25	5.0	1.6	5	09/30/16 17:41	
Dibromomethane	ND U	25	5.0	1.6	5	09/30/16 17:41	
Dichlorodifluoromethane (CFC 12)	ND U	25	5.0	2.3	5	09/30/16 17:41	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 09:55
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWI9-092016	**Units:**	ug/L
Lab Code:	R1609972-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	25	5.0	3.0	5	09/30/16 17:41	
Ethylbenzene	**830**		25	5.0	1.0	5	09/30/16 17:41	
Hexachlorobutadiene	ND	U	25	5.0	3.1	5	09/30/16 17:41	
Isopropylbenzene (Cumene)	**37**		25	5.0	1.0	5	09/30/16 17:41	
Methyl tert-Butyl Ether	ND	U	25	5.0	1.5	5	09/30/16 17:41	
Naphthalene	**250**		25	5.0	1.0	5	09/30/16 17:41	
Styrene	ND	U	25	5.0	1.0	5	09/30/16 17:41	
Tetrachloroethene (PCE)	ND	U	25	5.0	1.5	5	09/30/16 17:41	
Toluene	**690**		25	5.0	1.0	5	09/30/16 17:41	
Trichloroethene (TCE)	ND	U	25	5.0	1.1	5	09/30/16 17:41	
Trichlorofluoromethane (CFC 11)	ND	U	25	5.0	1.0	5	09/30/16 17:41	
Vinyl Chloride	ND	U	25	5.0	1.6	5	09/30/16 17:41	
cis-1,2-Dichloroethene	ND	U	25	5.0	1.5	5	09/30/16 17:41	
cis-1,3-Dichloropropene	ND	U	25	5.0	1.2	5	09/30/16 17:41	
m,p-Xylenes	**110**		25	10	1.7	5	09/30/16 17:41	
n-Butylbenzene	ND	U	25	5.0	1.1	5	09/30/16 17:41	
n-Propylbenzene	**76**		25	5.0	1.0	5	09/30/16 17:41	
o-Xylene	**470**		25	5.0	1.0	5	09/30/16 17:41	
sec-Butylbenzene	**2.8**	**J**	25	5.0	1.4	5	09/30/16 17:41	
tert-Butylbenzene	ND	U	25	5.0	1.0	5	09/30/16 17:41	
trans-1,2-Dichloroethene	ND	U	25	5.0	1.7	5	09/30/16 17:41	
trans-1,3-Dichloropropene	ND	U	25	5.0	1.0	5	09/30/16 17:41	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/30/16 17:41	
Dibromofluoromethane	97	80 - 119	09/30/16 17:41	
Toluene-d8	101	89 - 112	09/30/16 17:41	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS8-092016	**Units:**	ug/L
Lab Code:	R1609972-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 17:07	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 17:07	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 17:07	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 17:07	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 17:07	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 17:07	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 17:07	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 17:07	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 17:07	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 17:07	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 17:07	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 17:07	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 17:07	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 17:07	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 17:07	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 17:07	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 17:07	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 17:07	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 17:07	
Acetone	ND U	10	5.0	1.3	1	10/03/16 17:07	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 17:07	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 17:07	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 17:07	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 17:07	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 17:07	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 17:07	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 17:07	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 17:07	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 17:07	
Chloroform	**0.62 J**	5.0	1.0	0.25	1	10/03/16 17:07	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 17:07	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 17:07	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 17:07	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 17:07	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS8-092016	**Units:**	ug/L
Lab Code:	R1609972-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 17:07	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 17:07	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 17:07	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
Tetrachloroethene (PCE)	**22**	5.0	1.0	0.30	1	10/03/16 17:07	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 17:07	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 17:07	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 17:07	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 17:07	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 17:07	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 17:07	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 17:07	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 17:07	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 17:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	10/03/16 17:07	
Dibromofluoromethane	101	80 - 119	10/03/16 17:07	
Toluene-d8	101	89 - 112	10/03/16 17:07	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWD13-092016	**Units:**	ug/L
Lab Code:	R1609972-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/04/16 13:11	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/04/16 13:11	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/04/16 13:11	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/04/16 13:11	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/04/16 13:11	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/04/16 13:11	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/04/16 13:11	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/04/16 13:11	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/04/16 13:11	
1,2,4-Trimethylbenzene	**1.2 J**	5.0	1.0	0.20	1	10/04/16 13:11	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/04/16 13:11	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/04/16 13:11	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/04/16 13:11	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/04/16 13:11	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
1,3,5-Trimethylbenzene	**0.25 J**	5.0	1.0	0.20	1	10/04/16 13:11	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 13:11	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 13:11	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/04/16 13:11	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
2-Hexanone	ND U	10	5.0	1.7	1	10/04/16 13:11	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/04/16 13:11	
4-Isopropyltoluene	**0.21 J**	5.0	1.0	0.20	1	10/04/16 13:11	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/04/16 13:11	
Acetone	**1.6 J**	10	5.0	1.3	1	10/04/16 13:11	
Benzene	**0.94 J**	5.0	1.0	0.20	1	10/04/16 13:11	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/04/16 13:11	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/04/16 13:11	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/04/16 13:11	
Bromoform	ND U	5.0	1.0	0.42	1	10/04/16 13:11	
Bromomethane	ND U	5.0	1.0	0.29	1	10/04/16 13:11	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/04/16 13:11	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/04/16 13:11	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/04/16 13:11	
Chloroethane	ND U	5.0	1.0	0.24	1	10/04/16 13:11	
Chloroform	ND U	5.0	1.0	0.25	1	10/04/16 13:11	
Chloromethane	ND U	5.0	1.0	0.21	1	10/04/16 13:11	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/04/16 13:11	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/04/16 13:11	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/04/16 13:11	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWD13-092016	**Units:**	ug/L
Lab Code:	R1609972-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/04/16 13:11	
Ethylbenzene	**10**	5.0	1.0	0.20	1	10/04/16 13:11	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/04/16 13:11	
Isopropylbenzene (Cumene)	**1.0 J**	5.0	1.0	0.20	1	10/04/16 13:11	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/04/16 13:11	
Naphthalene	**2.0 J**	5.0	1.0	0.20	1	10/04/16 13:11	
Styrene	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/04/16 13:11	
Toluene	**0.39 J**	5.0	1.0	0.20	1	10/04/16 13:11	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/04/16 13:11	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/04/16 13:11	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/04/16 13:11	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/04/16 13:11	
m,p-Xylenes	**0.44 J**	5.0	2.0	0.33	1	10/04/16 13:11	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/04/16 13:11	
n-Propylbenzene	**1.6 J**	5.0	1.0	0.20	1	10/04/16 13:11	
o-Xylene	**3.7 J**	5.0	1.0	0.20	1	10/04/16 13:11	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/04/16 13:11	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 13:11	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/04/16 13:11	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/04/16 13:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	10/04/16 13:11	
Dibromofluoromethane	99	80 - 119	10/04/16 13:11	
Toluene-d8	99	89 - 112	10/04/16 13:11	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 114	Dibromofluoromethane 80 - 119	Toluene-d8 89 - 112
1995-PZ6-092016	R1609972-001	97	99	99
1995-MW43-092016	R1609972-002	100	108	103
3805-MWS2-092016	R1609972-003	103	107	106
3805-014-092016	R1609972-004	96	97	98
3805-016-092016	R1609972-005	95	99	99
3805-PZ7-092016	R1609972-006	104	108	107
3805-PZ2D-092016	R1609972-007	95	97	98
3805-PZ2I-092016	R1609972-008	103	107	104
3805-MWD7-092016	R1609972-009	104	106	105
3805-MWI6-092016	R1609972-010	95	99	100
3805-002-092016	R1609972-011	97	99	101
3805-MWI20-092016	R1609972-012	94	98	99
3805-MWS19-092016	R1609972-013	97	98	99
OSL-MW3-092016	R1609972-014	98	98	98
3805-PZ13I-092016	R1609972-015	93	100	98
3805-PZ13D-092016	R1609972-016	95	98	100
3805-PZ12I-092016	R1609972-017	93	98	98
3805-PZ12D-092016	R1609972-018	96	101	100
3805-MWD10-092016	R1609972-019	96	96	100
3805-MWI9-092016	R1609972-020	98	97	101
3805-MWS8-092016	R1609972-021	97	101	101
3805-MWD13-092016	R1609972-022	94	99	99
Lab Control Sample	RQ1611713-03	103	109	105
Method Blank	RQ1611713-04	100	105	107
3805-PZ2I-092016 MS	RQ1611713-05	103	103	105
3805-PZ2I-092016 DMS	RQ1611713-06	102	104	104
Lab Control Sample	RQ1611780-04	101	100	100
Method Blank	RQ1611780-05	99	99	102
3805-MWI9-092016 MS	RQ1611780-06	100	98	98
3805-MWI9-092016 DMS	RQ1611780-07	97	97	97
Method Blank	RQ1611861-01	97	99	100
Lab Control Sample	RQ1611861-02	98	103	98
3805-MWS19-092016 MS	RQ1611861-05	97	100	98
3805-MWS19-092016 DMS	RQ1611861-06	101	101	100
Method Blank	RQ1611922-01	95	98	98
Lab Control Sample	RQ1611922-02	97	99	99
OSL-MW3-092016 MS	RQ1611922-05	103	104	103

Client: ARCADIS U.S., Inc. **Service Request:** R1609972

Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Extraction Method: EPA 5030C

		4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
Sample Name	**Lab Code**	**85 - 114**	**80 - 119**	**89 - 112**
OSL-MW3-092016 DMS	RQ1611922-06	99	99	99

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	09/28/16

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-PZ2I-092016	**Units:**	ug/L
Lab Code:	R1609972-008	**Basis:**	NA
Analysis Method:	8260C		

		Matrix Spike RQ1611713-05			**Duplicate Matrix Spike** RQ1611713-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	51.5	50.0	103	51.8	50.0	104	78-124	<1	20
1,1,1-Trichloroethane (TCA)	ND U	51.2	50.0	102	50.8	50.0	102	74-131	<1	20
1,1,2,2-Tetrachloroethane	ND U	46.3	50.0	93	50.7	50.0	101	71-121	9	20
1,1,2-Trichloroethane	ND U	50.3	50.0	101	51.8	50.0	104	80-119	3	20
1,1-Dichloroethane (1,1-DCA)	ND U	50.4	50.0	101	51.4	50.0	103	77-125	2	20
1,1-Dichloroethene (1,1-DCE)	ND U	50.0	50.0	100	50.5	50.0	101	71-131	1	20
1,1-Dichloropropene	ND U	51.3	50.0	103	51.4	50.0	103	79-125	<1	20
1,2,3-Trichlorobenzene	ND U	41.3	50.0	83	49.6	50.0	99	69-129	18	20
1,2,3-Trichloropropane	ND U	44.5	50.0	89	49.0	50.0	98	73-122	10	20
1,2,4-Trichlorobenzene	ND U	41.5	50.0	83	47.2	50.0	94	69-130	13	20
1,2,4-Trimethylbenzene	ND U	44.3	50.0	89	45.9	50.0	92	76-124	4	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	41.0	50.0	82	46.0	50.0	92	62-128	12	20
1,2-Dibromoethane	ND U	47.4	50.0	95	48.8	50.0	98	77-121	3	20
1,2-Dichlorobenzene	ND U	46.2	50.0	92	49.2	50.0	98	80-119	6	20
1,2-Dichloroethane	ND U	46.2	50.0	92	46.1	50.0	92	73-128	<1	20
1,2-Dichloropropane	ND U	51.2	50.0	102	51.9	50.0	104	78-122	1	20
1,3,5-Trimethylbenzene	ND U	44.1	50.0	88	44.9	50.0	90	75-124	2	20
1,3-Dichlorobenzene	ND U	46.8	50.0	94	48.5	50.0	97	80-119	4	20
1,3-Dichloropropane	ND U	50.4	50.0	101	50.9	50.0	102	80-119	<1	20
1,4-Dichlorobenzene	ND U	46.3	50.0	93	47.6	50.0	95	79-118	3	20
2,2-Dichloropropane	ND U	46.1	50.0	92	44.7	50.0	89	60-139	3	20
2-Butanone (MEK)	ND U	42.7	50.0	85	48.3	50.0	97	56-143	12	20
2-Chlorotoluene	ND U	46.6	50.0	93	48.3	50.0	97	79-122	4	20
2-Hexanone	ND U	41.7	50.0	83	44.9	50.0	90	57-139	7	20
4-Chlorotoluene	ND U	44.3	50.0	89	47.1	50.0	94	78-122	6	20
4-Isopropyltoluene	ND U	46.0	50.0	92	46.5	50.0	93	77-127	1	20
4-Methyl-2-pentanone	ND U	43.7	50.0	87	48.6	50.0	97	67-130	11	20
Acetone	2.7 J	45.8	50.0	86	53.1	50.0	101	39-160	15	20
Benzene	ND U	48.6	50.0	97	49.2	50.0	98	79-120	1	20
Bromobenzene	ND U	46.1	50.0	92	48.9	50.0	98	80-120	6	20
Bromochloromethane	ND U	51.3	50.0	103	50.8	50.0	102	78-123	1	20
Bromodichloromethane	ND U	46.3	50.0	93	48.4	50.0	97	79-125	4	20
Bromoform	ND U	44.0	50.0	88	52.0	50.0	104	66-130	17	20
Bromomethane	ND U	46.0	50.0	92	52.3	50.0	105	53-141	13	20
Carbon Disulfide	ND U	29.8	50.0	60 *	32.7	50.0	65	64-133	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	09/28/16

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-PZ2I-092016	**Units:**	ug/L
Lab Code:	R1609972-008	**Basis:**	NA
Analysis Method:	8260C		

		Matrix Spike RQ1611713-05			Duplicate Matrix Spike RQ1611713-06				
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	47.6	50.0	95	49.9	50.0	100	72-136	5	20
Chlorobenzene	ND U	48.3	50.0	97	46.9	50.0	94	82-118	3	20
Chloroethane	ND U	43.5	50.0	87	44.9	50.0	90	60-138	3	20
Chloroform	0.81 J	47.3	50.0	93	47.7	50.0	94	79-124	<1	20
Chloromethane	ND U	39.0	50.0	78	40.9	50.0	82	50-139	5	20
Dibromochloromethane	ND U	44.7	50.0	89	48.0	50.0	96	74-126	7	20
Dibromomethane	ND U	49.7	50.0	99	51.3	50.0	103	79-123	3	20
Dichlorodifluoromethane (CFC 12)	ND U	45.4	50.0	91	46.7	50.0	93	32-152	3	20
Dichloromethane	ND U	46.8	50.0	94	47.4	50.0	95	74-124	1	20
Ethylbenzene	ND U	48.1	50.0	96	48.1	50.0	96	79-121	<1	20
Hexachlorobutadiene	ND U	45.3	50.0	91	47.9	50.0	96	66-134	6	20
Isopropylbenzene (Cumene)	ND U	44.9	50.0	90	44.5	50.0	89	72-131	<1	20
Methyl tert-Butyl Ether	ND U	45.1	50.0	90	46.4	50.0	93	71-124	3	20
Naphthalene	ND U	39.3	50.0	79	47.4	50.0	95	61-128	19	20
Styrene	ND U	49.0	50.0	98	50.0	50.0	100	78-123	2	20
Tetrachloroethene (PCE)	26	75.4	50.0	99	73.7	50.0	96	74-129	2	20
Toluene	ND U	44.7	50.0	89	45.2	50.0	90	80-121	1	20
Trichloroethene (TCE)	ND U	54.2	50.0	108	54.8	50.0	110	79-123	1	20
Trichlorofluoromethane (CFC 11)	ND U	49.1	50.0	98	49.0	50.0	98	65-141	<1	20
Vinyl Chloride	ND U	44.2	50.0	88	45.5	50.0	91	58-137	3	20
cis-1,2-Dichloroethene	ND U	52.3	50.0	105	51.2	50.0	102	78-123	2	20
cis-1,3-Dichloropropene	ND U	45.7	50.0	91	48.4	50.0	97	75-124	6	20
m,p-Xylenes	ND U	93.9	100	94	98.7	100	99	80-121	5	20
n-Butylbenzene	ND U	45.4	50.0	91	47.2	50.0	94	75-128	4	20
n-Propylbenzene	ND U	43.6	50.0	87	43.9	50.0	88	76-126	<1	20
o-Xylene	ND U	50.6	50.0	101	51.7	50.0	103	78-122	2	20
sec-Butylbenzene	ND U	45.3	50.0	91	46.1	50.0	92	77-126	2	20
tert-Butylbenzene	ND U	47.2	50.0	94	48.1	50.0	96	78-124	2	20
trans-1,2-Dichloroethene	ND U	50.8	50.0	102	51.4	50.0	103	75-124	1	20
trans-1,3-Dichloropropene	ND U	44.6	50.0	89	46.6	50.0	93	73-127	4	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	09/30/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-MWI9-092016	**Units:**	ug/L
Lab Code:	R1609972-020	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1611780-06			RQ1611780-07					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	233	250	93	244	250	98	78-124	5	20
1,1,1-Trichloroethane (TCA)	ND U	208	250	83	226	250	90	74-131	9	20
1,1,2,2-Tetrachloroethane	ND U	235	250	94	250	250	100	71-121	6	20
1,1,2-Trichloroethane	ND U	242	250	97	252	250	101	80-119	4	20
1,1-Dichloroethane (1,1-DCA)	ND U	211	250	84	221	250	89	77-125	5	20
1,1-Dichloroethene (1,1-DCE)	ND U	205	250	82	228	250	91	71-131	11	20
1,1-Dichloropropene	ND U	200	250	80	220	250	88	79-125	10	20
1,2,3-Trichlorobenzene	ND U	247	250	99	261	250	104	69-129	5	20
1,2,3-Trichloropropane	ND U	221	250	88	233	250	93	73-122	6	20
1,2,4-Trichlorobenzene	ND U	245	250	98	264	250	106	69-130	8	20
1,2,4-Trimethylbenzene	43	245	250	81	267	250	90	76-124	9	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	256	250	102	290	250	116	62-128	13	20
1,2-Dibromoethane	ND U	251	250	100	260	250	104	77-121	4	20
1,2-Dichlorobenzene	ND U	223	250	89	242	250	97	80-119	8	20
1,2-Dichloroethane	ND U	229	250	92	247	250	99	73-128	7	20
1,2-Dichloropropane	ND U	217	250	87	235	250	94	78-122	8	20
1,3,5-Trimethylbenzene	170	361	250	78	379	250	85	75-124	5	20
1,3-Dichlorobenzene	ND U	222	250	89	241	250	96	80-119	8	20
1,3-Dichloropropane	ND U	230	250	92	239	250	96	80-119	4	20
1,4-Dichlorobenzene	ND U	216	250	86	234	250	93	79-118	8	20
2,2-Dichloropropane	ND U	207	250	83	230	250	92	60-139	10	20
2-Butanone (MEK)	ND U	224	250	89	230	250	92	56-143	3	20
2-Chlorotoluene	ND U	213	250	85	234	250	94	79-122	10	20
2-Hexanone	ND U	256	250	102	264	250	106	57-139	3	20
4-Chlorotoluene	ND U	223	250	89	249	250	100	78-122	11	20
4-Isopropyltoluene	2.5 J	211	250	83	232	250	92	77-127	10	20
4-Methyl-2-pentanone	ND U	254	250	101	262	250	105	67-130	3	20
Acetone	ND U	219	250	88	240	250	96	39-160	9	20
Benzene	45	261	250	87	285	250	96	79-120	9	20
Bromobenzene	ND U	223	250	89	251	250	101	80-120	12	20
Bromochloromethane	ND U	229	250	92	242	250	97	78-123	5	20
Bromodichloromethane	ND U	207	250	83	232	250	93	79-125	11	20
Bromoform	ND U	258	250	103	280	250	112	66-130	8	20
Bromomethane	ND U	228	250	91	221	250	89	53-141	3	20
Carbon Disulfide	ND U	209	250	84	231	250	93	64-133	10	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	09/30/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-MWI9-092016	**Units:**	ug/L
Lab Code:	R1609972-020	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1611780-06			RQ1611780-07					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	208	250	83	233	250	93	72-136	11	20
Chlorobenzene	ND U	222	250	89	242	250	97	82-118	9	20
Chloroethane	ND U	186	250	74	199	250	79	60-138	7	20
Chloroform	ND U	206	250	82	221	250	88	79-124	7	20
Chloromethane	ND U	168	250	67	186	250	75	50-139	10	20
Dibromochloromethane	ND U	239	250	96	262	250	105	74-126	9	20
Dibromomethane	ND U	239	250	95	251	250	100	79-123	5	20
Dichlorodifluoromethane (CFC 12)	ND U	162	250	65	186	250	75	32-152	14	20
Dichloromethane	ND U	204	250	82	214	250	86	74-124	5	20
Ethylbenzene	830	996	250	67 *	976	250	59 *	79-121	2	20
Hexachlorobutadiene	ND U	214	250	86	228	250	91	66-134	6	20
Isopropylbenzene (Cumene)	37	256	250	88	275	250	96	72-131	7	20
Methyl tert-Butyl Ether	ND U	222	250	89	230	250	92	71-124	4	20
Naphthalene	250	525	250	112	537	250	117	61-128	2	20
Styrene	ND U	252	250	101	266	250	107	78-123	6	20
Tetrachloroethene (PCE)	ND U	220	250	88	238	250	95	74-129	8	20
Toluene	690	870	250	70 *	857	250	65 *	80-121	2	20
Trichloroethene (TCE)	ND U	215	250	86	238	250	95	79-123	10	20
Trichlorofluoromethane (CFC 11)	ND U	214	250	86	225	250	90	65-141	5	20
Vinyl Chloride	ND U	218	250	87	243	250	97	58-137	11	20
cis-1,2-Dichloroethene	ND U	221	250	88	240	250	96	78-123	8	20
cis-1,3-Dichloropropene	ND U	221	250	88	241	250	96	75-124	9	20
m,p-Xylenes	110	551	500	88	588	500	95	80-121	7	20
n-Butylbenzene	ND U	216	250	86	237	250	95	75-128	9	20
n-Propylbenzene	76	272	250	79	298	250	89	76-126	9	20
o-Xylene	470	671	250	79	664	250	77 *	78-122	1	20
sec-Butylbenzene	2.8 J	210	250	83	231	250	91	77-126	9	20
tert-Butylbenzene	ND U	213	250	85	236	250	94	78-124	10	20
trans-1,2-Dichloroethene	ND U	211	250	84	225	250	90	75-124	7	20
trans-1,3-Dichloropropene	ND U	223	250	89	243	250	97	73-127	8	20

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	10/3/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-MWS19-092016	**Units:**	ug/L
Lab Code:	R1609972-013	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1611861-05			Duplicate Matrix Spike RQ1611861-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	53.6	50.0	107	56.6	50.0	113	78-124	5	20
1,1,1-Trichloroethane (TCA)	ND U	50.7	50.0	101	52.9	50.0	106	74-131	4	20
1,1,2,2-Tetrachloroethane	ND U	45.7	50.0	91	49.8	50.0	100	71-121	9	20
1,1,2-Trichloroethane	ND U	48.1	50.0	96	50.2	50.0	100	80-119	4	20
1,1-Dichloroethane (1,1-DCA)	ND U	47.4	50.0	95	49.4	50.0	99	77-125	4	20
1,1-Dichloroethene (1,1-DCE)	ND U	51.3	50.0	103	53.2	50.0	106	71-131	4	20
1,1-Dichloropropene	ND U	51.2	50.0	102	53.4	50.0	107	79-125	4	20
1,2,3-Trichlorobenzene	ND U	51.4	50.0	103	55.5	50.0	111	69-129	8	20
1,2,3-Trichloropropane	ND U	41.2	50.0	82	45.8	50.0	92	73-122	11	20
1,2,4-Trichlorobenzene	ND U	52.6	50.0	105	56.7	50.0	113	69-130	8	20
1,2,4-Trimethylbenzene	ND U	49.5	50.0	99	52.2	50.0	104	76-124	5	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	48.3	50.0	97	54.8	50.0	110	62-128	13	20
1,2-Dibromoethane	ND U	50.7	50.0	101	53.7	50.0	107	77-121	6	20
1,2-Dichlorobenzene	ND U	49.2	50.0	98	51.5	50.0	103	80-119	5	20
1,2-Dichloroethane	ND U	47.2	50.0	94	50.9	50.0	102	73-128	8	20
1,2-Dichloropropane	ND U	48.3	50.0	97	50.3	50.0	101	78-122	4	20
1,3,5-Trimethylbenzene	ND U	52.3	50.0	105	55.6	50.0	111	75-124	6	20
1,3-Dichlorobenzene	ND U	50.8	50.0	102	53.0	50.0	106	80-119	4	20
1,3-Dichloropropane	ND U	46.3	50.0	93	49.5	50.0	99	80-119	7	20
1,4-Dichlorobenzene	ND U	49.0	50.0	98	51.6	50.0	103	79-118	5	20
2,2-Dichloropropane	ND U	47.0	50.0	94	48.5	50.0	97	60-139	3	20
2-Butanone (MEK)	ND U	39.2	50.0	78	43.8	50.0	88	56-143	11	20
2-Chlorotoluene	ND U	50.9	50.0	102	52.6	50.0	105	79-122	3	20
2-Hexanone	ND U	46.0	50.0	92	52.7	50.0	105	57-139	14	20
4-Chlorotoluene	ND U	49.9	50.0	100	52.4	50.0	105	78-122	5	20
4-Isopropyltoluene	ND U	50.5	50.0	101	55.2	50.0	110	77-127	9	20
4-Methyl-2-pentanone	ND U	46.5	50.0	93	50.9	50.0	102	67-130	9	20
Acetone	3.0 J	41.3	50.0	76	47.3	50.0	88	39-160	14	20
Benzene	ND U	52.0	50.0	104	55.1	50.0	110	79-120	6	20
Bromobenzene	ND U	51.1	50.0	102	54.6	50.0	109	80-120	7	20
Bromochloromethane	ND U	48.6	50.0	97	51.1	50.0	102	78-123	5	20
Bromodichloromethane	ND U	46.2	50.0	92	49.6	50.0	99	79-125	7	20
Bromoform	ND U	52.5	50.0	105	57.8	50.0	116	66-130	10	20
Bromomethane	ND U	56.2	50.0	112	52.4	50.0	105	53-141	7	20
Carbon Disulfide	ND U	49.3	50.0	99	51.5	50.0	103	64-133	4	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	10/3/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	3805-MWS19-092016	**Units:**	ug/L
Lab Code:	R1609972-013	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1611861-05			Duplicate Matrix Spike RQ1611861-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	55.3	50.0	111	59.0	50.0	118	72-136	6	20
Chlorobenzene	ND U	51.7	50.0	103	54.6	50.0	109	82-118	6	20
Chloroethane	ND U	44.2	50.0	88	45.8	50.0	92	60-138	3	20
Chloroform	ND U	45.2	50.0	90	48.2	50.0	96	79-124	6	20
Chloromethane	ND U	40.6	50.0	81	44.7	50.0	89	50-139	10	20
Dibromochloromethane	ND U	51.1	50.0	102	55.4	50.0	111	74-126	8	20
Dibromomethane	ND U	48.5	50.0	97	51.6	50.0	103	79-123	6	20
Dichlorodifluoromethane (CFC 12)	ND U	39.7	50.0	79	43.9	50.0	88	32-152	10	20
Dichloromethane	ND U	43.1	50.0	86	44.8	50.0	90	74-124	4	20
Ethylbenzene	ND U	53.8	50.0	108	57.1	50.0	114	79-121	6	20
Hexachlorobutadiene	ND U	46.5	50.0	93	56.4	50.0	113	66-134	19	20
Isopropylbenzene (Cumene)	ND U	55.3	50.0	111	58.7	50.0	117	72-131	6	20
Methyl tert-Butyl Ether	ND U	41.1	50.0	82	44.5	50.0	89	71-124	8	20
Naphthalene	ND U	51.3	50.0	103	54.0	50.0	108	61-128	5	20
Styrene	ND U	53.2	50.0	106	56.8	50.0	114	78-123	7	20
Tetrachloroethene (PCE)	ND U	57.7	50.0	115	59.5	50.0	119	74-129	3	20
Toluene	ND U	51.7	50.0	103	54.5	50.0	109	80-121	5	20
Trichloroethene (TCE)	ND U	54.6	50.0	109	57.6	50.0	115	79-123	5	20
Trichlorofluoromethane (CFC 11)	ND U	52.7	50.0	105	55.7	50.0	111	65-141	6	20
Vinyl Chloride	ND U	53.4	50.0	107	56.5	50.0	113	58-137	6	20
cis-1,2-Dichloroethene	ND U	48.6	50.0	97	51.1	50.0	102	78-123	5	20
cis-1,3-Dichloropropene	ND U	48.1	50.0	96	51.0	50.0	102	75-124	6	20
m,p-Xylenes	ND U	109	100	109	114	100	114	80-121	5	20
n-Butylbenzene	ND U	48.2	50.0	96	52.8	50.0	106	75-128	9	20
n-Propylbenzene	ND U	51.6	50.0	103	54.2	50.0	108	76-126	5	20
o-Xylene	ND U	54.4	50.0	109	57.3	50.0	115	78-122	5	20
sec-Butylbenzene	ND U	51.7	50.0	103	55.0	50.0	110	77-126	6	20
tert-Butylbenzene	ND U	53.2	50.0	106	55.8	50.0	112	78-124	5	20
trans-1,2-Dichloroethene	ND U	48.7	50.0	97	50.4	50.0	101	75-124	3	20
trans-1,3-Dichloropropene	ND U	45.9	50.0	92	50.3	50.0	101	73-127	9	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	10/4/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	OSL-MW3-092016	**Units:**	ug/L
Lab Code:	R1609972-014	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1611922-05			RQ1611922-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	242	250	97	251	250	100	78-124	4	20
1,1,1-Trichloroethane (TCA)	ND U	193	250	77	200	250	80	74-131	4	20
1,1,2,2-Tetrachloroethane	ND U	237	250	95	252	250	101	71-121	6	20
1,1,2-Trichloroethane	ND U	254	250	102	253	250	101	80-119	<1	20
1,1-Dichloroethane (1,1-DCA)	ND U	202	250	81	209	250	84	77-125	4	20
1,1-Dichloroethene (1,1-DCE)	ND U	195	250	78	199	250	80	71-131	2	20
1,1-Dichloropropene	ND U	191	250	76 *	195	250	78 *	79-125	2	20
1,2,3-Trichlorobenzene	ND U	238	250	95	247	250	99	69-129	4	20
1,2,3-Trichloropropane	ND U	223	250	89	231	250	92	73-122	4	20
1,2,4-Trichlorobenzene	ND U	237	250	95	243	250	97	69-130	3	20
1,2,4-Trimethylbenzene	320 D	504	250	74 *	503	250	73 *	76-124	<1	20
1,2-Dibromo-3-chloropropane (DBCP)	ND U	264	250	106	292	250	117	62-128	10	20
1,2-Dibromoethane	ND U	258	250	103	270	250	108	77-121	4	20
1,2-Dichlorobenzene	ND U	228	250	91	239	250	96	80-119	5	20
1,2-Dichloroethane	ND U	240	250	96	239	250	96	73-128	<1	20
1,2-Dichloropropane	ND U	224	250	89	228	250	91	78-122	2	20
1,3,5-Trimethylbenzene	67 D	267	250	80	273	250	82	75-124	2	20
1,3-Dichlorobenzene	ND U	223	250	89	233	250	93	80-119	4	20
1,3-Dichloropropane	ND U	235	250	94	248	250	99	80-119	5	20
1,4-Dichlorobenzene	ND U	218	250	87	229	250	92	79-118	5	20
2,2-Dichloropropane	ND U	164	250	66	174	250	70	60-139	6	20
2-Butanone (MEK)	ND U	227	250	91	236	250	94	56-143	4	20
2-Chlorotoluene	ND U	242	250	97	252	250	101	79-122	4	20
2-Hexanone	ND U	257	250	103	276	250	110	57-139	7	20
4-Chlorotoluene	ND U	213	250	85	225	250	90	78-122	5	20
4-Isopropyltoluene	2.6 DJ	196	250	77	204	250	81	77-127	4	20
4-Methyl-2-pentanone	ND U	264	250	106	265	250	106	67-130	<1	20
Acetone	ND U	231	250	92	232	250	93	39-160	<1	20
Benzene	ND U	226	250	91	231	250	92	79-120	2	20
Bromobenzene	ND U	241	250	96	251	250	100	80-120	4	20
Bromochloromethane	ND U	237	250	95	238	250	95	78-123	<1	20
Bromodichloromethane	ND U	223	250	89	226	250	91	79-125	1	20
Bromoform	ND U	269	250	108	282	250	113	66-130	5	20
Bromomethane	ND U	211	250	84	198	250	79	53-141	6	20
Carbon Disulfide	ND U	190	250	76	186	250	74	64-133	2	20

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Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	10/4/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	OSL-MW3-092016	**Units:**	ug/L
Lab Code:	R1609972-014	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1611922-05			**Duplicate Matrix Spike** RQ1611922-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon Tetrachloride	ND U	203	250	81	206	250	82	72-136	1	20
Chlorobenzene	ND U	226	250	90	238	250	95	82-118	5	20
Chloroethane	ND U	184	250	74	182	250	73	60-138	<1	20
Chloroform	ND U	199	250	80	209	250	84	79-124	5	20
Chloromethane	ND U	166	250	67	169	250	68	50-139	2	20
Dibromochloromethane	ND U	253	250	101	266	250	106	74-126	5	20
Dibromomethane	ND U	250	250	100	245	250	98	79-123	2	20
Dichlorodifluoromethane (CFC 12)	ND U	153	250	61	153	250	61	32-152	<1	20
Dichloromethane	ND U	200	250	80	206	250	82	74-124	3	20
Ethylbenzene	77 D	294	250	87	295	250	87	79-121	<1	20
Hexachlorobutadiene	ND U	177	250	71	191	250	76	66-134	7	20
Isopropylbenzene (Cumene)	11 DJ	225	250	86	229	250	87	72-131	2	20
Methyl tert-Butyl Ether	ND U	212	250	85	222	250	89	71-124	4	20
Naphthalene	20 DJ	281	250	104	301	250	112	61-128	7	20
Styrene	1.3 DJ	236	250	94	251	250	100	78-123	6	20
Tetrachloroethene (PCE)	ND U	204	250	82	221	250	88	74-129	8	20
Toluene	27 D	243	250	87	243	250	87	80-121	<1	20
Trichloroethene (TCE)	ND U	224	250	90	224	250	90	79-123	<1	20
Trichlorofluoromethane (CFC 11)	ND U	190	250	76	203	250	81	65-141	7	20
Vinyl Chloride	ND U	210	250	84	209	250	83	58-137	<1	20
cis-1,2-Dichloroethene	ND U	220	250	88	222	250	89	78-123	1	20
cis-1,3-Dichloropropene	ND U	226	250	90	232	250	93	75-124	3	20
m,p-Xylenes	160 D	589	500	86	598	500	87	80-121	1	20
n-Butylbenzene	2.1 DJ	187	250	74 *	194	250	77	75-128	4	20
n-Propylbenzene	27 D	220	250	77	230	250	81	76-126	4	20
o-Xylene	35 D	263	250	92	272	250	95	78-122	3	20
sec-Butylbenzene	2.3 DJ	194	250	77	199	250	79	77-126	3	20
tert-Butylbenzene	ND U	201	250	80	211	250	84	78-124	5	20
trans-1,2-Dichloroethene	ND U	200	250	80	209	250	84	75-124	4	20
trans-1,3-Dichloropropene	ND U	223	250	89	233	250	93	73-127	4	20

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Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611713-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 11:20	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 11:20	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 11:20	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 11:20	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 11:20	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 11:20	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 11:20	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 11:20	
1,2,4-Trichlorobenzene	**0.25 J**	5.0	1.0	0.23	1	09/28/16 11:20	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 11:20	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 11:20	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 11:20	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 11:20	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 11:20	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 11:20	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 11:20	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 11:20	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 11:20	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 11:20	
Acetone	ND U	10	5.0	1.3	1	09/28/16 11:20	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 11:20	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 11:20	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 11:20	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 11:20	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 11:20	
Bromomethane	**0.34 J**	5.0	1.0	0.29	1	09/28/16 11:20	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 11:20	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 11:20	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 11:20	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 11:20	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 11:20	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 11:20	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 11:20	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 11:20	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 11:20	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611713-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/28/16 11:20	
Ethylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/28/16 11:20	
Isopropylbenzene (Cumene)	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/28/16 11:20	
Naphthalene	**0.27**	**J**	5.0	1.0	0.20	1	09/28/16 11:20	
Styrene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/28/16 11:20	
Toluene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/28/16 11:20	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/28/16 11:20	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/28/16 11:20	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/28/16 11:20	
m,p-Xylenes	ND	U	5.0	2.0	0.33	1	09/28/16 11:20	
n-Butylbenzene	ND	U	5.0	1.0	0.21	1	09/28/16 11:20	
n-Propylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
o-Xylene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
sec-Butylbenzene	ND	U	5.0	1.0	0.27	1	09/28/16 11:20	
tert-Butylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/28/16 11:20	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/28/16 11:20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 114	09/28/16 11:20	
Dibromofluoromethane	105	80 - 119	09/28/16 11:20	
Toluene-d8	107	89 - 112	09/28/16 11:20	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611780-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/30/16 10:47	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/30/16 10:47	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/30/16 10:47	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/30/16 10:47	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/30/16 10:47	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/30/16 10:47	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/30/16 10:47	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/30/16 10:47	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/30/16 10:47	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/30/16 10:47	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/30/16 10:47	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
2-Hexanone	ND U	10	5.0	1.7	1	09/30/16 10:47	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/30/16 10:47	
Acetone	ND U	10	5.0	1.3	1	09/30/16 10:47	
Benzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/30/16 10:47	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Bromoform	ND U	5.0	1.0	0.42	1	09/30/16 10:47	
Bromomethane	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/30/16 10:47	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/30/16 10:47	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Chloroethane	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
Chloroform	ND U	5.0	1.0	0.25	1	09/30/16 10:47	
Chloromethane	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/30/16 10:47	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/30/16 10:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611780-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/30/16 10:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/30/16 10:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Naphthalene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Styrene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/30/16 10:47	
Toluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/30/16 10:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/30/16 10:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/30/16 10:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
o-Xylene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/30/16 10:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 114	09/30/16 10:47	
Dibromofluoromethane	99	80 - 119	09/30/16 10:47	
Toluene-d8	102	89 - 112	09/30/16 10:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611861-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 11:26	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 11:26	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 11:26	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 11:26	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 11:26	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 11:26	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 11:26	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 11:26	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 11:26	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 11:26	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 11:26	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 11:26	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 11:26	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 11:26	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 11:26	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 11:26	
Acetone	ND U	10	5.0	1.3	1	10/03/16 11:26	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 11:26	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 11:26	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 11:26	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 11:26	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 11:26	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 11:26	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 11:26	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 11:26	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611861-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 11:26	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 11:26	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 11:26	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 11:26	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 11:26	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 11:26	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 11:26	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 11:26	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 11:26	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	10/03/16 11:26	
Dibromofluoromethane	99	80 - 119	10/03/16 11:26	
Toluene-d8	100	89 - 112	10/03/16 11:26	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611922-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/04/16 11:58	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/04/16 11:58	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/04/16 11:58	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/04/16 11:58	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/04/16 11:58	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/04/16 11:58	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/04/16 11:58	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/04/16 11:58	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/04/16 11:58	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/04/16 11:58	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/04/16 11:58	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/04/16 11:58	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/04/16 11:58	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 11:58	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/04/16 11:58	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/04/16 11:58	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
2-Hexanone	ND U	10	5.0	1.7	1	10/04/16 11:58	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/04/16 11:58	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/04/16 11:58	
Acetone	ND U	10	5.0	1.3	1	10/04/16 11:58	
Benzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/04/16 11:58	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/04/16 11:58	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/04/16 11:58	
Bromoform	ND U	5.0	1.0	0.42	1	10/04/16 11:58	
Bromomethane	ND U	5.0	1.0	0.29	1	10/04/16 11:58	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/04/16 11:58	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/04/16 11:58	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/04/16 11:58	
Chloroethane	ND U	5.0	1.0	0.24	1	10/04/16 11:58	
Chloroform	ND U	5.0	1.0	0.25	1	10/04/16 11:58	
Chloromethane	ND U	5.0	1.0	0.21	1	10/04/16 11:58	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/04/16 11:58	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/04/16 11:58	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/04/16 11:58	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609972
Project:	Fort Drum, NY BWM Fall/GP14DRUM.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611922-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/04/16 11:58	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/04/16 11:58	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/04/16 11:58	
Naphthalene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
Styrene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/04/16 11:58	
Toluene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/04/16 11:58	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/04/16 11:58	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/04/16 11:58	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/04/16 11:58	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/04/16 11:58	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/04/16 11:58	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
o-Xylene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/04/16 11:58	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/04/16 11:58	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/04/16 11:58	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	10/04/16 11:58	
Dibromofluoromethane	98	80 - 119	10/04/16 11:58	
Toluene-d8	98	89 - 112	10/04/16 11:58	

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 09/28/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611713-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	21.7	20.0	109	78-124
1,1,1-Trichloroethane (TCA)	8260C	20.8	20.0	104	74-131
1,1,2,2-Tetrachloroethane	8260C	20.4	20.0	102	71-121
1,1,2-Trichloroethane	8260C	21.4	20.0	107	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	21.1	20.0	105	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.0	20.0	100	71-131
1,1-Dichloropropene	8260C	20.4	20.0	102	79-125
1,2,3-Trichlorobenzene	8260C	21.4	20.0	107	69-129
1,2,3-Trichloropropane	8260C	19.1	20.0	95	73-122
1,2,4-Trichlorobenzene	8260C	20.4	20.0	102	69-130
1,2,4-Trimethylbenzene	8260C	20.1	20.0	100	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	19.4	20.0	97	62-128
1,2-Dibromoethane	8260C	21.4	20.0	107	77-121
1,2-Dichlorobenzene	8260C	20.0	20.0	100	80-119
1,2-Dichloroethane	8260C	20.5	20.0	102	73-128
1,2-Dichloropropane	8260C	21.8	20.0	109	78-122
1,3,5-Trimethylbenzene	8260C	19.8	20.0	99	75-124
1,3-Dichlorobenzene	8260C	19.9	20.0	100	80-119
1,3-Dichloropropane	8260C	22.1	20.0	110	80-119
1,4-Dichlorobenzene	8260C	20.5	20.0	103	79-118
2,2-Dichloropropane	8260C	19.0	20.0	95	60-139
2-Butanone (MEK)	8260C	19.7	20.0	98	56-143
2-Chlorotoluene	8260C	19.6	20.0	98	79-122
2-Hexanone	8260C	19.3	20.0	97	57-139
4-Chlorotoluene	8260C	19.9	20.0	100	78-122
4-Isopropyltoluene	8260C	20.2	20.0	101	77-127
4-Methyl-2-pentanone	8260C	19.5	20.0	97	67-130
Acetone	8260C	22.6	20.0	113	39-160
Benzene	8260C	20.5	20.0	102	79-120
Bromobenzene	8260C	19.3	20.0	96	80-120
Bromochloromethane	8260C	21.6	20.0	108	78-123
Bromodichloromethane	8260C	19.7	20.0	99	79-125
Bromoform	8260C	22.3	20.0	111	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 09/28/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611713-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	20.4	20.0	102	53-141
Carbon Disulfide	8260C	19.8	20.0	99	64-133
Carbon Tetrachloride	8260C	20.5	20.0	102	72-136
Chlorobenzene	8260C	20.7	20.0	104	82-118
Chloroethane	8260C	18.5	20.0	92	60-138
Chloroform	8260C	19.5	20.0	98	79-124
Chloromethane	8260C	16.5	20.0	83	50-139
Dibromochloromethane	8260C	21.5	20.0	107	74-126
Dibromomethane	8260C	21.3	20.0	106	79-123
Dichlorodifluoromethane (CFC 12)	8260C	19.7	20.0	99	32-152
Dichloromethane	8260C	19.1	20.0	95	74-124
Ethylbenzene	8260C	20.6	20.0	103	79-121
Hexachlorobutadiene	8260C	20.6	20.0	103	66-134
Isopropylbenzene (Cumene)	8260C	20.1	20.0	101	72-131
Methyl tert-Butyl Ether	8260C	21.1	20.0	106	71-124
Naphthalene	8260C	21.1	20.0	105	61-128
Styrene	8260C	21.7	20.0	109	78-123
Tetrachloroethene (PCE)	8260C	20.7	20.0	103	74-129
Toluene	8260C	19.6	20.0	98	80-121
Trichloroethene (TCE)	8260C	21.9	20.0	109	79-123
Trichlorofluoromethane (CFC 11)	8260C	19.9	20.0	99	65-141
Vinyl Chloride	8260C	18.6	20.0	93	58-137
cis-1,2-Dichloroethene	8260C	20.3	20.0	101	78-123
cis-1,3-Dichloropropene	8260C	20.5	20.0	102	75-124
m,p-Xylenes	8260C	41.6	40.0	104	80-121
n-Butylbenzene	8260C	20.5	20.0	103	75-128
n-Propylbenzene	8260C	19.6	20.0	98	76-126
o-Xylene	8260C	21.9	20.0	110	78-122
sec-Butylbenzene	8260C	20.1	20.0	101	77-126
tert-Butylbenzene	8260C	20.4	20.0	102	78-124
trans-1,2-Dichloroethene	8260C	21.7	20.0	109	75-124
trans-1,3-Dichloropropene	8260C	19.9	20.0	99	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 09/30/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611780-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.2	20.0	101	78-124
1,1,1-Trichloroethane (TCA)	8260C	21.1	20.0	105	74-131
1,1,2,2-Tetrachloroethane	8260C	19.5	20.0	97	71-121
1,1,2-Trichloroethane	8260C	19.8	20.0	99	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	19.6	20.0	98	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.9	20.0	104	71-131
1,1-Dichloropropene	8260C	20.4	20.0	102	79-125
1,2,3-Trichlorobenzene	8260C	19.3	20.0	97	69-129
1,2,3-Trichloropropane	8260C	18.6	20.0	93	73-122
1,2,4-Trichlorobenzene	8260C	21.2	20.0	106	69-130
1,2,4-Trimethylbenzene	8260C	20.6	20.0	103	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	22.1	20.0	111	62-128
1,2-Dibromoethane	8260C	19.9	20.0	100	77-121
1,2-Dichlorobenzene	8260C	20.5	20.0	103	80-119
1,2-Dichloroethane	8260C	19.7	20.0	98	73-128
1,2-Dichloropropane	8260C	19.7	20.0	98	78-122
1,3,5-Trimethylbenzene	8260C	21.4	20.0	107	75-124
1,3-Dichlorobenzene	8260C	20.4	20.0	102	80-119
1,3-Dichloropropane	8260C	19.2	20.0	96	80-119
1,4-Dichlorobenzene	8260C	20.6	20.0	103	79-118
2,2-Dichloropropane	8260C	21.6	20.0	108	60-139
2-Butanone (MEK)	8260C	17.3	20.0	86	56-143
2-Chlorotoluene	8260C	20.7	20.0	103	79-122
2-Hexanone	8260C	17.7	20.0	88	57-139
4-Chlorotoluene	8260C	20.8	20.0	104	78-122
4-Isopropyltoluene	8260C	21.6	20.0	108	77-127
4-Methyl-2-pentanone	8260C	18.2	20.0	91	67-130
Acetone	8260C	16.6	20.0	83	39-160
Benzene	8260C	21.1	20.0	106	79-120
Bromobenzene	8260C	21.4	20.0	107	80-120
Bromochloromethane	8260C	20.3	20.0	101	78-123
Bromodichloromethane	8260C	18.7	20.0	93	79-125
Bromoform	8260C	21.8	20.0	109	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 09/30/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611780-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	22.2	20.0	111	53-141
Carbon Disulfide	8260C	18.3	20.0	92	64-133
Carbon Tetrachloride	8260C	20.6	20.0	103	72-136
Chlorobenzene	8260C	20.5	20.0	103	82-118
Chloroethane	8260C	18.2	20.0	91	60-138
Chloroform	8260C	18.7	20.0	94	79-124
Chloromethane	8260C	17.3	20.0	87	50-139
Dibromochloromethane	8260C	20.4	20.0	102	74-126
Dibromomethane	8260C	19.6	20.0	98	79-123
Dichlorodifluoromethane (CFC 12)	8260C	18.0	20.0	90	32-152
Dichloromethane	8260C	19.2	20.0	96	74-124
Ethylbenzene	8260C	21.0	20.0	105	79-121
Hexachlorobutadiene	8260C	21.5	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	21.9	20.0	109	72-131
Methyl tert-Butyl Ether	8260C	18.5	20.0	92	71-124
Naphthalene	8260C	20.1	20.0	101	61-128
Styrene	8260C	21.3	20.0	107	78-123
Tetrachloroethene (PCE)	8260C	21.5	20.0	107	74-129
Toluene	8260C	20.2	20.0	101	80-121
Trichloroethene (TCE)	8260C	21.3	20.0	107	79-123
Trichlorofluoromethane (CFC 11)	8260C	22.5	20.0	113	65-141
Vinyl Chloride	8260C	22.9	20.0	115	58-137
cis-1,2-Dichloroethene	8260C	20.6	20.0	103	78-123
cis-1,3-Dichloropropene	8260C	19.5	20.0	97	75-124
m,p-Xylenes	8260C	43.1	40.0	108	80-121
n-Butylbenzene	8260C	21.5	20.0	107	75-128
n-Propylbenzene	8260C	21.6	20.0	108	76-126
o-Xylene	8260C	21.5	20.0	107	78-122
sec-Butylbenzene	8260C	21.8	20.0	109	77-126
tert-Butylbenzene	8260C	21.9	20.0	110	78-124
trans-1,2-Dichloroethene	8260C	20.3	20.0	101	75-124
trans-1,3-Dichloropropene	8260C	19.0	20.0	95	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 10/03/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611861-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.6	20.0	103	78-124
1,1,1-Trichloroethane (TCA)	8260C	19.1	20.0	95	74-131
1,1,2,2-Tetrachloroethane	8260C	19.2	20.0	96	71-121
1,1,2-Trichloroethane	8260C	20.4	20.0	102	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	18.9	20.0	94	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.0	20.0	100	71-131
1,1-Dichloropropene	8260C	19.9	20.0	99	79-125
1,2,3-Trichlorobenzene	8260C	19.2	20.0	96	69-129
1,2,3-Trichloropropane	8260C	18.2	20.0	91	73-122
1,2,4-Trichlorobenzene	8260C	20.8	20.0	104	69-130
1,2,4-Trimethylbenzene	8260C	20.2	20.0	101	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	20.2	20.0	101	62-128
1,2-Dibromoethane	8260C	20.6	20.0	103	77-121
1,2-Dichlorobenzene	8260C	20.8	20.0	104	80-119
1,2-Dichloroethane	8260C	20.4	20.0	102	73-128
1,2-Dichloropropane	8260C	19.7	20.0	99	78-122
1,3,5-Trimethylbenzene	8260C	21.1	20.0	106	75-124
1,3-Dichlorobenzene	8260C	21.1	20.0	105	80-119
1,3-Dichloropropane	8260C	19.9	20.0	100	80-119
1,4-Dichlorobenzene	8260C	20.7	20.0	103	79-118
2,2-Dichloropropane	8260C	19.8	20.0	99	60-139
2-Butanone (MEK)	8260C	16.5	20.0	82	56-143
2-Chlorotoluene	8260C	20.3	20.0	102	79-122
2-Hexanone	8260C	17.3	20.0	87	57-139
4-Chlorotoluene	8260C	20.3	20.0	102	78-122
4-Isopropyltoluene	8260C	20.6	20.0	103	77-127
4-Methyl-2-pentanone	8260C	16.9	20.0	84	67-130
Acetone	8260C	15.4	20.0	77	39-160
Benzene	8260C	20.9	20.0	104	79-120
Bromobenzene	8260C	21.6	20.0	108	80-120
Bromochloromethane	8260C	20.4	20.0	102	78-123
Bromodichloromethane	8260C	19.0	20.0	95	79-125
Bromoform	8260C	22.5	20.0	113	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 10/03/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611861-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	18.5	20.0	92	53-141
Carbon Disulfide	8260C	14.4	20.0	72	64-133
Carbon Tetrachloride	8260C	20.8	20.0	104	72-136
Chlorobenzene	8260C	20.7	20.0	104	82-118
Chloroethane	8260C	17.5	20.0	87	60-138
Chloroform	8260C	18.5	20.0	93	79-124
Chloromethane	8260C	15.9	20.0	80	50-139
Dibromochloromethane	8260C	21.8	20.0	109	74-126
Dibromomethane	8260C	20.3	20.0	102	79-123
Dichlorodifluoromethane (CFC 12)	8260C	16.2	20.0	81	32-152
Dichloromethane	8260C	17.7	20.0	89	74-124
Ethylbenzene	8260C	20.7	20.0	103	79-121
Hexachlorobutadiene	8260C	21.6	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	20.7	20.0	104	72-131
Methyl tert-Butyl Ether	8260C	18.0	20.0	90	71-124
Naphthalene	8260C	19.0	20.0	95	61-128
Styrene	8260C	21.1	20.0	106	78-123
Tetrachloroethene (PCE)	8260C	21.1	20.0	106	74-129
Toluene	8260C	20.4	20.0	102	80-121
Trichloroethene (TCE)	8260C	21.8	20.0	109	79-123
Trichlorofluoromethane (CFC 11)	8260C	20.7	20.0	103	65-141
Vinyl Chloride	8260C	20.2	20.0	101	58-137
cis-1,2-Dichloroethene	8260C	19.5	20.0	98	78-123
cis-1,3-Dichloropropene	8260C	20.3	20.0	101	75-124
m,p-Xylenes	8260C	41.4	40.0	103	80-121
n-Butylbenzene	8260C	19.9	20.0	100	75-128
n-Propylbenzene	8260C	20.4	20.0	102	76-126
o-Xylene	8260C	20.9	20.0	104	78-122
sec-Butylbenzene	8260C	20.8	20.0	104	77-126
tert-Butylbenzene	8260C	20.7	20.0	103	78-124
trans-1,2-Dichloroethene	8260C	20.0	20.0	100	75-124
trans-1,3-Dichloropropene	8260C	19.4	20.0	97	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 10/04/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611922-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	19.1	20.0	96	78-124
1,1,1-Trichloroethane (TCA)	8260C	16.2	20.0	81	74-131
1,1,2,2-Tetrachloroethane	8260C	18.8	20.0	94	71-121
1,1,2-Trichloroethane	8260C	19.2	20.0	96	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	16.9	20.0	84	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	17.1	20.0	86	71-131
1,1-Dichloropropene	8260C	17.0	20.0	85	79-125
1,2,3-Trichlorobenzene	8260C	17.7	20.0	89	69-129
1,2,3-Trichloropropane	8260C	17.8	20.0	89	73-122
1,2,4-Trichlorobenzene	8260C	18.9	20.0	94	69-130
1,2,4-Trimethylbenzene	8260C	17.5	20.0	87	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	18.6	20.0	93	62-128
1,2-Dibromoethane	8260C	20.2	20.0	101	77-121
1,2-Dichlorobenzene	8260C	19.0	20.0	95	80-119
1,2-Dichloroethane	8260C	18.6	20.0	93	73-128
1,2-Dichloropropane	8260C	17.7	20.0	88	78-122
1,3,5-Trimethylbenzene	8260C	18.1	20.0	91	75-124
1,3-Dichlorobenzene	8260C	18.4	20.0	92	80-119
1,3-Dichloropropane	8260C	18.5	20.0	93	80-119
1,4-Dichlorobenzene	8260C	18.5	20.0	92	79-118
2,2-Dichloropropane	8260C	17.8	20.0	89	60-139
2-Butanone (MEK)	8260C	17.0	20.0	85	56-143
2-Chlorotoluene	8260C	18.2	20.0	91	79-122
2-Hexanone	8260C	18.7	20.0	94	57-139
4-Chlorotoluene	8260C	17.9	20.0	89	78-122
4-Isopropyltoluene	8260C	18.1	20.0	90	77-127
4-Methyl-2-pentanone	8260C	18.5	20.0	93	67-130
Acetone	8260C	20.6	20.0	103	39-160
Benzene	8260C	18.5	20.0	93	79-120
Bromobenzene	8260C	19.4	20.0	97	80-120
Bromochloromethane	8260C	18.8	20.0	94	78-123
Bromodichloromethane	8260C	17.1	20.0	86	79-125
Bromoform	8260C	21.2	20.0	106	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609972
Project: Fort Drum, NY BWM Fall/GP14DRUM.RIFS **Date Analyzed:** 10/04/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611922-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	18.4	20.0	92	53-141
Carbon Disulfide	8260C	19.1	20.0	95	64-133
Carbon Tetrachloride	8260C	18.1	20.0	90	72-136
Chlorobenzene	8260C	18.3	20.0	92	82-118
Chloroethane	8260C	15.1	20.0	76	60-138
Chloroform	8260C	16.2	20.0	81	79-124
Chloromethane	8260C	14.6	20.0	73	50-139
Dibromochloromethane	8260C	19.7	20.0	98	74-126
Dibromomethane	8260C	18.6	20.0	93	79-123
Dichlorodifluoromethane (CFC 12)	8260C	13.7	20.0	68	32-152
Dichloromethane	8260C	16.4	20.0	82	74-124
Ethylbenzene	8260C	18.2	20.0	91	79-121
Hexachlorobutadiene	8260C	19.7	20.0	98	66-134
Isopropylbenzene (Cumene)	8260C	18.2	20.0	91	72-131
Methyl tert-Butyl Ether	8260C	16.8	20.0	84	71-124
Naphthalene	8260C	17.4	20.0	87	61-128
Styrene	8260C	18.5	20.0	93	78-123
Tetrachloroethene (PCE)	8260C	19.1	20.0	96	74-129
Toluene	8260C	17.8	20.0	89	80-121
Trichloroethene (TCE)	8260C	18.8	20.0	94	79-123
Trichlorofluoromethane (CFC 11)	8260C	17.8	20.0	89	65-141
Vinyl Chloride	8260C	17.9	20.0	90	58-137
cis-1,2-Dichloroethene	8260C	17.7	20.0	89	78-123
cis-1,3-Dichloropropene	8260C	18.2	20.0	91	75-124
m,p-Xylenes	8260C	37.2	40.0	93	80-121
n-Butylbenzene	8260C	17.3	20.0	86	75-128
n-Propylbenzene	8260C	18.0	20.0	90	76-126
o-Xylene	8260C	18.8	20.0	94	78-122
sec-Butylbenzene	8260C	17.7	20.0	89	77-126
tert-Butylbenzene	8260C	18.1	20.0	90	78-124
trans-1,2-Dichloroethene	8260C	17.0	20.0	85	75-124
trans-1,3-Dichloropropene	8260C	17.9	20.0	90	73-127

November 02, 2016 Service Request No:R1609973

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 21, 2016
For your reference, these analyses have been assigned our service request number **R1609973.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY/Basewide Monitoring
Sample Matrix: Water

Service Request:R1609973
Date Received:9/21/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Twenty two water samples were received for analysis at ALS Environmental on 09/21/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260c, 09/28/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Approved by _____ Date 11/2/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 2140-MW14-092016	Lab ID: R1609973-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,4-Dichlorobenzene	0.21	J	0.20	5.0	ug/L	8260C
Acetone	2.9	J	1.3	10	ug/L	8260C

CLIENT ID: 2140-MW13-092016	Lab ID: R1609973-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	3.2	J	1.3	10	ug/L	8260C

CLIENT ID: 2140-MW12-092016	Lab ID: R1609973-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.7	J	1.3	10	ug/L	8260C

CLIENT ID: 2140-MW19-092016	Lab ID: R1609973-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	3.5	J	1.3	10	ug/L	8260C

CLIENT ID: 2140-MW16-092016	Lab ID: R1609973-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.7	J	1.3	10	ug/L	8260C

CLIENT ID: 1795-MWS1-092016	Lab ID: R1609973-013					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
2-Butanone (MEK)	0.98	J	0.81	10	ug/L	8260C
Acetone	2.0	J	1.3	10	ug/L	8260C

CLIENT ID: 1795-MWII-006-092016	Lab ID: R1609973-014					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.9	J	1.3	10	ug/L	8260C

CLIENT ID: 1795-MWS21-092016	Lab ID: R1609973-015					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.9	J	1.3	10	ug/L	8260C

CLIENT ID: 1795-MWD13-092016	Lab ID: R1609973-016					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Tetrachloroethene (PCE)	1.1	J	0.30	5.0	ug/L	8260C

CLIENT ID: 1795-MWS2-092016	Lab ID: R1609973-017					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	2.7	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	5.3		0.20	5.0	ug/L	8260C
Acetone	1.9	J	1.3	10	ug/L	8260C
Ethylbenzene	0.59	J	0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.75	J	0.20	5.0	ug/L	8260C
Naphthalene	2.6	J	0.20	5.0	ug/L	8260C
Toluene	0.54	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	13		0.33	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 1795-MWS2-092016	Lab ID: R1609973-017					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
n-Butylbenzene	0.29	J	0.21	5.0	ug/L	8260C
n-Propylbenzene	1.0	J	0.20	5.0	ug/L	8260C
o-Xylene	0.61	J	0.20	5.0	ug/L	8260C

CLIENT ID: 1795-PZ4-092016	Lab ID: R1609973-018					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
2-Butanone (MEK)	0.82	J	0.81	10	ug/L	8260C
Acetone	2.3	J	1.3	10	ug/L	8260C

CLIENT ID: 1795-MWS11-092016	Lab ID: R1609973-019					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
2-Butanone (MEK)	0.82	J	0.81	10	ug/L	8260C
Acetone	3.7	J	1.3	10	ug/L	8260C

CLIENT ID: 1795-PZ5-092016	Lab ID: R1609973-020					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.3	J	1.3	10	ug/L	8260C

CLIENT ID: 1795-PZ14-092016	Lab ID: R1609973-021					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	5.7		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.43	J	0.20	5.0	ug/L	8260C
2-Butanone (MEK)	1.4	J	0.81	10	ug/L	8260C
4-Isopropyltoluene	0.26	J	0.20	5.0	ug/L	8260C
Acetone	2.9	J	1.3	10	ug/L	8260C
Ethylbenzene	1.0	J	0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.92	J	0.20	5.0	ug/L	8260C
Toluene	0.33	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	0.99	J	0.33	5.0	ug/L	8260C
n-Butylbenzene	0.77	J	0.21	5.0	ug/L	8260C
n-Propylbenzene	0.79	J	0.20	5.0	ug/L	8260C
o-Xylene	0.22	J	0.20	5.0	ug/L	8260C
sec-Butylbenzene	0.78	J	0.27	5.0	ug/L	8260C
tert-Butylbenzene	0.25	J	0.20	5.0	ug/L	8260C

CLIENT ID: 1795-MWS10-092016	Lab ID: R1609973-022					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.6	J	1.3	10	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609973-001	2140-MW14-092016	9/20/2016	0745
R1609973-002	2140-MW13-092016	9/20/2016	0750
R1609973-003	2140-MW12-092016	9/20/2016	0755
R1609973-004	2140-MW19-092016	9/20/2016	0810
R1609973-005	2140-MW16-092016	9/20/2016	0820
R1609973-006	2140-MW02-092016	9/20/2016	0855
R1609973-007	2140-MW04-092016	9/20/2016	0905
R1609973-008	2140-MW05-092016	9/20/2016	0910
R1609973-009	2140-MW06-092016	9/20/2016	0915
R1609973-010	2140-MW07-092016	9/20/2016	0925
R1609973-011	2140-MW09-092016	9/20/2016	0930
R1609973-012	2140-MW37-092016	9/20/2016	0940
R1609973-013	1795-MWS1-092016	9/20/2016	1110
R1609973-014	1795-MWII-006-092016	9/20/2016	1130
R1609973-015	1795-MWS21-092016	9/20/2016	1140
R1609973-016	1795-MWD13-092016	9/20/2016	1200
R1609973-017	1795-MWS2-092016	9/20/2016	1215
R1609973-018	1795-PZ4-092016	9/20/2016	1300
R1609973-019	1795-MWS11-092016	9/20/2016	1310
R1609973-020	1795-PZ5-092016	9/20/2016	1320
R1609973-021	1795-PZ14-092016	9/20/2016	1345
R1609973-022	1795-MWS10-092016	9/20/2016	1400

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39933

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 3 OF 6

Project Name: FT Drum BWM - Fall	Project Number: COP14Drum.RIFS
Project Manager: Stefan Bagnato	Report CC:
Company/Address: Arcadis 855 Route 146, Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.bagnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Nicholas Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	VOC							REMARKS/ ALTERNATE DESCRIPTION
2140-MW14-092016		9/20/16	0745	GW	3								3							
2140-MW13-092016		9/20/16	0750	GW	3								3							
2140-MW12-092016		9/20/16	0755	GW	3								3							
2140-MW19-092016		9/20/16	0810	GW	3								3							
2140-MW16-092016		9/20/16	0820	GW	3								3							
2140-MW02-092016		9/20/16	0855	GW	3								3							
2140-MW04-092016		9/20/16	0905	GW	3								3							
2140-MW05-092016		9/20/16	0910	GW	3								3							
2140-MW06-092016		9/20/16	0915	GW	3								3							
2141-MW07-092016		9/20/16	0925	GW	3								3							
2140-MW09-092016		9/20/16	0930	GW	3								3							

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Metals

ASP Category A (Tier II)

EQuIS EFWEDD w/ Arcadis reference values

See QAPP ☐

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

REQUESTED REPORT DATE

_____

REPORT REQUIREMENTS

____ I. Results Only

____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

__X__ IV. Data Validation Report with Raw Data

Edata ____Yes ____No

INVOICE INFORMATION

PO #

BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	
Printed Name: N. Griffith	Printed Name: BRIAN McGUINNESS	Printed Name: BRIAN McGUINNESS	Printed Name: ALS	Printed Name	
Firm: Arcadis	Firm: ALS	Firm: ALS	Firm: 9/21/16 1655	Firm	
Date/Time: 9/21/16 14:00	Date/Time: 9/21/16 1400	Date/Time: 9/21/16 1458	Date/Time	Date/Time	

R1609973 5
ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39944

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 5 OF 6

Project Name: FT Drum BMM - Fall	Project Number: 60614 Drum. RMS
Project Manager: Stefan Bygnato	Report CC:
Company/Address: Arcadis 85 S Park 146 Suite 210 Clifton Park, NY	
Phone #: 518-250-7354	Email: stefan.bygnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: N. Caffrey

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	VOC
2140-MWS7-092016		9/20/16	0940	GW	3	3
1795-MWS1-092016		9/20/16	11:10	GW	3	3
1795-WW1006-092016		9/20/16	11:30	GW	3	3
1795-MWS21-092016		9/20/16	11:40	GW	3	3
1795-MWD3-092016		9/20/16	12:00	GW	3	3
1795-MWS2-092016		9/20/16	1215	GW	3	3
1795-PZ4-092016		9/20/16	1300	GW	3	3
1795-MWS11-092016		9/20/16	13:10	GW	3	3
1795-PZ5-092016		9/20/16	13:20	GW	3	3
1795-PZ14-092016		9/20/16	13:45	GW	3	3
1795-MWS10-092016		9/20/16	14:00	GW	3	3

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Metals

ASP Category A (Tier II)
EQuIS EFWEDD of Arcadis reference value

See QAPP ☐

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day

REQUESTED REPORT DATE

_____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

X IV. Data Validation Report with Raw Data

Edata _____Yes _____No

INVOICE INFORMATION

PO #

BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Brian McGuirk	Signature Brian McGuirk	Signature Daniel Ward	Signature	
Printed Name N. Caffrey	Printed Name BRIAN McGUIRK	Printed Name BRIAN McGUIRK	Printed Name ALS	Printed Name	
Firm Arcadis	Firm ALS	Firm ALS	Firm 9/21/16 / 1655	Firm	
Date/Time 9/21/16 14:00	Date/Time 9/21/16 1400	Date/Time 9/21/16 1455	Date/Time	Date/Time	Date/Time

R1609973
ARCADIS U.S., Inc.
Fort Drum, NY
5

Distribution: White - Lab Copy; Yellow - Return to Originator

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Cooler Receipt and Preservation Check Form

R1609973 5
ARCADIS U.S., Inc.
Fort Drum, NY

Project/Client Arcadis Folder Number .

Cooler received on 9/21/16 by: DW COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: **Wet Ice Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as:	Bulk Encore 5035set (NA)

8. Temperature Readings Date: 9/21/16 Time: 1700 ID: IR#5 IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	3.1						
Correction Factor (°C)	-0.2						
Corrected Temp (°C)	2.9						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by:

All samples held in storage location: R-002 by DW on 9/21/16 at 1700
5035 samples placed in storage location: by on at

Cooler Breakdown: Date: 9-22-16 Time: 1140 by: T-S

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? (YES) NO (N/A)
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 6-060-cccy

Other Comments:
*3 Vials for the Trip Blank.

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: 9/22/16 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring

Sample Name: 2140-MW14-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-001 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW13-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-002 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW12-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-003 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW19-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-004 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW16-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-005 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring

Sample Name: 2140-MW02-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-006 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW04-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-007 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW05-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-008 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW06-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-009 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW07-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-010 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring

Sample Name: 2140-MW09-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-011 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW27-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-012 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-MWS1-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-013 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-MWII-006-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-014 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-MWS21-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-015 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring

Sample Name: 1795-MWD13-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-016 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-MWS2-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-017 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-PZ4-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-018 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-MWS11-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-019 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1795-PZ5-092016 **Date Collected:** 09/20/16
Lab Code: R1609973-020 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring		

Sample Name:	1795-PZ14-092016	**Date Collected:**	09/20/16
Lab Code:	R1609973-021	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	1795-MWS10-092016	**Date Collected:**	09/20/16
Lab Code:	R1609973-022	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 07:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW14-092016	**Units:**	ug/L
Lab Code:	R1609973-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 14:18	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 14:18	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 14:18	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 14:18	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 14:18	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 14:18	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 14:18	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 14:18	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 14:18	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 14:18	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 14:18	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:18	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 14:18	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:18	
1,4-Dichlorobenzene	**0.21 J**	5.0	1.0	0.20	1	09/28/16 14:18	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:18	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 14:18	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 14:18	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 14:18	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 14:18	
Acetone	**2.9 J**	10	5.0	1.3	1	09/28/16 14:18	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 14:18	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:18	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:18	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 14:18	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 14:18	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 14:18	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 14:18	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 14:18	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 14:18	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 14:18	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 14:18	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 14:18	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 14:18	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 14:18	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 07:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW14-092016	**Units:**	ug/L
Lab Code:	R1609973-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 14:18	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 14:18	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 14:18	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 14:18	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 14:18	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 14:18	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 14:18	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 14:18	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 14:18	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:18	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 14:18	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 14:18	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 14:18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/28/16 14:18	
Dibromofluoromethane	99	80 - 119	09/28/16 14:18	
Toluene-d8	101	89 - 112	09/28/16 14:18	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 07:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW13-092016	**Units:**	ug/L
Lab Code:	R1609973-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 14:43	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 14:43	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 14:43	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 14:43	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 14:43	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 14:43	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 14:43	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 14:43	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 14:43	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 14:43	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 14:43	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:43	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 14:43	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:43	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 14:43	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 14:43	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 14:43	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 14:43	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 14:43	
Acetone	**3.2 J**	10	5.0	1.3	1	09/28/16 14:43	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 14:43	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:43	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 14:43	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 14:43	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 14:43	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 14:43	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 14:43	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 14:43	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 14:43	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 14:43	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 14:43	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 14:43	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 14:43	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 14:43	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 07:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW13-092016	**Units:**	ug/L
Lab Code:	R1609973-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 14:43	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 14:43	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 14:43	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 14:43	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 14:43	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 14:43	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 14:43	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 14:43	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 14:43	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 14:43	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 14:43	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 14:43	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 14:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/28/16 14:43	
Dibromofluoromethane	101	80 - 119	09/28/16 14:43	
Toluene-d8	101	89 - 112	09/28/16 14:43	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 07:55
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW12-092016	**Units:**	ug/L
Lab Code:	R1609973-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 15:07	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 15:07	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 15:07	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 15:07	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 15:07	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 15:07	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 15:07	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 15:07	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 15:07	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 15:07	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 15:07	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:07	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 15:07	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:07	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:07	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 15:07	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 15:07	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 15:07	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 15:07	
Acetone	**1.7 J**	10	5.0	1.3	1	09/28/16 15:07	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 15:07	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:07	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:07	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 15:07	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 15:07	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 15:07	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 15:07	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 15:07	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 15:07	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 15:07	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 15:07	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 15:07	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 15:07	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 15:07	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 07:55
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW12-092016	**Units:**	ug/L
Lab Code:	R1609973-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 15:07	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 15:07	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 15:07	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 15:07	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 15:07	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 15:07	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 15:07	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 15:07	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 15:07	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:07	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 15:07	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 15:07	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 15:07	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/28/16 15:07	
Dibromofluoromethane	103	80 - 119	09/28/16 15:07	
Toluene-d8	102	89 - 112	09/28/16 15:07	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 08:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW19-092016	**Units:**	ug/L
Lab Code:	R1609973-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 15:31	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 15:31	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 15:31	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 15:31	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 15:31	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 15:31	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 15:31	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 15:31	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 15:31	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 15:31	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 15:31	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:31	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 15:31	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:31	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:31	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 15:31	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 15:31	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 15:31	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 15:31	
Acetone	**3.5 J**	10	5.0	1.3	1	09/28/16 15:31	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 15:31	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:31	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:31	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 15:31	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 15:31	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 15:31	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 15:31	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 15:31	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 15:31	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 15:31	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 15:31	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 15:31	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 15:31	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 15:31	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 08:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW19-092016	**Units:**	ug/L
Lab Code:	R1609973-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 15:31	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 15:31	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 15:31	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 15:31	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 15:31	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 15:31	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 15:31	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 15:31	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 15:31	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:31	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 15:31	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 15:31	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 15:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/28/16 15:31	
Dibromofluoromethane	100	80 - 119	09/28/16 15:31	
Toluene-d8	100	89 - 112	09/28/16 15:31	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 08:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW16-092016	**Units:**	ug/L
Lab Code:	R1609973-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 15:56	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 15:56	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 15:56	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 15:56	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 15:56	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 15:56	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 15:56	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 15:56	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 15:56	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 15:56	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 15:56	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:56	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 15:56	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:56	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 15:56	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 15:56	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 15:56	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 15:56	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 15:56	
Acetone	**2.7 J**	10	5.0	1.3	1	09/28/16 15:56	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 15:56	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:56	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 15:56	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 15:56	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 15:56	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 15:56	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 15:56	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 15:56	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 15:56	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 15:56	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 15:56	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 15:56	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 15:56	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 15:56	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 08:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW16-092016	**Units:**	ug/L
Lab Code:	R1609973-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 15:56	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 15:56	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 15:56	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 15:56	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 15:56	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 15:56	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 15:56	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 15:56	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 15:56	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 15:56	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 15:56	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 15:56	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 15:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/28/16 15:56	
Dibromofluoromethane	101	80 - 119	09/28/16 15:56	
Toluene-d8	102	89 - 112	09/28/16 15:56	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 08:55
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW02-092016	**Units:**	ug/L
Lab Code:	R1609973-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 10:59	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 10:59	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 10:59	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 10:59	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 10:59	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 10:59	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 10:59	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 10:59	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 10:59	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 10:59	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 10:59	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 10:59	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 10:59	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 10:59	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 10:59	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 10:59	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 10:59	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 10:59	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 10:59	
Acetone	ND U	10	5.0	1.3	1	09/29/16 10:59	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 10:59	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 10:59	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 10:59	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 10:59	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 10:59	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 10:59	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 10:59	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 10:59	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 10:59	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 10:59	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 10:59	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 10:59	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 10:59	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 10:59	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 08:55
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW02-092016	**Units:**	ug/L
Lab Code:	R1609973-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 10:59	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 10:59	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 10:59	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 10:59	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 10:59	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 10:59	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 10:59	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 10:59	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 10:59	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 10:59	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 10:59	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 10:59	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 10:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/29/16 10:59	
Dibromofluoromethane	97	80 - 119	09/29/16 10:59	
Toluene-d8	100	89 - 112	09/29/16 10:59	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:05
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW04-092016	**Units:**	ug/L
Lab Code:	R1609973-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 16:44	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 16:44	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 16:44	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 16:44	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 16:44	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 16:44	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 16:44	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 16:44	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 16:44	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 16:44	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 16:44	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 16:44	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 16:44	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 16:44	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 16:44	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 16:44	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 16:44	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 16:44	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 16:44	
Acetone	ND U	10	5.0	1.3	1	09/28/16 16:44	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 16:44	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 16:44	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 16:44	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 16:44	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 16:44	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 16:44	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 16:44	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 16:44	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 16:44	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 16:44	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 16:44	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 16:44	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 16:44	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 16:44	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:05
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW04-092016	**Units:**	ug/L
Lab Code:	R1609973-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 16:44	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 16:44	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 16:44	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 16:44	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 16:44	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 16:44	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 16:44	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 16:44	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 16:44	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 16:44	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 16:44	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 16:44	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 16:44	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/28/16 16:44	
Dibromofluoromethane	101	80 - 119	09/28/16 16:44	
Toluene-d8	102	89 - 112	09/28/16 16:44	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW05-092016	**Units:**	ug/L
Lab Code:	R1609973-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 17:09	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 17:09	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 17:09	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 17:09	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 17:09	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 17:09	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 17:09	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 17:09	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 17:09	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 17:09	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 17:09	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 17:09	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 17:09	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 17:09	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 17:09	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 17:09	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 17:09	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 17:09	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 17:09	
Acetone	ND U	10	5.0	1.3	1	09/28/16 17:09	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 17:09	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 17:09	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 17:09	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 17:09	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 17:09	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 17:09	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 17:09	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 17:09	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 17:09	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 17:09	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 17:09	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 17:09	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 17:09	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 17:09	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW05-092016	**Units:**	ug/L
Lab Code:	R1609973-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 17:09	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 17:09	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 17:09	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 17:09	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 17:09	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 17:09	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 17:09	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 17:09	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 17:09	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 17:09	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 17:09	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 17:09	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 17:09	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/28/16 17:09	
Dibromofluoromethane	100	80 - 119	09/28/16 17:09	
Toluene-d8	99	89 - 112	09/28/16 17:09	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW06-092016	**Units:**	ug/L
Lab Code:	R1609973-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 11:23	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 11:23	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 11:23	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 11:23	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 11:23	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 11:23	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 11:23	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 11:23	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 11:23	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 11:23	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 11:23	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 11:23	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 11:23	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 11:23	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 11:23	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 11:23	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 11:23	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 11:23	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 11:23	
Acetone	ND U	10	5.0	1.3	1	09/29/16 11:23	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 11:23	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 11:23	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 11:23	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 11:23	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 11:23	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 11:23	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 11:23	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 11:23	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 11:23	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 11:23	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 11:23	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 11:23	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 11:23	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 11:23	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW06-092016	**Units:**	ug/L
Lab Code:	R1609973-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 11:23	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 11:23	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 11:23	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 11:23	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 11:23	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 11:23	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 11:23	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 11:23	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 11:23	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 11:23	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 11:23	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 11:23	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 11:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/29/16 11:23	
Dibromofluoromethane	100	80 - 119	09/29/16 11:23	
Toluene-d8	101	89 - 112	09/29/16 11:23	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:25
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW07-092016	**Units:**	ug/L
Lab Code:	R1609973-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 17:57	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 17:57	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 17:57	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 17:57	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 17:57	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 17:57	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 17:57	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 17:57	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 17:57	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 17:57	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 17:57	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 17:57	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 17:57	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 17:57	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 17:57	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 17:57	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 17:57	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 17:57	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 17:57	
Acetone	ND U	10	5.0	1.3	1	09/28/16 17:57	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 17:57	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 17:57	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 17:57	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 17:57	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 17:57	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 17:57	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 17:57	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 17:57	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 17:57	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 17:57	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 17:57	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 17:57	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 17:57	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 17:57	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:25
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW07-092016	**Units:**	ug/L
Lab Code:	R1609973-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 17:57	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 17:57	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 17:57	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 17:57	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 17:57	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 17:57	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 17:57	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 17:57	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 17:57	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 17:57	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 17:57	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 17:57	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 17:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/28/16 17:57	
Dibromofluoromethane	100	80 - 119	09/28/16 17:57	
Toluene-d8	102	89 - 112	09/28/16 17:57	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW09-092016	**Units:**	ug/L
Lab Code:	R1609973-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 18:22	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 18:22	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 18:22	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 18:22	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 18:22	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 18:22	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 18:22	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 18:22	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 18:22	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 18:22	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 18:22	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 18:22	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 18:22	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 18:22	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 18:22	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 18:22	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 18:22	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 18:22	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 18:22	
Acetone	ND U	10	5.0	1.3	1	09/28/16 18:22	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 18:22	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 18:22	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 18:22	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 18:22	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 18:22	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 18:22	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 18:22	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 18:22	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 18:22	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 18:22	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 18:22	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 18:22	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 18:22	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 18:22	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW09-092016	**Units:**	ug/L
Lab Code:	R1609973-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 18:22	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 18:22	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 18:22	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 18:22	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 18:22	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 18:22	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 18:22	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 18:22	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 18:22	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 18:22	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 18:22	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 18:22	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 18:22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/28/16 18:22	
Dibromofluoromethane	100	80 - 119	09/28/16 18:22	
Toluene-d8	101	89 - 112	09/28/16 18:22	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW27-092016	**Units:**	ug/L
Lab Code:	R1609973-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 18:46	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 18:46	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 18:46	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 18:46	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 18:46	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 18:46	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 18:46	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 18:46	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 18:46	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 18:46	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 18:46	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 18:46	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 18:46	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 18:46	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 18:46	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 18:46	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 18:46	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 18:46	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 18:46	
Acetone	ND U	10	5.0	1.3	1	09/28/16 18:46	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 18:46	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 18:46	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 18:46	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 18:46	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 18:46	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 18:46	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 18:46	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 18:46	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 18:46	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 18:46	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 18:46	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 18:46	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 18:46	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 18:46	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 09:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW27-092016	**Units:**	ug/L
Lab Code:	R1609973-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 18:46	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 18:46	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 18:46	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 18:46	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 18:46	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 18:46	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 18:46	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 18:46	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 18:46	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 18:46	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 18:46	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 18:46	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 18:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/28/16 18:46	
Dibromofluoromethane	101	80 - 119	09/28/16 18:46	
Toluene-d8	100	89 - 112	09/28/16 18:46	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 11:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS1-092016	**Units:**	ug/L
Lab Code:	R1609973-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 19:11	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 19:11	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 19:11	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 19:11	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 19:11	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 19:11	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 19:11	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 19:11	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 19:11	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 19:11	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 19:11	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 19:11	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 19:11	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 19:11	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 19:11	
2-Butanone (MEK)	**0.98 J**	10	1.0	0.81	1	09/28/16 19:11	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 19:11	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 19:11	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 19:11	
Acetone	**2.0 J**	10	5.0	1.3	1	09/28/16 19:11	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 19:11	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 19:11	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 19:11	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 19:11	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 19:11	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 19:11	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 19:11	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 19:11	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 19:11	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 19:11	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 19:11	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 19:11	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 19:11	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 19:11	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 11:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS1-092016	**Units:**	ug/L
Lab Code:	R1609973-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 19:11	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 19:11	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 19:11	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 19:11	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 19:11	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 19:11	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 19:11	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 19:11	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 19:11	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 19:11	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 19:11	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 19:11	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 19:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/28/16 19:11	
Dibromofluoromethane	98	80 - 119	09/28/16 19:11	
Toluene-d8	102	89 - 112	09/28/16 19:11	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWII-006-092016	**Units:**	ug/L
Lab Code:	R1609973-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 19:35	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 19:35	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 19:35	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 19:35	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 19:35	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 19:35	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 19:35	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 19:35	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 19:35	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 19:35	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 19:35	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 19:35	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 19:35	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 19:35	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 19:35	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 19:35	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 19:35	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 19:35	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 19:35	
Acetone	**2.9 J**	10	5.0	1.3	1	09/28/16 19:35	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 19:35	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 19:35	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 19:35	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 19:35	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 19:35	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 19:35	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 19:35	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 19:35	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 19:35	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 19:35	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 19:35	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 19:35	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 19:35	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 19:35	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWII-006-092016	**Units:**	ug/L
Lab Code:	R1609973-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 19:35	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 19:35	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 19:35	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 19:35	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 19:35	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 19:35	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 19:35	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 19:35	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 19:35	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 19:35	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 19:35	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 19:35	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 19:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/28/16 19:35	
Dibromofluoromethane	101	80 - 119	09/28/16 19:35	
Toluene-d8	102	89 - 112	09/28/16 19:35	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 11:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS21-092016	**Units:**	ug/L
Lab Code:	R1609973-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 19:59	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 19:59	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 19:59	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 19:59	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 19:59	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 19:59	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 19:59	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 19:59	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 19:59	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 19:59	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 19:59	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 19:59	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 19:59	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 19:59	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 19:59	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 19:59	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 19:59	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 19:59	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 19:59	
Acetone	**1.9 J**	10	5.0	1.3	1	09/28/16 19:59	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 19:59	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 19:59	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 19:59	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 19:59	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 19:59	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 19:59	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 19:59	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 19:59	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 19:59	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 19:59	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 19:59	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 19:59	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 19:59	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 19:59	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 11:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS21-092016	**Units:**	ug/L
Lab Code:	R1609973-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 19:59	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 19:59	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 19:59	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 19:59	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 19:59	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 19:59	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 19:59	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 19:59	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 19:59	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 19:59	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 19:59	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 19:59	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 19:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/28/16 19:59	
Dibromofluoromethane	98	80 - 119	09/28/16 19:59	
Toluene-d8	100	89 - 112	09/28/16 19:59	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 12:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWD13-092016	**Units:**	ug/L
Lab Code:	R1609973-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 20:24	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 20:24	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 20:24	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 20:24	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 20:24	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 20:24	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 20:24	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 20:24	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 20:24	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 20:24	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 20:24	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 20:24	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 20:24	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 20:24	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 20:24	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 20:24	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 20:24	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 20:24	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 20:24	
Acetone	ND U	10	5.0	1.3	1	09/28/16 20:24	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 20:24	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 20:24	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 20:24	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 20:24	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 20:24	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 20:24	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 20:24	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 20:24	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 20:24	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 20:24	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 20:24	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 20:24	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 20:24	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 20:24	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 12:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWD13-092016	**Units:**	ug/L
Lab Code:	R1609973-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 20:24	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 20:24	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 20:24	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
Tetrachloroethene (PCE)	**1.1 J**	5.0	1.0	0.30	1	09/28/16 20:24	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 20:24	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 20:24	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 20:24	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 20:24	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 20:24	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 20:24	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 20:24	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 20:24	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 20:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/28/16 20:24	
Dibromofluoromethane	101	80 - 119	09/28/16 20:24	
Toluene-d8	102	89 - 112	09/28/16 20:24	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 12:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS2-092016	**Units:**	ug/L
Lab Code:	R1609973-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 20:48	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 20:48	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 20:48	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 20:48	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 20:48	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 20:48	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 20:48	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 20:48	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 20:48	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 20:48	
1,2,4-Trimethylbenzene	**2.7 J**	5.0	1.0	0.20	1	09/28/16 20:48	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 20:48	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 20:48	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 20:48	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 20:48	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 20:48	
1,3,5-Trimethylbenzene	**5.3**	5.0	1.0	0.20	1	09/28/16 20:48	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:48	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 20:48	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 20:48	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 20:48	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 20:48	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 20:48	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 20:48	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 20:48	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 20:48	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 20:48	
Acetone	**1.9 J**	10	5.0	1.3	1	09/28/16 20:48	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 20:48	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 20:48	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 20:48	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 20:48	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 20:48	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 20:48	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 20:48	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 20:48	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 20:48	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 20:48	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 20:48	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 20:48	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 20:48	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 20:48	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 20:48	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 12:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS2-092016	**Units:**	ug/L
Lab Code:	R1609973-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/28/16 20:48	
Ethylbenzene	**0.59**	**J**	5.0	1.0	0.20	1	09/28/16 20:48	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/28/16 20:48	
Isopropylbenzene (Cumene)	**0.75**	**J**	5.0	1.0	0.20	1	09/28/16 20:48	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/28/16 20:48	
Naphthalene	**2.6**	**J**	5.0	1.0	0.20	1	09/28/16 20:48	
Styrene	ND	U	5.0	1.0	0.20	1	09/28/16 20:48	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/28/16 20:48	
Toluene	**0.54**	**J**	5.0	1.0	0.20	1	09/28/16 20:48	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/28/16 20:48	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/28/16 20:48	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/28/16 20:48	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/28/16 20:48	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/28/16 20:48	
m,p-Xylenes	**13**		5.0	2.0	0.33	1	09/28/16 20:48	
n-Butylbenzene	**0.29**	**J**	5.0	1.0	0.21	1	09/28/16 20:48	
n-Propylbenzene	**1.0**	**J**	5.0	1.0	0.20	1	09/28/16 20:48	
o-Xylene	**0.61**	**J**	5.0	1.0	0.20	1	09/28/16 20:48	
sec-Butylbenzene	ND	U	5.0	1.0	0.27	1	09/28/16 20:48	
tert-Butylbenzene	ND	U	5.0	1.0	0.20	1	09/28/16 20:48	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/28/16 20:48	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/28/16 20:48	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/28/16 20:48	
Dibromofluoromethane	99	80 - 119	09/28/16 20:48	
Toluene-d8	100	89 - 112	09/28/16 20:48	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-PZ4-092016	**Units:**	ug/L
Lab Code:	R1609973-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 21:12	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 21:12	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 21:12	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 21:12	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 21:12	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 21:12	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 21:12	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 21:12	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 21:12	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 21:12	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 21:12	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 21:12	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 21:12	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 21:12	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 21:12	
2-Butanone (MEK)	**0.82 J**	10	1.0	0.81	1	09/28/16 21:12	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 21:12	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 21:12	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 21:12	
Acetone	**2.3 J**	10	5.0	1.3	1	09/28/16 21:12	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 21:12	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 21:12	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 21:12	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 21:12	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 21:12	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 21:12	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 21:12	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 21:12	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 21:12	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 21:12	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 21:12	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 21:12	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 21:12	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 21:12	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-PZ4-092016	**Units:**	ug/L
Lab Code:	R1609973-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 21:12	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 21:12	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 21:12	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 21:12	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 21:12	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 21:12	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 21:12	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 21:12	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 21:12	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 21:12	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 21:12	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 21:12	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 21:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 114	09/28/16 21:12	
Dibromofluoromethane	100	80 - 119	09/28/16 21:12	
Toluene-d8	103	89 - 112	09/28/16 21:12	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS11-092016	**Units:**	ug/L
Lab Code:	R1609973-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	5.0	1.0	0.22	1	09/29/16 11:47	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	1.0	0.36	1	09/29/16 11:47	
1,1,2,2-Tetrachloroethane	ND	U	5.0	1.0	0.25	1	09/29/16 11:47	
1,1,2-Trichloroethane	ND	U	5.0	1.0	0.34	1	09/29/16 11:47	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.0	1.0	0.57	1	09/29/16 11:47	
1,1-Dichloropropene	ND	U	5.0	1.0	0.29	1	09/29/16 11:47	
1,2,3-Trichlorobenzene	ND	U	5.0	1.0	0.82	1	09/29/16 11:47	
1,2,3-Trichloropropane	ND	U	5.0	1.0	0.70	1	09/29/16 11:47	
1,2,4-Trichlorobenzene	ND	U	5.0	1.0	0.23	1	09/29/16 11:47	
1,2,4-Trimethylbenzene	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.0	1.0	0.74	1	09/29/16 11:47	
1,2-Dibromoethane	ND	U	5.0	1.0	0.24	1	09/29/16 11:47	
1,2-Dichlorobenzene	ND	U	5.0	1.0	0.21	1	09/29/16 11:47	
1,2-Dichloroethane	ND	U	5.0	1.0	0.36	1	09/29/16 11:47	
1,2-Dichloropropane	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
1,3,5-Trimethylbenzene	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
1,3-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
1,3-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/29/16 11:47	
1,4-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
2,2-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/29/16 11:47	
2-Butanone (MEK)	**0.82**	**J**	10	1.0	0.81	1	09/29/16 11:47	
2-Chlorotoluene	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
2-Hexanone	ND	U	10	5.0	1.7	1	09/29/16 11:47	
4-Chlorotoluene	ND	U	5.0	1.0	0.24	1	09/29/16 11:47	
4-Isopropyltoluene	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
4-Methyl-2-pentanone	ND	U	10	1.0	0.67	1	09/29/16 11:47	
Acetone	**3.7**	**J**	10	5.0	1.3	1	09/29/16 11:47	
Benzene	ND	U	5.0	1.0	0.20	1	09/29/16 11:47	
Bromobenzene	ND	U	5.0	1.0	0.28	1	09/29/16 11:47	
Bromochloromethane	ND	U	5.0	1.0	0.32	1	09/29/16 11:47	
Bromodichloromethane	ND	U	5.0	1.0	0.32	1	09/29/16 11:47	
Bromoform	ND	U	5.0	1.0	0.42	1	09/29/16 11:47	
Bromomethane	ND	U	5.0	1.0	0.29	1	09/29/16 11:47	
Carbon Disulfide	ND	U	10	1.0	0.22	1	09/29/16 11:47	
Carbon Tetrachloride	ND	U	5.0	1.0	0.45	1	09/29/16 11:47	
Chlorobenzene	ND	U	5.0	1.0	0.29	1	09/29/16 11:47	
Chloroethane	ND	U	5.0	1.0	0.24	1	09/29/16 11:47	
Chloroform	ND	U	5.0	1.0	0.25	1	09/29/16 11:47	
Chloromethane	ND	U	5.0	1.0	0.21	1	09/29/16 11:47	
Dibromochloromethane	ND	U	5.0	1.0	0.31	1	09/29/16 11:47	
Dibromomethane	ND	U	5.0	1.0	0.32	1	09/29/16 11:47	
Dichlorodifluoromethane (CFC 12)	ND	U	5.0	1.0	0.46	1	09/29/16 11:47	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS11-092016	**Units:**	ug/L
Lab Code:	R1609973-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 11:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 11:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 11:47	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 11:47	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 11:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 11:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 11:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 11:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 11:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 11:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 11:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 11:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 11:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/29/16 11:47	
Dibromofluoromethane	98	80 - 119	09/29/16 11:47	
Toluene-d8	99	89 - 112	09/29/16 11:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-PZ5-092016	**Units:**	ug/L
Lab Code:	R1609973-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 12:12	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 12:12	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 12:12	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 12:12	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 12:12	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 12:12	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 12:12	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 12:12	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 12:12	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 12:12	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 12:12	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 12:12	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 12:12	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 12:12	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 12:12	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 12:12	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 12:12	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 12:12	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 12:12	
Acetone	**2.3 J**	10	5.0	1.3	1	09/29/16 12:12	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 12:12	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 12:12	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 12:12	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 12:12	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 12:12	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 12:12	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 12:12	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 12:12	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 12:12	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 12:12	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 12:12	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 12:12	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 12:12	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 12:12	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-PZ5-092016	**Units:**	ug/L
Lab Code:	R1609973-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 12:12	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 12:12	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 12:12	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 12:12	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 12:12	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 12:12	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 12:12	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 12:12	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 12:12	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 12:12	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 12:12	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 12:12	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 12:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/29/16 12:12	
Dibromofluoromethane	100	80 - 119	09/29/16 12:12	
Toluene-d8	102	89 - 112	09/29/16 12:12	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-PZ14-092016	**Units:**	ug/L
Lab Code:	R1609973-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	5.0	1.0	0.22	1	09/29/16 17:53	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	1.0	0.36	1	09/29/16 17:53	
1,1,2,2-Tetrachloroethane	ND	U	5.0	1.0	0.25	1	09/29/16 17:53	
1,1,2-Trichloroethane	ND	U	5.0	1.0	0.34	1	09/29/16 17:53	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.0	1.0	0.20	1	09/29/16 17:53	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.0	1.0	0.57	1	09/29/16 17:53	
1,1-Dichloropropene	ND	U	5.0	1.0	0.29	1	09/29/16 17:53	
1,2,3-Trichlorobenzene	ND	U	5.0	1.0	0.82	1	09/29/16 17:53	
1,2,3-Trichloropropane	ND	U	5.0	1.0	0.70	1	09/29/16 17:53	
1,2,4-Trichlorobenzene	ND	U	5.0	1.0	0.23	1	09/29/16 17:53	
1,2,4-Trimethylbenzene	**5.7**		5.0	1.0	0.20	1	09/29/16 17:53	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.0	1.0	0.74	1	09/29/16 17:53	
1,2-Dibromoethane	ND	U	5.0	1.0	0.24	1	09/29/16 17:53	
1,2-Dichlorobenzene	ND	U	5.0	1.0	0.21	1	09/29/16 17:53	
1,2-Dichloroethane	ND	U	5.0	1.0	0.36	1	09/29/16 17:53	
1,2-Dichloropropane	ND	U	5.0	1.0	0.20	1	09/29/16 17:53	
1,3,5-Trimethylbenzene	**0.43**	**J**	5.0	1.0	0.20	1	09/29/16 17:53	
1,3-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/29/16 17:53	
1,3-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/29/16 17:53	
1,4-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/29/16 17:53	
2,2-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/29/16 17:53	
2-Butanone (MEK)	**1.4**	**J**	10	1.0	0.81	1	09/29/16 17:53	
2-Chlorotoluene	ND	U	5.0	1.0	0.20	1	09/29/16 17:53	
2-Hexanone	ND	U	10	5.0	1.7	1	09/29/16 17:53	
4-Chlorotoluene	ND	U	5.0	1.0	0.24	1	09/29/16 17:53	
4-Isopropyltoluene	**0.26**	**J**	5.0	1.0	0.20	1	09/29/16 17:53	
4-Methyl-2-pentanone	ND	U	10	1.0	0.67	1	09/29/16 17:53	
Acetone	**2.9**	**J**	10	5.0	1.3	1	09/29/16 17:53	
Benzene	ND	U	5.0	1.0	0.20	1	09/29/16 17:53	
Bromobenzene	ND	U	5.0	1.0	0.28	1	09/29/16 17:53	
Bromochloromethane	ND	U	5.0	1.0	0.32	1	09/29/16 17:53	
Bromodichloromethane	ND	U	5.0	1.0	0.32	1	09/29/16 17:53	
Bromoform	ND	U	5.0	1.0	0.42	1	09/29/16 17:53	
Bromomethane	ND	U	5.0	1.0	0.29	1	09/29/16 17:53	
Carbon Disulfide	ND	U	10	1.0	0.22	1	09/29/16 17:53	
Carbon Tetrachloride	ND	U	5.0	1.0	0.45	1	09/29/16 17:53	
Chlorobenzene	ND	U	5.0	1.0	0.29	1	09/29/16 17:53	
Chloroethane	ND	U	5.0	1.0	0.24	1	09/29/16 17:53	
Chloroform	ND	U	5.0	1.0	0.25	1	09/29/16 17:53	
Chloromethane	ND	U	5.0	1.0	0.21	1	09/29/16 17:53	
Dibromochloromethane	ND	U	5.0	1.0	0.31	1	09/29/16 17:53	
Dibromomethane	ND	U	5.0	1.0	0.32	1	09/29/16 17:53	
Dichlorodifluoromethane (CFC 12)	ND	U	5.0	1.0	0.46	1	09/29/16 17:53	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 13:45
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-PZ14-092016	**Units:**	ug/L
Lab Code:	R1609973-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 17:53	
Ethylbenzene	**1.0 J**	5.0	1.0	0.20	1	09/29/16 17:53	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 17:53	
Isopropylbenzene (Cumene)	**0.92 J**	5.0	1.0	0.20	1	09/29/16 17:53	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 17:53	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 17:53	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 17:53	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 17:53	
Toluene	**0.33 J**	5.0	1.0	0.20	1	09/29/16 17:53	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 17:53	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 17:53	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 17:53	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 17:53	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 17:53	
m,p-Xylenes	**0.99 J**	5.0	2.0	0.33	1	09/29/16 17:53	
n-Butylbenzene	**0.77 J**	5.0	1.0	0.21	1	09/29/16 17:53	
n-Propylbenzene	**0.79 J**	5.0	1.0	0.20	1	09/29/16 17:53	
o-Xylene	**0.22 J**	5.0	1.0	0.20	1	09/29/16 17:53	
sec-Butylbenzene	**0.78 J**	5.0	1.0	0.27	1	09/29/16 17:53	
tert-Butylbenzene	**0.25 J**	5.0	1.0	0.20	1	09/29/16 17:53	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 17:53	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 17:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/29/16 17:53	
Dibromofluoromethane	98	80 - 119	09/29/16 17:53	
Toluene-d8	99	89 - 112	09/29/16 17:53	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 14:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS10-092016	**Units:**	ug/L
Lab Code:	R1609973-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 13:00	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 13:00	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 13:00	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 13:00	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 13:00	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 13:00	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 13:00	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 13:00	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 13:00	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 13:00	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 13:00	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 13:00	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 13:00	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 13:00	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 13:00	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 13:00	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 13:00	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 13:00	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 13:00	
Acetone	**1.6 J**	10	5.0	1.3	1	09/29/16 13:00	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 13:00	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 13:00	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 13:00	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 13:00	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 13:00	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 13:00	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 13:00	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 13:00	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 13:00	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 13:00	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 13:00	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 13:00	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 13:00	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 13:00	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	09/20/16 14:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS10-092016	**Units:**	ug/L
Lab Code:	R1609973-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 13:00	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 13:00	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 13:00	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 13:00	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 13:00	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 13:00	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 13:00	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 13:00	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 13:00	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 13:00	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 13:00	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 13:00	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 13:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/29/16 13:00	
Dibromofluoromethane	98	80 - 119	09/29/16 13:00	
Toluene-d8	101	89 - 112	09/29/16 13:00	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609973

Project: Fort Drum, NY/Basewide Monitoring

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 114	Dibromofluoromethane 80 - 119	Toluene-d8 89 - 112
2140-MW14-092016	R1609973-001	94	99	101
2140-MW13-092016	R1609973-002	95	101	101
2140-MW12-092016	R1609973-003	97	103	102
2140-MW19-092016	R1609973-004	96	100	100
2140-MW16-092016	R1609973-005	98	101	102
2140-MW02-092016	R1609973-006	97	97	100
2140-MW04-092016	R1609973-007	97	101	102
2140-MW05-092016	R1609973-008	94	100	99
2140-MW06-092016	R1609973-009	97	100	101
2140-MW07-092016	R1609973-010	97	100	102
2140-MW09-092016	R1609973-011	94	100	101
2140-MW27-092016	R1609973-012	95	101	100
1795-MWS1-092016	R1609973-013	98	98	102
1795-MWII-006-092016	R1609973-014	98	101	102
1795-MWS21-092016	R1609973-015	95	98	100
1795-MWD13-092016	R1609973-016	97	101	102
1795-MWS2-092016	R1609973-017	96	99	100
1795-PZ4-092016	R1609973-018	99	100	103
1795-MWS11-092016	R1609973-019	96	98	99
1795-PZ5-092016	R1609973-020	95	100	102
1795-PZ14-092016	R1609973-021	97	98	99
1795-MWS10-092016	R1609973-022	96	98	101
Lab Control Sample	RQ1611637-03	97	99	99
Method Blank	RQ1611637-04	97	100	102
Lab Control Sample	RQ1611742-03	96	100	99
Method Blank	RQ1611742-04	95	98	100

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611637-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/28/16 13:49	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/28/16 13:49	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/28/16 13:49	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/28/16 13:49	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/28/16 13:49	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/28/16 13:49	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/28/16 13:49	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/28/16 13:49	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/28/16 13:49	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/28/16 13:49	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/28/16 13:49	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/28/16 13:49	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/28/16 13:49	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 13:49	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/28/16 13:49	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/28/16 13:49	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
2-Hexanone	ND U	10	5.0	1.7	1	09/28/16 13:49	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/28/16 13:49	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/28/16 13:49	
Acetone	ND U	10	5.0	1.3	1	09/28/16 13:49	
Benzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/28/16 13:49	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/28/16 13:49	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/28/16 13:49	
Bromoform	ND U	5.0	1.0	0.42	1	09/28/16 13:49	
Bromomethane	ND U	5.0	1.0	0.29	1	09/28/16 13:49	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/28/16 13:49	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/28/16 13:49	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/28/16 13:49	
Chloroethane	ND U	5.0	1.0	0.24	1	09/28/16 13:49	
Chloroform	ND U	5.0	1.0	0.25	1	09/28/16 13:49	
Chloromethane	ND U	5.0	1.0	0.21	1	09/28/16 13:49	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/28/16 13:49	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/28/16 13:49	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/28/16 13:49	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611637-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/28/16 13:49	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/28/16 13:49	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/28/16 13:49	
Naphthalene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
Styrene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/28/16 13:49	
Toluene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/28/16 13:49	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/28/16 13:49	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/28/16 13:49	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/28/16 13:49	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/28/16 13:49	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/28/16 13:49	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
o-Xylene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/28/16 13:49	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/28/16 13:49	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/28/16 13:49	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/28/16 13:49	
Dibromofluoromethane	100	80 - 119	09/28/16 13:49	
Toluene-d8	102	89 - 112	09/28/16 13:49	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611742-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 10:34	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 10:34	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 10:34	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 10:34	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 10:34	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 10:34	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 10:34	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 10:34	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 10:34	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 10:34	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 10:34	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 10:34	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 10:34	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 10:34	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 10:34	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 10:34	
Acetone	ND U	10	5.0	1.3	1	09/29/16 10:34	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 10:34	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 10:34	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 10:34	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 10:34	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 10:34	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 10:34	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 10:34	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 10:34	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609973
Project:	Fort Drum, NY/Basewide Monitoring	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611742-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 10:34	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 10:34	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 10:34	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 10:34	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 10:34	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 10:34	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 10:34	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 10:34	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 10:34	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/29/16 10:34	
Dibromofluoromethane	98	80 - 119	09/29/16 10:34	
Toluene-d8	100	89 - 112	09/29/16 10:34	

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring **Date Analyzed:** 09/28/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611637-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.0	20.0	100	78-124
1,1,1-Trichloroethane (TCA)	8260C	20.5	20.0	102	74-131
1,1,2,2-Tetrachloroethane	8260C	22.1	20.0	111	71-121
1,1,2-Trichloroethane	8260C	19.8	20.0	99	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	20.9	20.0	104	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.6	20.0	103	71-131
1,1-Dichloropropene	8260C	18.1	20.0	90	79-125
1,2,3-Trichlorobenzene	8260C	19.7	20.0	98	69-129
1,2,3-Trichloropropane	8260C	18.8	20.0	94	73-122
1,2,4-Trichlorobenzene	8260C	20.1	20.0	101	69-130
1,2,4-Trimethylbenzene	8260C	19.0	20.0	95	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	22.5	20.0	113	62-128
1,2-Dibromoethane	8260C	21.4	20.0	107	77-121
1,2-Dichlorobenzene	8260C	19.9	20.0	100	80-119
1,2-Dichloroethane	8260C	20.6	20.0	103	73-128
1,2-Dichloropropane	8260C	19.2	20.0	96	78-122
1,3,5-Trimethylbenzene	8260C	19.5	20.0	98	75-124
1,3-Dichlorobenzene	8260C	19.4	20.0	97	80-119
1,3-Dichloropropane	8260C	20.2	20.0	101	80-119
1,4-Dichlorobenzene	8260C	19.0	20.0	95	79-118
2,2-Dichloropropane	8260C	21.2	20.0	106	60-139
2-Butanone (MEK)	8260C	20.9	20.0	105	56-143
2-Chlorotoluene	8260C	19.9	20.0	99	79-122
2-Hexanone	8260C	24.1	20.0	121	57-139
4-Chlorotoluene	8260C	19.9	20.0	99	78-122
4-Isopropyltoluene	8260C	19.0	20.0	95	77-127
4-Methyl-2-pentanone	8260C	24.0	20.0	120	67-130
Acetone	8260C	23.4	20.0	117	39-160
Benzene	8260C	20.3	20.0	102	79-120
Bromobenzene	8260C	20.4	20.0	102	80-120
Bromochloromethane	8260C	21.2	20.0	106	78-123
Bromodichloromethane	8260C	19.4	20.0	97	79-125
Bromoform	8260C	22.0	20.0	110	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring **Date Analyzed:** 09/28/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611637-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	23.5	20.0	117	53-141
Carbon Disulfide	8260C	24.3	20.0	122	64-133
Carbon Tetrachloride	8260C	20.1	20.0	101	72-136
Chlorobenzene	8260C	20.1	20.0	100	82-118
Chloroethane	8260C	18.4	20.0	92	60-138
Chloroform	8260C	20.2	20.0	101	79-124
Chloromethane	8260C	18.4	20.0	92	50-139
Dibromochloromethane	8260C	21.0	20.0	105	74-126
Dibromomethane	8260C	20.6	20.0	103	79-123
Dichlorodifluoromethane (CFC 12)	8260C	17.1	20.0	86	32-152
Dichloromethane	8260C	19.3	20.0	97	74-124
Ethylbenzene	8260C	18.5	20.0	93	79-121
Hexachlorobutadiene	8260C	18.3	20.0	91	66-134
Isopropylbenzene (Cumene)	8260C	19.0	20.0	95	72-131
Methyl tert-Butyl Ether	8260C	20.6	20.0	103	71-124
Naphthalene	8260C	22.1	20.0	111	61-128
Styrene	8260C	20.1	20.0	101	78-123
Tetrachloroethene (PCE)	8260C	18.2	20.0	91	74-129
Toluene	8260C	19.6	20.0	98	80-121
Trichloroethene (TCE)	8260C	19.4	20.0	97	79-123
Trichlorofluoromethane (CFC 11)	8260C	21.2	20.0	106	65-141
Vinyl Chloride	8260C	22.2	20.0	111	58-137
cis-1,2-Dichloroethene	8260C	20.8	20.0	104	78-123
cis-1,3-Dichloropropene	8260C	20.5	20.0	102	75-124
m,p-Xylenes	8260C	38.8	40.0	97	80-121
n-Butylbenzene	8260C	19.5	20.0	97	75-128
n-Propylbenzene	8260C	19.4	20.0	97	76-126
o-Xylene	8260C	19.6	20.0	98	78-122
sec-Butylbenzene	8260C	18.9	20.0	95	77-126
tert-Butylbenzene	8260C	19.5	20.0	97	78-124
trans-1,2-Dichloroethene	8260C	20.1	20.0	101	75-124
trans-1,3-Dichloropropene	8260C	20.3	20.0	102	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring **Date Analyzed:** 09/29/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611742-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	21.1	20.0	106	78-124
1,1,1-Trichloroethane (TCA)	8260C	20.9	20.0	104	74-131
1,1,2,2-Tetrachloroethane	8260C	21.3	20.0	107	71-121
1,1,2-Trichloroethane	8260C	21.2	20.0	106	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	20.3	20.0	102	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.6	20.0	103	71-131
1,1-Dichloropropene	8260C	19.6	20.0	98	79-125
1,2,3-Trichlorobenzene	8260C	21.7	20.0	109	69-129
1,2,3-Trichloropropane	8260C	19.1	20.0	95	73-122
1,2,4-Trichlorobenzene	8260C	23.1	20.0	115	69-130
1,2,4-Trimethylbenzene	8260C	21.5	20.0	107	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	21.2	20.0	106	62-128
1,2-Dibromoethane	8260C	21.3	20.0	107	77-121
1,2-Dichlorobenzene	8260C	21.6	20.0	108	80-119
1,2-Dichloroethane	8260C	20.9	20.0	105	73-128
1,2-Dichloropropane	8260C	19.4	20.0	97	78-122
1,3,5-Trimethylbenzene	8260C	22.8	20.0	114	75-124
1,3-Dichlorobenzene	8260C	21.6	20.0	108	80-119
1,3-Dichloropropane	8260C	21.0	20.0	105	80-119
1,4-Dichlorobenzene	8260C	21.3	20.0	106	79-118
2,2-Dichloropropane	8260C	21.9	20.0	110	60-139
2-Butanone (MEK)	8260C	17.3	20.0	87	56-143
2-Chlorotoluene	8260C	21.6	20.0	108	79-122
2-Hexanone	8260C	19.4	20.0	97	57-139
4-Chlorotoluene	8260C	21.7	20.0	109	78-122
4-Isopropyltoluene	8260C	22.2	20.0	111	77-127
4-Methyl-2-pentanone	8260C	18.8	20.0	94	67-130
Acetone	8260C	17.2	20.0	86	39-160
Benzene	8260C	21.5	20.0	108	79-120
Bromobenzene	8260C	21.6	20.0	108	80-120
Bromochloromethane	8260C	21.2	20.0	106	78-123
Bromodichloromethane	8260C	19.5	20.0	98	79-125
Bromoform	8260C	22.6	20.0	113	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609973
Project: Fort Drum, NY/Basewide Monitoring **Date Analyzed:** 09/29/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611742-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	21.2	20.0	106	53-141
Carbon Disulfide	8260C	19.3	20.0	97	64-133
Carbon Tetrachloride	8260C	20.3	20.0	101	72-136
Chlorobenzene	8260C	21.8	20.0	109	82-118
Chloroethane	8260C	19.1	20.0	95	60-138
Chloroform	8260C	19.7	20.0	99	79-124
Chloromethane	8260C	17.9	20.0	89	50-139
Dibromochloromethane	8260C	21.8	20.0	109	74-126
Dibromomethane	8260C	20.3	20.0	102	79-123
Dichlorodifluoromethane (CFC 12)	8260C	18.0	20.0	90	32-152
Dichloromethane	8260C	19.5	20.0	97	74-124
Ethylbenzene	8260C	20.8	20.0	104	79-121
Hexachlorobutadiene	8260C	21.5	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	22.3	20.0	111	72-131
Methyl tert-Butyl Ether	8260C	20.1	20.0	100	71-124
Naphthalene	8260C	22.4	20.0	112	61-128
Styrene	8260C	22.1	20.0	111	78-123
Tetrachloroethene (PCE)	8260C	20.7	20.0	104	74-129
Toluene	8260C	20.5	20.0	103	80-121
Trichloroethene (TCE)	8260C	21.6	20.0	108	79-123
Trichlorofluoromethane (CFC 11)	8260C	22.4	20.0	112	65-141
Vinyl Chloride	8260C	22.7	20.0	114	58-137
cis-1,2-Dichloroethene	8260C	22.4	20.0	112	78-123
cis-1,3-Dichloropropene	8260C	20.5	20.0	103	75-124
m,p-Xylenes	8260C	44.3	40.0	111	80-121
n-Butylbenzene	8260C	22.3	20.0	112	75-128
n-Propylbenzene	8260C	22.1	20.0	110	76-126
o-Xylene	8260C	22.0	20.0	110	78-122
sec-Butylbenzene	8260C	22.3	20.0	112	77-126
tert-Butylbenzene	8260C	22.2	20.0	111	78-124
trans-1,2-Dichloroethene	8260C	20.9	20.0	105	75-124
trans-1,3-Dichloropropene	8260C	19.8	20.0	99	73-127

October 17, 2016 Service Request No:R1609974

Stefan Bagnato
ARCADIS U.S., Inc.
855 Route 146, Ste 210
Clifton Park, NY 12065

Laboratory Results for: Fort Drum, NY BWM - Fall

Dear Stefan,

Enclosed are the results of the sample(s) submitted to our laboratory September 21, 2016
For your reference, these analyses have been assigned our service request number **R1609974.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Judy Henry

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Narrative Documents

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1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS
Sample Matrix: Water

Service Request:R1609974
Date Received:9/21/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Fourteen water samples were received for analysis at ALS Environmental on 09/21/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260C, 09/30/16: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

General Chemistry Analyses:

No significant anomalies were noted with this analysis.

Approved by _____ Date 10/17/2016

SAMPLE DETECTION SUMMARY

CLIENT ID: 1795-WWII-002-092016	Lab ID: R1609974-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.6	J	1.3	10	ug/L	8260C

CLIENT ID: 1595-PZ13-092016	Lab ID: R1609974-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	190		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	61		0.20	5.0	ug/L	8260C
2-Butanone (MEK)	3.4	J	0.81	10	ug/L	8260C
4-Isopropyltoluene	2.1	J	0.20	5.0	ug/L	8260C
Acetone	5.9	J	1.3	10	ug/L	8260C
Ethylbenzene	34		0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	7.4		0.20	5.0	ug/L	8260C
Naphthalene	79		0.20	5.0	ug/L	8260C
m,p-Xylenes	150		0.33	5.0	ug/L	8260C
n-Propylbenzene	8.5		0.20	5.0	ug/L	8260C
o-Xylene	23		0.20	5.0	ug/L	8260C
sec-Butylbenzene	1.2	J	0.27	5.0	ug/L	8260C

CLIENT ID: 1595-PZ12-092016	Lab ID: R1609974-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,3,5-Trimethylbenzene	0.24	J	0.20	5.0	ug/L	8260C
Acetone	1.9	J	1.3	10	ug/L	8260C

CLIENT ID: 1595-PZ11-092016	Lab ID: R1609974-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	2.4	J	1.3	10	ug/L	8260C

CLIENT ID: 1595-MWS8-092016	Lab ID: R1609974-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	8.4		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	15		0.20	5.0	ug/L	8260C
2-Butanone (MEK)	0.97	J	0.81	10	ug/L	8260C
4-Isopropyltoluene	0.65	J	0.20	5.0	ug/L	8260C
Acetone	4.4	J	1.3	10	ug/L	8260C
Carbon Disulfide	0.22	J	0.22	10	ug/L	8260C
Ethylbenzene	2.2	J	0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.24	J	0.20	5.0	ug/L	8260C
Naphthalene	1.9	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	8.7		0.33	5.0	ug/L	8260C
o-Xylene	6.6		0.20	5.0	ug/L	8260C
tert-Butylbenzene	0.28	J	0.20	5.0	ug/L	8260C

CLIENT ID: 1595-PZ9-092016	Lab ID: R1609974-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,2,4-Trimethylbenzene	0.83	J	0.20	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 1595-PZ9-092016	Lab ID: R1609974-007					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
1,3,5-Trimethylbenzene	4.1	J	0.20	5.0	ug/L	8260C
4-Isopropyltoluene	0.26	J	0.20	5.0	ug/L	8260C
4-Methyl-2-pentanone	2.3	J	0.67	10	ug/L	8260C
Acetone	2.2	J	1.3	10	ug/L	8260C
Ethylbenzene	0.95	J	0.20	5.0	ug/L	8260C
Toluene	0.21	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	1.7	J	0.33	5.0	ug/L	8260C
o-Xylene	4.0	J	0.20	5.0	ug/L	8260C

CLIENT ID: 2140-MW27-092116	Lab ID: R1609974-008					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	1.02		0.04	0.10	mg/L	SM 3500-Fe
Sulfate	32.4		0.2	2.0	mg/L	300.0
Ethylbenzene	0.38	J	0.20	5.0	ug/L	8260C

CLIENT ID: 3805-MWS3-092016	Lab ID: R1609974-011					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Acetone	1.4	J	1.3	10	ug/L	8260C
Tetrachloroethene (PCE)	1.1	J	0.30	5.0	ug/L	8260C

CLIENT ID: 3805-MWS5-092116	Lab ID: R1609974-013					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	0.06	J	0.04	0.10	mg/L	SM 3500-Fe
Nitrate as Nitrogen	0.7	J	0.5	1.0	mg/L	300.0
Sulfate	1.1	J	0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	0.48	J	0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	0.28	J	0.20	5.0	ug/L	8260C
Acetone	3.3	J	1.3	10	ug/L	8260C
Ethylbenzene	0.22	J	0.20	5.0	ug/L	8260C
Toluene	2.2	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	1.7	J	0.33	5.0	ug/L	8260C
o-Xylene	1.3	J	0.20	5.0	ug/L	8260C

CLIENT ID: 1795-MWS7-092116	Lab ID: R1609974-014					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Divalent (Ferrous Iron)	0.09	J	0.04	0.10	mg/L	SM 3500-Fe
Nitrate as Nitrogen	1.0	J	0.5	1.0	mg/L	300.0
Sulfate	14.2		0.2	2.0	mg/L	300.0
1,2,4-Trimethylbenzene	130		0.20	5.0	ug/L	8260C
1,3,5-Trimethylbenzene	130		0.20	5.0	ug/L	8260C
2-Butanone (MEK)	3.3	J	0.81	10	ug/L	8260C
4-Isopropyltoluene	2.5	J	0.20	5.0	ug/L	8260C
Acetone	3.2	J	1.3	10	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: 1795-MWS7-092116	Lab ID: R1609974-014					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Carbon Disulfide	0.22	J	0.22	10	ug/L	8260C
Ethylbenzene	5.2		0.20	5.0	ug/L	8260C
Isopropylbenzene (Cumene)	0.65	J	0.20	5.0	ug/L	8260C
Naphthalene	2.6	J	0.20	5.0	ug/L	8260C
Toluene	0.95	J	0.20	5.0	ug/L	8260C
m,p-Xylenes	550	D	1.7	25	ug/L	8260C
n-Propylbenzene	0.41	J	0.20	5.0	ug/L	8260C
o-Xylene	530	D	1.0	25	ug/L	8260C
sec-Butylbenzene	0.78	J	0.27	5.0	ug/L	8260C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609974-001	1795-WWII-002-092016	9/20/2016	1410
R1609974-002	1595-PZ13-092016	9/20/2016	1440
R1609974-003	1595-PZ12-092016	9/20/2016	1450
R1609974-004	1595-PZ11-092016	9/20/2016	1500
R1609974-005	1595-MWS8-092016	9/20/2016	1520
R1609974-006	1595-MWS9-092016	9/20/2016	1530
R1609974-007	1595-PZ9-092016	9/20/2016	1540
R1609974-008	2140-MW27-092116	9/21/2016	0825
R1609974-009	3805-MWS23-092016	9/20/2016	1400
R1609974-010	3805-MW39-092016	9/20/2016	1415
R1609974-011	3805-MWS3-092016	9/20/2016	1430
R1609974-012	TRIP BLANK	9/20/2016	
R1609974-013	3805-MWS5-092116	9/21/2016	0815
R1609974-014	1795-MWS7-092116	9/21/2016	1000

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39938

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 4 OF 6

Project Name: FT Drum BWM - Fall	Project Number: GP14 Drum. KB
Project Manager: Stefan Bagnato	Report CC:
Company/Address: Arcadis 855 Route 146 Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: stefan.bagnato@arcadis.com
Sampler's Signature:	Sampler's Printed Name: N. Cuthbert

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	USC	MWA						REMARKS/ ALTERNATE DESCRIPTION
1795-WW11002-092016		9/20/16	1410	GW	3								3							
1595-PZ13-092016		9/20/16	1440	GW	3								3							
1595-PZ12-092016		9/20/16	1450	GW	3								3							
1595-PZ11-092016		9/20/16	1500	GW	3								3							
1595-MW58-092016		9/20/16	1520	GW	3								3							
1595-MW59-092016		9/20/16	1530	GW	3								3							
1595-PZ9-092016		9/20/16	15:40	GW	3								3							
2140-MW-27-092116		9/21/16	0825	GW	4								3	1						

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

ASP Category A (Tier II)
EQuIS EFWEDD w/ Arcadis reference values

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day

REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
_X_ IV. Data Validation Report with Raw Data

Edata ____Yes ____No

INVOICE INFORMATION
PO #:
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature: Brian McGlew	Signature: Brian McGlew	Signature: Daniel Ward	Signature	Signature
Printed Name: Nichelle Cuthbert	Printed Name: BRIAN MCGLEW	Printed Name: BRIAN MCGLEW	Printed Name: ALS	Printed Name	Printed Name
Firm: Arcadis	Firm: ALS	Firm: ALS	Firm: 9/21/16 1655	Firm	Firm
Date/Time: 9/21/16 14:00	Date/Time: 9/21/16 1400	Date/Time: 9/21/16 1459	Date/Time	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

R1609974 5
ARCADIS U.S., Inc.
Fort Drum, NY

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

39928

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Project Name: Ft Drum-BWM-Fall	Project Number: 60140rum - RIFS
Project Manager: Stefan Baynath	Report CC:
Company/Address: Arcadis 855 Route 146, Suite 210 Clifton Park, NY 12065	
Phone #: 518-250-7354	Email: Stefan.baynath@arcads.com
Sampler's Signature:	Sampler's Printed Name: Michelle Griffith

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: HCl

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	MNA								REMARKS/ ALTERNATE DESCRIPTION
3805-MW523 092016		9/20/16	1400	W	3	3															
3805-MW39 092016		9/20/16	1415	W	3	3															
3805-MWS3 092016		9/20/16	1430	W	3	3															
Trip blank		—	—	W	3	3															
3805-MWS5-092116		9/21/16	0815		4	3							1								
1795-MWS7-092116		9/21/16	1000		4	3							1								

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals
ASP Category A (Tier 2)
EQuIS EFNEDD w/ Arcadis reference values

See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
REQUESTED REPORT DATE: _____

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata _____ Yes _____ No

INVOICE INFORMATION
PO #:
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Brian McGuire	Signature Brian McGuire	Signature Daniel Ward	Signature	Signature
Printed Name M. Griffith	Printed Name BRIAN McGUIRE	Printed Name BRIAN McGUIRE	Printed Name ALS	Printed Name	
Firm Arcadis	Firm ALS	Firm ALS	Firm 9/21/16 / 1655	Firm	
Date/Time 9/21/16 14:00	Date/Time 9/22/16 1400	Date/Time 9/21/16 4:59 01	Date/Time	Date/Time	

R1609974 5
ARCADIS U.S., Inc.
Fort Drum, NY

Distribution: White - Lab Copy; Yellow - Return to Originator

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R1609974 5
ARCADIS U.S., Inc.
Fort Drum, NY

Cooler Receipt and Preservation Check Form

Project/Client Arcadis Folder Number .

Cooler received on 9/21/16 by: DMW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (NA)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: ~~Wet Ice~~ **Dry Ice** **Gel packs** present?	(Y) N	7	Soil VOA received as:	Bulk Encore 5035set (NA)

8. Temperature Readings Date: 9/21/16 Time: 1700 ID: IR#5 IR#6 From: Temp Blank Sample Bottle

Observed Temp (°C)	3.1c						
Correction Factor (°C)	-0.2						
Corrected Temp (°C)	2.9						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by DMW on 9/21/16 at 1700
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown: Date: 9-22-16 Time: 1100 by: TS

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
5. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 060316-2A10 , 5317-002

Other Comments:
*3 Vials for the Trip Blank.

CLRES	BULK
DO	FLDT
~~HPROD~~	~~HGFP~~
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: 9/22/16

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% (25% for CLP) difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
SM 3500-Fe B.4.c	Water	Iron, Divalent (Ferrous Iron)

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS

Sample Name: 1795-WWII-002-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-001 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1595-PZ13-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-002 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1595-PZ12-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-003 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1595-PZ11-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-004 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1595-MWS8-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-005 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS

Sample Name: 1595-MWS9-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-006 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 1595-PZ9-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-007 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name: 2140-MW27-092116 **Date Collected:** 09/21/16
Lab Code: R1609974-008 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		NMANSEN

Sample Name: 3805-MWS23-092016 **Date Collected:** 09/20/16
Lab Code: R1609974-009 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS		

Sample Name:	3805-MW39-092016	**Date Collected:**	09/20/16
Lab Code:	R1609974-010	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	3805-MWS3-092016	**Date Collected:**	09/20/16
Lab Code:	R1609974-011	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	TRIP BLANK	**Date Collected:**	09/20/16
Lab Code:	R1609974-012	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

Sample Name:	3805-MWS5-092116	**Date Collected:**	09/21/16
Lab Code:	R1609974-013	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		NMANSEN

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS		

Sample Name:	1795-MWS7-092116	**Date Collected:**	09/21/16
Lab Code:	R1609974-014	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NMANSEN
8260C		FNAEGLER
SM 3500-Fe B.4.c		NMANSEN

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-WWII-002-092016	**Units:**	ug/L
Lab Code:	R1609974-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 13:25	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 13:25	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 13:25	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 13:25	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 13:25	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 13:25	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 13:25	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 13:25	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 13:25	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 13:25	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 13:25	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 13:25	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 13:25	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 13:25	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 13:25	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 13:25	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 13:25	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 13:25	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 13:25	
Acetone	**1.6 J**	10	5.0	1.3	1	09/29/16 13:25	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 13:25	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 13:25	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 13:25	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 13:25	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 13:25	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 13:25	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 13:25	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 13:25	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 13:25	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 13:25	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 13:25	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 13:25	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 13:25	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 13:25	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:10
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-WWII-002-092016	**Units:**	ug/L
Lab Code:	R1609974-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 13:25	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 13:25	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 13:25	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 13:25	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 13:25	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 13:25	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 13:25	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 13:25	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 13:25	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 13:25	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 13:25	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 13:25	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 13:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	09/29/16 13:25	
Dibromofluoromethane	98	80 - 119	09/29/16 13:25	
Toluene-d8	100	89 - 112	09/29/16 13:25	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ13-092016	**Units:**	ug/L
Lab Code:	R1609974-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/30/16 13:13	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/30/16 13:13	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/30/16 13:13	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/30/16 13:13	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/30/16 13:13	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/30/16 13:13	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/30/16 13:13	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/30/16 13:13	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/30/16 13:13	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/30/16 13:13	
1,2,4-Trimethylbenzene	**190**	5.0	1.0	0.20	1	09/30/16 13:13	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/30/16 13:13	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/30/16 13:13	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/30/16 13:13	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/30/16 13:13	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/30/16 13:13	
1,3,5-Trimethylbenzene	**61**	5.0	1.0	0.20	1	09/30/16 13:13	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 13:13	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 13:13	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 13:13	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 13:13	
2-Butanone (MEK)	**3.4 J**	10	1.0	0.81	1	09/30/16 13:13	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/30/16 13:13	
2-Hexanone	ND U	10	5.0	1.7	1	09/30/16 13:13	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/30/16 13:13	
4-Isopropyltoluene	**2.1 J**	5.0	1.0	0.20	1	09/30/16 13:13	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/30/16 13:13	
Acetone	**5.9 J**	10	5.0	1.3	1	09/30/16 13:13	
Benzene	ND U	5.0	1.0	0.20	1	09/30/16 13:13	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/30/16 13:13	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/30/16 13:13	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/30/16 13:13	
Bromoform	ND U	5.0	1.0	0.42	1	09/30/16 13:13	
Bromomethane	ND U	5.0	1.0	0.29	1	09/30/16 13:13	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/30/16 13:13	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/30/16 13:13	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/30/16 13:13	
Chloroethane	ND U	5.0	1.0	0.24	1	09/30/16 13:13	
Chloroform	ND U	5.0	1.0	0.25	1	09/30/16 13:13	
Chloromethane	ND U	5.0	1.0	0.21	1	09/30/16 13:13	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/30/16 13:13	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/30/16 13:13	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/30/16 13:13	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ13-092016	**Units:**	ug/L
Lab Code:	R1609974-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND	U	5.0	1.0	0.60	1	09/30/16 13:13	
Ethylbenzene	**34**		5.0	1.0	0.20	1	09/30/16 13:13	
Hexachlorobutadiene	ND	U	5.0	1.0	0.62	1	09/30/16 13:13	
Isopropylbenzene (Cumene)	**7.4**		5.0	1.0	0.20	1	09/30/16 13:13	
Methyl tert-Butyl Ether	ND	U	5.0	1.0	0.29	1	09/30/16 13:13	
Naphthalene	**79**		5.0	1.0	0.20	1	09/30/16 13:13	
Styrene	ND	U	5.0	1.0	0.20	1	09/30/16 13:13	
Tetrachloroethene (PCE)	ND	U	5.0	1.0	0.30	1	09/30/16 13:13	
Toluene	ND	U	5.0	1.0	0.20	1	09/30/16 13:13	
Trichloroethene (TCE)	ND	U	5.0	1.0	0.22	1	09/30/16 13:13	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	1.0	0.20	1	09/30/16 13:13	
Vinyl Chloride	ND	U	5.0	1.0	0.32	1	09/30/16 13:13	
cis-1,2-Dichloroethene	ND	U	5.0	1.0	0.30	1	09/30/16 13:13	
cis-1,3-Dichloropropene	ND	U	5.0	1.0	0.24	1	09/30/16 13:13	
m,p-Xylenes	**150**		5.0	2.0	0.33	1	09/30/16 13:13	
n-Butylbenzene	ND	U	5.0	1.0	0.21	1	09/30/16 13:13	
n-Propylbenzene	**8.5**		5.0	1.0	0.20	1	09/30/16 13:13	
o-Xylene	**23**		5.0	1.0	0.20	1	09/30/16 13:13	
sec-Butylbenzene	**1.2**	**J**	5.0	1.0	0.27	1	09/30/16 13:13	
tert-Butylbenzene	ND	U	5.0	1.0	0.20	1	09/30/16 13:13	
trans-1,2-Dichloroethene	ND	U	5.0	1.0	0.33	1	09/30/16 13:13	
trans-1,3-Dichloropropene	ND	U	5.0	1.0	0.20	1	09/30/16 13:13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/30/16 13:13	
Dibromofluoromethane	99	80 - 119	09/30/16 13:13	
Toluene-d8	101	89 - 112	09/30/16 13:13	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ12-092016	**Units:**	ug/L
Lab Code:	R1609974-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 11:50	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 11:50	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 11:50	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 11:50	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 11:50	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 11:50	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 11:50	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 11:50	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 11:50	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 11:50	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 11:50	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 11:50	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 11:50	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
1,3,5-Trimethylbenzene	**0.24 J**	5.0	1.0	0.20	1	10/03/16 11:50	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 11:50	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 11:50	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 11:50	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 11:50	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 11:50	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 11:50	
Acetone	**1.9 J**	10	5.0	1.3	1	10/03/16 11:50	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 11:50	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 11:50	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 11:50	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 11:50	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 11:50	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 11:50	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 11:50	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 11:50	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 11:50	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 11:50	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 11:50	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 11:50	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 11:50	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 11:50	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:50
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ12-092016	**Units:**	ug/L
Lab Code:	R1609974-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 11:50	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 11:50	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 11:50	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 11:50	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 11:50	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 11:50	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 11:50	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 11:50	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 11:50	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 11:50	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 11:50	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 11:50	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 11:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 114	10/03/16 11:50	
Dibromofluoromethane	97	80 - 119	10/03/16 11:50	
Toluene-d8	97	89 - 112	10/03/16 11:50	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ11-092016	**Units:**	ug/L
Lab Code:	R1609974-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 14:38	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 14:38	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 14:38	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 14:38	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 14:38	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 14:38	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 14:38	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 14:38	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 14:38	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 14:38	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 14:38	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 14:38	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 14:38	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 14:38	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 14:38	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 14:38	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 14:38	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 14:38	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 14:38	
Acetone	**2.4 J**	10	5.0	1.3	1	09/29/16 14:38	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 14:38	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 14:38	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 14:38	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 14:38	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 14:38	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 14:38	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 14:38	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 14:38	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 14:38	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 14:38	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 14:38	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 14:38	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 14:38	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 14:38	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ11-092016	**Units:**	ug/L
Lab Code:	R1609974-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 14:38	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 14:38	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 14:38	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 14:38	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 14:38	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 14:38	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 14:38	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 14:38	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 14:38	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 14:38	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 14:38	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 14:38	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 14:38	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 114	09/29/16 14:38	
Dibromofluoromethane	99	80 - 119	09/29/16 14:38	
Toluene-d8	102	89 - 112	09/29/16 14:38	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-MWS8-092016	**Units:**	ug/L
Lab Code:	R1609974-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	5.0	1.0	0.22	1	09/29/16 15:02	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	1.0	0.36	1	09/29/16 15:02	
1,1,2,2-Tetrachloroethane	ND	U	5.0	1.0	0.25	1	09/29/16 15:02	
1,1,2-Trichloroethane	ND	U	5.0	1.0	0.34	1	09/29/16 15:02	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.0	1.0	0.20	1	09/29/16 15:02	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.0	1.0	0.57	1	09/29/16 15:02	
1,1-Dichloropropene	ND	U	5.0	1.0	0.29	1	09/29/16 15:02	
1,2,3-Trichlorobenzene	ND	U	5.0	1.0	0.82	1	09/29/16 15:02	
1,2,3-Trichloropropane	ND	U	5.0	1.0	0.70	1	09/29/16 15:02	
1,2,4-Trichlorobenzene	ND	U	5.0	1.0	0.23	1	09/29/16 15:02	
1,2,4-Trimethylbenzene	**8.4**		5.0	1.0	0.20	1	09/29/16 15:02	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.0	1.0	0.74	1	09/29/16 15:02	
1,2-Dibromoethane	ND	U	5.0	1.0	0.24	1	09/29/16 15:02	
1,2-Dichlorobenzene	ND	U	5.0	1.0	0.21	1	09/29/16 15:02	
1,2-Dichloroethane	ND	U	5.0	1.0	0.36	1	09/29/16 15:02	
1,2-Dichloropropane	ND	U	5.0	1.0	0.20	1	09/29/16 15:02	
1,3,5-Trimethylbenzene	**15**		5.0	1.0	0.20	1	09/29/16 15:02	
1,3-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/29/16 15:02	
1,3-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/29/16 15:02	
1,4-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/29/16 15:02	
2,2-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/29/16 15:02	
2-Butanone (MEK)	**0.97**	**J**	10	1.0	0.81	1	09/29/16 15:02	
2-Chlorotoluene	ND	U	5.0	1.0	0.20	1	09/29/16 15:02	
2-Hexanone	ND	U	10	5.0	1.7	1	09/29/16 15:02	
4-Chlorotoluene	ND	U	5.0	1.0	0.24	1	09/29/16 15:02	
4-Isopropyltoluene	**0.65**	**J**	5.0	1.0	0.20	1	09/29/16 15:02	
4-Methyl-2-pentanone	ND	U	10	1.0	0.67	1	09/29/16 15:02	
Acetone	**4.4**	**J**	10	5.0	1.3	1	09/29/16 15:02	
Benzene	ND	U	5.0	1.0	0.20	1	09/29/16 15:02	
Bromobenzene	ND	U	5.0	1.0	0.28	1	09/29/16 15:02	
Bromochloromethane	ND	U	5.0	1.0	0.32	1	09/29/16 15:02	
Bromodichloromethane	ND	U	5.0	1.0	0.32	1	09/29/16 15:02	
Bromoform	ND	U	5.0	1.0	0.42	1	09/29/16 15:02	
Bromomethane	ND	U	5.0	1.0	0.29	1	09/29/16 15:02	
Carbon Disulfide	**0.22**	**J**	10	1.0	0.22	1	09/29/16 15:02	
Carbon Tetrachloride	ND	U	5.0	1.0	0.45	1	09/29/16 15:02	
Chlorobenzene	ND	U	5.0	1.0	0.29	1	09/29/16 15:02	
Chloroethane	ND	U	5.0	1.0	0.24	1	09/29/16 15:02	
Chloroform	ND	U	5.0	1.0	0.25	1	09/29/16 15:02	
Chloromethane	ND	U	5.0	1.0	0.21	1	09/29/16 15:02	
Dibromochloromethane	ND	U	5.0	1.0	0.31	1	09/29/16 15:02	
Dibromomethane	ND	U	5.0	1.0	0.32	1	09/29/16 15:02	
Dichlorodifluoromethane (CFC 12)	ND	U	5.0	1.0	0.46	1	09/29/16 15:02	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:20
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-MWS8-092016	**Units:**	ug/L
Lab Code:	R1609974-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 15:02	
Ethylbenzene	**2.2 J**	5.0	1.0	0.20	1	09/29/16 15:02	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 15:02	
Isopropylbenzene (Cumene)	**0.24 J**	5.0	1.0	0.20	1	09/29/16 15:02	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 15:02	
Naphthalene	**1.9 J**	5.0	1.0	0.20	1	09/29/16 15:02	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 15:02	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 15:02	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 15:02	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 15:02	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 15:02	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 15:02	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 15:02	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 15:02	
m,p-Xylenes	**8.7**	5.0	2.0	0.33	1	09/29/16 15:02	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 15:02	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:02	
o-Xylene	**6.6**	5.0	1.0	0.20	1	09/29/16 15:02	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 15:02	
tert-Butylbenzene	**0.28 J**	5.0	1.0	0.20	1	09/29/16 15:02	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 15:02	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 15:02	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/29/16 15:02	
Dibromofluoromethane	99	80 - 119	09/29/16 15:02	
Toluene-d8	100	89 - 112	09/29/16 15:02	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-MWS9-092016	**Units:**	ug/L
Lab Code:	R1609974-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 15:26	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 15:26	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 15:26	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 15:26	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 15:26	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 15:26	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 15:26	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 15:26	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 15:26	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 15:26	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 15:26	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 15:26	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 15:26	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 15:26	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 15:26	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 15:26	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 15:26	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 15:26	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 15:26	
Acetone	ND U	10	5.0	1.3	1	09/29/16 15:26	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 15:26	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 15:26	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 15:26	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 15:26	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 15:26	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 15:26	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 15:26	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 15:26	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 15:26	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 15:26	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 15:26	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 15:26	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 15:26	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 15:26	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-MWS9-092016	**Units:**	ug/L
Lab Code:	R1609974-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 15:26	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 15:26	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 15:26	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 15:26	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 15:26	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 15:26	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 15:26	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 15:26	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 15:26	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 15:26	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 15:26	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 15:26	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 15:26	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 114	09/29/16 15:26	
Dibromofluoromethane	97	80 - 119	09/29/16 15:26	
Toluene-d8	98	89 - 112	09/29/16 15:26	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ9-092016	**Units:**	ug/L
Lab Code:	R1609974-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 15:51	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 15:51	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 15:51	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 15:51	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 15:51	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 15:51	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 15:51	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 15:51	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 15:51	
1,2,4-Trimethylbenzene	**0.83 J**	5.0	1.0	0.20	1	09/29/16 15:51	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 15:51	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 15:51	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 15:51	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 15:51	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
1,3,5-Trimethylbenzene	**4.1 J**	5.0	1.0	0.20	1	09/29/16 15:51	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 15:51	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 15:51	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 15:51	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 15:51	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 15:51	
4-Isopropyltoluene	**0.26 J**	5.0	1.0	0.20	1	09/29/16 15:51	
4-Methyl-2-pentanone	**2.3 J**	10	1.0	0.67	1	09/29/16 15:51	
Acetone	**2.2 J**	10	5.0	1.3	1	09/29/16 15:51	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 15:51	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 15:51	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 15:51	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 15:51	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 15:51	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 15:51	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 15:51	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 15:51	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 15:51	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 15:51	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 15:51	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 15:51	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 15:51	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 15:51	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 15:40
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1595-PZ9-092016	**Units:**	ug/L
Lab Code:	R1609974-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 15:51	
Ethylbenzene	**0.95 J**	5.0	1.0	0.20	1	09/29/16 15:51	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 15:51	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 15:51	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 15:51	
Toluene	**0.21 J**	5.0	1.0	0.20	1	09/29/16 15:51	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 15:51	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 15:51	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 15:51	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 15:51	
m,p-Xylenes	**1.7 J**	5.0	2.0	0.33	1	09/29/16 15:51	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 15:51	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
o-Xylene	**4.0 J**	5.0	1.0	0.20	1	09/29/16 15:51	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 15:51	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 15:51	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 15:51	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 114	09/29/16 15:51	
Dibromofluoromethane	101	80 - 119	09/29/16 15:51	
Toluene-d8	102	89 - 112	09/29/16 15:51	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 08:25
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW27-092116	**Units:**	ug/L
Lab Code:	R1609974-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 16:15	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 16:15	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 16:15	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 16:15	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 16:15	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 16:15	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 16:15	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 16:15	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 16:15	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 16:15	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 16:15	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 16:15	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 16:15	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 16:15	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 16:15	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 16:15	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 16:15	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 16:15	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 16:15	
Acetone	ND U	10	5.0	1.3	1	09/29/16 16:15	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 16:15	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 16:15	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 16:15	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 16:15	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 16:15	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 16:15	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 16:15	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 16:15	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 16:15	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 16:15	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 16:15	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 16:15	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 16:15	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 16:15	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 08:25
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW27-092116	**Units:**	ug/L
Lab Code:	R1609974-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 16:15	
Ethylbenzene	**0.38 J**	5.0	1.0	0.20	1	09/29/16 16:15	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 16:15	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 16:15	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 16:15	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 16:15	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 16:15	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 16:15	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 16:15	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 16:15	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 16:15	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 16:15	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 16:15	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 16:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/29/16 16:15	
Dibromofluoromethane	99	80 - 119	09/29/16 16:15	
Toluene-d8	102	89 - 112	09/29/16 16:15	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS23-092016	**Units:**	ug/L
Lab Code:	R1609974-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 12:14	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 12:14	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 12:14	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 12:14	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 12:14	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 12:14	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 12:14	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 12:14	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 12:14	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 12:14	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 12:14	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 12:14	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 12:14	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 12:14	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 12:14	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 12:14	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 12:14	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 12:14	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 12:14	
Acetone	ND U	10	5.0	1.3	1	10/03/16 12:14	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 12:14	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 12:14	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 12:14	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 12:14	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 12:14	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 12:14	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 12:14	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 12:14	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 12:14	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 12:14	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 12:14	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 12:14	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 12:14	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 12:14	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS23-092016	**Units:**	ug/L
Lab Code:	R1609974-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 12:14	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 12:14	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 12:14	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 12:14	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 12:14	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 12:14	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 12:14	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 12:14	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 12:14	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 12:14	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 12:14	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 12:14	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 12:14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 114	10/03/16 12:14	
Dibromofluoromethane	97	80 - 119	10/03/16 12:14	
Toluene-d8	98	89 - 112	10/03/16 12:14	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MW39-092016	**Units:**	ug/L
Lab Code:	R1609974-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 17:04	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 17:04	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 17:04	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 17:04	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 17:04	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 17:04	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 17:04	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 17:04	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 17:04	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 17:04	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 17:04	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 17:04	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 17:04	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 17:04	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 17:04	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 17:04	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 17:04	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 17:04	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 17:04	
Acetone	ND U	10	5.0	1.3	1	09/29/16 17:04	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 17:04	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 17:04	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 17:04	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 17:04	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 17:04	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 17:04	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 17:04	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 17:04	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 17:04	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 17:04	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 17:04	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 17:04	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 17:04	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 17:04	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MW39-092016	**Units:**	ug/L
Lab Code:	R1609974-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 17:04	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 17:04	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 17:04	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 17:04	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 17:04	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 17:04	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 17:04	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 17:04	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 17:04	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 17:04	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 17:04	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 17:04	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 17:04	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 114	09/29/16 17:04	
Dibromofluoromethane	97	80 - 119	09/29/16 17:04	
Toluene-d8	98	89 - 112	09/29/16 17:04	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS3-092016	**Units:**	ug/L
Lab Code:	R1609974-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 17:28	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 17:28	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 17:28	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 17:28	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 17:28	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 17:28	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 17:28	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 17:28	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 17:28	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 17:28	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 17:28	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 17:28	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 17:28	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 17:28	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 17:28	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 17:28	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 17:28	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 17:28	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 17:28	
Acetone	**1.4 J**	10	5.0	1.3	1	09/29/16 17:28	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 17:28	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 17:28	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 17:28	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 17:28	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 17:28	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 17:28	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 17:28	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 17:28	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 17:28	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 17:28	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 17:28	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 17:28	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 17:28	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 17:28	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16 14:30
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS3-092016	**Units:**	ug/L
Lab Code:	R1609974-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 17:28	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 17:28	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 17:28	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
Tetrachloroethene (PCE)	**1.1 J**	5.0	1.0	0.30	1	09/29/16 17:28	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 17:28	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 17:28	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 17:28	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 17:28	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 17:28	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 17:28	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 17:28	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 17:28	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 17:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/29/16 17:28	
Dibromofluoromethane	98	80 - 119	09/29/16 17:28	
Toluene-d8	100	89 - 112	09/29/16 17:28	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609974-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/30/16 11:11	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/30/16 11:11	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/30/16 11:11	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/30/16 11:11	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/30/16 11:11	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/30/16 11:11	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/30/16 11:11	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/30/16 11:11	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/30/16 11:11	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/30/16 11:11	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/30/16 11:11	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/30/16 11:11	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/30/16 11:11	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 11:11	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 11:11	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/30/16 11:11	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
2-Hexanone	ND U	10	5.0	1.7	1	09/30/16 11:11	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/30/16 11:11	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/30/16 11:11	
Acetone	ND U	10	5.0	1.3	1	09/30/16 11:11	
Benzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/30/16 11:11	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/30/16 11:11	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/30/16 11:11	
Bromoform	ND U	5.0	1.0	0.42	1	09/30/16 11:11	
Bromomethane	ND U	5.0	1.0	0.29	1	09/30/16 11:11	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/30/16 11:11	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/30/16 11:11	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/30/16 11:11	
Chloroethane	ND U	5.0	1.0	0.24	1	09/30/16 11:11	
Chloroform	ND U	5.0	1.0	0.25	1	09/30/16 11:11	
Chloromethane	ND U	5.0	1.0	0.21	1	09/30/16 11:11	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/30/16 11:11	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/30/16 11:11	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/30/16 11:11	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/20/16
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R1609974-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/30/16 11:11	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/30/16 11:11	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/30/16 11:11	
Naphthalene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
Styrene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/30/16 11:11	
Toluene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/30/16 11:11	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/30/16 11:11	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/30/16 11:11	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/30/16 11:11	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/30/16 11:11	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/30/16 11:11	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
o-Xylene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/30/16 11:11	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/30/16 11:11	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/30/16 11:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/30/16 11:11	
Dibromofluoromethane	100	80 - 119	09/30/16 11:11	
Toluene-d8	100	89 - 112	09/30/16 11:11	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS5-092116	**Units:**	ug/L
Lab Code:	R1609974-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/30/16 11:35	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/30/16 11:35	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/30/16 11:35	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/30/16 11:35	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/30/16 11:35	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/30/16 11:35	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/30/16 11:35	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/30/16 11:35	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/30/16 11:35	
1,2,4-Trimethylbenzene	**0.48 J**	5.0	1.0	0.20	1	09/30/16 11:35	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/30/16 11:35	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/30/16 11:35	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/30/16 11:35	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/30/16 11:35	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
1,3,5-Trimethylbenzene	**0.28 J**	5.0	1.0	0.20	1	09/30/16 11:35	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 11:35	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 11:35	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/30/16 11:35	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
2-Hexanone	ND U	10	5.0	1.7	1	09/30/16 11:35	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/30/16 11:35	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/30/16 11:35	
Acetone	**3.3 J**	10	5.0	1.3	1	09/30/16 11:35	
Benzene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/30/16 11:35	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/30/16 11:35	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/30/16 11:35	
Bromoform	ND U	5.0	1.0	0.42	1	09/30/16 11:35	
Bromomethane	ND U	5.0	1.0	0.29	1	09/30/16 11:35	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/30/16 11:35	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/30/16 11:35	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/30/16 11:35	
Chloroethane	ND U	5.0	1.0	0.24	1	09/30/16 11:35	
Chloroform	ND U	5.0	1.0	0.25	1	09/30/16 11:35	
Chloromethane	ND U	5.0	1.0	0.21	1	09/30/16 11:35	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/30/16 11:35	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/30/16 11:35	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/30/16 11:35	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS5-092116	**Units:**	ug/L
Lab Code:	R1609974-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/30/16 11:35	
Ethylbenzene	**0.22 J**	5.0	1.0	0.20	1	09/30/16 11:35	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/30/16 11:35	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/30/16 11:35	
Naphthalene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
Styrene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/30/16 11:35	
Toluene	**2.2 J**	5.0	1.0	0.20	1	09/30/16 11:35	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/30/16 11:35	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/30/16 11:35	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/30/16 11:35	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/30/16 11:35	
m,p-Xylenes	**1.7 J**	5.0	2.0	0.33	1	09/30/16 11:35	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/30/16 11:35	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
o-Xylene	**1.3 J**	5.0	1.0	0.20	1	09/30/16 11:35	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/30/16 11:35	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/30/16 11:35	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/30/16 11:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	09/30/16 11:35	
Dibromofluoromethane	100	80 - 119	09/30/16 11:35	
Toluene-d8	101	89 - 112	09/30/16 11:35	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS7-092116	**Units:**	ug/L
Lab Code:	R1609974-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	5.0	1.0	0.22	1	09/30/16 12:00	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	1.0	0.36	1	09/30/16 12:00	
1,1,2,2-Tetrachloroethane	ND	U	5.0	1.0	0.25	1	09/30/16 12:00	
1,1,2-Trichloroethane	ND	U	5.0	1.0	0.34	1	09/30/16 12:00	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.0	1.0	0.20	1	09/30/16 12:00	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.0	1.0	0.57	1	09/30/16 12:00	
1,1-Dichloropropene	ND	U	5.0	1.0	0.29	1	09/30/16 12:00	
1,2,3-Trichlorobenzene	ND	U	5.0	1.0	0.82	1	09/30/16 12:00	
1,2,3-Trichloropropane	ND	U	5.0	1.0	0.70	1	09/30/16 12:00	
1,2,4-Trichlorobenzene	ND	U	5.0	1.0	0.23	1	09/30/16 12:00	
1,2,4-Trimethylbenzene	**130**		5.0	1.0	0.20	1	09/30/16 12:00	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.0	1.0	0.74	1	09/30/16 12:00	
1,2-Dibromoethane	ND	U	5.0	1.0	0.24	1	09/30/16 12:00	
1,2-Dichlorobenzene	ND	U	5.0	1.0	0.21	1	09/30/16 12:00	
1,2-Dichloroethane	ND	U	5.0	1.0	0.36	1	09/30/16 12:00	
1,2-Dichloropropane	ND	U	5.0	1.0	0.20	1	09/30/16 12:00	
1,3,5-Trimethylbenzene	**130**		5.0	1.0	0.20	1	09/30/16 12:00	
1,3-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/30/16 12:00	
1,3-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/30/16 12:00	
1,4-Dichlorobenzene	ND	U	5.0	1.0	0.20	1	09/30/16 12:00	
2,2-Dichloropropane	ND	U	5.0	1.0	0.27	1	09/30/16 12:00	
2-Butanone (MEK)	**3.3**	**J**	10	1.0	0.81	1	09/30/16 12:00	
2-Chlorotoluene	ND	U	5.0	1.0	0.20	1	09/30/16 12:00	
2-Hexanone	ND	U	10	5.0	1.7	1	09/30/16 12:00	
4-Chlorotoluene	ND	U	5.0	1.0	0.24	1	09/30/16 12:00	
4-Isopropyltoluene	**2.5**	**J**	5.0	1.0	0.20	1	09/30/16 12:00	
4-Methyl-2-pentanone	ND	U	10	1.0	0.67	1	09/30/16 12:00	
Acetone	**3.2**	**J**	10	5.0	1.3	1	09/30/16 12:00	
Benzene	ND	U	5.0	1.0	0.20	1	09/30/16 12:00	
Bromobenzene	ND	U	5.0	1.0	0.28	1	09/30/16 12:00	
Bromochloromethane	ND	U	5.0	1.0	0.32	1	09/30/16 12:00	
Bromodichloromethane	ND	U	5.0	1.0	0.32	1	09/30/16 12:00	
Bromoform	ND	U	5.0	1.0	0.42	1	09/30/16 12:00	
Bromomethane	ND	U	5.0	1.0	0.29	1	09/30/16 12:00	
Carbon Disulfide	**0.22**	**J**	10	1.0	0.22	1	09/30/16 12:00	
Carbon Tetrachloride	ND	U	5.0	1.0	0.45	1	09/30/16 12:00	
Chlorobenzene	ND	U	5.0	1.0	0.29	1	09/30/16 12:00	
Chloroethane	ND	U	5.0	1.0	0.24	1	09/30/16 12:00	
Chloroform	ND	U	5.0	1.0	0.25	1	09/30/16 12:00	
Chloromethane	ND	U	5.0	1.0	0.21	1	09/30/16 12:00	
Dibromochloromethane	ND	U	5.0	1.0	0.31	1	09/30/16 12:00	
Dibromomethane	ND	U	5.0	1.0	0.32	1	09/30/16 12:00	
Dichlorodifluoromethane (CFC 12)	ND	U	5.0	1.0	0.46	1	09/30/16 12:00	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS7-092116	**Units:**	ug/L
Lab Code:	R1609974-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/30/16 12:00	
Ethylbenzene	**5.2**	5.0	1.0	0.20	1	09/30/16 12:00	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/30/16 12:00	
Isopropylbenzene (Cumene)	**0.65 J**	5.0	1.0	0.20	1	09/30/16 12:00	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/30/16 12:00	
Naphthalene	**2.6 J**	5.0	1.0	0.20	1	09/30/16 12:00	
Styrene	ND U	5.0	1.0	0.20	1	09/30/16 12:00	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/30/16 12:00	
Toluene	**0.95 J**	5.0	1.0	0.20	1	09/30/16 12:00	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/30/16 12:00	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/30/16 12:00	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/30/16 12:00	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/30/16 12:00	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/30/16 12:00	
m,p-Xylenes	**550 D**	25	10	1.7	5	09/30/16 13:37	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/30/16 12:00	
n-Propylbenzene	**0.41 J**	5.0	1.0	0.20	1	09/30/16 12:00	
o-Xylene	**530 D**	25	5.0	1.0	5	09/30/16 13:37	
sec-Butylbenzene	**0.78 J**	5.0	1.0	0.27	1	09/30/16 12:00	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 12:00	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/30/16 12:00	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/30/16 12:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 114	09/30/16 12:00	
Dibromofluoromethane	99	80 - 119	09/30/16 12:00	
Toluene-d8	100	89 - 112	09/30/16 12:00	

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 08:25
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	2140-MW27-092116	**Basis:**	NA
Lab Code:	R1609974-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**1.02**	mg/L	0.10	0.08	0.04	1	09/21/16 18:05	
Nitrate as Nitrogen	300.0	ND U	mg/L	1.0	0.5	0.5	10	09/21/16 23:12	
Sulfate	300.0	**32.4**	mg/L	2.0	1.0	0.2	10	09/21/16 23:12	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	3805-MWS5-092116	**Basis:**	NA
Lab Code:	R1609974-013		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.06 J**	mg/L	0.10	0.08	0.04	1	09/21/16 18:05	
Nitrate as Nitrogen	300.0	**0.7 J**	mg/L	1.0	0.5	0.5	10	09/21/16 23:26	
Sulfate	300.0	**1.1 J**	mg/L	2.0	1.0	0.2	10	09/21/16 23:26	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 16:55
Sample Name:	1795-MWS7-092116	**Basis:**	NA
Lab Code:	R1609974-014		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.09 J**	mg/L	0.10	0.08	0.04	1	09/21/16 18:05	
Nitrate as Nitrogen	300.0	**1.0 J**	mg/L	1.0	0.5	0.5	10	09/21/16 22:59	
Sulfate	300.0	**14.2**	mg/L	2.0	1.0	0.2	10	09/21/16 22:59	

QC Summary Forms

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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www.alsglobal.com

Client: ARCADIS U.S., Inc. **Service Request:** R1609974

Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 114	Dibromofluoromethane 80 - 119	Toluene-d8 89 - 112
1795-WWII-002-092016	R1609974-001	96	98	100
1595-PZ13-092016	R1609974-002	98	99	101
1595-PZ12-092016	R1609974-003	92	97	97
1595-PZ11-092016	R1609974-004	98	99	102
1595-MWS8-092016	R1609974-005	95	99	100
1595-MWS9-092016	R1609974-006	93	97	98
1595-PZ9-092016	R1609974-007	101	101	102
2140-MW27-092116	R1609974-008	97	99	102
3805-MWS23-092016	R1609974-009	96	97	98
3805-MW39-092016	R1609974-010	94	97	98
3805-MWS3-092016	R1609974-011	95	98	100
TRIP BLANK	R1609974-012	95	100	100
3805-MWS5-092116	R1609974-013	97	100	101
1795-MWS7-092116	R1609974-014	101	99	100
Lab Control Sample	RQ1611742-03	96	100	99
Method Blank	RQ1611742-04	95	98	100
Lab Control Sample	RQ1611780-04	101	100	100
Method Blank	RQ1611780-05	99	99	102
Method Blank	RQ1611861-01	97	99	100
Lab Control Sample	RQ1611861-02	98	103	98

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611742-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/29/16 10:34	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/29/16 10:34	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/29/16 10:34	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/29/16 10:34	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/29/16 10:34	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/29/16 10:34	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/29/16 10:34	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/29/16 10:34	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/29/16 10:34	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/29/16 10:34	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/29/16 10:34	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 10:34	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/29/16 10:34	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/29/16 10:34	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
2-Hexanone	ND U	10	5.0	1.7	1	09/29/16 10:34	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/29/16 10:34	
Acetone	ND U	10	5.0	1.3	1	09/29/16 10:34	
Benzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/29/16 10:34	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
Bromoform	ND U	5.0	1.0	0.42	1	09/29/16 10:34	
Bromomethane	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/29/16 10:34	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/29/16 10:34	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
Chloroethane	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
Chloroform	ND U	5.0	1.0	0.25	1	09/29/16 10:34	
Chloromethane	ND U	5.0	1.0	0.21	1	09/29/16 10:34	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/29/16 10:34	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/29/16 10:34	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611742-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/29/16 10:34	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/29/16 10:34	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/29/16 10:34	
Naphthalene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Styrene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/29/16 10:34	
Toluene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/29/16 10:34	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/29/16 10:34	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/29/16 10:34	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/29/16 10:34	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/29/16 10:34	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/29/16 10:34	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
o-Xylene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/29/16 10:34	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/29/16 10:34	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/29/16 10:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 114	09/29/16 10:34	
Dibromofluoromethane	98	80 - 119	09/29/16 10:34	
Toluene-d8	100	89 - 112	09/29/16 10:34	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611780-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	09/30/16 10:47	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	09/30/16 10:47	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	09/30/16 10:47	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	09/30/16 10:47	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	09/30/16 10:47	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	09/30/16 10:47	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	09/30/16 10:47	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	09/30/16 10:47	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	09/30/16 10:47	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	09/30/16 10:47	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	09/30/16 10:47	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
2-Hexanone	ND U	10	5.0	1.7	1	09/30/16 10:47	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	09/30/16 10:47	
Acetone	ND U	10	5.0	1.3	1	09/30/16 10:47	
Benzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Bromobenzene	ND U	5.0	1.0	0.28	1	09/30/16 10:47	
Bromochloromethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Bromoform	ND U	5.0	1.0	0.42	1	09/30/16 10:47	
Bromomethane	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Carbon Disulfide	ND U	10	1.0	0.22	1	09/30/16 10:47	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	09/30/16 10:47	
Chlorobenzene	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Chloroethane	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
Chloroform	ND U	5.0	1.0	0.25	1	09/30/16 10:47	
Chloromethane	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	09/30/16 10:47	
Dibromomethane	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	09/30/16 10:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611780-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	09/30/16 10:47	
Ethylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	09/30/16 10:47	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	09/30/16 10:47	
Naphthalene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Styrene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	09/30/16 10:47	
Toluene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	09/30/16 10:47	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	09/30/16 10:47	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	09/30/16 10:47	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	09/30/16 10:47	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	09/30/16 10:47	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	09/30/16 10:47	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
o-Xylene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	09/30/16 10:47	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	09/30/16 10:47	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	09/30/16 10:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 114	09/30/16 10:47	
Dibromofluoromethane	99	80 - 119	09/30/16 10:47	
Toluene-d8	102	89 - 112	09/30/16 10:47	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611861-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	5.0	1.0	0.22	1	10/03/16 11:26	
1,1,1-Trichloroethane (TCA)	ND U	5.0	1.0	0.36	1	10/03/16 11:26	
1,1,2,2-Tetrachloroethane	ND U	5.0	1.0	0.25	1	10/03/16 11:26	
1,1,2-Trichloroethane	ND U	5.0	1.0	0.34	1	10/03/16 11:26	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1.0	0.57	1	10/03/16 11:26	
1,1-Dichloropropene	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
1,2,3-Trichlorobenzene	ND U	5.0	1.0	0.82	1	10/03/16 11:26	
1,2,3-Trichloropropane	ND U	5.0	1.0	0.70	1	10/03/16 11:26	
1,2,4-Trichlorobenzene	ND U	5.0	1.0	0.23	1	10/03/16 11:26	
1,2,4-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	1.0	0.74	1	10/03/16 11:26	
1,2-Dibromoethane	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
1,2-Dichlorobenzene	ND U	5.0	1.0	0.21	1	10/03/16 11:26	
1,2-Dichloroethane	ND U	5.0	1.0	0.36	1	10/03/16 11:26	
1,2-Dichloropropane	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,3,5-Trimethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,3-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
1,3-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 11:26	
1,4-Dichlorobenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
2,2-Dichloropropane	ND U	5.0	1.0	0.27	1	10/03/16 11:26	
2-Butanone (MEK)	ND U	10	1.0	0.81	1	10/03/16 11:26	
2-Chlorotoluene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
2-Hexanone	ND U	10	5.0	1.7	1	10/03/16 11:26	
4-Chlorotoluene	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
4-Isopropyltoluene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
4-Methyl-2-pentanone	ND U	10	1.0	0.67	1	10/03/16 11:26	
Acetone	ND U	10	5.0	1.3	1	10/03/16 11:26	
Benzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Bromobenzene	ND U	5.0	1.0	0.28	1	10/03/16 11:26	
Bromochloromethane	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
Bromodichloromethane	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
Bromoform	ND U	5.0	1.0	0.42	1	10/03/16 11:26	
Bromomethane	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
Carbon Disulfide	ND U	10	1.0	0.22	1	10/03/16 11:26	
Carbon Tetrachloride	ND U	5.0	1.0	0.45	1	10/03/16 11:26	
Chlorobenzene	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
Chloroethane	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
Chloroform	ND U	5.0	1.0	0.25	1	10/03/16 11:26	
Chloromethane	ND U	5.0	1.0	0.21	1	10/03/16 11:26	
Dibromochloromethane	ND U	5.0	1.0	0.31	1	10/03/16 11:26	
Dibromomethane	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	1.0	0.46	1	10/03/16 11:26	

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611861-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Dichloromethane	ND U	5.0	1.0	0.60	1	10/03/16 11:26	
Ethylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Hexachlorobutadiene	ND U	5.0	1.0	0.62	1	10/03/16 11:26	
Isopropylbenzene (Cumene)	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Methyl tert-Butyl Ether	ND U	5.0	1.0	0.29	1	10/03/16 11:26	
Naphthalene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Styrene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Tetrachloroethene (PCE)	ND U	5.0	1.0	0.30	1	10/03/16 11:26	
Toluene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Trichloroethene (TCE)	ND U	5.0	1.0	0.22	1	10/03/16 11:26	
Trichlorofluoromethane (CFC 11)	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
Vinyl Chloride	ND U	5.0	1.0	0.32	1	10/03/16 11:26	
cis-1,2-Dichloroethene	ND U	5.0	1.0	0.30	1	10/03/16 11:26	
cis-1,3-Dichloropropene	ND U	5.0	1.0	0.24	1	10/03/16 11:26	
m,p-Xylenes	ND U	5.0	2.0	0.33	1	10/03/16 11:26	
n-Butylbenzene	ND U	5.0	1.0	0.21	1	10/03/16 11:26	
n-Propylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
o-Xylene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
sec-Butylbenzene	ND U	5.0	1.0	0.27	1	10/03/16 11:26	
tert-Butylbenzene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	
trans-1,2-Dichloroethene	ND U	5.0	1.0	0.33	1	10/03/16 11:26	
trans-1,3-Dichloropropene	ND U	5.0	1.0	0.20	1	10/03/16 11:26	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 114	10/03/16 11:26	
Dibromofluoromethane	99	80 - 119	10/03/16 11:26	
Toluene-d8	100	89 - 112	10/03/16 11:26	

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS **Date Analyzed:** 09/29/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611742-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	21.1	20.0	106	78-124
1,1,1-Trichloroethane (TCA)	8260C	20.9	20.0	104	74-131
1,1,2,2-Tetrachloroethane	8260C	21.3	20.0	107	71-121
1,1,2-Trichloroethane	8260C	21.2	20.0	106	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	20.3	20.0	102	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.6	20.0	103	71-131
1,1-Dichloropropene	8260C	19.6	20.0	98	79-125
1,2,3-Trichlorobenzene	8260C	21.7	20.0	109	69-129
1,2,3-Trichloropropane	8260C	19.1	20.0	95	73-122
1,2,4-Trichlorobenzene	8260C	23.1	20.0	115	69-130
1,2,4-Trimethylbenzene	8260C	21.5	20.0	107	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	21.2	20.0	106	62-128
1,2-Dibromoethane	8260C	21.3	20.0	107	77-121
1,2-Dichlorobenzene	8260C	21.6	20.0	108	80-119
1,2-Dichloroethane	8260C	20.9	20.0	105	73-128
1,2-Dichloropropane	8260C	19.4	20.0	97	78-122
1,3,5-Trimethylbenzene	8260C	22.8	20.0	114	75-124
1,3-Dichlorobenzene	8260C	21.6	20.0	108	80-119
1,3-Dichloropropane	8260C	21.0	20.0	105	80-119
1,4-Dichlorobenzene	8260C	21.3	20.0	106	79-118
2,2-Dichloropropane	8260C	21.9	20.0	110	60-139
2-Butanone (MEK)	8260C	17.3	20.0	87	56-143
2-Chlorotoluene	8260C	21.6	20.0	108	79-122
2-Hexanone	8260C	19.4	20.0	97	57-139
4-Chlorotoluene	8260C	21.7	20.0	109	78-122
4-Isopropyltoluene	8260C	22.2	20.0	111	77-127
4-Methyl-2-pentanone	8260C	18.8	20.0	94	67-130
Acetone	8260C	17.2	20.0	86	39-160
Benzene	8260C	21.5	20.0	108	79-120
Bromobenzene	8260C	21.6	20.0	108	80-120
Bromochloromethane	8260C	21.2	20.0	106	78-123
Bromodichloromethane	8260C	19.5	20.0	98	79-125
Bromoform	8260C	22.6	20.0	113	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS **Date Analyzed:** 09/29/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611742-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	21.2	20.0	106	53-141
Carbon Disulfide	8260C	19.3	20.0	97	64-133
Carbon Tetrachloride	8260C	20.3	20.0	101	72-136
Chlorobenzene	8260C	21.8	20.0	109	82-118
Chloroethane	8260C	19.1	20.0	95	60-138
Chloroform	8260C	19.7	20.0	99	79-124
Chloromethane	8260C	17.9	20.0	89	50-139
Dibromochloromethane	8260C	21.8	20.0	109	74-126
Dibromomethane	8260C	20.3	20.0	102	79-123
Dichlorodifluoromethane (CFC 12)	8260C	18.0	20.0	90	32-152
Dichloromethane	8260C	19.5	20.0	97	74-124
Ethylbenzene	8260C	20.8	20.0	104	79-121
Hexachlorobutadiene	8260C	21.5	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	22.3	20.0	111	72-131
Methyl tert-Butyl Ether	8260C	20.1	20.0	100	71-124
Naphthalene	8260C	22.4	20.0	112	61-128
Styrene	8260C	22.1	20.0	111	78-123
Tetrachloroethene (PCE)	8260C	20.7	20.0	104	74-129
Toluene	8260C	20.5	20.0	103	80-121
Trichloroethene (TCE)	8260C	21.6	20.0	108	79-123
Trichlorofluoromethane (CFC 11)	8260C	22.4	20.0	112	65-141
Vinyl Chloride	8260C	22.7	20.0	114	58-137
cis-1,2-Dichloroethene	8260C	22.4	20.0	112	78-123
cis-1,3-Dichloropropene	8260C	20.5	20.0	103	75-124
m,p-Xylenes	8260C	44.3	40.0	111	80-121
n-Butylbenzene	8260C	22.3	20.0	112	75-128
n-Propylbenzene	8260C	22.1	20.0	110	76-126
o-Xylene	8260C	22.0	20.0	110	78-122
sec-Butylbenzene	8260C	22.3	20.0	112	77-126
tert-Butylbenzene	8260C	22.2	20.0	111	78-124
trans-1,2-Dichloroethene	8260C	20.9	20.0	105	75-124
trans-1,3-Dichloropropene	8260C	19.8	20.0	99	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS **Date Analyzed:** 09/30/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611780-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.2	20.0	101	78-124
1,1,1-Trichloroethane (TCA)	8260C	21.1	20.0	105	74-131
1,1,2,2-Tetrachloroethane	8260C	19.5	20.0	97	71-121
1,1,2-Trichloroethane	8260C	19.8	20.0	99	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	19.6	20.0	98	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.9	20.0	104	71-131
1,1-Dichloropropene	8260C	20.4	20.0	102	79-125
1,2,3-Trichlorobenzene	8260C	19.3	20.0	97	69-129
1,2,3-Trichloropropane	8260C	18.6	20.0	93	73-122
1,2,4-Trichlorobenzene	8260C	21.2	20.0	106	69-130
1,2,4-Trimethylbenzene	8260C	20.6	20.0	103	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	22.1	20.0	111	62-128
1,2-Dibromoethane	8260C	19.9	20.0	100	77-121
1,2-Dichlorobenzene	8260C	20.5	20.0	103	80-119
1,2-Dichloroethane	8260C	19.7	20.0	98	73-128
1,2-Dichloropropane	8260C	19.7	20.0	98	78-122
1,3,5-Trimethylbenzene	8260C	21.4	20.0	107	75-124
1,3-Dichlorobenzene	8260C	20.4	20.0	102	80-119
1,3-Dichloropropane	8260C	19.2	20.0	96	80-119
1,4-Dichlorobenzene	8260C	20.6	20.0	103	79-118
2,2-Dichloropropane	8260C	21.6	20.0	108	60-139
2-Butanone (MEK)	8260C	17.3	20.0	86	56-143
2-Chlorotoluene	8260C	20.7	20.0	103	79-122
2-Hexanone	8260C	17.7	20.0	88	57-139
4-Chlorotoluene	8260C	20.8	20.0	104	78-122
4-Isopropyltoluene	8260C	21.6	20.0	108	77-127
4-Methyl-2-pentanone	8260C	18.2	20.0	91	67-130
Acetone	8260C	16.6	20.0	83	39-160
Benzene	8260C	21.1	20.0	106	79-120
Bromobenzene	8260C	21.4	20.0	107	80-120
Bromochloromethane	8260C	20.3	20.0	101	78-123
Bromodichloromethane	8260C	18.7	20.0	93	79-125
Bromoform	8260C	21.8	20.0	109	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS **Date Analyzed:** 09/30/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611780-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	22.2	20.0	111	53-141
Carbon Disulfide	8260C	18.3	20.0	92	64-133
Carbon Tetrachloride	8260C	20.6	20.0	103	72-136
Chlorobenzene	8260C	20.5	20.0	103	82-118
Chloroethane	8260C	18.2	20.0	91	60-138
Chloroform	8260C	18.7	20.0	94	79-124
Chloromethane	8260C	17.3	20.0	87	50-139
Dibromochloromethane	8260C	20.4	20.0	102	74-126
Dibromomethane	8260C	19.6	20.0	98	79-123
Dichlorodifluoromethane (CFC 12)	8260C	18.0	20.0	90	32-152
Dichloromethane	8260C	19.2	20.0	96	74-124
Ethylbenzene	8260C	21.0	20.0	105	79-121
Hexachlorobutadiene	8260C	21.5	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	21.9	20.0	109	72-131
Methyl tert-Butyl Ether	8260C	18.5	20.0	92	71-124
Naphthalene	8260C	20.1	20.0	101	61-128
Styrene	8260C	21.3	20.0	107	78-123
Tetrachloroethene (PCE)	8260C	21.5	20.0	107	74-129
Toluene	8260C	20.2	20.0	101	80-121
Trichloroethene (TCE)	8260C	21.3	20.0	107	79-123
Trichlorofluoromethane (CFC 11)	8260C	22.5	20.0	113	65-141
Vinyl Chloride	8260C	22.9	20.0	115	58-137
cis-1,2-Dichloroethene	8260C	20.6	20.0	103	78-123
cis-1,3-Dichloropropene	8260C	19.5	20.0	97	75-124
m,p-Xylenes	8260C	43.1	40.0	108	80-121
n-Butylbenzene	8260C	21.5	20.0	107	75-128
n-Propylbenzene	8260C	21.6	20.0	108	76-126
o-Xylene	8260C	21.5	20.0	107	78-122
sec-Butylbenzene	8260C	21.8	20.0	109	77-126
tert-Butylbenzene	8260C	21.9	20.0	110	78-124
trans-1,2-Dichloroethene	8260C	20.3	20.0	101	75-124
trans-1,3-Dichloropropene	8260C	19.0	20.0	95	73-127

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS **Date Analyzed:** 10/03/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611861-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.6	20.0	103	78-124
1,1,1-Trichloroethane (TCA)	8260C	19.1	20.0	95	74-131
1,1,2,2-Tetrachloroethane	8260C	19.2	20.0	96	71-121
1,1,2-Trichloroethane	8260C	20.4	20.0	102	80-119
1,1-Dichloroethane (1,1-DCA)	8260C	18.9	20.0	94	77-125
1,1-Dichloroethene (1,1-DCE)	8260C	20.0	20.0	100	71-131
1,1-Dichloropropene	8260C	19.9	20.0	99	79-125
1,2,3-Trichlorobenzene	8260C	19.2	20.0	96	69-129
1,2,3-Trichloropropane	8260C	18.2	20.0	91	73-122
1,2,4-Trichlorobenzene	8260C	20.8	20.0	104	69-130
1,2,4-Trimethylbenzene	8260C	20.2	20.0	101	76-124
1,2-Dibromo-3-chloropropane (DBCP)	8260C	20.2	20.0	101	62-128
1,2-Dibromoethane	8260C	20.6	20.0	103	77-121
1,2-Dichlorobenzene	8260C	20.8	20.0	104	80-119
1,2-Dichloroethane	8260C	20.4	20.0	102	73-128
1,2-Dichloropropane	8260C	19.7	20.0	99	78-122
1,3,5-Trimethylbenzene	8260C	21.1	20.0	106	75-124
1,3-Dichlorobenzene	8260C	21.1	20.0	105	80-119
1,3-Dichloropropane	8260C	19.9	20.0	100	80-119
1,4-Dichlorobenzene	8260C	20.7	20.0	103	79-118
2,2-Dichloropropane	8260C	19.8	20.0	99	60-139
2-Butanone (MEK)	8260C	16.5	20.0	82	56-143
2-Chlorotoluene	8260C	20.3	20.0	102	79-122
2-Hexanone	8260C	17.3	20.0	87	57-139
4-Chlorotoluene	8260C	20.3	20.0	102	78-122
4-Isopropyltoluene	8260C	20.6	20.0	103	77-127
4-Methyl-2-pentanone	8260C	16.9	20.0	84	67-130
Acetone	8260C	15.4	20.0	77	39-160
Benzene	8260C	20.9	20.0	104	79-120
Bromobenzene	8260C	21.6	20.0	108	80-120
Bromochloromethane	8260C	20.4	20.0	102	78-123
Bromodichloromethane	8260C	19.0	20.0	95	79-125
Bromoform	8260C	22.5	20.0	113	66-130

Client: ARCADIS U.S., Inc. **Service Request:** R1609974
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS **Date Analyzed:** 10/03/16
Sample Matrix: Water

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611861-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromomethane	8260C	18.5	20.0	92	53-141
Carbon Disulfide	8260C	14.4	20.0	72	64-133
Carbon Tetrachloride	8260C	20.8	20.0	104	72-136
Chlorobenzene	8260C	20.7	20.0	104	82-118
Chloroethane	8260C	17.5	20.0	87	60-138
Chloroform	8260C	18.5	20.0	93	79-124
Chloromethane	8260C	15.9	20.0	80	50-139
Dibromochloromethane	8260C	21.8	20.0	109	74-126
Dibromomethane	8260C	20.3	20.0	102	79-123
Dichlorodifluoromethane (CFC 12)	8260C	16.2	20.0	81	32-152
Dichloromethane	8260C	17.7	20.0	89	74-124
Ethylbenzene	8260C	20.7	20.0	103	79-121
Hexachlorobutadiene	8260C	21.6	20.0	108	66-134
Isopropylbenzene (Cumene)	8260C	20.7	20.0	104	72-131
Methyl tert-Butyl Ether	8260C	18.0	20.0	90	71-124
Naphthalene	8260C	19.0	20.0	95	61-128
Styrene	8260C	21.1	20.0	106	78-123
Tetrachloroethene (PCE)	8260C	21.1	20.0	106	74-129
Toluene	8260C	20.4	20.0	102	80-121
Trichloroethene (TCE)	8260C	21.8	20.0	109	79-123
Trichlorofluoromethane (CFC 11)	8260C	20.7	20.0	103	65-141
Vinyl Chloride	8260C	20.2	20.0	101	58-137
cis-1,2-Dichloroethene	8260C	19.5	20.0	98	78-123
cis-1,3-Dichloropropene	8260C	20.3	20.0	101	75-124
m,p-Xylenes	8260C	41.4	40.0	103	80-121
n-Butylbenzene	8260C	19.9	20.0	100	75-128
n-Propylbenzene	8260C	20.4	20.0	102	76-126
o-Xylene	8260C	20.9	20.0	104	78-122
sec-Butylbenzene	8260C	20.8	20.0	104	77-126
tert-Butylbenzene	8260C	20.7	20.0	103	78-124
trans-1,2-Dichloroethene	8260C	20.0	20.0	100	75-124
trans-1,3-Dichloropropene	8260C	19.4	20.0	97	73-127

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609974-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	0.05	0.05	1	09/21/16 18:12	
Sulfate	300.0	ND U	mg/L	0.20	0.10	0.02	1	09/21/16 18:12	

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project:	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	09/21/16

Matrix Spike Summary
Iron, Divalent (Ferrous Iron)

Sample Name:	2140-MW27-092116	**Units:**	mg/L
Lab Code:	R1609974-008	**Basis:**	NA
Analysis Method:	SM 3500-Fe B.4.c		

Matrix Spike
R1609974-008MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	1.02	1.38	0.40	90	67-129

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ARCADIS U.S., Inc.	**Service Request:**	R1609974
Project	Fort Drum, NY BWM - Fall/GP14Drum.RIFS	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	09/21/16

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	2140-MW27-092116	**Units:**	mg/L
Lab Code:	R1609974-008	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample R1609974-008DUP Result	Average	RPD	RPD Limit
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.10	0.08	0.04	1.02	1.02	1.02	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ARCADIS U.S., Inc.
Project: Fort Drum, NY BWM - Fall/GP14Drum.RIFS
Sample Matrix: Water

Service Request: R1609974
Date Analyzed: 09/21/16

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1609974-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.37	0.40	92	67-129
Nitrate as Nitrogen	300.0	0.962	1.00	96	90-110
Sulfate	300.0	1.84	2.00	92	90-110